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Sustainable Development
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It seems inarguable that sustainable development as a comprehensive policy is not on the national agenda. Some blame weak United States leadership in global environmental issues due to Congress's hostility toward global commitments (Bryner, 2000). Congress is also a critical barrier to sustainable development in the United States due to its fragmented and decentralized structure and the access and influence that industry enjoys. Although executive branch agencies would be better able to initiate strategies to encourage sustainability, they have done little due to the lack of public interest. "That is the paradox in which the US finds itself in the beginning of the twenty-first century: sustainable development requires a comprehensive policy response, but its political system is so divided by federalism, the separation of power, and other institutional devices, that coherent policy efforts seem impossible in the absence of a national crisis" (Bryner, 2000, p. 302).

"In contrast to the lack of interest in Congress, there is a growing interest at the local, state, and regional level in sustainable communities that is at the heart of the real debate over sustainability in the United States. Solutions to urban sprawl, including preserving undeveloped lands, creating parks, promoting 'Smart Growth', cleaning up abandoned factory sites so that agricultural lands are not used for new construction, setting up urban growth boundaries, and other programs aimed at enhancing quality of life have become key elements of the idea of sustainability in communities throughout the United States" (Bryner, 2000, p. 299).

In 2001, James McGreevey ran for New Jersey Governor on a Smart Growth platform vowing to deal with the problems of suburban sprawl through changes in state government. “Sprawl is generally defined as poorly planned and managed growth frequently linked to auto-dependent suburban development” (van Hook, Shaw & Kloo, 2003, p. 112). McGreevey stated in his address at the Smart Growth Summit, “As people who drive and work in New Jersey we spend too much time in our cars, stuck in traffic, separated from our families. Drivers in New Jersey lose 261 million hours a year to congestion - an average of 45 hours per driver. The cost to our economy is even more dramatic - \$7.3 billion annually, including \$4.1 billion in lost time and \$400 million in lost fuel. NJ is expected to grow by one million people and create 800,000 additional jobs over the next 20 years. The challenge is to find ways to accommodate these people - places for them to live and work, and parks for them to visit - while ensuring the highest possible quality of life. We shall succeed in our efforts if we adhere to Smart Growth principles. Smart Growth is about smart government. State departments and agencies should incorporate smart growth principles into their operations. Growth should be directed in locations that are already developed and those that have been appropriately targeted for development. Unfortunately, the share of development taking place in our most populated areas has declined in recent years”(Press Release, October 22, 2002).

In January 2002, just two weeks into office, Governor McGreevey unveiled a series of legislative packages to implement a Smart Growth Initiative in New Jersey. The Governor stated, “New Jersey is the nation’s most densely populated state and the most

developed, and yet we lose nearly 50 acres of land a day to poorly controlled development in New Jersey (Press Release, March 6, 2003). According to NJDEP anti-sprawl agenda homepage, “Ill-conceived land use and poorly designed development threatens our vital drinking water supplies, devours our open space, spoils our landscape and creates traffic congestion that pollutes our air. Further, rampant sprawl imperils continued economic growth, jobs, housing and investment in New Jersey’s future” (NJDEP Anti-Sprawl Homepage). The Smart Growth Initiative was created “to balance New Jersey’s future growth needs with the fundamental needs of our citizens so that everyone can enjoy clean drinking water, clean air, a vibrant economy, good schools and recreational opportunities outdoors” (NJDEP Anti-Sprawl Homepage).

On January 31, 2002, Governor McGreevey signed Executive Order #4 creating the Smart Growth Policy Council and tasked the Council with improving communication and breaking down barriers that separate the various agencies that play a role in how New Jersey develops. The Council was comprised of Cabinet members and senior administration officials from the Economic Development Authority, the Board of Public Utilities, the Commerce and Economic Growth Commission, New Jersey Transit and the Departments of Agriculture, Community Affairs, Education, Environmental Protection and Transportation. They were directed to work together to promote sound and coordinated planning throughout the state to rebuild towns, protect open space and farmland from development, direct growth to urban and suburban centers and ease traffic congestion. To accomplish these goals the Council was charged with developing and implementing inter- and intra-agency policies and programs to encourage development

that is consistent with the principles of Smart Growth and the State Development and Redevelopment Plan (State Plan). One of the goals was to “coordinate and consolidate State redevelopment initiatives, especially those involving Brownfields to reduce points of entry for municipalities and developers” (Press Release, January 31, 2002).

