


*City of Baltimore*

# 2015 ANNUAL SUSTAINABILITY REPORT

STEPHANIE RAWLINGS-BLAKE
MAYOR

Baltimore Office of Sustainability
People · Planet · Prosperity

SUSTAINABILITY: meeting the current *environmental, social, and economic needs* of our community without compromising the ability of future generations to meet these needs.

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# EXECUTIVE SUMMARY

THE BALTIMORE SUSTAINABILITY PLAN, adopted as City Council Ordinance on March 2, 2009, was developed as a direct result of the vision, hard work, and creativity of over 1,000 Baltimore citizens and organizations. The Plan offers a broad, community-responsive sustainability agenda that articulates the type of community Baltimore wants to be – a community that invests in the quality of life of its people, the health and resilience of its environment, and the long-term success of its economy.

We are pleased to report that in 2015, Baltimore – the City government, businesses, institutions, community organizations and citizens – made progress towards our Sustainability Plan goals. The annual report that follows provides specific measurements for and stories about our 29 Plan goals and 131 Plan strategies.

The Annual Report's detailed "Strategy Implementation" tracker for each of our plans – Sustainability Plan, Climate Action Plan, Disaster Preparedness Project & Plan (DP3), and Homegrown Baltimore – will give you a snapshot of the implementation progress for each plan - which strategies are in mid-stages, implemented and ongoing, as well as actions that that are not yet underway.

The highlighted stories in the 2015 report shine a light on just a few of the many efforts underway across the City. From increased participation by our youth environmental leaders, to the launch of a peer-to-peer anti-littering engagement campaign, to out of the box ways to open new markets in order reduce wood waste, to greening of vacant lots – so much is happening in Baltimore that helps our city be more sustainable and resilient. It takes action, support and engagement from everyone to achieve these ambitious goals and the goals in all of our plans. The Office of Sustainability and Commission on Sustainability cannot do this alone, and we count on many partners to help us achieve our goals.

While the 2015 report continues to tell Baltimore City's progress in sustainability, we have recognized that it is time to undergo an update to the Sustainability Plan. A lot has changed in our City, as well as in the field of sustainability since we adopted the Plan in 2009, and some of the goals and strategies laid out in the Plan are ones that over time we have realized maybe aren't the best ones to help us move the needle. In April 2016, the Commission on Sustainability and Office of Sustainability will be kicking off the community engagement process to update and enhance our city's Sustainability Plan.

On April 18, 2016, the Baltimore Sun published the following op-ed as submitted by members of the Baltimore Commission on Sustainability highlighting the process by which the Office of Sustainability and Commission on Sustainability will take to update the City's Sustainability Plan. Everyone's voice is important, and needs to be heard to ensure the City's Sustainability Plan update is comprehensive and relevant to our City's needs. Whether it be transportation, housing, greening, energy, health or safety – what is important to you? And what are your ideas? We encourage everyone in Baltimore to share their stories to help to redefine and achieve the City's sustainability goals at our website www.baltimoresustainability.org or find us on Facebook and Twitter.

Thank you to the countless individuals and organizations that took action this past year to improve the quality of life and sustainability in Baltimore. We look forward to continuing our work with you to make Baltimore a sustainable and resilient city.

## OP-ED: "A Sustainable and Resilient Future for Baltimore"

By Inez Robb and Michael Furbish (members Baltimore Commission on Sustainability)

Sustainability, resilience — people are sometimes confused by these terms; they can seem abstract, something to do with saving energy perhaps or recycling. And of course they do refer to those things. But more fundamentally, sustainability and resilience are terms that apply to us: the community leader who helps young people find jobs, the family who plants a garden on a vacant lot, the parent who coaches Little League, the neighbor who looks out for the vulnerable person next door. These are the stories that strengthen our communities, give comfort to those in need and empower those who are too often ignored.

"Sustainability" and "resilience" are about what we do together as a city to build a better place to live for all of us, and every story counts.

On Tuesday, the Baltimore Office of Sustainability will hold its annual Town Hall, where we will honor those stories and start a citywide conversation about what our next chapter should be. The event marks the launch of a new, participatory process to encourage and empower more of our citizens in shaping a sustainable and resilient future as we rewrite Baltimore's Sustainability Plan together. Instead of telling you what should be in the plan, or requiring that you tell us what you want to see only through certain "official" channels, we want to empower your voice and your story by inviting you to share your experiences, needs and hopes in whatever way works best for you.

For the next five months, we'll be listening and learning from you no matter how you choose to let us know. You can join us and citizens from across Baltimore at our Town Hall to learn what's already being done and share your ideas for how we can do better. You can connect with us on our website (baltimoresustainability.org) or through social media (facebook.com/baltimoresustainability; @sustainbmore) by using the hashtags #ItsAboutUs or #EveryStoryCounts to tell us how you're creating sustainability and resilience every day and what would help you do even more. Or you can share and connect in your own backyard, where community ambassadors from your neighborhood will be working with our support team to develop forums for participation, whether it's through a block party, an art show or a simple conversation.

Once we've identified what's most important to our communities, our ambassadors will also be there to make sure that communities get to lead when implementing the plan, and that you can determine for yourself how you want to be involved in making change come about. We want to create a living sustainability plan that's shaped and driven by the people of Baltimore. There is no sustainability or resilience without you.

For too long, planning has seemed like something that happens to people, rather than coming from the people. For too long those most impacted by pollution, poverty, discrimination and all the other forces that tear at our social fabric and make us weaker as a whole have been the ones most excluded from the discussion of how to make things right. We want to make sure that doesn't happen, and we can't afford to — the challenges we face are too great for business as usual.

The small band of neighborhood leaders who turned into green guerrillas to plant 500 trees. The two grandmothers who go to door-to-door to show people in their neighborhood how they can save energy and money by weatherizing their homes. The youth leaders whose advocacy will give students a greater say in making our schools healthier, more vibrant places to learn. That's what this work is about. When someone asks what sustainability or resilience mean, we don't need dictionary definitions or drawn-out, technical explanations. We just need us — all of us, which is why every story truly counts. But only if everyone is heard.

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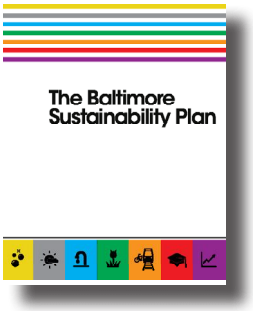
# SUSTAINABLE STRATEGIES IMPLEMENTATION

*The charts below will allow you the opportunity to re-visit the strategies, and easily get an idea of where we are in implementation. The color red indicates that a strategy is "still pending," and the teal check mark indicates that the strategy has been "implemented and/or is ongoing." Or a strategy may fall somewhere in between, and will be noted by orange, yellow, light green, and green. We will update this feature every year, and hope to see progress. New for the 2014 Annual Report, the City will also be reporting on the progress of the Climate Action Plan (CAP), Disaster Preparedness Project and Plan (DP3), and Homegrown Baltimore, Urban Agriculture Plan.*




*The* **Baltimore City Sustainability Plan** *addresses all three legs of the sustainability stool – people, planet, and prosperity. The Plan was designed to lay out a broad, inclusive, and community responsive sustainability agenda. The Plan is comprised of seven theme chapters: Cleanliness, Pollution Prevention, Resource Conservation, Greening, Transportation, Education & Awareness, and Green Economy. Each chapter contains three to five goals, for a combined total of 29 goals in the Plan. Each goal is accompanied by a non-exhaustive list of recommended strategies. There are 132 strategies listed in the Plan, we report on the implementation status of each strategy.*



## CLEANLINESS

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **C1 \|** | **Eliminate litter throughout the City** | | | | | | |
| *A* | Educate residents and businesses about proper trash storage and disposal | ○ | ○ | ○ | ● | ○ | ✓ |
| *B* | Expand existing programs to maximize public trash and recycling bin use | ○ | ○ | ○ | ● | ○ | ✓ |
| *C* | Launch a public education campaign to change the public's attitude toward litter | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Issue every household a large municipal trash can | ○ | ○ | ○ | ○ | ● | ✓ |
| *E* | Improve the enforcement of current sanitation code | ○ | ○ | ○ | ○ | ○ | ✓ |
| **C2 \|** | **Sustain a clean and maintained appearance of public land** | | | | | | |
| *A* | Establish city-wide maintenance standards for publicly owned land | ○ | ○ | ● | ○ | ○ | ✓ |
| *B* | Build capacity of existing city maintenance staff through training and education | ○ | ○ | ● | ○ | ○ | ✓ |
| *C* | Expand adoption and community stewardship of public land | ○ | ○ | ○ | ○ | ○ | ✓ |
| **C3 \|** | **Transform vacant lots from liabilities to assets that provide social and environmental benefits** | | | | | | |
| *A* | Strengthen enforcement of dumping and litter laws | ○ | ○ | ○ | ○ | ● | ✓ |
| *B* | Increase participation in community maintenance and stewardship efforts | ○ | ○ | ○ | ○ | ● | ✓ |
| *C* | Create and sustain a land trust to support community-managed open space | ○ | ○ | ○ | ○ | ○ | ✓ |
| *D* | Return abandoned properties to productive use | ○ | ○ | ○ | ○ | ○ | ✓ |
| *E* | Establish a new fee schedule charged to absentee property owners | ○ | ○ | ○ | ● | ○ | ✓ |

## POLLUTION PREVENTION

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **PP1 \|** | **Reduce Baltimore's greenhouse gas emissions by 15% by 2015** | | | | | | |
| *A* | Create a Climate Action Plan for the City of Baltimore | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Implement Climate Action Plan for the City of Baltimore | ○ | ○ | ○ | ● | ○ | ✓ |
| **PP2 \|** | **Improve Baltimore's air quality and eliminate Code Red days** | | | | | | |
| *A* | Add an air quality and climate change implication evaluation to all government-funded projects | ● | ○ | ○ | ○ | ○ | ✓ |
| *B* | Create Code Red/Orange day policies | ○ | ○ | ○ | ● | ○ | ✓ |
| *C* | Explore options for more efficient fleet conversion | ○ | ○ | ○ | ○ | ○ | ✓ |
| *D* | Institute and enforce a City-wide no-idling policy | ○ | ○ | ○ | ● | ○ | ✓ |
| **PP3 \|** | **Ensure that Baltimore water bodies are fishable and swimmable** | | | | | | |
| *A* | Implement recommendations in the City County Watershed Agreement | ○ | ○ | ○ | ○ | ● | ✓ |
| *B* | Study creation of a stormwater utility or other new funding sources | ○ | ○ | ○ | ○ | ○ | ✓ |
| *C* | Reduce amount of impervious surfaces and increase on-site stormwater treatment | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Protect and restore Baltimore's stream corridors | ○ | ○ | ○ | ● | ○ | ✓ |
| *E* | Create watershed-based natural resource management plans | ○ | ○ | ○ | ● | ○ | ✓ |
| *F* | Increase actions by individual property owners to treat stormwater | ○ | ○ | ○ | ○ | ● | ✓ |
| **PP4 \|** | **Reduce risks from hazardous materials** | | | | | | |
| *A* | Adopt the "Precautionary Principle" as the underlying policy standard | ● | ○ | ○ | ○ | ○ | ✓ |
| *B* | Adopt a policy and plan for elimination of pesticide use and other toxic chemicals | ● | ○ | ○ | ○ | ○ | ✓ |
| *C* | Comply with the *Maryland Integrated Pest Management (IPM) in Schools* mandate | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Enact an ordinance prohibiting the use of known toxins in health care delivery settings | ● | ○ | ○ | ○ | ○ | ✓ |
| *E* | Aggressively promote the redevelopment of Brownfield sites | ○ | ○ | ○ | ● | ○ | ✓ |
| **PP5 \|** | **Improve the health of indoor environments** | | | | | | |
| *A* | Use green cleaning products in schools, government offices, and businesses | ○ | ○ | ● | ○ | ○ | ✓ |
| *B* | Explore the feasibility of making all Baltimore multi-family dwellings smoke-free by 2010 | ○ | ● | ○ | ○ | ○ | ✓ |
| *C* | Increase and coordinate all healthy housing efforts | ○ | ○ | ○ | ○ | ○ | ✓ |
| *D* | Ensure coordination among weatherization, lead remediation, and healthy homes activities | ○ | ○ | ○ | ○ | ○ | ✓ |

