BROWNFIELD REDEVELOPMENT FOR EQUITABLE AND RESILIENT COMMUNITIES

A GUIDE FOR LOCAL GOVERNMENTS AND DEVELOPMENT PARTNERS

June 2024

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Preceding page image:
Madison Square Neighborhood before Carle at the Riverfront redevelopment, Danville, Illinois

FOREWORD

In Michigan, we are committed to winning projects, investing in people, and revitalizing places. After all, we each know firsthand how easy it is to love memorable places with character, fun things to do, and a foundation that's steeped in rich history. We understand that having walkable communities with historical architecture, mixed-use developments, activated public spaces, and arts and cultural amenities is where talented and innovative people want to live, and businesses want to grow, expand, and invest.

Michigan law defines brownfield sites broadly, and the state's economic development strategies include public investment in brownfield redevelopments where people find happiness and overall well-being. Recycling brownfield properties into extraordinary places that meet current and future needs is a core focus of Michigan's Brownfield Redevelopment Program.

Because vibrant communities are a critical factor driving local economic growth—paired with the need to make smart, strategic decisions with public investments—Michigan is constantly evolving its Brownfield Redevelopment Program. In 2023, Michigan's Brownfield Redevelopment Act was amended twice to expand housing development opportunities and large, mixed-use redevelopment projects.

The Michigan Economic Development Corporation (MEDC), with input from our partners at the Michigan Department of Environment, Great Lakes, and Energy (EGLE), is thrilled to support the development of this guide to highlight current and emerging issues in brownfield redevelopment and provide creative solutions to support brownfield redevelopment efforts around the country.

The Vault Hotel redevelopment, downtown Houghton, Michigan

MICHIGAN ECONOMIC DEVELOPMENT CORPORATION

MEDC's mission is to achieve long-term economic prosperity for Michiganders by investing in communities, enabling the growth of good jobs, and promoting Michigan's strong image worldwide. MEDC works with Michigan businesses and communities of all sizes to deliver the services and support they need to grow and succeed. With a network of more than 100 partners, MEDC propels Michigan to boldly drive the world forward.

Shepherdstown Library redevelopment on former landfill, Shepherdstown, West Virginia

INTRODUCTION

Even though the definition of a brownfield site is just a few decades old, the longer lens of history shows that redevelopment is a constantly occurring event in municipalities and communities. Today, brownfield redevelopment is a critical practice for community revitalization, involving identification and realization of economic, environmental, and social goals. These sites of former industrial or commercial activity are often in disrepair, not up to building code, and/or out of compliance with local zoning ordinances and modern design guidelines. In addition to direct site conditions, brownfields are often located in areas subject to general disinvestment, depressed property values, and below-market rents that can make redevelopment less attractive or financially viable than their greenfield counterparts. Given these many direct and contextual challenges, brownfield redevelopment often requires significant financial support, capacity building, and partnerships between community stakeholders, officials, developers, and planners.

Beyond these perpetual challenges to redevelopment, communities are contending with urgent concerns related to recovery from a global pandemic, a warming planet, and heightened attention to social and economic disparities. However, public and private stakeholders are modeling innovative practices, programs, and projects that support brownfield redevelopment and more resilient and equitable communities.

To assist local governments, developers, and other stakeholders, this guide is designed to:

- Provide an overview of the enduring and more recent challenges related to brownfields and their redevelopment.
- Highlight emerging and leading redevelopment practices that advance community resilience and equitable development.
- Help local leaders identify national, regional, state, and local technical assistance, tools, and resources available to support effective and sustainable redevelopment.

Sherman Park neighborhood redevelopment in process, Milwaukee, Wisconsin

CHALLENGES AND TRENDS IMPACTING REDEVELOPMENT

The more pervasive challenges of redeveloping former commercial and manufacturing sites are well documented. Determining a future use and market viability, engaging the local community, cleaning up contaminated soil and water, mitigating public and environmental health risks, deconstruction or rehabilitation of buildings and structures, and finding the right package of incentives and financing are common and often solvable challenges for brownfield sites. While it is rarely easy to redevelop a brownfield site, the larger ecosystem of expertise has grown and matured substantially since the 1990s.

Alongside these more familiar challenges and opportunities are emergent issues and trends impacting brownfield cleanup and redevelopment, including:

- The future of real estate strategies and commercial development approaches in a post-COVID economy.
- The growing need for affordable/attainable units to combat a middle housing shortage.
- The impacts of an ongoing energy transition designed to mitigate the impacts of a changing climate.
- Increased calls for environmental justice and economic mobility in traditionally underrepresented and underserved communities.
- Generational federal programs and investments focused on creating more livable, equitable, and resilient communities.

Studio 5 mixed-use infill redevelopment, Mankato, Minnesota

POST-COVID ECONOMIC RECOVERY

In addition to the public health challenges, the COVID pandemic has impacted economic activity, including real estate and redevelopment. Supply chain issues manifested by shortages of items ranging from toilet paper to building materials to automotive microchips caused prices to skyrocket as part of some larger short- or possibly longer-term transformations of economic activity. The pandemic also had a disproportionate impact on small businesses and entrepreneurs. Small businesses often lacked the capacity, capital, and reserves to weather the pandemic to the degree corporations did. Small businesses that reopened often did so with many months of lost revenue. The pandemic also brought new attention to the value of outdoor space for recreation as well commercial uses by restaurants, many of which pivoted to sidewalk café style seating.

Commercial real estate faces several challenges that may lead to long-term transformations. Teleworking became the norm during the pandemic for office jobs. Companies have been able to reduce overhead in rents, utilities, and internet costs by embracing remote work. Many companies have switched to a hybrid work environment of office time and teleworking, reducing their need for commercial office space. Tenants may also be looking for increased flexibility in lease terms, as well as technology or other upgrades to existing floorplans.

501-503 S. Capitol infill housing redevelopment of former credit union, downtown Lansing, Michigan

At the local level, these trends manifest as high levels of vacancies and potential for further blight in downtowns and commercial corridors with community-based businesses shuttering despite a desire to support local services and suppliers; changes in where people want to live, along with their commuting patterns; and shifts in demand for office space. Commercial office space has been a successful strategy for numerous award-winning brownfield redevelopment projects in many communities. What the future holds for the commercial real estate sector will impact how communities and developers approach their brownfield redevelopment strategies.

MIDDLE HOUSING SHORTAGE

Nationally, there is a shortage of housing affordable and attainable by households across the income spectrum. Harvard University's *2023 State of the Nation's Housing* reported that housing affordability for both renters and owners dropped markedly in the wake of the pandemic, erasing modest pre-pandemic gains. An increasing share of renter and owner households experienced housing cost burdens, where housing costs exceed 30 percent of household income. While cost burdens disproportionately impact lower income households, further limiting resources available to spend on other basic necessities simultaneously rising in cost, households with moderate incomes are feeling market

pressure as well. The purchasing power of homebuyers continues to decline with rising interest rates, with monthly payments on a median-priced home hovering around $3,000 in March 2023, up from $2,200 the year prior.[1]

States and localities have recognized a particular lack of "middle housing," typically medium-density residential uses, which usually fall somewhere between multifamily apartment complexes and single-family, detached residential uses. A renewed focus on middle-housing development can ease the problem of so many Americans being priced out of the housing market. Middle housing can offer a more affordable alternative to the larger lots and floor plans associated with the most popular 3-bedroom, 2-bath or higher. Middle housing accommodates community redevelopment efforts by increasing density on the periphery of the city center, promoting walkability while supporting the local economy with additional prospective employees and demand for goods and services. Medium-density housing allows young professionals to transition from loft or one-bedroom apartments without being forced to commute from the suburbs when they need additional space. Likewise, medium-density housing provides opportunities for seniors to transition to low-maintenance dwelling while maintaining their independence.

Brownfield sites can be good locations for missing middle housing, offering opportunities to layer financing (such as Low Income Housing Tax Credits) and right-size uses and infrastructure to modern demand and standards. Downtowns grappling with a changing commercial landscape can find opportunities for mixed-use, infill redevelopment that includes middle housing options. In Michigan's capital city, state and local brownfields incentives made it financially possible to redevelop a former financial office building and surrounding infrastructure into more than 170 affordable and attainable housing units (i.e., rents targeted at 60 to 100 percent of Area Median Income), filling a market gap while bringing increased vitality to the downtown.

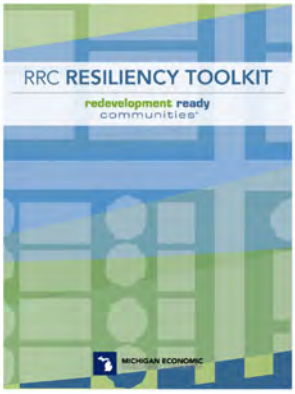
ENERGY TRANSITIONS AND CLIMATE RESILIENCY

Worldwide, there is an ongoing transition to renewable energy sources, driven by concerns about a changing global climate and supported by an array of incentives and new technologies. While energy for electricity is still dominated by centralized fossil fuel power plants and power transmission lines to the home, solar and wind are increasingly a part of the overall mix. Rooftop solar systems with battery storage and other home or building-based systems offer customers the chance to decouple from a larger grid. The rapid emergence of electric vehicles is quickly changing the transportation marketplace as traditional manufacturers and emerging companies are rolling out vehicles of all sizes that are more often hybrid or fully electric.

[1] "State of the Nation's Housing 2023," Joint Center for Housing Studies at Harvard University, https://www.jchs.harvard.edu/state-nations-housing-2023.

Featured Resource: RRC Resiliency Toolkit

This toolkit, produced by the MEDC's Redevelopment Ready Communities program, is grounded in strategies to minimize the negative economic impacts of and ease recovery from a wide spectrum of shocks and stresses, from natural to human-made to systemic.



