



PARK CITY
bridgeport, CT

BGreen 2020

A Sustainability Plan
for Bridgeport, Connecticut

Letter from the Mayor



Dear Bridgeport residents

BGreen 2020 is a plan to create good jobs, save taxpayers and their government money, reduce our wasteful carbon emissions and help free our country from our addiction to foreign oil – it is a plan for a sustainable Bridgeport. As a coastal community, with its beautiful shoreline one of its greatest assets, Bridgeport has much to lose through inaction and much to gain from this ambitious plan.

Over 1,000 mayors across the US have signed on to plans to reduce their City's carbon footprint. We know that we must “think globally, but act locally.” Sustainable communities are emerging all across the country, led by local leaders from larger cities like Seattle and Boston to smaller communities like Chattanooga, TN and Keene, NH. BGreen 2020 is our roadmap to transform Bridgeport's image from a city in decline to a smart and enlightened community, leading the way in the new green economy.

My special thanks to the Bridgeport Regional Business Council for serving as our partner in this effort. I would also like to thank the Fairfield County Community Foundation, The Tremaine Foundation, and the PSE&G Foundation for their financial support and encouragement; United Illuminating, Region One of the U.S. Environmental Protection Agency and the U.S. Conference of Mayors for their assistance; and, to the more than 100 organizations and individuals who have served on our Community Advisory Committee and the five technical committees we created, my deepest appreciation for your service to Bridgeport.

Global climate change caused by increased carbon emissions threatens our very way of life; our economy, our health, and our nation's security, but in its solution creates opportunities the likes of which we have just begun to imagine. Through BGreen 2020 we will create jobs, save money and protect our health but perhaps more importantly BGreen 2020 asks Bridgeport – “What kind of City do you want to pass on to our children?”

Sincerely,

Bill Finch
Mayor

Let's make Bridgeport the cleanest, greenest City with schools and neighborhoods that get better every year!

Executive Summary

The last few decades have been some of the most challenging in Bridgeport's history, recently compounded by the current recession. The turbulence we're experiencing in our national economy, the calamities beginning to show noticeable impacts in our global climate and environment, and the socio-demographic divides that plague our region are compounding one another to create the most significant crossroads this city and others around the globe have faced in generations.

Global warming threatens our planet. While the current concentration of carbon dioxide in the earth's atmosphere is approximately 385 parts per million (ppm) and steadily rising, the scientific community has concluded that we must reduce levels to 350 ppm in order to stabilize our climate. If we fail to make this reduction, we can anticipate almost two feet of sea level rise by midcentury threatening our coastal assets, more frequent and intense storms bringing floods and high winds, and heat waves that will particularly threaten the health of our urban and poor populations.

Nationally, our economic health has depended on levels of consumption that rely on low energy costs and ignore the associated costs of pollution. A recovery strategy must emerge that sustainably employs our population and acknowledges the rising and unpredictable costs of energy and the impacts that our current system has on our environment and climate. It is currently unclear whether we will attempt to prop up the failing industrial model of the last half century or create a new green industrial model that can employ the workers of our country while improving the global and local environments. Providing jobs with environmental and social benefits is essential for the residents of Bridgeport.

Locally, our state is simultaneously one of the nation's wealthiest and most segregated. Bridgeport's school system struggles to educate its students while our neighboring towns have some of the best educational attainment in the world. Our city's neighborhoods are disproportionately saddled with the burdens of air pollution associated with the region's transportation and electricity systems, and with land pollution stemming from the industrial legacy that laid the foundation for our entire region's prosperity.

It is in these times of great uncertainty that decisions are made which shape the lives of generations. Change will not occur through the decisions of nations alone. Nor will it be based on actions solely of the public sector. It is true that all levels of government must be involved based on a foundation of local action; equally true, partnerships must be forged between the public and private sectors to make the greatest strides and reap the greatest rewards.

BGreen 2020 was established to bring together community members, city departments, and the business community of Bridgeport to identify those strategies available to us locally, which could begin to impact these forces that often seem beyond our control. In coming together, we jointly learned and reaffirmed one fundamental notion: that the actions necessary to stabilize the national economy and protect the global environment simultaneously bring so many local benefits and environmental justice to Bridgeport.

- An Energy Improvement District in Bridgeport will implement renewable electricity generation projects and develop programs to retrofit municipal buildings, businesses and homes, that

reduce the city's greenhouse gas emissions from buildings, lower household and commercial utility bills, and shrink property tax bills by making city operations more energy efficient.

- A focus on transit and complete streets will lower greenhouse gas emissions from transportation and lower households' transportation costs by limiting the need for automobiles.
- A Green Collar Institute will consolidate resources to help businesses improve their bottom line through efficiency, help individuals develop the skills they need to find jobs in the new economy, assist the city in attracting and growing green businesses locally through a Green Business Incubator and a Green Business Cluster, and drive the creation of a green marketplace through purchasing policies.
- Zoning and Geographic Information Systems that encourage green redevelopment will reclaim the city's vacant and contaminated land for taxpaying buildings that will provide local jobs and affordable housing opportunities, and will shrink property tax bills by reducing the burden on existing households to support municipal services.
- Increased recycling and composting will significantly reduce the cost of disposal, create local jobs, save money in the city budget, thereby reducing taxes, and move us away from an industrial process that emphasizes disposable goods.
- A Conservation Commission will implement a parks plan that will bring open space, greenery, and the waterfront within reach of every city resident, and add neighborhood amenities like pocket parks, community gardens and other quality of life measures. And it will also champion the stormwater management issues that take into account the fragile nature of our community.
- A youth Conservation Corps, going door-to-door, will provide information to residents and businesses to help them save money, be stewards of the environment, and help improve the quality of life in our community.

There's a clear, common theme throughout: going green saves or even makes green \$! Environmental action will provide the economic foundation to grow the city's jobs, tax base, and opportunity while lowering household bills for energy, water, and property taxes.

The plan is organized into two sections. The first part lays out the Need for Change, and describes the planning process and summary of goals and opportunities that bring us From Vision to Plan, and charts the course for institutionalizing action From Plan to Implementation. The second part describes the 64 strategies in detail for the city and the community to act on over the course of the coming decade.

Action cannot take place within the corridors of City Hall and its government alone. The city is responsible for only 4% of local greenhouse gas emissions. Government must act in a leadership role, but the actions of local businesses, neighborhoods, residents, and workers will be the determining factors in making Bridgeport's campaign to create economic, environmental, and social prosperity a success. A solid corps of our city's young adults has already begun going door-to-door spreading word of the benefits available to us through individual action and sharing the skills necessary to achieve results. This Conservation Corps will continue to be one of the most effective strategies for spreading the word of sustainability and the hope that it contains for our future. It must, and can, be joined by others.

Though creating a new, green path for Bridgeport's future will be challenged by inertia and the status quo, of greater strength is the desire of the Bridgeport community to emerge from this recession more prosperous and equitable than ever before. BGreen 2020 is intended to show the way.

Bridgeport Regional Business Council (BRBC) is comprised of five affiliates: the Bridgeport, Stratford and Trumbull Chambers of Commerce, Leadership Greater Bridgeport and the Women's Leadership Council and has approximately 1,000 investor members. BRBC's primary mission is to pursue economic development and to increase the economic opportunities for the people of the Bridgeport Region by acting to create an environment for business expansion, retention, and recruitment that will result in jobs and tax base growth.

Program Managers

Global Infrastructure Strategies provides strategic issues management, government affairs, communications and community relations services to help both the public and private sectors develop, site, and build complex infrastructure projects in a cost effective and sustainable manner. Created in early 2005, Global Infrastructure Strategies brings together a wealth of knowledge and experience in the power generation, water, transportation, retail, housing, and environmental clean-up markets.

Meridian Institute helps decision makers and diverse stakeholders solve some of society's most contentious public policy issues. For over twenty years, as neutral third parties, Meridian has designed problem-solving processes, applying proven strategies and techniques to highly controversial public policy issues and has aided parties in settling site- and issue-specific disputes. Their practical approach often results in unlikely parties forging new partnerships and unique alliances. Recent successes include convening the Greenhouse Gas Accounting Forum, facilitating the High-Level Transatlantic Workshop on Climate Change, assisting with the Kyoto Plus Working Group, and, most notably, assisting in the establishment of the US Climate Action Partnership.

MP& Associates is an innovative Business Management and Professional Events firm. Its team of business consultants' primary focus is strategic planning, marketing, public relations and professional event management. MP & Associates' mission is to identify opportunities and strategically implement an effective plan designed to innovate and inspire while communicating a consistent message. Clients include corporations, small businesses, social services, government and non-profit organizations.

Regional Plan Association (RPA) is an independent, not-for-profit regional planning organization that improves the quality of life and the economic competitiveness of the 31-county New York-New Jersey-Connecticut region through research, planning, and advocacy. For more than 80 years, RPA has been shaping transportation systems, protecting open spaces, and promoting better community design for the region's continued growth. We anticipate the challenges the region will face in the years to come, and we mobilize the region's civic, business, and government sectors to take action.

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(available online at www.rpa.org/bgreen)

Executive Order

BGreen 2020 Community Advisory Committee membership

BGreen 2020 Technical Subcommittees membership

Complete List of Outcomes--Goals and Objectives--of the five technical subcommittees

Matrices of BGreen 2020 Strategies and Implementation Steps

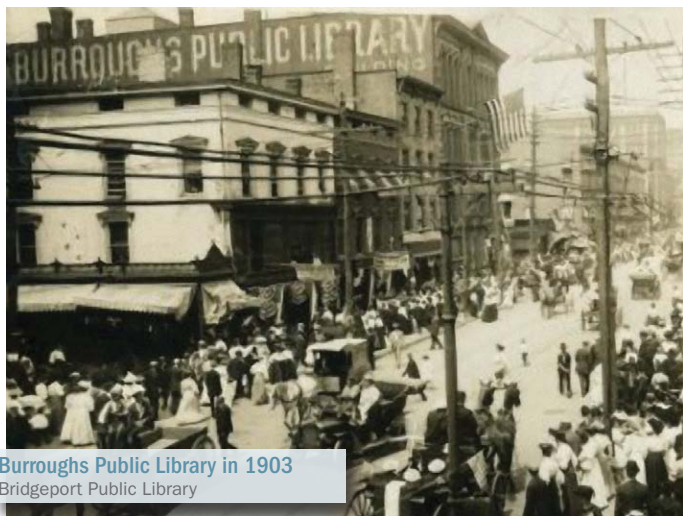
TBL- Triple Bottom Line Analysis of BGreen 2020 Strategies

Summary of Bridgeport's Early Climate Protection Efforts

The Need for Change

Greater even than the economic, environmental and social challenges that Bridgeport faces today, is our opportunity to transform our city into a thriving, sustainable community. By spurring economic competitiveness, protecting natural resources and public health, enhancing social equity and improving quality of life, Bridgeport's BGreen 2020 Sustainability Plan lays out a clear and compelling path for the future of the city's residents and businesses. And although immediate challenges may sometimes appear to hamper our ability to plan for the future, we cannot afford to wait – the benefits are too great.

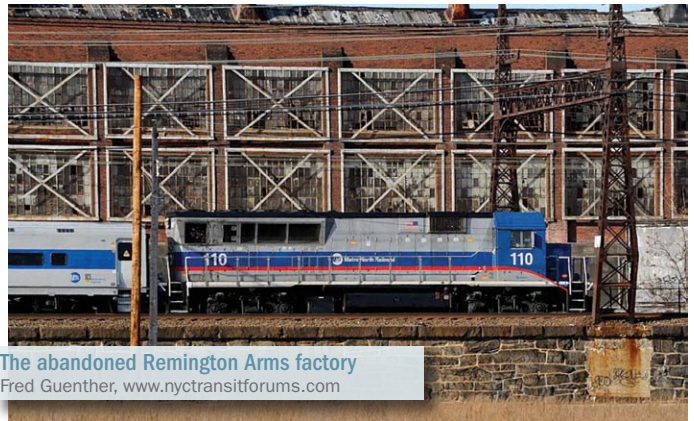
City of Industry



Burroughs Public Library in 1903
Bridgeport Public Library

Bridgeport's rich history spans 175 years. Always a seafaring community, Bridgeport developed notable whaling and shipbuilding industries in the mid-19th century. In the decades that followed, the city became a manufacturing hub producing brass fittings, carriages, sewing machines, and other innovative commodities. When more than 1,375 acres of parkland were designated in the late 19th century, including two parks designed by the prominent landscape architect Frederick Law Olmsted, Bridgeport became known as the "Park City," providing precious recreational space for residents and visitors. Over the next half century, the city evolved into a modern metropolis along the Connecticut coast and attracted workers and investment from far and wide.

By World War II, Bridgeport was known as "the Arsenal of Democracy," as its factories were used to produce armament for the war effort. Bridgeport's factories, which offered reliable and well-paid employment, attracted a strong middle working class and generations of new immigrants. The city solidified in its role as the region's cultural center with a thriving theater and arts scene. While Bridgeport was visited by President Abraham Lincoln and other illustrious public



The abandoned Remington Arms factory
Fred Guenther, www.nyctransitforums.com

figures during its heyday, the city's best known resident has been the world-renowned circus promoter and one-time Bridgeport mayor, P.T. Barnum.

The deindustrialization of the United States in the years following World War II hit Bridgeport hard. Factories shut down, finance and corporate management moved to Stamford, Hartford and other nearby cities, and employment declined steadily. Many of the residents who could afford to leave moved to new suburban communities. Within Bridgeport, abandoned industrial land left contamination and workers behind. Buildings were torn down or collapsed from neglect leaving vacant lots scattered throughout downtown. When buildings were not abandoned, they were also not invested in—although these buildings remaining today constitute Bridgeport's distinctive historic fabric, they are also contaminated with hazardous paints and insulation as well as antiquated energy and weatherization systems. Decades of poor waste management practices at metal scrap yard sites and other uses that have utilized cheap land in the ensuing decades have left our waterfront contaminated with a dirty mixture of chemicals.

This is the canvas on which Bridgeport's future will be painted—centuries of economic and cultural wealth, followed by 50 years of abandonment and neglect.

Overcoming Bridgeport's Challenges

As Bridgeport charts a new path to prosperity, we must confront the sources of our economic, social and environmental challenges—our legacy of unsustainable land use, transportation, waste, and stormwater practices. We must also tackle the negative perceptions of Bridgeport that have been spawned by our economic decline. And finally, we must address the global problem of climate change: we must both curb our contribution to the problem by reducing our carbon emissions and plan for the impacts of change in climate that are at this point inevitable.

The cost of inaction is enormous. Globally, scientists are predicting major environmental tipping points will be reached if we do not reverse the course of our greenhouse gas emissions. Of particular concern for Bridgeport is that populations like ours are significantly more vulnerable to the impacts of global warming. Bridgeport's residents, with a median household income less than half the income of households in the surrounding county, will be less able to meet the costs associated with adaptation. We must do everything in our power to avoid calamities associated with climate change so that we lessen our need to adapt to their impact down the road. The BGreen 2020 Plan proposes a strategy to achieve economic, social and environmental prosperity through this effort. The time to take action is now.

Economic conditions and challenges

Bridgeport's most pressing economic challenge is to capture enough of the region's commercial growth to provide local jobs and offset high property taxes. While the Bridgeport-Stamford-Norwalk region's job market grew by 2% (nearly 10,000 new jobs) between 1990 and 2005, Bridgeport's declined by 27% or 17,000 jobs, (*Bridgeport 2020*). And while the region is expected to gain even more jobs in the decade to come, employment in Bridgeport is predicted to continue its decline.

This decline is not for a lack of an eager workforce. Of Bridgeport's 140,000 residents, more than half are of working age. All told, Bridgeport's potential workforce is 76,000 persons, yet the number of jobs in the city is just under 45,000. This staggering disparity has caused many Bridgeport residents to seek work outside of the city, or, given the current national economic condition, has prevented them from finding any employment at all. The fact that one-third of city residents were born outside the U.S. makes job access an even greater challenge. In December 2009, the Connecticut Department of Labor reported a 12.7% unemployment rate in Bridgeport, compared to 8.5% statewide. Almost a quarter of Bridgeport residents live below the poverty line; in some neighborhoods, that rate is four in five.

As poverty and unemployment rates go up and businesses shut down, Bridgeport's remaining residents and businesses are pressed to contribute a larger share of the cost of city services. The city's tax base was never large to begin with: at only 16.5 square miles, with one third of land parcels tax-exempt because they are owned by non-profit organizations or government agencies, and vacant land making up 11% of land in the city (*Bridgeport 2020*), there is little land to tax. Bridgeport's Grand List – that is, the sum of the assessed

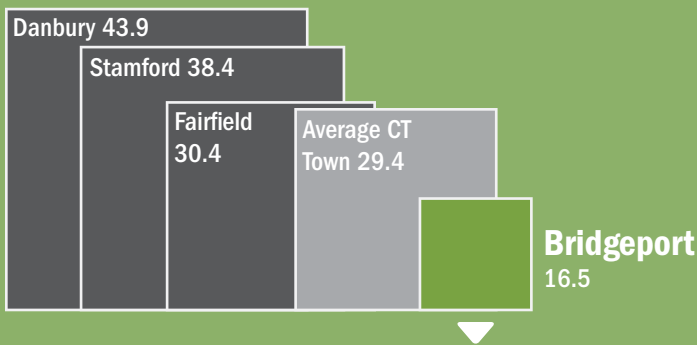
value of all taxable property (real estate, motor vehicles and personal property) – rose 27% from 1994 to 2002, just half the growth of the statewide municipal average (based on equalized grand list figures).

Bridgeport's deteriorated tax base materializes into its deteriorated physical condition, which in turn, keeps away potential investors in the city. Our crumbling sidewalks, blighted properties and vacant lots contribute to a negative sense of place which, coupled with high municipal tax burdens, deter businesses and middle-class residents from choosing to invest in Bridgeport. Brownfields and vacant sites cost the city between \$30 and \$50 million in lost property tax revenue each year limiting the amount of investment the city can make in itself and its residents. And thus the cycle of disinvestment continues.

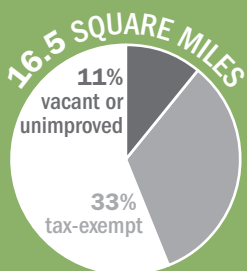
Coming on the heels of a half-century of decline is the more recent global economic collapse, which has further exacerbated the fragile economic condition of many residents, businesses and the municipality itself. Paying for basic needs like electricity and fuel for lighting, heating, air conditioning and transportation has become more difficult, and has forced other budget cutbacks, downsizing and retrenchment across the board. Bridgeport, like municipalities and states across the nation, has had to severely cut back on services, personnel and benefits (both current and future) in order to stay afloat. Regaining a strong fiscal foothold will require that Bridgeport find ways to redevelop its underutilized land, attract or create business and jobs, welcome more residents and build a tax base that can support expanded services. We must also free ourselves from the volatile fuel prices associated with foreign oil. This will mean fully embracing a "green" strategy for sustainable development and operations.

Bridgeport

Area vs. other municipalities (sq. mi.)