The Office of Smart Growth was created from the Office of State Planning in the Department of Community Affairs to work with the Governor’s Office through the Smart Growth Policy Council. The Office of Smart Growth provides administrative and technical support to the New Jersey Planning Commission and to the New Jersey Brownfield Redevelopment Task Force. McGreevey asked the legislature to expand the Brownfields Redevelopment Task Force to include all relevant state agencies, and reconvened this group that was originally created in 1998 under Section 5 of the New Jersey Brownfield Contaminated Site Remediation Act. The Task Force is a public/private partnership consisting of individuals appointed by the Governor. There are six private members, which include environmental consultants, environmental attorneys, environmental organizations, and seven state agency representatives. The Task Force is charged with developing and reviewing brownfield policy and legislation and making recommendations to the Governor, ensuring broad public/private involvement and a balanced approach. The Task Force assists municipalities and counties engaged in brownfield redevelopment by encouraging Smart Growth strategies in their plans (Press Release October 22, 2002). The Task Force, with the support of the Brownfields Interagency Team (BRIT), also initiated a searchable on-line inventory of marketable brownfield sites known as ‘SiteMart’ for prospective developers (F. Hoffman, personal

communication, November 18, 2004).

The BRIT provides representation from all State agencies on an as needed basis.

Individual projects that are a priority and have special needs go before the BRIT. All appropriate agencies, as determined by the Office of Smart Growth Brownfield Program Director, are assembled to provide feedback and expertise individually and collectively to address obstacles to move a brownfields project forward (F. Hoffman, personal communication, November 18, 2004).

Governor McGreevey appointed Bradley Campbell as the Commissioner of the New Jersey Department of Environmental Protection (NJDEP) and, together with the Office of Smart Growth, they introduced a series of strategies to achieve the objectives of Smart Growth. “A vital component of these strategies focused on redevelopment in cities where transportation, utility and commercial infrastructure could support growth and curb sprawl” (van Hook, et al., p. 112). Commissioner Campbell recognized that a critical role of redirecting development to the cities would need to include a robust program to promote the cleanup and redevelopment of brownfield properties, which are defined under New Jersey state law (N.J.S.A. 58:10B-23.d) as “any former or current commercial or industrial site that is currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant.”

In response to Governor McGreevey’s Executive Order #38 to encourage redevelopment, Commissioner Campbell created the Office of Brownfield Reuse to administer a new

brownfields policy to enable redevelopment of contaminated sites in a more efficient and predictable manner (Press Release, October 25, 2002). Campbell stated, “A strong brownfield reuse program is a vital component of McGreevey’s Smart Growth efforts to stem the tide of sprawl, create a broader range of choices and more livable communities for businesses and families in New Jersey. New Jersey is plagued with thousands of sites that are contaminated and serve as a drain on the economy and quality of life in our urban centers” (Press Release, November 25, 2002). The new brownfield program was tasked with coordinating and accelerating the work of state, municipal, business and community partners who want to remediate to return these properties to productive use by acting as resource for case managers and by piloting innovative approaches.

Although many of the more marketable brownfield properties have been remediated in the 1990’s under the ‘first generation’ of brownfield programs, NJDEP estimates that over 10,000 less appealing brownfield properties “languish unremediated, draining the vitality out of local communities and the economy” (van Hook, et al., 2003, p. 113).

Many of these less attractive, ‘second generation’ sites remain in New Jersey’s urban centers, including Trenton. Trenton was a major industrial center at the turn of the century, and was the home to rubber, ceramic and steel manufacturing plants, which attracted many farm laborers to the city. The population of Trenton swelled to an all time high of 150,000 making it the 50th largest city in the country. Following World War II, technological advances eliminated any competitive advantage held by local manufacturers. The population fell steadily to 90,000 causing a decline in commercial

development and the loss of shopping centers and other support businesses. By the late 1990's, 20 percent of Trenton residents lived below the poverty level (Mayer & Shaw, 1997).

Trenton's Brownfields Coordinator estimates that there are approximately 100 abandoned industrial sites in the city, with 24 active remediation projects ongoing (J. Capasso, personal communication, December 3, 2004). Abandoned sites with unaddressed environmental contamination not only lead to uncontrolled exposure to contaminants, but also to the loss of tax revenues, the loss of jobs and neighborhood decay, which further exacerbates emigration from the city to the suburbs.

