CARE
Grantee Final Report

Grantee: Boston Public Health Commission
Project location: 1010 Massachusetts Ave, Boston, MA 02118
Project title: The Safe Shops Project
Grant period:
Project Manager:
EPA Project Officer: Mary Dever-Putnam

I. Your Partnership

Please describe your CARE partnership and explain how it operated. Please make sure that your description includes the following:

a. What environmental problems does your community face that brought people together?

The goal of the Safe Shop Program is to reduce negative environmental health impacts by auto shops on workers and residents, particularly in nearby low-income communities, by reducing emissions of hazardous materials and improving work practices.

The auto shop industry in Boston presents a multifaceted and very challenging environmental problem. With more than 700 legal and illegal auto shops clustered in minority, immigrant, and low income neighborhoods of Boston, small automotive repair and servicing businesses represent a major source of both well paying jobs and environmental pollution for residents. Many are not in compliance with existing occupational, environmental and workplace safety regulations. Often they do not use standard methods for auto body repair and painting and do not comply with accepted business practices and/or current control technologies. Too numerous and small to be effectively targeted by federal or state enforcement agencies, these auto shops often escape strong regulatory oversight. Zoning regulations do not prevent clustering of noxious industries such as auto shops in minority and low-income neighborhoods, close to homes, schools, and daycare centers.

Due to the inspection and enforcement work of the Boston Environmental Strike Team (BEST), the BPHC Environmental Hazards Program and the Boston Inspectional Services Department, much is already known about the environmental and occupational hazards posed by auto shops in Boston. The case files paint an alarming picture of improperly stored chemicals and wastes, illegal materials disposal, uncontrolled releases of hazardous chemicals into the air, and unsafe working conditions. Fumes from spray-painting, solvent cleaner emissions, and improper disposal of used engine oil, among other practices, make auto shops a significant source of air, water and soil pollutants.

Work practices in the shops take a toll on employee health through environmental hazards and direct physical injury. Auto shop jobs are often filled by people with language barriers, limited education and transportation challenges, consistent with a nationwide trend for minority and immigrant workers to be over-represented in hazardous jobs[1]. In addition, recent immigrants often lack access to occupational health information as well as medical insurance and care. The city cannot shut down these shops without severe repercussions to the financial stability of

[1] Environmental Justice: Partnerships for Communication, 2001

residents who work or own such businesses. Therefore, the Safe Shops Program was created to work with a strong community coalition of partners to help these businesses improve operations, reduce pollution, protect workers and neighbors, and comply with regulations.

b. How many individuals and their organizational affiliations were involved? Please review and add to the attached list and please add a contact name for each organization.

Partner Name	Contact Name	Original Partner	Current Partner
Boston Inspectional Services Department	Paul Nally and Jason Grant	X	X
BPHC programs (Environmental Hazards and others)	Paul Shoemaker, Tiffany Skogstrom, Persio Acevedo	X	X
Centers for Disease Control and Prevention	Daneen Farrow-Collier	X	X
Massachusetts Coalition for Occupational Safety & Health (MassCOSH)	Marcy Goldstein-Gelb	X	X
Nuestra Comunidad Development Corporation	Shoma Haque	X	[redacted]
Joseph M. Smith Community Health Center	Sonia Mee	X	[redacted]
Bowdoin Street Community Health Center	Adela Margules	X	[redacted]
Allston/Brighton Healthy Boston Coalition	Judy Andler	X	[redacted]
Dr. Bird, Codman Square Health Center	Richard Bird, MD	X	[redacted]
Madison Park Technical Vocational High School	Rob Kleiman	[redacted]	X
Massachusetts Department of Labor	Rick Rabin	[redacted]	X
Boston Main Streets Program	Kay Kaigler	[redacted]	X
Boston Public Schools	Jeff Lane	[redacted]	X
Toxics Use Reduction Institute (TURI)	Joy Onasch	[redacted]	X
US EPA	Mary Dever-Putnam	[redacted]	X

c. Did this project bring any new partners into your work? How did the new partners aid the partnership and project?

Over the course of the US EPA CARE grant funding, partnerships evolved. The tough economic times took its toll on community groups, which saw the closure and loss of staffing for some non-profits, and focus shifting for others.

The positive aspect of this was that newer partners joined in the project, leading to broader impacts. Partners that joined after the Safe Shops Project received US EPA CARE funding included the Boston Main Streets Program, Boston Public Schools, Madison Park Vocational Technical High School, Massachusetts Department of Labor, and the Toxics Use Reduction Institute. These new partnerships helped deliver the technical assistance and practical advice needed in the shops, as well as helping the Safe Shops Project education topics be included in vocational school curriculum.

d. What role did your organization play in this partnership? What skills were most important from your organization to implement the project?

