

**New Jersey Air Monitoring Study**  
**August 18th to September 27th, 2005**



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**November 2005**

**Executive Summary**

Indoor air quality was assessed in 51 New Jersey locations, in 13 of New Jersey's 21 counties, between August 18th and September 27th, 2005 using the TSI SidePak AM510 Personal Aerosol Monitor that measures PM<sub>2.5</sub>. PM<sub>2.5</sub> is the concentration of particulate matter in the air smaller than 2.5 microns in diameter. Particles of this size are released in significant amounts from burning cigarettes, are easily inhaled deep into the lungs, and cause a variety of adverse health effects including cardiovascular and respiratory morbidity and death.

Sites tested included 15 smoking-permitted restaurants and diners, some with alcoholic beverage service, and some with bars; 16 smoking-permitted bars, including neighborhood bars, bar clubs catering to young adults, sports bars, university-area bars, a go-go bar, and bars that had food service but were primarily bars; 9 smoking-permitted casinos; and 3 smoking-permitted bowling alleys. Eight smoke-free restaurants and diners, including some with alcoholic beverage service and bars, were tested.

Key findings of the study include:

- The level of indoor air pollution in smoke-free restaurants, as measured by average PM<sub>2.5</sub> level, was 84% lower than bowling alleys, 87% lower than casinos, 88% lower than restaurants allowing smoking and 96% lower than bars in this study.
- Employees in all (43 of 43) of the locations allowing indoor smoking are exposed to levels of particulate matter in excess of levels recommended by the Environmental Protection Agency (EPA) to protect public health. If we assume only background exposure to fine particle air pollution outside work, full-time employees in the locations in this study are exposed, on average, to 3.4 times the annual EPA exposure limit of fine particulate air pollution, with a range of between 1.3 and 25 times the limit.
- Employees in all (8 of 8) smoke-free locations had fine particle exposures below EPA exposure limits.

Locations allowing indoor smoking are significantly more polluted than indoor smoke-free sites and than outdoor air in New Jersey, with levels of pollution in excess of EPA standards. This study demonstrates that workers and patrons in New Jersey are exposed to harmful levels of secondhand smoke, a known human carcinogen and toxin. Policies that prohibit smoking in public worksites dramatically reduce secondhand smoke exposure and improve worker and patron health.