Trenton's Magic Marker property is a classic example of a brownfield site. It covers 7 acres and has a long and complicated industrial history. The property was operated as a brick manufacturing facility from 1869 to 1914 and as an auto body manufacturer from 1915 to 1941. Lead-acid batteries were manufactured at the site by Philco Incorporated, a subsidiary of Ford Motor Company, from 1941 to 1947, followed by National Battery, which later became Gould National Battery, from 1947 to 1981. Doral Industries made water- and solvent-based inks for Magic Markers at the site in the late 1980's. In 1986 Doral (Magic Marker) filed Chapter 11 bankruptcy and the site was abandoned in 1989. The City of Trenton foreclosed in 1997 (Rolling, Joyner & Capasso, 2004).

The site is bordered to the south by a drainage ditch, to the west by Marion Street, to the east by Calhoun Street and to the north by row-homes on Dunham Street that were

constructed adjacent to the site in 1912 to serve as housing for the workers (Rolling, et al., 2004). This type of housing was a common feature of urban industrial areas of the time (Mayer & Shaw, 1997).

According to the NJDEP case manager, the battery manufacturing operation generated a large volume of acid waste, which was flushed down the floor drains to a 20,000-gallon storage tank under the factory floor. The acid waste was neutralized and then discharged to the sanitary sewer system (K. Hahn, personal communication, December 3, 2004).

Goold also produced smelting lead and lead oxide for coating battery terminals. This was done without the required permits and Occupational Safety and Health Administration (OSHA) inspections revealed excessive amounts of lead particles in the work environment. Workers would often return home with their clothes covered in lead and tattered from the acid, with burns and blisters on their arms and legs (Mayer & Shaw, 1997).

Defective batteries were stored in the yard, contaminating the soil on the Marion Street side with lead and acid (Mayer & Shaw, 1997). Petroleum hydrocarbons were detected in the soil and originated from a compressor room. Polychlorinated biphenyls were also detected in the soil and were the result of leaking transformers (K. Hahn, personal communication, December 3, 2004). These discharges eventually leached through the soil, contaminating the ground water with metals and volatile organic compounds (K. Hahn, personal communication, December 3, 2004). Magic Marker generated hazardous wastewater containing methanol and propanol (Mayer & Shaw, 1997). This wastewater

was discharged illegally to the sanitary sewer (K. Hahn, personal communication, December 3, 2004).

The environmental conditions at the site had a profound effect on the residents due to the close proximity of the Dunham Street row-homes to the site. The building interior was permeated with acid from the battery operation, and the summer rain striking the building walls caused the acid to volatilize, stinging the residents eyes and burning their throats to the point that sitting outside became impossible (Mayer & Shaw, 1997). The property became overgrown, and the vacant building fell into disrepair and was boarded up. This bleak façade faced the Dunham Street rowhomes (Mayer & Shaw, 1997). The abandoned site became an attractive nuisance to children and eventually became a haven for vagrants and drug dealers (Rolling, et al., 2004).

According to the Administrator of the NJDEP, Office of Brownfield Reuse, the initial remedial efforts at the site included a 1992 Preliminary Assessment/Site Investigation performed by the New Jersey Department of Environmental Protection (NJDEP) using Environmental Protection Agency (EPA) funds, which identified many areas of environmental concern in a failed attempt to place the site on the National Priorities List (K. Kloo, personal communication, December 5, 2004). Previous efforts to encourage Philco, Gould and Magic Marker to remediate the property under the 1986 New Jersey Environmental Cleanup Responsibility Act (ECRA) were futile. In 1993, the Industrial Site Recovery Act (ISRA) was passed, replacing the ECRA. ISRA provided loan funds of up to \$2 million per city to provide financial incentive for cities to perform

environmental investigations. ISRA also changed New Jersey law to allow any party taking responsibility for a site to avoid liability for existing contamination. The City of Trenton targeted 15 critical derelict sites, including the Magic Marker site, for environmental investigation. Several other funding sources, including federal, state and City money, were also used to continue investigations at the site in 1994 (K. Hahn, personal communication, December 3, 2004).