The Boston Public Health Commission's primary role on the project was as convener of the partnership. We brought together the community partners and city agencies to form the Safe Shops Project and modify it as it developed. BPHC provided resources to the partners in the form of educational materials for shops and contracts under the EPA grant to conduct portions of the work. BPHC staff also played a role in direct outreach to shops conducting in-shop training sessions and follow-up technical assistance visits as well as connecting shops to community

partners to work on specific issues. As the local health department, our organization ensured that people working in the shops had access to health care and other services. Our staff assisted shop owners in navigating the permitting process and helped shops come into compliance with local and federal regulations.

e. Which partners were most active? How?

- Boston Inspectional Services Department (ISD): ISD inspectors conducted environmental assessments, mandated Safe Shops training for problem shops, and referred interested shop owners back to the Safe Shops Project for environmental resources.
- MassCOSH: MassCOSH collected worker surveys from and provided trainings for auto shop workers. While Boston Public Health Commission could provide education, MassCOSH was able to address workers rights and worker safety more effectively than a government agency in some situations.
- The Toxics Use Reduction Institute (TURI): Provided environmental expertise on the effectiveness and availability of safer alternatives. A small grant from TURI also allowed the project to purchase some alternative products for volunteer shops on a trial basis who have since converted completely.
- Boston Public Schools and Madison Park Regional Vocational High School: Required their student body, the next generation of auto body and repair workers, to participate in trainings as part of their curriculum. They also provided the project with a central location to hold larger group training and informational events for auto shop owners and employees that could not be held at a single shop or a government building.
- US EPA – A resource for technical questions, such as details around the new MACT rule.

f. Which partners were most critical? Why?

Both MassCOSH and the Boston Inspectional Services Department were the most critical players in the Safe Shops Project. MassCOSH could gain trust and confidence with the work force that could not easily be established with a government agency, such as Boston Public Health Commission. The Inspectional Services Department was equally important in their role of an enforcement agency that could ensure the prevention of environmental backsliding in the shops.

g. Were there critical partners that were not at the table? If yes, which ones and how would their participation have helped?

During these tough economic times, we have seen community groups evolve and dissolve. One such case was Nuestra Comunidad, which had many changes in management, staff and goals. Nuestra Comunidad and Boston Public Health Commission came to an amicable agreement that the partnership on Safe Shops would not be renewed as Nuestra had narrowed their services to focus on real estate (affordable housing) development and fostering the growth of food service businesses. This was a serious, but unavoidable, loss to the project as Nuestra Comunidad was a trusted ally providing participating shops with business counseling and assistance accessing economic resources. A partner listed in our original EPA CARE application, Allston Brighton Health Coalition, completely lost funding and dismantled. Others, such as the

Boston Main Streets Program, had to limit activity due to budget cuts toward the end of the project.

Some potential partner opportunities that the project will explore moving forward are relationships with local banks able to make small business loans, assistance from academic business degree programs for participating shops, and other business development/assistance programs. We hope that these will help even more shops make investments in alternative technology and better processes to reduce pollution.

h. What resources and strengths did each organization bring to the project?

Partner Name	Resources / Strengths
BPHC Environmental Hazards Program and other BPHC programs	The ability to develop and distribute educational materials and provide health resources to the auto shops. Staff to conduct shop trainings and follow-up visits.
Boston Inspectional Services Department	The ability to enforce environmental compliance, gain entry to problem shops, and mandate trainings.
Massachusetts Coalition for Occupational Safety & Health (MassCOSH)	Expertise in worker's rights. The ability to gain trust within the community. Expertise in occupational safety. Staff to visit shops, collect data, and conduct trainings.
Toxics Use Reduction Institute (TURI)	Expertise in identifying safer alternative chemicals for shops.
Boston Public Schools	Helping the Safe Shops Project develop relationships with Madison Park High School. Meeting space for larger events. Venue to reach the next generation of shop workers.
Boston Main Streets Program	Ability to give the small business prospective and attempt to involve auto shop businesses into mainstream business community and economic development.
Massachusetts Department of Labor	Offered expertise in the field of work place safety issues and compliance.
Madison Park Technical Vocational High School	Allowed Safe Shops Project training to the next generation of auto body and repair technicians by making training part of their curriculum.
US EPA	Provided guidance, mentorship and assistance with the Safe Shops Project.
Centers for Disease Control and Prevention	

i. What efforts did you make to ensure that the most vulnerable community members were included in the partnership?

Although they were not represented as an 'organization', every effort was made to involve the auto shop owners and workers with the development of this project. Outreach workers spent time developing relationships in the community and getting feedback on training needs and resources. The stakeholders (shop owners and workers) were the most vulnerable and valuable

partners in the project. The project made a number of changes to the way education and resources were delivered as a result of shop feedback during the course of the project. In addition, our community partners played an important role representing the interests of the vulnerable populations they serve at the partnership meetings.

j. What role did your EPA Project Officer play in the partnership?

Mary Dever-Putnam provided guidance and expertise in the activities of the Safe Shops Project. She helped the Project Coordinator, Tiffany Skogstrom, articulate successes and obstacles that could be transferred to the quarterly project reports. She also brainstormed ideas for overcoming obstacles and identified opportunities and resources for the Safe Shops Project, and attended partner meetings.

k. What barriers did your partnership experience and how did you overcome them (distrust, unequal power, control over money, differing priorities, process for reaching consensus, etc.)?

