

Neighborhood Assessment Teams

*Case studies from Southern California and
instructions on community investigations
of traffic-related air pollution*

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Introduction

This Manual describes a set of innovative and valuable community tools to help educate and empower residents to take steps to assess and then try to reduce the health and environmental impacts they face daily. The tools are used by groups of “Neighborhood Assessment Teams” (called A-Teams), developed by community-based organizations in Southern California working in collaboration with academic partners to develop air pollution monitoring and traffic counting techniques. The teams are comprised of selected community volunteers who undertake air pollution monitoring and traffic counting in the communities where they work and then share results with each other and with policymakers. Training of the teams in environmental health topics and developing protocols for collecting data in the field are joint community-academic efforts. The purpose of our manual is to document the range of our activities with A-Teams and share lessons learned with others.

Contributors

Many thanks to all of the A-Team members and staff members of the organizations of THE Impact Project who contributed to this manual. The materials on the methods and documentation were jointly developed with USC, LBACA, CCAEJ, CFASE and EYCEJ and used and refined over many years with great contributions from staff members and A-Team members. Thanks to those who were interviewed, and thanks to writing and design contributor UEPI.

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Background: The “Street Science” Approach

The A-Team “street science” model, that is, the use of non-professionals or “citizen experts”ⁱ in conducting scientific research, has been occurring for decades. With modern electronic tools, the capacity to monitor in many settings has been significantly extended. These may range from birders who do surveys of speciesⁱⁱ; residents who monitor “global night sky luminance” (in lay terms, light pollutionⁱⁱⁱ); and school children who quantify and describe the plastic debris found on beaches.^{iv}

The volunteers who comprise the A-Teams have been drawn, in some cases, from *promotora* or lay health promoter programs of the community organizations involved. Their work is essentially a form of community-based participatory research, which is also referred to as “citizen science” or “community science.” Similar to the *promotora* model^v which involves the training of community members to provide information and undertake outreach in their communities about the health issues that community members experience, the A-Teams use their assessment tools to provide information and engage residents to become active participants in addressing impacts. The A-Teams in southern California primarily focus on environmental health impacts of “goods movement” related to international trade, thus they engage in examining the impacts of heavy truck traffic and near roadway exposures to air pollution.

These types of community science projects often involve a degree of training before community members or school children launch their efforts. For example, children in Monterey Bay, CA were trained in how to characterize debris they found on beaches before being sent out to collect data.^{vi} Cross-checking the work of these community scientists has yielded evidence that amateur science “works” and that trained volunteers can provide valuable information. Also by way of

example, experts in a laboratory examined surveys conducted by nearly 1000 school children in Chile who collected data on plastic debris on beaches, and found that the young students were able “to follow the instructions and generate reliable data.”^{vii}

“Citizen science” is a phrase used for the work that amateur scientists do, but some community groups and community-engaged academics recognize that not all residents, especially in certain states, are legal “citizens.” Thus, the terms “community science” or “community-based science/community-based research” can be used as alternatives. Some community volunteers like to refer to their community monitoring work as “street science.”^{viii}

Residents concerned about toxic pollution in their communities have sometimes taken it upon themselves to conduct public health surveys or questionnaires of community residents. The term “popular epidemiology” has been coined for this activity.^{ix} In earlier periods, community scientists who went into neighborhoods to collect disease data sometimes called themselves “barefoot epidemiologists.”

THE Impact Project and the Genesis of the A-Teams

The A-Team “street science” model first emerged after several community-based organizations in Southern California, working with academic researchers, decided to establish a program of community education and engagement related to monitoring health and environmental impacts related to movement of freight from the ports of Los Angeles and Long Beach. Truck corridors through low income and primarily immigrant neighborhoods in Los Angeles County carry goods to huge warehouses at the eastern edge of the region, in Riverside and San Bernardino Counties.



These organizations were originally drawn together as partners through an NIEHS/EPA grant to USC for its Children’s Environmental Health Center. By 2006, the original partners consisting of USC, Long Beach Alliance for Children with Asthma (LBACA) and the Center for Community Action and Environmental Justice (CCAEEJ) joined with two other environmental justice organizations, East Yard Communities for Environmental Justice and Coalition for a Safe Environment, and Occidental College’s Urban & Environmental Policy Institute to establish a new region-wide community-academic collaborative called the Trade, Health, and Environment (THE) Impact Project. This collaborative identified a core goal of using science-based information and community engagement to inform public policy decision-making and to encourage healthy solutions for communities impacted by ports, rail yards, distribution centers, trucking routes, and other goods movement expansion activities. Today, a large portion of THE Impact Project’s work continues to be community-driven, meaning that the people whose health is

compromised by goods movement pollution are actively engaged in assessing environmental problems and developing possible solutions. THE Impact Project community and university partners have worked together to identify needs, activities, and funding sources, and jointly develop plans for community based monitoring projects.

As more and more studies from USC and other universities have identified serious health impacts for children and people of all ages living near freeways and busy roads, THE Impact Project partners decided to use equipment and assessment methods to specifically focus on near-roadway air pollution. Community residents were concerned about asthma, heart disease, effects on pregnant women, and lung development in children. Research studies provided information on the high levels of pollution near freeways, as well as the distribution of particles and how meteorological conditions affect the distance that the particles travel.

Training and development of the A-Teams

THE Impact Project partners and A-Team members work together to discuss current community concerns (such as locomotives idling or big-rig trucks cutting through residential communities) and to share information about traffic-related pollution and the negative health impacts it has on their children and residents of their communities. A-Teams learn about different parts of the global trade system, so that they have a context for understanding why there are so many trucks on certain freeways or rail yards in certain locations.

A-Team members first seek to identify what the needs and goals are for the community. Their training, in conjunction with USC researchers, includes an “Air Pollution 101” presentation about where pollution comes from and how it affects the body, as well as a discussion of the latest research findings. Team members gain an understanding of emissions sources, particulate matter and other pollutants, and available data on air pollution.

A-Teams are also trained to measure the air pollution in particular locations (e.g., entrances to rail yards or near school playgrounds with significant nearby truck traffic) and use other tools to assess their neighborhoods. Members



receive training on how to use the monitoring equipment, display the results, and log traffic counts onto their data collection sheet. Academic and community partners have worked together to develop protocols for monitoring air pollution and counting traffic. Materials and protocols have continued to be updated and refined over the years.

This allows the A-Team members to be engaged and fully participate in public hearings that include technical language on air pollutants. Through this process of education, monitoring and engagement, members of the A-Teams have become strong community leaders. These community leaders raise awareness throughout their community and bring the results of their community research to City Council and other meetings of government agencies.

Monitoring experiences

A-team members have used P-Trak devices to measure ultrafine particle pollution. The organizations developed methods for using the P-Trak, manufactured by TSI, to measure the tiny ultrafine particles (particulate matter with the diameter of less than 0.1 μm). Although there is no regulated air standard for ultrafine particles (UFPs), the number of particles counted provide a good marker of traffic exhaust at the street level, and UFPs are known to have dangerous health impacts. The monitoring activities provide a hands-on way to learn about air pollution and be involved in community-based research. These local data provide a snapshot at street level and fill a gap in information from air quality monitors operated by government agencies. Air district monitors are often located some distance away from A-Team member communities, and are also located away from roadways that could otherwise provide more general data for the area. By undertaking monitoring in their own communities and near those high traffic roadways, members report that this is a valuable exercise, and that they can in turn tell friends, family, neighbors, and local elected officials about their monitoring experience. It makes the information more real and personal when residents collect it for themselves, rather than only reading the results by experts on paper.

Community organizations choose locations that they know to be high traffic locations, areas where traffic impacts homes or schools, or to monitor locations of industrial facilities related to goods movement. The community monitoring plans are informed by research studies showing high levels of particles near busy roads and freeways. The monitoring activities relate to goods movement facilities, and they are used to gather information needed for the organizations' current campaigns.