## RESOURCE CONSERVATION

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **RC1 \|** | **Reduce Baltimore's energy use by 15% by 2015** | | | | | | |
| *A* | Require aggressive energy efficiency standards as part of the Baltimore Green Building standards | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Improve the energy efficiency of existing homes and buildings | ○ | ○ | ○ | ○ | ● | ✓ |
| *C* | Increase renewable energy generation in Baltimore City | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Mandate efficiency upgrades to homes at point of sale | ● | ○ | ○ | ○ | ○ | ✓ |
| *E* | Increase energy conservation by residents, City government, businesses, and institutions | ○ | ○ | ○ | ○ | ● | ✓ |
| *F* | Dedicate resources to assist Baltimore in leveraging state and federal funds for energy efficiency | ○ | ○ | ○ | ○ | ● | ✓ |
| *G* | Investigate a "Lights Out" policy for appropriate areas of Baltimore City | ● | ○ | ○ | ○ | ○ | ✓ |
| **RC2 \|** | ***Reduce Baltimore's water use while supporting system maintenance*** | | | | | | |
| *A* | Conduct public education program on reducing water consumption | ○ | ● | ○ | ○ | ○ | ✓ |
| *B* | Study methods to fund the construction and maintenance of Baltimore's water supply system | ○ | ○ | ○ | ● | ○ | ✓ |
| *C* | Maintain a comprehensive water facilities master plan | ○ | ● | ○ | ○ | ○ | ✓ |
| **RC3 \|** | **Minimize the production of waste** | | | | | | |
| *A* | Distribute information on waste-reducing purchasing policies | ● | ○ | ○ | ○ | ○ | ✓ |
| *B* | Establish Baltimore City Green Purchasing guidelines | ○ | ○ | ● | ○ | ○ | ✓ |
| *C* | Educate consumers about product life-cycle analysis | ○ | ● | ○ | ○ | ○ | ✓ |
| *D* | Link industrial and commercial users to close waste loops | ○ | ○ | ● | ○ | ○ | ✓ |
| *E* | Expand Baltimore's composting program and opportunities | ○ | ○ | ○ | ● | ○ | ✓ |
| *F* | Develop and implement local legislation related to waste minimization | ○ | ● | ○ | ○ | ○ | ✓ |
| **RC4 \|** | **Maximize reuse and recycling of materials** | | | | | | |
| *A* | Increase recycling opportunities throughout the City | ○ | ○ | ○ | ○ | ● | ✓ |
| *B* | Increase resident and business participation in the single-stream recycling program | ○ | ○ | ○ | ○ | ● | ✓ |
| *C* | Expand types of materials accepted by the single-stream recycling program | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Preserve, reuse, and recycle buildings and related material | ○ | ○ | ○ | ○ | ○ | ✓ |
| *E* | Institute once-weekly recycling and once-weekly trash pick up service | ○ | ○ | ○ | ○ | ○ | ✓ |

## GREENING

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **G1 \|** | **Double Baltimore's Tree Canopy by 2037** | | | | | | |
| *A* | Assess current urban forest cover | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Protect our existing trees | ○ | ○ | ○ | ● | ○ | ✓ |
| *C* | Build communication and cooperation among City agencies to support Baltimore's trees | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Develop a City-wide education program about the values of trees | ○ | ○ | ○ | ○ | ○ | ✓ |
| *E* | Develop and strengthen innovative public-private partnerships | ○ | ○ | ○ | ○ | ○ | ✓ |
| *F* | Identify and pursue opportunities for increasing trees planted on private property | ○ | ○ | ○ | ○ | ● | ✓ |
| *G* | Increase tree plantings in sidewalks, medians and other public right-of-ways | ○ | ○ | ○ | ○ | ○ | ✓ |
| **G2 \|** | **Establish Baltimore as a leader in sustainable, local food systems** | | | | | | |
| *A* | Increase the percentage of land under cultivation for agricultural purposes | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Improve the quantity and quality of food available at food outlets | ○ | ○ | ● | ○ | ○ | ✓ |
| *C* | Increase demand for locally-produced, healthy foods by schools, institutions, supermarkets, and citizens | ○ | ○ | ○ | ● | ○ | ✓ |
| *D* | Develop an urban agriculture plan | ○ | ○ | ○ | ○ | ○ | ✓ |
| *E* | Implement Baltimore Food Policy Task Force recommendations related to sustainability and food | ○ | ○ | ○ | ● | ○ | ✓ |
| *F* | Compile local and regional data on various components of the food system | ○ | ○ | ○ | ○ | ○ | ✓ |
| **G3 \|** | **Provide safe, well-maintained public recreational space within 1/4 mile of all residents** | | | | | | |
| *A* | Conduct an inventory and assessment of existing and potential outdoor spaces for recreation | ○ | ● | ○ | ○ | ○ | ✓ |
| *B* | Develop a plan with recommendations for increasing the quantity, quality, and use of recreation spaces | ● | ○ | ○ | ○ | ○ | ✓ |
| *C* | Create an inclusive organizational system to support stewardship of public spaces | ○ | ○ | ○ | ○ | ○ | ✓ |
| **G4 \|** | **Protect Baltimore's ecology and biodiversity** | | | | | | |
| *A* | Manage Baltimore City land to restore, conserve, and create habitat for native species and eliminate invasive plant species | ○ | ● | ○ | ○ | ○ | ✓ |
| *B* | Implement sustainable landscape maintenance practices throughout the City | ○ | ○ | ● | ○ | ○ | ✓ |
| *C* | Develop and implement a system to regenerate soil health in Baltimore City | ○ | ● | ○ | ○ | ○ | ✓ |
| *D* | Build community support to conserve and restore Baltimore's urban stream ecosystem | ○ | ○ | ○ | ● | ○ | ✓ |
| *E* | Support and develop native plant nurseries in the City | ○ | ○ | ● | ○ | ○ | ✓ |

## TRANSPORTATION

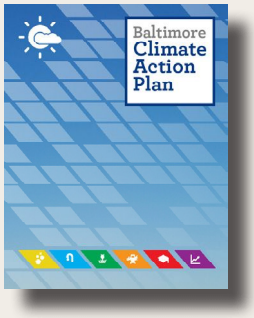
| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **T1 \|** | **Improve public transit services** | | | | | | |
| *A* | Make software upgrades to allow for transit signal priority | ○ | ● | ○ | ○ | ○ | ✓ |
| *B* | Implement an integrated system of downtown shuttle and trolley routes | ○ | ○ | ○ | ○ | ○ | ✓ |
| *C* | Work with the MTA to expand QuickBuses to more high-volume transit corridors | ○ | ○ | ● | ○ | ○ | ✓ |
| *D* | Bring the Red Line Transit project to Baltimore | ● | ○ | ○ | ○ | ○ | ✓ |
| *E* | Work with the MTA to develop and implement an ideal transit service profile for MTA routes | ● | ○ | ○ | ○ | ○ | ✓ |
| **T2 \|** | **Make Baltimore bicycle and pedestrian friendly** | | | | | | |
| *A* | Implement the Baltimore Bicycle Master Plan | ○ | ○ | ○ | ● | ○ | ✓ |
| *B* | Develop a Bike to Work program for Baltimore | ○ | ● | ○ | ○ | ○ | ✓ |
| *C* | Evaluate the creation of a bicycle sharing service | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Expand the Safe Routes to Schools program | ○ | ○ | ○ | ● | ○ | ✓ |
| *E* | Implement "Sunday Streets" recreational street closure program | ○ | ○ | ● | ○ | ○ | ✓ |
| *F* | Improve public infrastructure for cyclists and pedestrians | ○ | ○ | ○ | ● | ○ | ✓ |
| **T3 \|** | **Facilitate shared-vehicle usage** | | | | | | |
| *A* | Establish a Baltimore CarShare program | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Expand the CityCommute Rideshare program | ○ | ○ | ○ | ● | ○ | ✓ |
| *C* | Leverage new Baltimore Green Building Standards to increase shared-vehicle use | ○ | ○ | ● | ○ | ○ | ✓ |
| **T4 \|** | **Measure and improve the equity of transportation** | | | | | | |
| *A* | Track the disparity of transportation costs by neighborhood relative to income | ● | ○ | ○ | ○ | ○ | ✓ |
| *B* | Identify strategies to reduce the disparity in cost of transportation relative to income | ● | ○ | ○ | ○ | ○ | ✓ |
| *C* | Work with the MTA to measure the quality of transit service in Baltimore neighborhoods | ○ | ○ | ● | ○ | ○ | ✓ |
| **T5 \|** | **Increase transportation funding for sustainable modes of travel** | | | | | | |
| *A* | Advocate for more funding for transit and sustainable transportation | ○ | ○ | ○ | ● | ○ | ✓ |
| *B* | Implement goals of Mayor's Transportation Investment Commission (TIC) report | ○ | ● | ○ | ○ | ○ | ✓ |
| *C* | Explore options for a new regional transit funding source and a larger local role in managing the MTA | ○ | ● | ○ | ○ | ○ | ✓ |
| *D* | Expand eligible expense under sustainable transportation programs | ● | ○ | ○ | ○ | ○ | ✓ |
| *E* | Advocate shifting funding from roadway capacity expansion to transit, bicycling, and walking projects | ○ | ○ | ● | ○ | ○ | ✓ |

## EDUCATION & AWARENESS

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **EA1 \|** | **Turn every school in Baltimore City into a green school** | | | | | | |
| *A* | Incorporate sustainability into curriculum and activities | ○ | ○ | ○ | ○ | ● | ✓ |
| *B* | Build and retrofit green school buildings | ○ | ○ | ○ | ● | ○ | ✓ |
| *C* | Adopt a green facilities management guide for school operations | ○ | ○ | ● | ○ | ○ | ✓ |
| *D* | Implement a teacher training and certification program for sustainability | ○ | ● | ○ | ○ | ○ | ✓ |
| *E* | Recognize schools making strides in sustainability | ○ | ○ | ○ | ○ | ○ | ✓ |
| **EA2 \|** | **Ensure all city youth have access to environmental stewardship programs and information** | | | | | | |
| *A* | Develop a sustainability education and community service program | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Create a website devoted to the youth perspective on the environment | ○ | ○ | ○ | ○ | ● | ✓ |
| *C* | Create a Youth Ambassador Team to educate their peers about sustainability | ○ | ○ | ○ | ○ | ○ | ✓ |
| **EA3 \|** | **Raise the environmental awareness of the Baltimore community** | | | | | | |
| *A* | Utilize a Sustainability Ambassador network for community outreach | ○ | ● | ○ | ○ | ○ | ✓ |
| *B* | Coordinate a Year-Long Baltimore Sustainability Calendar | ○ | ● | ○ | ○ | ○ | ✓ |
| *C* | Increase public knowledge of alternative transportation options | ○ | ○ | ● | ○ | ○ | ✓ |
| *D* | Launch City-wide sustainability challenges to a variety of audiences | ○ | ○ | ○ | ○ | ○ | ✓ |
| *E* | Engage membership organizations to develop and disseminate targeted sustainability information | ○ | ○ | ○ | ○ | ○ | ✓ |
| **EA4 \|** | **Expand access to informational resources on sustainability** | | | | | | |
| *A* | Develop an interactive website for the Baltimore Office of Sustainability (BOS) | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Create local Green Pages as resources guide | ○ | ● | ○ | ○ | ○ | ✓ |
| *C* | Utilize existing community centers to distribute sustainability information | ○ | ○ | ○ | ○ | ○ | ✓ |
| *D* | Support innovative resources on sustainability | ○ | ○ | ○ | ○ | ○ | ✓ |

