Nancey Green Leigh, PhD, AICP
Professor of City and Regional Planning
City and Regional Planning Program
Georgia Institute of Technology[1]

Testimony regarding "Revitalization of the Environmental Protection Agency's Brownfields Program"

U.S. House of Representatives Committee on Transportation and Infrastructure, Subcommittee on Water Resources and Environment

February 14th, 2008

Good afternoon Chairwoman Johnson and members of the subcommittee. Thank you for inviting me here to testify on reauthorizing and revitalizing the Environmental Protection Agency's Brownfields Program.

I am a professor of City and Regional Planning at the Georgia Institute of Technology. I specialize in local economic development planning and have been researching, writing and teaching about brownfield redevelopment since the early 1990s. In particular, I have focused on the unintended consequences of the Comprehensive Environmental Response, Compensation, and Liability Act or (CERCLA), and how brownfields affect prospects for urban revitalization in general, and economic development efforts in low-income communities, specifically. In this testimony I will speak to the successes of US EPA's brownfield programs, identify an unintended and non-benign consequence of successful federal brownfield redevelopment initiatives, and discuss the potential for EPA to be a stronger catalyst for advancing sustainable redevelopment.

As is well acknowledged, the unintended consequence of CERCLA was the impetus for the enactment of US EPA and other federal programs brownfield legislation and initiatives. CERCLA's intent was to promote clean up of contaminated land, and to

[1] Atlanta, GA 30332-0155. ngleigh@coa.gatech.edu, 404 894-9839.

provide opportunities for EPA to recover clean up costs from all potentially responsible parties (PRPs), including past and present property owners as well as lending institutions. However, due to the subsequent fear of being assigned liability as a PRP, in both the public and private sector, CERCLA had the effect of stymieing interest in redeveloping brownfields, or, in other words, creating an economic development market failure.

States and localities, particularly those in the "Rustbelt," were leaders in seeking means to overcome CERCLA's unintended consequences. Eventually, EPA responded with the 1995 Brownfield Action Agenda, and it has been active ever since in promoting brownfield redevelopment. The Agenda included brownfield pilot grants to communities, clarification of liability issues for brownfield property owners, partnerships between federal, state, and local agencies to promote brownfield redevelopment, and job development and training for brownfield remediation. Other federal agencies have created initiatives to further increase brownfield redevelopment activity. EPA's proactive stance was significantly enhanced with the 2002 enactment of the Small Business Liability Relief and Brownfields Revitalization Act that is now under consideration for reauthorization. This act has furthered the establishment of a brownfields marketplace by: authorizing funding for site assessment and cleanup; clarifying liability for innocent landowners, contiguous property owners and prospective purchasers, and delegating authority to the states to sign-off on completed brownfield remediations in their Voluntary Clean-Up Programs (Bartsch 2007).

The US EPA has been a critical catalyst for overcoming the market failure for brownfield redevelopment. In little more than the decade since the federal brownfield program was initiated, a sophisticated brownfield industry has evolved to include specializations in environmental consulting, finance and investment, law, insurance, real estate, engineering and remediation, and research and development of new remediation technologies. Conferences, trade associations, technical training programs, and an extensive and growing literature on brownfield redevelopment are all components of this industry. There simply would not be the brownfield industry we have today without the EPA's brownfield programs, and the 2002 Small Business Liability Relief and Brownfields Revitalization Act.

Likewise, there would not have been the development of essential environmental insurance products for furthering the growth of the brownfield market. These transfer risk related to brownfields cleanup costs and liability from project stakeholders to the insurance company. Common types of environmental insurance policies are: [1] Pollution Liability that protects an insured against on-site cleanup costs of unknown, pre-existing pollution, pollution from ongoing operations, and third-party claims; [2] Cost Caps that protect against cleanup costs exceeding the anticipated cost; and [3] Secured Lender that protects the lender when a borrower defaults on a loan due to a pollution condition. It should be noted, however, that a major deficiency of these environmental insurance programs is that they are not cost effective for small brownfields.

Also vital to the success of the industry has been the development and application of technologies for assessing the extent of contamination on a brownfield site (for example, fiber optic chemical sensors) and treating contaminants (for example, air sparging and bioremediation). Thus, there has been great progress in providing the institutional supports and technical solutions required for brownfield redevelopment.