Vacant and tax-exempt land



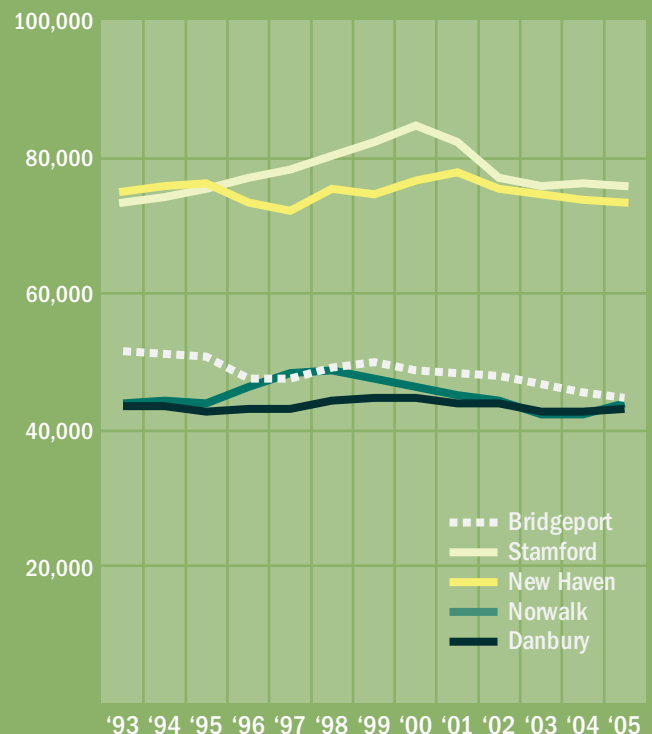
Bridgeport Office of Planning & Economic Development, RPA

Workforce vs. jobs



Bridgeport 2020: Plan of Conservation and Development

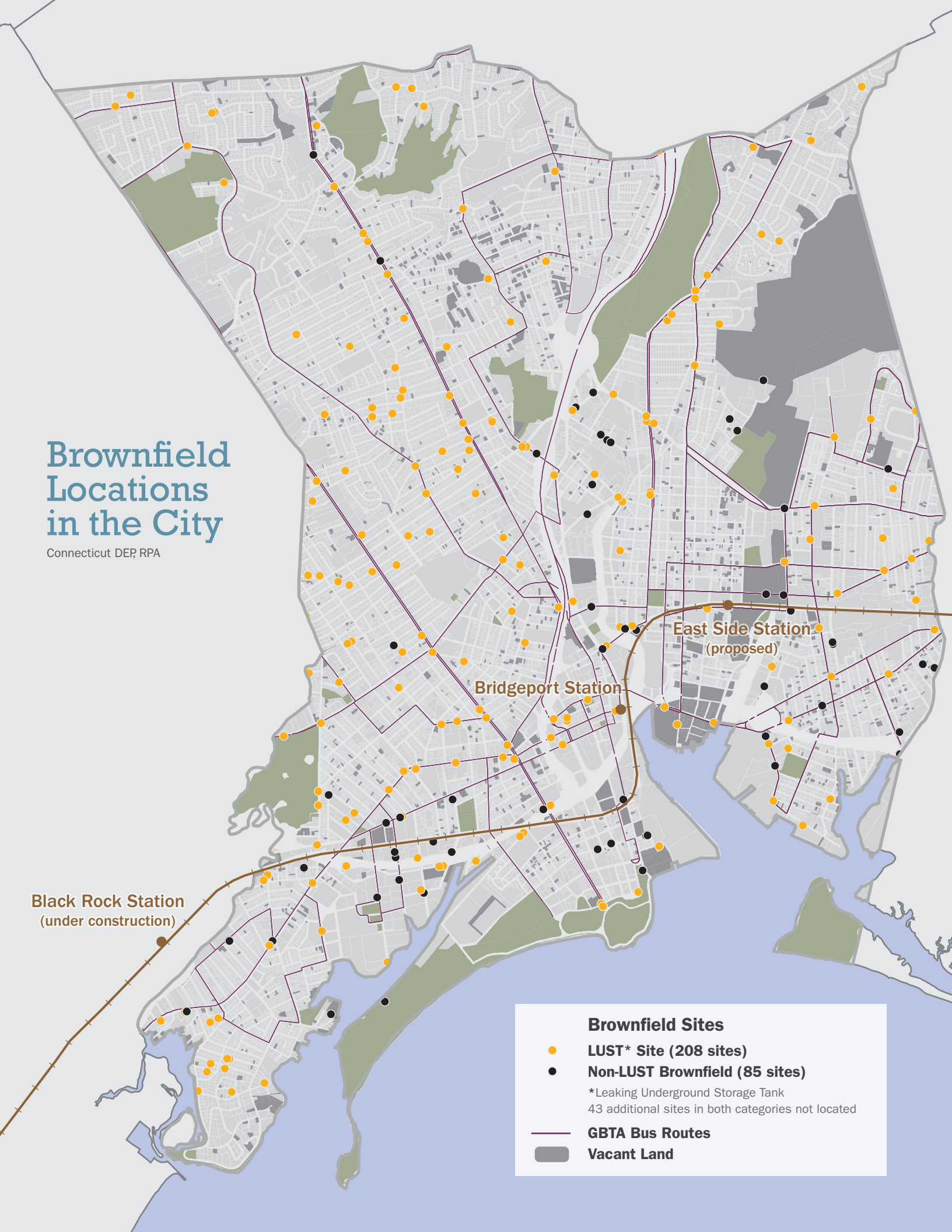
Bridgeport jobs vs. other municipalities



Connecticut Department of Labor

Brownfield Locations in the City

Connecticut DEP RPA



Black Rock Station
(under construction)

Bridgeport Station

East Side Station
(proposed)

Brownfield Sites

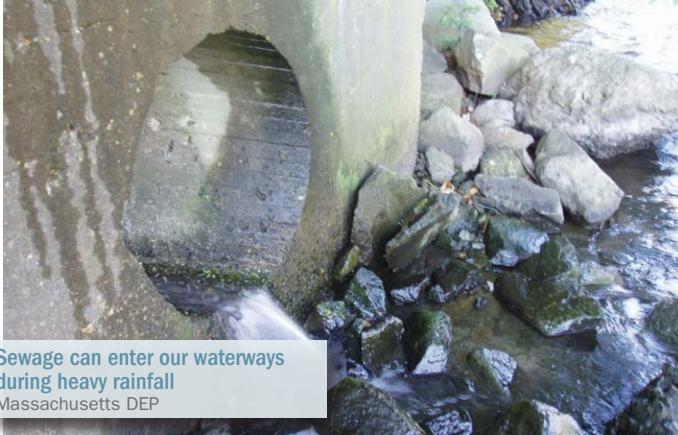
- **LUST* Site (208 sites)**
- **Non-LUST Brownfield (85 sites)**

*Leaking Underground Storage Tank
43 additional sites in both categories not located

- **GBTA Bus Routes**
- **Vacant Land**

Environmental conditions and challenges

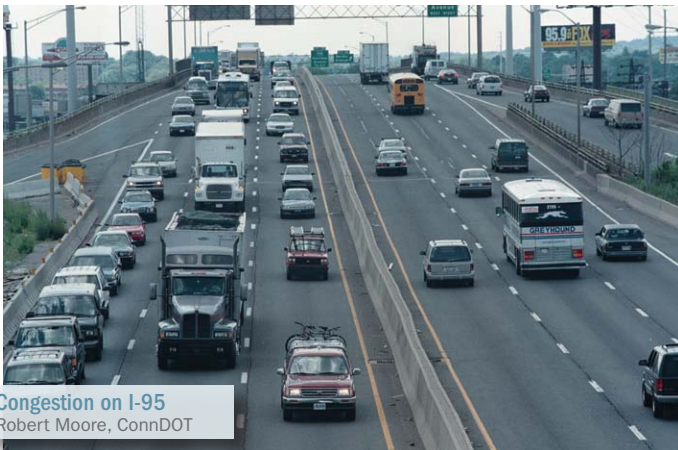
Bridgeport's industrial heritage and solid waste management practices that predated government regulation have left the city a legacy of pollution. Soils and waterways are contaminated with heavy metals, oil storage bins and munitions. The Connecticut Department of Environmental Protection has identified hundreds of sites as locations of known or potential land contamination covering nearly 15% of the city's land area (Connecticut DEP, 2009). Cleaning this land isn't only necessary for economic development but also to achieve healthy neighborhoods.



Sewage can enter our waterways during heavy rainfall
Massachusetts DEP

Water quality in Bridgeport's coastal area is relatively poor by CT Department of Environmental Protection standards. The city's combined storm water and sanitary sewer system overflows in major storms, contaminating our rivers and the tidal waters of Long Island Sound with raw sewage, oils, road salts and fertilizers. These overflows harm fish and other aquatic wildlife by reducing oxygen levels, and our wetlands are eroded by stormwater being directly discharged into the city's water courses. They also, at times, make the water unsafe for swimmers.

Our air is polluted too, by activities taking place within the city limits and throughout the Northeast and Midwest (NESCAUM, 2006). Both Fairfield County and much of Connecticut received failing grades for ozone pollution and particle pollution by the American Lung Association (American Lung Association, 2009) stemming from our region's power generation and truck traffic. Every day, almost 130,000 cars and trucks barrel through Bridgeport on I-95 and 80,000 use the Route 8/25 Connector (ConnDOT). Bridgeport's remaining industrial facilities and several power plants legally discharge more pollution into our air. Finally, the city's older buildings – those built before 1960 – create additional environmental concern because they contain lead-based paint and asbestos, and outdated boilers which degrade air quality.



Congestion on I-95
Robert Moore, ConnDOT

Ultimately, however, Bridgeport's greatest environmental challenge is climate change. Global warming will affect us, as it will affect every community worldwide, by changing our local climate, affecting water and food supply, increasing flooding, reducing biodiversity, and threatening human health. Unfortunately, even with immediate changes to our rate of emissions, Connecticut as a whole—and Bridgeport as a port city—will not escape impact. The problem is, of course, much greater than Bridgeport's alone, but it is our responsibility to do our share in reducing carbon emissions and to prepare for a changed climate.

Climate change is already affecting Bridgeport – warming ocean temperatures and melting polar ice means that sea level at Bridgeport is currently rising by 0.1 inch/year, faster than the world average. Climate change models predict the following rises above current sea level:

- **5.1 to 8.3 inches by 2020**
- **8.1 to 16.7 inches by 2050**
- **11.2 to 35.3 inches by 2080 (Gornitz, 2004)**

Higher sea levels mean stronger storm surges and greater coastal flooding which will threaten Bridgeport's rail and roadway systems, water treatment facilities, and all the structures that stand roughly south of the railroad.

Temperatures are also rising. Already Connecticut's temperatures have increased faster than the New England average, and are predicted to rise 2.5°F by 2030 and anywhere from 4°F to 9°F by 2100. With a 4°F increase, Hartford's climate will be more like Philadelphia's; with a 9°F increase, it will be more akin to Raleigh, North Carolina's (Gornitz, 2004). Higher summer temperatures will induce a greater number of heat-related illnesses and deaths, increase the incidence of insect-borne diseases such as West Nile virus and Lyme disease, and worsen Connecticut's already high rate of asthma. Increased water temperatures and loss of wetlands from rising sea level will have other environmental and economic costs here in Long Island Sound, by decimating fish and shellfish populations and their related harvest industries.

Global climate change is the product of individual actions taken in communities around the world; stopping climate change will require similar community-level action. The BGreen 2020 Initiative and the development of this plan represent Bridgeport's effort to aggressively combat climate change in a unified, citywide effort. And since governmental operations in the City of Bridgeport represent only 4% of total city greenhouse gas emissions, the most critical role that Bridgeport, or any municipality, can play is to facilitate change across all public and private sectors of the city. In order for Bridgeport to achieve any meaningful decrease in community-wide emissions, the city must commit significant financial and human resources toward reducing energy use, improving brownfields for reuse, cleaning its waterways, and providing transportation alternatives in walkable neighborhoods.

Floodplains and Coastal Impact Areas in the City

RPA Analysis of FEMA Data

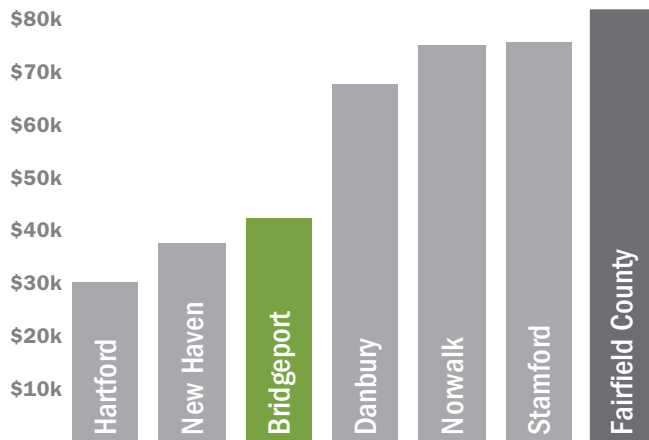


 100 year flood and coastal impact zones

Social conditions and challenges

Median Household income in Bridgeport vs. other municipalities

US Census



Decades of economic hardship have left Bridgeport residents with more limited opportunities than their suburban neighbors. The average Bridgeport household earned \$35,000 in 1999 (Census 2000), well below nearby cities like Danbury, Stamford and Norwalk. As of February 2009, one in four Bridgeport residents lives below the poverty level (about \$20,000 a year for a family of four), a rate nearly 2.5 times that of Fairfield County, and more than double that of Connecticut as a whole.

Limited personal means create greater need for municipal services to fill certain gaps, but the fragile economic structure of the city's tax base often does not provide the city government with the means to provide those services and amenities. The lack of high quality and accessible education, for instance, is demonstrated by the fact that the educational attainment of Bridgeport's residents has remained essentially unchanged since 1990 (Bridgeport 2020). Access to health care is hampered by high unemployment rates or employment in jobs that don't provide health insurance. This problem is particularly vexing given Bridgeport's high rates of obesity, diabetes and asthma. Access to low-cost, fresh produce is also an issue, although in some select neighborhoods the recent introduction of farmers' markets and community gardens have helped to alleviate the problem.

Recreational opportunities along our waterfront – swimming, fishing, and shellfishing – are constrained by extensive water pollution problems. Our green space is extensive, but it is not evenly distributed geographically, leaving many communities without a local park in which to relax or play sports. Many Bridgeport residents live in older, under-maintained housing units – sometimes near active industrial sites or vacant brownfields. Access to quality public transit is particularly important as many people do not own a car and depend on transit to get to work and other destinations.

Buildings are left abandoned and sites large and small are left vacant. These gaps in the built environment hinder the sense of strong, vibrant and complete neighborhoods. When buildings are abandoned, it all too often means losing a local grocery store, pharmacy or other neighborhood resource. In some cases, blighted properties foster crime, including drug use. Despite numerous and strong community-based organizations, and despite residents' strong ties to their neighborhoods, Bridgeport's social structure is weakened by lack of private investment in our communities.

Despite the city's many assets, including its natural resources, its hidden architectural, historical and cultural gems, and its diverse multicultural community, decades of disinvestment have left Bridgeport

with a poor public image. Even residents sometimes find it difficult to hope for better personal opportunity, or feel empowered for wholesale change.

Commercial growth is urgently needed to reverse this trend. While Bridgeport has experienced some business growth in recent years, a great deal more is necessary to increase employment, bolster the city's tax base, establish active communities and change the city's image. Jobs are necessary to enable personal self-sufficiency and improve standards of living. They also help to expand the city's tax base and improve basic municipal services to residents who have done without for a very long time, and who as a result often feel forgotten, disengaged or left out. A healthy social fabric in Bridgeport depends on a stronger economic climate and the improved and expanded city services that economic wealth can bring.

A solid foundation for change



Despite significant challenges, Bridgeport also possesses significant opportunities. With little additional investment, the city's existing infrastructure could easily support 25,000 more residents and significantly more industry, as it has in the past. Through rezoning, infill development and redevelopment, Bridgeport can grow quickly and sustainably within the existing grid. Our rich architectural, historical and cultural legacy remains untapped, awaiting a renaissance. Wonderful entertainment, cultural and educational attractions dot the city, including the Arena and Ballpark at Harbor Yard, the Barnum Museum, Playhouse on the Green, Klein Memorial Auditorium, Downtown Cabaret Theatre, Housatonic Community College, University of Bridgeport, Beardsley Zoo and Seaside Park. These are irreplaceable assets that can be further developed and strengthened to complement future residential and commercial growth in Bridgeport, and help create a complete and vibrant community. Bridgeport's major transportation hub, located right downtown within walking distance to residences and offices, gives city residents and workers bus, train, and ferry access to other destinations in the region and beyond. The confluence of Interstate 95 and State Routes 8 and 25 in the downtown provide good automobile and freight access as well. Finally, the waterfront, the cradle of Bridgeport's history, constitutes another great opportunity for growth, commerce, recreation and natural resource protection.

What Bridgeport will gain from BGreen 2020

Bridgeport can build on its assets to overcome these challenges, but the city's path to success will require that we approach economic, social and environmental issues in a comprehensive and sustainable manner. The BGreen 2020 Plan provides precisely this framework for sustainability – the framework through which Bridgeport can redevelop its properties, grow its commercial tax base and employment opportunities, encourage a green economy, protect our natural resources, and gain long-term security for neighborhood communities and the city as a whole. It is a path that makes economic sense, and that will also reap environmental and social rewards.

The economic case for sustainability

A new sustainability framework for Bridgeport will create jobs, save money for city government, households and businesses, bolster the city's sagging tax base, and provide greater opportunity for growth.

Job creation

Investing in green infrastructure will create jobs in a range of industries, including construction, energy, transportation, land use and landscaping, waste management, and water management.

- Retrofitting buildings to make them more energy efficient will require the services of a range of employees from entry-level to managers including energy efficiency installers, energy auditors and consultants.
- Generating renewable energy will create demand for laborers to finance and manage renewable energy projects, produce and sell equipment, and design and install renewable systems. Distributed generation for larger commercial and industrial buildings will require highly skilled energy engineers for design and implementation. We already have examples in downtown Bridgeport today where geothermal wells are utilized to heat and cool apartments in the former CityTrust building recently converted to residential by Urban Green Builders. These require skilled technicians for installation and maintenance.

Building Retrofits Jobs

Chicago's program to weatherize single-family, multi-family and commercial buildings will create green construction and building-operations jobs. Three out of ten jobs will be entry-level, providing new avenues to lucrative professions. Every \$1 million invested in the program will create 8 jobs for single-family retrofits, 6 jobs for multi-family retrofits, and 5.5 jobs for commercial retrofits. Since weatherization also requires building materials and/or appliances, the program will also generate additional, "indirect" demand for materials wholesaling and distribution (Schrock and Sundquist, 2009).



National Park Service employees installing a photovoltaic system on the roof of a building in San Francisco
National Park Service

Landscaping Jobs

Green jobs in landscape design and horticulture were given a boost by the ambitious Landscape Ordinance passed in Chicago in the 1990's. By 2004, there were more than 20,000 landscaping and groundskeeping jobs in Chicago's Cook County, a number expected to grow 14% by 2014 – twice as fast as other occupations (Illinois Department of Employment Security, Occupational Employment Projections, in Schrock and Sundquist, 2009). Every 1 million square feet of new green roof is estimated to generate 400 new jobs for roofers, landscapers and designers (Casey Trees Endowment Fund and LimnoTech Inc., in Schrock and Sundquist, 2009).

Deconstruction Jobs

Companies that specialize in deconstructing buildings and saving their historic materials for resale exist in cities all around the country. In Baltimore, a nonprofit called Second Chance employs 50 people in three deconstruction crews that are supported by a retail team. The company trains low-income residents in Baltimore in a variety of skills that enable them to make a living wage for the rest of their careers. Employees also develop an appreciation for their city's architectural heritage (Brown, 2003). ReUse People in California and The Green Institute in Minneapolis run similar operations.



Workers undertaking a green demolition in Buffalo
Buffalo ReUse

Retrofits Pay

The Shedd Aquarium in Chicago reduced its energy use by nearly 80% in 7 years and saved \$219,000 a year. How? By replacing its boiler with a new heating and air conditioning system, installing a reflective roof made of soy oil polymer, switching to motion-activated fluorescent bulbs, and updating its electric controls (Chicago Climate Plan, 2008).

Green Parking Lots

The owner and developers of U.S. Cellular Field, home of the Chicago White Sox, recently rebuilt one of its main parking lots (over 6 acres in size) with concrete pavers. Gaps between the pavers enable water to seep back into the earth, or more precisely, into a subbase capable of retaining 600,000 gallons of water, equal to a 100-year rain event, and then into the earth. The \$3.5 million investment saves the City of Chicago about \$400,000 reducing the amount of water entering the storm sewers and needing to be treated. The pavers have a life expectancy of 40 years, longer than asphalt (Concrete Products, 2008). They also reduce the urban heat island effect, because they are more lightly colored than pavement, and thus reflect more sunlight. Finally, the pavers are partly made from recycled material (Radick, 2008). Several other ballparks have followed U.S. Cellular Field's lead, including Citi Field, home of the New York Mets.

Location, Location, Location

Middle-income families living in central Tucson, Ariz., were found to spend less than 30% of their income on both housing and transportation costs. Families in outlying areas, by contrast, spent more than twice as much, making it hard to save money and build assets. (Investing in a car has no long term value.) (Bullock and Bernstein, 2002, in Center for Neighborhood Technology, 2009).

The Value of Green Space

In Philadelphia, properties within 500 feet of parks are worth 5% more than homes farther away. Aggregate increase in property values: \$690 million. Associated increase in property tax revenue to the city: more than \$18 million a year (Gies, 2009). In Atlanta, the value of condominiums adjacent to the new Centennial Olympic Park rose from \$115 to \$250 a square foot (Gies, 2009).