A major barrier to the project was backsliding by shops on environmental efforts. There were some shops that required a constant presence in order to guarantee their upkeep. Because the Safe Shops Project was not an enforcement body, some shops consumed a great deal of project effort for ultimately little result. This was compounded in the later years of the project by an economic climate that was not encouraging of small businesses already on the margin to take financial risk on implementing best practices.

The financial climate also took its toll on the project partners as we lost several partners (as mentioned above) due to changing staff and priorities driven by funding considerations. We overcame this difficulty by recruiting additional community partners to the project to both provide the needed resources to the shops and to assist the government agencies in overcoming distrust from the auto shops.

l. How has this partnership improved relationships among those involved? Please describe the working relationship that has improved the most and those that may still need work.

Most importantly, the partnership has strengthened the bonds between the community and the auto shops. Rather than responding to shops with simple enforcement measures, the Safe Shops Project has been able to help shops find solutions and guide them through regulations and permitting processes. Auto shops have requested help from the Safe Shops Project, which is indicative of gaining trust within the community.

m. Has your organization engaged in a similar process to CARE in which you had a similar role? Please describe briefly.

The BPHC conducts a great number of projects on an ongoing basis that rely heavily on a community partnership model similar to the CARE process as a regular course of operations. One major example is the Commission's work around chronic disease prevention and promoting physical fitness. Within the scope of the Environmental Health Office, the CARE models is currently being applied to an expansion of the Safe Shops Project to work with nail salons on

pollution prevention and worker protection. In future, we hope to expand this work to other industries and constituencies.

n. Is there anything else about your partnership that you would like to share?

The partnerships have been adequately described throughout this report.

II. Your Project

For Level II Grantees

Please describe your CARE project and provide copies of important materials that you developed. Please make sure that your description includes the following:

a. What toxic risks did your project address?

The Safe Shops Project addressed the common risks associated with the work that goes on inside auto body and repair shops. In auto repair, these risks included risks such as exposures to aerosols, perchloroethylene, parts cleaners, proper disposal and storage of waste oils, hazardous wastes and flammables. In auto body shops, the risks were associated with the chemicals in paints and paint removers, diisocyanates, dust and the chemicals that they carry, as well as the proper disposal and storage of hazardous wastes and flammables. The issues that were of greatest concern for the project were reducing air pollution from organic solvents used in paints, thinners, and parts cleaners; increasing worker awareness of occupational hazards and how to avoid them through proper personal protective equipment, work practices, and alternative product use; and promoting safe and proper storage of flammable materials and hazardous waste.

b. Did your project address both toxic reduction sustainability and partnership sustainability? If so, how? If not, why not?

The Boston Public Health Commission offers guidance on product substitution and changes in actions that lead to sustainable toxic reductions. This helps both sustainability within the auto shop itself as well as partnership sustainability with the auto shop community. The shops rely on the Safe Shops Project as a trusted resource and often seek out help from the staff when they have questions or a desire to make positive changes in their shops.

Likewise, the Boston Inspectional Services Auto Shop Ordinance requires that all auto shops obtain yearly licenses with Boston ISD. This not only provides an easier way to track the openings and closings of shops throughout the City, but results in the presence of inspectors in the field making sure that shops are licensed and in compliance.

The ongoing presence of both Safe Shops staff and inspectors leaves little room for backsliding amongst the shops. In addition, ISD and BPHC rely on one another to keep updated on shop activity and make educational and regulation referrals about specific problems in shop. This is a partnership that will be ongoing.

Sustaining the Safe Shops partnership beyond funding with community organizations that need seek other funding to replace the contacts they were receiving under the grant may prove more difficult. However, we have built a strong base of shared experiences and goals which the Commission intends to sustain with additional projects.

c. What toxic reduction strategies did you pursue?

The Safe Shops Project has conducted over 132 trainings, reaching 710 auto shop workers. The curriculum consists of standard operating procedures for auto body and repair shops, hazardous waste storage and disposal, permits and regulations, personal protective equipment, and encouraging the use of less toxic chemicals. These trainings are reinforced with daily visits to auto shops to drive home the pollution prevention message. All efforts centered around encouraging shop owners to prevent pollution and toxic exposures by replacing products, equipment, or processes with less hazardous alternatives as a primary objective. In situations where this was not done, the project focused on secondary prevention in the form of employee education about best work practices, proper personal protective equipment, and proper storage and use of chemicals to reduce exposures and pollution.

d. How did you reach agreement on implementation decisions?

The Safe Shops Project became a US EPA CARE grantee during the Level II stage because the partnership was already up and running and being implemented at the time that we applied for funding. The project began as an acknowledgement and collaboration among Boston Public Health Commission, The Boston Inspectional Services Department, and the Bowdoin Street Health Center. Focus groups were held with shop owners and employees to determine the needs and desires for the educational content of the trainings, as well as to discover where, when and how such and educational program would be implemented. Through several community meetings as well as visits and conversations with shop owners, the Safe Shops Project educational program began.

e. Did you reshape your partnership in any way to address strategy implementation? Please explain.