Today, the brownfield industry is a niche real estate market that relies upon public-private partnerships and employs between 5,000 to 10,000 people. There have been many high profile successes, the largest of which is the 2004 National Brownfield Award-winning, mixed-use project called Atlantic Station that was developed on a 138-acre former Atlantic Steel plant, in midtown Atlanta, Georgia. Acquired by Jacoby Development, the site required $10 million in clean-up costs. Besides Jacoby, key participants on the private side include AIG Global Real Estate Investment Group, and more than one national home developer. On the public sector side are the US EPA, the State of Georgia, the City of Atlanta, and a number of neighborhood groups from the surrounding area. A range of public incentives, including infrastructure improvements and tax incremental financing, were provided to the project because it is expected to contribute to the region's Smart Growth, or, anti-sprawl efforts. At build out, $2 billion will have been spent on the redevelopment that will have 5,000 residential units to meet a

range of income levels; 6 million square feet of office space; 2 million square feet of retail and entertainment space; 1,000 hotel rooms; and 11 acres of public parks.

While the US EPA Small Business Liability Relief and Brownfields Revitalization Act in 2002 has been an essential element for creating a strong brownfields redevelopment marketplace, there is still much to be done. Further, the marketplace will be unable to completely resolve the brownfields problem. While an estimated 50,000 to 60,000 brownfields have gone through state voluntary cleanup programs, this represents only the tip of the iceberg. The common view is that the full extent of the nation's brownfield problem cannot be quantified. However, there has been no attempt to create a national brownfields property database. "Guesstimates" of the total number range from 450,000 to 1,000,000.

With my former student, Sarah L. Coffin, now an assistant professor at the University of St. Louis, I created a brownfields database for two cities, Atlanta and Cleveland, that sheds some light on the magnitude of the brownfield problem. We examined historic city business directories for each city for the years 1910, 1930, 1950, and 1970 to obtain the addresses of all businesses that had a 50 percent or greater likelihood for contamination based on their prior economic activity. We have labeled the properties on which these businesses were located "potential brownfields." We combined these potential brownfields with known brownfields that have been placed on official federal and state lists, and then input them into a Geographic Information System database. For every known or official brownfield, we found over fourteen potential brownfields (Leigh and Coffin 2005). See Figures 1 and 2.

The public sector response to brownfields has been predominantly characterized by a focus on the economic efficiency of cleanup and redevelopment of individual properties, as opposed to how remediation and redevelopment affects neighborhood property values, and correspondingly contributes to the overall economic revitalization of neighborhoods (Iannone, 1996; Black, 1995). Brownfields can be large or small properties, and they can be found in depressed as well as healthy areas of our cities and

states. But given the public sector emphasis on allocating scarce brownfield redevelopment resources to those properties that will realize the greatest market returns (Simons and Iannone, 1997; US EPA, 1996; Argonne National Laboratories, 1998), properties that are small and/or located in depressed neighborhoods are more likely to be overlooked. Largely missing from the national brownfield dialogue has been the issue of whether brownfield status impacts more than the property labeled as such. That is, does the brownfield label also stigmatize and de-value surrounding non-brownfield properties? Our research also sought to provide insight into this question.

After creating the brownfield databases for the two cities, we used hedonic modeling to control for neighborhood and property characteristics and found that the presence of listed and potential brownfields lowered residential property values in both Atlanta and Cleveland. Lowered property values, of course, also lead to lower property tax revenue with which to pay for schools and essential services.

As a supplement to our modeling efforts and to explore the economic justice implications of our model results, we analyzed redevelopment rates (proxied by property turnover) in high and low poverty neighborhoods of both cities. Defining high poverty neighborhoods as census tracts with a 20% or greater poverty rate, and low poverty neighborhoods as those having less than 20% poverty, we found the average percentage of property turnovers per census tract in poverty census tracts was 9.5% in Atlanta and 8.7% in Cleveland. In contrast, the average percentage of property turnovers per census tract in non-poverty census tracts was 13% in Atlanta and 15.2% in Cleveland. To the extent that brownfields act as a barrier to property turnover occurring with redevelopment in weak market areas, high poverty neighborhoods' prospects for revitalization are thwarted by the continued presence of brownfields. These findings suggest there is a need to target EPA brownfield assistance to poverty neighborhoods and disadvantaged communities.