## GREEN ECONOMY

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **GE1 \|** | **Create green jobs and prepare City residents for these jobs** | | | | | | |
| *A* | Add clean technology to Baltimore's targeted growth sectors | ○ | ○ | ○ | ○ | ○ | ✓ |
| *B* | Conduct needs assessment of green job demand | ○ | ○ | ● | ○ | ○ | ✓ |
| *C* | Link existing job training programs to the information provided in the green jobs needs assessment (above) | ○ | ○ | ○ | ○ | ● | ✓ |
| *D* | Encourage employment of Baltimore's residents in City clean energy projects | ○ | ○ | ○ | ○ | ● | ✓ |
| *E* | Convene Green Collar Summit | ○ | ○ | ○ | ○ | ○ | ✓ |
| *F* | Develop a strategy to secure available funding | ○ | ● | ○ | ○ | ○ | ✓ |
| **GE2 \|** | **Make Baltimore a center for green business** | | | | | | |
| *A* | Leverage Baltimore's natural amenities attractive to green technology businesses and market them | ○ | ○ | ● | ○ | ○ | ✓ |
| *B* | Establish and market creative financing strategies for local green businesses | ○ | ● | ○ | ○ | ○ | ✓ |
| *C* | Encourage construction industry to use "green" building practices | ○ | ○ | ○ | ○ | ○ | ✓ |
| *D* | Identify sectors and products for a sustainability-related manufacturing niche in Baltimore | ○ | ○ | ○ | ● | ○ | ✓ |
| **GE3 \|** | **Support local Baltimore Business** | | | | | | |
| *A* | Educate Baltimore City residents on the importance of supporting local businesses | ○ | ○ | ○ | ● | ○ | ✓ |
| *B* | Develop tools to connect local suppliers to businesses, consumers, and government | ● | ○ | ○ | ○ | ○ | ✓ |
| *C* | Increase local government purchasing of local products | ○ | ● | ○ | ○ | ○ | ✓ |
| **GE4 \|** | **Raise Baltimore's profile as a forward thinking, green city** | | | | | | |
| *A* | Create a brand for Baltimore's Sustainability initiative | ○ | ○ | ○ | ○ | ● | ✓ |
| *B* | Attract sustainablility-related conventions and events to Baltimore | ○ | ○ | ● | ○ | ○ | ✓ |
| *C* | Target the tourism industry to promote Baltimore as a green city | ● | ○ | ○ | ○ | ○ | ✓ |
| *D* | Support innovative an pilot projects and technologies | ○ | ○ | ○ | ● | ○ | ✓ |




There are 29 goals in the **Climate Action Plan (CAP).** Each goal is accompanied by a non-exhaustive list of recommended strategies. The strategies are divided across three sectors: Energy Savings and Supply (ESS), Land Use and Transportation (LUT), and Growing a Green City (GGC). The plan's 37 measures and seven additional actions illustrate how the City will achieve those strategies.

In the 2014 Annual Report, the City will begin reporting on the implementation status of each CAP strategy.

## CAP ESS | ENERGY SAVINGS & SUPPLY

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **ESS 1 \| Reduce energy consumption of existing buildings** | | | | | | | |
| *1.A* | Disclose residential energy bills and energy efficiency improvements at the beginning of the sale or rental process | ● | ○ | ○ | ○ | ○ | ✓ |
| *1.B* | Benchmark and disclose energy performance and improvements of city -owned and privately-owned commercial, industrial and institutional buildings | ○ | ○ | ○ | ● | ○ | ✓ |
| *1.C.a* | Require energy audits for city-owned and privately-owned, commercial, industrial and institutional buildings over 10,000 sq. ft. | ● | ○ | ○ | ○ | ○ | ✓ |
| *1.C.b* | Require retro-commisioning for city-owned and privately-owned, commercial, industrial and institutional buildings over 10,000 sq. ft. | ● | ○ | ○ | ○ | ○ | ✓ |
| *1.D* | Conduct commercial and residential energy efficiency outreach | ○ | ○ | ○ | ○ | ○ | ✓ |
| *1.E* | Encourage model green lease provisions | ○ | ● | ○ | ○ | ○ | ✓ |
| *1.F* | Conduct outreach programs in schools | ○ | ○ | ○ | ○ | ○ | ✓ |
| *1.G* | Retrofit Baltimore's street lights for more efficient energy usage | ○ | ○ | ○ | ○ | ● | ✓ |
| *1.H* | Encourage switch from heating oil to natural gas | ○ | ○ | ○ | ○ | ○ | ✓ |
| *1.I* | Promote cool roof installations and other roofing technologies | ○ | ○ | ○ | ○ | ● | ✓ |
| **ESS 2 \| Promote generation of renewable energy** | | | | | | | |
| *2.A* | Standardize permitting for renewable energy installations | ○ | ○ | ○ | ● | ○ | ✓ |
| *2.B* | Conduct outreach for solar installations, to achieve 30 MW of PV installed in total, across all sectors (government, commercial, institutional, multifamily, and residential) by 2020 | ○ | ○ | ○ | ● | ○ | ✓ |
| *2.C* | Encourage State to increase Renewable Portfolio Standard to 26% by 2022 | ○ | ○ | ○ | ● | ○ | ✓ |
| **ESS 3 \| Expand and upgrade energy performance for major renovation and new construction** | | | | | | | |
| *3.A* | Adopt green building standards for new residential construction and major renovation | ○ | ● | ○ | ○ | ○ | ✓ |
| *3.B* | Modify existing new homeowner and rehabilitation tax credit to include energy efficiency standards based on the Energy Star home certification program | ● | ○ | ○ | ○ | ○ | ✓ |
| **ESS 4 \| Promote efficient community energy districts** | | | | | | | |
| *4.A* | Encourage new facilities to consider connecting to existing, proximate, co-generation facilities | ○ | ○ | ● | ○ | ○ | ✓ |
| *4.B* | Encourage co-generation installation for replacing inefficient boiler plants | ○ | ● | ○ | ○ | ○ | ✓ |

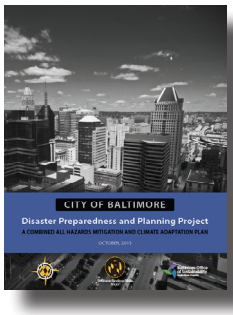
| *Baltimore Sustainability Plan Quantification Energy Savings and Supply Activities* | | | | | | | |
|---|---|---|---|---|---|---|---|
| >> | Savings due to Baltimore City Green Building Standards (commercial and multifamily) | ○ | ○ | ● | ○ | ○ | ✓ |
| >> | Domestic appliance upgrades | ○ | ○ | ○ | ● | ○ | ✓ |
| >> | Smart grid roll-out | ○ | ○ | ○ | ○ | ● | ✓ |

## CAP LUT | LAND USE & TRANSPORTATION

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **LUT 1 \| Promote mixed-use development near transit** | | | | | | | |
| *1.A* | Create high-quality pedestrian- and transit-oriented neighborhoods | ○ | ○ | ○ | ○ | ● | ✓ |
| *1.B* | Support mixed-use neighborhoods to increase access to goods and services | ○ | ○ | ○ | ○ | ● | ✓ |
| **LUT 2 \| Support alternative commutes** | | | | | | | |
| *2.A* | Develop and promote incentives for individual transportation choices | ○ | ○ | ● | ○ | ○ | ✓ |
| *2.B* | Promote establishment of qualified bike commute reimbursement programs | ● | ○ | ○ | ○ | ○ | ✓ |
| **LUT 3 \| Explore parking strategy options** | | | | | | | |
| *3.A* | Explore the creation of a parking plan for city-owned parking | ● | ○ | ○ | ○ | ○ | ✓ |
| *3.B* | Provide alternatives to monthly parking passes | ● | ○ | ○ | ○ | ○ | ✓ |
| *3.C* | Reduce off-street parking requirements | ○ | ○ | ○ | ○ | ● | ✓ |
| **ESS 4 \| Increase walking and biking** | | | | | | | |
| *4.A* | Develop a pedestrian master plan | ● | ○ | ○ | ○ | ○ | ✓ |
| *4.B* | Support Safe Routes to Schools | ○ | ○ | ○ | ● | ○ | ✓ |
| *4.C* | Expand and improve bicycle infrastructure | ○ | ○ | ○ | ● | ○ | ✓ |
| **ESS 5 \| Increase efficiency in city fleet** | | | | | | | |
| *5.A* | Implement a centralized fueling program and route optimization software | ○ | ● | ○ | ○ | ○ | ✓ |
| **ESS 6 \| Support cleaner vehicles** | | | | | | | |
| *6.A* | Support alternative-fuel infrastructure and encourage adoption of alternative-fuel vehicles | ○ | ○ | ● | ○ | ○ | ✓ |
| *6.B* | Promote Fuel Efficient cargo handling in the Port of Baltimore | ○ | ● | ○ | ○ | ○ | ✓ |

## CAP GGC | GROWING A GREEN CITY

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **GGC 1 \| Divert waste from landfills** | | | | | | | |
| *1.A* | Develop a comprehensive recycling plan | ○ | ○ | ○ | ● | ○ | ✓ |
| *1.B* | Reduce construction and demolition waste | ○ | ○ | ○ | ○ | ● | ✓ |
| *1.C* | Compost organic material | ○ | ○ | ○ | ● | ○ | ✓ |
| **GGC 2 \| Improve water efficiency** | | | | | | | |
| *2.A* | Repair water supply infrastructure | ○ | ○ | ● | ○ | ○ | ✓ |
| *2.B* | Improve water efficiency in existing small residential buildings | ○ | ○ | ● | ○ | ○ | ✓ |
| *2.C* | Improve water efficiency for new construction and major renovations of small residential buildings | ○ | ○ | ○ | ● | ○ | ✓ |
| **GGC 3 \| Enhance the Urban Forest** | | | | | | | |
| *3.A* | Increase the number of trees planted | ○ | ○ | ○ | ○ | ○ | ✓ |




The **Disaster Preparedness Project and Plan (DP3)** was approved in 2014. There are four primary sectors— Infrastructure (IN), Buildings (BL), Natural Systems (NS), and Public Services (PS)—that provide the structure for the plan's 50 strategies and 231 additional actions.

In the 2014 Annual Report, the City will begin reporting on the implementation status of each DP3 action.