Flocking to a green Portland

The reputation of Portland, Ore., as one of the country's greenest cities, with close-in neighborhoods accessible by foot, bike, or light rail, has attracted highly educated young professionals in droves. From 1990 to 2000, the number of college-educated 25 to 34 year-olds increased 50% in the Portland metropolitan area – five times faster than in the nation as a whole (Cortright, 2007). With new transit lines and development along their formerly industrial waterfront, this trend has continued over the past decade. Contemporary economic development focuses more on creating livable communities where workers want to locate than luring companies through tax breaks and other corporate incentives.

- Adopting smart grid and smart meter technology will require new and different skills by utility electrical workers and specialty contractors, while installing household renewable energy systems, including solar photovoltaic (PV) and thermal, geothermal and “small wind” will employ system designers, electricians, operators and installers (Schrock and Sundquist, 2009)



Downtown is the intermodal heart of the region's transit network
RPA

- Expanding regional transit will directly employ construction laborers, transit planners and engineers, and expanding public transit will require more transit operators and maintenance workers. Every \$1 million invested in transit creates 80 capital-construction jobs and an additional 100 transit operations jobs (a similar investment in highway construction only generates 42 jobs) (Surface Transportation Policy Project, *Factsheet on Transportation and Jobs*).
- Redesigning streets into complete streets, with pedestrian and bicycle infrastructure alongside automobile travel lanes, and with new landscaping in some cases, will need planners, designers, engineers and road construction labor (Schrock and Sundquist, 2009).
- Greening Bridgeport's solid waste stream through increased recycling and reuse will also generate jobs. Recycling products at a conventional materials recovery facility creates an average of 10 jobs compared to one job created to incinerate an equal amount of waste (Institute for Local Self-Reliance). Expanding Bridgeport's recycling to include appliances and electronics, organic waste and composting, and a program of waste oil collection, will create additional opportunity.



Bridgeport mayor Bill Finch distributes free recycling bins to a city resident
City of Bridgeport

- Salvaging historic construction materials as buildings are demolished will create jobs disassembling buildings, as well as in the architectural preservation and reuse industries.



A bike lane in downtown Minneapolis
Flickr: Matty Lang

- Green investment in water management offers opportunity for yet more jobs with living wage salaries. Workers with skills in landscape design, horticulture and arboriculture will be needed to add trees, bioswales, rain gardens, and green roofs to our city's environment. Upgrades to our traditional water infrastructure – including the new requirements of Bridgeport's Storm Water Management Regulations – will employ construction workers, technicians, landscape architects, civil engineers and management staff.

The BGreen 2020 Green Jobs Plan is to empower and equip Bridgeport's existing technical schools and universities with the green-jobs training programs necessary to build Bridgeport's new green workforce.

A stronger tax base

Sustainable development will increase Bridgeport's tax base and provide direct revenue to the city. Sales of publicly owned properties over the past two years have netted the city \$2.1 million to aid the municipal budget. If vacant brownfields in the city were redeveloped and returned to their highest and best use, the city's tax rolls could increase by up to \$50 million annually. The beautification and redevelopment of blighted properties will increase the values of households adjacent to them. As new residents and workers are attracted to new development in the city, they will support local businesses, keeping them in business and increasing their value.

The construction and ongoing management of green buildings – with state-of-the-art energy efficiency and other green technologies – will attract attention to Bridgeport and make the city more competitive in the regional market. This, in turn, will further increase the city's tax base and its ability to provide services.

Cost savings

Bridgeport residents, businesses and the city government can save money by implementing sustainability measures such as retrofitting buildings for more efficient energy and water use, building transit-oriented development to encourage transit use, and planting trees and bioswales to reduce stormwater runoff. Electricity, heating, water and other utility bills will be lowered when energy isn't being wasted, freeing up money for other expenditures in households and businesses across the city.

A recent study showed that investments in residential energy efficiency generated a return on investment of 12.5% to 30% – a higher return than one earns on most other investments. Cost savings can also be gained by trading in appliances for newer higher-efficiency models, replacing incandescent bulbs with compact fluorescent bulbs and unplugging appliances when not in use. Since low-income families spend up to a fifth of their income on energy costs, these savings can be substantial (Chicago Climate Action Plan, 2008).

More expensive investments in schools, offices and government buildings can often be financed up front by a performance contractor by leveraging future fuel and electricity cost savings.

Water conservation measures also save money. Installing rain barrels to collect rainwater and using it for landscaping, for instance, reduces water bills for the property owner and saves the city the cost of treating the stormwater. Low-flush toilets use about half as much water as traditional toilets, and their up-front cost can be paid back in just three years.

The location of new residential and office space has significant cost-reduction potential, both for property owners and for the municipal government. Neighborhoods with homes, offices and retail in close proximity give people the opportunity to walk, take a bus or even bike to their destinations, reducing or eliminating the need to own a car. In fact, although single-family homes farther from downtown appear less expensive than homes closer in, the transportation costs incurred when living far away can outweigh savings on housing costs (Lipman, 2006 in Center for Neighborhood Technology, 2009). Giving up a car and switching to transit can save up to \$5,000 a year in fuel, insurance and parking costs (Chicago Climate Plan, 2008). Using transit also helps to untie Bridgeport's growth from volatile fuel prices.

The larger benefits of being green

Green investments often have additional ancillary benefits, though they can be difficult to measure. Designating a new park, for example, precludes it from being developed and removes a potential source of revenue for the city, but it also generates other economic benefits. It increases the value of nearby properties – sometimes enough to make up for any loss in property taxes from the park site. More broadly, a park will also reduce health care costs thanks to cleaner air and new recreational opportunities, reduce water treatment costs thanks to more stormwater diverted away from the sewer system, and improve the fishing and shellfishing industries thanks to less water runoff to Long Island Sound.

Improving Bridgeport's image

As the reality of climate change sets in, the country and the region will soon be turning to those communities that have already demonstrated leadership in the area of sustainability. By implementing BGreen 2020, Bridgeport will position itself to be that leader, developing a green workforce and refining the green policy models that others will want to copy. As a side benefit, these sustainability strategies will help to transform the City's image from a rust-belt city struggling with its post-industrial legacy to a clean, green community with a high quality of life.

The environmental case for sustainability

While individual actions can sometimes seem too small to matter, a comprehensive implementation of the BGreen 2020 Plan will have major beneficial impact on our environment. Switching out incandescent bulbs for compact fluorescent bulbs, planting more trees, better insulating our buildings, removing underground storage tanks, encouraging people to use transit, walk and bike, and all the other individual and collective actions we take will significantly curb Bridgeport's contribution to climate change, improve the quality of our air, reduce ground and water pollution, improve public health, and bring nature back into our city.

The social case for sustainability

A sustainable framework for growth moving forward will help to improve social equity in Bridgeport. Cleaner air and better recreational opportunities in parks and along our waterfront will disproportionately benefit struggling Bridgeport residents. Sustainability initiatives will also help to create lively, people-focused communities. "Complete streets," designed for all users, not just drivers, bring neighborhoods together, instead of separating them as wide, busy roads do. Mixing retail, office and residential space supports small businesses. Investing in public transit provides greater economic opportunity and greater choices for all adults who wish to work. A thriving local economy gives individuals and families the chance to become economically stable, self-supporting, empowered and hopeful. The future presented by BGreen 2020 represents unparalleled opportunity to create a stronger social fabric and vibrant citywide community.

Institutionalizing Bridgeport's efforts into a comprehensive strategy

The City has already undertaken a number of initiatives to improve economic, environmental and social conditions in Bridgeport that - while not always advertised as sustainability - have laid a strong foundation for the BGreen 2020 Initiative.

Acting for environmental change

In 2005, Bridgeport joined ICLEI's Cities for Climate Protection Campaign and signed onto the Mayors Climate Protection Agreement, both commitments to reduce Bridgeport's contribution to the problem of climate change. Even with a limited budget, the City has already reduced municipal energy use and carbon emissions by over 6%.

New energy-management systems in municipal buildings, including motion-activated lighting, new lighting fixtures, more efficient HVAC systems, and a thorough analysis of utility bills to identify energy usage anomalies or trends have, together, reduced greenhouse-gas emissions from electricity use in municipal buildings by nearly 2,400 metric tons or 9% of total annual municipal building emissions (The U.S. Conference of Mayors featured many of these efforts in its *Energy and Environment Best Practices Guide*.) By retrofitting traffic and street lights with LED components or other more efficient bulbs, the city has saved an additional 220 metric tons of CO₂e or 0.5% of municipal electricity usage. Bridgeport showed further commitment to reducing its climate impact with purchase of 20% "green electricity" (8,900 MWh per year) for its municipal buildings and schools since 2007. Through the Conservation Corps and household weatherization programs, the city is working to expand its success beyond municipal operations and to the entire community.

Since 2006, the City has joined forces annually with TechniArt to host several very successful Lighting Fairs that made available compact fluorescent lights and fixtures, at reduced prices, to employees and the general public. The state's energy conservation fund, managed by two state electrical utility companies (United Illuminating and Connecticut Light and Power), subsidized the cost of the merchandise.

The City has reduced its carbon footprint in the transportation sector by reducing the city fleet, retiring older vehicles and replacing them with lower-emissions alternatives (compressed natural gas and hybrids), and installing GPS in a portion of the municipal city fleet to track vehicle use and improve routing efficiency.

The first compressed natural-gas fueling station open to the public between New York City and Hartford opened in 2006 as a result of the public-private partnership between the City of Bridgeport, Iroquois Gas Transmission System, Santa Energy Corporation, the State of Connecticut, Southern Connecticut Gas Company and Clean Cities Coalition of Southwest Connecticut.

The City has made strides in cleaning up brownfields by raising federal funding to assess and clean up dirty sites, and then leverage private sector investment on those sites. Since 1994, the City has secured \$5 million in U.S. EPA funding for site assessment, cleanup, training and revolving loan funds across the city of Bridgeport. The City's efforts to complete initial assessments at the former Carpenter Steel site reduced the risk of redevelopment and led to Derecktor Shipping building their new ship-building facility on 23 acres of the site. The City-led site assessment of the former Jenkins Valve site persuaded the Zurich Re Corporation to clean the site at a cost of \$11 million and revitalize the area with the Arena and Ballpark at Harbor Yard, now home to the Bridgeport Sound Tigers and Bridge-

port Bluefish. Most recently, the city has invested its resources in the Steelpointe and Carpenter Technology sites to spur the private investment that will generate retail and commercial business opportunities, jobs, and additional tax revenue.

In 2008, recognizing the need for a comprehensive approach to sustainability, the Finch Administration issued an Executive Order that launched a citywide sustainability initiative in partnership with the Bridgeport Regional Business Council, from which the BGreen 2020 Plan ultimately emerged. More recently, the City launched the Mayor's Conservation Corps, a job opportunity for young adults to canvass Bridgeport neighborhoods and raise awareness about the environment; adopted Storm Water Management Regulations for new development projects in Bridgeport; established the legislative framework for an Energy Improvement District; and started retrofitting approximately 2,500 of the city's public housing units with energy- and water-saving measures expected to reduce emissions by more than 3,000 metric tons CO₂e a year and save almost 100 million gallons of water a year.

Acting for social change

The City is in the middle of an aggressive long-term plan to renovate and build new educational facilities. Five new state-of-the-art schools that accommodate 3,000 students are complete. A new science and technology magnet elementary school will open in August 2010. Major renovations are underway at the Regional Aquaculture School, one of 26 schools undergoing repair or renovation.

The City has implemented a new community garden program, offering 10-year leases to city residents who wish to grow flowers and fresh produce on vacant city sites. These new green spaces provide neighborhood residents with a safe place to socialize as well as fresh locally grown food. Renovations have started at Seaside Park, a 370-acre Olmsted design on the Long Island Sound, with the construction of bioswales and retention ponds to improve stormwater quality, the planting of 100 new coniferous trees as a screen from the landfill, the construction of West Beach Bathhouse and the renovation of the historic Casino Bathhouse. Went Field was also recently renovated and expanded from 6 to 10 acres after the City acquired and cleaned up two adjacent brownfields – a critical gain in open space for West End residents, where open space is scarce (<http://www.epa.gov/region1/brownfields/success/bridgeport.html>). A 1.6 mile stretch of an old rail line has been converted to a walking and bicycling trail along the Pequonnock River. Finally, throughout the city, decorative lighting as well as new trees and landscaping in the medians and sidewalks create more pedestrian-friendly environments and have been completed on nearly 15 miles of the city's roads.

The City has completed other important projects that support Bridgeport's social infrastructure, including the construction of the Arena and Ball Park at Harbor Yard, the renovation of the Klein Memorial Auditorium, the expansion and upgrade of Bridgeport's Transit Center, and the renovation of the Wonderland of Ice.

Private entities have made equally valuable contributions to Bridgeport's sustainable future. Housatonic Community College expanded into the former Sears building, and renovated its Performing Arts Center. St. Vincent's Medical Center is in the process of greening its facility. A new Independent Arts Council aims to develop and market the arts in Bridgeport. And of course, countless other civic and faith-based organizations work every day to improve Bridgeport through clean-up projects, mentoring programs, training workshops, and food and goods collection.

To ensure that planning in the city is done in concert with its many neighborhoods, Bridgeport's Neighborhood Revitalization Zones are helping to build a sustainable Bridgeport by empowering residents to help direct the future development of their own neighbor-

hoods. Since the creation of the zones was enabled by the state in 1995, four Revitalization Zone plans have been officially designated in the city and two more are being drafted.

Acting for economic change

At a time when Bridgeport needs tax revenue, the City cannot afford to own excess property. Over the past several years, Bridgeport has consolidated some of its municipal operations and sold unneeded parcels to enable downtown development for housing and commerce. In addition to netting \$2.1 million from the sale of the properties, the new developments generate more tax revenue for the city, create construction and rehabilitation jobs (approximately 150 jobs), attract more residents (at least 1,000 new apartments downtown), allow for the renovation of historic buildings, and enhance the vibrancy of downtown.

The City has reduced its municipal fleet, lowering operating costs and generating revenue from the vehicle sales. Energy retrofits in buildings, street lights and traffic lights have saved kilowatts and dollars (see Acting for environmental change for a more complete list of energy-savings measures adopted in Bridgeport).

Several City Service Departments, including Fire, Police, and the Board of Education, have found ways to tighten budgets and make contractual concessions while continuing to provide services.

With the help of EPA funding and the WorkPlace, the City has provided green job training for lead and asbestos abatement, environmental technician and hazardous waste operations and emergency response. As noted earlier in this report, the City and private interests have also successfully completed a number of site remediation projects to enable redevelopment of underdeveloped properties.

Moving Forward

Bridgeport's environmental measures, social initiatives and economic investments over the last decade have achieved positive and measurable results. But more is needed. Bridgeport's challenges continue to loom large – global climate change, deep pockets of poverty in our neighborhoods, and contaminated land, water and air – and they give us no choice but to act boldly. If Bridgeport is to survive and thrive, it must become, in Mayor Bill Finch's words, "the cleanest, greenest, safest, and most affordable city, with schools and neighborhoods that improve every year."

On October 24, 2008, Mayor Finch signed an Executive Order, with the goal of developing a comprehensive sustainability strategy for Bridgeport. This Order:

1. Reestablished goals for reducing carbon emissions;
2. Established a Sustainability Community Advisory Committee composed of nearly 40 community leaders to oversee a citywide sustainability initiative;
3. Launched a citywide sustainability initiative in partnership with the Bridgeport Regional Business Council.

This Executive Order, and the BGreen Plan that has emerged from it, marks a new beginning for Bridgeport.

From Vision to Plan

A Comprehensive Process

Bridgeport's BGreen 2020 Sustainability Plan outlines the policies and actions to be implemented in the next decade to improve the quality of life, social equity, and economic competitiveness of the city's residents, workers, and visitors. By building on Bridgeport's existing strengths, BGreen will modernize our infrastructure, create wealth, intensify urban amenities, enhance environmental quality, enable revitalization without gentrification, and retain Bridgeport's historic character.

The BGreen 2020 initiative recognizes that global and regional issues are intertwined with local issues; and that economic success is linked with social and environmental prosperity. A brownfield site that has been reclaimed and redeveloped as a new mixed-use building near transit improves the city's environment, adds to its tax base, provides jobs, promotes walking, reduces gasoline consumption and air pollution, and enhances public health.

The success of BGreen 2020 depends on broad public participation. Throughout the planning process, BGreen 2020 has sought and incorporated ideas a broad spectrum of stakeholders. The process

thus far is described in detail in the figure below and the public will continue to be involved as the plan is implemented over the coming decade.

A public/private partnership leads the way

BGreen 2020 is the result of a public-private partnership between the City of Bridgeport and the Bridgeport Regional Business Council, a consortium of local business groups. This public/private structure was chosen because it is the best way to ensure meaningful success for Bridgeport. After all, City government is just one of a larger group of actors in Bridgeport, the source of only a small part of the city's air, water, and land pollution, the employer of only a fraction of residents, and the holder of only limited assets. Public-private partnerships allow the government to set the policy framework and make initial investments which are then leveraged by the private sector into wholesale change. Public/private partnerships are also effective ways to mobilize a range of stakeholders, particularly stakeholders whose actions have a citywide impact. Public/private partnerships, finally, are able to complement the City's limited financial resources and staff by raising the supplemental capital and bringing additional experience to the table. Further down the road, this early participation from the private sector and foundations will help leverage state and federal funding to bring individual projects to fruition. Many other successful sustainability initiatives have been based on similar public-private structures including, those in Denver, CO., Trenton, NJ, and Vancouver, Canada.

To lead this initiative, the Bridgeport Regional Business Council hired a program management team led by Regional Plan Association and including Global Infrastructure Strategies, the Meridian Institute, and MP & Associates. Together, the team brought to the project a strong background in stakeholder engagement, planning and implementation.

The team established a Community Advisory Committee with more than 40 people representing government, local businesses, the civic sector, and the community at large. The Community Advisory

Organizational Chart



Committee met quarterly over the course of the first year of this initiative and oversaw the overall development of the BGreen Plan. Five Technical Subcommittees were also created to help define BGreen's policy strategies and goals in five separate program areas (see our chart). Each subcommittee was composed of 15 to 20 volunteers with significant knowledge about that area, and was co-chaired by two well-respected community leaders. The technical subcommittees met frequently throughout the year.

Technical subcommittee program areas:

- Greenfields and Green Wheels (land use and transportation)
- Green Spaces, Recycling, and Water Resources
- Green Energy and Buildings
- Green Businesses, Jobs and Purchasing
- Green Marketing, Education and Outreach

The Technical Subcommittees drew upon existing planning documents, including Bridgeport's most recent Master Plan, *Bridgeport 2020*, Local Neighborhood Revitalization Zone (NRZ) plans, and various department plans. They also benefited from the considerable knowledge and expertise of local stakeholders who represented such diverse interests as state and federal environmental, energy, labor and housing agencies; energy companies, utilities, banks, and real estate development firms; professional stakeholders including architects, landscape architects, and attorneys; professional associations including the American Institute of Architects and U.S. Green Building Council; neighborhood representatives including NRZ groups, City Councilors, advocates for environmental justice, land conservation, health and recreation; local and regional educational institutions; and nationally known experts in the fields of energy, green spaces and transportation. These subcommittees generated initiatives that were subsequently analyzed internally with triple bottom line accounting and vetted by the Community Advisory Committee.

Using the Triple Bottom Line as the measure of success

Triple bottom line accounting means expanding the traditional reporting framework to take into account ecological and social performance in addition to economic performance.

All initiatives to emerge from the Technical Subcommittees were reviewed within a Triple Bottom Line (TBL) framework to assess their overall community impact. TBL accounting is neither exact nor purely quantitative. It is designed to assess both positive and negative externalities of decisions beyond their direct cost and financial payback period. While the public health benefits of reducing the amount of cars on our roads and their emissions is incredibly complex to determine, we can qualitatively assess whether it will have a very positive, positive, neutral, negative, or very negative impact on the community economic, social, and environmental well being.

Using 14 criteria approved by the Community Advisory Committee, every BGreen proposal to emerge from the Technical Subcommittees was evaluated for TBL and assigned a cumulative TBL rating. (While the qualitative nature of the TBL scoring demands that care be taken in making "total score" comparisons, the true value of the TBL assessment is in its requiring broader thinking.) One of the most critical elements in achieving sustainable living is to create a widespread sustainability mindset throughout the city. The criteria used and full analysis can be found online in Appendix 6.