Additionally, it should be understood that though there is greater knowledge of hazardous substances and how environmental damage can occur, new brownfields are

still being created, primarily due to illegal activities. For example, a new source comes from "methfields," or brownfields created by clandestine drug labs. These have rapidly multiplied throughout urban and rural areas. The dumping of their waste – estimated at five pounds for every one pound of methamphetamine produced – is contaminating drain fields, soils and surface waters. It is likely that this new source of brownfields will be disproportionately located in disadvantaged areas.

Properties in the brownfield marketplace can be divided into three groups: [1] those with clearly negative values where environmental liabilities far exceed their value; [2] those with modest or neutral value; and [3] those with strong positive values. Those in the third category have very desirable locations and tend to be the bigger sites on which large-scale redevelopment can occur. In a properly functioning marketplace, brownfield properties with strong positive values should not need public assistance or incentives for redevelopment. With the development of financial, insurance and technical mechanisms that make up a large part of today's brownfield industry, the private sector is increasingly able to take care of the properties in the third category.

Up until now, the predominant brownfield redevelopment focus – both private and public -- has been on the most marketable and larger properties, or what has come to be called the "low hanging fruit." The rationale for the public sector focus has been to maximize return on public investment, while the private sector logically and appropriately is seeking to maximize profits. While legitimate concern over large moth-balled sites is reflected in the National Brownfields Coalition's proposal for the reauthorization of the Brownfields Act, the remaining brownfield inventory is increasingly composed of small and medium-sized sites, many of which would be considered marginal redevelopment prospects by the private sector due to their locations, limited end uses, and profit potentials. Neglecting their redevelopment stigmatizes and de-values surrounding non-brownfield properties acting as a barrier to neighborhood revitalization. In turn, these neighborhoods are left further behind from those that are being revitalized due to the proactive redevelopment climate catalyzed by the EPA's Brownfield Revitalization Act. There has been a "Back to the Downtown" movement

occurring in our major cities due to the rejection of suburban living by certain demographic groups (aging babyboomers, young professionals...) as well as firms seeking to avoid the costs of sprawl (Birch 2005). While a very positive trend overall, there is increasing concern over how this relates to trends in growing income inequality, and displacement of low income residents due to gentrification. Unless EPA's brownfield programs become more tightly focused on low-income neighborhoods, an unintended consequence of the programs may well be widening urban inequality.

The 2002 Small Business Liability Relief and Brownfields Revitalization Act was clearly aimed at promoting economic development as well as achieving environmental restoration of brownfield sites. Since as little as five percent of brownfields have been remediated and redeveloped,[2] the Act needs to be reauthorized and its funding substantially increased as the National Brownfields Coalition has suggested. The act also needs revision. To counter trends in urban inequality and gentrification displacement, the reauthorized act should:

- Target the additional increment in funds to brownfields neighborhoods with the worst health exposure and greatest need for economic development.
- Require demographic and economic impact assessments of projects, as well as displacement projections and prevention/redress plans.
- Target the placement of EPA staff via Intergovernmental Personnel Agreements in brownfields neighborhoods with the worst health exposure and greatest need for economic development.
- Emphasize a neighborhood approach in any provision for community-wide multi-purpose grants for use for both assessment and cleanup on multiple sites.
- Encourage the development of workforce housing on appropriate brownfield sites.

[2] Calculated as 50,000 remediated sites of a possible one million brownfields.

There have been calls in proposals for the reauthorization and in the brownfield community for the adoption of greener redevelopment strategies. Further, in 2004 EPA adopted an Environmentally Responsible Redevelopment and Reuse (ER3) Initiative for encouraging the "best sustainable environmental practices in the redevelopment and reuse of a previously contaminated facility." To date, however, there have been only two pilot projects resulting from this initiative. To further the greening of brownfield redevelopment, the reauthorized act should:

- Encourage life cycle assessment analysis to minimize the environmental burden of brownfield remediation and redevelopment projects.
- Encourage In Situ (on site) remediation strategies.
- Promote deconstruction over demolition when buildings are removed during the redevelopment.
- Require green building and site development standards.