Successes and pitfalls were discussed during partner meetings to discuss how to overcome obstacles and the evolution of the project. Boston Public Health Commission played the role of the educator, Boston Inspectional Serviced Department served as the regulator, and community organizations and health centers contributed to outreach and providing much needed services to the auto shop community. Several additional partners were added to the project during implementation to meet the evolving needs of the community with which we were working. These are described above.

f. What outside resources (e.g., people, programs, approaches, etc.) were most important to your project?

The Boston Inspectional Services Department was very important as the regulating arm of the project. Their visits and inspections helped reduce backsliding in the neighborhood auto shops.

In addition, the Mayor's Health Line also provided much needed health resources to the auto shop workers. A majority of the Safe Shops Project target audience are young Latino males who work with toxic chemicals all day long, yet have little access to health care and don't often go to the doctor. This is an underserved community with whom the Mayor's Health Line sought to connect. The partnership worked well because connection with health care is a service that is

valued and needed by the community, which further helped the Safe Shops Project gain trust and access to the shops.

g. Was there any environmental issue that EPA seemed to lack the tools or means (e.g., Partnership Programs, data tools, other expertise) to address? If so, please describe the situation or need you had.

The Safe Shops Project and other communities working with small auto shops would greatly benefit from US EPA Design for Environment tools that were designed to measure pollution prevention successes in smaller neighborhood shops. The difficulty in quantifying pollution prevention results lie in the inconsistencies of use of the same materials or the same jobs being performed, as well as the lack of record keeping or standard operating procedures that might be implemented in a larger and well established facility.

Also, in our experience with working with the shops and through a previous Toxics Use Reduction Network (TURN) grant, we have learned that auto shops will be willing to try a new and safer chemical or procedure if it is initially subsidized. Businesses do not want to take a risk of getting locked into a contract with a vendor if they are unsure of the quality or effectiveness of a safer alternative. If the product, such as aqueous brake cleaner or alternative spray gun washers, is subsidized, business owners are more willing to try them. Therefore, it would be of great help to local pollution prevention efforts such as Safe Shops if the US EPA made available grant funding for the specific purpose of allowing programs such as ours to purchase trial quantities less toxic alternatives to give to auto shops to "prime the pump" for a permanent product replacement by the shops. This would not only get additional safer alternatives into the hands and the mainstream of the shops, but would have the effect of building trust and relationships within the auto business community.

h. How did you build momentum over the course of your project? Did you secure any "early wins" to help build momentum? Did you look for additional funding early on? What was acquired?

The Safe Shops Project started as Level II US EPA CARE grantee. The educational program and structure of the project was already established, giving our work the momentum to secure US EPA CARE grant funding. The funding and partnership provided through US EPA allowed our project to reach out to additional shops and have more of an impact in the community.

An early win in the US EPA CARE partnership was our evening community meeting to announce the new MACT rule for auto body shops. More than 80 shop owners turned out for the event. This shows that the shop owners value and are involved with our project and gave the project an opportunity to demonstrate its value to the businesses.

i. What were the significant *outputs* of your project (meetings held, materials developed, people trained, etc.)?

Significant Output	Count
Safe Shops partners meetings held	27
Auto shops identified/mapped	574
Auto shops that received a baseline environmental assessment	247
Auto shops visited by outreach staff	223
Auto shops that participated in trainings	132

Auto shops that completed one or more additional environmental assessments	118
Workers trained	710
Workers that completed a work practices survey	517
Shops attending a special event to announce the new US EPA MACT Rule and Boston Inspectional Services Auto Shop Rule	80+
Free health screening events held for/at shops	32
People participating in free basic health screening	375
Newsletter highlighting local shop accomplishments designed, printed, and mailed out shops	1

In addition to the items counted above, the project produced and distributed a number of educational and outreach materials (all of which are available on the project web site at www.bphc.org/safeshops) including:

- The Safe Shops Toolbox was developed under previous CDC grant funding but continued to be reproduced and distributed to shops as part of the CARE grant. This quick reference covers key subjects of most concern to shop owners and workers such as permits, personal protective equipment, and regulatory agency contact information. Its laminated tabbed pages make it ideal for hanging in the shop and able to survive.
- The Safe Shops Newsletters. The two 4-page newsletters showcase the project activities and highlight the success stories of participating shops. It was mailed to all known auto shops in Boston as part of program outreach. It serves three key purposes: recognizing and encouraging shops that have made changes as a result of the project; encouraging other shops to participate by seeing the results peers they know are achieving; and acting as a summary of the project to potential partners or other communities interested in replicating the project.
- The Online Safe Shops Tool Kit for Communities. The Boston Public Health Commission would like to share its recipe with other communities working toward goals of environmental health and pollution prevention in auto shops. Click here to download the tools and resources used to develop the Safe Shops Project in your community: http://www.bphc.org/programs/cib/environmentalhealth/environmentalhazards/safeshops/safeshopstoolkit/Pages/Home.aspx
- The Safe Shops Project training video. The training video is now available on YouTube at http://www.youtube.com/watch?v=2CoWfIWRdEc&feature=channel_page

j. What were your project's most significant *outcomes* (changes in policy, behavior, and practice, e.g., auto shops' shift to less toxic materials, ban adopted on school bus idling, change in local agencies' policy or procedures, school district commitment to IPM for pest control, etc.)?