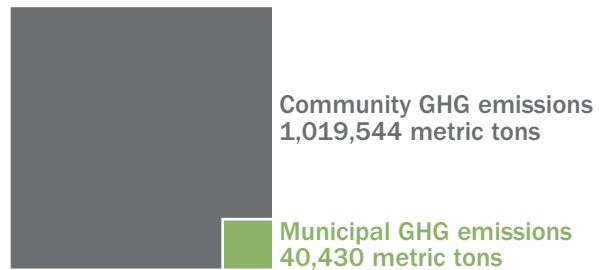
Though TBL analysis is not currently the norm for decision-making, it is becoming established policy in several large cities across the globe including Melbourne, Australia and Calgary, Canada. A cursory review lends the conclusion that this is the first instance of

TBL accounting being used as an analytical tool by any Connecticut municipality. It is hoped that this TBL assessment will prove a model for additional actions within Bridgeport, regionally and at the state level for policy, planning and governance. Through additional, similar assessments, all residents will gain greater awareness of the full meaning of all costs and benefits of certain actions—a necessary step towards achieving sustainable living and combined economic, social, and environmental prosperity.

A model for others

Municipal vs. Community Emissions

RPA*



Many cities and towns around the country are moving their municipalities toward sustainability. In some, city staff members are taking the lead with changes to governmental operations, and, to whatever extent possible, developing programs aimed at broader community action. In others, small advisory committees are forging plans for energy reduction or other targeted areas. From the start, BGreen 2020 recognized the comprehensive nature of sustainability and responded with comprehensive action. Given the fact that city operations account for only 4% of community-wide emissions, the initiative structure developed for BGreen will provide a model for cities across the country looking to forge the partnerships necessary to go beyond municipal impact.

By forming five distinct Technical Subcommittees, the initiative has been able to simultaneously address the spectrum of sustainability concerns. Within a relatively short time frame, this organizational model has proven extremely effective not only in enabling plan development, but equally importantly in prompting discussions across multiple sectors, drawing quickly upon the varied technical expertise of many representatives, and developing multi-party buy-in. Furthermore, the creation of a public/private partnership between the City of Bridgeport and Bridgeport Regional Business Council proved a uniquely successful strategy for prompting greater participation by stakeholders, and in accessing necessary financial support, than would likely have resulted from the effort being run solely out of city hall.

If our nation and world are going to make the timely changes necessary to rebuild our economy based on green industries, reduce our greenhouse gas emissions staving off extreme climate change, and eliminate the social inequalities that result in the most vulnerable members of our society bearing the brunt of the impacts of global warming, it will be achieved through partnerships modeled after BGreen that bring public, private, and civic partners together in the effort at the local scale.

* Using Clean Air and Climate Protection (CACP) software, developed by the National Association of Clean Air Agencies, ICLEI-Local Governments for Sustainability, and Torrie Smith Associates, Inc.

Summary of BGreen 2020 goals and priorities

The BGreen 2020 Sustainability Plan focuses on five areas essential to improving the quality of life in our city: energy supply and demand, transportation and land use, open space and water quality, the green economy, and the amplification of the benefits of sustainability. The actions outlined in the plan are each important in their own right; combined, they provide an even stronger framework for realizing the economic, social, and environmental revitalization of Bridgeport.

Green Energy and Buildings

Primary Goals

- Utilize sustainable energy practices and production as a driver for economic development; generate significant savings for municipal facilities, businesses and residents; and reduce the carbon footprint of the community.
- Improve the energy efficiency of public and private sector facilities and residences, creating real dollar savings and environmental benefits.
- Lower energy costs through aggregation programs and other bulk purchasing opportunities.

Implementation priorities

Energy supply and costs are critical drivers for the growth and redevelopment of the city. One of the most important steps for the city to take is to **establish an Energy Improvement District (EID)**—a step that is already enabled by state law and municipal ordinance—and name an independent Board to coordinate city energy policy, oversee energy efficiency projects, develop more renewable energy resources, and establish policies to cut energy costs and consumption. Under the aegis of this EID Board, the City of Bridgeport will create policies and programs to maximize conservation and energy efficiency through residential and commercial weatherization efforts, the **retrofitting of all municipal facilities**, and the **conversion of the wastewater treatment facility into a state-of-the-art green technology operation**. The EID will also ensure that the power we use is increasingly clean, whether it was produced at a **renewable energy park in Bridgeport**, or purchased from elsewhere through green generation companies.

Greenfields and Green Wheels

Primary Goals

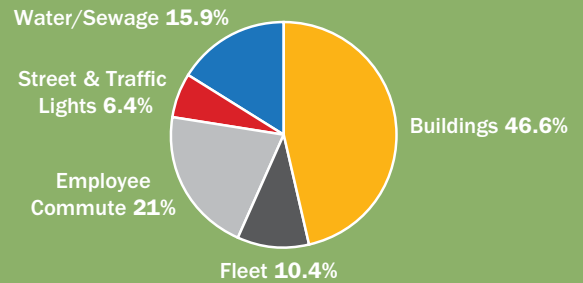
- Reduce automobile trips, vehicle miles traveled, and the city's transportation emissions.
- Facilitate the redevelopment of underutilized sites throughout the city, transitioning blighted properties into neighborhood amenities that support the city's tax rolls.
- Provide city residents, workers and visitors with a wide range of mobility options that are less carbon intensive.

Implementation priorities

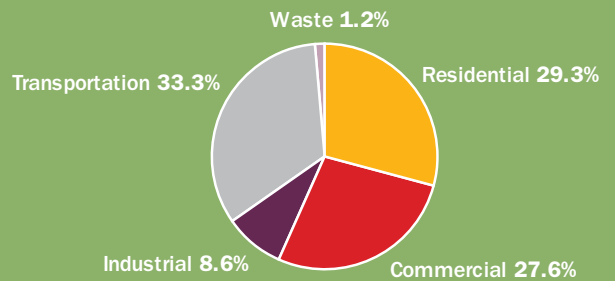
A **"Transit First"** policy to encourage mode shift from single occupancy automobiles to walking, bicycling and public transit will establish the City's transportation priorities and serve as the foundation for all other steps. Developing **"complete streets"** with bicycle and pedestrian opportunities along with automobile lanes, and promot-

Bridgeport Emissions

Municipal Greenhouse Gas Emissions by Sector



Citywide Greenhouse Gas Emissions by Sector



ing **public-transit incentive programs** will put the policy into motion. Support will be developed by outreach to the largest employers to identify workable programs and incentives such as "eco passes," hour car availability, and van and shuttle services which can be implemented to reduce single-occupancy driving, road congestion and air pollution. Transportation demand will be analyzed to prioritize bus and train infrastructure and operating investments along with a funding strategy to enable their implementation. **Expanded bus operations**, targeted **enhanced bus corridors**, and a **new East Side train station** will be explored.

The City took its most powerful first step toward a sustainable land use strategy when it enacted **zoning amendments** in 2009 to enable transformation of unused industrial sites into commercial sites and to enable mixed-use development and pedestrian-centered neighborhoods. Developing a **top-notch GIS system** is necessary to enable redevelopment *and* sound comprehensive land use planning. By optimizing GIS capability, every interested party and municipal planning department will be able to make the most informed decisions regarding a particular site's potential and drawbacks as related to a myriad of uses including development and development costs, flood control, and green spaces use within the larger neighborhood and city context. Developing Bridgeport's GIS system into a comprehensive planning tool can be accomplished by expanding information links, creating near real-time updating and by optimizing data accessibility.

Green Spaces, Water Resources and Recycling

Primary Goals

- Ensure the city's residents have access to abundant, high quality, and interconnected open spaces that foster community cohesion and stewardship.
- Reduce overall waste and maximize the share of the waste stream that is recycled and composted.

- Ensure residents have access to safe, clean drinking water and healthy coastal resources.

Implementation priorities

Developing a quality greenspace system will require Bridgeport to pursue four actions. First, the City must **inventory existing green spaces and develop a comprehensive plan for expansion**. This plan must take into account the needs of underserved communities and populations, provide gardens and urban farms for food and recreation, supplement current passive and active recreational opportunities, provide waterfront access, expand the street tree program and urban forest, provide for linkages between green spaces, and protect the integrity of Bridgeport's natural water systems through updated coastal area management zone and inland wetlands and watercourses plans. Establishing a voice for green spaces and environmental issues is a second critical element of green space development and can be accomplished through the **establishment of a Conservation Commission** and a stronger green space coalition to act in a "Friends of Parks" capacity. Both entities will help forward a third critical initiative – the development of **adequate equipment and resources for maintenance** of the viable green space system. Finally, Bridgeport must encourage its residents to **develop stewardship programs**, which help secure the city's valuable green spaces as healthy community resources.

A threefold approach will reduce solid waste produced in Bridgeport. **Recycling education** will be combined with door-to-door outreach through the **Conservation Corps** and infrastructure investment to reduce the onus on participants, evolving recycling into an everyday occurrence across the city. In addition to expanding its reach into the entire residential sector, Bridgeport will **establish credible commercial recycling programs** by hosting educational forums and supporting the recycling efforts of businesses large and small. A move to single stream or other, more comprehensive recycling methods will build upon this expanded recycling participation and enable greater gains by offering the chance to recycle more types of products. Attention will be focused on construction and demolition materials recycling through regulation, incentives and infrastructure development. Finally, a comprehensive composting program to convert food waste to reusable soil should be developed in coordination with the schools, hospitals, universities and food service industry.

Education will be the first step towards water resources protection. We will raise residents' awareness of their impact on our water resources, through door-to-door canvassing by our Conservation Corps and by including **BGreen logos on the City's storm drains** that lead directly to Long Island Sound. The City's **sewer separation** program will be supplemented with a host of site-specific measures such as **green roofs, swales and rain barrels**, also by engaging residents' personal commitment to our city's water management system. The City's first **Stormwater Management Guidelines** were recently adopted and are expected to regulate stormwater on all future larger-site development. The city's GIS database will help identify best opportunities for site-specific water management that can be accomplished through rain gardens on private sites and through the inclusion of green spaces in the development of Complete Streets in public rights-of-way. Overall, identifying stormwater as a distinct responsibility of city government and private property owners will be essential to managing the simultaneous threat and resource.

Green Businesses, Jobs and Purchasing

Primary goals

- Assist green businesses to grow and prosper in Bridgeport and help the city diversify its business base.

- Create 1000 new green collar jobs in Bridgeport by 2012 by recruiting green businesses and training workers for the new green economy.
- Utilize the purchasing power of the public and private sectors to buy green products, including recycled materials, green cleaning products, green energy, and other eco-friendly products and materials

Implementation priorities

Bridgeport can become a focal point for green business and jobs creation in the State of Connecticut. A three-tiered approach under the auspices of a **Green Collar Institute** will change the face of the city and build a foundation for Bridgeport's economic revival. A model **green business incubator** or green business cluster, with a core of twenty companies, will be developed in order to bring new green jobs and innovation to the city. This economic niche will reposition Bridgeport for the next 50 years. Complementing this business opportunity will be a comprehensive **green collar jobs career-ladder training continuum**, which will be developed through a partnership between the region's Workforce Board, its vocational, two-year and four-year colleges, and numerous nonprofit institutions to provide nationally recognized certifications in fields such as weatherization, green facilities management, green landscaping, and water resource engineering. A recent \$4 million grant from the Federal Department of Labor will be used to jumpstart this effort. Additionally, using municipal buildings and operations as a pilot, Bridgeport will move to incorporate **environmentally preferred purchasing** and operations in all city functions, from buying recycled and environmentally appropriate products to creating greater incentives that support mass transportation options for its employees. Finally, it is recommended that the Bridgeport Regional Business Council and the City work together with businesses and residents to take steps to **green existing facilities, homes and lifestyles**. While the city will play an important leadership role, the most dramatic impacts can come from the residential and commercial sectors of the city where past practices have led to environmental neglect.

Green Marketing, Education and Outreach

Primary goals

- Educate students about sustainability that will assist them in better understanding how energy efficiency and conservation contribute to a healthier environment and save money.
- Increase awareness and introduce best practices to Bridgeport residential households on living in a more sustainable manner.
- Brand the BGreen initiative as an essential component of the city's revitalization plan.

Implementation priorities

One of Bridgeport's greatest assets is its diversity of communities, all of whom will be engaged in Bridgeport's sustainability efforts through a variety of early-education and outreach initiatives. Educating residents on the environmental, social and cost-saving benefits of sustainability and how to reap these benefits will be a top priority. One hundred percent citywide participation is the underlying goal of our BGreen's outreach efforts, and community groups and city residents will be asked to assume leadership positions in numerous projects and initiatives. Engaging youth, inside and outside of schools, will be a particular priority. With increased coordination of previously isolated initiatives, BGreen and Bridgeport will track all sustainable activity, accomplishments and partners, and actively brand Bridgeport as a sustainable and model green city.

From Plan to Action

Organizing, engaging and empowering

Organizational structure

The BGreen 2020 Sustainability Initiative management structure was established in late 2008 as a public / private partnership between the City of Bridgeport and the Bridgeport Regional Business Council. This structure was chosen with the recognition that City government accounted for less than 5% of energy use and emissions, and that greater mobilization of non-government stakeholders with the resources and ability to make necessary changes was needed to achieve greater results. The structure further recognized the limits of City financial resources and staff and the greater opportunities for garnering funds from private corporations and foundations as well as leveraging state and federal funding.

A program management team, led by Regional Plan Association, was hired in 2009 to facilitate the planning effort. In July 2009, the City named a Sustainability Coordinator to begin integrating sustainability principles within city government and to implement early action items. This organizational structure established for the recently completed planning phase (Phase I) of this initiative enabled Bridgeport to quickly develop a workable plan for citywide sustainability and to gain the attention of several state and federal agencies. It also brought together a multitude of disparate interests to address numerous topics which had not previously been viewed as areas of mutual concern. The result was the development of many new relationships vital to the pursuit of BGreen goals.

In 2010, a suitable long-term organizational structure for BGreen 2020 must be identified. To be successful, this structure will need to be stable and durable, yet flexible. Creating an entity that provides accountability and independent oversight for BGreen 2020 is critical to its long-term success and will be an early priority. There are a number of viable options. The City could bring the BGreen 2020 Sustainability Initiative under its control and implement the recommendations included in this report. As an alternative, a new nonprofit entity could be created to carry forward this work over the long-term. Finally, the present structure could remain in place over the short term, pending a more complete evaluation. Given the fiscal urgency to implement a number of the action items in this report, and the limited funds available within city government, it is recommended the present structure remain in place for a six- to twelve-month period to provide continuity and coordination of policies and program initiatives, to fast-track early implementation projects both within city government and in the private market, and to establish a permanent structure going forward.

Expanding partnerships

A major thrust of BGreen's early implementation stage will be expanded partnership development. The creation of this plan depended on the robust engagement of the city's public, private and nonprofit

sectors, as well as hundreds of individuals. Success in implementation rests on being able to engage an even larger number of individuals and organizations. Over the next year, BGreen will actively solicit additional partners for continued planning and initiative implementation. To facilitate the completion of specific action items, the BGreen Plan has already identified those organizations with parallel or mutual interests to the goals of BGreen 2020. We will reach out to these organizations not engaged previously. This targeted outreach will amplify the BGreen Initiative from a base of several hundred individuals to a base of several hundred organizations, each with its own extensive membership. In addition to developing specific project- or program-based partnerships, BGreen will define several types and levels of financial partnership opportunities through which individuals, corporations, governmental agencies and non-governmental organizations can support the sustainability initiative and its programs.

Engaging city government

The City's internal departmental, legislative, and funding mechanisms will integrate sustainability as a defining paradigm. The Sustainability Coordinator has already taken significant steps towards making sustainable practices a part of departmental considerations, and is working to move certain early implementation items forward internally as well as through extensive discussions with others in the private, public and nonprofit sectors. City Council and all City Commissions will be fully briefed on the BGreen plan and strategies. These bodies will be asked to make a number of decisions with regards to budgets, funding and programs, which will be critical to the implementation of BGreen strategies moving forward. Several policies and regulations at the state level will need to change to achieve sustainability. Influencing those will likely require Bridgeport to work with its peer cities and towns to demonstrate the positive impact that amended state policy can have on local, green economic development.

Educating, marketing and engaging a community

BGreen 2020's success will depend upon the efforts of many. Increased education, outreach and marketing will raise awareness of BGreen's overall goals and strategies, engage an increasingly greater number of residents, businesses and organizations in strategy rollout, and demonstrate Bridgeport's approach and unwavering dedication to becoming green. BGreen will use multi-media outlets, community groups, professional organizations and schools to expand community engagement and foster increased community empowerment.

Making sustainability a core value

The ultimate goal of BGreen 2020 is to make sustainability a core value throughout the city. This can be accomplished quickly by implementing the multiple, far-reaching strategies of the BGreen plan, by engaging the community, and by demonstrating the financial, economic and/or environmental gains resulting from each and every step of BGreen. Cities, thanks to their size and community cohesion, have the potential to scale up actions quickly and lead the way.

Funding BGreen

The BGreen 2020 plan represents a long-term commitment to green investment. BGreen 2020 requires two types of funding – program management funding and project-specific funding. Program management funding will support the efforts of the program management team that has coordinated the process through the planning phase and will oversee the coordinated implementation of the plan's strate-

gies. BGreen program funding for 2010 is expected to range from \$130,000 to \$170,000. Project-specific funding will support specific initiatives which will include planning initiatives, educational program development, and major capital or infrastructure investments. Because initiatives are all the product of a comprehensive sustainability planning process, upfront costs will be offset by future savings resulting from stronger local economy, environment, and health.

Supplemental funding may be necessary for outside consultants to conduct planning studies or technical analyses necessary to determine the feasibility or details of capital investments which fall outside the typical responsibilities of municipal government or outside the limits of Bridgeport's capital budget. For example, in-depth studies will be necessary to determine the potential for a green energy generation park; detailed designs will be necessary before new parks can be constructed or bike trails built. Every effort will be made to take advantage of the planning services and engineering expertise of city departments and other local and state agencies where possible. Embedded in all the strategies recommended in this plan is a significant level of outreach and education to garner public support and to incrementally change behavior in the community and local businesses on recycling, energy efficiency, stormwater management, and other aspects of sustainability. Financial support will be necessary to develop and implement these educational programs to achieve community-wide results. Finally, existing municipal expenditures will be aligned wherever possible with the comprehensive recommendations of this plan to maximize co-benefits, but local limitations will ensure that supplemental funds will be necessary. State and Federal funds will be pursued to assist in supporting the largest investments, but the private sector and large foundations will be necessary partners in the implementation of smaller capital projects such as tree planting, pocket parks, and bike lanes.

Financial Partners

Bridgeport will aggressively pursue full implementation of all strategies presented in the BGreen 2020 Plan and look to all private and public funding sources and funding partners to do so. While the plan identifies certain first-, second- and five-year priority projects, BGreen recognizes that in any given year additional unforeseen opportunities to complement or replace ongoing actions might arise with greater impact, ease of implementation, or alignment with the goals of local foundations and corporations. Public resources as well as partnerships with private foundations and businesses will be necessary to carry out BGreen priorities over the next year and beyond:

Public Resources

Major infrastructure investments are most logically funded through the public sector. Federal funding has traditionally supported large-scale improvements such as road improvements (U.S. Department of Transportation), brownfield remediation (U.S. Environmental Protection Agency), storm sewer separation (U.S. EPA), and building retrofits (U.S. Department of Energy), to name a few. Connecticut state agencies have either acted in concert with federal agencies, or singularly to support road repairs (Department of Transportation), stormwater management (Department of Environmental Protection), school construction and renovation (Department of Education), and safe routes to school (CT DOT), among others. The City of Bridgeport has often provided matching funds. BGreen will continue to seek financial support from the state and federal government. For those funding opportunities that are available through specific funding cycles, BGreen will fine-tune a priorities list linked into these cycles, and will continue its outreach effort for non-cyclical funding opportunities.

As well as funding a number of significant capital investments and infrastructure needs, public agencies have also proven to be strong financial partners of educational and programmatic initiatives.

These include such programs as workforce training (HUD), community development and beautification, and health initiatives (HUD and Connecticut Department of Social Services), and environmental remediation training (U.S. EPA). A number of new federal programs offer expanded financial opportunities that could prove critical to the launch of a number of BGreen initiatives, including energy retrofit programs and job training programs (U.S. Departments of Energy and Labor). BGreen has already received grants for a career ladder jobs training continuum and applied for funding for low-interest loans for home energy retrofits.

BGreen will engage city officials in developing a coordinated funding strategy rather than solicit funding from state and federal governments in a piecemeal fashion, so as to leverage limited resources to have the maximum impact. BGreen has already met with representatives from U.S. EPA, U.S. DOE and CT DEP, CT DOT, CT Office of Personnel Management, and the Connecticut Clean Energy Fund to share progress of the BGreen initiative to date.

