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Prepared for the  
Omaha Lead Site Community Advisory Group  
Meeting on December 8, 2004

**Summary of Final Report Regarding  
HUD Health Homes Grant Number OHLHR 0063-99  
(Evaluation of Exterior Lead Reduction and Control Methods,  
Smart Streets in Over-the-Rhine) (March 2004)**

*Evaluation of Exterior Lead Reduction and Control Methods, Smart Streets in Over-the-Rhine* is a report summarizing results of research conducted by the City of Cincinnati Office of Environmental Management and the Department of Environmental Health at the University of Cincinnati Medical Center. This research was funded by a grant from the U.S. Department of Housing and Urban Development (HUD).

One major goal of the research was to measure recontamination of soil in yards and playgrounds that were lead-abated approximately ten years earlier as part of the Three Cities Soil-Lead Abatement Demonstration Project. Results of the research, described in Section IX of the report (attached), found that the lead concentration in the soil from previously abated sites showed significant recontamination. Researchers identified deteriorated paint adjacent to the soil as a significant contributing factor. Another important factor noted by the researchers, as contributing to soil recontamination, was exterior surface dust transported onto the soil either by pedestrian tracking, wind and/or water.

Other goals of the study were to investigate the sources of lead in exterior surface dust on public sidewalks and to evaluate cost-effective methods to control lead-contaminated dust on sidewalks. Results of the research indicate a strong association between the lead dust loading on sidewalks and the condition of the paint on adjacent building facades, especially the paint on the exterior wall and the windows. In the study, sidewalk sweeping, building code enforcement, and exterior paint stabilization were evaluated as cost-effective strategies to control exterior lead dust.

*Pavement Sweeping as a Strategy to Control Lead in Exterior Dust*

A cleaning regimen was applied to the areas receiving sidewalk sweeping and exterior dust samples were collected periodically to evaluate the effectiveness of the treatment. The cleaning regimen was altered periodically in order to increase the effectiveness of the treatment. After 18 months of sidewalk sweeping with a HEPA-equipped TENNANT 3640 vacuum, researchers observed a significant reduction of lead dust loading and concluded that lead dust loading can be depressed by either weekly or biweekly sweeping programs.

### *Building Code Enforcement as a Strategy to Control Lead in Exterior Dust*

The study found no improvements in sidewalk dust concentrations from building code enforcement. Notices of noncompliance were issued to building owners for failure to maintain protective coatings on surfaces that would deteriorate (rust, delaminate, rot, etc.) if exposed to the weather. Building inspectors from the City of Cincinnati Department of Buildings & Inspections (B&I) performed exterior visual inspections of buildings located on the study streets. If a building was deemed to be in noncompliance, then a notice of the failure was sent to the building owner. Researchers attributed the failure of this strategy to several factors, including the following:

1. Many of the buildings in the study area were vacant and it was difficult to find the building owners, as such, letters of noncompliance were often not received.
2. Building owners know that B&I has been reluctant in the past to prosecute these kinds of code violations.
3. Owners are willing to pay a minimal fine for the code violation versus spend the money needed to paint a building.

### *Paint Stabilization as a Strategy to Control Lead in Exterior Dust*

In the study, the facades of twenty buildings were scraped and repainted and 130 windows were replaced. Although researchers noted that the exterior paint stabilization and window replacements appeared to produce an effect, they concluded that it was not statistically significant. The researchers suggest that this may be due to the small sample size of the study and note that the data indicate a significant decline would result if a sufficient number of buildings were treated. It is inferred from this study that for paint stabilization to be effective, all deteriorated buildings need to be addressed to avoid recontamination from adjacent property.