The analysis of the auto shop's environmental assessments reveal some significant improvements in shop compliance and general conditions. It is important to note a number of key factors when considering this data set:

1. The data includes shops that received a single training with a pre-training assessment and a post-training assessment as well as shops that received multiple trainings and/or multiple post-training assessments. The "clean" data from those shops that received a single training and set of assessments is not necessarily the most significant as those shops were the most compliant with regulatory requirements and suggested changes

to best practices/products. Those shops that received multiple trainings and assessments did so due to frequent turnover in ownership or, most often, because they were ordered to take the training as part of city enforcement action. Because of this, these shops represent the "worst case scenario" and improvements in this subset are significant because they represent a hard-won victory.

2. The data includes some shops that received two or more environmental assessments but declined to participate in the trainings. Because they were self-selected, this group of shops is inappropriate to serve as a control group for assessing the impact of the project. However, we did find that there was a high level of "mixing" of employees between trained and untrained shops as workers moved around. Because of this, outreach workers frequently encountered shops that had not received the training but whose employees had been exposed to the training message through attending at a previous workplace or working with someone who had. We found an interesting effect of this was improvement in environmental measures over time in shops that had not officially received the training. This can mostly be attributed to an increased outreach presence in the community spreading the messages of Safe Shops leading to a general improvement – the rising tide lifts all boats.
3. These data should be interpreted cautiously. There were several inconsistencies in data collection by field inspectors including skipping whole sections of the assessment upon re-visiting shops because those sections were deemed to be unimportant or not to have changed since the first visit. This leaves the data set as a useful process measure of the project's activities and a rough guide to the positive impact that the project is having in the city. However, it is far from a robust data set for statistical analysis of the project or its individual components. A proper next step, now that the program is established, would be to conduct a formal research project with a sub-set of shops in the city that have not yet encountered the Safe Shops Project. Such a research study could further refine and quantify the efficacy of the project as well as provide a cost/benefit analysis for the individual components.

Given the above cautionary considerations, some of the effects of the Safe Shops outreach activities measured on the environmental assessments include:

- A valid use and occupancy permit is a key indicator of compliance with city permits and other regulations. Of shops that received a training and a follow-up assessment (n=40) the percentage of shops with a valid permit rose from 74% at initial assessment to 93% at first follow-up – an increase of 19%. Shops that did not receive a training but did receive multiple assessments (n=77) saw an increase from 57% to 87% with a valid permit – we suspect due to organic diffusion of information throughout the shop community.
- The percentage of shops with flammable or hazardous materials stored in properly labeled UL or DOT approved containers and cabinets increased from 84% pre-training to 94% post-training.
- Of the shops that received a training and pre- and post-training assessments (n=40) the percentage with a hazardous waste storage area that was properly labeled and contained increased from 59% of shops to 80% at follow-up. This same group showed an increase from 82% to 90% of shops keeping access to the waste storage area clean of parts and debris.
- Of the shops that were trained and assessed (n=40), the percentage of shops that properly labeled the containers within their waste area increased from 62% to 92%

while those shops assessed that did not receive a training (n=77) showed an increase from 54% to 81% just on the basis of the presence of Safe Shops Project outreach staff in the community conducting shop visits.

- Waste tires are a significant problem for many auto shops due to the cost of disposal, the unsightly aspect of junk tires outside neighborhood shops, potential for fire, and harborage of mosquitoes. Among shops trained and assessed (n=40) the percentage that stored tires neatly in covered stacks and disposed of them properly increased from 45% pre-training to 89% post-training – an increase of 44%
- One of the most significant measures of overall shop condition is the field inspector's visual assessment of the shop and lot being "in a clean and sanitary condition" at the time of the assessment. The percentage of shops that received training that were evaluated to be in a clean and sanitary condition increased from 86% before training to 97% at follow-up.
- Trainings also saw increases in worker knowledge. One key subject covered was knowledge of material safety data sheets (MSDS). In pre-training worker surveys (n=169) only 31% responded that they knew what an MSDS was while of those who took the training and completed a follow-up survey (n=236) 57% said that they knew what an MSDS was.
- In pre-training surveys (n=149 respondents) 30% said that they knew where the material safety data sheets for products they used in the shop were stored while 37% of respondents surveyed after training (n=221) knew where to find them.

