

Responsible Demolition: A Baltimore Case Study With National Implications

THE ANNIE E. CASEY FOUNDATION



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#### RESPONSIBLE DEMOLITION

# A Baltimore Case Study With National Implications

#### Introduction

Since 2002, the Annie E. Casey Foundation has played a leading role in the East Baltimore Revitalization Initiative, a large-scale, innovative effort to transform a deeply distressed 88-acre area adjacent to the Johns Hopkins University and its hospital complex into a mixed-income residential community and engine of economic opportunity for long-time and new residents. The initiative will include new and rehabilitated housing; new commercial space, including a research park, a state-of-the-art elementary- middle school, a grocery store and other retail; and new public space and recreational amenities.

The East Baltimore project embraces a commitment to what the Casey Foundation calls "responsible redevelopment," an approach that combines economic, community and human development strategies to provide area residents, businesses and the surrounding neighborhoods with the maximum benefit from the revitalization efforts. This report is one of a series produced by the Casey Foundation to document the project's progress and lessons.

The project is managed by East Baltimore Development Inc. (EBDI) — a nonprofit entity that has assembled a broad, cross-sector partnership that includes Casey, the Johns Hopkins institutions, the city of Baltimore, the state of Maryland, community representatives and local and national philanthropies.

The partners have committed to ensuring the project is focused not just on physical improvements but also on expanding opportunities for residents of the area. To do that, the partners are making sure the project:

- involves residents in a consequential way in planning, design and implementation;
- offers intensive family advocacy and practical support to families forced to relocate;
- provides more equitable compensation than has been typical in redevelopment projects to families who relocate;
- ensures the right and ability of relocated residents to return to the revitalized community;

- provides training for community residents to help them secure jobs created by the redevelopment project;
- increases opportunities for local, minority- and women-owned businesses to obtain project contracts; and
- uses strict safety protocols to minimize the health hazards for residents of neighborhoods affected by demolition activities.

## A New Approach to Demolition

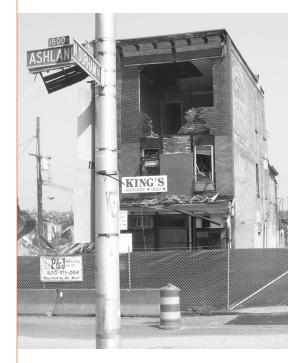
Projects such as the one in East Baltimore that aim to redevelop blighted urban communities present a complex challenge that involves land acquisition, financing, relocation of dislocated residents and businesses, zoning, permitting, construction, leasing and more.

These challenges become even more demanding when those leading the redevelopment commit themselves to treating residents of affected neighborhoods equitably — giving them a voice in the process, taking their concerns seriously and providing the additional support and assistance they need to emerge as beneficiaries.

Such projects will inevitably lead to difficult and complex questions, but one aspect of the redevelopment puzzle would seem straightforward: Whatever else it does, redevelopment should not expose neighborhood residents to physical health hazards.

Yet, remarkably, no such consensus exists nationwide today. Despite clear-cut evidence that poorly supervised demolition can exacerbate lead contamination and other environmental health hazards in affected neighborhoods, few meaningful safety requirements are imposed on demolition practices employed nationwide.

In the East Baltimore Revitalization Initiative, community residents and local advocates have worked with the Casey Foundation and other project leaders to change that reality. This report describes their efforts and details how they succeeded in instituting practices that sharply reduced the risk of adverse health consequences from the demolition of several hundred East Baltimore homes. Demolition for this project involved two phases: During the first (2005-2006), roughly 520 properties were razed; in the second (2011-2012), 250 residential properties were demolished.



"Demolition needs to be conducted in a manner that minimizes lead exposure for residents, workers, and the environment so that the process of redevelopment does not exacerbate existing risks of lead poisoning." This report also describes how the responsible demolition protocols developed for the East Baltimore project are being adopted or studied in other jurisdictions and draws lessons from East Baltimore's responsible demolition efforts for policymakers, advocates and redevelopment professionals throughout the nation.

