



Community-Academic Partnership to Develop & Implement a Public Health Action Plan to Reduce Air Pollution & Improve Community Health in Detroit

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NIEHS # RO1ES022616 & the Fred A and Barbara M Erb Family Foundation
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1. University of Michigan School of Public Health
2. Detroiters Working for Environmental Justice
3. University of Michigan School of Medicine
4. Southwest Detroit Environmental Vision
5. Detroit Hispanic Development Corporation

PRESENTER DISCLOSURE

Amy Schulz & Angie Reyes (Co-Presenters)

The following personal financial relationships with commercial interests relevant to this presentation existed in the past twelve (12) months:

NO RELATIONSHIPS TO DISCLOSE



Partner Organizations & Partnerships



Community Action Against Asthma



DETROIT
HISPANIC
DEVELOPMENT
CORPORATION



SIERRA
CLUB
FOUNDED 1892



Law School



**Detroiters Working for
Environmental Justice**
Fostering Clean, Healthy and Safe Communities



Air Quality in Detroit Michigan

Playground next to
Industrial Source in
Delray, Detroit, MI

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CAPHE's Overarching Goals

- To develop a multilevel, integrated and scientifically-informed public health action plan designed to reduce adverse effects of air pollution on health
- To promote implementation of components of the plan





CAPHE's Approach

- Builds on three longstanding community-based participatory research (CBPR) partnerships
- Equitable engagement of community and academic partners in all phases of research and action
- Increase knowledge about exposure to air pollution & health effects
- Translate findings into a public health action plan
- Implement innovative policy & practice solutions to reduce pollutant exposure & mitigate adverse health effects
- Evaluates process & impact



Partner Roles & Leadership

Community

- Identify priority action areas
- Identify key opinion & policy leaders
- Develop community & youth leadership
- Organize & coordinate with other environmental efforts

Academic

- Conduct background research
- Map vulnerable communities
- Quantify current health impacts
- Estimate health impacts of selected mitigation strategies

Joint Responsibility

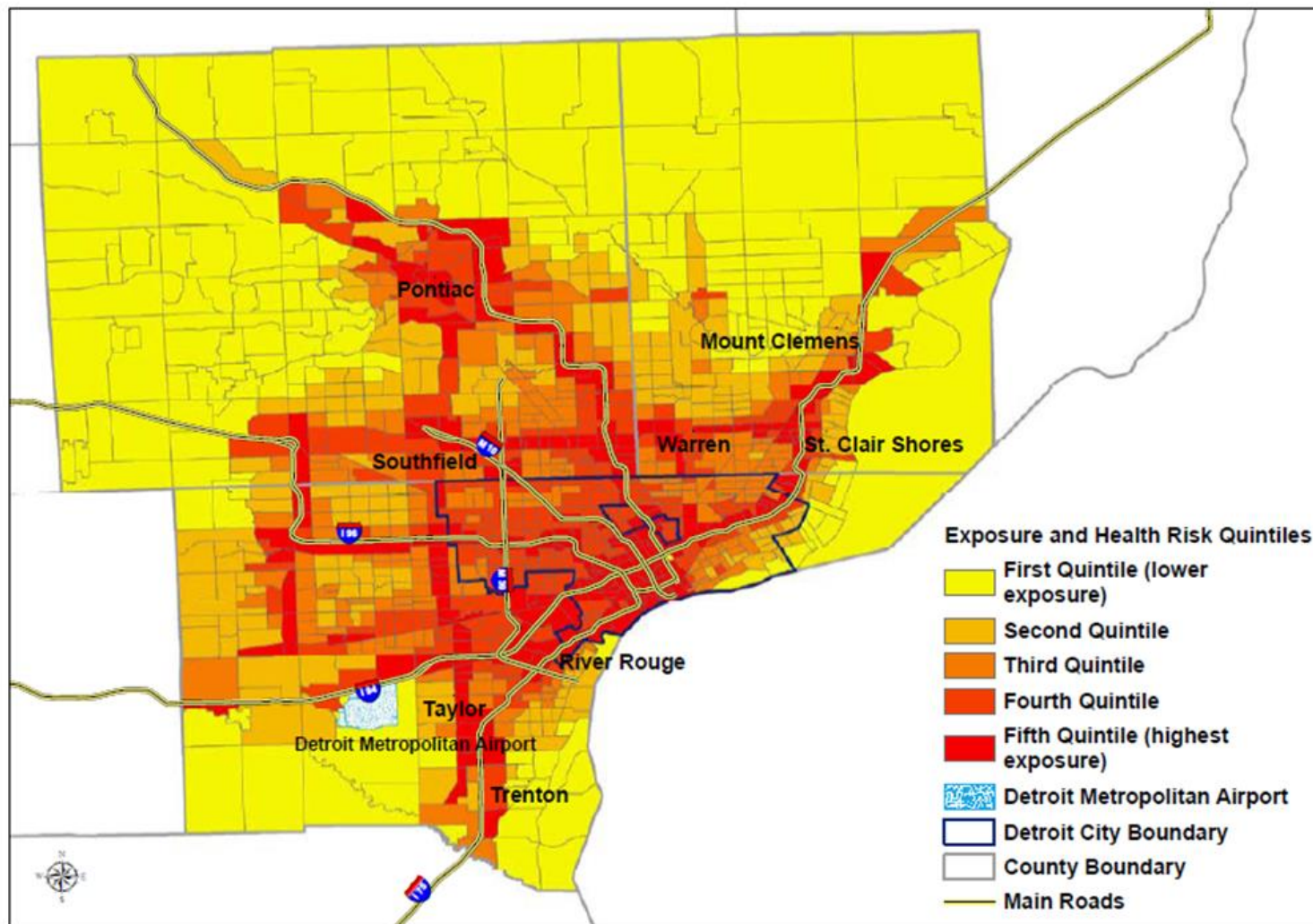
- Identify public health problem: air pollution and health
 - Identify key priority areas for new research
- Inform strategies for compiling & synthesizing information for PHAP process
 - Define components of the public health action plan
 - Implement public health action plan components
 - Identify funding for continued action on the plan



