

Children's Environmental Health Protection Site Summary

Fresno

This page updated on July 30, 2003

Site Location:

Fremont Elementary School, located in Fresno, is one of six sites chosen for Children's Environmental Health Protection monitoring. The site is located at 1005 W. Weldon and is in a residential neighborhood approximately ½ mile east of State Route 99.

Site Approval:

In spring 2002 administrators of the Fresno Unified School District granted the Air Resources Board (ARB) permission to install an ambient air monitoring station on school property.

Expected Monitoring Start Date:

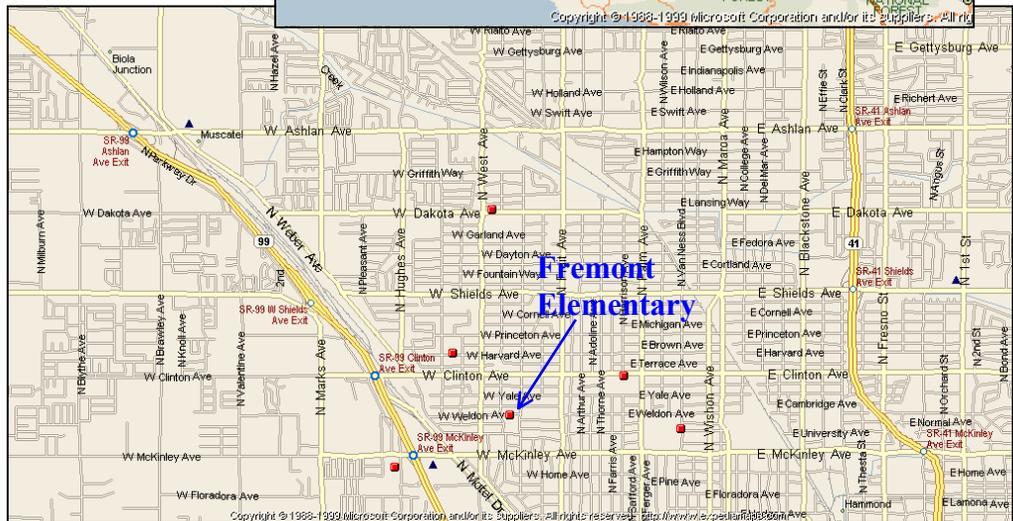
Collection of ambient air quality data began on May 31, 2002. Prior to data collection at Fremont School the monitoring trailer operated beside the ARB monitoring station on First Street in Fresno to compare the data collected from the trailer with data gathered from the existing monitoring station.

Reason for Choosing Fresno:

Fresno was chosen because of its proximity to mobile source emissions and the because of the high number of children living in the community. The Fresno school system is the 4th largest in California with over 80,000 students in 61 elementary schools, 16 middle schools, and 9 comprehensive high schools. Students in the Fresno school system speak 101 different languages.

Connection to Other Air Resources Board Programs:

Data collected at Fremont Elementary will be used to



determine the exposure of children to criteria pollutants and air toxics in support of the ARB's Community Health Program (<http://www.arb.ca.gov/ch/ch.htm>). In addition, data from Fremont School will be used as part of the Fresno Asthmatic Children's Environment Study ([FACES](#)).

Monitoring Parameters:

Criteria pollutants, air toxics, and meteorological parameters will be measured using standard methods. Pollutants measured include carbon monoxide, ozone, oxides of nitrogen, sulfur dioxide, PM10, PM2.5 (real-time), and toxic gases, including 1,3-butadiene and benzene. In addition, measurements of PM10 endotoxins and metals, polycyclic aromatic hydrocarbons (PAH), pollen and spores, real-time measurements of black carbon, elemental carbon, total carbon, particulate nitrate, particulate sulfate, and ultrafine particulate number concentration will also be made. Meteorological parameters will include wind speed, wind direction, ambient temperature, and relative humidity.

Monitoring Schedule:

Most pollutants will be monitored continuously in real-time or near real-time and reported in one-hour averages. The PM10 endotoxins and metals will be collected as 24-hour filter samples and analyzed in an external laboratory. The pollens and spores will be collected continuously on an impactor strip and reported in two-hour increments. The toxic air contaminants will be collected as 24-hour averages every sixth day. Meteorological information will be collected continuously.

Anticipated End Date:

The ARB anticipates that ambient air monitoring will end at Fremont Elementary School in summer 2003.

Monitoring at Multiple Sites in Fresno:

Air monitoring is also conducted in Fresno at the First Street, Drummond Street, and Sierra Skypark monitoring stations and in the nearby town of Clovis. In addition, the FACES project operates a second monitoring trailer which will be moved to different schools in the Fresno area approximately every six weeks for 14 months.

Agencies/Resources/Roles:

The ARB is the lead agency for carrying out Children's Environmental Health Protection monitoring and has overall responsibility for the project. ARB staff will conduct quality control and quality assurance activities.

Within the ARB, the Research Division (Population Studies Section) and the Monitoring and Laboratory Division, Air Quality Surveillance Branch (Air Monitoring Central Section and Special Purpose Monitoring Section) will have operational oversight for the station. Daily operation of the station will be by independent contractor who will collect samples and perform instrument quality control checks on an ongoing basis and report to the Research Division. The Quality Management Branch (Operations Planning and Assessment Section) will have the lead role in validating the data and preparing the initial project report. The Organic and Inorganic Laboratory Sections will perform the air toxics analytical work while the endotoxin, pollen and spore, and metals analysis will be performed by an outside contract laboratory.

The Planning and Technical Support Division is coordinating the Community Health Program and will use the data generated at the Fremont School monitoring station to support other Community Health studies currently under development. Public outreach for the Community Health Program is also being coordinated by the Planning and Technical Support Division. The Research Division will be responsible for managing the data to be used in support of the FACES project.

Emission Sources:

Emission sources impacting the Fremont School are principally mobile sources. Other sources include rail yards, distribution warehouses, and metal fabrication along N. Weber Ave and a large distribution center (with compressed natural gas fueled vehicles for local delivery and large diesel and gasoline fueled trucks for other distribution) at the intersection of McKinley Ave and State Route 99.

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