Foundation support

Historically, private foundations have provided financial support that helps to fill holes in our society's governmental funding base, bridges gaps in social services and, equally important, enables progressive initiatives that are not typically undertaken by corporate or public entities. BGreen is one of those initiatives. The planning of BGreen 2020 and the writing of this BGreen 2020 Sustainability Plan were made possible in part through generous funding from Fairfield County Community Foundation and the Emily Hall Tremaine Foundation.

Going forward, BGreen hopes to receive additional foundation support for specific planning activities, green initiatives with strong community development components, and both short-term (single project and/or single day) or longer-term outreach and educational programs. BGreen will actively reach out to foundations to identify areas of mutual interest and future partnership opportunities.

Corporate Resources

BGreen has already received funding from PSE&G and in-kind support from several other corporations as well as the Bridgeport Regional Business Council. It also benefitted from invaluable professional and technical input from many corporate members of the Community Advisory Committee, the Technical Subcommittees and the broader community. Corporations offer some of the most versatile mechanisms to assist communities. They can provide direct grant assistance, offer financial support through associated corporate foundations, assume vital roles as business partners, lend financial resources in support of programs, and provide in-kind services or products for ongoing or time-specific projects. In addition, numerous corporate employees provide countless hours of volunteer service to community organizations, community initiatives, and community schools. Corporate versatility and generosity will be an essential element in the implementation of BGreen strategies. BGreen has initiated discussions with several corporations regarding financing options related to specific community-wide programs. Direct corporate donations and support from corporate foundations will be sought for single event and longer-term education and outreach programs in line with each company's community outreach goals. To the extent that corporate foundations are interested and programmatically able, they will also be offered opportunities to support planning initiatives.

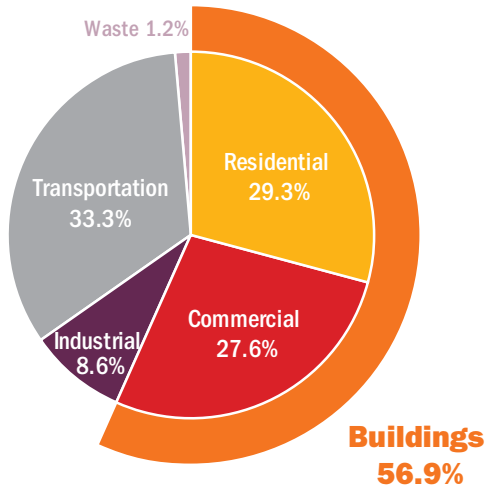
Leveraging resources

The sum of many parts can be larger than the whole. All efforts to secure support for the implementation of BGreen strategies will take into consideration possible ways to leverage funds with multiple sources of support and innovative funding mechanisms.

The Strategy

Green Energy & Buildings

Bridgeport community-wide emissions by sector
RPA*



CHALLENGES

Nationally, energy used in buildings results in just less than one half of our greenhouse gas emissions. In Bridgeport, energy use in our buildings make up just over one half of total emissions – the difference resulting from greater transit options than in a typical community. Electricity usage is the largest component of building energy use and greenhouse gas emissions. The majority of the city's building stock was built before the 1950's, at a time when energy was cheap, conservation technologies were emergent, and global warming an unknown threat on the horizon. While electricity generation is regional, much of Bridgeport's energy is created locally. Three power plants dominate Bridgeport's skyline – one coal-fired, one natural-gas-fired, and the other waste-to-energy. Renewable power generation produces an insignificant share of the city's electricity.

Given that anticipated growth for the city will constitute a small share of the building stock, a reduction in the net increase in energy demand and emissions from new residents and businesses alone will not be sufficient. New development will have to be at the cutting edge of energy efficiency and the city's existing building stock will have to be retrofitted substantially to reduce demand. The power generation mix supplying electricity to the city will have to be significantly supplemented by renewable sources. To create more while using less will require shifts in the way we use or conserve energy and in our energy sources. Achieving this will require nothing short of 100% participation on the part of our residents, businesses and industry.

GOALS

- Utilize sustainable energy practices and production as a driver for economic development; generate significant savings for municipal facilities, businesses and residents; and reduce the carbon footprint of the community.

- Improve the energy efficiency of public and private sector facilities and residences, creating real dollar savings and environmental benefits.
- Lower energy costs through aggregation programs and other bulk purchasing opportunities.

OPPORTUNITIES

Bridgeport has a unique opportunity to become a green energy leader and to harness pending growth to create a more energy-efficient built environment. Situated along the coast in a fairly sunny part of the country, a substantial amount of solar, wind and lunar/tidal energy is available to Bridgeport every day. Harnessing even a fraction of this energy through solar thermal installations, photovoltaic panels, wind-mills, and tidal plants can supply a commanding share of the city's energy needs. Additionally, the sanitary waste created by a concentrated urban population offers opportunities for energy extraction that are less ecologically harmful than simply burning the sludge as is done presently. Ramping up renewable generation without improving the efficiency of the building stock in the city first would lead to unnecessary energy loss. The potential new development that will occur in the city in coming decades offers a phenomenal opportunity to infill the built environment with the most cutting-edge energy-efficient designs. While the retrofitting of existing buildings poses undeniable challenges, the stake of this task could provide for local business and employment development for decades.

STRATEGIES

1. Establish an Energy Improvement District

The establishment of Energy Improvement Districts was recently enabled by the State Legislature in 2007 and was followed by a local act of the City Council in 2008. An Energy Improvement District will enable Bridgeport to better manage its energy use and resources by consolidating energy planning for the municipality in one body that has bonding authority and can coordinate programs for both generation and demand management. The first step will be the installation of an Energy Improvement District Board. The establishment of this Board will be followed by the formulation of an energy plan that will be drafted by the BGreen program management team to help direct priorities of the EID. The EID will have a unique ability to work with city departments, the local energy distribution company, United Illuminating, local and regional power generators, and large energy users to reduce the city's energy consumption and increase the local provision of renewable power, incrementally lowering the city's carbon emissions from the building and energy sectors.

2. Create a Green Energy Park at the City's closed landfill in Seaside Park

Developing and using renewable energy will be critical elements in Bridgeport's strategy to reduce greenhouse gas emissions. The closed city landfill, for instance, can easily support a photovoltaic energy park, and possibly a wind farm. Both would reduce the city's dependence on fossil fuels. A green energy park in place of an abandoned landfill would give drivers on I-95 a very different view of Bridgeport, and help to improve Bridgeport's overall image. BGreen 2020 will work with consultants to prepare a feasibility study that will determine the optimal green energy development opportunities for this site. Once in hand, BGreen 2020 will work with the city and adjacent private property owners to create a public/private partnership to build a green energy park or seek out private sector renewable power developers to build such a facility. By garnering support from private

* 2008 [2007 Sector - related emissions from The City of Bridgeport] Using Clean Air and Climate Protection (CACP) software, developed by the National Association of Clean Air Agencies, ICLEI-Local Governments for Sustainability, and Torrie Smith Associates, Inc.

partners, the local utility, and state and federal governments, this project can be a national demonstration of locally generated renewable energy to help power a mid-sized American city.

3. Implement energy efficiency, biomass retrofit, and resource sharing at wastewater treatment facilities

Bridgeport's wastewater treatment facilities are the single largest source of municipal carbon emissions and one of the largest energy users in the city. A study currently underway is assessing the efficiency of the water treatment facilities and operations in an effort to find areas to reduce energy use. In conjunction with this effort, consultants will assess opportunities for converting its municipal sludge to a by-product that can produce energy instead of being trucked to New Haven for incineration. In addition, by virtue of being located near the RESCO waste-to-energy plant, the West Side Sewage Treatment plant may have opportunities for resource sharing. The waste-to-energy plant currently inputs potable water for cooling and outputs significant amounts of excess heat. The adjacent sewage treatment plant would require heat to convert sludge into an energy source and outputs significant amounts of grey water. Utilizing each facilities' output as the input for the adjacent will save millions of gallons of potable water, reuse waste heat, save considerable amounts of money, and improve the environmental footprint of each facility. The City has set aside money in its Energy Improvement Block Grant allocation to do a detailed study of this opportunity. It is recommended that such a study be started as early as possible.

4. Benchmark, retrofit, and consolidate municipal facilities

The first step to reducing energy use and associated emissions is to know how the buildings currently perform. The City has already started a thorough inventory of its energy use at all public facilities, using the EPA Portfolio Manager system, and will benchmark all facilities within the Energy Star rating system. Using the ratings as a guide, Bridgeport will prioritize building retrofits and building consolidation, using a variety of financial strategies including Energy Conservation

funds set aside by local utility companies, and state and federal grants. Performance contracts with national energy service companies can help to complete the funding mix. Water efficiency retrofits should be done at the same time.

All retrofit efforts should be highlighted as educational tools to the Bridgeport community. The Burroughs Library, for instance, will be the first municipal facility to undergo an extensive retrofit and energy upgrade. A BGreen Kiosk at the library will highlight, on a real-time basis, the energy savings, renewable generation, water diversion and other benefits from the retrofit. The upgrade is being funded by a significant allocation from the City's Energy Improvement Block Grant (\$800,000), with the remaining funding likely coming from the United Illuminating Company's Energy Conservation Fund and an energy performance contract.

5. Benchmark and retrofit educational facilities

Similar to Bridgeport's municipal buildings, all Bridgeport schools are undergoing energy review via the EPA Portfolio Manager system and will be benchmarked in accordance with the Energy Star rating system. To enable retrofits and resulting energy cost savings, the Board of Education will need to include appropriate funding requests on an annual basis to both the State School Construction Authority and the energy conservation program administered by United Illuminating. It is recommended that two to three school buildings be completed per year. Water efficiency retrofits should be done at the same time.

6. Create a residential weatherization program and promote large residential building energy efficiency efforts

Residential buildings account for almost a third of Bridgeport's carbon emissions. Bridgeport must develop weatherization and efficiency programs (and funding strategies to support these programs) to help residents reduce energy use and energy costs in their homes. Energy audits are the first step in identifying how weatherization can reduce future energy use. The Mayor's Conservation Corps door-to-door campaign has already identified nearly 1,500 households interested



in a home energy audit program; many of those audits are now being conducted. Outreach should be continued to garner even greater participation.

The funding of weatherization projects is a known barrier to their undertaking. While many low-income households qualify for federal weatherization support and are being well served by the ongoing efforts of Action for Bridgeport Community Development, Inc. (ABCD), many moderate income households do not qualify for such assistance. BGreen has developed a pilot low-interest loan weatherization program with financial support from the U.S. Department of Energy through the Energy Efficiency Block Grant program. The program will enable moderate-income households to make needed weatherization improvements, reduce energy use, and allow homeowners to add renewable energy units to their homes. Working together with United Illuminating, the Electric and Gas Industries Association and GE Capital, \$3 million in weatherization and renewable loan monies will be available to Bridgeport residents in the coming year. To jumpstart this effort, BGreen, together with its partners, will conduct a home energy makeover contest that will include home appliance upgrades, lighting upgrades, mechanical upgrades and other weatherization efforts to make some Bridgeport homes much more energy efficient. The home energy contest is intended to engage all households in the drive to reduce energy use at home and to educate all households on the many ways in which savings can be achieved. Details of the contest and a community wide announcement will be made in mid 2010. The City, in partnership with the Bridgeport Regional Business Council, United Illuminating and a number of financial institutions, has also submitted an additional proposal to the U.S. Department of Energy to expand this pilot program to include thousands of single-family residences, small businesses, and large commercial and residential buildings.

The Bridgeport Housing Authority is currently implementing comprehensive weatherization, energy and water efficiency measures at 2,500 of its units. This approach to weatherizing multi-tenant buildings is to be commended and replicated. BGreen 2020 and United Illuminating are working together to identify other multistory, privately owned residential buildings, conduct audits of these facilities, and assist owners to develop and fund retrofit opportunities, drawing upon the BHA action as an educational and logistical model.

7. Promote energy audits and energy efficiency programs in commercial/industrial sectors

Energy reduction must occur in all sectors, including commercial and industrial. Energy audits and energy efficiency programs in these two sectors will be promoted through forums presenting best practices and case studies of completed projects, and in detailing efficiency program logistics, opportunities for cost savings, and financial strategies which can be used to support energy efficiency projects. As mentioned above, the City, in partnership with the Bridgeport Regional Business Council, United Illuminating, and a number of lending institutions, has put together a significant federal grant application to provide low-interest loans to this group of energy users to help them modernize their energy systems and create energy efficiency savings throughout their buildings. Additionally, the BRBC and UI are working closely with St. Vincent's Medical Center to examine ways to create energy efficiencies in the hospital environment and to encourage other sustainability practices.

8. Develop Green Building standards and promote healthy indoor environments

Bridgeport is expecting to see significant redevelopment in the next several years. In order to guide this development in the most energy efficient manner, the City must establish its own Green Building standards and green building incentives to promote energy-efficient structures, fixtures and appliances, including renewable energy ap-

Building Weatherization and Retrofits Pay

Babylon, New York

Babylon's Long Island Green Homes program encourages Babylon's residents to reduce their homes' energy use, and has set up a revolving loan that provides the funding to help pay for the up-front costs. Residences undergo energy audits and homeowners choose from a menu of weatherization and retrofit projects. The upfront costs of the retrofits are not paid for by the homeowner, but by the revolving loan fund. Homeowners pay back the loan over the next several years through a benefit assessment tax, which is set to be lower than the energy savings that result from the upgrade. Critical to the program, the assessment stays with the home if the owner sells. Early program operations are showing average up-front improvement costs of \$7,132 and average annual savings of \$985. The average payback period is less than 8 years and the Savings to Investment ratio is 2.25.

plications and water conservation measures such as low-flow fixtures and green roofs. The City should also establish guidelines for outdoor amenities including street trees and other landscaping measures that can retain stormwater and reduce the urban heat island effect.

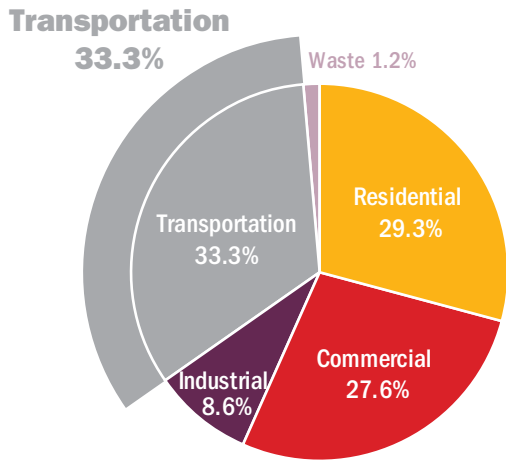
As building envelopes are made more secure, the improvement of indoor air quality through the reduction of volatile organic chemicals should be an additional focus. There are numerous examples of such local standards around the country. It is recommended that a working group be established to identify the best practices being employed by other municipalities around the country and develop a set of standards that are mandated for public buildings, and provide meaningful incentives for private sector compliance. The City should consider supporting the establishment of these guidelines and incentives with educational programs that inform various entities, including all municipal departments, the development community, and the general public of the impact and importance of these green building guidelines. These green guidelines should also be incorporated into the City's RFP process.

9. Promote site development of solar and solar leasing programs

Although site development of solar and solar leasing programs present economic barriers on many Bridgeport sites, steps can be taken to identify city-owned properties and aggregate public and private rooftop space to promote the development of more solar thermal and photovoltaic opportunities in the city. It is recommended that the new Energy Improvement District Board be tasked with developing a plan to identify sites and bring together interested commercial property owners to help stimulate the solar marketplace in Bridgeport.

Greenfields & Green Wheels

Bridgeport community-wide emissions by sector RPA*



One-third of the city’s greenhouse gas emissions are produced by the transportation sector, compared to 28% nationally. Greater Bridgeport’s traditional employment centers, in downtown Bridgeport and adjacent industrial areas – at the heart of the transit network along walkable streets – have largely been abandoned, and jobs have migrated to surrounding towns along automobile oriented corridors. The result has been that two-thirds of Bridgeport’s residents now drive alone to work (2000 Census), which negatively impacts our air quality. The confluence of I-95 and the Route 8/25 Connector in the city’s heart bring nearly 200,000 vehicles through Bridgeport, which also contribute to the city’s emissions; clearly, regional development patterns are important to the sustainability of the city. New development must be directed toward the city’s downtown and other locations within walking distance of frequent transit service, and existing neighborhoods need enhanced and attractive transportation alternatives to the automobile. The city’s many brownfields, underdeveloped and vacant parcels provide opportunities for sustainable redevelopment that are public-transit accessible and pedestrian-friendly, and are capable of supporting mixed-use communities that meet the housing and employment needs of a diverse population without exacerbating local congestion or transportation emissions.

CHALLENGES

More than 11% of land in the city currently lies vacant (Bridgeport 2020) and hundreds of additional acres are underutilized – they could support a much higher level of use based on their transit and waterfront access. These gaps in the urban fabric form blight in our neighborhoods and detract from the city’s image. Some underused sites have fostered criminal activity, and most, if not all, vacant and/or underutilized sites degrade the property values of neighboring sites. In a state as dependent on property taxes as Connecticut for local revenue, these gaps in the city’s tax base take on an additional importance. As one of the nation’s smallest cities in geographic size, at only 16.5 square miles, Bridgeport is at an inherent disadvantage

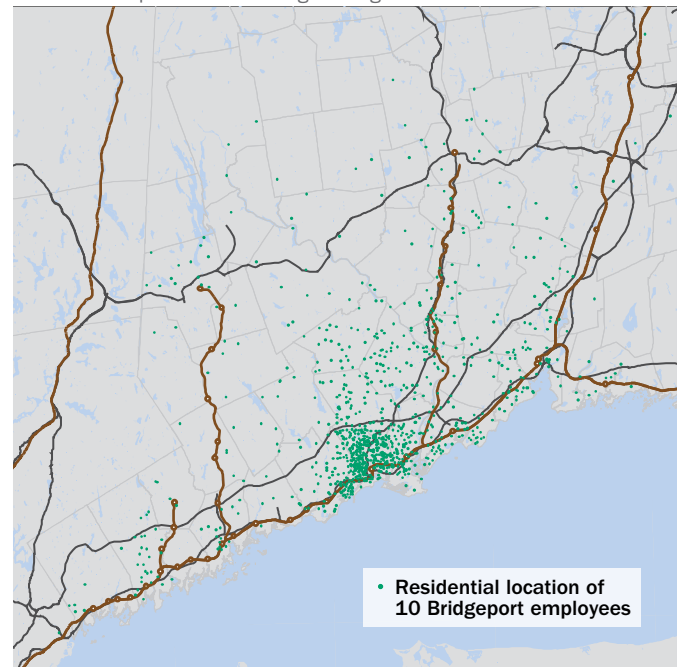
in the effort to extract value solely from its land base. What’s more, one third of parcels within the city are tax-exempt properties owned by institutions and nonprofits or government agencies. It is imperative that Bridgeport convert its stock of vacant and underutilized sites into viable, green developments that meet community-housing and local-business needs, reduce blight, and help replenish City tax rolls.

More than 500 million miles are driven within Bridgeport city limits every year (Connecticut Department of Transportation). Fortunately, Bridgeport is better positioned than most cities to shift many of those trips to non-car alternatives. It has a walkable grid with small blocks, a robust sidewalk network, and a transit system that links it to all surrounding towns and job and housing centers along the coastline and to New York City. While the framework exists, the dominance of the automobile on city streets will require significant alterations to truly incorporate bikes and pedestrians into the transportation system, to ensure the safety of bicyclists, bus passengers and pedestrians, and to put buses on an even playing field with the car. Changes are also needed to facilitate improved access to central train and bus stops.

Much recent commercial development in Bridgeport has been located along north-south arterials and Route 1, in automobile dominated landscapes. Though some new residential development has taken place downtown and in walkable neighborhoods over the past decade, the majority of growth in the city over the past 30 years has been far away from the transit network as well. While ensuring that new development is more transit-oriented and pedestrian-oriented than it has been in the past will enable new residents and employees to find alternatives to their automobiles, investments in transit and pedestrian and bike improvements will be essential to enable changing behavior in existing neighborhoods and commercial zones. New sidewalks and increased bus service require capital and operating dollars that are not easy to come by locally. Finding revenue sources to enhance transit service, transit access and walkability will be a challenge in the coming years.