Exposure and Health Risk

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FIGURE 1: Diesel PM exposure, cancer and respiratory risk attributable to air pollution in the Detroit metropolitan area.



Cumulative impact polygons (CI) include: residential areas, child care facilities, health care facilities, schools and playgrounds. Exposure and Health risk include: 2011 NATA estimates of respiratory risk, cancer risk and diesel PM (non-cancer) concentration.



Quantified Health Impacts

- **Each year** in the Detroit Metropolitan Area, air pollution is responsible for:
 - 690 deaths
 - 1800 hospitalizations and emergency room visits
 - Thousands of missed school and work days

Total monetized cost of \$6.9 billion per year

These effects occur disproportionately in Detroit and surrounding areas with high concentrations of poverty, African American and Latino residents



CAPHE Resource Manual

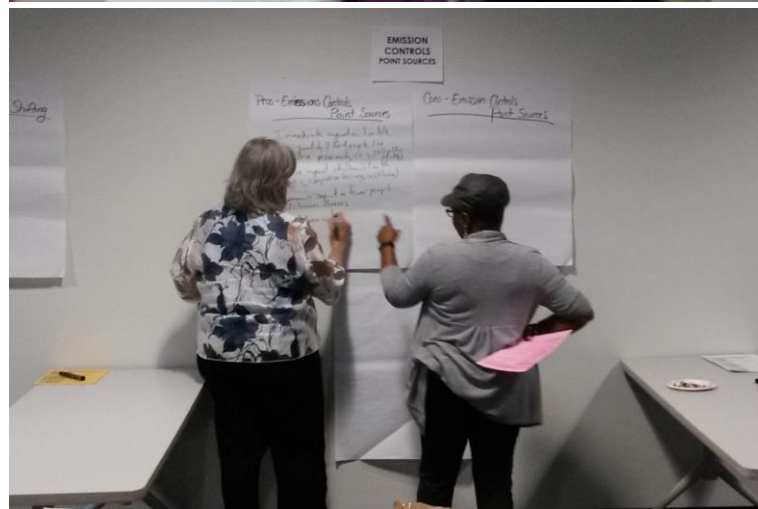
Scientific evidence base

Used throughout the CAPHE Public Health Action Planning Process to discuss and identify key air pollution mitigation strategies with community organizations, community members, and City, State and Federal representatives.



Phase 1: Engaging the Team and Developing Recommendations

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Phase 2: Engaging Broader Stakeholders & Refining the Recommendations

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CAPHE Public Health Action Plan: Evidence Based Recommendations



- Point source controls
- Enhanced compliance & enforcement
- Diesel engine retrofits
- Anti-idling campaign
- Transportation control measures
- Buffers & barriers
- Indoor air filters
- Monitoring
- Renewable Energy