## DP3 INFRASTRUCTURE

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **IN 1 \| Protect and enhance the resiliency and redundancy of electricity system** | | | | | | | |
| *1* | Work with the Maryland Public Service Commission (PSC) to minimize power outages from the local electric utility during extreme weather events by identifying and protecting critical energy facilities and located within the City | ○ | ● | ○ | ○ | ○ | ✓ |
| *2* | Evaluate the City of Baltimore utility distribution system, and identify "underground utility districts" using BGE's May 2014 short term reliability improvement plan | ○ | ● | ○ | ○ | ○ | ✓ |
| *3* | Support BGE's collaboration with the Maryland Public Service Commission to implement various smart grid solutions that will provide the City with real-time access to data during events | ○ | ● | ○ | ○ | ○ | ✓ |
| *4* | Identify, harden, and water seal critical infrastructure relative to electrical, heating, and ventilation hardware within the flood plain | ○ | ● | ○ | ○ | ○ | ✓ |
| *5* | Increase resiliency in our energy generation system by encouraging the development of decentralized power generation and developing fuel flexibility capabilities | ○ | ● | ○ | ○ | ○ | ✓ |
| *6* | Develop a comprehensive maintenance and training program for City employees at facilities with backup generators to ensure proper placement, hook-up and function during hazard events. | ● | ○ | ○ | ○ | ○ | ✓ |
| *7* | Install external generator hookups for critical City facilities that depend on mobile generators for backup power | ● | ○ | ○ | ○ | ○ | ✓ |
| *8* | Partner with utility to evaluate protecting power and utility lines from all hazards | ○ | ○ | ● | ○ | ○ | ✓ |
| *9* | Determine low-laying substation vulnerability and outline options for adaptation and mitigation | ○ | ○ | ● | ○ | ○ | ✓ |
| *10* | Evaluate and protect low laying infrastructure - switching vaults, conduit and transformers | ○ | ● | ○ | ○ | ○ | ✓ |
| **IN 2 \| Increase energy conservation efforts** | | | | | | | |
| *1* | Increase energy efficiency across all sectors through education, efficiency retrofits, and building management systems | ○ | ○ | ○ | ○ | ○ | ✓ |
| *2* | Encourage critical facilities and institutions to connect to existing cogeneration systems, or develop new cogeneration systems | ○ | ● | ○ | ○ | ○ | ✓ |
| *3* | Continue the City's electricity demand-response program during peak usage or pre-blackout periods | ○ | ○ | ○ | ○ | ○ | ✓ |
| **IN 3 \| Ensure backup power generation for critical facilities and identified key infrastructure during power outages** | | | | | | | |
| *1* | Investigate off-grid, on-site renewable energy systems, generators, and technologies for critical facilities to ensure redundancy of energy systems | ○ | ○ | ○ | ● | ○ | ✓ |
| *2* | Seek funding to purchase and install generators for all city building designated as critical to agency functions | ○ | ● | ○ | ○ | ○ | ✓ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Develop Combined Heat and Power (CHP) co-generation plants at identified critical facilities | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | **Evaluate and ensure backup power generation is available to healthcare facilities (nursing homes, critical care facilities, hospitals, etc.)** | ○ | ● | ○ | ○ | ○ | ✓ |

## IN 4 | Protect and manage compressed liquefied natural gas sites and (city) fueling stations before and during hazard eventsduring power outages

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Work with BGE to ensure existing preparedness plans for Spring Gardens liquefied natural gas site incorporate its vulnerability to present and predicted flooding, storm surge and sea level rise | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Adopt building code that requires anchoring of 50 gallon storage tanks or larger | ● | ○ | ○ | ○ | ○ | ✓ |
| 3 | Support the Maryland Public Service Commission's effort to accelerate replacement of aging natural gas infrastructure which will harden the system against flooding | ● | ○ | ○ | ○ | ○ | ✓ |

## IN 5 | Evaluate and improve resiliency of liquid fuels infrastructure

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Design and implement a generator program that assists private gas stations in securing backup generators, especially those stations along major evacuation routes | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Increase and ensure fuel availability during distribution disruptions | ● | ○ | ○ | ○ | ○ | ✓ |
| 3 | Ensure fuel for generators and delivery priority is given to critical facilities and emergency responders. | ● | ○ | ○ | ○ | ○ | ✓ |

## IN 6 | Evaluate and improve resiliency of communication systems that are in place for sudden extreme weather events

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Utilize new technologies such as fiber optics, external hook-ups, and mobile generators to improve resiliency | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Build redundancy into all public and inter-agency warning and communication systems | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Identify best practices for the installation and management of flood proofing of all communications infrastructure at risk of water damage | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | Implement additional nurse triage phone lines and community health centers to reduce medical surge on hospitals | ○ | ● | ○ | ○ | ○ | ✓ |
| 5 | Evaluate and improve early warning systems for hazard events | ○ | ○ | ○ | ● | ○ | ✓ |
| 6 | Ensure continued operation of city governments various computer mainframes for email, control systems, and internet service by having stand-by batteries for each with a capacity sufficient for backup generation to operate | ○ | ○ | ● | ○ | ○ | ✓ |
| 7 | Identify shared communication technology for emergency responders and government agencies to ensure continued and coordinated communication during emergency events | ○ | ○ | ● | ○ | ○ | ✓ |

## IN 7 | Integrate climate change into transportation design, building and maintenance

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Determine the coastal storm vulnerability and complete an exposure assessment of City transportation assets | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Improve stormwater management, operations and maintenance for stream flooding that erodes away bridge supports | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Incorporate compliance with earthquake standards to withstand a magnitude eight earthquake for all new, improved and rebuilt bridges | ● | ○ | ○ | ○ | ○ | ✓ |
| 4 | Design bridges expansion joints for longer periods of high heat and develop a more robust inspection and maintenance process | ● | ○ | ○ | ○ | ○ | ✓ |
| 5 | Research utilizing existing and new rating systems for all new infrastructure and road projects | ● | ○ | ○ | ○ | ○ | ✓ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6 | Identify, investigate, and incorporate Best Management Practices as they relate to transportation design, construction and maintenance | ○ | ● | ○ | ○ | ○ | ✓ |
| 7 | Require that backup solar powered street lights and signals be integrated along evacuation routes and high traffic areas | ● | ○ | ○ | ○ | ○ | ✓ |

### IN 8 | Identify additional alternative routes and modes for effective transport and evacuation efforts during emergency situations

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Evaluate existing systems and develop a comprehensive evacuation plan | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Coordinate evacuation plans with regional partners | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Develop and prioritize clearance of specified transportation routes for delivery of emergency response supplies | ● | ○ | ○ | ○ | ○ | ✓ |
| 4 | Educate the public on the dangers of driving through flooded roads | ○ | ● | ○ | ○ | ○ | ✓ |
| 5 | Make available a network of dedicated pedestrian and bicycle transportation routes leading into and throughout the City | ○ | ● | ○ | ○ | ○ | ✓ |
| 6 | Identify and collaborate with bicycle groups and repair shops to assist in emergency response and accommodate alternate transportation needs | ● | ○ | ○ | ○ | ○ | ✓ |

### IN 9 | Alter transportation systems in flood-prone areas in order to effectively manage stormwater

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Prioritize infrastructure upgrades for roads identified at risk of flooding through the use of elevation data and Sea, Lake and Overland Surges from Hurricanes (SLOSH) model results | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Raise streets in identified flood prone areas as they are redeveloped | ● | ○ | ○ | ○ | ○ | ✓ |
| 3 | Encourage development of Green Streets in flood prone areas and throughout the City | ● | ○ | ○ | ○ | ○ | ✓ |
| 4 | Encourage use of permeable pavement in non-critical areas – low-use roadways, sidewalks, parking lots and alleys where soils permit proper drainage | ○ | ● | ○ | ○ | ○ | ✓ |
| 5 | Add pumps or other mitigation alternatives to streets as they are redeveloped (if needed) | ● | ○ | ○ | ○ | ○ | ✓ |
| 6 | Assess need for new culvert capacity and identify where upgrades are needed | ● | ○ | ○ | ○ | ○ | ✓ |
| 7 | Conduct an in-depth analysis of the impacts of drain fields that feed the harbor | ○ | ● | ○ | ○ | ○ | ✓ |
| 8 | Expand and reinforce existing stormwater education programs | ○ | ○ | ● | ○ | ○ | ✓ |
| 9 | Design and implement floodgates and barriers in transportation tunnels | ● | ○ | ○ | ○ | ○ | ✓ |
| 10 | Encourage Federal and State Government to design and install floodgates and barriers at vulnerable transportation tunnels | ○ | ● | ○ | ○ | ○ | ✓ |
| 11 | Upgrade existing floodgate hardware and mechanisms to control rise rate of water into all city tunnels | ● | ○ | ○ | ○ | ○ | ✓ |

### IN 10 | Ensure structural stability of all transportation tunnels to reduce impact from seismic activity

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Repair cracks and leaks in all tunnels to reduce impact of seismic activity | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Follow Federal, State and Local criteria for the stabilization of Historic transportation tunnels (e.g. Howard Street) | ● | ○ | ○ | ○ | ○ | ✓ |
| 3 | Install a seismically resistant fire standpipe, air monitoring, and automatic valve system in all tunnels to provide a fully automated and monitored fire suppression system | ● | ○ | ○ | ○ | ○ | ✓ |

### IN 11 | Evaluate changes to road maintenance and construction materials based on anticipated changes in climate

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Implement a repaving strategy that reduces heat-related damage to asphalt and incorporates maintenance and operations that extend the life of the road surface | ● | ○ | ○ | ○ | ○ | ✓ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Develop a reconstruction and repair strategy that reduces damage to concrete and incorporates better maintenance and operations | ● | ○ | ○ | ○ | ○ | ✓ |
| 3 | Develop deicing strategies and materials that are effective in extreme cold temperatures and prolonged events to stabilize roadway and bridge surfaces | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | Design pavement sections and materials that withstand longer periods of extreme heat events | ● | ○ | ○ | ○ | ○ | ✓ |

## IN 12 | Enhance the resiliency of the City's waterfront to better adapt to impacts from hazard events and climate change

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Raise bulkhead height along shoreline areas most at risk | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Utilize vegetation and stone to stabilize and armor unprotected shorelines | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Encourage the development of integrated flood protection systems that use structural (engineering) and non-structural (wetlands) measures | ○ | ○ | ● | ○ | ○ | ✓ |
| 4 | Review and enhance coastal area design guidelines to better mitigate the impacts of flooding | ○ | ○ | ● | ○ | ○ | ✓ |
| 5 | Enhance and strengthen waterfront zoning and permitting | ○ | ● | ○ | ○ | ○ | ✓ |

## IN 13 | Increase the resilience of all wastewater systems and protect them from current and projected extreme weather events

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Ensure all water and wastewater pumping stations have off-grid, on-site energy sources and/or reliable backup power sources by increasing the number of backups and pulling electricity from different grids | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Evaluate the sewer system to identify and develop key areas for prevention of raw sewage overflows | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Develop and adopt increased level of protection for construction, redevelopment, and design of all water and wastewater facilities that incorporate future climate projections | ● | ○ | ○ | ○ | ○ | ✓ |
| 4 | Retrofit and harden low-laying pumping stations and treatment plants in flood hazard areas | ● | ○ | ○ | ○ | ○ | ✓ |
| 5 | Ensure effective operations and security for wastewater treatment plants if facilities are overwhelmed by hazard event | ● | ○ | ○ | ○ | ○ | ✓ |
| 6 | Establish the capability of wastewater treatment plants to function during large storm events and establish protocols for storms that overwhelm the system | ● | ○ | ○ | ○ | ○ | ✓ |
| 7 | Increase stormwater recharge areas and quantity management to prevent flooding from overflows | ○ | ● | ○ | ○ | ○ | ✓ |
| 8 | Conduct an assessment of the City's current water system to identify age, condition of infrastructure, capacity, weaknesses and areas for priority upgrades | ○ | ● | ○ | ○ | ○ | ✓ |
| 9 | Conduct and utilize a detailed risk assessment to determine vulnerability of the sewage treatment plant to prevent overflows from extreme storm events | ● | ○ | ○ | ○ | ○ | ✓ |
| 10 | Determine the elevation of sewage treatment buildings, tank construction details, and if the plant is at risk of back flow, for improvements to withstand coastal storm events | ○ | ● | ○ | ○ | ○ | ✓ |
| 11 | Retrofit wastewater treatment facility and methane gas storage system to withstand seismic activity to protect against earthquakes. Design facility to exceed current building codes | ● | ○ | ○ | ○ | ○ | ✓ |