Commute shed of Bridgeport employees

Census Transportation Planning Package 2000 and RPA



* 2008 [2007 Sector - related emissions from The City of Bridgeport] Using Clean Air and Climate Protection (CACP) software, developed by the National Association of Clean Air Agencies, ICLEI-Local Governments for Sustainability, and Torrie Smith Associates, Inc.

GOALS

- Reduce automobile trips, vehicle miles traveled, and the city's transportation emissions.
- Facilitate the redevelopment of underutilized sites throughout the city, transitioning blighted properties into neighborhood amenities that support the city's tax rolls.
- Provide city residents, workers and visitors with a wide range of mobility options that are less carbon intensive.

OPPORTUNITIES

Bridgeport benefits from two phenomenal assets unparalleled in the state or region: a robust public transit system and a considerable amount of vacant or underused land within close proximity to that transit. Trends in energy prices and a desire to reduce our emissions and oil imports are partially supporting a shift towards public transit. Smaller household sizes and high housing costs in Lower Fairfield County are creating significant demand for housing alternatives to ones based on automobile travel. Existing housing in Bridgeport offers many people the only opportunity for affordable housing. Available land and historic buildings within walking distance of transit can be retrofitted to provide additional housing and business opportunities within welcoming neighborhoods. Access to commuter rail service will enable Bridgeport to capitalize on the regional housing market in the short term and lay the foundation for high quality employment growth in the future.

Bridgeport's infrastructure once supported 25,000 more residents than today and significantly more industry alongside – a clear opportunity for expansion of both. Through rezoning, infill, and redevelopment, Bridgeport can easily build upon the existing city grid to provide combined live/work opportunities with less direct and indirect environmental impact than new homes and businesses in open space/undeveloped areas. Locating new housing close to jobs and amenities – or even in the same building – will also put less stress on the local transportation system. There are many existing entertainment, cultural, and educational attractions including the arena and ballpark at Harbor Yard, The Beardsley Zoo, the Barnum Museum, Playhouse on the Green, Klein Auditorium, Downtown Cabaret Theater, Housatonic Community College, University of Bridgeport and Seaside Park, that will complement residential and commercial growth to create complete and vibrant communities.

Bridgeport's regional rail service links the city to all major centers along the east coast, including Manhattan in just over one hour. Our bus system serves surrounding neighborhoods and towns. Unfortunately, only 8% of city residents take transit to their job - just 5% of city workers do so; (Census Transportation Planning Package 2000). The University of Bridgeport and the Bridgeport Public Library take advantage of Greater Bridgeport Transit's Universal Transit Pass Program which has demonstrated that a concerted and coordinated effort to make transit easier and more attractive can significantly increase transit ridership. This program could be replicated with other large institutions and employers across the city with similar effect. Bridgeport's bus system can also be expanded. Increased frequency, later service at night to accommodate second shift employees and additional east-west cross-town service would go a long way to increase the convenience of transit. New commuter connections providing direct links between train stations and employment nodes north of Bridgeport will make rail service more useful to commuters and can reduce the amount of cars using I-95 and the 8/25 Connector through the center of Bridgeport.

Bridgeport and Stratford are the only municipalities in Fairfield County on the New Haven line with only a single Metro North Station. There exists the opportunity for an additional rail station in the East End that will unlock the potential of large swaths of developable land directly adjacent to the transit system.

The densities, street pattern, and neighborhood scale of Bridgeport make non-motorized transportation a natural fit. We need only look east to New Haven to envision how bike and walk commutes can command a significant share of all work trips. More than 6,700 Bridgeport residents live within one mile of their workplace, creating substantial potential for making walking and bicycling the transportation modes of choice (Census Transportation Planning Package). The city is relatively flat and crisscrossed with low traffic volume residential streets that can be transformed into more "complete streets" that include wide sidewalks and bike lanes alongside the automobile travel and parking lanes.

STRATEGIES – Land Use

1. Rezone for livable, transit-oriented neighborhoods and redevelopment

The city's recent Plan of Conservation and Development and Downtown Master Plan outline the policy framework for reclaiming the city's transit-oriented and thriving core with transit corridors radiating out into vibrant neighborhoods. Like most cities in the latter half of the 20th century, Bridgeport overlaid a suburban zoning scheme on top of the urban fabric, enabling automobile-centered commercial strips and larger lot housing to ring the traditional neighborhoods and mixed-use centers. New zoning has been adopted that would bring the emphasis back to mixed use and transit-oriented development with location-appropriate parking requirements and design controls that intensify development in the right locations, encourage high quality green development and preserve existing neighborhoods. The adoption of this zoning was essential to putting the regulatory controls in place so that development that capitalizes on the next economic cycle incrementally creates a city that once again recognizes the intrinsic values of a strong urban environment.

2. Develop GIS into a more comprehensive planning tool

Geographic Information Systems (GIS) is a technology that combines the vast array of data and information available to the city and links that information spatially for decision-making purposes. All land development opportunities and constraints should be linked to each parcel to facilitate redevelopment to the highest and best use based on neighborhood needs. By optimizing GIS capability, every interested party and municipal planning department will be able to make the most informed decisions regarding a particular site's potential and drawbacks as relates to a myriad of uses, including development and development costs, flood control and green spaces use within the larger neighborhood and city context. BGreen will assist the city in developing Bridgeport's GIS system into a comprehensive planning tool with expanded information links, near real-time updating, and optimized data accessibility.

3. Conduct municipal property planning to identify opportunities for consolidation and real estate sale

Municipal departments and offices are spread across the city in many buildings and on many sites that could be better utilized by the private sector to house residents and local businesses. Many of these buildings are inefficient and could be better maintained and upgraded by the private sector. BGreen will support the city's efforts to assess the highest and best use of each building and site and determine whether energy efficiency strategies are best carried out by the city to maintain properties or are better shifted to the private sec-

tor (see the green buildings section). A consolidated municipal facility could house city departments in a centralized location that is transit accessible, energy efficient, and conducive to effective governance.

4. Create vision plans for remediation and redevelopment of underutilized districts

One of the barriers to redevelopment in some city districts with large agglomerations of vacant and underutilized land is the lack of a clear and coherent vision for the area. The Neighborhood Revitalization Zone planning process and the Downtown Master Plan Process resulted in neighborhood frameworks for redevelopment, which identified several districts for revitalization where concentrations of potential exist. BGreen will work with the Bridgeport Office of Planning and Development, the Connecticut Department of Economic and Community Development, and large property owners to chart a clear course for these districts that integrates sustainable transportation and land use decisions to spur investment and redevelopment.

5. Encourage the development of a life-cycle housing ladder to enable residents to remain in the city as housing needs evolve

Bridgeport already has a diverse housing stock composed of 25% single-family homes, over 40% two- to four-unit homes, and the remainder of units in multifamily buildings. Unlike many other communities in the region, Bridgeport is already well poised to meet future local and regional housing needs, which will see a large increase in the number of elderly households and smaller increases in younger households, particularly by individuals living alone. Affordability of housing units is a concern, especially for new construction. Housing policy in Bridgeport should continue to support the construction of a diverse mix of housing types and levels of affordability, so that a young adult may move from his family home in Bridgeport into his first small apartment, later upgrade to a larger rental, condominium, or house to raise children, and once an empty nester, have attractive choices for low-maintenance housing near shops and services. BGreen housing ladder initiatives include creating an inclusionary housing overlay to incentivize the construction of additional affordable housing units, establishing a community land trust to sponsor affordable housing development and work toward affordable housing goals set forth in *Bridgeport 2020*, and supporting new zoning to enable diverse housing types.

6. Encourage Class A office opportunities

Bridgeport's location on the New Haven Metro-North line makes it a prime location for businesses seeking to attract skilled employees living in southwestern Connecticut, the Lower Hudson Valley and New York City. Stamford's location closer to Manhattan and its progressive development policies have successfully attracted major financial services employer to its downtown, but Bridgeport can also offer employers a higher level of affordability for support staff along with connectivity to other employment centers. The expansion of Class A office space supports the BGreen Initiative in two major ways. First, concentrating employment near the train station and along transit-served corridors supports BGreen's transit-first policy to provide ridership for transit services and also increases demand for housing along transit corridors. Second, additional Class A office space provides tax revenue to the City of Bridgeport that supports better provision of services and capital investments in walkable streets, parks and infrastructure, while minimizing additional traffic and other service needs. Attracting Class A office development to Bridgeport will require national marketing and coordination with other municipalities in the region. To spur the expansion of office employment in Bridgeport, the City and its partners must market Bridgeport as a Model Green City in which to live and work. Recognizing that personal decisions about

New Residential with Geothermal at Citytrust Downtown
RPA



employment are often influenced by a region's perceived livability, initiatives that support Bridgeport's "neighborhoods of choice" will also help the city to attract new employers to its business core.

7. Create neighborhoods of choice with historical, cultural and educational amenities

"Neighborhoods of Choice" is an umbrella initiative that aims to increase cultural, educational and service opportunities in Bridgeport, and connect them with existing and potential residents. Several districts in Bridgeport enjoy historic fabric and arts amenities, including downtown, Clarence Stein's Seaside Village, and 23 other historic districts, each of which have a unique character and amenities. BGreen proposes to create a plan to strengthen, clarify and unify historic district controls for coordinated, long-term protection, and to promote appropriate re-investment in these districts.

The Bridgeport Arts and Cultural Council is a developing organization with new funding from local foundations, the city, and the State Commission on Culture and Tourism to inventory existing arts & entertainment resources and market them to the community and region. Arts amenities in Bridgeport are clustered in the downtown and Black Rock neighborhoods, but organizations and venues elsewhere in the city could also contribute to Bridgeport's reputation as a regional arts center with more effective marketing. Bridgeport's post-secondary educational opportunities – especially programs available at Housatonic Community College – will also be supported and publicized as a resource for Bridgeport residents. An Educational Task Force will coordinate the development and marketing of adult educational opportunities at HCC and other institutions.

Already, *SELF* magazine has listed Greater Bridgeport as one of its top 10 locations for women to live based in part on the direction that BGreen is charting for the city.

STRATEGIES – Transportation



A GBTA bus making a route
Flickr: wally_wabbit

1. Enact a Transit First policy

A Transit First policy will establish public transit, walking and biking as priority policies for the city as we work to balance the transportation system away from dominance by the automobile. Incremental investments will encourage mode shift from single occupancy automobiles to walking, bicycling, and public transit. BGreen will work to obtain resources to acquire additional buses, expand the bus-maintenance facility, and operate those services. Bridgeport's Transit First policy will be complemented by Complete Streets (See #4 below) and new zoning regulations that reduce parking requirements and require that new development be designed for easy use by transit users, bicyclists and pedestrians. Greater Bridgeport Transit Authority will review project-development proposals and ensure that bus access is enhanced and not hindered by site plans or street designs.

2. Assess transportation demand to prioritize infrastructure investment

BGreen will work with Greater Bridgeport and Valley Metropolitan Planning Organization to analyze existing travel data, determine transportation demand throughout the city, and develop a more complete picture of potential transit service routes. This information will be used to prioritize bus and train infrastructure improvements and develop a funding strategy for both capital improvements and operating costs. BGreen partners including the transit agency and regional planning agency will develop a comprehensive Alternate Transit Strategy that accommodates expected demands and heightens the potential for reduced automobile use.

3. Construct a train station in the East Side

A new Metro North Railroad station on the border between the East Side and the East End would catalyze sustainable revitalization of a large industrial district and several livable neighborhoods. Located at the head of Yellow Mill Pond, over 30 acres of developable land within 1/4 mile of this station presents a unique opportunity for transit-oriented development along the Northeast Corridor. Approximately an additional 100 acres lies within 3/4 mile and another 400 acres at Remington Woods within 1 mile. The station would serve nearly 10,000 people already living within walking distance and the 2,500 jobs at Bridgeport Hospital just blocks away. Designed in coordination with a new Seaview Avenue boulevard and the principles of walkability and affordability, this station can anchor the next generation of sustainable prosperity for the eastern half of the city.

4. Work with large employers to reduce the need to drive

Large employers have the potential to achieve significant reductions in Vehicle Miles Traveled (VMT) among their employees, by adopting supportive commute policies. BGreen will work with the Greater Bridgeport Transit Authority and large job centers to identify workable strategies, programs and incentives, such as "eco passes," shared cars on-site and van shuttle services, to reduce the use of single occupancy vehicles and the resultant road congestion and emissions. BGreen will host a transportation summit in 2010 that will allow large employers to share experiences and develop strategies to reduce single-occupant commutes, and will identify business leaders to spearhead ongoing alternative transportation programs. A similar effort will be pursued with the developers of dense residential projects.

Smart Travel Pays

Portland, Oregon

In 2005, Portland's Transportation Options Division took aim at reducing car trips through direct outreach to over 20,000 households (later expanded to over 44,000 households) through an innovative TravelSmart Hub Project. In partnership with health care providers Kaiser Permanente and Providence Portland Medical Center, the City pursued direct mail, individualized marketing and hands-on clinics and workshops to encourage and help residents to walk, bike, take transit and carpool more often. TravelSmart reduced drive-alone or solo car trips by 9%, increased bicycling by 23%, increased transit use by 41% and walking by 7%. The 9% reduction in solo automobile trips translated into more than 24 million miles not driven every year, saving over 700,000 gallons of gas, 13 million pounds of greenhouse gases, and providing cost- and health-savings to consumers. Project cost was \$500,000, or \$0.02 per vehicle-mile-traveled reduced. Sponsorships and grants helped defray costs.

Bike to the ballpark

The Chicago Cubs baseball team aggressively promotes biking to the ballpark and offers free bicycle checks. In 2007, they parked more than 9,400 bikes at Wrigley Field (Radick 2008).

BRBC Fitness Challenge

In Fall 2008, The Bridgeport Regional Business Council launched a campaign to get its members moving for the sake of better health. BRBC invited its member companies to participate in a 90-day fitness challenge, aimed at encouraging employees to walk at least 10,000 steps each day. With financial support from United Health Care, participating employees received pedometers to count their daily steps. Team captains tracked their teams' progress with weekly reports. At the end of the challenge, companies reported their successes, and the winning companies were presented with the BRBC's first annual "Healthy Business Awards." Winners were chosen from participating companies based on their rate of employee participation and the average number of steps walked per person. This program provided a fun opportunity for employees to improve their health and, in turn, reduce health care costs for companies and individuals alike.

5. Make Bridgeport's roadways "Complete Streets"

Reducing driving while enhancing overall mobility for residents and employees will require increasing walking, cycling and transit use, and rethinking the role that public streets play in enabling mobility. The space between building facades is the largest public space controlled by any municipality, and typically 80% of that space is dedicated to the flow and storage of automobiles. A "complete streets" policy for Bridgeport will require that public infrastructure be constructed with the needs of all users in mind, not just drivers. A complete street provides access to bicyclists, pedestrians, transit riders and drivers, through appropriate design. On low-traffic side streets, a complete street may consist of sidewalks and shared roadway for bikes and cars. In higher-traffic areas, separated bike lanes and bus pull-outs may be possible. Developing "complete streets" with bicycle and pedestrian opportunities, along with automobile lanes, and promoting public transit incentive programs will put Bridgeport's Transit First policy into motion. BGreen will establish a steering committee working with necessary city departments to develop the specific policy appropriate for Bridgeport and guide its municipal implementation.



Photo-simulation of complete street redesign in South End: BEFORE



Photo-simulation of complete street redesign in South End: AFTER

6. Promote walking and develop pedestrian infrastructure

Walking is the most accessible mode of transportation. It's free, it's available to children, adults and the elderly, and it has positive health benefits. Unfortunately, walking is often impeded by poor street design, and public investments are necessary to provide safe sidewalks in complete systems linking residential neighborhoods with commercial areas. Less than 4% of work trips in Bridgeport are done by walking, despite the fact that 12% of the population lives within one mile of work. Even before a "complete streets" policy is implemented, Bridgeport's existing sidewalks and crosswalks must be inventoried to identify priority improvement areas. BGreen will partner

with city departments and the Greater Bridgeport Regional Planning Agency to complete a Pedestrian Infrastructure Improvement Master Plan that will identify top priorities as well as long-term project plans incorporating Safe Routes to School partners, projects and funding. BGreen will partner with the city, local businesses and institutions to encourage walking.

Bike Rack At The Intermodal Facility Is Designed To Look Like A Bluefish
RPA



7. Promote bicycling and develop bicycle infrastructure

Expanded bicycle infrastructure will allow more people to bike to work and other destinations in Bridgeport. Bike trips currently constitute only 0.2% of all trips to work. BGreen will develop a broad coalition to conduct a Master Plan for Bicycling, work with the Greater Bridgeport Regional Planning Agency to develop regional bikeway connections, and establish annual goals for the expansion of bike infrastructure in the city. Bike facilities will be slowly improved, by striping bike lanes in key locations, installing bike racks near employment and parks, and striping routes to schools. Bicycle needs will also be addressed through Complete Streets policies which accommodate all users.

8. Establish Mobility Authority

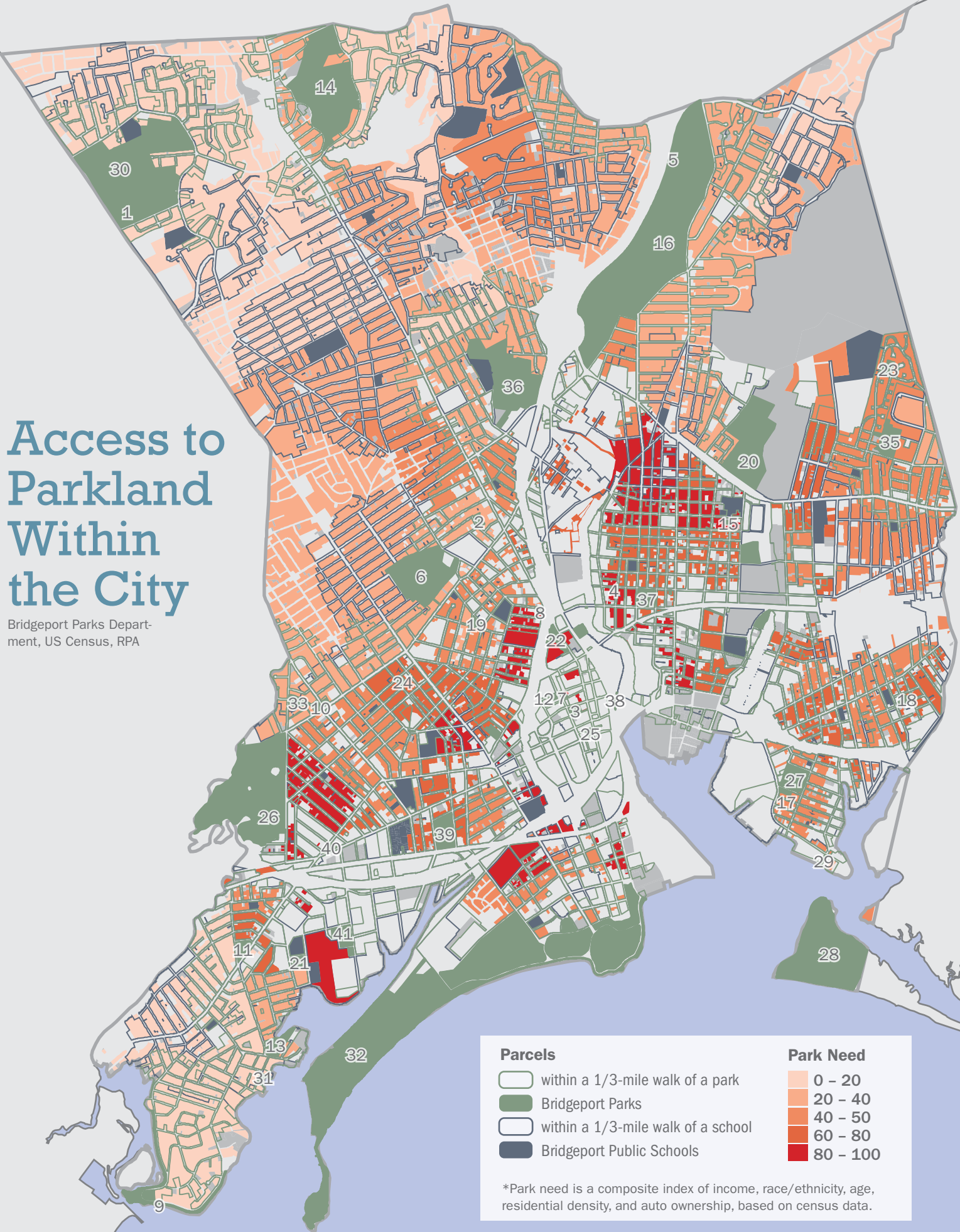
Revenues from Bridgeport's public parking facilities currently go into the general fund. A new Mobility Authority would use these revenues to more efficiently utilize existing parking resources and mitigate the need for the construction of additional parking. This would be achieved by investing parking revenue into a combination of strategies that balance out the transportation system. Downtown, revenue might be used to cover or light the top level of garages to improve safety and utilization, enhance pedestrian connections to garages farther from destinations to enable "parking once" for multiple downtown destinations, and potentially pay for a transit circulator to the same ends. BGreen will support the Downtown Task Force in its effort to establish this entity.