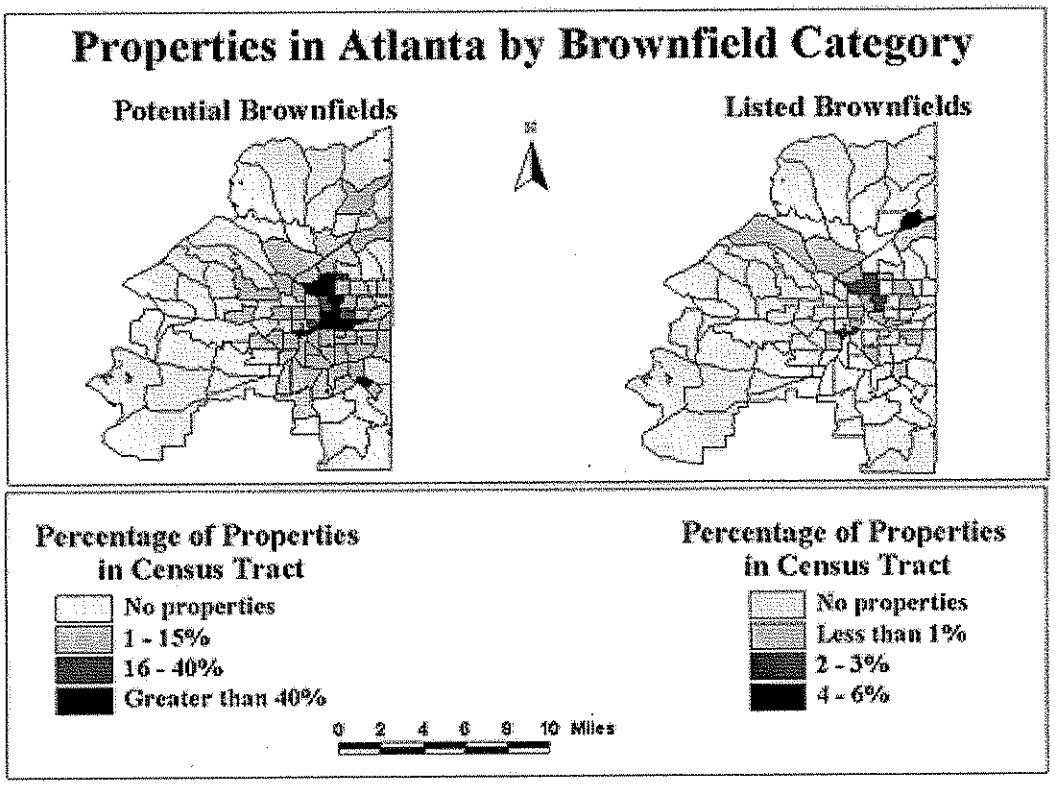
Total or partial demolition of structures is common in brownfield redevelopment projects. Deconstruction is the systematic disassembly of buildings to enable the reuse and recycling of construction materials. It generates skilled jobs and businesses for selling salvaged materials. In contrast, demolishing buildings and landfilling the debris turns assets (buildings) into liabilities (demolition debris), thereby undermining both environmental and economic development goals of sustainability (Leigh and Patterson 2006).

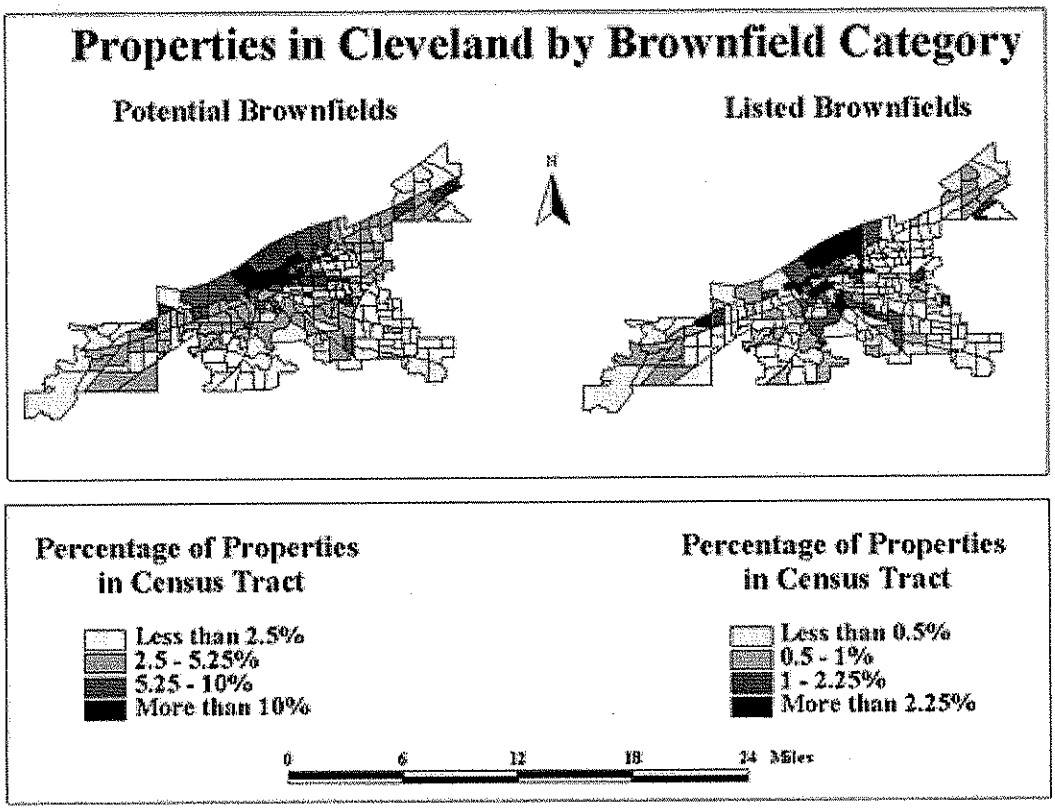
In conclusion, there is a clear need for reauthorization and revision of the EPA Brownfields program. The next version of the EPA Brownfields program should seek to insure that limited public resources do not go to strong positive value brownfields at the expense of those with negative or neutral values. The more appropriate intervention for increasing the redevelopment of strong positive value brownfields in healthy neighborhoods is to strengthen Smart Growth strategies that end the public subsidization of greenfield properties. If limited public funds are not carefully invested in brownfield