In the same year, NJDEP was conducting a study to determine if site remediation could be accomplished more effectively if there was strong neighborhood involvement (Mayer & Shaw, 1997). A community organization known as Isles, Inc. joined forces with 12 NJDEP staff from various programs and the City to develop a strategy to remediate the site (Mayer & Shaw, 1997). The Northwest Community Improvement Association was formed from existing groups of concerned citizens and received training and guidance from Isles in order to be given a voice in environmental and redevelopment decisions (Mayer & Shaw, 1997). This organization still meets monthly with City representatives after 10 years (Rolling et al., 2004).

The City executed a Memorandum of Agreement with the NJDEP and a 2-year phytoremediation study began. Although no formal submittal was ever made to the NJDEP, the case manager stated that a cursory review of the data suggested that the phytoremediation did not result in a decrease in contaminant concentrations, but instead caused the contamination to become more mobile, migrating deeper into the soil (K. Hahn, personal communication, December 3, 2004). In 1996 the City received a New

Jersey Hazardous Discharge Site Remediation Fund (HDSRF) grant for \$109,000 for an expanded Site Investigation.

EPA performed a CERCLA removal action in 1997 to remove drums and containers containing hazardous wastes. In 1999, in preparation of building demolition, EPA conducted a second removal action to clear the building of all hazardous materials (K. Hahn, personal communication, December 3, 2004). The City of Trenton funded the demolition project (J. Capasso, personal communication, December 3, 2004). In 2001, a second HDSRF grant was awarded to continue environmental investigations. Although Gould Battery showed some interest in taking responsibility for remediation, their corporate successor filed for bankruptcy in 2002 (K. Hahn, personal communication, December 3, 2004). In 2003, EPA conducted the final removal action to remove one petroleum underground storage tank and some on-site soils that were determined to be hazardous for lead (K. Hahn, personal communication, December 3, 2004).

In 2003, the Magic Marker site was selected as one of four NJDEP Brownfield Development Area (BDA) pilot projects introduced by Commissioner Campbell in 2002 as an innovative approach to brownfield redevelopment. Under this innovative approach, NJDEP works with selected communities affected by multiple brownfield sites to design and implement comprehensive plans for these properties so remediation and reuse occurs in a coordinated fashion and with the maximum benefit to the community. The selected BDAs also benefit from the collective support of NJDEP, the New Jersey Economic Development Authority (EDA) and the Department of Community Affairs (DCA) for

targeted planning, technical and financial assistance to remediate and reuse brownfield sites within the BDA neighborhoods. According to the DCA Brownfield Program Director, there are numerous state planning grants and other financial assistance available for planning, remediation and redevelopment. Some examples include Smart Future Grants from DCA, the HDSRF administered jointly by the Economic Development Authority and the NJDEP and the Brownfield Reimbursement Program administered jointly by the Commerce and Economic Growth Commission and the Department of Treasury, to name a few (F. Hoffman, personal communication, November 18, 2004).

The BDA differs from standard site remediation in that it addresses multiple, contiguous or nearby sites collectively, instead of using the traditional site-by-site approach. “Many believe that the current piecemeal site-by-site approach will not be successful in revitalizing areas impacted by multiple brownfields and that, instead, these area need an approach that addresses clusters of brownfields in a coordinated way. Single brownfield properties, redeveloped in isolation and surrounded by unremediated properties, miss the efficiencies gained by multi-site remedial response and the synergistic economic activity on nearby properties such a response could offer, two elements that could make reuse of less attractive brownfields viable” (van Hook, et al., 2003, p. 114).

There are economies of scale derived from coordinated investigation, remedy selection and waste management options. Other efficiencies include eliminating redundant research and sampling activities. Contractor mobilizations and analytical redundancies can be minimized. This approach also ensures that adjacent sites will not recontaminate a

nearby remediated site (van Hook et al., 2003).

The Department has recognized that requiring remediation to a single standard is not always practical and can prevent redevelopment of a property if the cleanup standards that must be met are overly protective for the intended end use. The BDA approach allows some flexibility in applying cleanup standards that are suitable for the reuse, which can also result in improved waste management practices. Rather than excavating and hauling all contaminated soil off site, non-hazardous contaminated soil can be segregated based on contaminant concentration, and may remain on site when placed under asphalt (roadways), concrete (parking lots), clean soil (open space), or structures to prevent an impact to human health or the environment. “Managing contaminated soil in this manner is far more feasible for larger, mixed-use projects than for smaller or solely residential projects” (van Hook et al., 2003).