# How Poorly Managed Demolition Exacerbates Lead Poisoning and Threatens Public Health

Over the past half century, the United States has grown increasingly attentive to the crippling health effects of lead poisoning, which can include learning disabilities, lowered intelligence and behavioral disorders following even modest levels of exposure. At higher levels of exposure, lead poisoning can trigger seizures, comas and other severe neurological illnesses.

America's efforts to combat childhood lead poisoning represent one of the most successful public health campaigns in history. The percentage of U.S. children ages I to 5 with elevated blood levels has fallen from 88.2 percent in the late 1970s to I.6 percent in the period between 1999 and 2002. Key steps included outlawing the use of lead in paint and gasoline in the 1970s, the enactment of state and local ordinances to make housing lead-safe and increasingly ambitious strategies to screen for and treat lead poisoning.

Until recently, however, little attention has been paid to demolition as a cause of lead exposure. Most homes in the United States built prior to 1978 contain lead-based paint. When these older homes are in good repair and covered neatly with more modern lead-free paint, the older lead paints pose minimal health risks. However, demolition of older homes can release substantial amounts of lead-contaminated dust and paint chips into the surrounding environment.

In 2003, researchers at the Johns Hopkins University published the first detailed study on demolition's contribution to lead poisoning. The study examined three sites — all in East Baltimore (although not part of the East Baltimore Revitalization Initiative) — where row houses were razed using typical demolition practices that did not include meaningful safeguards. The study found that lead dust levels in the air increased fortyfold during demolition and sixfold during debris removal.

"Demolition needs to be conducted in a manner that minimizes lead exposure for residents, workers, and the environment so that the process of redevelopment does not exacerbate existing risks of lead poisoning," the scholars concluded.

Other recent research also documents the health hazards of demolition in low-income urban neighborhoods. A 2007 study led by a Tulane University public health researcher found that children living in low-income St. Louis areas that had experienced substantial levels of demolition activity showed significantly higher blood lead levels than children in demographically similar neighborhoods where little or no demolition had taken place.

Despite such findings, federal laws and regulations provide no protections to ensure that lead exposure is minimized during demolition (though U.S. Occupational Safety and Health Administration regulations offer some protection for demolition workers). Likewise, states or municipalities typically do not require contractors to take special precautions in the demolition process to minimize lead exposure in the surrounding area, and such precautions are not standard demolition practice in most urban areas.

In their 2003 study of demolition of East Baltimore row houses, the Johns Hopkins scholars noted that work crews made limited use of water hoses — an important technique for limiting dust spread during demolition — and they used no water hoses at all during debris removal. Moreover, the authors reported, "Children and adults were seen walking through the site and on the debris pile during and immediately after the active work phase. Residents also reported that windows of neighboring houses were left open and that laundry and pets remained outside during demolition work." Likewise, another recent study examined the demolition of 67 homes in Chicago. Work crews did not place any barriers or fencing around the sites and made limited use of water hoses and other dust-suppression techniques.

In summer 2004, an intern with the Baltimore City Department of Housing and Community Development surveyed public works officials from a dozen cities across the nation and found that none had established rules or protocols for demolition to minimize the spread of lead dust. Indeed, the East Baltimore Revitalization Initiative could not identify detailed protocols anywhere in the nation requiring specific procedures to minimize lead dustfall during demolition and protect neighbors from lead exposure. Nor has any other city adopted protocols to address the other health hazards posed by demolition, including asbestos, rats and other vermin and nontoxic dust that can exacerbate asthma and other respiratory problems.

# How Demolition Safety Became a Key Element of the Redevelopment Agenda in East Baltimore

From the outset, planners of the East Baltimore Revitalization Initiative understood that demolition would have to be carried out carefully to assuage community concerns and minimize potential health hazards. In a series of meetings in 2004 and 2005, neighborhood residents and local advocacy groups made clear that demolition safety was one of their major redevelopment concerns. Their apprehension was driven by several factors:

East Baltimore continues to have troubling levels of childhood lead poisoning
 — the highest of any community in Maryland. It is also the birthplace of a
 nationally renowned advocacy organization, the Coalition to End Childhood
 Lead Poisoning, which has spent years educating residents about the dangers of
 lead poisoning and advocating for policies and programs to protect them.

