



Engaging communities and policy makers about near highway pollution and health

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Abstract

The Community Assessment of Freeway Exposure and Health study is a community-based participatory research effort collecting data to test associations between ultrafine particle levels near highways and blood markers of inflammation in people living closer and farther from the highways. As a CBPR project, we have a deep commitment to engaging the community, public and policy makers and have developed a number of communication strategies. We have a website that has recently been reformatted and updated. We have published two issues of a project newsletter and plan to publish at least two more. The newsletter audience includes the project team, a list of interested people, including Advisory Committee meeting attendees and participants in the study who participated in the clinical appointment. Four educational sessions about the project with school children (Boston and Somerville Public Schools, Museum of Science, and Tufts Community Day) have been held and they generated a lot of excitement and interest. A group of Tufts undergraduate film students made a short film about the study which premiered on campus and is now available on YouTube and through the Transportation Research Board Health & Transportation Sub-Committee. We have been able to educate a much broader audience through regular news coverage of the project on local and regional news papers, television and radio. Two op eds have been published in the New York Daily News and Physicians for Social Responsibility. Finally, we have an advisory board that meets twice a year that is attended by 35-45 people. Attendees include project team members, community leaders, study participants, municipal, state and federal agency staff, and elected officials. The meetings include presentations, mostly by our graduate students, of recent findings as well as presentations and discussion about policy and practice relevance of the study.

Project Newsletter: Vol 1 Issue 2

CAFEH Newsletter
 NEWSLETTER HIGHLIGHTS:
 • CAFEH Advisory Board Meeting & Community Report
 • Somerville, MA Clean Air Project (CAP) Preliminary Findings
 • Monitoring Ultrafine Particles (UFP) in Somerville, MA
 • Particle Concentration in East Somerville, MA
 • Inside This Issue:
 • Indoor Air Study: 2
 • Reduction of Particles with Air Filters
 • Indoor Exposure to Ultrafine Particles
 • Measuring Particles: 3
 • Number Concentrations with a Mobile Lab
 • Recent & Upcoming Events

Measuring Particle Number Concentrations with a Mobile Lab
 By Allison Patton
 In order to estimate how much pollution people are exposed to, we need to know how much pollution there is in the air that they breathe every day.
 We collected real-time measurements of the ambient levels of particulate matter and other pollutants over the course of a year by driving a van around a road route in East Somerville. We covered the same route at different times throughout the day and on all days of the week to capture variation in traffic, temperature, wind speed and direction. This map shows the median (half of the measurements were higher and half were lower) concentrations of particle number concentration from all of the measurements we made. Similar maps show there are higher particle levels in the air close to highways and on busy streets with a lot of traffic signals than on streets with less traffic.
 Particle number levels also vary over time. Concentrations are highest when there is a lot of traffic, in winter, and under calm wind conditions. We are building a model to try to understand exactly how each of these conditions affects the particle number concentrations that we measure.
 By combining the model results with information on where people spend their time, we will be able to estimate the particle levels to which individual people in the CAFEH study were exposed.
 Then we can see whether higher particle number concentrations are associated with higher risks of cardiovascular disease.
 Allison Patton is a PhD Student in the Civil Environmental Engineering Department at Tufts.

Explaining CAFEH: Through the Lens of a Novice
 From the 11 health in people over 40 years of age as the goal of the CAFEH study, I understood that UFP or biomarkers were, so how the research team was going to gather and analyze data on UFP and biomarkers of CV health. I found myself in a position where I had to increase my knowledge of the unknown, in a short amount of time, to a level of comfort I was asked the question, "Can you tell me about the CAFEH study?"
 I learned a lot of knowledge about pollution that I can use to educate more people within and outside of the Chinatown community. I am proud to share with people how to protect themselves and be healthy."
 - Tina Wang

New Website:

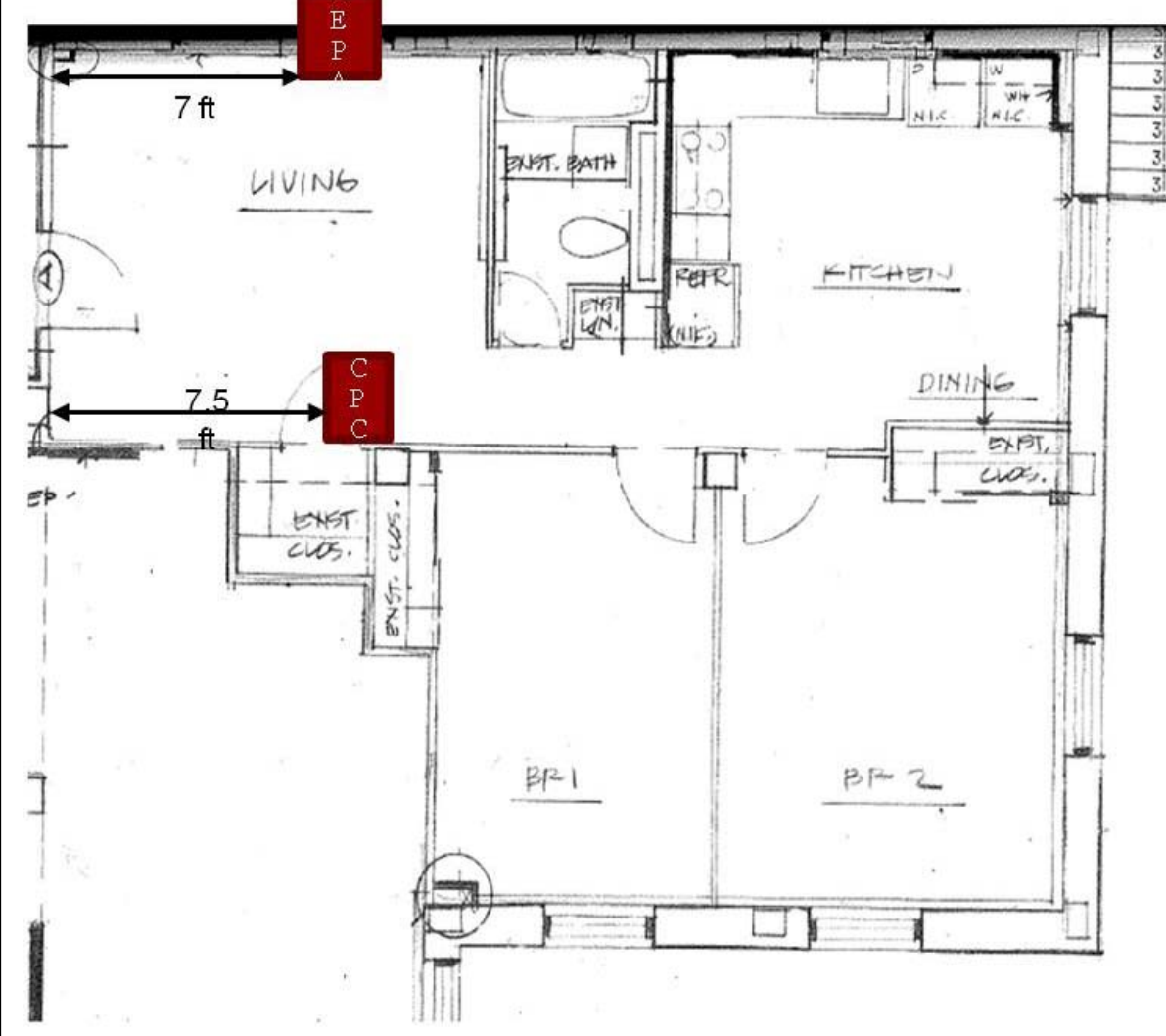
<http://sites.tufts.edu/cafeh>

Outreach Education & Engagement Health Careers Opportunities Program (HCOP)