9. Reduce emissions through anti-idling and fuel standard regulations and education

This strategy aims to reduce emissions through changes in city policy and operation of existing infrastructure. First, the city can replace, retrofit, or re-fuel its own municipal fleet with cleaner vehicles, and consider fuel use by subcontractors providing city services. BGreen partners, including the City, Green Wheels Working Group, DEP, and private contractors can also support development of alternative fuel infrastructure in Bridgeport such as natural gas fueling or electric charging stations. Lastly, city policies can incentivize the purchase and operation of fuel-efficient private vehicles, through reduced sales or property tax rates or preferential parking privileges.

Access to Parkland Within the City

Bridgeport Parks Department, US Census, RPA



*Park need is a composite index of income, race/ethnicity, age, residential density, and auto ownership, based on census data.

Green Spaces

CHALLENGES

Despite its moniker as the “Park City,” Bridgeport falls short of offering many residents and workers access to high quality parks or an urban forest on par with that which once graced the city and drew great acclaim. While two large parks designed by Frederick Law Olmsted are well enough maintained, they are not the regional destinations that they can be. A number of Bridgeport’s smaller parks support well-used active recreational facilities, but some are in disrepair and there are few opportunities for passive recreation in the park system as a whole. There are currently 6.8 acres of open space per 1000 residents in the city, far less than the regional average of 8.5 for comparable cities. Approximately 12% of the population does not live within a 10-minute walk of any open space. The existing parks are not linked to one another in a comprehensive system and park resources are lacking entirely in several of the most underserved neighborhoods of the city. While one of the city’s greatest assets is its coastal location, only approximately four of its 22 miles of coastline are currently publicly accessible. Much of the vacant land that could potentially be turned into new parkland is also under pressure to be redeveloped; besides, contamination may limit any economical reuse.

While Bridgeport’s narrow streets were once lined by great trees, current parking demands and larger cars have limited the number of trees within the public right-of-way. Similarly, many trees on private property have been eliminated to make room for car storage. Bridgeport residents need equitable access to green space and a strong voice to promote its creation and protection for recreational, biological, educational and other benefit.

GOAL

- Ensure the city’s residents have access to abundant, high quality, interconnected open spaces that foster community cohesion and stewardship.

OPPORTUNITIES

The two Olmsted-designed parks – Beardsley and Seaside – are significant assets that can reclaim their regional stature with limited investment and programming. Only a few additional miles of coastline in targeted locations need to be made accessible to bring the city’s waterfront assets within reach of many of the city’s neighborhoods. The city’s overall green space system can be effectively expanded by judiciously assessing the city’s vacant and underdeveloped parcels to create pocket-parks in the most underserved areas of the city. The city’s existing boulevards, boosted by new “complete streets” policies that utilize robust tree and landscaping programs, can stitch all these aspects together into a network that permeates the entire city and integrates nature, greenery, biodiversity and clean air into even the most densely developed neighborhoods. In short, Bridgeport has unmatched opportunity to develop a world-class park system once again. This network of green space will serve the city’s needs for recreation, water management and flood control, natural resource and natural habitat protection, crop cultivation, climate control, reduced greenhouse gas emissions and aesthetic amenity. While dedicating sites to be parks removes these properties from tax rolls, green space development adds significantly to surrounding property values and creates communities of lasting value.

STRATEGIES

1. Support and expand organizational capacity to manage, develop, and enhance green spaces for natural habitat, recreation, gardening and outdoor education opportunities.

BGreen recommends the establishment of a Conservation Commission, a group of expert individuals and organizations that understand Bridgeport’s green space needs and will advance initiatives related to the expansion of parks, community gardens, and green landscaping, as well as the protection of its natural land and water resources, including inland wetlands and watercourses. The Commission will act in an advisory role to guide policies for green spaces management, preservation of habitats, including inland wetlands and watercourses and coastal area resources. The Commission will also help to develop policies related to private and -public infrastructure such as rain gardens, bioswales, green roofs and porous pavements, which are closely tied to the city’s green spaces, water- and other natural resources. BGreen will also work with existing nonprofit environmental groups, community organizations and relevant businesses to establish an independent community voice, or “Friends of Parks,” to advocate for green space initiatives, green space protection, adequate equipment and manpower for green space maintenance and enhancement. To further support this strategy of building organizational capacity, BGreen also sees significant benefit in establishing formal long-term relationships with nonprofit organizations that can engage the City’s youth in citywide care and restoration of assigned open space areas and simultaneously advance the goals of resource protection, job training and outdoor education, among other things.

SEASIDE PARK
RPA



2. Develop a Green Spaces Master Plan

A Green Spaces Master Plan will provide the necessary framework to direct green space development and natural resource protection throughout the city. It must take into account the needs of underserved communities and populations, and aim to provide gardens and urban farms for food and recreation, supplement current passive and active recreational opportunities, meet special recreational needs, such as a dog park or special-access parks, provide waterfront access, expand the street tree program and urban forest, provide for linkages between green spaces, and at the same time protect the integrity of Bridgeport’s natural resources and natural systems through updated coastal area management zone and inland wetlands and watercourses plans. Opportunities for green space development

must be reviewed in the context of other planning issues including potential for stormwater management and flood control. A newly established Conservation Commission could work with the Parks Department, the Department of Planning and Economic Development and local nonprofits to identify Bridgeport's green space needs and develop a master plan for the maintenance, upgrade, development and protection of city green spaces and natural resources. Priorities established in the Green Spaces Master Plan will enable the city to strategically invest in parks in a way that creates the most benefit for environmental functions and community needs

3. Increase waterfront access opportunities

The city's 22 miles of coastline are one of its greatest assets, and yet it is mostly inaccessible to Bridgeport residents. BGreen will work with the city in the coming year to prioritize waterfront access as a component of new development and in existing neighborhoods. As part of the city's strategy to increase waterfront access, attention will also be paid to types of use anticipated from access – whether swimming, boating and/or fishing– and also developing programs to enable residents to use their water resources safely.

4. Expand street tree and urban forest programs

Street trees add green to Bridgeport's streets, making them more attractive and pleasant to pedestrians and cyclists. They improve air quality, reduce stormwater runoff, reduce the heat island effect and reduce summer building heat and related energy demand for air conditioner use. City policies and programs can expand Bridgeport's stock of street trees and help develop a strong urban forest. BGreen recommends that the proposed Green Spaces Master Plan include a plan for street trees and urban forest. It is further recommended that the city continue its ongoing planting program, establish guidelines for street tree planting in private development, educate city residents on the benefits of street trees, and further expand the City's Adopt-a-Tree program. Complete Streets and Transit First policies will further support the expansion of Bridgeport's street tree inventory and the greening of city streets for environmental and community benefits. Developing a nonprofit-run tree nursery on city property for low-cost tree stock that can be purchased by the city, or by businesses or individuals, can support tree planting efforts.

5. Provide access for all neighborhoods to community gardens and urban farms

Community gardens provide valuable green space in dense neighborhoods, and they often become neighborhood centers in themselves. A network of community gardens in Bridgeport could also provide a source of inexpensive, nutritional foods. Over time, it is hoped that a community-garden and urban-farm system can be connected with farmers markets, schools and workforce training programs. Bridgeport should establish a clear vision for an integrated community-garden and urban-farm program.

6. Provide green space linkages

Connecting our green spaces will bring greater visibility to the city's park and green space system and enable greater recreational opportunities. In certain cases, linkages will help foster natural resource protection as well.

Adding “green” to green spaces

“Today communities usually don't ask whether parks and open space benefit economies, they ask how large those economic benefits might be. They are coming to realize that all of the other benefits brought by parks and open space – improved recreation and health, cleaner water and air, easier access to the out of doors, even stronger communities – also can engender economic benefits in the form of increased tax receipts, stronger economies, a better ability to attract businesses and residents, and reduced costs for environmental services.” (Geis 2009)

Bridgeport Tree City logo

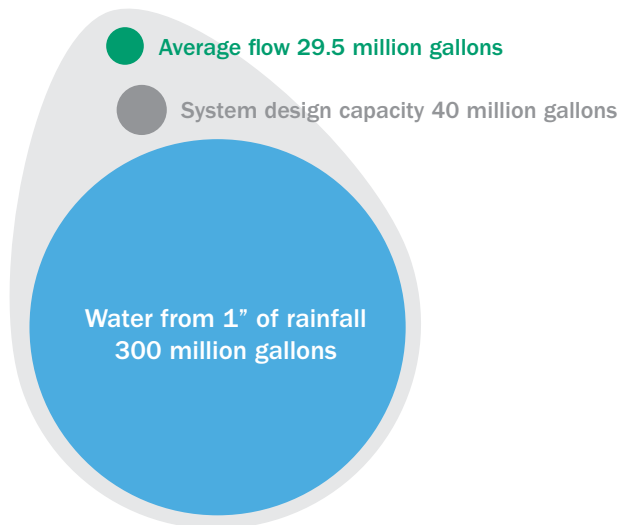
Bridgeport Parks Department



Water Resources

The city's wastewater treatment facilities are not always capable of handling rainwater in addition to greywater; stormwater management and system separation are essential to limit CSO events.

Bridgeport WATER POLLUTION CONTROL AUTHORITY



CHALLENGES

Nearly 86% of Bridgeport's land area is covered with impermeable surfaces – for the most part, pavement. Bridgeport's existing combined sanitary and storm sewer system put waterways and natural resources in Long Island Sound at environmental risk during every heavy rain event, when system capacity simply cannot meet demand, and stormwater flows unabated into our outdoor water resources. Water quality in Bridgeport's coastal area is relatively poor as classified by Connecticut Department of Environmental Protection – SC/SB – a result of certain water quality criteria not being met due to pollution levels. Complete sewer separation is one method of reducing water load at the water treatment plant, but this 'solution' will continue to direct stormwater with road and other surface wastes such as oils, and fertilizers, directly into our waterways, and is estimated to carry a price tag of at least \$300 million. Even after separation, much of the stormwater will still flow into the Water Pollution Control Authority (WPCA) treatment facility – spread over a longer time period – continuing to contribute to the high energy usage at this site. Currently, no city department has direct authority over or responsibility for managing stormwater. This is most directly exhibited by the lack of ownership of catch basin maintenance which is currently performed by WPCA because of the impact on their system. With over 10,000 catch basins across the city, severe flooding hazard in the downtown, and major sewer infrastructure investments on the horizon, stormwater management can no longer be allowed to slip through the cracks.

GOAL

- Ensure residents have access to safe, clean drinking water and healthy coastal resources.

OPPORTUNITIES

Every inch of rain falling on Bridgeport equals nearly 300 million gallons of water. New ways to manage this water – either by collecting and releasing it in less impactful ways, or using the water for outdoor

uses such as landscape irrigation or car washes – represent savings in water treatment costs and energy, water supply costs and pollution impacts. Non-point source solutions and low-impact development options ranging from green roofs to bioswales to rain barrels offer opportunities for managing stormwater at much lower cost than total sewer separation and with less negative impact on the environment. Compared to large scale separation, passive stormwater management methods would enable greater on-site retention, detention and infiltration at lower cost and with greater ecological co-benefits. Bridgeport's vacant lands could become the site of swales and rain gardens for site-specific water management. Furthermore, the significant number of underdeveloped sites provides tremendous opportunity for water management and water conservation as buildings on these redeveloped sites will need to be retrofitted or replaced and can incorporate efficient, low-flow fixtures to reduce water demand and reduce waste water subsequently flowing to our treatment facilities. Finally, Bridgeport's new "Complete Streets" policy can be bolstered with stormwater management strategies to create "blue streets" that are community-enhancing and ecologically beneficial.

STRATEGIES

1. Conduct water resources education and stewardship programs

Education is the first step toward water resources protection. Campaigns that raise awareness about the impact that linking gutters to storm drains can have on combined sewer overflow or the cost savings associated with low flow faucets can have dramatic impact as has been evidenced by recent campaigns to educate the population on the link between dumping in storm drains and the health of Long Island Sound. Residents must be alerted to the impact they have on our water resources, and this will be accomplished in part through door-to-door canvassing by our Conservation Corps and in part through a campaign to mark BGreen logos on many of the City's storm drains that lead directly to Long Island Sound. Additional water education, related to both water conservation and resource protection, will be introduced in the school system, expanding upon existing initiatives of Aquarion and other organizations. BGreen educational kiosks established in community centers will serve as yet another educational outlet.

2. Limit stormwater flow into the waste treatment system

Because Bridgeport's water system has significant aspects that remain a combined sanitary and stormwater system, treatment facilities must contend with greater volumes of water than they would with separated facilities. The WPCA has developed plans for capital improvements to separate combined sanitary/stormwater system in certain areas necessary to limit combined sewer overflows into the city's waterways. BGreen will work with the city to assess the merits of modified improvements as presented in Bridgeport's Municipal Plan of Conservation and Development and identify passive treatments that can be incorporated into street design and site planning to mitigate some of the need for high-cost separation. Managing the city's stormwater and preventing CSOs will require a combination of traditional infrastructure and green infrastructure investments. While new development should be held to the highest standards of low-impact development (see strategy four below), investments in the public realm including expansion of the urban tree canopy, incorporation of rain gardens and swales into street design, and the use of permeable pavement will each mitigate the need for some underground investment in separated and larger pipes.



Passive Stormwater Management in Docks Green, Victoria, Canada
RPA

3. Maintain the stormwater system to prevent flooding

Flooding in some city neighborhoods is linked to the maintenance of both natural and man-made stormwater management systems. The city's brooks and streams lie primarily on private property and generations of fill and dumping have, in some cases, degraded their ability to manage even typical storms. Dredging and cleaning will be necessary in partnership between the city, WPCA, and property owners to ensure that the city's natural green infrastructure is providing valuable ecological services. Additionally, the WPCA manages and cleans a complex system that includes 10,000 storm drains which are often clogged with trash and other debris. Adequate manpower, machinery, and drain structures must be made available to facilitate system cleaning and limit back-ups and flooding. The City of Bridgeport will work with WPCA to keep the system at a high level of maintenance.

4. Institute best practices for on-site stormwater management

Bridgeport adopted, in 2008, its first ever Stormwater Management Regulations to help retain stormwater on site. Bridgeport must build upon this action and implement additional strategies to reduce the water load on its treatment facilities, including the establishment of bioswales, rain gardens and collection containers such as rain barrels. A flood control management study for Seaside Village will be undertaken with the expectation that recommendations from this study will serve as guidance for a larger pilot for on-site controls. Many of the recommendations are expected to cross benefit the proposed Complete Streets and Streetscape strategies since the inclusion of green spaces in the development of Complete Streets will also increase water infiltration and reduce surface water flow and runoff. As WPCA develops its Long Term Control Plan, attention must be paid to the possible role that alternatives to complete separation, including individual site controls, larger, multi-site controls such as cisterns, and stormwater disconnects, can play in the city's overall water management strategy.

5. Coordinate land planning to include consideration of stormwater management and water resources protection

Development of a strong GIS system will help to identify best opportunities for site-specific water management within a larger framework of coordinated land use planning. With information on flooding, elevations, green space, vacant lands and other elements, certain parcels may stand out as opportunities for water control. BGreen will work with the city GIS staff to incorporate these database aspects into the city's spatial information system.

6. Institute water conservation programs in residential, commercial and industrial sectors

Low-flow water fixtures can reduce water use, lower water costs to the customer, and ease the load on Bridgeport's water treatment facilities. Many states, water districts and municipalities have benefitted in these ways from establishing fixture rebate programs to enable efficiency retrofits. Bridgeport must also look to ways to change out existing fixtures in its older housing stock to low flow. BGreen will work with water-provider Aquarion, the building department and other relevant agencies to expand these programs throughout the city.

7. Institute water conservation programs at municipal and school facilities

In conjunction with energy efficiency measures and building retrofit strategies, the City must conduct water audits and develop water conservation plans, including infrastructure and fixture upgrades for indoor and outdoor use, at all of its facilities. Upgrades should be made at several facilities per year.

8. Develop Green Building guidelines to include water use considerations

Green Building guidelines and incentives must include provisions for water conservation and efficiency as well as landscape elements, such as trees and green roofs, that impact stormwater management. Zoning and pricing incentives should be reviewed for possible application in Bridgeport. BGreen will work with the office of Planning and Development to ensure that any green building standards emphasize stormwater management best practices. This work will build off of the recently adopted Stormwater Management Policy of the city.

9. Pursue opportunities for water reuse in outdoor water demand planning

An inch of rainfall produces 300 million gallons of rainwater on Bridgeport's surfaces. In conjunction with water supply planning, it is recommended that a multi-stakeholder water resources forum be held to consider possible opportunities that this water resource presents in terms of outdoor water supply and managed stormwater flow.



Shopper using a reusable bag

10. Pursue ban on plastic bags

Serious attention must be given to banning disposable plastic bags, since plastic bags place significant demand on the cleaning of the City's nearly 10,000 storm drains and pass unabated to Long Island Sound during stormwater overflow events. Once in our waterways, and our oceans, they create a serious threat to our marine life, harming or killing many individuals every year. San Francisco and other American cities, even the entire country of China, have banned plastic bags -- Bridgeport must do so as well

Municipal Solid Waste, Materials Use & Recycling

CHALLENGES

Although state-mandated since 1991, only about 4% of Bridgeport's collected refuse is recycled. This does not compare well with Connecticut's statewide rate of 30%. Without major changes, Bridgeport will also fall short of 58% 2024 target set by the Connecticut Municipal Solid Waste Management Plan (Connecticut Department of Environmental Protection Waste Management and Disposal Plan, 2006). Bi-weekly pickup of residential recycling materials, insufficient recycling infrastructure, and a lack of information about recycling fosters this low rate.

Bridgeport's non-recycled garbage (96% of the city's waste) is burned in the waste-to-energy facility located on Black Rock Harbor. The resultant ash is trucked across the state to a landfill that is predicted to be reach capacity in 2018. Future disposal will likely be at greater distance and greater expense. The composition of the city's municipal solid waste, including recyclables and organics, indicates there may be many alternatives to turn this waste stream into an asset rather than a liability.

GOAL

- Reduce overall waste and maximize the share of the waste stream that is recycled and composted.

OPPORTUNITIES

A pilot program run for six weeks during the summer of 2009 revealed significant interest by residents to participate in recycling and highlighted substantial opportunities to maximize waste diversion. When canvassed door-to-door by the Mayor's Conservation Corps, nearly half the residents contacted requested recycling bins, which were later delivered to their houses by the City's Recycling Department. Within a two-week timeframe, recycling rates in some areas increased by nearly three tons, or 46%. With better programs, services and information, recycling in Bridgeport can be greatly expanded.

In the private sector, Aquarion's "Get Caught Recycling" program and other recycling initiatives have demonstrated a number of successful strategies for increasing recycling rates for numerous products including paper, cardboard, cans, bottles, batteries, light bulbs and fleet oils. These results demonstrate that expanded residential recycling education and bin distribution on the city's end, combined with commitment by residents, municipal agencies and businesses, will bring results. Furthermore, there are additional programs and improvements that the city can implement to elevate these diversion rates toward the statewide goal. Single-stream recycling programs in other Connecticut municipalities are achieving 35% recycling rates, while even more comprehensive recycling programs nationally and internationally are posting nearly 90% recycling, reuse and reclaim rates. Other privately run recycling incentive programs in several Connecticut municipalities have also achieved more modest results over a shorter time horizon. As Bridgeport prepares for a resurgence in development, now is also the time to institute Construction & Demolition recycling regulations, which will reduce the amount of building waste and carbon emissions resultant from redevelopment.

STRATEGIES

1. Identify the best recycling program to enable increased utilization. In Connecticut and many other states, single-stream recycling facilities and programs enable participants to recycle many more types of items in a single container without separation, than Bridgeport's current system, and have resulted in increased rates stemming from ease of participation. Stamford recently switched to a single-stream recycling program and claims a dramatic and swift increase in recycled materials collection from 9% to 16%. Other municipalities across the globe are experimenting with systems that combine all solid waste into a single stream which is then separated by the hauler into organics (used to power the vehicles), recyclables, and a meager amount of trash that results in a 90% diversion rate away from landfills. One of the several private recycling operators that offer incentives for recycling could be utilized to increase recycling rates regardless of the system in place. BGreen will continue to work with the city Department of Public Works to explore every opportunity and identify the best strategy to meet the specifics of Bridgeport to result in dramatically increased rates of recycling.