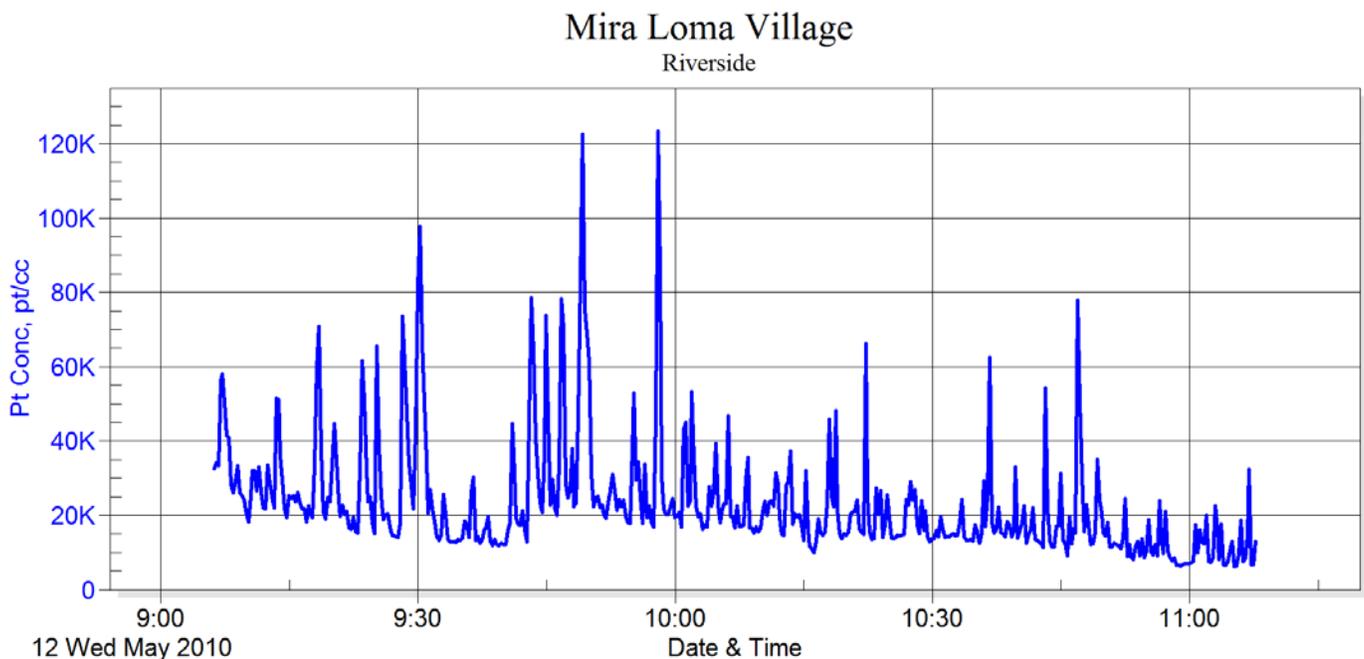
Community monitoring experiences

Team members observe the readings on the screen of the P-Trak monitor, and write down their observations as traffic goes by. The numbers represent the number of ultrafine particles per cubic centimeter (pt/cc). The chart below is an example of a graph downloaded after the monitoring exercise.

Levels of ultrafine particles measured outdoors at study sites range from 15,000 pt/cc to as high as 150,000 pt/cc. The P-Trak readings spike up when diesel trucks pass by, shown as the peaks on the graph. This compares to cleaner residential sites that measure less than 10,000 pt/cc that are further away from traffic and industrial sources.

A-Team members also count traffic, and often find that a high proportion of the total traffic is made up of diesel trucks.

Information collected by the organizations is then often used in community presentations and/or campaigns of the organizations. See Case Studies section for information on how the data are used, and see Strategies section in the Appendices for more detailed information about study protocols.

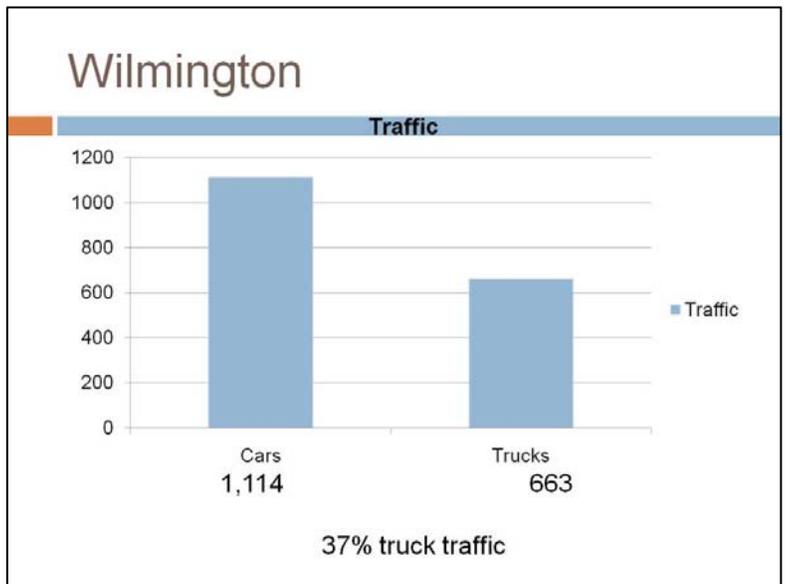


Simultaneous Monitoring Days

THE Impact Project organizations have also conducted P-Trak monitoring and truck counting in different communities on the same day. This provides an idea of the levels in different parts of Southern California during approximately the same weather conditions, as well as providing a sense of solidarity between organizations facing similar impacts from truck traffic related to goods movement. In 2010, the exercise was conducted in Wilmington and Long Beach (near the Ports), City of Commerce (near rail yards and truck-congested freeways) and Mira Loma (where many huge distribution centers/warehouses are located), and a comparison location in Pacific Palisades, a quiet residential community near the coast. The readings showed high levels of ultrafine particle pollution in each of the industrial communities, with spikes in the levels when traffic was highest. The average particle counts in the communities ranged from 18,000 - 50,000 pt/cc, and even reached a maximum of 354,260 pt/cc in the City of Commerce. The percent of the total traffic made up of trucks ranged from 32% - 39%. The cleaner location in residential Pacific Palisades showed much lower levels of particles, as well as only 2% truck traffic.

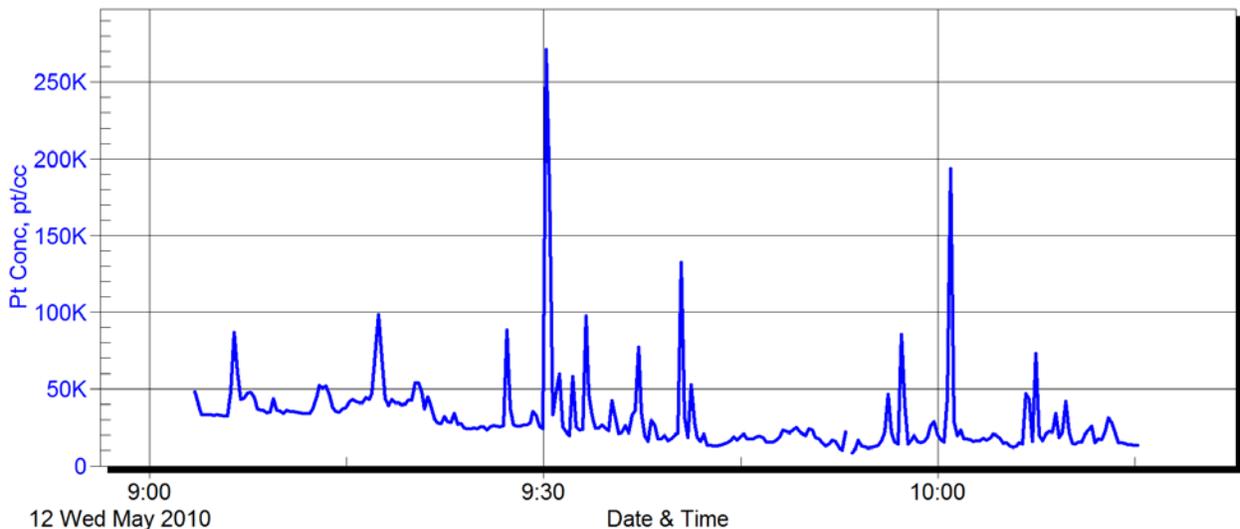
Simultaneous P-Trak day

Wednesday May 12, 2010, 2 hours: 9am – 11am
5 teams: CFASE, LBACA, EYCEJ, CCAEJ, USC



CFASE Harry Bridges Blvd, Wilmington

May 12, 2010, 9am



Case Studies

The following case studies describe some of the experiences, development, and training of the A-Teams in Long Beach, Wilmington, Riverside, and San Bernardino. They provide an example of how teams collected information, how the information was used in campaigns, and lessons learned in the process.