One of the key tenets of the BDA approach is mandatory enhanced stakeholder involvement which allows those affected by the contamination to understand the remediation and risk, to express their opinion and participate in the remediation decision-making process and to decide the reuse of the site. Another key tenet of this approach is that it can result in overall neighborhood improvement that may not be available at a single site cleanup. “The property-by-property approach creates a strong imperative for individual property owners to maximize the commercial value of their individual property” (van Hook et al., 2003, p. 149). Since a third party is responsible for developing the reuse plan, they are far more likely to objectively combine greenfield,

commercial, industrial and housing uses within the BDA than an individual property owner (van Hook et al., 2003).

There are many benefits to approaching sites in a clustered manner. The first of which is that a single case manager is assigned to oversee all cases within the BDA, regardless of regulatory program. Traditionally, cases were assigned to different case managers in different regulatory programs without considering the proximity of the site to other sites and the impact they may have on each other (van Hook et al., 2003, p. 132). Having a single case manager that has been involved in the project from the planning stages allows continuity throughout the remediation process. “In spite of NJDEP’s very detailed and prescriptive remediation guidelines, a certain amount of subjectivity is inevitable when interpreting data and applying regulations and standards. A single BDA case manager ensures, to the extent possible, the consistent interpretation and application of regulatory requirements and standards” (van Hook et al., 2003, p. 133). A single case manager can also coordinate the timing of remedial steps and ensure that the work done is appropriate for the reuse plan. A single case manager works directly with the developer and community groups and this familiarity allows for trust to be earned over time (van Hook et al., 2003).

Due to resource constraints and policy, NJDEP enforcement actions have been fairly limited. “The BDA initiative recognizes that an adverse impact to community revitalization can be a perfectly valid basis for taking enforcement action” especially when considering that “one stalled property can bring the entire BDA project to a

standstill. The relationship amongst the properties within a BDA demands an appropriate and strategic use of available enforcement tools to bring each of the properties into compliance with the remediation and reuse schedule” (van Hook et al., 2003, p. 137).

Although NJDEP issued a Directive to Exide Battery, which acquired Gould Battery’s liability in a purchase agreement, their bankruptcy status may render their funds unavailable (K. Kloo personal communication, December 5, 2004). The City is currently in settlement negotiations with two remaining responsible parties, Ford Motor Company and Gould Electronics (J. Capasso, personal communication, December 3, 2004).

The City, together with Isles and the Northwest Community Improvement Association, identified four properties surrounding the Magic Marker site and incorporated them into what is now called the Monument/Magic Marker BDA. The other four properties were formerly industrial, but all were vacant with the exception of an operating dry cleaner at the western edge of the BDA. A redevelopment plan was created for the entire 14-acre BDA which included a mix of residential, commercial and open space uses (Strickland, 2002).

The Magic Marker portion of the BDA is proposed to be zoned residential, and remediation via excavation of contaminated soil is currently ongoing. The stockpiles of lead-contaminated soil are being staged on the proposed park section until such time as a soil disposal/reuse plan is finalized (K. Hahn, personal communication, December 3, 2004). Redevelopment is on schedule to begin in this section in July 2005 (J. Capasso,

personal communication, December 3, 2004). The site may be bifurcated, and when the residential section is remediated it may receive a No Further Action determination from the NJDEP before remediation is completed on the rest of the site (K. Hahn, personal communication, December 3, 2004).

A new Monument School and associated ballfields are planned for the southern section of the BDA. The existing Monument School is to be demolished because it no longer meets the needs of the community, and renovation is cost prohibitive. The area of the existing Monument School area is to become neighborhood retail stores. The residential section and the school are to be separated by a linear park to serve as open space for the community (K. Hahn, personal communication, December 3, 2004).

The proposal for the dry cleaner section is to include more residences; however, discharges from the dry cleaner have caused high solvent concentrations in ground water that will have to be addressed before structures can be built due to the potential for indoor vapor problems (K. Hahn, personal communication, December 3, 2004).

The BDA approach is multidisciplinary and clearly incorporates the three spheres of sustainable development. A BDA project has physical, economic and cultural impacts on neighborhoods through redevelopment of local retail centers, schools and residential dwellings. The key to its success is a multidisciplinary approach because no single program and no single agency has all the answers. In the Magic Marker case, agencies from the local level through the federal level, together with community groups and

responsible parties, all came together with the resources needed to move the project forward. Currently, the City has accumulated a \$900,000 fund for remediation from various government entities together with private money. Local support came in the form of sustained interest that did not fade, but gathered momentum by the continued evidence of progress.

