

Children’s Environmental Health Air Quality Study in Boyle Heights

Boyle Heights Air Monitoring Study

- The Air Resources Board (ARB) conducted air monitoring in Boyle Heights from February 2001 to May 2002 as part of the Children’s Environmental Health Program. The data collected was compared to measurements at long-term monitoring sites in downtown Los Angeles (Los Angeles) and Burbank. The purpose was to determine if air monitoring programs and air quality standards adequately protect children.
- Over 50 air pollutants were monitored at the study’s primary site: Hollenbeck Middle School (Hollenbeck).
- In addition, air monitoring for small particles (PM₁₀) and polycyclic hydrocarbons was conducted between March 2001 and October 2001 at two sites closer to the area’s freeways: Soto Street Elementary School (Soto Street) and the East Los Angeles Science Center (Science Center).



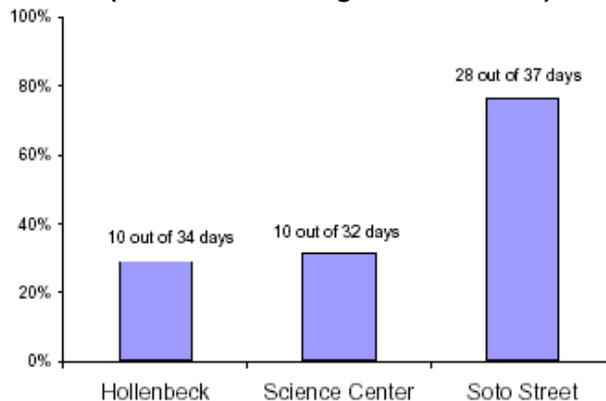
Key Pollutants Measured

- Particulate matter (PM₁₀) is made up of small particles in the air that may be breathed deep into the lungs. PM₁₀ can cause breathing difficulties, lung damage, and premature death.
- Ozone is a key component of what is commonly referred to as smog. It can cause breathing difficulties and lung damage.
- Toxic air pollutants include many substances that can cause health affects such as cancer, respiratory problems, and other serious illnesses. Many were measured in Boyle Heights study including benzene and 1,3-butadiene.

Particulate Matter (PM₁₀)

- PM₁₀ was monitored at all three monitoring sites for six months (March-October 2001).
- The federal 24-hour PM₁₀ standard was not exceeded at any of the sites during the study.
- All three sites exceeded the State 24-hour PM₁₀ standard, but Soto Street exceeded the standard almost three times as often as the other two sites.
- The PM₁₀ levels monitored at Soto Street were 35 percent higher than those measured at Hollenbeck.

Percent of PM₁₀ Values in Boyle Heights Above the State 24-Hour Standard (50 ug/m³) (March 2001 through October 2001)



Soto Street School, the monitoring site nearest the area’s freeways, had more days when particulate matter (PM₁₀) reached unhealthy levels.

- Comparisons of the PM₁₀ from all three sites indicated that a freeway's impact on air quality decreases rapidly as you move away from the freeway.
- The PM₁₀ levels measured at Hollenbeck and Science Center were similar to average seasonal PM₁₀ concentrations for the downtown Los Angeles air monitoring site.

Ozone

- During the 15 months when ozone was monitored at Hollenbeck, the State one-hour ozone standard was violated on 6 days at that site. During that same time period, the State one-hour ozone standard was violated on 8 days at the Los Angeles site.

Toxic Air Pollutants

- In general, the levels of toxic pollutants measured at Hollenbeck are lower than what was observed in Boyle Heights during the Multiple Air Toxics Exposure Study II (MATES II). The South Coast Air Quality Management District conducted that study in 1998 and 1999.
- Measurements of toxics from automobiles, such as benzene and 1,3 butadiene, were higher than average values measured at the Los Angeles site during March to October 2001, but similar to levels measured at Burbank.
- Currently, there is no accepted method for measuring diesel particles in the air. As a result, estimates from the study do not include risk from diesel particles.

Conclusions

- The overall air quality measured at Hollenbeck School was comparable and in some cases cleaner than what was measured at monitoring sites in other cities in the Los Angeles area. However, as in much of the Los Angeles area, air pollution is too high in the Boyle Heights area.
- Overall cancer risk associated with the top risk toxic pollutants was similar for Hollenbeck and Burbank, but slightly less for the Los Angeles site. The difference was found in higher levels of pollutants associated with motor vehicles. Both Hollenbeck and Burbank are closer to freeways than the Los Angeles site.
- Air pollution from freeways can have a major impact on air quality at nearby schools. PM₁₀ concentrations at the site closest to the area's freeways, Soto School, were consistently higher than those measured at Hollenbeck, the Science Center, and the long-term sites in Los Angeles and Burbank.
- The impact of freeways on air pollution levels decreases rapidly with distance.

For More Information

For more information about the Boyle Heights Community Environmental Health Air Quality Study, contact ARB's Community Health Program at (916) 324-7156 or go to the Community Health pages on the ARB web site at www.arb.ca.gov.