- East Baltimore was the site of the groundbreaking Johns Hopkins University study (mentioned above) documenting demolition's effect on lead poisoning. The study came to the attention of community residents just as the demolition phase of the East Baltimore redevelopment project was set to begin.
- The community had often-tense relationships with the Baltimore City government and the Johns Hopkins medical institutions. Many community residents harbored resentments over what they perceived to be decades of neglect and broken promises. Mistrust was particularly high on the issue of lead poisoning because of a high-profile lawsuit filed in 2000 alleging that Johns Hopkins researchers treated East Baltimore children as "guinea pigs" in a 1990s study to test the effectiveness of alternative lead abatement strategies.
- A final factor in community leaders' intense focus on demolition may have been the commitment to resident inclusion made by the Annie E. Casey Foundation, as well as city and Hopkins officials. These institutions promised that neighborhood residents would have a voice in the project, and residents and their advocates played a central role in devising the project's unusually comprehensive package of relocation benefits and assistance. As a result, residents expected to have their concerns addressed in other aspects of the redevelopment plan, especially in areas affecting their health, including demolition.

# Developing Responsible Demolition Protocols

As demolition risks generated community concern, project leaders refocused on the issue and undertook extensive planning and research to safeguard the demolition process.

The initial efforts, which were conducted by EBDI staff primarily in consultation with Johns Hopkins researchers, focused on identifying basic procedures to minimize demolition-related health hazards. These included aggressive public outreach to inform and educate residents about planned demolition activity, extensive wetting to reduce the spread of dust during demolition, fencing and other barriers to contain lead-contaminated debris and testing to monitor the impact of demolition.

Before this planning was completed, two faculty members of Morgan State University who were acting as consultants to the neighborhood's key community organization, the Save Middle East Action Committee (SMEAC), called for demolition activity to be put on hold until safety guarantees were in place — a call that was also echoed by SMEAC.

Project leaders agreed to a suspension of demolition activities and intensified their efforts to ensure safety. Eventually, EBDI and its partners agreed to work toward guaranteeing that demolition would not harm residents and took several key steps to achieve that goal.

- EBDI convened focus groups and community hearings during which residents
  and advocates could voice their concerns and suggest how to handle demolition,
  much as they had done earlier in the development of a housing relocation plan for
  community residents being displaced.
- EBDI asked the Coalition to End Childhood Lead Poisoning to take a lead role in formulating the demolition plan and protocols. In January 2005, the Casey Foundation provided a grant to the coalition to intensify its work on the demolition protocols.
- The coalition conducted field tests to determine the merits of deconstructing
  homes piece by piece rather than leveling them. Though this method all but
  eliminated the spread of dust, it was deemed impractical. However, the project
  did adopt partial deconstruction, in which workers remove doors, windows,
  mantels, banisters, railings and large pieces with high concentrations of lead paint
  prior to demolition.
- With input from neighborhood residents and outside experts, coalition and EBDI staff worked in 2004 and 2005 to refine the demolition plan and protocols, a process that included community presentations. In spring 2005, an initial version of the demolition protocols was completed.
- Project leaders convened an independent panel of outside experts to assess the
  demolition protocols in consultation with community residents, advocate for
  needed changes and review test results measuring the amount of lead released
  into the neighborhood during demolition. With funding from the Robert Wood
  Johnson and John D. and Catherine T. MacArthur foundations, this panel met
  several times with community members to answer questions related to demolition
  safety, discuss demolition protocols, review test results and relay community
  concerns to the project's sponsors.
- Finally, in response to the continuing concerns of community members and their advocates, project leaders revised the demolition schedule. Under the revised plan, EBDI agreed to postpone almost all of the demolition until all residents living in the project area had relocated, a significant slowdown of the original demolition schedule. This new schedule was accepted even though it added substantial costs and created health and safety concerns in the community, including the potential for rat infestation of vacated properties and the need for substantial security presence to stave off crime and drug activity.