Long Beach Alliance for Children with Asthma: Case Study of A-Team Activities

The Long Beach Alliance for Children with Asthma was founded in 1999 and works to improve the lives of children with asthma. Its mission is to change the profile of childhood asthma in the most affected areas of the cities of Long Beach, Carson, San Pedro, Wilmington and beyond, through improved healthcare delivery and quality, outreach, education support systems, healthy living environments, and changes in policy at all levels. LBACA offers classes and home visits for families with children suffering with asthma. Participants in these programs learn about other opportunities to advocate for healthier indoor and outdoor air.

This case study focuses on LBACA's work on outdoor air pollution, covering some of the experiences of LBACA in developing their A-Team. The information is gathered from LBACA materials and interviews with Jessica Tovar, Project Manager of LBACA, and A-Team members.

The A-Team members have the shared passion of wanting to help their community. Many of the members have children with asthma, and first connected with LBACA through their asthma home visitation program.

What community monitoring activities has the LBACA A-Team conducted?

LBACA A-Team members have conducted assessments of their neighborhood, including truck counting and monitoring ultrafine particles using the P-Trak. Members participate in trainings with USC on the assessment tools, and then choose "hot spot" locations: schools and residential areas affected by pollution from rail yards, freeways, and industrial facilities. West Long Beach is surrounded by freeways and the ports. Several schools are directly adjacent to the Terminal Island (103) Freeway, which carries trucks from the ports to the Intermodal Container Transfer Facility (ICTF) and other facilities.

Meet the LBACA A-Team!



Erika Olvera, Martha Sandoval, Silvia Reyes, Yolanda Lopez, Maria Sofia Merito, Beatriz Guerrero, Roberto Reyes, Maria Reyes, Beatriz Reyes, Ana Valdivia, Maria Hernandez, Martha Barajas, Luz Gutierrez, Ana Romo, Evangelina Ramirez, Mayra Cheverria

<http://lbaca.org/policy/community-engagement/meet-the-a-team/>

School children and staff feel the impact of emissions from trucks, trains, and other heavy-duty equipment, and athletic fields and playgrounds are separated only by a chain link fence from the line of idling trucks on the freeway. A-Teams conducted monitoring at elementary schools, near freeway on-ramps, local parks, and high-traffic intersections, and saw spikes in pollution when diesel trucks and buses went by. For several years, A-Team members counted the number of trucks passing an elementary school in West Long Beach on their way to unload cargo, always counting more than 500 trucks in one hour. In other sessions, members used two P-Traks: one located next to the Terminal Island freeway and another located one block away. This monitoring indicated high levels of pollution near the freeway compared to further away, modeling a scientific study that had documented the particle levels at different distances from a freeway. A-Team members and LBACA staff also worked with USC to research traffic volume, facility equipment and operations and to distinguish the different types of trucks. This activity helped to determine the origin and traffic patterns of the trucks, and increased understanding of the goods movement operations.

How does LBACA recruit and retain members? Are they compensated? Do they receive training?

Much of the recruitment is achieved through word-of-mouth by current members. A-Team members take the information they have learned and share with others by giving presentations to schools, neighborhood groups, and in homes. Participants learn about the A-Teams, and new members are often recruited from these contacts. In a few instances, people approach them when A-Team members are out in the field doing a project. Interested members are invited to meetings and to participate in any ongoing leadership trainings, events, and presentations. This allows a type of trial period to see if the person is interested, and allows the current members to assess whether their capacity and skills are a good fit. After the trial period, the person may sign an A-Team contract and become an official member. The responsibilities of the contract are to commit to one year of participation, attend the meetings, field research activities, and provide public testimony at hearings. This also makes them eligible for a

stipend of \$15 per hour in the form of a grocery store gift card. Members are recruited based on interest, and the stipend is not advertised until the person has participated in several events. The current A-Team members learned that it was better to recruit from volunteers and those who are interested, instead of advertising the incentives for participation right away.

Qualities of those members who have been successful include leadership skills in their community, high energy level, being passionate about the topic, and willing to learn new skills. Knowledge of health and environmental impacts, public speaking, and advocacy skills are not required, as they are taught through their involvement with the A-Team. For the meetings, participants are provided transportation through taxi vouchers or bus tokens and language audio interpretation “to provide a more welcoming environment where they feel that they can participate without any barriers,” says LBACA Project Manager Jessica Tovar.

This form of recruitment is possible due to the strong ties that the organization has with the community and the strong community ties of the pioneer group of A-Team members. It carries a lot of significance when a person sees that their neighbor is involved and not just organization staff, according to the LBACA Project Manager. “It makes people think ‘if they can do it, I could do it, too,’” says Jessica Tovar. In this way, the A-Team members model the behaviors of leadership and action that they hope will inspire others.

Community Outreach Liaisons are the leaders of the A-Team, and they keep track of hours and participation by the members. When an opportunity to give a presentation or attend an event arises, they contact the members. Those members who have been the most active participants at past events are offered the opportunity first. This helps retain members and encourage participation. Members often have family and work time conflicts, and may not be able to participate for a period of time, but LBACA has had many dedicated members that return after some time away. Members provide a support system for each other and understand the demands on their time. New learning opportunities driven by the interests of members also help retain members. Community Outreach Liaisons survey the

members to determine topics of interest to invite speakers and experts to come present and provide resources. In this way, the topics have branched out from air pollution and health to include other topics important to parents. The organization has learned to be member-driven, which can be challenging when a project or grant covers a narrow range of activities. This has led to creative solutions, and focusing on community input when the organization is in the first planning stages of a project. To have resident/member buy-in, these individuals must be part of the planning process. This also helps the organization know which projects to pursue, because they have knowledge of which topics are important to their members and will receive strong support. A-Team members report that this is a good balance between filling the need for work on the organization's policy efforts with the members receiving new workshops on topics that are important to them in return.

What are some lessons learned from your work with the A-Teams?

For Jessica Tovar, the most important thing she had learned is that A-Team members are "experts" of their own communities. "They know what they want, you just need to ask them," she says. Many times this community input step is forgotten, and, she suggests, that is very disempowering. "If you give them a voice, they will come."

There are more community needs to be addressed, as well. The A-Team members are very happy to have staff at LBACA who speak Spanish and can communicate with them easily, and this was an important factor for the success of the A-Teams. Cultural familiarity makes a significant difference. LBACA has done a great job of engaging Latina mothers, but have had less success engaging African-American and Cambodian community members. They are currently working on this area, because they know the importance of reaching out to other residents who share many things in common, including their environment.

How do A-Team members use the truck counting and monitoring information they collect?

Information from truck counting and monitoring

is added to the LBACA "Air Pollution and Health Effects" presentation, including photos and graphs of results. The A-Team members give the presentation to audiences of community members at schools, neighborhood groups and in homes. The spikes in particle pollution on the graph have a dramatic effect on the audience, as the members describe what was happening when the levels went up and what negative health impacts can occur when residents are exposed to such pollution.

When talking with elected officials and city leaders, A-Team members ask them to visit their neighborhood, and let them know the issues they face: "there is noise, it's dangerous to walk around if they're by a freeway, they can't send their kids out to play," says Ms. Tovar. They say to their officials, "you are representing us, so do a better job – because we are sick." They find that personalizing their testimony makes a difference. A-Team members don't always share the actual numbers, but instead with elected officials they might focus on their experiences living in the neighborhood. At times, sharing monitoring results causes the officials to say that it is "someone else's jurisdiction," so the members have chosen to focus on linking the pollution to specific policy issues, such as the need to reduce idling of locomotives.

"We have learned over the years to get better at linking the studies of air pollution to what is happening to our health," Ms. Tovar emphasizes. Instead of saying only that their child is sick, they show a study that identifies the link between the illness and an environment insult. They especially consider information from presentations that they have recently heard from scientists at USC and UCLA. A very important part of THE Impact Project is that community members have direct contact with scientists and the information is made available in a way that A-Team members can then bring to their elected leaders and their community. Members prefer an in-person presentation over a fact sheet, saying it strengthens both their understanding and the connection between the groups. A-Team members also report feeling empowered by the information, thereby being able to share it through their increasing well-honed public speaking skills. LBACA strives for the A-Team members to share their own stories, showing that they are experts of their community. This is also a

key part of the training on public speaking: it is easier, A-Team members say, to talk about their own perspectives and experiences. At times, public testimony has not been as successful when members are just provided bullet points or scripts. To testify effectively, they argue, one needs to have a compelling personal story.

