

LOCAL HEALTH IMPACT STUDIES

Health Effects Task Force

The Health Effects Task Force (HETF) is a group of air quality and health experts who for the last decade have volunteered to leverage their skills and expertise to further locally based studies on the health impacts of air pollution in Sacramento and the Central Valley of California. This is an area with known and serious air pollution problems that differ significantly in type from other extensively studied areas in California and the nation.

HETF has been chaired since its inception by Jananne Sharpless, past chairwoman of the California Air Resources Board, with members drawn from organizations such as the Cal EPA/ARB, Kaiser Permanente, California Office of Environmental Health Hazard Assessment, University of California, Davis, Sacramento County Health Department, and local research companies, among others.

Local air districts have funded the work of HETF with modest grants for over ten years with results only achievable because of the dedication of this extraordinary group of volunteers.

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Health Effects Task Force Studies 1995-2007

We have completed work on seven local studies on air pollution in collaboration with UC Davis, Kaiser Permanente, California Department of Health Services, California Air Resources Board (CARB), and California Office of Environmental Health Hazard Assessment, with funding from Sacramento Metropolitan Air Quality Management District and Yolo-Solano Air Quality Management District.

2006 T.A. Cahill, PhD, UC Davis:

Vehicular Particulate Exposures and

Potential Mitigations Downwind of Watt Avenue, Sacramento, California

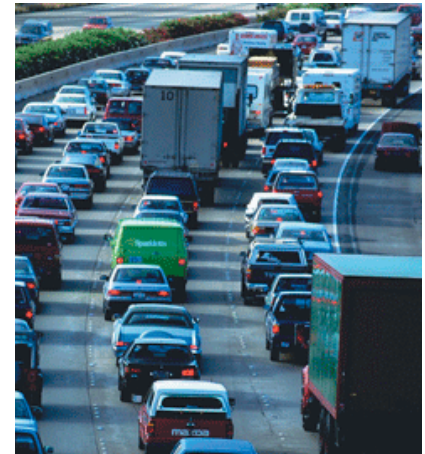
This third and final phase of a series of studies conducted by Dr. Cahill for Breathe California of Sacramento-Emigrant Trails focused on air quality impacts from traffic on Watt Avenue which confirmed previous findings that very fine and ultrafine particulates substantially impacted Arden Middle School immediately downwind of Watt Avenue at Arden Way. A new section in this report addresses mitigation opportunities for those who reside downwind of heavily trafficked urban corridors such as Watt Avenue. This report also emphasizes that although the California Air Resources Board has declared diesel particulates toxic to human health (California Almanac 2006), no health protection standards have been established by the California Air Resources Board or the Environmental Protection Agency for the very fine and ultrafine particulates found in diesel exhaust. This study received guidance and support from Arden Middle School and San Juan Unified School District personnel and county departments.

2005 T.A. Cahill, PhD, UC

Davis:

Sacramento/Interstate 5 Transect Study, Phase II, Winter Months

This second phase examined the impacts of secondary roadways carrying predominantly car traffic. On Watt Avenue, diesel trucks, although they represented only about 1.5 percent of all



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Seven studies specific to this region have been completed identifying:

- Effects of air pollution on mortality rates from ischemic heart disease and stroke in the Central Valley,
- Particulate air pollution and rate of hospitalizations;
- Increased hospitalizations and emergency room visits of MediCal youth with asthma during high ozone days; and
- Three studies on exposure to ultrafine particulates across Sacramento and at a school site directly downwind of a densely trafficked urban corridor.

Other studies in progress include: a ten year study looking at air pollution effects on the elderly; high school students conducting on campus indoor and outdoor air quality assessments at regional high school sites; a study on the health protection effect of vegetation and downwind barriers on very fine and ultrafine particulates from freeways; and a one year comparative study of data captured by the Cahill 8 drum sampler and the California Air Resources Board monitor at the 13th and T Streets site in Sacramento.

vehicles, contributed about 1/3 of all the very fine and ultrafine particulates, while cars contributed 2/3 of the very fine and ultrafine particulates, which substantially impacted Arden Middle School.

2003 T. A. Cahill, PhD, UC Davis:

Sacramento/Interstate 5 Aerosol Transect Study

This study measured air pollution levels at nine sites upwind and downwind of Highway I-5 and east to the foothills. The level of diesel/smoking gasoline vehicle impacts was larger at Arden Middle School directly downwind of Watt Avenue than at the Crocker Art Museum directly downwind of Highway I-5, despite lower traffic flows on Watt Avenue. Very fine particulates traveled well away from freeways and filled large areas of downtown Sacramento.

2003 California Air Resources Board:

Short Term Study of Outdoor Air Quality at Two Sacramento Schools on Watt Avenue

This limited study provided some insight into the air quality of the two schools, Arden Middle School and Frederick C. Joyce Elementary, but showed that the overall Sacramento region had a stronger influence over the air quality of the schools than the local sources of air pollution. Diesel particulate was not measured as part of this study because no methods to measure diesel particulate were available to CARB at the time the study was conducted.

2003 Study in collaboration with Michael Lipsett, MD, OEHHA on MediCal youth with asthma in the Sacramento Region:

Air Pollution and Exacerbation of Pediatric Asthma in Sacramento

Specific to the Sacramento Region, this study demonstrated a link between SMOG and childhood asthma attacks resulting in hospitalizations and emergency room visits. This study has not been released for publication.

2002 Study in collaboration with Steve Van Den Eeden, PhD, Kaiser Permanente:

“Particulate Air Pollution and Morbidity in the California Central Valley”

This study found strong and consistent air pollution effects between particulate matter and acute and chronic respiratory hospitalizations among Kaiser Permanente members, 60 percent of whom lived in the Sacramento Region.

1998 Study in collaboration with T.A.Cahill, PhD, UC Davis:

“Comparison of Cardiac and Stroke Mortality to Carbon Monoxide, Ozone, and Particulate Air Pollution Concentrations in the Sacramento Valley Region”

This study compared CA Dept. of Health Services mortality data to CARB air pollution data, suggesting a statistically strong link between PM 10 and increased mortality from ischemic heart disease, with weaker evidence for heart attacks and strokes and ozone air pollution.

For more information, contact Betty Turner at (916)444-5900/1-877-3BREATH or email bturner@sacbreathe.org.