See page 39 for more on this resource.

Redevelopment of former coal-fired power plant to offshore wind manufacturing at Brayton Point Commerce Center, Somerset, Massachusetts.

Concerns about a changing climate and the local impacts that may result have led many communities to start addressing possible ramifications in long-term planning. In 2008, Chicago is believed to have been the first American city to adopt a climate action plan. Since that time, many other communities and other governmental entities have adopted climate change, resiliency, and related plans or strategies.

The State of Michigan's MI Healthy Climate Plan, adopted in 2022, acknowledges several recent examples within the state and across the country of the "real and costly impacts" of climate-induced weather events on households, businesses, and communities—widespread, extended power outages during times of extreme heat and cold; periods of intense rain overwhelming aged infrastructure systems; and record-setting rates of wildfires in areas plagued by prolonged drought. The plan outlines intersectional objectives to mitigate further impacts on climate change, protect and improve the health of the state's residents and environment, and importantly, foster local economic development opportunities in the process.[2] Investments in brownfield redevelopment supports the MI Healthy Climate Plan goal of protecting 30% of Michigan's land and water by 2030 to naturally capture greenhouse gas emissions, by supporting redevelopment rather than greenfield development.

The role of brownfield redevelopment in a local or regional resiliency strategy will vary from place to place. However, redevelopment strategies incorporating greenfield preservation, renewable energy, and green infrastructure can add to a community's overall resiliency.

[2] "MI Healthy Climate Plan," Michigan Department of Environment, Great Lakes, and Energy, https://www.michigan.gov/egle/about/organization/climate-and-energy/mi-healthy-climate-plan.

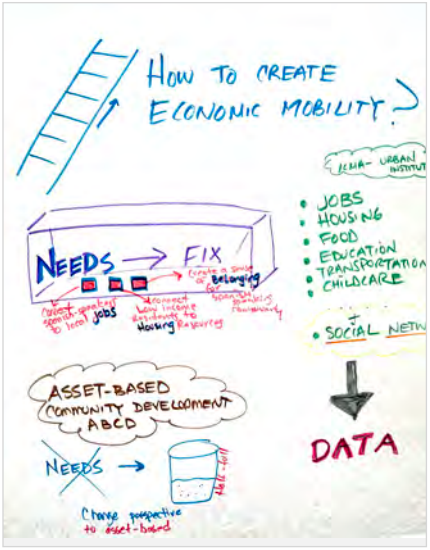
ENVIRONMENTAL JUSTICE AND ECONOMIC MOBILITY

Calls for environmental and energy justice have long been a part of brownfield cleanup and redevelopment conversations. The 1987 publication of *Toxic Wastes and Race*[3] helped propel the movement forward. Since that time, environmental justice—defined by the U.S. Environmental Protection Agency as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies—has been a central conversation and concern for communities that seek to cleanup and reuse brownfield sites.

In a larger context, while the concept of social equity has also been embraced by the field of public administration for decades, the compounding crises of the last several years have exposed the consequences of and need to address persistent inequities in communities. Racial and ethnic minorities, households living in poverty, and other demographic groups entered the pandemic at a disadvantage in terms of their economic mobility and in terms of access to resources required to adapt to living in a pandemic.

Economic mobility is the ability of individuals and households to learn, grow, and get ahead; to move up the economic ladder over time through access to opportunity and generational wealth creation. As defined by the U.S. Partnership on Mobility from Poverty, it is about financial success as well as a sense of power and autonomy over the direction of one's own life and a sense of belonging to a community.[4]

Public and private stakeholders have increasingly acknowledged a need for intentional strategies to address systemic barriers to economic mobility for all residents. Incorporating environmental justice and economic mobility into brownfield cleanup and redevelopment strategies involves consideration of the economic, social, and environmental disparities that may exist within communities. In the context of brownfield redevelopment, incorporating economic mobility might mean including initiatives that create opportunities for individuals and communities to enhance their economic standing through workforce development and entrepreneurship; increased access to safe, stable, affordable housing; as well as diversity and inclusion in contracts and contracting practices.



Notes from economic mobility visioning exercise by staff of Morgan Hill, California

[3] Lee, Charles, "Toxic Wastes and Race in the United States," United Church of Christ Commission for Racial Justice, https://www.ucc.org/wp-content/uploads/2020/12/ToxicWastesRace.pdf.

[4] David T. Ellwood and Nisha G. Patel, "Restoring the American Dream," U.S. Partnership on Mobility from Poverty, https://www.mobilitypartnership.org/restoring-american-dream.

Lead pipe replacement, Pittsburgh, Pennsylvania

FEDERAL FUNDING

Massive new federal government investments have been created through various legislative actions since 2020. The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was a $2.2 trillion stimulus package that was followed up by the American Rescue Plan Act (ARPA), a similarly sized $1.9 trillion piece of legislation. The Infrastructure Investment and Jobs Act (IIJA), more commonly referred to as the "Bipartisan Infrastructure Law" (BIL), authorized $1.2 trillion in spending on transportation, energy, broadband, water, and other needs including brownfields. The act increased the amount of funding available for existing EPA brownfield programs to $1.5 billion or $300 million per year for the 2022-2027 period. The Inflation Reduction Act includes nearly $400 billion for energy-and climate-change-related tax incentives, as well as investment programs including a Greenhouse Gas Reduction Fund.

The challenge for many communities is how to tap into this funding and leverage it for their benefit. Under the banner of fostering thriving communities, numerous new technical assistance centers have been funded by the U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Department of Housing and Urban Development, as well as other organizations to help communities, particularly those that have not traditionally received federal dollars.[5]

[5] "Need Help? Thriving Communities Technical Assistance Centers," *PM Magazine*, July 2023, https://icma.org/articles/pm-magazine/insights-need-help-technical-assistance-thriving-communities?_zs=hnJal1&_zl=sn769.

Downtown commercial redevelopment in process, Negaunee, Michigan

EMERGING STRATEGIES FOR EQUITABLE AND RESILIENT REDEVELOPMENT

In the face of these intersectional challenges and opportunities, public and private stakeholders are modeling innovative practices, programs, and projects that support brownfield redevelopment and more resilient and equitable communities. This section highlights example efforts and provides references to further information.

INCREMENTAL DEVELOPMENT

Fifty years since E. F. Schumacher published *Small Is Beautiful*, a growing cadre of planning and real estate professionals have more recently posited that redeveloping places with smaller-scale projects and with homegrown developer talent is a path to more enduring and community-supported revitalization. As described by the Incremental Development Alliance, early organizers of this movement, the approach involves "a more generative real estate model, where local people can invest in their own neighborhoods and in that process, create new life and value that benefits their community." This means scoping opportunities to build (or retrofit) small-scale projects desired by the residents of a place and building capacity of local people to develop these projects (more on the latter in the "Emerging Developers" section that follows).

While not exclusively focused on brownfields, principles of the model are worth considering given the ability to address such timely issues as combating gentrification; retrofitting downtowns and neighborhoods in a post-COVID economy; supporting middle housing development; and encouraging entrepreneurship, particularly among people of color and other under-represented demographics. Local governments have an opportunity to lead here by reviewing and revising their zoning and development processes to enable advantages of incremental development.

Scaling. The scale of abandoned, neglected, and potentially contaminated sites can be a major deterrent to public and private redevelopment interests. The complexity and intensive capital requirements involved in a total overhaul of a brownfield—particularly, but not exclusively, a larger one—may be so overwhelming that it leads to inaction for years or even decades. Even in the best-case scenario, a larger developer may be willing to tackle the project, contingent on a more rigid plan focused on precise cost calculations with less tolerance for feedback, innovation, and risk adaptation. And large-scale developments often align with tenants that are national brands based on their previous projects and network, and to bolster their portfolio. These large-scale developers may leave little room for the small business entrepreneur. Breaking a larger brownfield site into multiple incremental projects allows for greater flexibility, diversity in use and design, and importantly, enables economies of scale.

Local projects for local people. Incrementally scaled projects can provide greater alignment with local needs, such as addressing missing middle housing. These types of redevelopments can be thoughtfully planned for and by local people, ensuring that the end product is appropriate and attainable for those in the community rather than perpetuate displacement. With less intensive capital requirements due to scale and the ability to leverage existing infrastructure, incremental development reduces barriers to entry for local small businesses and entrepreneurs, improving local economic mobility and greater circulation of capital within the local economy versus a corporate development. Tackling community redevelopment in phases also enables easier accommodation of changes in market conditions.

Creating and sustaining redevelopment momentum. Incremental development can deliver results to the community faster, demonstrating success and creating momentum for further redevelopment. Developers, the public sector, and community see benefits at a greater velocity than with one large project. Development partners achieve cost-benefits sooner, allowing for re-capitalization in the current project or in future endeavors. Phased incremental projects can also be designed to develop complementary uses—residents patronizing local services and businesses, which also employ residents, etc.—which lead to regenerative local economic impacts over time.

INCREMENTAL DEVELOPMENT

Hudson Center

Hudsonville, Michigan

Hudsonville, a small suburb of approximately 7,000 residents outside Grand Rapids, aimed to redevelop its downtown after decades without any new development. Along with adopting a 2030-focused master plan in 2015, it underwent the process to become certified as "Redevelopment Ready" by the MEDC. Completed in 2019, the Hudson Center project catalyzed the realization of the city's vision and involved the rehabilitation of an existing building along with the construction of a new three-story, mixed-use building containing 8,400 square feet of ground floor retail/restaurant space, 8,400 square feet of office space on the second floor, and nine market-rate residential apartments on the third floor. The Hudsonville Downtown Development Authority invested $150,000 of tax increment financing, and MEDC committed gap financing of $686,645 through its Community Revitalization Program. These public dollars leveraged an additional $4.2 million in private investment and the project created 27 new jobs for the community.