Which policies and campaigns have A-Team members been involved in?

LBACA's policy and advocacy work has developed throughout the implementation of its strategic plan under the Allies Against Asthma project, and LBACA has been one of several coalitions throughout the State of California that have received funding under the California Endowment's Community Action to Fight Asthma (CAFA) project and continues to be involved in CAFA through the coordination of Regional Asthma Management and Prevention (RAMP) program. The culmination of LBACA's involvement in policy work has brought a strong community voice into the policy making process, resulting in community education and empowerment. Community members have created a strong voice for themselves by participating in the A-Teams and Health and Housing Groups.

Despite advances in improving air quality through change at the policy level, Long Beach and its surrounding communities will likely continue to experience a disproportionate impact of asthma and other health conditions resulting from ongoing poor air quality. Plans to expand port operations as well as the I-710 Freeway are currently underway and a doubling or tripling of cargo is predicted for the Los Angeles and Long Beach ports before 2030.

A-Team members also gain professional experience and build their resumes for other possible job opportunities. A significant success is that A-Team members have been hired as full-time staff at either LBACA or other non-profit groups after working as volunteers.

LBACA A-Team members have worked to address the impacts of goods movement expansion projects in their community, and they have

achieved significant policy successes by working collaboratively with other organizations. The knowledge that members gain as part of the A-Team translates to engagement in policy hearings and actions. For example, LBACA members worked as part of the Coalition for Clean and Safe Ports to push for the Clean Trucks Program at the Port of Los Angeles, which passed in 2008, and resulted in cleaner trucks, better working conditions for drivers, and funding for truck replacement.

Members have been confronted by a proposal for the BNSF Southern California International Gateway (SCIG) Rail Yard to be built in their community. As an alternative, a collaboration of allies, including LBACA and some in THE Impact Project, developed a proposition to move the rail yard on-dock at the port (instead of siting it in the community near homes and schools) and have fought to employ zero emissions technology to reduce emissions. The project has been delayed for eight years while officials study community and environmental concerns. High turnout at public hearings and many public comments caused the Environmental Impact Report (EIR) to be revised and re-circulated to address these concerns. Nonetheless, the final EIR was released and the Los Angeles City Council voted in favor of the project. There are currently seven lawsuits against the project.

Members have also worked on the 18-mile long I-710 Freeway Expansion project, which would travel through many lower-income, primarily Latino, communities. Construction has been delayed since 2002 to include more community input due to the outcry from residents about the project. Community members have been included in the process, and partner organizations along with LBACA have held workshops and events which increased the number of community members that attended and gave public testimony at the I-710 public meetings. The community coalition called Communities for Environmental Health and Justice, introduced a "Community Alternative" for the I-710 Freeway that would have fewer impacts on the surrounding neighborhood by encouraging the use of zero emission technology.

Center for Community Action and Environmental Justice: Case Study of A-Team Activities

The Center for Community Action and Environmental Justice (CCA EJ) was founded on the principle that the Inland Valley of Southern California needs a resource and support organization for the individuals and neighborhood groups fighting to keep the community free of environmental health hazards. CCA EJ is founded on the belief that residents have a right and a responsibility to participate in decisions that directly affect them. The mission of CCA EJ is to bring people together to improve the social and natural environment. They do this by developing local leadership, community organizing through strategic campaigns, and building a base of community power in order to create safer, healthier, toxic free places to live, work, learn and play.

This case study focuses on CCA EJ's work on outdoor air pollution, covering some of the experiences of CCA EJ in developing its A-Team. The information is gathered from CCA EJ materials and interviews with CCA EJ Policy Director Sylvia Betancourt, A-Team Coordinator Rosa Vielmas, and A-Team members.

What community monitoring activities has the CCA EJ A-Team conducted?

CCA EJ's A-Teams have conducted monitoring in areas of Riverside and San Bernardino. These communities are heavily impacted by trucks heading to warehouse complexes and rail facilities. Many of the monitoring activities have focused on schools and homes in Jurupa Valley (formerly Mira Loma), a community that is affected by a heavy concentration of warehouses and distribution centers and a rail auto facility. Traffic counting has found as many as 765 trucks per hour going by residential areas during rush hour. The A-Team has documented the close proximity of residential areas to the industrial warehouse areas, as well as how quickly the industrial buildings were developed (sometimes in a matter of days!)

In one activity, A-Team members measured pollution at a highly impacted neighborhood and

San Bernardino A-Team members:

Jose Velasco

Maria Hernandez

Maria Birrueta

Jurupa Valley A-Team members:

Dolores Martinez

Ana Rosa Gomez

compared that to a neighborhood where key elected officials live. This highlighted the disparity in exposures between the decision-makers and the people who live in the community – the decision-makers don't bear the burden of the decisions they make. The information was shared in many parts of the community and in the media, raising awareness about the issue of the truck traffic and its negative impacts on health and quality of life. Publicizing the disparities caused pressure that leveraged improvements by diverting truck traffic to an industrial area.

How do you recruit and retain members?

Most A-Team members are graduates of CCA EJ's SALTA program (Salud Ambiental, Lideres Tomando Acción or —Environmental Health Leaders Taking Action). SALTA is a formal program with 10 weeks of classes, which focus on environmental health issues. The sessions start with addressing what is most relevant to people – their home. Initial sessions cover pesticide use, chemical cleaners, and lead paint and then topics broaden to the neighborhood and community. Participants attend local City Council and County Supervisor meetings to meet the people who make decisions that affect them. Trainees with interest and leadership skills emerge from these trainings, ultimately becoming engaged community leaders or A-Team members. Recruited A-Team members fill out an

application and articulate why they are interested in participating more actively. Once recruited, A-Team members are trained in public speaking, truck counting, ultrafine particle counting, presenting the data, community mapping, and problem solving skills. Their responsibilities include giving presentations in the local community at schools, SALTA classes, and for other organizations. In addition, the teams count trucks, use the P-Trak, and identify hot spots for traffic. An important point is that all A-Team members live in the community where neighborhood assessments are taking place. As a result, the members are committed and concerned about environmental and justice issues because they're directly affected by poor land use decisions. A-Team members often work part-time and have flexible hours depending on needs of a particular project, which is especially important to parents with children. They are compensated for the expenses they encounter to participate and receive stipends for childcare, gas and food. The Team is successful in attracting members

because it provides an opportunity for skills development.

What are some key things you would like to tell groups about the A-Teams?

A-Teams work by demystifying science and making it accessible to all residents; it's inspiring! When it comes to organizing and empowerment, this team is using complex information, understanding it, and then explaining it to others in a way that is understandable. They are making scientific information practical.

The A-Team members have built community trust over time. Now the community knows the organization, knows that there are things they can do to participate, and that they can speak up for change. "People start to believe, and little by little people start telling their families," says Rosa, A-Team coordinator.



*Several members of San Bernardino's A-Team:
Maria Birrueta, Jose Velasco, Maria Hernandez*

How are the data used?

In addition to collecting data, the A-Team takes a leadership role in communicating information to residents, task forces, and elected officials. A-Team members frequently do presentations for community members, decision makers, council members, and the media. They also often return to speak to SALTA classes, where they originally started, to teach the incoming members. The process is about sharing information and skills. Members use information from scientific studies as well as their own collected data, and they tailor the information to different audiences, as needed. The A-Team members believe in the process of collecting the information and using it in campaigns. In this way, real data has an influence on how the community can bring about change. Members meet at City Hall with authorities from several different government agencies, and talk about how the diesel pollution and the truck traffic are negatively impacting the community. Once they have information about the local pollution levels, it is used to advocate for zero emission solutions, alternative truck routes, and other ways to reduce the pollution. “The information gives us the evidence we can use to push for changes,” says one A-Team member. Members report feeling more empowered to speak and present information to groups because they are a united community.

Policy successes and campaigns

The success of the A-Teams at CCAEJ is building a group of strong, knowledgeable leaders that can engage in decisions being made locally and share information effectively with the rest of the community. Many of the members have been involved for several years and continue to develop their skills. Many have also been able to

take on new responsibilities. Rosa, one of the original A-Team members, is now a staff member at CCAEJ and coordinator of the A-Team. Other A-Team members are SALTA class leaders, community organizers, participants in many CCAEJ programs, and have connected with other universities to do additional studies.