redevelopment strategies that foster community revitalization in disadvantaged neighborhoods, there is the possibility that intraurban inequality will rise as nonremediated brownfields become increasingly associated with these neighborhoods.

Finally, as I stated earlier, the 2002 Small Business Liability Relief and Brownfields Revitalization Act was clearly aimed at promoting economic development as well as achieving environmental restoration of brownfield sites. It has been a true catalyst for creating a functioning brownfields marketplace. My own view is that the Act and program have fostered more innovation in economic development than environmental solutions for brownfield redevelopment. However, EPA's Brownfield Program could be a real catalyst for sustainable development that maximizes both objectives if it requires, rather than simply encourages, projects that receive grants and loans to adopt green standards. These standards would reduce energy consumption and costs, lower building and site maintenance costs, create healthier living and work spaces, and foster new businesses and jobs in the brownfield sector, as well as, the larger economy.

Figures 1 and 2



References:

Argonne National Laboratories. 1998. *Partnering and Outreach Opportunities*. Chicago.

Bartsch, Charlie, "A Decade of Brownfields: A Marketplace Enters Adulthood," *Brownfield News,* Vol. 11, Issue 1, February 2007, p.10-11.

Birch, Eugenie L., "Who Lives Downtown," The Brookings Institution, Washington, D.C., November 2005.

Black, J. T. 1995. Brownfields Cleanups. *Urban Land.* June. 47-51.

Fitzgerald, Joan and Nancey Green Leigh, Chapter 3 "The Brownfield Redevelopment Challenge," in *Economic Revitalization: Cases and Strategies for City and Suburb,* Thousand Oaks: Sage Publications, March 2002.

Iannone, D. 1996. Increasing Public and Private Capital to Brownfields, or How Shall We Pay for the Sins of the Past." *Infrastructure*. 1(4): 18-23.

Leigh, Nancey Green and Sarah L. Coffin, "Modeling the Relationship among Brownfields, Property Values, and Community Revitalization, *Housing Policy Debate,* Vol 16, Issue 2, 2005, pp.257-280.

Leigh, Nancey Green and Lynn M. Patterson, "Deconstructing to Redevelop: A Sustainable Alternative to Mechanical Demolition," *Journal of the American Planning Association,"* Spring 2006; 72, 2, pp. 217-225.

Finneran, Catherine, "Attracting Development to Brownfield Sites: A Local Challenge," *Public Management*, November 2006, pp 8-10.

Northeast-Midwest Institute andThe National Brownfields Coalition, "Investing in Brownfields: A Proposal to Increase Funding for the EPA Brownfields Program," November 2007, http://www.nemw.org/ProposalEPAIncreaseFundingBF.pdf.

Petrizzo, JoAnn M., "'Yes to State Insurance Programs for Small Brownfields," *Brownfield News,* Vol. 10, Issue 6, December 2006, p.39.

Simons, R. A. and Iannone, D. T. 1997. Brownfields: Supply and Demand Analysis. *Urban Land.* June. 36-39.