## IN 14 | Integrate resiliency, redundancy, and structural stability into the City's drinking and water system to ensure safe and reliable water storage and distribution

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Repair leaks and improve connection from all City reservoirs and the Susquehanna River | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Provide water conservation education, and continue to protect our watersheds to assist in maintaining water quality | ○ | ● | ○ | ○ | ○ | ✓ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Ensure dam emergency plans account for impacts of climate change | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | Identify and document post damage responsibilities in memorandums of understanding as addendums to Reservoir Watershed Management Agreement | ● | ○ | ○ | ○ | ○ | ✓ |
| 5 | Review dam capacity, load and failure points and review them against 1,000 year and 10,000 year precipitation events | ○ | ● | ○ | ○ | ○ | ✓ |
| 6 | Conduct a study to determine seismic design standards and seismic resiliency of drinking water distribution system (tunnels, piping, clean water pump stations, dams, shafts, and tanks) | ● | ○ | ○ | ○ | ○ | ✓ |
| 7 | Increase stormwater recharge areas and quantity management | ○ | ● | ○ | ○ | ○ | ✓ |
| 8 | Evaluate the impacts of sediment loading on reservoir capacity | ○ | ● | ○ | ○ | ○ | ✓ |
| 9 | Manage watershed forests to provide maximum benefits for water quality and to maintain resiliency during extreme weather events | ● | ○ | ○ | ○ | ○ | ✓ |
| 10 | Adopt new policies on salt application to prevent high salinization on drinking water supplies | ● | ○ | ○ | ○ | ○ | ✓ |
| 11 | Establish a structured Firming Program to maintain adequate storage and water quality in the source-water reservoirs during drought conditions | ○ | ● | ○ | ○ | ○ | ✓ |
| 12 | Maintain appropriate agreements with Susquehanna River Basin Commission (SRBC) and the Exelon Power Company to ensure adequate water withdraws from the Susquehanna River during drought emergency | ○ | ● | ○ | ○ | ○ | ✓ |

## IN 15 | Conduct an assessment that evaluates and improves all pipes' ability to withstand extreme heat and cold

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Replace old and malfunctioning pipes with new pipes or retrofit existing pipes with new lining | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Evaluate and utilize new technology that allows for greater flexibility in pipes as they are replaced | ○ | ○ | ● | ○ | ○ | ✓ |

## IN 16 | Enhance and expand stormwater infrastructure and systems

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Implement the requirements of Baltimore's MS4 (separate stormwater and sewer system) permit | ○ | ○ | ○ | ● | ○ | ✓ |
| 2 | Prioritize storm drain upgrades and replacement in areas with reoccurring flooding | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Install backflow-prevention devices or other appropriate technology along waterfront to reduce flood risk | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | Preserve and protect natural drainage corridors | ○ | ○ | ● | ○ | ○ | ✓ |
| 5 | Review and revise storm drain design on a continuous basis, to accommodate projected changes in intense rainfall | ● | ○ | ○ | ○ | ○ | ✓ |

## IN 17 | Modify urban landscaping requirements and increase permeable surfaces to reduce stormwater runoff

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Support existing stormwater requirements and continue to evaluate and improve Best Management Practices | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Encourage urban landscaping requirements and permeable surfaces into community managed open spaces | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Utilize water conservation elements such as green roofs, rain gardens, cisterns, and bioswales on residential, commercial, industrial, and City-owned properties to capture stormwater | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | Encourage permeable paving on low-use pathways | ○ | ● | ○ | ○ | ○ | ✓ |

### IN 18 | Evaluate and support DPW's stream maintenance program

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Review and improve status of standing maintenance requirements | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Ensure adequate funding is in place to support stream maintenance | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Identify opportunities where stream restoration efforts will off-set maintenance costs | ○ | ● | ○ | ○ | ○ | ✓ |
| 4 | Identify interdependencies and benefits of stream maintenance with other transportation programs | ● | ○ | ○ | ○ | ○ | ✓ |
| 5 | Clear streams on a regular basis, prioritize dredging the stream beds, and increase inspection and cleaning of culverts and storm drains to prevent flooding | ○ | ● | ○ | ○ | ○ | ✓ |

### IN 19 | Support and increase coordination and information sharing across jurisdictions to better enable mitigation of cross-border impacts on the regions watersheds (e.g., understanding flood conditions upstream in the County)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Partner with local counties to evaluate major tributaries in all watersheds to determine best management practices for capturing run-off and slowly releasing it (stormwater quantity management) | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Encourage information sharing within the Chesapeake Bay community to assist in developing best management practices | ○ | ○ | ● | ○ | ○ | ✓ |

### IN 20 | Reevaluate and support a comprehensive debris management plan for hazard events

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Investigate best practices for managing and disposing of downed trees, yard waste, building debris, as well as additional household garbage | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Expand and integrate existing programs to reduce or intercept debris before it gets into the streams and harbor | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Develop and promote solid waste management actions for citizens to implement before a hazard event | ○ | ● | ○ | ○ | ○ | ✓ |

### IN 21| Encourage the integration of climate change and natural hazards into private and State planning documents, systems, operations, and maintenance

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Incorporate consideration of hazards and climate adaptation efforts into all plans, systems, operations, and maintenance | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Ensure Red Line planning incorporates adaptation strategies | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Ensure hazard scenarios, utilized in vulnerability assessments, are at a minimum 25% greater in intensity and impact than historical record events to date | ● | ○ | ○ | ○ | ○ | ✓ |
| 4 | Develop guidelines for hospital, health care facilities and other institutional entities (e.g. Universities) | ● | ○ | ○ | ○ | ○ | ✓ |
| 5 | Partner with regional air quality institutions to integrate air quality measures and messaging into City climate change policy efforts | ○ | ● | ○ | ○ | ○ | ✓ |

### IN 22 | Develop City policy which requires new city government capital improvement projects to incorporate hazard mitigation principles

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Discourage new public projects in hazard-prone areas such as floodplains or the coastal high hazard areas | ○ | ○ | ○ | ● | ○ | ✓ |
| 2 | Utilize hazard mitigation design requirements that exceed minimum standards for critical facilities | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Use comprehensive infrastructure assessments to identify infrastructure in need of replacement and prioritize funding for those projects | ○ | ● | ○ | ○ | ○ | ✓ |

## DP3 BUILDINGS

### BL 1 | Develop and implement hazard protections for critical facilities including hospitals, fire stations, police stations, hazardous material storage sites, etc.

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| 1 | Conduct educational outreach for city-owned, residential, commercial, and industrial buildings about proper storage and disposal of hazardous materials and heating oil | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Require hazardous materials stored in city-owned, residential, commercial, and industrial buildings within the floodplain to be elevated a minimum of three feet above the freeboard | ○ | ○ | ○ | ○ | ○ | ✓ |
| 3 | Require new critical facilities to be designed with redundant operating systems | ○ | ○ | ● | ○ | ○ | ✓ |
| 4 | Require pre-wiring for generators at all facilities designated critical to agency operations and hazard response | ● | ○ | ○ | ○ | ○ | ✓ |
| 5 | Develop stricter flood regulations for critical facilities | ○ | ○ | ○ | ○ | ○ | ✓ |
| 6 | Develop partnership with private fueling stations to provide backup generators in exchange for a commitment to fueling emergency response vehicles during a hazard event | ● | ○ | ○ | ○ | ○ | ✓ |
| 7 | Ensure storage of and access to fuel for generators in critical facilities | ● | ○ | ○ | ○ | ○ | ✓ |

### BL 2 | Enhance City building codes that regulate building within a floodplain or near the waterfront

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| 1 | Design new projects to be resilient to a mid-century sea level rise projection and adaptable to longer-term impacts | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Incorporate climate change and coastal hazard considerations into building codes by increasing freeboard requirements to two feet as buildings are redeveloped and renovated | ○ | ○ | ○ | ○ | ○ | ✓ |
| 3 | Continue to regulate to the existing tidal floodplain delineation as adopted 2 February, 2012 | ○ | ○ | ○ | ○ | ○ | ✓ |
| 4 | Incorporate outfall elevation regulations | ○ | ● | ○ | ○ | ○ | ✓ |
| 5 | Develop Construction Best Practices for development within floodplains | ○ | ○ | ● | ○ | ○ | ✓ |
| 6 | Train all code enforcement and building inspectors about flood proofing techniques and the local floodplain ordinance | ○ | ○ | ● | ○ | ○ | ✓ |
| 7 | Encourage green roof installations to include vegetative and reflective technologies for all new commercial, industrial, multifamily, and city-owned development | ● | ○ | ○ | ○ | ○ | ✓ |

### BL 3 | Strengthen City zoning, floodplain and construction codes to integrate anticipated changes in climate

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| 1 | Review zoning and strengthen language (where necessary) in order to better protect citizens and increase resiliency in buildings | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Review and amend existing building and floodplain regulations to require more flood resistant new and existing structures when located in the floodplain | ○ | ○ | ○ | ○ | ○ | ✓ |
| 3 | Utilize open space category in zoning code to protect sensitive areas (e.g. stormwater sites, steep slopes, floodways, etc.) | ○ | ○ | ○ | ○ | ● | ✓ |
| 4 | Review and increase Flood Protection Elevation (Base Flood Elevation + Freeboard) standards to the highest available State, Federal or local elevation level | ○ | ○ | ○ | ○ | ○ | ✓ |
| 5 | Evaluate and update stormwater management regulations to avoid increases in downstream flooding | ○ | ○ | ● | ○ | ○ | ✓ |
| 6 | Adopt design requirements that include wet and dry flood proofing techniques | ○ | ○ | ○ | ● | ○ | ✓ |
| 7 | Review and consider adoption of the International Green Construction code | ○ | ○ | ○ | ○ | ○ | ✓ |

### BL 4 | Update a list of flood prone and repetitive loss buildings to consider for acquisition

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Continue to acquire property (including repetitive loss properties) in the special flood hazard areas where feasible and appropriate | ○ | ○ | ○ | ● | ○ | ✓ |
| 2 | Prioritize Hazard Mitigation Assistance funding for mitigation of repetitive loss properties and severe repetitive loss properties | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Develop a creative financing program for flood resiliency in industrial buildings | ○ | ● | ○ | ○ | ○ | ✓ |

### BL 5 | Improve wind resiliency of new and existing structures

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Review local building codes to determine if revisions are needed to improve the structures ability to withstand greater wind velocities and storm impacts | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Retrofit emergency shelter windows to withstand winds associated with coastal storm events | ● | ○ | ○ | ○ | ○ | ✓ |

### BL 6 | Evaluate various seismic design enhancements using prototypical Baltimore City building types

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Determine engineering effectiveness and cost-benefit of various earthquake mitigation measures using computer modeling | ● | ○ | ○ | ○ | ○ | ✓ |