2. Expand residential recycling through outreach and bin distribution to all residents

Regardless of what recycling collection system is in place, recycling will only be successful if households and businesses participate. Through education, direct community contact and improved recycling infrastructure, Bridgeport residents will be given the proper tools to enable widespread participation in household recycling. Door-to-door canvassing by the Conservation Corps, piloted in the summer of 2009, will continue. Through this effort as many households as the Conservation Corps can contact will be provided with an instruction sheet and verbal information detailing recycling and will be offered a recycling bin. BGreen will launch an outreach program to community groups as another means of promoting recycling awareness and participation and developing community recycling networks. Managers of large residential buildings will be approached individually to determine what is preventing their residents from recycling and develop viable recycling programs. Recycling education in schools will support efforts at home. In addition, municipal recycling operators will receive training to enable them to be effective public educators in the field. Biweekly collection, if at all possible, should be increased to weekly collection.

3. Expand commercial recycling through education and infrastructure to all businesses.

Businesses face different challenges to recycling. Some commercial buildings are owned and occupied by a single entity and have a single custodial service and single waste hauler. Other commercial buildings have several tenants and several custodial services. Many businesses have particular security concerns related to document disposal. All have multiple entities involved in the process that takes recyclable materials from the desktop to the recycling bin to the outside bin and finally to the recycling facility. To get to the core of commercial recycling, Bridgeport will host several commercial recycling forums to identify barriers and best practices, spotlight successful examples of commercial recycling in Bridgeport, and identify workable programs for other members of our commercial sector. This sector can look to the experience of several national recycling organizations to optimize this effort.

4. Promote Downtown Special Services District recycling indoors and out

The Downtown Special Services District (DSSD) encompasses the area of the city that many visitors, students and business associates see first, coming off buses and trains at the Transportation Center, go-

ing to an event at Harbor Yard, The Arena, Burroughs Library, McLevy Green or the Barnum Museum, conducting business at City Hall or downtown, or on their way to class at our universities. A comprehensive recycling program must be established inside and outside the DSSD. Enhanced recycling visibility in this critical zone will send the clear message to all that Bridgeport recycles. BGreen will work with DSSD to develop strategies to amplify its message with supportive services to its member businesses.

5. Promote recycled & recyclable materials purchase by the City and commercial sector

Paper, ink cartridges, food service products, carpets, machine oils – all of these and many other products can be recycled and/or purchased with at least partial recyclable materials content. Government and businesses must recycle as much as they can and must strive to incorporate recycled products and recyclable products into all operations so as to reduce our city's contribution to municipal solid waste.

6. Institute recycling for municipal facilities, operations and events at municipal sites.

The City of Bridgeport must show leadership in recycling so others will follow. The goal should be to establish recycling programs at all buildings and parks, and to provide recycling bins at all events taking place on municipal sites. Education and proper infrastructure are critical components of this strategy's success. A needs assessment at all facilities will identify indoor and outdoor recycling infrastructure needs. Enlisting point persons to answer all recycling-related questions will help increase recycling rates. A policy on recycling at public sites and for public events, supported by specific guidelines, adequate infrastructure, and follow-up after events will enable recycling during the many large events held in Bridgeport each year.

7. Establish comprehensive system-wide recycling at our schools

Schools offer one of the easiest and most effective means of increasing the City's recycling rate. With a population of over 20,000 students in consolidated facilities, who want to do "what is right for the planet," comprehensive school recycling and composting must be aggressively developed. A recycling mindset and responsible recycling networks can be easily established at every school location, and must be supported by adequate bins, participation by all students and staff members, responsible custodial services and responsible haulers who ensure recyclable materials are recycled. Composting food wastes from school cafeterias is another area to be explored, and could be investigated in conjunction with community gardening needs. Building viable recycling programs at schools is expected to reinforce recycling efforts in the city's households

8. Engage residents in anti-dumping and "pride in community" anti-litter campaigns

When the transfer station is closed for the night, or the cost to dump seems prohibitive, or the vacant site seems like an easier alternative to proper dumping, the "midnight dumpers" strike, often in vacant lots which quickly become sources of community blight. Analyzing dumping "hot spots" will help determine the best locations for additional surveillance and possible fencing. Today's cell phone technology may also provide the opportunity for residents to participate in anti-dumping actions. Sites with illegally dumped garbage take too long to get cleaned up and attention should be paid to developing the most streamlined methods possible. Finally, action can be taken to develop a sense of responsibility and more personalized presence. One program for accomplishing this is a pride in community campaign to enlist business operators to sweep up outside their businesses and sponsor combined trash/recycling bins outside. A second relates to

Recycling Pays

Stamford, CT



Stamford replaced its dual stream recycling with single stream operations in July 2009. In the program's first three months, 28% less garbage ended up in the landfill, saving the city more than \$100,000 in hauling costs. Since the city's single stream contract also enables it to share a portion of the profits from the sale of recyclables, the City anticipated revenues of more than \$6 a ton for September 2009 and possibly more in ensuing months. In all, Stamford is expected to save more than \$1 million a year in municipal solid waste costs. "Most of our garbage is packaging, not banana peels," State Senator Andrew McDonald said.

the periodic Park City Sweeps, or volunteer clean-ups, and proposes the posting of "Post Clean-up" signs to personalize clean up efforts in the effort to prevent future dumping and littering.

9. Establish a composting center for food waste

Much of the city's waste is composed of organic materials that can be composted locally so that the nutrients contained within stay in the city, jobs are created, and local produce is grown for city employees and residents. BGreen will work to create a partnership between a hauling company, UConn's Agriculture School, the city, and the re-entry community to find a site to create a composting facility and train workers to staff and manage it. Working first with the large institutions including the schools, hospitals, and universities, organic waste will be collected for composting. As the program develops, relationships will be created with local restaurants, corporate cafeterias, catering halls, and eventually households to increase the amount of locally generated organics retained in the city. The soil produced will be used in community gardens and pocket parks and the vegetables grown will be sold to local institutions and restaurants completing the cycle of waste and regrowth within city limits.

10. Expand recycling expectations for construction and demolition waste

The redevelopment and building retrofits that are expected in the coming years will send much construction and demolition debris to out-of-state landfills if Bridgeport does not take action to regulate and/or incentivize recycling of these materials. Bridgeport's transfer station enables some materials sorting, but does not attack the core of the problem, which is construction and demolition (C&D) policy. Several municipalities have adopted materials sorting and recycling requirements as part of construction and have linked these requirements to the permitting process. The first step for Bridgeport is to

develop a C&D Task Force which can develop policy based on experience and models from other communities, investigate opportunities for siting C&D recycling facilities within Bridgeport, and investigate opportunities for private involvement within or beyond city boundaries.

11. Engage recycling operators in recycling-education campaigns

Bridgeport's recycling operators are the links in the field to Bridgeport's recyclers – the community at large. It is essential that residents receive accurate information on recycling, including what to recycle, what not to recycle and when to recycle, and to also have adequate recycling bins. Periodic training programs for all recycling and municipal solid waste operators will arm these key point persons with the materials they need to help city residents. Such programs will also allow for needed feedback from the field, thereby enabling quick identification of problems, successes or necessary changes.

12. Investigate options for special needs and bulk pick up

Because many Bridgeport residents do not own cars and do not drive, disposing of large items is difficult. Formerly the City conducted periodic bulk pickups, but the cost of pickups is substantial. It may very well be possible to develop programs in partnership with nonprofit or private entities that either enable disposal at community drop locations or at-home pick-up.

Green Businesses, Jobs and Purchasing

CHALLENGES

The unemployment rate in Bridgeport now exceeds 12%. During the past 25 years, Bridgeport lost about 15,000 jobs while the rest of the region gained about 13,000 jobs. The first major challenge in the area of green businesses and jobs is to provide our labor force the necessary training opportunities to take advantage of a rapidly evolving green collar jobs market. The second challenge is to green existing Bridgeport businesses and bring new green businesses to the city so we can put our newly-skilled Bridgeport residents to work and support our city's tax base.

Green jobs are a glimmer of hope amid the current economic gloom. The federal government now appears ready to include large sums of money for projects involving renewable energy, mass transit, energy efficiency, modernization of our electrical grid, and water and wastewater systems. But green jobs are not just a short-term fix in a recession and are not simply related to infrastructure development. Increasingly, these jobs are being viewed as central to the future of our nation and our planet. Green facilities managers, green water technicians, green product designers and green building architects are but a few of the areas where the green revolution will lead to new job creation and training opportunities.

GOALS

- Assist green businesses to grow and prosper in Bridgeport and help the city diversify its business base.
- Create 1000 new green collar jobs in Bridgeport by 2012 by recruiting green businesses and training workers for the new green economy.
- Utilize the purchasing power of the public and private sectors to buy green products, including recycled materials, green cleaning products, green energy, and other eco-friendly products and materials

OPPORTUNITIES

Green collar jobs currently represent the fifth largest sector of the U.S. economy, with almost 9 million employed. This is expected to grow to 40 million by 2030 (Learn4good). Bridgeport residents are ideally suited for training and upward movement through the green jobs market. Bridgeport's schools are willing to assume leadership positions in green skills training. Land is available for commercial development and establishment of green collar industries. This combination presents Bridgeport with a unique opportunity to become a center of green collar training, business and jobs. This plan recommends the creation of a **Green Collar Institute** that will be housed in an established non-profit institution in the city and act as an umbrella organization encompassing the first four strategies in this section.

STRATEGIES

1. Establish a model Green Collar Jobs career-ladder training continuum within existing secondary and higher educational institutions

In order to prepare the city's workforce for emerging green industries, training in the core sectors of the green economy will be necessary. The training continuum takes students through introductory workshops in a variety of topic areas ranging from HVAC to building deconstruction and brownfield remediation. After this overview, they will move into a specific training program for a chosen occupation that will result in a nationally recognized certificate in fields such as weatherization and green facilities management. Led by The Workplace, Inc., a green jobs coalition recently secured a Pathways Out of Poverty grant of \$4 million from the U.S. Department of Labor to begin this training in the city's neighborhoods of greatest need. This initial program will train 600 members of the Bridgeport's labor force, enabling them to meet the rapidly expanding demands of green industries. The trainee base could be expanded to meet the needs of middle income trainees from the city and the region looking for employment in the green economy. Additional grant dollars to complement the DOL program are available at the federal level and at national foundations.

2. Create a Green Business Incubator and/or a Green Business Cluster

The creation of a comprehensive Green Business Incubator and/or a Green Business Cluster in Bridgeport could become a state and national model for encouraging and nurturing the development of green businesses. Incubators provide opportunities for start up companies; clusters serve more mature businesses. Presently, Connecticut has many business incubator models; some provide only low cost space; others provide some level of ancillary services to support their businesses; and some have a modest affiliation with a local university. But to our knowledge, few have focused their efforts on the unique needs of green businesses. The creation of a model Green Business Incubator or Green Business Cluster, with a strong set of university

and corporate partners, and a comprehensive array of services to support green business growth including business planning services, marketing services, access to capital, accounting, legal and other support services is a must if we are to become a center of excellence for green business growth. Within a year BGreen will identify corporate and university partner(s), business and service prospects and funding opportunities; develop a marketing strategy, identify a facility and bring in ten start-up companies. In ensuing years, efforts will go toward establishing additional businesses with the eventual goal of attracting a total of twenty to thirty new green businesses.

3. Provide education and support to green existing businesses

Bridgeport city government and business organizations can implement specific policies to provide all businesses with the information and tools necessary to conduct their business operations in as green a manner as possible. There are several national models being implemented around the country, including an innovative online program developed in North Carolina called Green Plus. Green Plus is a business partnership between Duke University, the University of North Carolina at Chapel Hill, and regional chambers of commerce that advances practical knowledge in sustainability by providing affordable expertise to small businesses and non-profit agencies and helps educate, motivate and reward small employers for pursuing greater triple bottom line sustainability. It is recommended that the BRBC reach out to the Green Plus program and establish a similar effort in Bridgeport. The BRBC should host a forum for businesses on greening opportunities, develop an ongoing program to educate businesses on energy efficiency, green product use and green business procedures, and coordinate efforts with commercial recycling, water conservation and energy initiatives. A key component of this outreach will be to identify impediments and strategic opportunities to greening business operations and develop green business strategies specific to existing Bridgeport businesses. There are several local and national corporate partners who can assist the BRBC in this effort.

4. Establish a Green Collar Resource Center

As existing businesses work to green themselves, as new businesses are created locally that are based in the green economy, and as local workers are trained in these emerging sectors, a green collar resource center will be the connecting fabric linking these three elements to ensure that co-benefits and synergy are maximized in the local green economy. The center will outreach to local employers in Fairfield and New Haven counties to link their jobs needs with the trainee's skills. Additionally, the center will contain a research component that will collect data and develop the tools necessary to nurture, grow, and support green local businesses. The center will also develop the accounting processes necessary to measure our success in fostering the city's green economy.

5. Provide weatherization training and certification for 100 students

Multi-school, multi-sector partnerships to create a weatherization education and training program in the city are under development. Housatonic Community College, Bullard Havens Technical High School and the Green Team, among others, are building new training programs to support expanded federal efforts to weatherize more low-income homes in Connecticut. Early tasks include developing the curriculum, identifying facilities and securing funding to enable training of 100 students in the first year. These efforts could eventually be folded into the green collar jobs career-ladder training continuum as more resources are identified and coordination maximized. Additionally, greater effort should be made to coordinate the work done by non-profits doing weatherization with the electric utility distribution company, UI, also doing work in this important area.

6. Pilot a green purchasing program for municipal facilities and operations

BGreen 2020 staff has been assisting the city develop an "Environmentally Preferable Purchasing" policy to minimize the city's impact on the environment by including environmental considerations in the procurement of materials, equipment and services. Such a policy will further the city's environmental goals, improve worker health and safety, reduce liabilities, reduce disposal and lifecycle costs of the purchased products, and increase the availability of environmentally preferred products in the marketplace. In December 2009, the city adopted such a policy and began implementation. Over time, the city can also look to regionalize green purchasing through coordinated efforts with other municipalities. In addition, it is recommended the city investigate opportunities for greening equipment operations, and pilot green equipment use and operations in the Parks Department, with the goal of expanding to other departments shortly thereafter.

7. Promote recycled and recyclable materials purchase by the city and commercial sector

Paper, ink cartridges, food service products, carpets, machine oils – all of these and many other products can be recycled and/or purchased with at least partial recyclable materials content. Government and businesses must recycle as much as they can and must strive to incorporate recycled products and recyclable products into all operations so as to reduce our city's contribution to municipal solid waste. A comprehensive waste reduction program will limit the amount of local dollars spent on unnecessary inputs to the economy and spent on dealing with unnecessary wastes.

8. Promote green purchasing in the residential sector

Healthy indoor air quality is critical to good health. Using environmentally responsible products is a good first step in this process. Several nonprofit organizations, including the Environmental Justice Coalition, in conjunction with the U.S. EPA, are developing outreach programs to support healthy indoor air quality and other environmental training efforts to have residents use safer products in their homes. Bridgeport should support these programs and take action to expand upon existing programs for training and educating residents on use of green products and improving indoor air quality.

Green Marketing, Education and Outreach

CHALLENGES

Sustainability is a concept that is not always well understood and often lacks a mechanism for immediate noticeable positive feedback. Community-wide buy-in of sustainable action might be difficult in a community that has often been disengaged, felt overlooked, and in which economic priorities predominantly determine actions. Even with substantial community participation and support, Bridgeport faces a tough task in changing its image from that of a place tainted by the polluted legacy of its former industrial glory.

GOALS

- Educate students about sustainability that will assist them in better understanding how energy efficiency and conservation contribute to a healthier environment and save money.
- Increase awareness and introduce best practices to Bridgeport residential households on living in a more sustainable manner.
- Brand the BGreen initiative as an essential component of the city's revitalization plan.

OPPORTUNITIES

BGreen 2020 offers substantial opportunities for personal empowerment. Every resident, business, industry, municipal department and school has the opportunity, through BGreen, to make a difference in their personal realm, community and, through their combined efforts, the region. Scaling up initiatives to the citywide level will amplify the efforts of all individuals, allowing for energy conservation, water conservation, transportation savings, and reduced emissions not necessarily attainable by lesser populated or more sprawling communities. Communities are at Bridgeport's core, and community initiatives are widespread. These initiatives, and the operations of individual groups, are rarely coordinated, diluting their impact and their recognition. With increased and increasingly coordinated personal and community action, the City, using the BGreen Sustainability Plan as a key element, has a unique opportunity to grow green, show green, and to re-brand Bridgeport as a model sustainable city with notable opportunities for education, jobs, recreation, and desired quality of life. It is expected this comprehensive effort will show great returns in terms of attracting outside interests into Bridgeport.

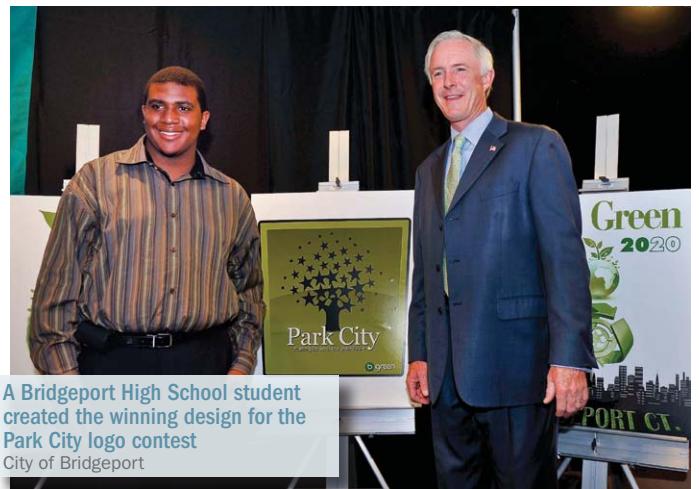
STRATEGIES

Students learning about sustainability
State of Indiana



1. Conduct neighborhood outreach to educate and involve Bridgeport households in BGreen initiatives and sustainable best practices.

In a city composed of neighborhoods, outreach, education and BGreen buy-in will build upon personal outreach and community initiatives. Educating residents on the environmental, social and cost-saving benefits of undertaking sustainable actions and available means for reaping these benefits will be a top priority. BGreen is seeking 100% citywide participation, and community groups and city residents will be asked to assume leadership positions in numerous BGreen projects, initiatives and technical committees. The Mayor's Conservation Corps will continue to canvass households to educate residents on specific BGreen projects, such as recycling, energy efficiency, and stormwater management projects. BGreen will leverage the capacities and networks of community and faith-based organizations for community events that publicize BGreen concepts, programs, and examples of best practices. BGreen volunteers will seek community members to participate in and lead specific projects. Finally, educational kiosks will be placed in libraries and community centers that link residents to BGreen initiatives and resources.



A Bridgeport High School student created the winning design for the Park City logo contest
City of Bridgeport

2. Develop school-wide sustainability education and youth engagement opportunities

Schools have a valuable role in the development and support of community initiatives. Schoolchildren may be the only link a household has to the larger community, and, especially for non-English speaking households, a major source of information for parents and other household members on community resources. BGreen will work with the Board of Education, schools, and supporting businesses and organizations to develop an inventory of existing green curricula and

programs and to develop recommendations for green education. A key initiative will be the expansion of recycling within the schools as a strategy for reaching community-wide recycling goals. The Mayor's Conservation Corps, composed of high school students and young adults, will continue to educate individual households and will be involved in future BGreen projects such as parks enhancements and community events.

3. Brand Bridgeport as a model green community

An overarching theme of the BGreen Initiative is to redefine Bridgeport as a green community with quality parks, transportation options and educational and employment opportunities, and to publicize programs and characteristics of Bridgeport that enable sustainable living. Marketing materials will drive awareness to the initiative and clearly convey BGreen goals, priorities and programs. To support the BGreen brand, the organization will seek business partners for promotions that mutually reinforce the initiative and sponsor. Branding Bridgeport as a model sustainable city will attract residents and employers and encourage private investment in Bridgeport's future. For instance, in part thanks to the BGreen Initiative, Bridgeport was recently included in Self Magazine's Top Ten Places for Women to Live.

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