When approaching a decision maker or elected official of authority about a problem, A-Team members are trained to discuss how an issue is affecting the community, what they are doing about it, and what they want others to do about it. A-Team members have been engaged in many policy campaigns, including the following:

“Moving the gate!” CCAEJ and A-Team members were successful in a campaign to the truck entrance to an intermodal facility in Jurupa Valley, so that truck emissions would be further away from the local high school and sports fields.

A-Team members participate in CCAEJ’s Environmental Justice Task Force, which brings together officials from various federal, state and regional environmental agencies. Here, A Team members present the results from their field work in an open dialogue and identify hot spots of diesel pollution in local neighborhoods. These regular meetings have resulted in many community protective measures, including a traffic calming project to reroute trucks away from residential areas, a vegetative barrier to reduce human exposure to diesel emissions; and most recently, settled an unprecedented lawsuit with warehouse developers to re-examine their warehouse project proposal and mitigate community impacts from the increased truck traffic.

Coalition For A Safe Environment: Case Study of A-Team Activities

In April 2001, a group of Wilmington residents came together to fight an expansion of the Port of Los Angeles. Wilmington is a Latino community in the harbor area bordering the Port of Los Angeles, only one block from the ports' boundaries. The residents became aware of port expansion projects in 2001, when the Port of Los Angeles held community meetings to discuss building a 20 foot wall between the Wilmington community and the Port. At a meeting in April 2001, lifetime Wilmington resident Jesse N. Marquez found out that on the other side of the wall, port officials were planning to build a new 6-lane diesel truck highway, expand the TraPac container terminal, and move the Ports Pacific harbor railroad tracks further north closer to Wilmington. That is when the Wilmington community stated that they would no longer support port expansion into their community and created the Wilmington Coalition to fight the wall, port blight and port sprawl. In 2002 the committee became a more formal organization with officers and board of directors, ready for fundraising and community advocacy work, and was named Coalition For A Safe Environment (CFASE) in 2003.

The mission of CFASE is "to protect, promote, preserve and restore our Mother Earth's delicate ecology, environment, natural resources and wildlife. To attain Environmental Justice in international trade marine ports, freight transportation corridors, petroleum and energy industry communities." Its slogan is, "Protecting Our Environment and Children's Future."

CFASE's involvement spans community organizing, family assistance, public education, leadership development, community

empowerment, urban planning, community sustainability, economic development and public policy participation. Additionally, CFASE conducts public health surveys, distributes public information, prepares research reports, evaluates environmental impact reports, investigates environmental incidents, and prepares public comment documents. CFASE also attends government agency, business, and community organization meetings.

What activities has the CFASE A-Team conducted?

Since the Wilmington A-Team was formed, CFASE has conducted four additional community "Goods Movement 101" classes. The lessons include P-Trak training and on-site air quality monitoring in three main areas; the Port of Los Angeles, port, truck and train freight transportation corridors, and Banning High School. Classes have been held in the City of Carson and the Los Angeles harbor gateway community. Last year in March, CFASE was invited by the international environmental organization Crude Accountability to visit and conduct both a Goods Movement 101 Class and a Petroleum Industry 101 Class in Russia in the communities of Taman and Temryuk.

CFASE continues to expand its air quality monitoring capabilities, purchasing a DustTrak to measure PM₁₀, PM_{2.5}, PM_{1.0} and a Q-Trak to measure Volatile Organic Compounds. This year CFASE will have the Los Angeles Community Environmental Enforcement Network (LACEEN) Project on-line, which will be a 24/7 air quality monitoring station and a public complaint filing and reporting system.



Graduation of the first CFASE Wilmington community class

The CFASE A-Team has also expanded the scope of its work to include other important community based research areas. A new elevated 18' highway truck corridor is being proposed for the East Wilmington community which will allow an increase in truck traffic and air pollution from the Ports of Los Angeles and Long Beach. CFASE used an innovative technique to measure the distance from the proposed new highway and railroad tracks to resident homes. A special class in a nearby pocket park was held on how to measure distances using different tools.

Additional equipment for research includes a portable weather instrument that measures temperature, humidity and wind direction, a GPS Receiver in order to take accurate direction, latitude, longitude, and altitude measurements, as well as professional digital cameras, HD video cameras and editing software. With this equipment, the group can create GIS maps, photo documentation, and videos.

**How does CFASE recruit and retain members?
Do they receive training?**

CFASE has created brochures, fact sheets, reports, case studies, copies of newspaper stories, posters, GIS Maps and flyers to promote its work. Materials are distributed at community meetings, public hearings, community events, conferences, workshops and door-to-door.

CFASE also partners with universities, governmental agencies and other environmental and public health organizations to conduct classes, seminars and workshops of special interest to organization and community members. The group sponsors and co-hosts numerous types of classes on environmental issues, public health, public speaking, how to use various types of test instruments, alternative technologies, mitigation and Community Benefits Agreements. Most notably, CFASE has created a

“Petroleum Industry 101 Class” unique to their group. Looking ahead, CFASE plans to partner with the University of California, Los Angeles Community Research in Cancer program to conduct a “Cancer 101 Class.”

How do A-Team members use the information they collect?

Information and color photos are used to create public comment letters, field reports, brochures, fact sheets, reports, case studies, copies of newspaper stories, posters, GIS Maps and flyers about the organization and its current projects. A CFASE TV channel on YouTube was also created, consisting of short personal stories of our members, videos of our demonstrations against toxic industries and videos of industrial fires and pollution in the community.

Information is distributed to organization members, community residents, community organizations, as well as homeowner, environmental, public health, and wildlife conservation organizations. The organization also gives information to businesses, universities, colleges, student researchers, elected officials, appointed officials and government agencies.

Which policies and campaigns have A-Team members been involved in?

The CFASE Environmental Justice Campaigns include a focus on attaining environmental justice in international trade marine ports, freight transportation corridors, and petroleum and energy industry communities. CFASE was instrumental in proposing that the Port of Los Angeles and Port of Long Beach establish a joint plan to reduce their air pollution impacts. A-Team members had the opportunity to give testimony and speak in support of The Ports Clean Air Action Plan. In 2006 the two ports then adopted the historic Ports San Pedro Bay Clean Air Action Plan, the first in the nation. The plan included a Clean Truck Program and Technology Advancement Plan.

A-Team members have participated in solutions for global warming. CFASE is a member of the State AB 32 Environmental Justice Advisory Committee; this law is the most comprehensive global warming and climate change law in the U.S.

After fighting for several years, the Port of Los Angeles agreed to not expand into Wilmington, and to create a buffer zone, which is now the new 30 acre Wilmington Waterfront Park. This is phase I of a \$ 200 million 94 acre Wilmington Community Waterfront Development Project.

A-Team members have also participated in hearings about the proposed Port of Los Angeles BNSF Railroad SCIG Project in Wilmington, which would border West City of Long Beach and south City of Carson communities, affecting many schools and homes.

A key value of A-Teams: teamwork, empowerment and sharing successes

Impact of A-Team work

The major impact of the A-teams is the development of community leaders who are knowledgeable on environmental health issues, can share this information with their community, and advocate for changes.

A-Team members have played an important role in many regional and statewide efforts, such as: promoting the Clean Trucks Program at Los Angeles and Long Beach Ports, fighting for zero emission alternatives on the I-710 Freeway expansion and arguing that an entry gate for a rail yard facility be relocated to reduce local emissions.

Sharing successes

A-Teams have been able to share their experiences through local events, state and nationwide conferences, and online through video and multimedia. The A-Teams have gathered in several convenings to support and learn from each other on issues relating to the impact of global trade in Southern California. In 2006 and 2010, the members of the community organizations convened for an “A-Team Forum,” and another is planned for 2013. 80 members of A-Teams from CCAEJ, LBACA, EYCEJ, and CFASE

attended the “A-Team Forum” in June 2010. It was a significant event that helped to build a stronger collaborative among the community members. The event focused on the work of the A-Team members, who gave presentations on their projects, sharing protocols for traffic counting and P-Trak monitoring, how their group uses the information, and outcomes. The members were able to share their stories and experiences with photos and videos.

The A-Teams also hosted break-out workshops at THE Impact Project’s “Moving Forward” Conferences in 2007 and 2010. These presentations increased the skills of the A-Team members, raised awareness among different audiences, and inspired action for reducing emissions. Members of LBACA and staff from USC also were invited to give a presentation at the national Community Campus Partnerships for Health conference in 2010 in Portland, Oregon, on the work of the A-teams. Another highlight included a workshop where Impact Project staff and A-Team members created digital stories to describe the members’ personal experiences and their own development, from first learning about the issues, to becoming advocates for change. (See links to the digital story videos in the Resources section of this document).