The environmental integrity aspects of the project are addressed by the remediation itself and the waste management practices employed at the site. The preferred remedial method for the contaminated soil is *in situ* remediation and stabilization with engineering controls, rather than digging and hauling for off-site disposal. By placing contaminated soil in the areas that will be capped by parking areas and roads it eliminates the need to remediate all contaminated soils to the NJDEP's strict Residential Cleanup Criteria.

The social component is addressed by the mandatory enhanced stakeholder community involvement in the BDA approach, which requires community participation in remediation and redevelopment decision-making. The planning and development was performed using a neighborhood approach, changing the use from industrial to mixed-use with open space, attractive streetscapes and a community school component, all of which promote home ownership. BDA projects are chosen because they are important to the community. The project will only be successful if the impetus comes from the city or local community group. The community needs to be highly motivated and have a level of commitment to allow for continued momentum to bring the project to completion.

The economic aspect is addressed through returning the properties to the tax roles and by job creation through the proposed retail center and other commercial endeavors that encourage economic vitality. The BDA approach offers a sustainable vision for communities by offering a balance between ratables and open space.

In addition to the sustainable development aspect of the BDA approach to the site, the City of Trenton is incorporating other features of sustainability into the buildings themselves. The residences to be built will have a mandatory 'five-star' efficiency energy rating. The City is also encouraging, although not requiring, other 'green building' features such as brick and masonry exteriors that are more durable than vinyl siding, and hardwood flooring rather than carpet, which can have adverse health impacts on the residents (J. Capasso, personal communication, December 3, 2004).

The City of Trenton's Brownfield Coordinator is well educated as to the concepts and goals of sustainable development and tries to incorporate those ideals into the project whenever possible. However, the city is often met with resistance by the mindset of potential buyers (urban buyers want wall-to-wall carpet because that is what their suburban counterparts have) and fiscal constraints (the extra cost to 'green' the building is not borne by those who will benefit from the 'greening') (J. Capasso, personal communication, December 3, 2004).

When evaluating the project against the key tenets of sustainable development, the following conclusions can be reached. There clearly is an emphasis on future generations

(intergenerational equity). Some may argue that it is not fair to future generations to leave contaminated soil at the property even though the remedy is protective today by engineering controls. Some may argue that this remedial approach only focuses on the well being of the current residents, rather than making the sacrifices necessary today in the form of increased costs associated by removing all contaminated soil. However, if all contaminated soil had to be removed, there may be increased pressure to make commercially available all remediated property, making the designation of open space cost prohibitive. Also, the project redirects development to the city and away from areas of open space or farmland.

There also is an emphasis on social equity (intragenerational equity). This aspect is also a key tenet to the BDA approach in that enhanced stakeholder involvement is a mandatory component which allows the current residents (20 percent of which in the Trenton case fall below the poverty line) a voice in remediation decision-making, and more importantly a voice in the future reuse of the property. Social equity is improved for those living in the area of the BDA (frequently environmental justice neighborhoods) by providing opportunity and attracting development to areas which often times have a disproportionate number of unremediated sites.

The BDA approach encourages responsible stewardship of energy and materials. This is exemplified by careful, efficient and responsible waste management practices. Waste minimization is practiced by on-site deposition with engineering controls rather than off-site disposal. There are also economies of scale using the BDA approach by the

elimination of redundant research (energy), sampling (resources) and contractor mobilizations (energy). In this particular case, the City is considering long-term use and evaluating energy and environmental implications in their building design by requiring 'five-star' energy efficiency rating for the residences and encouraging other 'green building' features.

A recognition that humans are part of natural systems does play a role in the BDA approach because, in spite of the fact that the projects are located in highly developed and urban areas, all four BDA pilots have an open space or 'brownfield to greenfield' component.

It is clear in the BDA approach that policymaking and planning practices are not simply about the application of scientific expertise. These BDA projects are clearly not only about applying scientific technology to esoteric environmental problems. Government departments and agencies typically are not capable of entering into a public discussion about embracing concepts of human values, and instead revert to 'best available science.' However, to a certain extent, the BDA approach is multi-disciplinary and goes beyond applying scientific expertise to solve the problem. The BDA project has physical, economic and cultural impact on neighborhoods and attempts to provide residents in the area of multiple contaminated sites with social, economic and environmental features that would constitute what many would define as the 'good life'.

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