### BL 7 | Retrofit existing buildings in the designated Flood Area to increase resiliency

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Target and encourage flood resiliency retrofits for buildings in the designated Flood Area | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Prioritize retrofitting and increasing resiliency of Public Housing units in the designated Flood Area and other high risk areas | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Educate building owners within the floodplain to ensure that all electrical, mechanical, and key building systems are above the base flood elevation and meet existing codes | ○ | ○ | ○ | ● | ○ | ✓ |

### BL 8 | Improve resource conservation practices in all city owned buildings

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Install energy-efficient and low-water-use equipment during renovations in all City-owned buildings | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Support energy efficiency and weatherization as part of Baltimore City schools ten-year plan | ○ | ○ | ○ | ● | ○ | ✓ |
| 3 | Update Baltimore green building standards by offering multiple compliance paths for new and substantially renovated construction | ○ | ○ | ○ | ○ | ● | ✓ |

### BL 9 | Conduct educational outreach to increase resource conservation practices in private buildings

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Conduct educational outreach and provide information about savings related to reduced water use | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Educate and provide resources and information about utility rebate programs | ○ | ○ | ○ | ○ | ● | ✓ |
| 3 | Provide energy efficiency education to include information on conserving electrical power. Emphasize reductions during summer peak demand hours | ○ | ○ | ○ | ● | ○ | ✓ |

### BL 10 | Use HAZUS-MH computer modeling to determine losses generated by coastal storms

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Utilize engineering studies and cost-benefit analyses to identify additional mitigation needs and actions | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Evaluate various building design enhancements to reduce losses generated by earthquakes, floods, and storm surge | ○ | ● | ○ | ○ | ○ | ✓ |

## DP3 NATURAL SYSTEMS

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **NS 1 \| Utilize green corridors and parks to help protect surrounding communities from the impacts of hazard events** | | | | | | | |
| *1* | Evaluate green corridors and parks for possible improvements for floodplain management | ○ | ● | ○ | ○ | ○ | ✓ |
| *2* | Increase the resiliency of park facilities and buildings | ○ | ● | ○ | ○ | ○ | ✓ |
| **NS 2 \| Increase and enhance the resilience and health of Baltimore's urban forest** | | | | | | | |
| *1* | Anticipate the impacts of future changes in temperature and weather on the urban forest by developing a comprehensive list of plant and tree species known to have a broad range of environmental tolerances | ○ | ○ | ○ | ○ | ● | ✓ |
| *2* | Establish and routinely update a comprehensive tree inventory to anticipate insect and forest structural impacts of climate change | ○ | ○ | ○ | ● | ○ | ✓ |
| *3* | Establish a comprehensive maintenance program that includes pruning for sound structure and the removal of hazardous limbs and trees. First focus on areas where vulnerable infrastructure is nearby such as energy supply and roads | ○ | ● | ○ | ○ | ○ | ✓ |
| *4* | Continually adjust and modify planting details and specifications to assure the health and longevity of trees | ○ | ○ | ○ | ● | ○ | ✓ |
| *5* | Increase the urban tree canopy and target areas with urban heat island impacts | ○ | ○ | ● | ○ | ○ | ✓ |
| **NS 3 \| Create an interconnected network of green spaces to support biodiversity and watershed based water quality management** | | | | | | | |
| *1* | Utilize the Growing Green Initiative to increase green spaces in areas where there is available vacant land in order to reduce the heat island effect | ○ | ○ | ○ | ○ | ● | ✓ |
| *2* | Convert vacant land and row houses into meaningful and connected open space | ○ | ○ | ● | ○ | ○ | ✓ |
| *3* | Complete a habitat analysis and plan for the City | ○ | ● | ○ | ○ | ○ | ✓ |
| *4* | Create a strategic plan that identifies areas of focus for tree planting, stormwater management, and forest preservation | ○ | ○ | ● | ○ | ○ | ✓ |
| *5* | Certify Baltimore as a Community Wildlife Habitat through the National Wildlife Foundation (NWF) | ○ | ○ | ○ | ● | ○ | ✓ |
| **NS 4 \| Expand, protect and restore riparian areas in the city** | | | | | | | |
| *1* | Conduct regular maintenance of stream restoration projects and stormwater quality facilities | ○ | ○ | ● | ○ | ○ | ✓ |
| *2* | Evaluate current regulations regarding stream buffers and floodplains and modify them (if appropriate) to assure they adequately protect perennial stream corridors | ○ | ○ | ○ | ● | ○ | ✓ |
| **NS 5 \| Preserve and create new coastal buffer efforts and support creating more wetlands and soft shoreline along coastal areas** | | | | | | | |
| *1* | Integrate natural buffer requirements, such as wetlands and soft shorelines, into new development or redevelopment | ○ | ○ | ○ | ● | ○ | ✓ |
| *2* | Complete stream restoration projects in Baltimore City and County stream valleys that lead into the coastal wetlands so as to increase habitat and reduce sedimentation | ○ | ○ | ● | ○ | ○ | ✓ |
| *3* | Identify and evaluate areas in the Critical Area buffer to prioritize ecological buffer restoration efforts | ○ | ○ | ○ | ● | ○ | ✓ |
| **NS 6 \| Require the City's drought management plan to account for changes in climate** | | | | | | | |
| *1* | Map drought risks and water availability via climate change scenarios | ● | ○ | ○ | ○ | ○ | ✓ |

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| 2 | Update drought management plans to recognize changing conditions | ● | ○ | ○ | ○ | ○ | ✓ |

### NS 7 | Integrate climate change and natural hazards planning into small watershed action plans (SWAPs)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Review existing watershed management plans and identify future actions to address climate impacts | ○ | ○ | ● | ○ | ○ | ✓ |

### NS 8 | Conduct detailed ongoing analysis of climate information, trends in storm events and hydrology to support policy changes responding to climate change

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Expand the use of climate information (e.g. seasonal forecasts) in water resources planning and management. | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Research and actively monitor trends in storm events, stream flow and other conditions affecting hydrology and water | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Update flood maps to reflect changing risk associated with climate change. | ○ | ○ | ○ | ○ | ○ | ✓ |
| 4 | Continuously improve and enhance flood vulnerability data. | ○ | ○ | ○ | ● | ○ | ✓ |

## DP3 PUBLIC SERVICES

### PS 1 | Strengthen emergency preparedness coordination between local government, NGOs, and private entities by updates to the City Emergency Operations Plan (EOP) and related Emergency Support Functions (ESF)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Identify and develop a common database that all city government agencies and departments should utilize for hazard information, preparedness and response | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Ensure consistency and integration with existing and future response plans within and between agencies | ○ | ○ | ○ | ● | ○ | ✓ |
| 3 | Continue to identify and improve coordination with Key Partners including private sector, State partners, Federal partners, community, universities and industry leaders through Local Emergency Planning Committee | ○ | ○ | ○ | ● | ○ | ✓ |
| 4 | Coordinate outreach efforts of the Mayor's Office of Emergency Management, Mayor's Office of Neighborhood and Constituent Services and Baltimore City Health Department to leverage messages related to all-hazards emergency preparedness | ○ | ○ | ○ | ○ | ● | ✓ |
| 5 | Develop strong working relationships with local experts to provide technical assistance to refine and improve city government emergency preparation | ○ | ○ | ○ | ● | ○ | ✓ |
| 6 | Review and improve specific response plans contained in the EOP and related ESFs that relate to extreme weather events (snow, heat, flood, wind, electrical outages, and other hazard events) | ○ | ○ | ○ | ● | ○ | ✓ |
| 7 | Ensure equipment purchases and communication systems are compatible across agencies and jurisdictions | ○ | ● | ○ | ○ | ○ | ✓ |
| 8 | Encourage all animal rescue and care shelters to further develop their internal plans for animal's health and safety during and after a hazard event | ○ | ● | ○ | ○ | ○ | ✓ |
| 9 | Ensure all animal rescue and care shelters located within the floodplain are provided the support to apply for and obtain funds to relocate | ● | ○ | ○ | ○ | ○ | ✓ |
| 10 | Develop and implement a case study of hospital-based practices that foster community resilience to climate change | ● | ○ | ○ | ○ | ○ | ✓ |

### PS 2 | Develop a Hazard Awareness Program

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Create a standardized early warning system for members of the public | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Evaluate and improve community health center strategies for communicating with patients during an emergency | ● | ○ | ○ | ○ | ○ | ✓ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Educate citizens about the existing early warning systems and actions they should take when alarms sound | ○ | ○ | ● | ○ | ○ | ✓ |
| 4 | Prepare and integrate occupational health and safety messages and instructions for first responders | ○ | ● | ○ | ○ | ○ | ✓ |
| 5 | Hold climate specific seminars, in partnership with MDH2E and MHA, for hospital emergency and sustainability managers | ○ | ● | ○ | ○ | ○ | ✓ |

### PS 3 | Designate community leaders and organizations that can assist and provide support during hazard events

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Prior to a hazard event, identify lead contacts serving vulnerable populations and coordinate actions to maximize safety and information sharing | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Develop a community group coordination plan and implementation guide | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Identify and evaluate plans already in place and work to improve utilization of community based leaders to assist in preparedness and response | ○ | ○ | ● | ○ | ○ | ✓ |

### PS 4 | Integrate climate change and natural hazards planning into all City and community plans

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Develop guidelines to include proactive resilience planning into plan development process | ○ | ● | ○ | ○ | ○ | ✓ |
| 2 | Incorporate language that strengthens the ability of city government officials to enforce rules and restrictions that support public health, safety and welfare related to hazard events and conditions | ● | ○ | ○ | ○ | ○ | ✓ |
| 3 | Partner with Maryland Department of Health and Mental Hygiene or other pertinent entity to develop institutional checklist and materials for health care specific resilience plans | ● | ○ | ○ | ○ | ○ | ✓ |

### PS 5 | Better equip emergency workers for natural hazards.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Research and identify personal protective equipment (PPE) needs based on specific hazards | ○ | ● | ○ | ○ | ○ | ✓ |

### PS 6 | Anticipate and address potential disease outbreaks caused by extreme weather events and changing climatic conditions

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Support studies of heat and flood related vector borne diseases in the Baltimore the region based on changing temperature and moisture | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Evaluate existing programs that detect disease outbreaks to determine their flexibility to respond to new conditions | ● | ○ | ○ | ○ | ○ | ✓ |

### PS 7 | Protect Baltimore residents from the effects of hazard events and plan for more frequent hazard instances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Re-evaluate and update existing heat alerts, advisories, and updates to healthcare and emergency service providers | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Ensure that residents and visitors have access and transportation to cooling centers during extreme heat events | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Evaluate code red plans to ensure all agencies adequately protect their own workers | ○ | ○ | ● | ○ | ○ | ✓ |
| 4 | Consider extending hours for public wading pools during extreme heat events | ○ | ○ | ● | ○ | ○ | ✓ |
| 5 | Include information about Code Red in the event permitting process, and incorporate language that allows BCHD to cancel outdoor events | ● | ○ | ○ | ○ | ○ | ✓ |
| 6 | Work with Regional, State and Local partners to improve air quality and reduce respiratory illnesses | ○ | ○ | ● | ○ | ○ | ✓ |
| 7 | Create and implement programs to manage combined health impacts of heat and air pollution | ○ | ○ | ● | ○ | ○ | ✓ |