The only area where demolition proceeded as scheduled was a parcel that had 18 row houses on the site of what was to be the new biotechnology complex — the economic engine of the entire redevelopment project. This limited demolition, undertaken in July and August 2005, allowed for a test of the demolition protocols and was closely overseen by the independent panel.



### Details of the EBDI Responsible Demolition Protocols

The demolition protocols developed for the East Baltimore Revitalization Initiative set a new national standard in the battle against lead poisoning and, more broadly, in the field of responsible redevelopment. The protocols established in 2005 included several core elements:

- adequate use of fencing, barriers and other means to limit casual entry to demolition sites until demolition is complete and all debris removed;
- widespread notification to residents, community organizations, faith-based organizations and city agencies about when and where demolition would be happening, along with highly visible signage on the houses to be demolished;
- training of community block monitors to observe the demolition process and assist residents with questions and home-safety measures;
- four days of training on lead safety and related issues for demolition supervisors and two days of training for all other workers;
- removal and safe disposal of building components with high lead content prior to demolition in buildings that were structurally sound;
- using ample water throughout the process to reduce the spread of dust;

#### RESPONSIBLE DEMOLITION SAFETY PROTOCOLS

Based on the work in East Baltimore, responsible demolition projects should adopt a specific set of protocols, which should include these key elements:

- Effective community notification, including prominent signs at the site well in advance of demolition, distribution of notices to neighbors throughout the surrounding area and proactive community education efforts.
- Adequate use of water hoses to minimize dust spread during demolition and debris removal.
- Partial deconstruction of homes, removing doors, windows, railings and other

components with high lead content in advance of demolition.

- Fencing and other barriers to control the spread of dust during and after demolition and to keep children and other pedestrians away from condemned sites.
- Using the picker method for demolition, rather than a wrecking ball, to minimize spread of dust and debris.
- Prompt and careful debris removal with watering to reduce dust, covers on all trucks carting debris out of the neighborhood and carefully defined exit routes for hauling away debris.

- Soil removal and sod replacement to eliminate topsoil contaminated during the demolition process.
- Independent testing to measure the amount of lead dust emitted through demolition, including tests measuring lead accumulation.

The detailed demolition safety protocols drafted by EBDI and its partners are readily available to other communities and can be adopted by any community to minimize potential health hazards caused by demolition. The protocols and EBDI's testing procedures to accurately measure lead exposure from demolition are at www.aecf.org.

- careful demolition using the "picker method" (instead of the more traditional wrecking ball, bulldozing or implosion methods) and high fencing to control the spread of debris and dust;
- careful procedures for the removal of debris from demolished buildings, including use of hoses to suppress dust and plastic covering on trucks to ensure that debris and dust are contained during removal;
- post-demolition street and sidewalk cleaning and debris removal;
- removal of two inches of top soil on all properties where demolition has occurred and planting of new sod;
- providing community residents with HEPA vacuums and "tack mats," which
  remove dust from shoes as individuals enter the home, to reduce lead dust
  exposure in residents' homes following demolition; and
- independent testing of the streets and sidewalks surrounding demolished properties to measure the impact of demolition and debris removal on the local environment.

#### A Second Round of Demolition

In the second phase (2011-2012) of demolition for the East Baltimore project, EBDI's contractors demolished about 250 homes over a 7-acre area to clear land for a new school and early learning center.

As noted previously, the project relied on essentially the same protocols used in the first phase of demolition seven years earlier, with some modifications. For example, in the second phase, the demolition area was divided into four sectors so the demolition could be staged on a predictable schedule, lessening the impact on the surrounding community.

EBDI and its contractor responded to residents' concerns about how trucks were carting away debris by establishing a circuitous route for the trucks to take — ensuring they stayed on major roads and, when possible, bypassing residential streets. Going a step further, the contractor required the trucks hauling debris to display a special flag so that residents could know which trucks were assigned to the demolition and could make sure they were following the hauling protocols.