Completed Hudson Center redevelopment, Hudsonville, Michigan

INCREMENTAL DEVELOPMENT

The Creamery

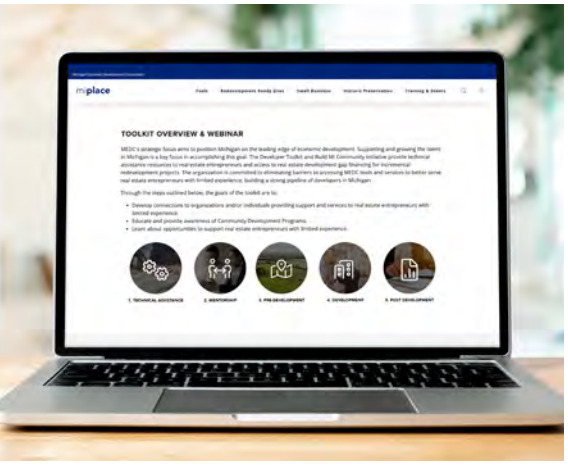
Kalamazoo, Michigan

The Kalamazoo County Land Bank acquired the 1.3-acre former site of the Klover Gold Creamery Co. in 2010, which had become an eyesore and safety hazard for residents—particularly children—of the Edison Neighborhood. The Land Bank worked with residents and other partners to develop a vision for redeveloping the site to improve and serve the neighborhood without creating gentrification. That vision grew into a plan and eventually a reality with the engagement of additional partners and nine different funding sources, ranging from Low-Income Housing Tax Credits to multiple state incentives to a Payment in Lieu of Taxes agreement with the city. Completed in March 2021 by the Hollander Development Corporation, The Creamery is a three-story, 60,000-square-foot mixed-use, mixed-income brownfield redevelopment. It added 48 new housing units, including 15 restricted to households earning 30 percent or below Area Median Income, with the rest designated as either low income (at or below 80 percent AMI) or workforce/middle housing. The building also includes a 24-hour YMCA childcare center, rooftop terrace, a fitness room, indoor bicycle storage, and a community room.[6]

Former Klover Gold Creamery site, pre-redevelopment, Kalamazoo, Michigan

The Creamery mixed-use redevelopment, Kalamazoo, Michigan

[6] Al Jones, "New Creamery apartments in Kalamazoo's Edison Neighborhood shows the issues of affordable housing," Southwest Michigan Second Wave, March 11, 2021, https://www.secondwavemedia.com/southwest-michigan/features/New-Creamery-apartments-in-Kalamazoo-s-Edison-Neighborhood-highlight-issues-of-affordab-031121.aspx.



MEDC's Developer Toolkit provides online, open-access guidance.

EMERGING DEVELOPER INITIATIVES

Recognition of the heightened barriers to entry faced by people of color, women, small-scale and/or other demographics outside the typical real estate or commercial developer profile has given rise to an array of capacity-building initiatives across the country. These "emerging developer" programs typically provide a combination of tools and resources, coaching and training, networking, and/or direct access to capital. Alone or in conjunction with approaches like incremental development described above, these strategies can be leveraged to redevelop places while keeping wealth in the community and fostering career pathways for historically underserved populations.

Consolidated tools and resources. The MEDC's Developer Toolkit[7] provides a one-stop shop of online, open-access guidance especially for those newer to real estate development. It emphasizes important steps to take even prior to pre-development, such as accessing training or technical assistance via embedded webinar recordings; or training or assistance provided by community partners; or finding a mentor; or engaging with local or state professional networks. While many of the partners and programs referenced are Michigan-based, much of the guidance is generally applicable to real estate development if a complementary resource is not available for your state. Local governments can also consider emulating this approach on their own websites by consolidating links to similar resources and annotating lists with plain language narration on navigating the process.

Targeted training and networking. Open-access, self-paced learning opportunities may be convenient for or preferred by some adult learners. But more targeted, cohort-based training programs can focus support on specific demographics and redevelopment locations and provide the added benefit of fostering social and professional connections. Building Community Value (BCV)[8] is one such example based in Detroit. Its Better Buildings, Better Blocks program is a low-cost training program—subsidized primarily by national and regional foundations—for residents of Detroit and the cities of Hamtramck and Highland Park. Participants selected for each cohort receive in-person training on the basics of identification, acquisition, financing, leasing, and project management for small-scale residential and commercial development projects. They also benefit from networking and enrichment experiences with program alumni and partners, and potential seed funding for their projects following completion of the program.

Scaling developer capacity. While BCV's program tends to focus on those with limited or no experience in small-scale development, complementary initiatives exist that can help expand emerging developers' capacity to pursue and access capital for additional and

[7] "Resources for Developers," Michigan Economic Development Corporation, https://www.miplace.org/developers.

[8] Building Community Value Detroit, https://www.bcvdetroit.org.

potentially larger projects. The Detroit Equitable Development Initiative (EDI)[9], offered by the national Community Development Financial Institution (CDFI) Capital Impact Partners, recognizes that sustainably growing and diversifying the pipeline of developers to better reflect the diversity of Detroit's residents requires a holistic approach. In addition to helping its participants apply for and acquire financing, EDI provides more intensive training and mentorship to bolster capacity for success. Participation is limited to racial and ethnic minority residents of Detroit with some demonstrated development experience. Capital Impact Partners replicates their program in other regions (i.e., the California Bay Area and Washington, D.C.), but similar examples supported by other national and regional intermediaries, CDFIs, public agencies, and/or private sources can be found across the country.

Dedicated funding. Funders have acknowledged the gap in capital access faced by prospective small-scale entrepreneurs, especially women and BIPOC (Black, Indigenous, People of Color) residents. As they join the growing cadre of motivated and competent developers, these historically disadvantaged populations now have access to an array of targeted programs and funds to capitalize their projects. Major private enterprises such as Amazon, Bank of America, and Wells Fargo have forged partnerships with CDFIs, intermediaries, and public agencies to support emerging developers in addressing affordable housing challenges in their communities across the United States. In Michigan, the Ebiara Fund[10] launched in 2022 as a more localized collaboration of nonprofit (Invest Detroit), consulting (URGE Imprint), and philanthropic (Kresge Foundation) expertise and resources. Its primary aim is to support Black and Brown developers through low-cost loans that increase operating capacity and build the transaction pipeline to acquire and develop Detroit projects.

Building Community Value (BCV) and Doing Development Differently in Metro Detroit partnered with a team from the University of Michigan to create this toolkit as a general resource on equitable development, and to advance plans for a BCV-owned site in the Corktown neighborhood of Detroit.

CREATIVE PLACEMAKING

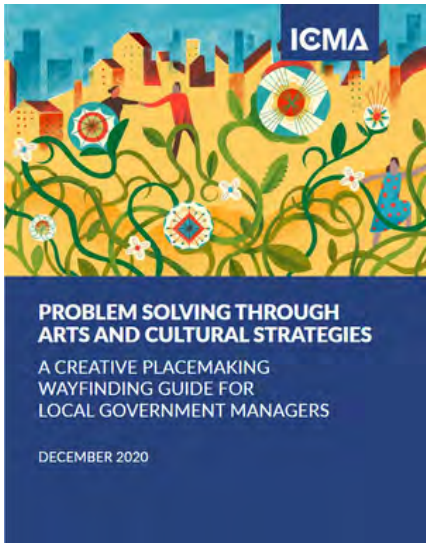
Creative placemaking is an approach for community development that integrates arts, culture, and creativity into the process of community-driven problem solving. By leveraging artistic and cultural activities, as well as a sense of personal connection to a place, creative placemaking approaches can be applied to transform public spaces, neighborhoods, and communities.

The concepts of placemaking and creative placemaking have been a part of redevelopment conversations for decades, and a cursory search will turn up many examples of projects exemplifying community beautification or economic development through arts and culture. These may indeed return net benefits to a community, and as planning for a

[9] Equitable Development Initiative, Capital Impact Partners, https://www.capitalimpact.org/programs/equitable-development-initiative/.

[10] Ebiara: A Fund for Detroit's Black and Brown Developers, https://www.ebiara.com.

site begins, it is worth considering how to leverage arts, culture, and creativity in the design and development of a site. This may be done through public art installations; interim uses such as pop-up markets, performance space, or cultural landmarks; or development of permanent spaces for artists, artisans, creative entrepreneurs, and nonprofit or educational entities devoted to arts and local culture. A community likely has numerous cultural assets that may or may not have been assessed or engaged in development activities. Potential assets can include local artists and performers, cultural institutions, historic landmarks, and such creative industries as small-scale artisans.



But as noted in the ICMA guidebook, *Problem Solving Through Arts and Cultural Strategies*, "Creative placemaking is more than public murals, festivals, bistro chairs, and string lights."[11] Thought of more as a process than an output, creative placemaking strategies can offer new ways of working through persistent challenges and opportunities to center equity in development. Instead of avoiding or downplaying the challenges presented by a brownfield site, arts-based processes can help acknowledge and build support for addressing them. Art-making processes can also provide more engaging, inclusive, and productive means for bringing a wider range of community stakeholders together to collectively define a shared redevelopment vision, rather than react to something that has already been pre-ordained by a group of insiders. These processes can help bring to light unintended consequences or other types of less-tangible benefits that traditional engagement and development processes may have overlooked, ultimately mitigating threats of gentrification, and leading to projects that strengthen the full community's identity and social fabric.

Creativity and personal connections to place can also be leveraged in financing redevelopment. Michigan's innovative Public Spaces Community Places (PSCP) program, designed by MEDC in partnership with the Michigan Municipal League, uses the Patronicity crowdfunding platform to generate donations for local projects to create or revitalize public spaces. Projects reaching their target crowdfunding threshold are eligible for a 1:1 match from the state of up to $50,000.[12] For a decade, PSCP has directly empowered Michigan communities to identify and invest in meaningful improvements and inspired similar efforts in other localities and states.