## PS 8 | Conduct climate, resiliency, and emergency planning education and outreach

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Incorporate environmental health and climate change into curriculum at schools, universities and health care facilities | ● | ○ | ○ | ○ | ○ | ✓ |
| 2 | Educate communities on how city agencies respond to hazard events, their role in an event, and how agencies work together | ○ | ○ | ● | ○ | ○ | ✓ |
| 3 | Educate and train community groups to participate in responding to hazards | ○ | ○ | ○ | ● | ○ | ✓ |
| 4 | Generate a comprehensive community-specific all hazards outreach campaign | ○ | ○ | ● | ○ | ○ | ✓ |
| 5 | Develop and communicate a simplified process for Baltimore residents to follow after a hazard event | ○ | ● | ○ | ○ | ○ | ✓ |
| 6 | Create curriculum for hospitals to teach communities about climate change as part of hospital community benefits programs | ● | ○ | ○ | ○ | ○ | ✓ |
| 7 | Utilize existing preparedness messaging to include information on universal precautions to insect-borne and other infectious diseases | ○ | ● | ○ | ○ | ○ | ✓ |

## PS 9 | Improve awareness and education about the importance of flood insurance and preparation for Baltimore citizens

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Create an educational program centered on flood hazards, coastal construction practices and evacuation procedures | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Encourage owners of properties to purchase flood insurance and improve policyholder awareness at time of sale or renewal | ○ | ○ | ○ | ● | ○ | ✓ |
| 3 | Inform property owners who have paid off their mortgage that flood insurance is still necessary | ○ | ○ | ● | ○ | ○ | ✓ |
| 4 | Identify programs and grants that assist citizens in purchasing flood insurance and making flood proofing changes | ○ | ● | ○ | ○ | ○ | ✓ |
| 5 | Develop an annual newsletter to inform and remind owners of property in the floodplain about flood insurance and flood proofing activities they should undertake | ○ | ● | ○ | ○ | ○ | ✓ |
| 6 | Provide information on how to file for reimbursement for impacts of hazards | ○ | ● | ○ | ○ | ○ | ✓ |
| 7 | Require a flood disclosure form, and educational information as part of lease agreements for commercial and residential properties | ● | ○ | ○ | ○ | ○ | ✓ |
| 8 | Develop floodplain awareness information for rental tenants and ensure distribution as tenants change | ● | ○ | ○ | ○ | ○ | ✓ |

## PS 10 | Increase Baltimore's Food Security

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Double the size and number of food producing community gardens by 2025 | ○ | ○ | ● | ○ | ○ | ✓ |
| 2 | Link Jessup, Maryland Food Hub, and regional/local food producers to local distributors | ○ | ● | ○ | ○ | ○ | ✓ |
| 3 | Incorporate Baltimore's food policy initiative into planning efforts | ○ | ○ | ● | ○ | ○ | ✓ |
| 4 | Develop a food security plan for Baltimore | ○ | ○ | ● | ○ | ○ | ✓ |
| 5 | Increase land under cultivation for commercial urban agriculture | ○ | ○ | ● | ○ | ○ | ✓ |

## HOMEGROWN BALTIMORE

| | | Still Pending | Very Early Stages | Early Stages | Mid-Stages | Advanced Stages | Implemented/ Ongoing |
|---|---|---|---|---|---|---|---|
| **LAND** | | | | | | | |
| *1* | Develop Automatic Notification of License Renewal | ○ | ○ | ● | ○ | ○ | ✓ |
| *2* | Streamline Community Managed Open Space Process | ○ | ○ | ○ | ● | ○ | ✓ |
| *3* | Incorporate Community Farms Into Existing Land Trust | ○ | ○ | ● | ○ | ○ | ✓ |
| *4* | Approve Direct Land Purchasing | ○ | ○ | ● | ○ | ○ | ✓ |
| *5* | Improve Land Leasing Initiative | ○ | ○ | ○ | ● | ○ | ✓ |
| *6* | Strengthen Tenure of Adopt-a-Lot program | ○ | ○ | ○ | ● | ○ | ✓ |
| *7* | Support Incentives for Commercial Farms on Privately-Owned Vacant Land | ○ | ○ | ○ | ○ | ● | ✓ |
| **WATER** | | | | | | | |
| *1* | Improve Payment Process for Water Access Program | ● | ○ | ○ | ○ | ○ | ✓ |
| *2* | Develop Options for Winter Water A ccess | ● | ○ | ○ | ○ | ○ | ✓ |
| *3* | Provide Resource s for Sites without a Water Meter Pit | ○ | ○ | ○ | ● | ○ | ✓ |
| *4* | Preserve Existing Water Infrastructure | ○ | ○ | ● | ○ | ○ | ✓ |
| *5* | Support the Development of Rainwater Capture Systems | ○ | ○ | ● | ○ | ○ | ✓ |
| **SOIL** | | | | | | | |
| *1* | Increase Equipment Availability | ● | ○ | ○ | ○ | ○ | ✓ |
| *2* | Develop Soil Standards | ○ | ○ | ○ | ○ | ○ | ✓ |
| *3* | Provide Soil Testing | ○ | ● | ○ | ○ | ○ | ✓ |
| *4* | Support Composting at All Levels | ● | ○ | ○ | ○ | ○ | ✓ |
| **CAPITAL** | | | | | | | |
| *1* | Funding Assistance | ○ | ○ | ○ | ○ | ● | ✓ |
| *2* | Support Garden Irrigation Fund | ○ | ○ | ○ | ○ | ● | ✓ |
| **SUPPORT** | | | | | | | |
| *1* | Designate DHCD Staff Position | ● | ○ | ○ | ○ | ○ | ✓ |
| *2* | Create and Support Staff Positions | ○ | ○ | ○ | ○ | ○ | ✓ |
| *3* | Support Farm Incubator Development | ○ | ● | ○ | ○ | ○ | ✓ |
| *4* | Assess New Zoning Code 's Permit Process | ● | ○ | ○ | ○ | ○ | ✓ |
| *5* | Assess Animal Regulations | ● | ○ | ○ | ○ | ○ | ✓ |
| *6* | Explore Liability Insurance Options | ○ | ○ | ● | ○ | ○ | ✓ |
| *7* | Ensure Citizen Education and Engagement | ○ | ● | ○ | ○ | ○ | ✓ |

# SPOTLIGHTS AND SUCCESS STORIES

The following pages highlight efforts by some of the many partners that work to advance the goals of the Sustainability Plan.

> ***Action is the foundational key to all success.***
>
> -Pablo Picasso


## NEIGBORHOOD SPOTLIGHT: C.A.R.E.

The East Baltimore community C.A.R.E – Cleaning, Active, Restoring, Efforts, is located within the Middle East Neighborhood. Its boundaries are McElderry to the North, Fayette Street to the South, Patterson Park Avenue to the East and Washington Street to the West. While small in size, this community has taken leadership roles in sustainability and greening efforts for many years. CARE residents and leaders, sometimes with the assistance of Banner Neighborhoods Community Corporation, have created opportunities to evaluate the needs of the neighborhood and create resident and volunteer lead solutions. Often overlooked, because of its size, or because it isn't a well-known community, C.A.R.E is a community that is changing, growing, and "greening". The following community led efforts in C.A.R.E. highlight some of the steps it has taken to become a more sustainable community.

Madeira Street Gardens, in the 400 block of Madeira Street is one of the oldest community gardens in the City. Jessie Scott, who has been an Assistant Farmer with Real Food Farm, helped start Madeira Street Gardens in 2005. She, along with other members of the community, organized themselves and the neighborhood to take over a vacant lot and turn it into a quarter of an acre community vegetable garden. The Madeira Street Gardens continue to be not only a place for residents to get plots for vegetables in the summer, but also as a gathering space for the community.

Residents in C.A.R.E have always been concerned about trash and litter in their streets and the impact it has on their community. Starting even before single stream recycling was introduced city-wide, and before the distribution of municipal trash cans, community leaders were taking steps to help residents manage their household trash and recycling. Community leaders over the years obtained several grants to distribute trash cans and recycling bins to households. Leaders would host fun and engaging block parties or garden parties where residents would get their free trash can and stencil it with address, or receive their free recycling bin.

Efforts were also taken to help educate residents on proper trash and recycling management, and best practices. At least 100 recycling bins have been distributed in the C.A.R.E community. Building off of its success in engaging residents, C.A.R.E community leaders as well as several residents became some of the first Clean Corps captains when the program launched in 2015. Clean Corps is the City's peer-to-peer engagement program to motivate residents to change behavior when it comes to litter and trash.

C.A.R.E has worked with the Civic Works Community Lots team to green over six vacant lots within the community. Community leaders and residents worked with the Civic Works Community Lots team to identify, and design greening projects for vacant lots. These greening projects not turn vacant lots that are eyesores into new green spaces for the community, but they help manage stormwater runoff, and increase the biodiversity and environmental habitat by having more trees, plants and grass. The Community has also completed art murals, and other fun projects that enhance the greening efforts, and contribute to a vibrant community.

Tree planting efforts through Tree Baltimore and Parks and People Foundation have been ongoing in the C.A.R.E community since 2013. The goal is to have new street trees planted in the community on every street by the end of 2016. Many residents have been asking for additional trees, and have participated in community planting efforts. C.A.R.E. is a noted heat island in the City of Baltimore, and tree planting efforts, as well as greening lots will help the community become cooler – and reduce the negative effects of high heat from asphalt, concrete and flat tar roofs.



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Since 2009, C.A.R.E. has been a part of the Baltimore Energy Challenge community engagement efforts. In 2009, close to 20 members of the community were engaged as Energy Captains, to help educate and motivate their fellow residents to save energy and money in their homes. The Energy Captains conducted door to door outreach, as well as hosted tables at monthly community meetings, and hosted a block party where residents came together to learn about energy savings, but also receive recycling bins and have a fun time together. The outreach efforts went so well in the community, that C.A.R.E. leaders applied for, and received and additional $20,000 grant to help continue the energy savings efforts in the community in 2010 and 2011. The Baltimore Energy Challenge has had a continued presence in the community since 2009, and residents have saved on average 4% on their BGE bill by participating in the program.

In 2015, the Baltimore Energy Challenge continued its efforts and conducted a low-income solar energy pilot in the community. Ten homes in the community received solar panels to help lower their energy bills even more, and some residents also received grants for cool roofs – white reflective roofs that also help reduce energy costs.

The C.A.R.E community through its community organizing, and partnerships has helped increase and incorporate environmental awareness into their small area of Baltimore City. Their incorporation of greening and sustainability into outreach helps advance community revitalization and a continued sense of pride for their community. Their efforts should be applauded, and can be replicated by communities across the City.

# SUCCESS STORY: FLOWER FARM REPORT



Baltimore City has established a uniquely supportive environment for farming in the city. The Office of Sustainability's Homegrown Baltimore program and Food Policy Initiative have set the stage for a favorable regulatory environment for urban farms through the Urban Agriculture Policy Plan and other practices. Mayor Stephanie Rawlings-Blake's Vacants to Value program, where vacant building demolition and lots are viewed as opportunities instead of liabilities, connects farmers to available land with low-cost leases. The Baltimore Department of Recreation and Parks developed a thriving City Farm program connecting hobby farmers to plots in the city. Community organizations including the Parks & People Foundation, the Farm Alliance of Baltimore, and Future Harvest Chesapeake Alliance for Sustainable Agriculture, support farmers with skill development and resource sharing. These programs and other assets set Baltimore apart among cities in the United States as a leader in the contemporary urban agriculture movement.

With the launch of the Mayor's Growing Green Initiative in 2014, a project began to explore the viability of flower farming in the city as a way to return more vacant lots into productive use and identify short and long term issues. The Office of Sustainability pulled together a stakeholder work group to offer advice and direction on the project. As a result, the Flower Farming Report was developed through a series of interviews with farmers, industry experts and potential buyers, and online and literature research.