Available: <http://caphedetroit.sph.umich.edu/>

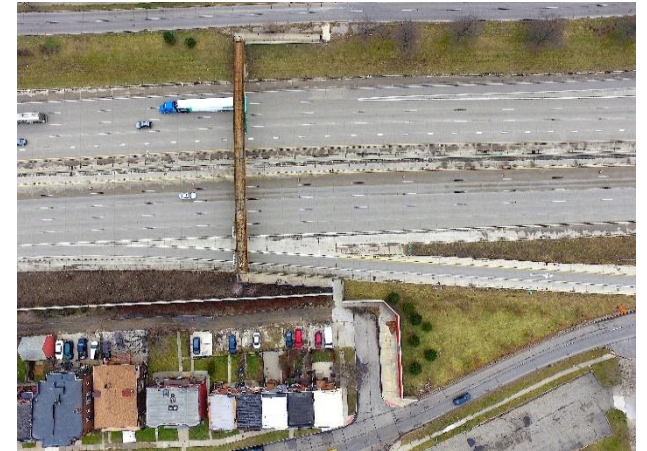




Implementation – Prioritized Strategies



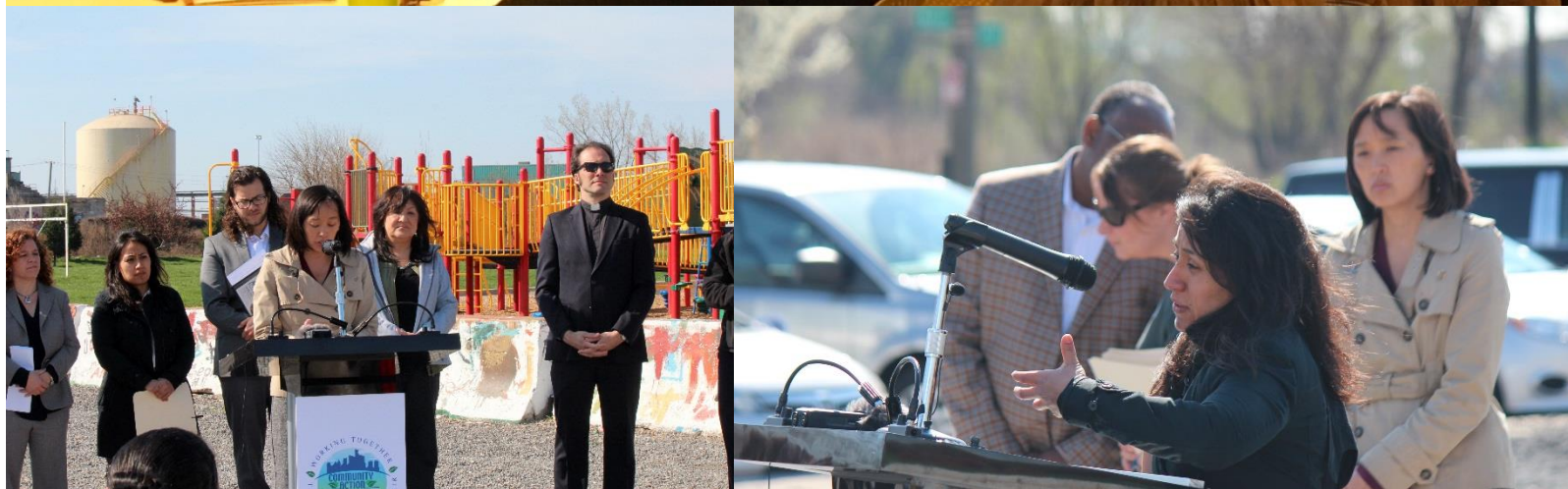
Filters in Schools
Vegetative Buffers
Renewable Energy
Health Impact Assessments
Monitoring





Working with Policy Makers – Press Conference & Policy Advocacy

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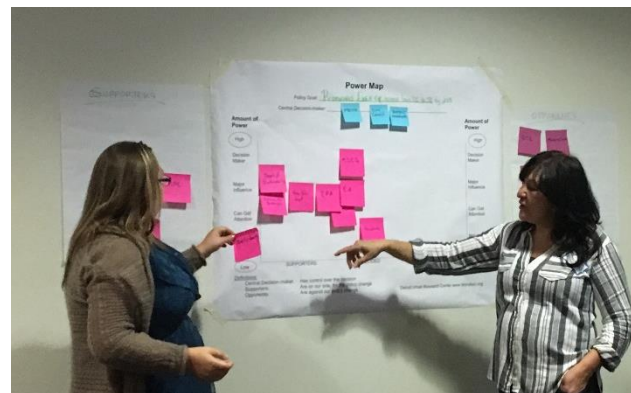
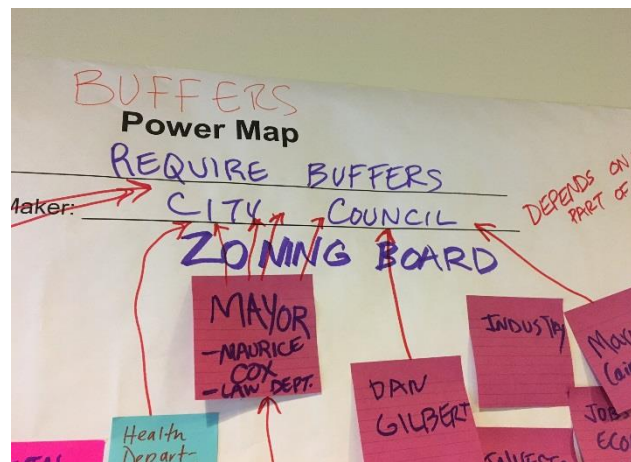




Working with Policy Makers – Legislative Luncheon

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Policy Advocacy Trainings

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Mini Grants to Support Action by Local Groups to Improve Air Quality

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Formative Evaluation

Process Evaluation

- Capacity in working together
- Group process dynamics/Collaborative engagement
- Creation of public health action plan
- Development of implementation strategy

Impact Evaluation

- Increased awareness of strategies to reduce air pollution among residents and decision makers
- Implementation of public health action plan components
- Mini-Grant actions/accomplishments
- Policy education trainings

Thank you to the CAPHE Core Team, Steering Committee & Public Health Action Planning Team, and to the representatives of all the organizations and agencies who provided input on the CAPHE Public Health Action Plan, with a special thank you to the environmental justice advocates and community members of Detroit.