[11] Laura Goddeeris and Lindsay Jacques, Problem Solving Through Arts and Cultural Strategies: A Creating Placemaking Wayfinding Guide for Local Government Managers, 2020, https://icma.org/creative-placemaking.

[12] "Public Spaces Community Places," https://www.miplace.org/programs/public-spaces-community-places/.

CREATIVE PLACEMAKING

The First Americans Museum

Oklahoma City, Oklahoma

The museum project, which won a coveted Phoenix Award at the 2022 National Brownfields Training Conference, is an excellent example of creative placemaking and multi-sector partnerships. The land on which the museum sits was once a productive Oklahoma City Oil Field, where at peak capacity in the 1930s, 56 wells were operating on the two-hundred-acre site. Planning for the museum began as far back as the 1990s, however planning and remediation on the site began in 2011. The 175,000-square-foot facility showcases native American history, art, and culture from the 39 first nation peoples that are tied to Oklahoma.[13]

First Americans Museum, Oklahoma City, Oklahoma

CREATIVE PLACEMAKING

City Hall Artspace Lofts

Dearborn, Michigan

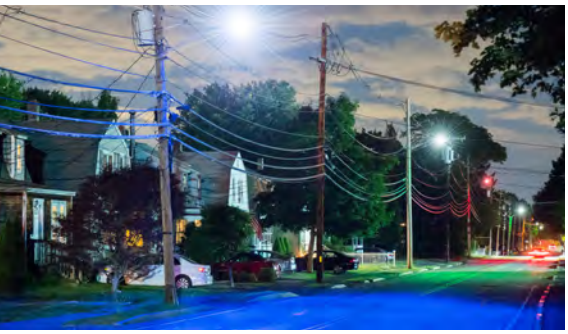
In Dearborn, a suburb of roughly 108,000 just outside Detroit, nonprofit developer Artspace converted historic buildings into a mixed-use park specifically for the Dearborn arts community. Working with the city and community stakeholders, Artspace rehabilitated the historic Dearborn City Hall, former police station, and surrounding area into 53 affordable live-work units for artists. The development also includes several galleries and over 19,000 square feet of commercial area for non-resident artists and arts organizations, as well as live-work space for the Arab American National Museum's artist residency program and space dedicated to housing the local high school's public art project, "Pockets of Perception." Residents from all over Dearborn visit the park for community events like its summertime jazz festival and holiday open studios. This $15.8 million project included a $1,000,000 investment from MEDC's Community Revitalization Program, $7,921,010 in Federal Low Income Housing Tax Credits, and $2,464,335 in Federal Historic Tax Credits. These funds were supplemented by $800,000 in local investments and $3,459,296 in philanthropic investments.[14]

Former City Hall included in Artspace mixed-use redevelopment, Dearborn, Michigan

[13] Madeline Dillner, "First Americans Museum," https://storymaps.arcgis.com/stories/47d9b1163c1e470396116ecb5c688574.

[14] City Hall Artspace Lofts," Michigan Economic Development Corporation, https://www.miplace.org/4a737f/globalassets/documents/project-profile-pdfs/city_hall_artspace_dearborn.pdf.

Ashland Memorial Healing Garden, Ashland, Massachusetts



Colored streetlights installation, Ashland, Massachusetts

CREATIVE PLACEMAKING

Ashland-Nyanza Project

Ashland, Massachusetts

Years of corporate dumping in the 1970s left Ashland, Massachusetts, with an EPA-designated Superfund site and a perpetual redevelopment challenge. Despite initial cleanup efforts, a 2006 study revealed that the spike in rare cancers in town was connected to the contamination that continued to directly threaten the population and, by extension, their trust in local government. Local artist Dan Borelli convinced the town to partner on a series of art installations—including colored streetlights meant to symbolize buried contaminants and a healing garden—and the use of storytelling that raised public awareness and helped the community unite around overcoming its collective trauma. These efforts mobilized enough support for the town government to purchase 180 acres of contaminated land to protect it against further development unless and until fully remediated. In the meantime, the site offers parkland, trails, and educational components through healing garden maintenance.[15]

GREEN INFRASTRUCTURE AND RESILIENCY

Brownfield redevelopment has always involved environmental improvement, but leading practices take steps to account for impacts of a changing climate and consider the larger role a site's redevelopment can play in longer-term community and regional resilience. By integrating climate resiliency into brownfield redevelopment approaches, communities can simultaneously address environmental contamination, revitalize abandoned spaces, and build sustainable, adaptive, and resilient neighborhoods that can withstand the challenges of a warming planet. While key examples are highlighted below, the U.S. EPA's Climate Smart Brownfields Manual is a useful comprehensive resource on embedding resiliency into brownfield revitalization.[16]

Site Assessment and Planning. Conducting a comprehensive climate risk assessment can help identify current and future vulnerabilities and determine appropriate adaptation measures. This assessment might consider such factors as flood zones, sea-level rise projections, extreme weather patterns, and other climate-related risks. In addition to quantitative and technical data sources, planning and assessment

[15] Lindsay Jacques and Michael Herbert, "Difficult Conversations Lead to Stronger Communities," *PM Magazine*, May 2021, https://icma.org/articles/pm-magazine/difficult-conversations-lead-stronger-communities.

[16] *Climate Smart Brownfields Manual*, U.S. Environmental Protection Agency, 2021, https://www.epa.gov/land-revitalization/climate-smart-brownfields-manual.

can involve engagement of local stakeholders, particularly those most vulnerable to climate-related threats. This information can inform the planning process and guide the design of climate-resilient infrastructure and land use strategies. Local governments can support these efforts by embedding climate adaptation and mitigation strategies into their zoning ordinances and land use regulations, comprehensive and targeted plans, and incentive strategies.

Green Infrastructure. Green infrastructure describes interconnected natural landscapes that are placed with intention to manage stormwater and return an array of additional direct and indirect benefits to communities. Incorporating green infrastructure elements such as permeable pavements, rain gardens, bioswales, and green roofs into a brownfield redevelopment plan can help manage stormwater runoff, reduce flood risk, and mitigate urban heat island effects. Implementing such features can enhance water management, improve air quality, provide urban cooling, and contribute to overall climate resilience. Green infrastructure-oriented redevelopment strategies that incorporate native vegetation, restore wetlands, and preserve or expand other natural spaces can also enhance biodiversity, provide habitats for wildlife, and protect ecosystems.[17]

Renewable Energy. Consideration of renewable energy sources can play a significant role in a brownfield redevelopment approach. Incorporating solar panels, wind turbines, or other clean energy systems can reduce greenhouse gas emissions and contribute to the local renewable energy supply. EPA has long supported efforts to assess the renewable energy potential of existing brownfield sites, including capped landfills and other land that may be surplus for which other uses may not be feasible. Local jurisdictions can further encourage renewable energy infrastructure expansion, including on brownfield sites, through updated zoning and incentive policies.

Greener Demolition and Cleanup. In the process of realizing the desired redevelopment vision, the critical steps of brownfields demolition and cleanup also present opportunities to consider resource efficiency. Deconstruction and demolition processes can look for ways to reduce use of fossil-fuel burning equipment and aim to reuse or recycle as many deconstructed materials as possible. Best management practices for cleanup also include, but are not limited to, using cleaner/renewable fuels and limiting the use of potable water. In some circumstances, remediation can occur through natural system technologies such as the use of compost or plant materials.

Green infrastructure redevelopment, downtown Trenton, New Jersey

[17] David Rouse, Steve Wray, Melissa Wright, and John LaVaccare, Financing Green Infrastructure, 2022, https://icma.org/page/green-infrastructure-financing.

Cramer Hill Waterfront Park redevelopment, Camden, New Jersey

GREEN INFRASTRUCTURE AND RESILIENCY

Cramer Hill Waterfront Park

Camden, New Jersey

What was once a municipal landfill along the banks of the Cooper and Delaware rivers, is now a waterfront park. The Harrison Avenue Landfill operated from 1952 to 1971 and, because it was never officially closed, illegal dumping and soil erosion caused pesticides and other contaminants to seep into both rivers. Using state funding and natural resource damage settlement money from the polluters, the New Jersey Department of Environmental Protection (NJDEP) moved and capped the landfill and created the Cramer Hill Waterfront Park. The landfill cap doubles as a raised concrete overlook where visitors can see the city, the river, and the park. In addition to closing the landfill, NJDEP also created 62 acres of shoreline protection, natural resource restoration, and park construction. NJDEP created seven acres of tidal freshwater wetlands and planted 375,000 shrubs and trees to restore the habitat. Since its opening in November 2021, the park allows the community access to the Cooper and Delaware waterfronts with kayaking, a playground, a picnic area, an amphitheater, exercise stations, a fishing plaza, three miles of hiking/biking paths, and a sensory garden.[18]

Annapolis Renewable Energy Park redevelopment, Annapolis, Maryland

GREEN INFRASTRUCTURE AND RESILIENCY

Annapolis Renewable Energy Park

Annapolis, Maryland

Sitting atop a closed and capped municipal landfill, the Annapolis Renewable Energy Park features 52,000 solar panels, generating 12 megawatts of electricity on more than 70 acres. The capped landfill creates additional height for the solar panels to be above the trees, while it also creates a flat surface where the solar panels sit. The city of Annapolis earns $15,000/year per MW of power capacity, plus an additional $10,000 per year for the lease of the land to the solar developer, with a 2% escalation inflation rate. The developer, BQ Energy, sells solar power and renewable energy certificates, while earning federal energy credits for the project. It is one of the largest brownfield to brightfield projects on a closed landfill in the United States. The primary customers of electricity include the city of Annapolis, Anne Arundel County, and the local school system.[19]

[18] "Cramer Hill Waterfront Park," State of New Jersey Office of Natural Resource Restoration, https://www.nj.gov/dep/nrr/cramer-hill.htm.