Additional Efforts with High Schools, Universities, and Community Organizations

Programs with high school students

USC has partnered with community organizations in San Diego and the Los Angeles area to create a week-long curriculum: “Air Pollution, Your Health, and Your Community.” Partnering with the Environmental Health Coalition, USC coordinated classes and a field trip for students at San Diego High School, including monitoring on a busy street with the P-Trak and counting trucks. A modified educational program was carried out in high schools in Huntington Park and South Gate, CA, as a partnership between USC and the EJ organization Communities for a Better Environment. These classes gave an overview of air pollution and its health impacts, environmental justice, the goods movement system, and how these things relate to community impacts. The curricula included

learning activities on “becoming a health detective,” investigating environmental hazards, finding data in the Toxic Release Inventory, land use choices and decisions, biology and routes of exposure to environmental hazards, as well as a field trip and air pollution monitoring exercise, along with a role-play exercise..

In 2013, Occidental College, through a grant from the Luce Foundation, worked with the Asian Pacific Islander Obesity Prevention Alliance (APIOPA) on a project to study air pollution concerns in the San Gabriel Valley, just east of Los Angeles. APIOPA and students at Mark Keppel High School coordinated an environmental survey, and they found that pollution was a concern for residents. Subsequently, the students received training from USC on community monitoring methods used by the A-Teams, and USC staff conducted an air pollution monitoring project at the school. Their work is documented in a video: <http://youtu.be/DmYIWgKksas>

International collaborations: Civic Exchange, Hong Kong University of Science and Technology, and Clean Air Network

THE Impact Project partners have had the opportunity to visit other communities around the United States and around the world, as well as to host activists and researchers from several countries at Impact Project gatherings. One such event was the 2010 “Moving Forward Together” conference on global trade and goods movement. This conference marked the beginnings of a nationwide network now called the "Moving Forward Network," as well as helping to establish international collaborations. The conference featured a presentation by Veronica Booth from Civic Exchange, a Hong Kong-based policy think tank. Following that conference, a participant from the Chinese University of Hong Kong spoke about how impressed he was by the A-Team members and the community-academic



EXPLORE Project Set-up in Hong Kong

collaborations that drew directly on validated community knowledge and experience. In 2012, faculty and staff from Occidental College and USC visited organizations in Hong Kong involved in studying air pollution through Occidental's China-Environment program, funded by the Luce Foundation and coordinated by the Urban & Environmental Policy Institute, one of the partners of THE Impact Project. The Oxy and USC visitors learned about the range of environmental projects at the Hong Kong University of Science and Technology (HKUST), including the EXPLORE project that aims to help educate high schools students about the air pollutants common to Hong Kong.

Through the EXPLORE Project, students measure sulfur dioxide, ozone, black carbon, and visibility over a long period of time. They then analyze and report their results to the EXPLORE website. Students are thus able to use the results to

The Clean Air Network: Hong Kong Grass-Roots Air Monitoring

The Clean Air Network (CAN) was founded in July 2009, in response to the need for an organization that could assist in grassroots organizing around air pollution. This was preceded by a January 2009 conference hosted by Civic Exchange, "The Air We Breathe- A Public Health Dialogue," and a gathering for the public for a dialogue on air pollution and its effect on public health. These events showed a clear consensus from experts and the public on the need for an organization to work on air pollution and affect government policy. CAN is a Hong Kong based NGO that encourages community engagement regarding the health impacts of air pollution. Their mission is to inform all Hong Kong residents about the dangers of air pollution, and to create grassroots support and put pressure on the government to change and update air quality policies.

compare and contrast the levels of air pollution around various regions in Hong Kong at various time periods.

In order to quantify black carbon levels in the atmosphere, students have adopted the Black Carbon Imaging technique. This technique relies on the use of a simple scanner and Adobe Photoshop. With a little re-engineering, this scanner can be re-designed for use on a camera or cell phone. The public could potentially analyze the amount black carbon in the air very easily given a filter.

Aspects of this project, and other projects in the U.S. and internationally, could be adopted and shared among A-Team groups. Groups could also work to develop a common medium to report and compare data from their respective sites.

CAN has led various educational and policy campaigns to raise public awareness, including working with the Environmental Protection Department on policy change, creating District Council projects, and launching "Fresh Air Infomercials" (see <http://www.youtube.com/watch?v=lmH3xCpOSW8>) the most successful viral video to come out of Hong Kong. CAN has an interactive map on their website where people can go and report sources of air pollution, add pictures of those sources, and monitor air pollution levels in specific areas of Hong Kong. They also have utilized an air pollution widget that reports whether or not the air is highly polluted in real time.

CAN also utilizes PM2.5 monitoring equipment by measuring airborne particulates, making the data available even before the Hong Kong government. This action by CAN influenced the Environmental Protection Department to do its own monitoring of PM2.5 levels in real time. CAN also rents out their monitors to any Hong Kong residents and collaborates with approximately 20 schools to educate high school students about air pollution.

Appendices

Strategies for community-based research activities related to traffic pollution
Sample field protocol
Counting log for traffic
Land use recording sheet
Presentation template for sharing results

Strategies for community-based research activities related to traffic pollution

This section describes methods that have been used for university and community partners in THE Impact Project to jointly develop and conduct neighborhood investigations on traffic pollution.

Planning

Begin planning by discussing your goal. For example, do you want to show that particle pollution levels are higher at the school than one block away? Establish what the traffic levels are on a busy road? Conduct an educational activity? Gather information related to a project or campaign? Depending on your goal, you may choose to count traffic, monitor air pollution, look at land use, or other methods.

Choose a designated area to study before going out to the field. Have a meeting with residents to discuss what locations people are concerned about, the areas with the highest traffic, and which days of the week and time of day has the most traffic. It's important to know what the community is concerned about, and be familiar with study locations. Decide when the team will be doing the field work, taking into account school and work schedules, child care, and travel time. It often takes longer than expected, so it is recommended to allow extra time. To do 30 minutes of monitoring, it may take 2 hours including set up, giving instructions, monitoring, and discussion.

Community-based participatory research (CBPR) principles include joint development of the research questions and methods between partner organizations. There are many key publications to refer to in this area, please see the Resources section in the appendix.

Measures and data collection

Discuss what data are already available, and what data you will need to gather yourself. Brainstorm about different ways to collect information on what you want to study. Browse online maps to see land use and pollution sources, find traffic volume information online, measure the distance from highway or busy road on the ground or through online maps.

Reference local air district data and scientific studies about regional or local air pollution if available. This helps frame the issue, and also may illustrate gaps in information that you would like to research in your study. For example, traffic data may not be available on smaller roads, and pollution monitors are often far apart and study the general air quality rather than local levels.

→ See A-Team field protocol, Counting Log, and Land Use recording sheet.

These attachments in the Appendix describe methods for traffic counting, using a P-Trak monitor to measure ultrafine particles, and documenting the surroundings.

Traffic Counting

The goal of traffic counting is to provide a community-level assessment of the volume of truck traffic in a neighborhood. This provides a means for community members to quantify the amount of truck traffic in the areas that are most impacted. It also allows A-Team members to compare the volumes of traffic in various locations. See the Appendix for instructions on counting traffic volume, and equipment and supplies needed. You will need at least 3 or more people for going out to complete the activities.

Monitoring equipment

Methods and equipment will change depending on the issue to be studied. For example, if you are interested in diesel exhaust, you can measure black carbon with an aetholometer. If you are interested in traffic pollution, you can measure particles or gases. Equipment that monitors PM₁₀ or PM_{2.5} can be compared to the regulatory standards for particular matter in the air. The Resources section contains links to information on air pollutants, air quality standards, their sources, and their health effects.

A group needs to decide whether to purchase or borrow equipment, collaborate with other groups, or use methods that do not require monitoring equipment, such as traffic counting. The attached protocols were designed to study traffic pollution and provide a learning experience for A-Team members. It is important to adapt your methods depending on what equipment is available, and it may take time and a process of trial and error. For example, Impact Project teams started with a complicated sampling protocol, but it was adapted so that it could be used for shorter time periods and with more volunteers. Any equipment that is being used needs to be user-friendly. The Impact Project found advantages to equipment that measures in real-time and displays on the screen without needing to be downloaded onto a computer right away. It is important to understand the limitations of equipment, and monitoring plans and interpreting the results should be done with care.