## Achieving a Reduction in Health Dangers

In September 2005, EBDI completed a pilot use of the demolition protocols, documenting the lead levels before and after the 18 row houses on the first site were

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razed. Airborne tests conducted by an independent contractor showed that lead levels remained below detectible limits before and after demolition. Dust wipe tests on nearby streets and sidewalks were inconsistent, but overall they showed a small but statistically significant increase in lead levels following demolition.

Following a much larger round of demolition in summer 2006, when EBDI razed an additional 504 buildings, more precise tests were conducted to calculate the amount of lead falling into small containers placed near the demolition sites. Results showed that lead levels rose only slightly as a result of demolition on the EBDI sites, remaining well within federally mandated guidelines for lead safety and representing a vast improvement from earlier test results that followed demolition conducted without safety protocols.

A 2008 study compared the results of the EBDI demolition procedures with other demolitions conducted without significant safeguards in Chicago (67 single-family homes razed in 2006) and Baltimore (150 units of multifamily housing in 1999). This study showed that the Chicago demolition caused the average lead-dust accumulation on the ground to increase to 15 times its normal level. The earlier demolition in Baltimore, not connected to EBDI, caused a fortyfold increase in average lead-dust accumulation.

By contrast, the demolition that used the new protocols in East Baltimore led to an average accumulation increase of 33 percent. Tests again showed no increase in airborne lead levels, while soil tests showed that lead levels actually decreased — due to the soil removal and sod replacement.

The study's authors concluded: "Control of lead dust from housing demolition is feasible and necessary....Large amounts of lead-contaminated dust are generated from housing demolition, but can be controlled using simple dust suppression to protect the public health."

While the independent panel did not analyze the costs associated with implementing the demolition protocols, the Coalition to End Childhood Lead Poisoning has estimated that these extra steps added less than 25 percent to the costs of demolition, as compared to conventional practice.

In the second round of demolition (2011-2012), an independent monitoring firm again measured the amount of lead dust generated. The monitoring recorded statistically insignificant amounts of lead dust in the area, with one exception. In that case, the test detected a significant spike in the amount of lead dust in the area. It turned out that just prior to that dust collection, the demolition contractor had swept sidewalks in the area, which put more dust into the air. After that lead dust level was detected, EBDI and its contractor revised protocols so that sidewalks were hosed down before being swept up to minimize the amount of dust kicked up in the air following demolition.

In both phases of demolition, a key factor in the protocols' success was their focus on giving timely information to families in the area. Typically, demolition activities are undertaken without detailed, date-certain information provided to neighbors, and public education on the potential health impacts of demolition is rare. In some cases, reports David Jacobs, a nationally recognized expert on lead poisoning who served on the independent panel that oversaw the East Baltimore demolition process, demolitions can even become spectator events for community residents, "where onlookers end up with a mouthful of [lead-contaminated] dust."

In East Baltimore, demolition protocols required visible signage to be posted around the affected area before the demolition and door-to-door notification of area residents. EBDI trained and paid workers to educate neighbors about the potential health hazards and teach them how to avoid danger by vacating their homes during the demolition, firmly closing all doors and windows and cleaning up their homes following demolition using the special vacuums and door mats provided by EBDI.

Additional user-friendly information was created during the second phase for the community by a faculty member at Maryland Institute College of Art (MICA), which has a program housed in a building near the demolition site. Using a community-based participatory design method, the MICA instructor solicited participation from local residents over the course of three meetings. The result was a "Demolition Dictionary," a colorful flier that used graphic symbols to help explain terms associated with demolition and to remind residents of steps they needed to take to reduce hazards, such as using the tack mats and wiping down surfaces.

As in the first phase, an independent panel of experts reviewed the demolition protocols and the work of the monitoring firm to ensure its reliability. Vernice Miller-Travis, an expert in community-focused environment issues, served as a member of the independent panel in both phases of demolition. She called EBDI's approach a model for maintaining resident safety during major demolition projects and said it created a new standard for redevelopment in low-income communities. "I have not seen this level of caution and sensitivity in a community of color or low-income community in the U.S.," she said. "It sets a new bar about how community development should be done."