In addition to these improvements, during the spring of 2008 the Boston Public Health Commission sent out a Request for Bids for vehicle maintenance, repair, and auto body work for BPHC fleet vehicles. Preference was given to shops that had participated in the Safe Shops Project trainings and to shops using environmentally preferable products and practices including water-based parts and brake cleaning, solvent recovery systems, non-perchloroethylene (perc) cleaners, or other forms of pollution prevention. The Safe Shops Project is pleased to announce that Juan Chavez at Moreno Auto Body, who currently uses a US EPA Design for Environment approved spray gun washer called Acrastrip by US Polychem, and Christopher McKeen at Auto Service and Tire, who uses an aqueous brake cleaner, were awarded 2 year contracts to work on Boston Public Health Commission vehicles. This is a new policy within BPHC to support the local business owners who are doing the right thing for the environment, and we hope that the list of candidates eligible to bid in the next round will expand.

Finally, the passage of a new City of Boston regulation providing for an "umbrella" permit by Boston Inspectional Services for the operation of an auto shop which incorporates compliance with all other city agency regulations and state or federal laws should improve the efficiency of regulating and working with these businesses in the future. The enactment of this regulation and the new EPA MACT rule for auto body shops has generated interest and involvement of the auto shop industry in the city as demonstrated by attendance at public meetings held for both of these.

k. What specific reductions in environmental risks did your project achieve?

Some specific actions and toxic reductions included the adoption of hydrophobic mops in Dorchester repair shops, the changing over to aqueous based paints at Allston Collision Center, and the elimination of lead wheel weights in Boston's Emergency Medical Services fleet of

vehicles. These all came to fruition through the environmental consciousness that is emerging through Safe Shops training and outreach

Allston Collision Center was motivated by their concern about the environment and the health and well being of the employees. The shop completely retrofitted their spray booth to use waterborne paints. The shop paints over 1000 cars per year and estimates that it will eliminate more than 1200lbs of Volatile Organic Compounds every year. Although there is no alternative for clearcoat yet, many car manufacturers have been using waterborne paints since 2006. We hope that the switch to waterborne paints will continue and become a mainstream service and product.

The Boston Emergency Medical Services (EMS) elimination of lead wheel weights for the entire fleet of 125 vehicles will amount to a reduction of over 260lbs of lead that might otherwise end up in the environment. The adhesive on the new wheel weights will prevent the loss of the weight when the vehicle hits a pothole. Lead wheel weight failure is an ongoing source of lead pollution and is common in urban environments where potholes abound. According to the US EPA, an average of 4.5 ounces of lead is clipped to the wheel rims of every automobile in the United States. Furthermore, it is estimated that 1.6 million pounds of lead fall off vehicles each year onto city streets. This comes with the risks that children may find and play with the lead, or it may be run over by street vehicles, turned into lead dust and either spread throughout the air and soil in city neighborhoods, or the weight could fall into storm drains where it contaminates both surface water and local water supplies.

In addition, Alfredo Auto Repair, DR Auto Repair, J&C Auto Repair, and Xavier Auto Repair are now using a hydrophobic mop technology to clean up spills and recycle oil. This mop has the capability to absorb oil in a cleaner and safer way than the traditional mop and does not collect water or antifreeze, allowing the oil to be collected and recycled. The use of kitty litter or other absorbents generates hazardous waste when used to clean up spills. The use of this new hydrophobic mop has improved and enhanced the way employees collect oil and residues from the floor without worrying about it getting into the environment

l. How did functioning as a partnership aid in achieving these reductions?

The partnerships allowed the project to deliver a wide variety of needed services to the community. This made the Safe Shops Project a holistic program that looked at various aspects of community health.

m. Were there differences between your original plan and what actually occurred in your project? Did you achieve your objectives? Please explain. What objectives were not met and why?

The biggest difference between our original plan and what actually occurred can be found in our original focus in the Allston and Brighton neighborhoods. Auto shops in Allston and Brighton are larger and well established facilities, such as car dealerships, and have standard operating procedures that eliminate the problems that are addressed in Safe Shops trainings. Our project was better suited to meet the needs of communities that had many small shops and more environmental burdens such as Roxbury, Dorchester, Mattapan and East Boston. In addition, the Allston Brighton Healthy Boston Coalition dissolved due to the difficult economic climate. Loss of community partnership solidified our decision to focus our attention and meet the needs of other neighborhoods. Otherwise, we have achieved our objectives and goals in the following ways:

Goal 1 – Maintain and build public health capacity within city agencies and the community to address environmental issues posed by auto shops in Boston.

- This goal was met by maintaining a presence within the community, engaging shops and partner agencies in Safe Shops activities

Goal 2 – Throughout the project, provide in-shop education and support resources to shop workers and owners to promote best work practices, engineering controls, and use of alternative products to reduce pollution and reduce occupational/environmental health risks to workers and neighbors of the shops.

- The Safe Shops Project trained 710 auto shop workers.

