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Analysis of PAH Concentrations Detected in Austin Texas Stream Sediments Following a Ban on the Use of Coal Tar Sealers.

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Polycyclic aromatic hydrocarbon (PAH) concentrations were measured in stream sediments collected before and after a municipal ban on the use of coal-tar based pavement sealers in Austin, Texas. Stream sediments were collected from diverse areas across metropolitan Austin, capturing the progression of population and traffic density from the suburban fringe through increasingly urbanized areas to downtown. These samples are expected to reflect PAHs from vehicular sources, atmospheric deposition and runoff from parking lots coated with pavement sealer products. Samples were collected in October 2005, prior to the municipal ban instituted in 2006, and again in April, 2008 – two years following the ban. Samples were analyzed for PAHs (parent compounds and alkyl homologues) using gas chromatography/mass spectrometry (GS/MS) in selected ion monitoring (SIM) mode. Differences in total PAH concentrations between samples collected before and after the ban show no net change in PAH levels in Austin stream sediments and advanced hydrocarbon fingerprinting results reflect no observable differences in source inputs. These data indicate that there has not been any substantial overall decrease in PAH levels nor changes in PAH variability observed across the metropolitan area since the ban.