# Influencing Demolition Policies and Practices Beyond East Baltimore

The demolition safety efforts in East Baltimore yielded immediate results by safeguarding children and families near the project site and serve as a valuable resource to promote better demolition practices nationwide. As the first large-scale demonstration of lead-safe demolition undertaken in the United States, the East Baltimore project has helped raise awareness among federal officials and state and local leaders about the importance of demolition safety and the potential to

substantially reduce the environmental harm of unsupervised demolition. These clear and detailed demolition protocols offer a concise guide for policymakers and practitioners interested in improving demolition safety.

Though the risks have been known for decades, demolition safety has received little attention in scholarly research and public debate. No federal regulations are in place to protect neighborhood residents from demolition-related lead exposure and, as of 2004 — when the East Baltimore project undertook its first demolition activities — no state or local jurisdiction had enacted rules mandating steps to minimize risks related to lead dust.

An important event was the 2003 publication of the Johns Hopkins research paper referenced earlier, which provided the first detailed evidence that demolition of dilapidated buildings can significantly increase lead exposure in the area. This study and subsequent publications by the same research team attracted attention in the scholarly community and sparked additional research.

Yet according to environmental scholar David Jacobs, because these academic studies did not focus on corrective measures to reduce the hazards of demolition, they had limited potential on their own to impact demolition policy or practice. "It's not enough to show that there's a lot of lead being emitted thorough demolition," Jacobs says. "We needed to show that you can do something about it, and EBDI did that...creating a dust suppression protocol that was shown to be effective. I don't think anyone else has done that, and it was a tremendously important finding."

The East Baltimore work on demolition safety has been a catalyst for other promising developments.

In 2007, Baltimore City revised its building code to require appropriate notice for residents of properties neighboring proposed demolition sites and to ensure that crews apply water to suppress dust in all phases of demolition involving potential lead contamination. In doing so, Baltimore City became the first city in the nation to adopt demolition standards specifically aimed at suppressing lead dust exposure.

Before the change, Baltimore law required that notice be provided only to neighbors in physically adjoining properties. The new law requires prominent signs to be posted on the property at least five days before demolition. Such public notice is critical to easing community concerns, according to Michael Braverman, the city's deputy housing commissioner, who oversees code enforcement. "It takes so much of the edge off," Braverman says. "We're a row-house city, and the idea that a backhoe can show up two doors down or across the street and start demolition, without any notice, was just infuriating for people."

Baltimore's new rules also require permits for all demolition activity. Applicants must now send photographs documenting that appropriate signs have been posted.

They also must meet with city inspectors to review their demolition plans and assure that steps are in place for wetting the structure during demolition and debris removal to suppress dustfall. The city also requires 24-hour notice before any scheduled demolition activity so that city inspectors can be present.

Experts associated with the East Baltimore Revitalization Initiative have been working to promote policy reforms that enhance lead safety in demolition practices in other jurisdictions as well.

- Members of the independent panel have presented research on lead-safe demolition to officials in Chicago, New Orleans, Providence, R.I., and other cities.
- The Coalition to End Childhood Lead Poisoning has made presentations to city leaders in St. Louis and Detroit, and the mayor of St. Louis led a delegation to Baltimore to learn firsthand about the new demolition protocols.
- The Maryland General Assembly has considered legislation that would require lead-safe demolition practices statewide. Maryland advocates remain optimistic about eventual passage of such a demolition-safety law.
- In Eugene, Ore., a community leader established an organization called Safe
  Demolition Eugene to try to require a local redevelopment project to use safer
  demolition protocols. The organization's first focus was on a demolition project
  near low-income housing and a school. Through its work, the group has raised
  awareness of the risks of demolition.
- The responsible demolition issue has generated coverage on several blogs, including those of Next American City and the National Resources Defense Council.
- The U.S. Department of Housing and Urban Development has provided grant funding for a new research initiative on demolition safety and the impact of demolition in Chicago, resulting directly from the East Baltimore project's success. The work is led by David Jacobs, research director at the National Center for Healthy Housing and a member of the independent panel monitoring EBDI's demolition efforts.