[19] "Solar Facility Siting Case Study: City of Annapolis Landfill in Anne Arundel County," State of Maryland Department of Planning, https://planning.maryland.gov/Pages/OurWork/envr-planning/solar-siting/solar-siting-case-annapolis-anne.aspx.

GREEN INFRASTRUCTURE AND RESILIENCY

Scissortail Park

Oklahoma City, Oklahoma

The Scissortail Park in downtown Oklahoma City is a 70-acre public space complete with a lake and paddleboats, playground equipment for the kids, and an event stage able to host top-tier performances. Before the city's vision made it a reality, however, this area of downtown Oklahoma City was considered blighted by the Oklahoma Oil Field and industry that moved in after. Oklahoma City was able to effectively utilize a combination of federal grant money along with local taxes, including a penny sales tax to support quality of life investments, to cleanup and construct the initial 40-acre park. Contaminants at the park included petroleum from underground storage tanks, as well as lead and other volatile and semi-volatile organic compounds, all of which were primarily remediated by the soil removal from park construction. The city worked with the Department of Environmental Quality to create site-specific cleanup levels in an area of the park that was not covered by more than two feet of clean material. In addition to the soil removal, the lake was created with an impervious liner to eliminate the mixing of contaminated water found in the downtown area with the surface lake where visitors can paddleboard. Upper Scissortail Park was opened to the public on September 27, 2019, with a short ceremony, including the current and former mayors who worked on the project, followed by a live concert by Kings of Leon. The Lower Park, connected by the Skydance Bridge, opened three years later.[20]

Scissortail Park redevelopment, Oklahoma City, Oklahoma

GREEN INFRASTRUCTURE AND RESILIENCY

Mitchell Bentley Solar Garden

Cadillac, Michigan

Originally owned by the Cadillac Handling Company, this property was used to create manufactured wood products for boats. In 1971, the property was bought by Mitchell Bentley Corporation and used to make automobile parts. After the Mitchell Corporation filed for bankruptcy in 2010, the city took ownership of the property. In October of 2013, a devastating fire burned down most of the building, leaving 5,000 tons of burnt asbestos debris and harmful compounds in the soil. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) utilized $950,000 in brownfield redevelopment grant funding and a $300,000 loan to remove the burned debris and test the soil. Consumers Energy purchased the property and recycled much of the concrete and steel to create a 2.77-acre community-based solar garden. This solar garden is Consumers Energy's first brownfield to brightfield project and generates ½ MW of electricity.

Mitchell Bentley Solar Garden redevelopment, Cadillac, Michigan

[20] "About Scissortail Park," https://scissortailpark.org/about-scissortail-park/.

Detroit River International Wildlife Refuge Gateway boat dock, Trenton, Michigan

GREEN INFRASTRUCTURE AND RESILIENCY

Detroit River International Wildlife Refuge

Trenton, Michigan

Located on a former Chrysler facility that closed in 1990, the Detroit River International Wildlife Refuge is the only international refuge in North America. The Chrysler plant manufactured brake pads, paint sealers, adhesives, and some asbestos parts. Growing concern for the health of Lake Erie reached an all-time high in the 1960s due to oil pollution killing thousands of ducks and geese. This growing concern worsened with the mercury crises in the 1970s, which led to public outcry and the Clean Water Act in 1972. In 1990, using an EPA Brownfields Revolving Loan Fund grant, the Downriver Community Conference removed the above ground structures and capped the contaminants. As environmentalism spread internationally, the Canadian Deputy Prime Minister worked with members of the U.S. Congress to create a plan for an International Wildlife Refuge to recover the health of the Great Lakes. In 2001, the Detroit International Wildlife Refuge was created. Encompassing 48 acres along the Detroit River and western parts of Lake Erie, the refuge includes a variety of natural features including islands, wetlands, marshes, and more. In addition to cultural amenities, like the LEED-Gold certified visitors' center, playground, and fishing pier, the refuge is now a way station for migratory birds with more than 300 species identified since the park opened.

ADAPTIVE REUSE

Changes in economic activity and demand and usage of commercial and retail spaces have often required adaptation in how land and buildings are used and repurposed. Trends towards hybrid workplaces and online shopping and entertainment accelerated during the pandemic and appear likely to stick as elements of the next normal. Potential strategies to accommodate these shifts may include adaptively reusing or converting underutilized office spaces into residential units, repurposing retail space for warehousing or fulfilment, and transforming shopping malls into mixed-use developments.

As part of a community's brownfield redevelopment approach, adaptive reuse offers numerous benefits that can contribute to the overall revitalization and sustainability of the area. Repurposing existing structures instead of constructing new ones on undeveloped land can help to conserve natural resources, preserve green spaces, and protect ecologically sensitive areas. By adaptively reusing brownfield sites, communities can avoid the environmental impact associated with demolishing old structures and the need for additional infrastructure development.

Historic preservation. Adaptive reuse allows for the preservation of historic buildings and structures that contribute to the cultural identity and heritage of a community. By repurposing and restoring historic sites,

communities can retain their unique character and architectural legacy, enhancing the overall sense of place. Preserving historical buildings can also promote tourism and stimulate cultural and educational opportunities.

Infrastructure utilization. Adaptive reuse leverages existing infrastructure, such as transportation networks, utility systems, and public services. This reduces the need for costly new investments and optimizes the use of resources. By repurposing brownfield sites, communities can take advantage of well-connected locations with access to amenities, public transportation, and other services, contributing to a more efficient and sustainable urban environment.

Adaptive reuse projects often require innovative and creative approaches to transform existing structures into new functional spaces. They can lead to creativity and become examples for other efforts within the community, as well as an inspiration to others seeking to repurpose their brownfield sites.

ADAPTIVE REUSE

Keweenaw Cooperative

Hancock, Michigan

Originally a copper mining town and the state's northernmost city located near the tip of Michigan's Upper Peninsula, Hancock is the year-round home to 4,300 residents. The Keweenaw Cooperative project is a public-private partnership to redevelop a vacant car dealership and relocate/expand the Keweenaw Co-Op Grocery store to expand employment opportunities and access to fresh, healthy food options. The project will include a 4,728-square-foot addition to the 9,694-square-foot building on the 1.27-acre downtown site, allowing space for a full deli, indoor and outdoor seating, fresh produce, meat, dairy, frozen foods, and packaged groceries. The project is expected to generate a total capital investment of $7.6 million, create 11 full-time equivalent jobs, and retain 28 jobs, supported by a $1.4 million Michigan Community Revitalization Program performance-based grant. The city of Hancock is supporting the project with two Downtown Development Authority façade grants totaling $20,000 and city water main and infrastructure upgrades valued at $15,000.

Former car dealership and future site of Keweenaw Co-Op, Hancock, Michigan

Keweenaw Cooperative redevelopment in process, Hancock, Michigan

Book Tower lobby after redevelopment, Detroit, Michigan

ADAPTIVE REUSE

Book Tower

Detroit, Michigan

In 2018, the Michigan Strategic Fund approved the first-ever Transformational Brownfield Project (TBP) award in support of Bedrock's $2.1 billion private investment in four iconic properties around downtown Detroit: Hudson Tower, One Campus Martius, Monroe Block, and Book Tower. Collectively, the proposed redevelopment forecasts 7,738 new jobs and a positive net economic impact of 3 to 1. The TBP was valued at $618 million, which will be reimbursed to the development team over 30 years. The rehabilitation of the Book Tower and Book Building is one of the largest adaptive reuse projects in Michigan. The building was built in 1926 by the Book Brothers and, at the time, was the tallest building in Detroit. Standing at 685 feet, the building remains an anchor of the Detroit skyline after a $300 million historic restoration, which took over seven years. Such ornate architectural details as caryatids, ceiling tiles, art glass panels, and more were restored and replaced to preserve the original character, with other improvements made for modern functionality and energy efficiency. The 38-story building now offers 229 residential units, 117 ROOST Apartment hotel accommodations, and 52,000 square feet of retail, office, and dining options.[21]

Rendering of Northland Mall redevelopment project, Southfield, Michigan

ADAPTIVE REUSE

Northland Mall

Southfield, Michigan

Once the world's largest shopping center and home to a key outpost of Detroit-based Hudson's department store, Southfield's Northland Mall became a high priority brownfield site after its closure in 2015. With the help of Michigan's Brownfield Redevelopment Program, the mall is now being transformed into a 3-million-square-foot mixed-use project encompassing a 500,000-square-foot food, dining, and entertainment marketplace. The project will include over 1,500 new housing units and will reactivate this important property in the center of the city.[22]

[21] Kathleen Achtenberg, "MSF-Approved Projects Generate Nearly $2.7 billion in Investment, Create or Retain 9,372 jobs," Michigan Economic Development Corporation, https://www.michiganbusiness.org/press-releases/2018/05/msf-approved-projects-generate-nearly-$2.7-billion-in-investment-create-or-retain-9372-jobs/.

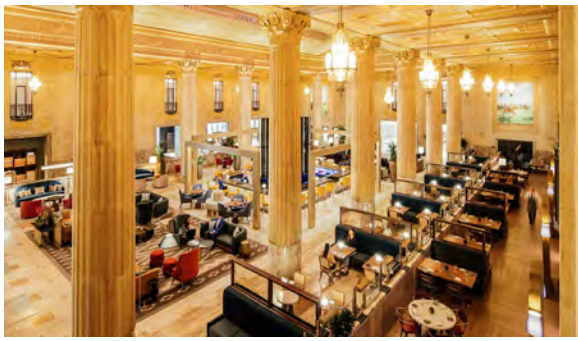
[22] Anne Runkle, "Northland Redevelopment Project Secures State Funding," *The Oakland Press*, July 27, 2021, https://www.theoaklandpress.com/2021/07/27/northland-redevelopment-project-secures-state-funding/.