Sharing results and having an impact

Next, put your data in a form that you can share with others. Create a presentation or document with your background information, methods, results, photos, and discussion. Tailor the presentation to your audience, make text and graphs easy to read, explain any scientific terms used, and leave time for questions and discussion. →See the “Presentation Template” attachment for a sample template for what to include in the presentation.

Information from your study can be incorporated into ongoing campaigns. →See the case studies that follow for examples of how information has been used by community organizations and the policy impacts. The information can be used at meetings to present to other members of the community, and used in conversations with authorities or agency representatives who are charged with creating and enacting new measures to protect the health of community residents.

Plan follow-up meetings after the study to discuss ways to share the results and connect them to ongoing projects. It is important for the monitoring activities to lead up to other opportunities for the participants to give presentations or be involved in next steps. Discuss solutions and create plans for future activities so that the data that was gathered is put into action.

Sample field protocol

A-Team P-Trak & Traffic Counting Protocol

1) Identify goal

Begin planning by having a discussion of your goal. For example, do you want to show that particle pollution levels are higher at the school than 1 block away? Do you want to establish what the traffic levels are on a busy road? Depending on your goal, you may choose to count traffic, monitor air pollution, or other methods.

2) Choose location

Choose a designated area where vehicle counts and P-Trak counts will be made before going out to field. Have a meeting to discuss what locations people are concerned about, where are the areas with the highest traffic, and what time of day has the most traffic. If required, make sure to get permission if the location is not a public space. Consult with the CBPR group members at a meeting to finalize your plan. Decide what time of day and day of the week the A-Team will be doing the vehicle and P-Trak counts, taking into account school and work schedules, child care, and travel time.

3) Supplies

Review the plan for the field work, and bring any needed supplies.

- Video camera
- Digital camera
- Air monitoring equipment
- Extra batteries for any equipment
- 1 stop watch
- 4 Counting clickers (available in sports stores, also called Hand Tally counters)
- Counting log forms
- 2 clipboards
- Pencils
- 1 measuring tape or measuring wheel
- Audio recorder
- Calculator

Personal Check List:

- Sun block
- Bottled water
- Hat
- Folding chair
- Comfortable shoes
- Map

4) Document location – photos and land use

When you arrive, take pictures of the location you are monitoring, including where the A-Team is standing, and pictures from your location in each direction. If you are including land use, use the Land Use sheet to write in what type of land use you observe in each direction (for example, residential, industrial). Also refer to the Presentation Template for examples of how to collect your photos and data.

5) Traffic counting

Using the clickers, prepare to start counting traffic.

If you have enough people, split up the counting so that one person counts cars, and one person constructs. If you have four people, you can have two people for each direction, such as cars going East and West, and trucks by East and West. You may classify a truck is anything with 6 or more wheels. Choose an imaginary line across the road, and count all traffic that goes across it. Start at the same time, with someone monitoring the time on a stopwatch. Count for at least 15 - 30 minutes if possible. Write down your total on the log sheet when completed.

Reporting traffic counts:

Chart the traffic on a bar graph, splitting up trucks and other vehicles.

Calculate the number of trucks and other vehicles per hour. For example, if sample is for 15 minutes, multiply the number by 4 to get the number of trucks per hour based on your sample. 150 trucks in 15 minutes x 4 = 600 trucks per hour.

Calculate the percentage of truck traffic to overall traffic:

$$\frac{\text{Number of trucks}}{\text{Total traffic (trucks and other vehicles)}} = \text{Percentage of traffic that is trucks}$$

6) Air monitoring

If you are also doing traffic counting, this should be started at the same time as the air monitoring. Hold equipment as close as possible to street you are monitoring, such as on the sidewalk. Make sure to note weather conditions on log sheet.

Your goal will determine your study design. An example of monitoring activities would be placing one monitor near the traffic, and a second monitor in another location for comparison. The comparison location can be in a low-traffic area, or a certain distance away from the 1st monitor.

Counting log for traffic

TRAFFIC AND PARTICLE COUNTING LOG

Your Name _____ Organization _____

Why is our Team doing traffic counts in this location? (e.g., we are concerned about traffic near Jurupa Valley High School or near Hudson Elementary School) _____

Date: ___ / ___ / ___ Day of week: _____ CITY: _____

The traffic I am counting is on the following street or freeway: _____

Closest **intersection**: (if it is hard to get the street address) _____

I am standing at the following location: _____ (e.g. sidewalk, park, playground)

Traffic is moving in this direction (please circle): N S E W Both directions: Yes No

How far from traffic am I standing? _____

Wind Direction: _____

Wind Speed: _____

ID or serial number of monitoring equipment: _____

Time of day I started counting and recording traffic

___: ___ AM/PM ___: ___ AM/PM

DRAWING: Please sketch the area ►►► where you are counting. Show where you standing. Label the streets.



COUNTING LOG

| # of Trucks (Delivery, container, buses, industrial trucks. Anything with 6 wheels or more.) | # of Cars and other vehicles (Cars, SUVs, pick-up trucks, vans, motorcycles) | Notes: Write down anything you notice about the traffic. What types of trucks are there? Is there a lot of traffic? <i>(e.g., at 9:05 six Fed-Ex trucks went by)</i> | |
|--|--|---|-------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total: | Total: | Time started counting: Total time: | Time stopped counting: |

MONITORING NOTES

| Time | # of particles (round to nearest thousand) | Notes: Write down any high peaks that you see on the air monitor. If possible, write down what happened with the traffic when that peak happened. <i>(e.g., P-Trak peaked at 70,000 right after a big-rig truck went by)</i> |
|-------------|--|---|
| | ____ ,000 | |
| | ____ ,000 | |
| | ____ ,000 | |
| | ____ ,000 | |
| | ____ ,000 | |
| | ____ ,000 | |

Land use recording sheet

Street/Address:

City:

GPS Coordinates

Waypoint # _____ Latitude _____ Longitude _____ Accuracy _____

Land Use Type: Mark direction (N, S, E, W) Notes:

Commercial _____

Stores, Restaurants, Malls

Office Buildings _____

Business, Lawyer, Doctor, Dentist

Residential _____

Houses, Apartments, Trailer Parks

Open space _____

Parks, Undeveloped land, Water bodies

Government/Institutional

Hospitals, Government Offices, Schools,
Courthouses

Industrial _____

Factories, Refineries, Power Plants, Warehouses

Parking Lots _____

Road or Freeway _____

Transportation Centers

Bus station, Rail Yard, Airport

Presentation Template

Sample template for what to include in a presentation about a monitoring project.

Introduction

The introduction should cover:

- Background information on your community
- State your hypothesis
- Explain how you came to that hypothesis, and how it connects to previous research
- Give the purpose of the study
- List which community and participants
- List major concern being investigated
- The levels of air pollution in your community and background information on sources and levels of air pollution in your community could be beneficial to add.
- Example: High levels of pollution from cars and trucks on nearby freeways

Example introductory slide:

INTRODUCTION

- Truck Counting Assessment
 - Quantify volume of trucks on Etiwanda Avenue
 - Truck traffic going to surrounding warehouses
- P-Trak Assessment
 - Do homes near Etiwanda experience higher levels of air pollution?
 - Can we link air pollution with truck traffic?
 - How does Mira Loma Village air pollution compare to other communities in Riverside County?