Goal 3 – Provide support and follow-up to shops to maintain improvements, measure medium- and long-term successes of the project, evaluate and report results, and disseminate/replicate the model.

- The Safe Shops Project frequently met with partners and staff to reevaluate outreach strategies and explore new methods and ideas. The staff also worked closely with the BPHC research staff to evaluate environmental assessments and pre and post training results. Unfortunately, quantifying pollution prevention measures for small shops has remained an obstacle so we are left to measure with counts of activities and observable changes made within the shops.

Goal 4 – Link shop workers, owners, and neighbors to additional resources available through other Boston Public Health Commission programs and programs of the project partner organizations.

- The Safe Shops Project was able to link auto shop workers to the Mayor's Health Line and local health centers. We also referred problem shops to ISD for enforcement, and ISD referred problem shops to Safe Shops for education. Very few shops seemed interested in or eligible for the economic development services offered by the partners, and this part of the project eventually fell off to the side.

n. What other resources (not already covered in your discussion of your partnership or outside resources above) did your project mobilize, both financial and in kind?

We feel that we have fully discussed the resources provided to the Safe Shops Project. We have outlined all of the resources mobilized by the project in other sections of this report.

III. Reflection

a. How likely is it that the progress achieved could have been made without your CARE partnership?

The USE EPA CARE grant allowed the Safe Shops Project to collaborate with other communities working on pollution prevention across the country. We gained great information and ideas from participating in the meetings and conference calls, and built relationships with

other likeminded communities. This would not have been possible without US EPA CARE partnership.

Without EPA CARE funding to sustain the project and partnership at a time when it was still in flux after its first few successful years, the project likely would have dissolved or been drastically reduced due to lack of resources.

b. What do you consider your project's greatest achievement?

The project's greatest achievement lies in the outreach numbers and relationships developed with the auto shops. A total of 710 auto shop workers have been trained, and businesses look to our project for technical assistance, advice, and answers.

Another major success is the Safe Shops Project providing tools and serving as a model for other communities engaged in auto shop pollution prevention. This can be seen by the other EPA communities that have dubbed themselves as 'Safe Shops': http://www.epa.gov/collisionrepair/regional.html

The Boston Public Health Commission shares its recipe with other communities working toward goals of environmental health and pollution prevention in auto shops. On our 'Safe Shops Project Tool Kit', people can download the tools and resources used to develop the Safe Shops Project: http://www.bphc.org/programs/cib/environmentalhealth/environmentalhazards/safeshops/safeshopstoolkit/Pages/Home.aspx

c. What was your greatest challenge and how did you deal with it?

As mentioned, the constant challenge in our project is quantifying pollution prevention results. We have dealt with this by working with our research department to help analyze our environmental assessments to read into physical improvements in the shops and worker training evaluations to detect changes in behavior, attitudes, knowledge or beliefs.

Another challenge is getting safer alternatives into the hands of shop owners. We have dealt with this by giving positive publicity to shops that are willing to take these risks, and sharing their faces and their stories with other local business owners. Once a business owner sees that his competitor is using water based paints or brake washer, he may be more inclined to believe that the newer and safer technology works.

d. What would you do differently next time in terms of organizing and structuring your partnership to achieve your project objectives?

There is not much of the project that we would change in doing a similar project in the future. Most changes would be procedural in nature around streamlining and standardizing the outreach process and data collection. The organizational structure of the partnership worked so well in this project that we are currently using it in the next phase of expanding the Safe Shops Project to work with nail salons in addition to our continued work with auto shops.

e. How might you have been more strategic in designing or implementing your project?

It might have been helpful for the project to have more partner meetings that were hosted outside of BPHC. In addition, perhaps inviting auto shop owners and workers to partner

meetings may have been valued, since they are the people who can implement changes within the shops.

f. If you chose to create one, did you find using a logic model or other goal-driven model helpful? Please explain. Did the model change over time? If so, how?

The Safe Shops Project utilized the same logic model that was developed with our original CDC grant. This helped us visualize, realize, and deliver the project goals and products. Throughout the project, we also developed flow charts to plan outreach methods. These tools have not changed much over time, but continue to serve as a reminder of our long term goals for policy change and integration and institutionalization of the Safe Shops Project into the community, BPHC, and city agencies.

g. To what extend did your CARE community communicate or engage with other CARE communities and how was that interaction helpful?

The Safe Shops Project was very grateful to have had the opportunity to engage with other CARE communities on many levels. The US EPA CARE conferences allowed us to brainstorm with and learn from other communities. These also served as the platform for us to participate in the Collision Repair Campaign, with which we stayed informed and involved through conference calls and developing materials. In addition, our project hosted US EPA CARE grantee Groundwork Denver for a week whose staff was preparing to launch their own Safe Shops Project. And lastly, the Safe Shops Project has been able to connect with other communities working on nail salons to collaborate on ideas, strategies and materials. The important relationships developed within the CARE communities are ongoing and valuable.

h. Did media coverage play a role in your project? If so, please explain.