ADAPTIVE REUSE

First National Center

Oklahoma City, Oklahoma

The First National Center in Oklahoma City was originally built as an office building and headquarters for the First National Bank of Oklahoma. Construction in an art deco style was completed in the 1930s and remains a familiar site in the city's skyline. The building fell into disrepair and was used intermittently for various mixed uses. As a brownfield project, the First National Center is a signature redevelopment program that now includes residences, hotel rooms, restaurants, event venues, and proximity to the downtown, including the city's new convention center, also built on a brownfield property.[23]



First National Center after redevelopment, Oklahoma City, Oklahoma

ADAPTIVE REUSE

Bottleworks District

Indianapolis, Indiana

A phased adaptive reuse process transformed what was once the largest Coca-Cola plant in the world and iconic art deco industrial site into a thriving urban mixed-use district. The $300 million, 12-acre Bottleworks District includes a boutique hotel, food hall, movie theater, office space, commercial/retail stores, and multi-tenant residential buildings. Financing included $12 million for land acquisition, $5 million of city funding for remediation, and $29 million in private investment through state and federal tax incentive programs.[24]

Bottleworks Hotel completed as part of phase 1 redevelopment, Indianapolis, Indiana

SMALL-SCALE MANUFACTURING

In her book *Recast Your City*, Ilana Pruess argues that small-scale manufacturing is a thriving redevelopment strategy for communities looking to fill up their vacant properties or redevelop a brownfield site. These are businesses often described as "makers"—those that produce a tangible product that can be replicated or packaged, whether it be a tool or widget, something edible, or something wearable.

> Small-scale manufacturing businesses are wonderful in storefronts. They draw people to an area to see cool stuff made, they help attract investment to neighboring properties (especially when they are filling a vacant space), and they are uniquely of that place. No one else has that business owner, with that brand and that product, anywhere

[23] "First National Center," Oklanhoma City Planning Department, https://www.okc.gov/departments/planning/programs/brownfields/first-national-center.

[24] Bottleworks District, https://www.bottleworksdistrict.com/.

> else. These businesses make people proud of their community, their main street, and their downtown. They often buy supplies locally, hire locally, and have deep roots in the community.[25]

Small-scale manufacturing can indeed be a viable strategy for redeveloping brownfield properties, facilitating adaptive reuse. Brownfield properties usually have existing infrastructure, such as buildings, utilities, and transportation networks, which can be costly to replicate. Small-scale manufacturing can make efficient use of these resources, as it typically requires less space and infrastructure compared to large-scale manufacturing. Existing structures can be repurposed rather than demolished, preserving the historical character of the site while adding new economic activity. Integrating other compatible land uses can create a vibrant and diverse community that supports economic, social, and cultural growth.

Prioritizing a small-scale manufacturing sector and encouraging innovation and entrepreneurship can yield economic benefits for local people and places. By establishing small manufacturing businesses on brownfield sites, skilled and semi-skilled jobs can be created, providing employment to residents and contributing to the local economy. These businesses can contribute to local and regional supply chains, encourage collaboration, and attract investment in research and development. The presence of innovative small-scale manufacturing enterprises can enhance the overall competitiveness and attractiveness of the brownfield redevelopment.

To fully capitalize on this opportunity, local governments should take steps to understand the presence and needs of small-scale manufacturers in their community. Public data on small businesses and manufacturing sectors, aggregated to broader classifications or geographic areas, may obscure nuances of specific types of makers or artisans or hyper-local clusters of activity. Persistent vacancies in local industrial space may not necessarily mean a lack of demand. Studying opportunities in Detroit, the Urban Manufacturing Alliance found that, "Despite an abundance of vacant industrial space in Detroit, the right kind of space—in good repair, clean, accessible, and subdivided—is in short supply. Significant investment is needed to bring most vacant space into a state of good repair, and to divide it into the sizes that scaling small businesses need most at a time in their growth trajectories when they are least likely to have available capital to do it themselves."[26]

[25] Ilana Preuss, *Recast Your City*, Washington, D.C.: Island Press, 2021,. https://www.recastyourcity.com.

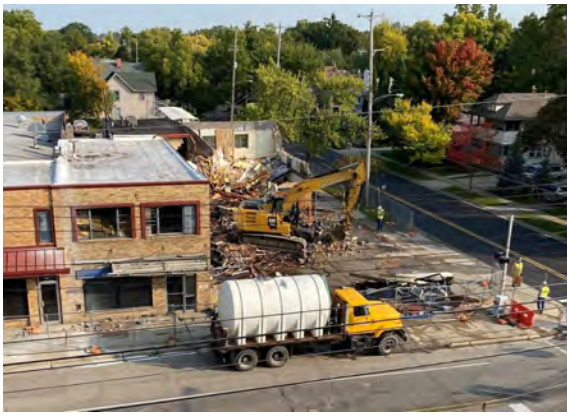
[26] Mark Foggin, "The State of Urban Manufacturing: Detroit City Snapshot," Urban Manufacturing Alliance, https://www.urbanmfg.org/wp-content/uploads/2018/02/City-Snapshot-Detroit-Final.pdf.

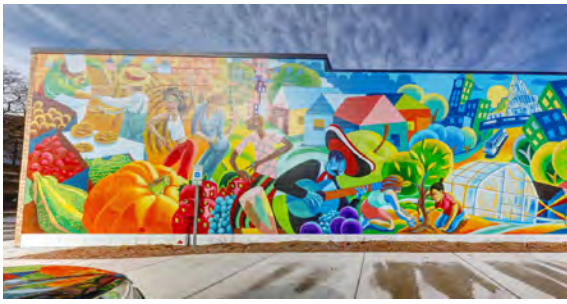
SMALL-SCALE MANUFACTURING

Allen Place

Lansing, Michigan

Allen Neighborhood Center (ANC), a place-based hub located in the capital city's diverse Eastside neighborhood, launched a farmers market pilot in 2004 in response to high rates of food insecurity among its residents. The successful market has since propelled growth of programming and infrastructure to foster a strong regional food system. As remaining commercial tenants adjacent to the ANC moved out of its complex—which originally housed a gas station and two dry cleaners—plans for a full redevelopment rooted in support for local urban growers and food entrepreneurs began to gain traction. The center secured an $850,000 cleanup grant in 2019 from the state's Department of Environment, Great Lakes, and Energy and a $1.5 million Community Revitalization Program grant from MEDC in 2020. ANC's strong community connections, including a partnership with community development financial institution Cinnaire Solutions, leveraged over 30 supporters of the $11 million project. Reconstruction took place between September 2020 and February 2022. The property is now a mixed-use building containing an accelerator kitchen which supports the launch and scaling of local food businesses, a community food cooperative grocery store, a health clinic and pharmacy, and 21 units of mixed-income housing. Local artist Brian Whitfield was inspired by this project and painted a mural on the side of the building.[27]





Allen Place redevelopment in process and completed mural, Lansing, Michigan

SMALL-SCALE MANUFACTURING

Five Saints Distilling

Norristown, Pennsylvania

The Humane Fire Engine Company in Norristown, Pennsylvania, was forced to close in 2012, more than 150 years after its founding, due to a lack of volunteers. The city did not wait too long to find a new use for its historic property. Leveraging a $300,000 grant from EPA, CDBG funding, and private resources invested by a new owner, the fire house was re-christened in 2016 as the Five Saints micro-distillery.

Five Saints Distilling redevelopment, Norristown, Pennsylvania

[27] Lawrence Cosentino, "Work Begins on East Side's Allen Place Project," City Pulse, September 23, 2020, https://www.lansingcitypulse.com/stories/work-begins-on-east-sides-allen-place-project,14989.

Open Works makerspace, Baltimore, Maryland

SMALL-SCALE MANUFACTURING

Open Works
Baltimore, Maryland

Baltimore Arts Realty Corporation (BARCO) raised $11.5 million in funding to revitalize a former distribution warehouse that had been contaminated into a makerspace, called Open Works in the Station North Arts & Entertainment District. BARCO also participated in the Maryland Voluntary Cleanup program, which assisted with oversight of the cleanup process, and provided operational funding and support to launch Open Works. Founded in 2016, Open Works is a nonprofit workspace that serves as an incubator for creative manufacturing in Baltimore. Open Works offers access to its wood and metal shops, 3-D printing and textiles studio, and an electronics lab for a low-rate membership fee. They also offer educational programs and classes, as well as support for over 100 jobs.

Stone Brewing and Distribution Facility redevelopment, Richmond, Virginia

SMALL-SCALE MANUFACTURING

Stone Brewing
Richmond, Virginia

The Fulton Hill neighborhood in Richmond had been undergoing lots of redevelopment projects, but one area remained untouched. In the 1970s there was severe flooding, and the pre-Civil War gasworks factory turned the riverfront into an environmental nightmare. During phase I and phase II assessments, EPA found petroleum coal byproduct throughout the site from the gasworks and an abandoned concrete mixing factory. The site sits partially below the flood plain, so structural fill and crushed concrete were brought in to raise the building pad about six feet. Stone Brewing purchased part of the land and uses the waterfront to transfer goods out of Richmond. The brewery pursued LEED Silver Certification during its construction, which included 100,000 square feet of solar panels, storm water management practices, and efficient mechanical systems, and used reclaimed wood and steel in the construction. The brewery now hosts music festivals to raise money for local nonprofits.[28]

[28] "Cheers to a Revitalized Neighborhood," U.S. Environmental Protection Agency, https://19january2021snapshot.epa.gov/sites/static/files/2019-09/documents/cheers_to_a_revitalized_neighborhood.pdf.