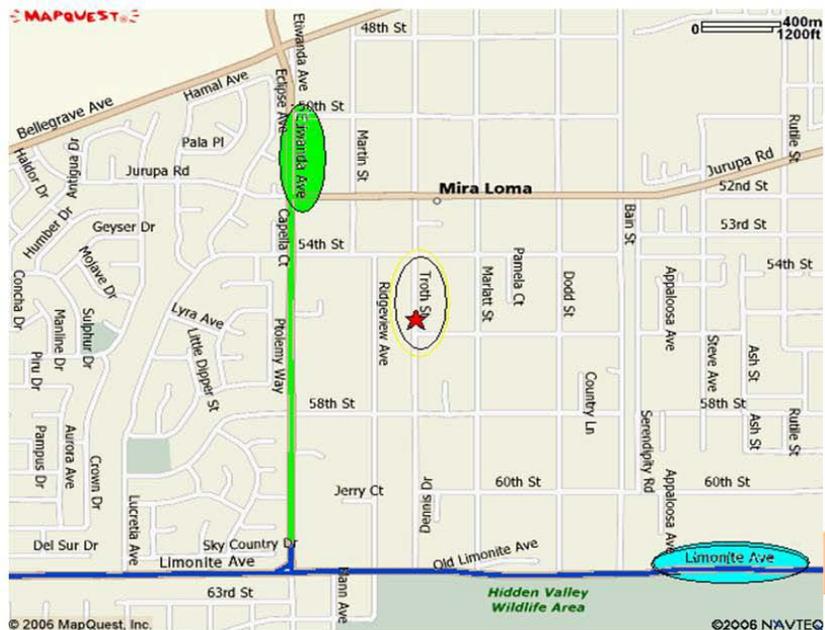
Maps are also helpful in providing a holistic introduction. Types of maps to include could be regional maps, maps of location being studied and land use map (which areas are residential, industrial, agricultural, open space, etc.)

Example map slides:

REGIONAL MAP



MAP OF LOCATION



Methods

In this section, you should explain how you tested your hypothesis and clarify why you performed your study in that particular way. This could include:

- Details about location and time
- Explanation of activities conducted—traffic counting and/or monitoring
- Explanation of monitoring equipment, if used.
- Limitations of equipment and methods.
 - For example, many factors can affect pollution readings, including wind and weather conditions

Photos can also be helpful.

PHOTOS



Members counting trucks on road outside rail yard

Results

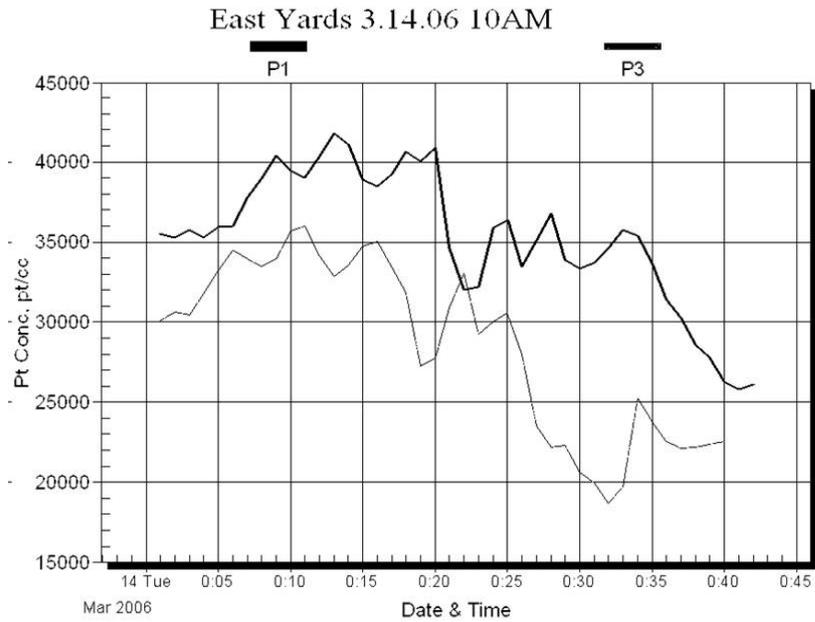
In this section, raw (un-interpreted) data collected should be presented. The slides should express the data in a graph, table, an easy-to-read figure, or as percentages/ratios.

Additionally, the results could include the following:

- Traffic counting results
- Air monitoring results
- Sampling conditions (weather, wind, season).
- All information that is found on the “Counting Log” worksheet.

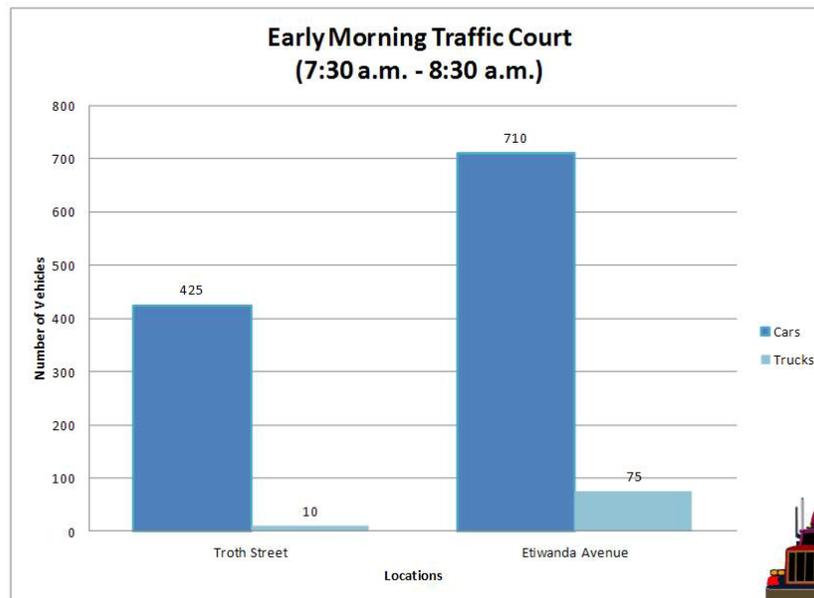
Examples of slides showing results:

P-trak Results



Results

November 13, 2006



Discussion

These slides should consider whether the data you obtained support the hypothesis and explore the implications of your finding and judges the potential limitations of your design.

Additionally, the discussion section could include:

- Final summary of anything you concluded
- Discussion of successes, challenges
- Any unusual observations?
- Any future projects it sparked?

Example discussion slide:



DISCUSSION & OBSERVATIONS

- We observed that there was a lot less car traffic in front of the school in the early morning than we had expected. Our assumption is that most kids walk to school.
- We saw more trucks in the early morning, which may mean that a heightened health risk is associated with those students who walk to school due to higher exposure during their walk.
- What are the implications for the health and quality of air for students at the local high school?

Resources

The Trade, Health, and Environment (THE) Impact Project

<http://www.TheImpactProject.org>

A-Team Digital Story videos on THE Impact Project Vimeo channel:
<https://vimeo.com/channels/theimpactproject/>

Air Pollution 101 presentation
<http://tinyurl.com/ImpactResources>

"Moving Forward Together" 2010 conference presentations and materials
<http://tinyurl.com/ImpactConf2010>

Speaker's Kit
Includes facts sheets on Testifying/Public Speaking Tips, Glossary of Key Goods Movement Terms, Governing Bodies in California, Health Impacts of Air Pollution, and Goods Movement 101. English and Spanish.
<http://tinyurl.com/ImpactSpeakerKit>

Southern California Environmental Health Sciences Center

www.usc.edu/medicine/scehsc/

Community outreach resources:
<http://hydra.usc.edu/scehsc/community-resources.html>

Resources available on the community outreach page include:

[Outdoor Air Pollution: An Issue for Schools.](#)

Presentation by Andrea Hricko based on her chapter in Safe and Healthy School Environments (Frumkin H, Geller R, Rubin L, and Nodvin J Ed) Oxford University Press, 2006.

["Trade, Health, Environment: Making case for Change."](#)

By Amy Sausser. Report on the history and accomplishments of THE Impact Project.

Long Beach Alliance for Children with Asthma

Meeting presentations, indoor and outdoor air pollution information:

<http://lbaca.org>

Meet the LBACA A-Team:

<http://lbaca.org/policy/community-engagement/>

Center for Community Action and Environmental Justice

<http://www.ccae.org/>

Community-Campus Partnerships for Health (CCPH) resources on Community-Based Participatory Research

<http://depts.washington.edu/ccph/commbas.html>

Available upon request: Presentations by Impact Project A-Team members, reports on investigations using the P-Trak.

Air pollution information

AIRNow, Local Air Quality Conditions and Forecasts of the Air Quality Index (AQI)

<http://www.airnow.gov>

National Ambient Air Quality Standards (NAAQS)

<http://www.epa.gov/air/criteria.html>

EPA Air Pollutant Information

<http://www.epa.gov/air/airpollutants.html>

California Environmental Protection Agency/
California Air Resources Board

<http://www.arb.ca.gov>

Diesel & Health Information

<http://www.arb.ca.gov/research/diesel/diesel-health.htm>

Toxics Release Inventory (TRI)

<http://www.epa.gov/tri>

California AB 2588 Air Toxics "Hot Spots" Program

<http://www.arb.ca.gov/ab2588/ab2588.htm>

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