The Safe Shops Project only media coverage was self-generated. Our project developed and distributed a newsletter to celebrate shop successes and secured articles covering the project in an industry trade magazine.

i. In what ways did you rely on EPA for assistance (assessing risks in your community, conflict resolution, partnership support, voluntary programs, such as Tools for Schools or Pollution Prevention)?

EPA assisted the Safe Shops Project in identifying safer alternatives, evaluating the content of the Material Safety Data Sheets for chemicals within the shop, and for putting us in touch with other communities so that we could support one another.

j. What role did your Project Officer and other EPA staff play in your work? What would you have liked more of or less of?

Mary Dever-Putnam provided guidance and expertise in the activities of the Safe Shops Project. She helped the Project Coordinator, Tiffany Skogstrom, articulate successes and obstacles that could be transferred to the quarterly project reports. She also brainstormed ideas for overcoming obstacles and identified opportunities and resources for the Safe Shops Project, and attended partner meetings.

k. To what extent do you think that this project increased the capacity of your organization? Your partnership? Your community? Please provide examples.

The Boston Public Health Commission's mission is to protect, promote, and preserve the health and well-being of all Boston residents, particularly the most vulnerable. Within that very ambitious mission, this project increased the BPHC's capacity to address occupational health issues and environmental conditions in small businesses and immigrant communities in a number of ways. First, it brought aboard two full-time staff positions (with a third added with the support of a CDC grant based upon this work) specifically to form an occupational health education and intervention group within the Environmental Health Office. Second, we have developed a successful model for working with small businesses on environmental and occupational health issues that can be replicated in the future with other industries as has been proven by the adaptation of it to the nail salon sector. Third, this project has enabled us to develop a number of print and electronic resources described above which the BPHC can continue to use and share with others. Fourth, the project supported the growth and strengthening of partnerships between the BPHC and several community organizations and city agencies (listed above) that can be built upon going forward. This includes not only our work together, but the development of resources internal to several of these partner agencies that will have a lasting impact. For example, the Boston Inspectional Services Department was able to have a city ordinance passed that allows them to more effectively regulate auto shops.

l. Did your project produce any new "community leaders?" Please describe.

The Safe Shops Project created leadership within the auto shop community and highlighted their work through featuring them in the Safe Shops Newsletter. These leadership examples are mentioned in section k of this section.

m. What advice would you offer to other communities undertaking similar work?

We would advise other communities to engage with the stakeholders and people who will be impacted by the changes. These are the people who have realistic ideas about how to implement the changes and really make a difference. It is important to value the relationships that are developed and listen to the community. It is also important to revisit ideas, and be flexible in reevaluating the program to identify things that work, things that do not work, and to brainstorm with the community about how to make improvements.

IV. What Next?

a. Will the partnerships created continue to serve the community by protecting the environment and reducing toxics?

The partnerships will continue to work within the auto shop community. Boston Inspectional Services Department and the Boston Environmental Strike Team will continue to enforce regulations and refer problem shops to Safe Shops training. The Safe Shops Project staff will continue to maintain a presence in the community by conducting daily visits and offering trainings to shops.

b. How will this work be sustained?

The Safe Shops staff has currently moved to the City budget and the regulators will continue to do enforcement as their regular work. Safe Shops will continue to refer shop owners and workers to community partners and health centers.

c. If neither your organization nor the members of the partnership plan to continue the work, please describe why.

Not applicable.

d. Please describe a continuing or next source of funding you have for your work or other groups in your community that have continued the work and have found funding.

Currently, the Safe Shops Project continues its efforts to reach auto repair and body shops supported by City of Boston funding to the Boston Public Health Commission (BPHC) general budget through the end of this fiscal year (6/30/2010). Some additional support comes from a CDC capacity building grant supporting the project's expanded work with Nail Salons using the same intervention model. We are also actively seeking other grant funding sources to support the project staff positions including a current application to the Blue Cross/Blue Shield Foundation in partnership with the Mayor's Health Line. We continue to work to secure a long-term place within the BPHC's overall budget of city funds despite the difficulties of the current economic conditions.

V. Feedback and Follow up

a. Please share any thoughts you have about what EPA could do to improve the CARE program.

For a program such as ours, it would be very helpful if some CARE funding could be used to subsidize environmentally friendly products. Shop owners look at purchasing alternative products as a business decision and do not want to get locked into a contract with an unsatisfactory product. Giving 'trials' of aqueous brake or parts washers, or EPA approved spray gun washers could have a huge environmental impact in the auto shop community.

b. We want to keep in touch and learn about the work that you do after your grant with CARE. Would it be okay for someone from the headquarters CARE team to contact you in the future to talk about how your work is progressing? Are there others we should contact instead of or in addition to you? If so, please provide their contact information.

Please feel free to contact Tiffany Skogstrom at tskogstrom@bphc.org or 617-534-2667. Alternately, you may contact Paul Shoemaker at pshoemaker@bphc.org or 617-534-5966.

c. Would you be willing to be interviewed for a more in depth case study?

Yes.