Gordie Howe International Bridge redevelopment, Detroit, Michigan

RESOURCE ROAD MAPPING FOR REVITALIZATION AND REDEVELOPMENT

For brownfield projects, the best practice has always been to leverage funding from multiple sources. Brownfield redevelopment projects often involve multiple components, including environmental remediation, infrastructure upgrades, public amenities, and community revitalization. Leveraging multiple funding sources allows communities to address the diverse needs of a brownfield site comprehensively.

Brownfield projects often require substantial financial resources for site assessment, remediation, infrastructure upgrades, and redevelopment activities. By leveraging multiple funding sources, such as government grants, private investments, public-private partnerships, and philanthropic contributions, communities can access a larger pool of funds. This helps ensure that sufficient resources are available to support the project's various stages, from assessment to cleanup and redevelopment.

Different funding sources have different requirements, criteria, and priorities. By leveraging multiple funding sources, communities gain alignment with different funding program objectives. Project adaptability increases the chances of securing funding and allows for a more comprehensive and customized approach to brownfield redevelopment.

Leveraging multiple funding sources allows communities to deploy public and private funds simultaneously. Public funding can serve as a catalyst to attract private investments, while private funding can help unlock additional economic potential and ensure the long-term sustainability of the project. Similarly, funding from various sources can introduce new ideas, technologies, and best practices. Different funding programs may prioritize a variety of innovative approaches, sustainable practices, or community engagement strategies allowing communities to tap into a wider range of expertise and knowledge, facilitating collaboration and learning throughout the project.

FEDERAL PROGRAMS

Federal Interagency Thriving Communities Network

There is an unprecedented amount of federal funding currently being funneled to local communities through the American Rescue Plan Act, the Bipartisan Infrastructure Law, and the Inflation Reduction Act. EPA's Office of Brownfields and Land Revitalization (OBLR) is currently administering $1.5B of funding from the Bipartisan Infrastructure Law alone, greatly expanding the size of grant awards and the number of awards made across the country. But it's important to appreciate the extent to which themes of economic recovery, resilient infrastructure, and equitable development are embedded across these major investments. To build the "capital stack" and advance projects with holistic community benefits, local governments should consider whether new types of federal programs might be leveraged. According to EPA, there are nearly 50 federal programs that can support a community's redevelopment and revitalization efforts, including brownfield sites.[29] Expanded or new programs in the Bipartisan Infrastructure Law and the Inflation Reduction Act provide additional programs for communities to consider and monitor, including the following.

Reconnecting Communities and Neighborhoods Grant Program[30] (Department of Transportation)

This new, competitive program is providing $50 million annually for planning grants and approximately $150 million per year for construction grants, for the five years of the program, to reconnect key areas of communities by removing, retrofitting, or mitigating highways or other transportation facilities installed in the past that create barriers to and inequities in community connectivity to mobility, access, or economic development. The program has also set aside $30 million to provide technical assistance to applicants in developing and implementing effective projects.

[29] Brownfields Federal Program Guide 2023," U.S. Environmental Protection Agency, https://www.epa.gov/ brownfields/ brownfields-federal-programs-guide-2023.

[30] "Reconnecting Communities and Neighborhoods Grant Program," U.S. Department of Transportation, https://www.transportation.gov/grants/ rcnprogram/about-rcp.

The RCP program seeks to redress the legacy of harm caused by transportation infrastructure, particularly in minority and underserved communities and neighborhoods, including barriers to opportunity, displacement, damage to the environment and public health, limited access, and other hardships. In pursuit of this goal, the program will support and engage economically disadvantaged communities to increase affordable, accessible, and multimodal access to daily destinations like jobs, healthcare, grocery stores, schools, places of worship, recreation, and park space. The variety of transformative solutions to knit communities back together can include high-quality public transportation, infrastructure removal, pedestrian walkways and overpasses, capping and lids, linear parks and trails, roadway redesigns and complete streets conversions, and main street revitalization. These types of projects could be used to plan and implement projects that transform brownfields, or to improve access to and around brownfield or other areas cut off or stigmatized by the legacy of transportation and contamination conditions.

Energy Efficiency and Conservation Block, and Competitive Grants[31] (EECBG; Department of Energy)

This formula-based funding—provided generally to municipalities of over 35,000 population; counties of over 200,000; and to tribes—can be used in a variety of flexible ways to support local renewable energy, distributed renewable projects, green building and energy efficiency programs, energy audits and efficiency retrofits, zero-emissions transportation, and other approaches to reducing the climate impact of local government operations. As brownfield redevelopment provides an opportunity for both new development that uses these kinds of clean energy strategies or can provide sites for deployment of local clean energy projects, this EECBG program provides a new source of funding to help accomplish those projects.

Greenhouse Gas Reduction Fund Grants[32] (Environmental Protection Agency)

EPA will provide financing to support greenhouse gas reduction projects in communities, especially those that are low-income and disadvantaged, and with institutions that would not otherwise gain access to capital. A total of $7 billion in funding will go to states, tribes, local governments, and nonprofit green banks for the purposes of providing grants, loans, or other forms of financial assistance, as well as technical assistance to enable low-income and disadvantaged communities to deploy or benefit from zero-emission technologies. There is also $11.97 billion to make grants available to provide financial assistance and technical assistance to proposed projects. Funding will remain available until September 30, 2024.

[31] "Energy Efficiency and Conservation Block Grant Program," U.S. Department of Energy Office of State and Community Energy Programs, https://www.energy.gov/scep/energy-efficiency-and-conservation-block-grant-program.

[32] "Greenhouse Gas Reduction Fund," U.S. Environmental Protection Agency, https://www.epa.gov/greenhouse-gas-reduction-fund.

Environmental and Climate Justice Block Grants[33] (Environmental Protection Agency)

EPA will empower community efforts to confront and overcome persistent pollution challenges in underserved communities that have often led to worse health and economic outcomes over decades. This new program will aggressively advance environmental justice and support projects like community-led air pollution monitoring, prevention, and remediation; mitigating climate and health risks from extreme heat and wildfires; climate resiliency and adaptation; and reducing indoor air pollution. A total of $2.8 billion is available for projects involving pollution monitoring, prevention, and remediation, investments in low- and zero-emission and resilient technologies, and related infrastructure and workforce development that help reduce greenhouse gas emissions and other pollutants. Eligible projects also include initiatives that promote mitigating climate and health risks, climate resiliency and adaptation, and that facilitate engagement of disadvantaged communities in state and federal public processes such as in advisory groups, workshops, and rulemakings. There is also $200 million available for technical assistance. Funding will remain available until September 30, 2026.

Neighborhood Access and Equity Grants[34] (Department of Transportation)

The IRA establishes the Neighborhood Access and Equity Grant Program to provide funds for projects that improve walkability, safety, and affordable transportation access through context-sensitive strategies and address existing transportation facilities that create barriers to community connectivity or create negative impacts on the human or natural environment, especially in disadvantaged or underserved communities. The program also provides funding for planning and capacity building activities in disadvantaged or underserved communities, as well as funding for technical assistance to units of local government to facilitate efficient and effective contracting, design, and project delivery and to build capacity for delivering surface transportation projects. A total of $3.2 billion in funds were appropriated in 2022 and remain available through September 2026.

[33] "Inflation Reduction Act Environmental and Climate Justice Program," U.S. Environmental Protection Agency, https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-environmental-and-climate-justice-program.

[34] "Neighborhood Access and Equity (NAE) Grant Program," U.S. Department of Transportation Federal Highway Administration, https://www.fhwa.dot.gov/inflation-reduction-act/fact_sheets/nae_grant_program.cfm.

FEDERAL TAX INCENTIVES

There are also numerous federal tax incentives for a community to consider. Opportunity Zones[35] provide tax benefits for new businesses to invest in low-income and distressed communities. Similarly, New Market Tax Credits[36] can help direct support to distressed parts of communities. Low-Income Housing Tax Credits[37] provide incentives for affordable housing and can be applied to brownfield projects if housing is part of the redevelopment mix. The Brownfields Expensing Tax Incentive[38] allows brownfield cleanup costs to be fully deductible in the year that they are incurred, rather than capitalized over time. For projects that are eligible, Historic Preservation Tax Credits[39] provide funding for structures on a brownfield site that will be rehabilitated in compliance with the federal standards for historic preservation. A widely used EPA resource, the Brownfields Federal Programs Guide,[40] can help communities navigate the applicability of federal tax incentive programs as part of a cleanup and redevelopment approach.

STATE AND LOCAL STRATEGIES

State and local funding has long been an important part of brownfield redevelopment strategies. For example, tax increment financing (TIF) is a tool that allows cities to capture a portion of the incremental tax revenues generated from a redeveloped brownfield. The funds are then directed toward financing the necessary infrastructure improvements or other eligible redevelopment costs. With federal, state, local, and sometimes private sector or philanthropic dollars, some municipalities have established revolving loan funds to support local priorities and projects. Special assessment districts, local grants and tax incentives, public private partnerships, bond financing, engaging community and national philanthropic entities, and even crowdfunding are approaches that have been used to help redevelop brownfield sites and revitalize neighborhoods and communities.

[35] "Opportunity Zones," Internal Revenue Service, https://www.irs.gov/credits-deductions/businesses/opportunity-zones.

[36] "How It Works," New Markets Tax Credit Coalition, https://nmtccoalition.org/how-it-works.

[37] "Low-Income Housing Tax Credit (LIHTC)," Department of Housing and Urban Development Office of Policy Development and Research, https://www.huduser.gov/portal/datasets/lihtc.html.

[38] *A Guide to Federal Tax Incentives for Brownfields Redevelopment*, U.S. Environmental Protection Agency, 2011, https://www.epa.gov/sites/default/files/2014-08/documents/tax_guide.pdf.