Demolition safety has figured prominently in the National Center for Healthy Housing's ongoing efforts to convince regulators at the U.S. Environmental Protection Agency (EPA) to adopt a new standard for exterior lead dust exposure — a step that would, for the first time, limit the levels of lead contamination that can be emitted legally during demolition. Current standards cover only indoor lead dust — not dust on sidewalks, porches and building exteriors. In addition, Jacobs has made presentations on demolition and lead safety to the American Public



The work in Baltimore has helped awaken environmental justice, housing and community development officials to the harm caused by poorly planned demolition. However, the reality remains that — both nationally and at the state and local level in most jurisdictions — clear rules and stronger oversight on demolition remain years away.

Health Association, the Centers for Disease Control and Prevention, the American Industrial Hygiene Association and others.

These efforts are significant but mark only the beginning of a much-needed national movement to ensure demolition safety.

For instance, Janet Phoenix, the 2005–2006 independent panel chair, suggests that more detailed studies to document the added costs associated with an effective dust suppression protocol would be helpful in persuading state and local officials to make them mandatory.

A key step would be to work with the EPA to create a resident-protection standard to ensure that demolitions meet key health guidelines. The EPA would issue guidelines and tools for meeting such a standard.

It would also be useful to create detailed guidance that local public works agencies could use to craft safe demolition procedures. Demolition is typically handled by local agencies, which may not be focused on health issues related to such projects.

# Demolition Safety in Your Community: Summary Lessons From East Baltimore

The work in Baltimore has helped awaken environmental justice, housing and community development officials to the harm caused by poorly planned demolition. However, the reality remains that — both nationally and at the state and local level in most jurisdictions — clear rules and stronger oversight on demolition remain years away.

As such comprehensive policies emerge, local leaders can address demolition-related challenges now by considering key lessons from the East Baltimore experience.

- Demolition can impose significant health hazards, the most important of which
  is lead poisoning. Studies show that poorly supervised demolition can lead
  to significant spikes in lead dust and other health hazards in neighborhoods
  surrounding urban demolition sites and that children in neighborhoods
  experiencing multiple demolitions are more likely to suffer lead poisoning than
  their counterparts in similar neighborhoods where less demolition has occurred.
- In the East Baltimore Revitalization Initiative, the Casey Foundation, EBDI
  and their partners have demonstrated that potential health hazards from
  demolition can be significantly reduced through modestly priced safety measures.
  Independent tests found that through the use safety protocols in East Baltimore,
  lead levels increased only marginally during the demolition and debris-removal
  processes and remained well within federal safety guidelines. By contrast,

measured lead levels in poorly supervised demolition sites have shown dramatic spikes in lead exposure that clearly endanger public health.

- Demolition safety should not be addressed using a one-size-fits-all approach.
   Rather, community involvement is critical. Community residents may well oppose redevelopment if they feel their health concerns are not being addressed. It is essential for redevelopment leaders to engage residents in the demolition process, heed their concerns and accept their suggestions as often as is practicable.
- Action is required to reduce significant dangers to public health. Before Baltimore
  enacted new regulations in 2007 to ensure safer demolition practices, no city in
  the nation had clear rules requiring demolition teams to employ such protocols.
  In many communities, demolition still occurs without use of even the most
  basic precautions, often with little or no advance notification for residents of
  the surrounding neighborhood. This poses an ongoing public-health threat that
  demands action.

# **Appendix**

# Demolition Dictionary A GLOSSARY OF TERMS FOR UNDERSTANDING DEMOLITION IN YOUR COMMUNITY.

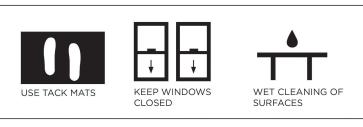
# Around the Site



# **Community Responsibilities**



## Actions Inside Your Home



# **Contractor Protocols**



This Demolition Dictionary was created by a graphic design professor and student in East Baltimore to help the community understand the risks of the demolition process.