HCOP is a federally funded program designed to help students from educationally or economically disadvantaged backgrounds succeed in attaining graduate degrees in public health and in medicine. All HCOP Fellows have access to individual tutoring, have an opportunity to work with professionals via internships and participate in seminar series on topics ranging from medical school admissions to current issues in medicine and in public health. In addition, when applying to do graduate work in medicine and / or public health, HCOP Fellows will be able to list their fellow status among their undergraduate achievements. Click the link for more information: <http://ase.tufts.edu/commhealth/HCOP.htm>



Images Above from HCOP Boston Museum of Science and Somerville High School Events



WELCOME TO CAFEH - PROJECT DESCRIPTIONS - PROGRESS - NEWS MEDIA - LINKS & RESOURCES - FAQS

HUD Clean Air Project (CAP)



The Clean Air Project (CAP) is a sub-study of the CAFEH study being conducted in Somerville at the Mystic River Housing Development. It is the largest public housing development in the city and is located next to interstate highway 93. CAP participants complete three surveys and attend three in-home clinicals similar to CAFEH participants. An in-home HEPA air filtration unit and air monitoring equipment is installed in the participant's home for a period of 6 weeks. This is a randomized cross-over study where the HEPA filter is installed for 3 weeks and a sham filter is used for 3 weeks.



Images Above are indoor HEPA Air Filters and a sample floor plan used in the HUD CAP Study.

CAFEH In The News

BOSTON SUNDAY GLOBE APRIL 12, 2009
 Linda Dydnyk can easily observe the traffic congestion on nearby Interstate 93 from her Somerville home.
 ...Doug Brugge, a professor of public health at Tufts University School of Medicine who studies air pollution and cardiovascular disease, said that the study's methods appeared to be sound and that it reinforces similar research.
 "This study fits into a much broader literature that convincingly shows there are risks below the current EPA standards for fine particulate matter," he said. "Particulate matter is the biggest environmental risk we face."

CHINATOWN
Chinatown participates in Tufts study on health risks of living near highway
 Posted by Roy Greene, January 9, 2012 03:28 PM
 In Gillian Barbieri's photo slideshow, hear Dr. Doug Brugge describe Chinatown's role in Tufts University's study of air pollution.
 By Brett Otis, Globe Correspondent

Road hazard?
 Tufts researchers study health risks highways may pose in neighborhoods
 By Elina Venkataraman
 Residents of Somerville's Nursery Gardens neighborhood have long tolerated concentrations of fine particulate matter, including carbon and black carbon, in their neighborhoods. Now they are increasingly worried about an invisible highway nuisance: the fabled piece of pollution emitted by passing traffic.
 A study will try to determine whether there's a link between "ultrafine particle" pollution from vehicles and illnesses such as heart disease.
 Community members in Somerville, as well as Boston's Chinatown,

White Coat Notes
 News from the Boston-area medical community
 BETH ISRAEL DEACONESS, PUBLIC HEALTH, HARVARD UNIVERSITY
Stroke risk increased when air pollution was moderate in Boston area
 02/13/2012 5:19 PM
 Email | Print | Comments (20)
 By David Abbot, Globe Staff

Advisory Board Meetings



CAFEH Team Presentations

- ✧ Metropolitan Area Planning Council (MAPC) - Wig Zamore
- ✧ Transportation Research Board (TRB) - Ellin Reisner & Wig Zamore
- ✧ American Public Health Association (APHA) - Ellin Reisner
- ✧ Massachusetts Public Health Association (MPHA) - Ellin Reisner & Wig Zamore
- ✧ Boston Museum of Science - Christine Rioux
- ✧ Boston and Somerville Public Schools - Chris Rioux, Allison Patton & Luz Padro-Martinez
- ✧ Tufts Community Day - Chris Rioux & Doug Brugge