[39] "Technical Preservation Services," National Park Service, https://www.nps.gov/orgs/1739/index.htm.

[40] "Brownfields Federal Program Guide 2023," U.S. Environmental Protection Agency, https://www.epa.gov/brownfields/brownfields-federal-programs-guide-2023.

Filling the Financial Gap: Michigan Supports Local Placemaking Efforts

In addition to the Michigan Brownfield Redevelopment Program, there are several public programs that help fill financing gaps for important redevelopment projects administered by state agencies, including the following recently established programs administered by the MEDC.

The Build MI Community Grant Initiative[41] was established to reactivate underutilized or vacant space into vibrant areas by promoting capital investment into redevelopment projects being taken on by developers and property owners with limited real estate development experience and familiarizing them with the development process to position them to potentially undertake more complex projects in the future.

The MI Revitalization and Placemaking (RAP) Program[42] also provides financing for infrastructure development, rehab, and public amenities using federal sources. Launched in 2022, the RAP program deployed $100 million of ARPA funding to help Michigan communities recover from the economic impacts of the COVID-19 pandemic. The program is being continued with state funding, $150 million of which has already been allocated to support the activation of vacant buildings and underutilized public spaces.

[41] "Build MI Community Grant Initiative," Michigan Economic Development Corporation, https://www.miplace.org/developers/build-mi-community.

[42] "Revitalization and Placemaking (RAP) Program," Michigan Economic Development Corporation, https://www.michiganbusiness.org/rap.

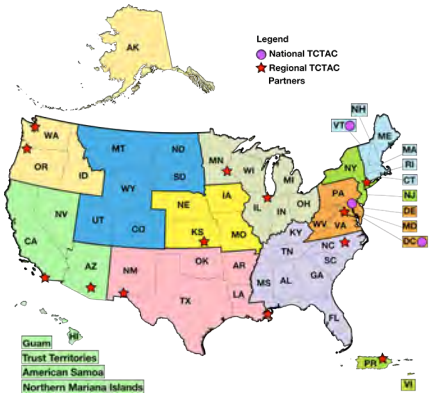
ICMA and EPA facilitate peer to peer engagement and train new brownfield grantees on grant management and successful land revitalization practices, College Park, Georgia

GETTING THE TECHNICAL ASSISTANCE YOU NEED

Alongside an unprecedented amount of federal money to support initiatives for more resilient, equitable, and sustainable communities is a growing roster of organizations that provide technical assistance and support for local governments and community stakeholders. For brownfield redevelopment, the most prominent is TAB—"technical assistance for brownfields"—providers.[43] EPA funds several organizations that provide support to communities, tribes, and nonprofit organizations on their brownfield challenges. Several new and returning TAB providers were announced in May 2023, and will be rolling out and/or continuing services helping communities across the country with support for various types of activities, such as:

- Identifying, inventorying, and prioritizing brownfields for redevelopment.
- Determining the potential public health impact of brownfields.
- Getting the public and other stakeholders involved.
- Facilitating site reuse goal setting and planning charrettes.
- Evaluating economic feasibility of reuse plans.
- Conducting educational workshops, seminars, and webinars.
- Interpreting technical brownfield reports, assessments, and plans.
- Identifying appropriate funding/financing approaches.
- Integrating approaches to brownfield cleanup and redevelopment.
- Understanding and navigating regulatory requirements.
- Reviewing applications for federal brownfield funding.

[43] "Technical Assistance," U.S. Environmental Protection Agency, https://www.epa.gov/brownfields/technical-assistance#Technical_Assistance.



Map of EPA's Environmental Justice Thriving Communities Technical Assistance Center regions

Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs). In April 2023, EPA announced 17 new EJ TCTACs that will work with local, state, and tribal governments and community-based organizations on environmental and energy justice challenges. Importantly, the EJ TCTACS will assist stakeholders with a variety of assistance, including strategies for capturing new environmental and energy justice funding, as well as other resources offered by federal agencies, philanthropy, and other supporters.[44]

SolSmart. The U.S. Department of Energy (DOE) has long offered technical assistance, particularly in renewable energy. For the last 13 years, ICMA has partnered with DOE to provide technical assistance on local planning, zoning, permitting, inspection, financing, and economic development strategies to foster the growth of rooftop, as well as larger scale solar projects. SolSmart[45] is the premier designation and technical assistance program helping communities create economic and job opportunities through solar deployments.

Distressed Cities Technical Assistance (DCTA) Program. This program is designed to help smaller local governments experiencing economic distress and persistent poverty. The program provides technical assistance directly to local governments and their nonprofit partners in places with a population of fewer than 50,000. There are metrics for economic distress and persistent poverty that are required for assistance through this program.[46]

BIL Bootcamps. Not all assistance available today is federally funded. The National League of Cities, U.S. Conference of Mayors, Cornell Tech, the Urban Sustainability Directors Network, and Results for America, with support from various foundations, established the Local Infrastructure Hub to help small and mid-sized cities navigate the hundreds of programs funded by the BIL. Much of the training is provided through "bootcamps" on specific opportunities.[47]

[44] "The Environmental Justice Thriving Communities Technical Assistance Centers Program," U.S. Environmental Protection Agency, https://www.epa.gov/environmentaljustice/environmental-justice-thriving-communities-technical-assistance-centers.

[45] "SolSmart," https://solsmart.org.

[46] "Distressed Cities and Persistent Poverty Technical Assistance (DCTA)," U.S. Department of Housing and Urban Development, https://www.hudexchange.info/programs/dcta.

[47] "Grant Application Bootcamp," Local Infrastructure Hub, https://localinfrastructure.org/application-bootcamp.

ROLES FOR LOCAL GOVERNMENTS

Local governments have many ways to proactively assist when addressing the broad range of community challenges that meet at the intersection of brownfield legacy conditions, resilience, and equity concerns.

For over a decade, the MEDC's Redevelopment Ready Communities (RRC) toolkit has provided an expert-informed comprehensive overview of best practices for local governments to proactively position themselves for redevelopment opportunities. Their framework, guided by principles that redevelopment is 1) community-driven, 2) predictable, 3) implementable, 4) proactive, 5) equitable, and 6) collaborative, offers benchmarking standards for planning, zoning, and economic development actions, and policies.[48]

More recently, the RRC Resiliency Toolkit[49] provides a complementary overlay or lens through which to view and operationalize these best practices, helping local governments to consider the implications for resilience across themes of place, people, infrastructure, and the economy.[50]

Highlights from this guidance specifically relevant to brownfields redevelopment include:

Assessing local capacity. The RRC Resilience Toolkit includes suggested elements for assessing a community's readiness to engage in planning and redevelopment activities grounded in resilience for its people, place, infrastructure, and economy. These questions can help unpack complex issues and begin to align interests and actions of local elected officials, government staff, nonprofit and private partners, and community residents. In the context of setting redevelopment priorities, this may be an important foundational step in surfacing equity implications of potential decisions.

Site prioritization. Localities should maintain an inventory of priority redevelopment sites, including basic information for highest-priority sites. In addition to such essential information as lot and building size, utilities, state equalized value, etc., the RRC toolkit recommends that local governments go further in developing community-informed visions for redevelopment and robust information packages that might

Michigan communities certified as "Redevelopment Ready" can use the program logo in promoting development opportunities.

[48] "Redevelopment Ready Communities," Michigan Economic Development Corporation, https://www.miplace.org/programs/redevelopment-ready-communities.

[49] "Resiliency," Michigan Economic Development Corporation, https://www.miplace.org/programs/resiliency.

[50] RRC Resiliency Toolkit, Michigan Economic Development Corporation, https://www.miplace.org/496e93/contentassets/77e60842e90f45368eb285420faf81ef/resiliency-guide-2022.pdf.

Alpena, Michigan, a city of 11,000 located along the shore of Lake Huron in northeast lower Michigan, is a certified Redevelopment Ready Community and actively promotes economic development opportunities.

include details on applicable environmental or contamination conditions, additional market or traffic studies, and any other supplemental information—whether that enhances or detracts from the marketability of the site. Local governments should also identify and share information about potential development incentives or other internal or external resources and support that could be available to a qualified proposal. While brownfields are generally particularly complicated sites, local governments should market them as viable, transformational opportunities and demonstrate having done much of the necessary homework to set prospective developers up for successful partnerships.

Code and process improvements. "Communities should look to streamline requirements and regulate for the kind of development that is truly desired. Zoning should be used to shape inviting, walkable, vibrant communities, rather than inhibit them." Local governments will want to ensure their zoning codes allow by-right mixed-use developments and a wide range of housing types, including multiple examples of multifamily, micro units, or other middle housing types; offer flexibility with respect to parking, including reduced or eliminated requirements; and provide standards and/or requirements for green infrastructure. Examine whether development standards—lot size, build-to lines, etc.—reflect contemporary reality and allow for incremental development opportunities. Additionally, ensure the development review process has been assessed for efficiency improvements and is clearly communicated to prospective developers.

Finally, local governments are excellent conveners of **strategic partnerships**, and these are essential to resilient and equitable brownfield redevelopment. Partnerships with active and engaged nonprofit organizations, including community development corporations, land banks, and community land trusts, can facilitate access to redevelopment sites and remediation funds, as well as public input processes that enable residents to provide more actionable influence on redevelopment priorities.

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About ICMA

ICMA, the International City/County Management Association, advances professional local government management worldwide through leadership, management, innovation, and ethics. ICMA provides support, publications, data and information, peer and results-oriented assistance, and training and professional development to more than 13,000 city, town, and county experts and other individuals and organizations throughout the world. Our Local Government Reimagined initiative reflects ICMA's commitment to helping public administrators innovate and adapt their leadership practices, management strategies, and operations in the name of more resilient and equitable outcomes for their work and their communities.

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