The aim of the Flower Farming Report is to consider flower farming on City-owned, vacant lots in a practical way, and to provide recommendations for policymakers to more robustly include flower farming for production. The main questions guiding this inquiry were as follows:

What is the current state of the floral industry, and is there demand for locally grown flowers?

When is flower farming in Baltimore City successful?

What are opportunities to increase success? What are challenges specific to flower farming in the city?

What are some short and long term issues for flower farming on public land?

Baltimore is a leader and innovator in urban agriculture. As such, flower farming in Baltimore holds promise, and there are signs that a cut flower market is growing. There's a readily available market niche with the "buy local" and "farm to centerpiece" movements, awareness about where flowers are grown, and preferred consumer aesthetics. Because diversity is key to help manage risks on an urban farm, or any farm, flower growing could be added to existing farms in Baltimore City to capitalize on these trends.

The development of an urban flower farming industry will fulfill multiple priorities – greening vacant lots, providing business and employment opportunities, furthering the buy local movement and supporting the local economy. With the guidance and support of the Baltimore Office of Sustainability, the recommendations in the Flower Farming Report can improve the viability of flower farming in the city and expand what urban agriculture means in Baltimore.


# SUCCESS STORY: BALTIMORE FOOD ENVIRONMENT MAP



On June 10, 2015 Baltimore City in col laboration with the Johns Hopkins Center for a Livable Future (CLF) released Mapping Baltimore's Food Environment: 2015 Report. The report highlights food access patterns in Baltimore City's neighborhoods and informs policy and programming designed to address these issues. The report explains a revised and more robust food desert definition for the city. In Baltimore, a food desert is defined as:

An area where the distance to a supermarket or supermarket alternative is more than a quarter mile; the median household income is at or below 185% of the Federal Poverty Level; over 30% of households have no vehicle available; and the average healthy food availability index (HFAI) score for all food stores is low.

Based on this definition:

- 25% of Baltimore residents live in food deserts
- 30% of Baltimore's children live in food deserts
- African Americans are the most likely of any racial/ethnic group to live in food deserts

Baltimore is one of a handful of cities to analyze food access at the level of detail and depth contained in the report. This report goes beyond just enumerating the problems; it also offers innovative solutions, including maps and information sheets for each City Council district to better understand retail, food assistance, urban agriculture, and demographics in geographic and culturally bound areas of the city. BFPI staff briefed each Council member on his or her district's food environment, and this capacity building led to unanimous support for the ground-breaking policy described below.

On January 11, 2016 Mayor Rawlings-Blake signed into law an 80% credit on personal property taxes to supermarkets and grocery stores in order to retain and attract supermarkets in Baltimore City. The bill creates Food Desert Retail Incentive Areas, which include food deserts and a quarter mile surrounding food deserts, in order to drive supermarkets to areas that need them most. Stores that locate or renovate in a Food Desert Retail Incentive Area and meet requirements around the amount of fresh and healthy staple foods they provide will quality for the 80% credit for 10 years.

The Food Environment Map has provided critical information and tools necessary to deliberately target underserved areas to increase equity in development and investment throughout Baltimore. Analysis revealed that a lack in food access is disproportionately borne by children and African American residents, and that food deserts are spatially concentrated in areas that have historically experienced disinvestment. Applying an equity lens allows the City to design policies to target specific areas to close food access gaps.


# SUCCESS STORY: CLEAN CORPS

The City of Baltimore, like many cities across the country, faces an issue that plagues our streets, creates health issues, pollutes our waterways, and reduces property values. Litter can be found blowing across the streets of Baltimore and its sources are numerous. Carryout containers thrown from car windows, chip bags dropped by students walking home from school, mini alcohol bottles tossed in streets, cigarette butts flicked on sidewalks, improperly disposed household trash blowing across alleys, stormdrains used as trash cans, pickup trucks filled with demolition debris dumped on vacant lots – all of these scenarios produce litter, and are tied to the behavior of residents and the decisions they make.

The City's Sustainability Plan's Cleanliness chapter, Goal #1 is to eliminate litter throughout the City. This is a lofty and ambitious goal, and what that residents across the City have been combatting for years. In order to help in the effort to reduce trash and litter in our communities, the City launched Clean Corps Baltimore in 2015. Clean Corps Baltimore is a community based social marketing education and outreach campaign that is grounded in proven sociological principles and practices known to change behavior. Clean Corps is a peer-to-peer model that goes to reach our City's stakeholders where they are – on the ground and in the communities.

Clean Corps is recognizing strategies that neighborhoods and residents are currently utilizing to combat trash and litter in their communities and providing a platform and ability for city-wide engagement. Most communities feel as if they are a lone in the fight against litter – and many have developed and implemented numerous innovative, fun, and strategic ways to clean their streets and alleys. Clean Corps is recognizing these efforts, and connecting residents and businesses across the City – so no one neighborhood feels alone in the effort to clean our streets.

Clean Corps is a multi-City agency collaboration in partnership with non-profit and community partners. Neighborhoods across the City are participating in the Clean Corps program, and Clean Corps Captains are being recruited and trained in these neighborhoods. Clean Corps Captains are acting as leaders and as the key group of individuals engaging in conversations with their friends and neighbors about reducing litter. Clean Corps Captains are also organizing community clean-ups and neighborhood events that help engage members of the community in anti-littering and cleaning efforts.



To become a Clean Corps Captain in your neighborhood, and receive your free Captain Kit

Email: katia.fortune@baltimorecity.gov

# SUCCESS STORY: ZERO WASTE CAMP SMALL



Camp Small is a roughly 12 acre site in the Jones Falls Valley where all of Baltimore City's wood waste is taken to be turned into mulch and wood chips. This wood waste is the result of the regular pruning maintenance of our city's parks and street trees, combined with downed trees and limbs from storms. In total, more than 9,000 tons of wood waste gets chipped at Camp Small every year. Much of that wood comes in the form of sizable logs that could have a much higher value if milled and turned into lumber. However, Rec and Parks has lacked the man-power and accounting system to sort out the good wood from the bad and get it into the hands of sawyers and carpenters. Until now.

In the Spring of 2015, the Office of Sustainability, in partnership with the Baltimore City Department of Recreation and Parks, won a competitive Innovation Award from the Department of Finance in order to implement the Camp Small Zero Waste Initiative. Inspired by the Urban Wood Project in Southeast Michigan, the Camp Small Zero Waste Initiative aims to manage urban wood waste in a smarter, more cost effective way than it has been traditionally. This initiative includes the beneficial use of over 16,000 cubic yards of mulch on site, the implementation of a log-sorting and sales operation, and eventually, an organics composting operation for the remaining brush, leaves, and zoo manure. Once fully implemented, the Camp Small Zero Waste Initiative will save the City thousands of dollars annually on waste removal, while also creating a new local supply of wood and compost.

In January 2016, Rec and Parks used the Innovation Award to hire the first-ever Camp Small Yardmaster, Shaun Preston. Preston is in charge of implementing the first two phases of the initiative, including the distribution of the mulch currently on site, and an auction system for selling the high-quality logs. He has his work cut out for him: crews bring tons of wood to the site every day, and the pace only quickens as the summer storms start rolling in.


# SUCCESS STORY: BALTIMORE BUSINESS ENERGY CHALLENGE



The Baltimore Business Energy Challenge (BBEC), a program within the Baltimore Energy Challenge, focuses on educating businesses on ways to be more energy efficient. BBEC provides businesses, nonprofits, and churches with educational materials as well as a free assessment and installation of energy-saving products, like LED light bulbs, smart strips, and items to help conserve water.

One of the greatest successes for the Baltimore Business Energy Challenge is the connections the team has been able to make throughout the community. Business owners will request their own home installs as well as refer us to their churches; once connected with their church, the team is able to connect the churchgoers with the BEC Community Engagement Program, educating them on energy efficiency and having them sign up for their own home installs. Through the church, BBEC may meet other business owners or receive references for other businesses throughout the city. These connections help make the Baltimore Energy Challenge's efforts even more effective and successful, as the program is able to assist community members in such a cohesive way.

A great example of this interconnection is Mr. Ralph Heard. Mr. Heard called into the Baltimore Energy Challenge to request to have his home serviced. Through this conversation, we learned that he is also a business owner of Mr. Do's Barber Shop! BEC was able to provide both Mr. Heard's home and business with a free installation and energy education. These are the connections the Baltimore Energy Challenge strives to make every day.

BALTIMORE BUSINESS ENERGY CHALLENGE

The BBEC team has been busy this year engaging with businesses throughout the city—since July 2015, BBEC has received nearly 150 pledges from businesses stating that they will do their part in becoming more energy efficient. In November, BBEC was able to reach out to various nonprofits at an event hosted by The Baltimore Community ToolBank, and they also received several pledges at a holiday event, Mingle at the Mill. In December the Baltimore Business Energy Challenge helped host their second Business Energy Party at Amazing Spiral Comics, where the team was able to speak with business owners and residents alike about how to save energy. These events have significantly helped spread the word about the Baltimore Energy Challenge as we continue to reach out to new areas throughout the city.

During the month of January, the Baltimore Business Energy Challenge focused their efforts in Washington Village, where they were able to receive over 10 pledges. Several business owners the team spoke with were able to refer them to other businesses within the area, with one business owner even walking with the team to a friend's business to speak about the great service provided. The BBEC team serviced barber shops, bakeries, and restaurants in the area, educating business owners and referring customers to the Baltimore Energy Challenge. as

Since its creation in 2011, the Baltimore Business Energy Challenge has received over 400 pledges from businesses throughout Baltimore saying that they will do their part in becoming energy efficient and in helping create a more sustainable city.

# SUCCESS STORY: ENERGY CAPTAINS

The Energy Captain program of the Baltimore Energy Challenge is the driving force behind much of the outreach and impact that takes place. Residents in Baltimore City sign up to became energy ambassadors that share education and energy saving kits to those who they are connected to in an effort to expand our reach. They are an extension of the Baltimore Energy Challenge staff and personnel that coordinate the day-to-day affairs of the program. They are trained on how to effectively communicate savings and the program to other residents in Baltimore and offered incentives for their efforts. To date, there are 231 Energy Captains actively serving and spreading awareness throughout Baltimore City.

Ms. Romina Campbell has been an Energy Captain for the Baltimore Energy Challenge since April 28, 2014. Ms. Campbell, who is from the Midtown Edison neighborhood, has been dedicated to letting her community, coworkers, family and friends know the benefits of our program. Ms. Campbell states, "I love doing this because more people need to be educated about the positive things that happen in Baltimore, rather than the negative." Since becoming and Energy Captain, Ms. Campbell has turned in 193 pledges and is still counting. Because of her efforts, we've been able to impact each of those residents with energy savings and reductions in their utility bills.

Ms. Rhea Butler who recently joined the Energy Captain Program, works at the YMCA full time and attends grad school but still she finds herself taking the time out to spread the word about energy saving. Ms. Butler has great ideas for making her community better and is honored by us being a part of her journey. Ms. Butler also wanted to create an Energy Captain team, which she has accomplished so that energy awareness and the Baltimore Energy Challenge team can be included in her upcoming community event happening in September. The Baltimore Energy Challenge looks forward to continuing this journey together on spreading the word and educating all of the Baltimore City residents through these volunteer partnerships.

If you are interested in volunteering as an Energy Captain in your neighborhood, contact the Baltimore Energy Challenge at 443-869-2914


# SUCCESS STORY: MOBILE ENERGY EDUCATION CENTER

On October 19, 2015, Mayor Stephanie Rawlings-Blake unveiled the Baltimore Energy Challenge Mobile Energy Education Center – "Baltimore's Tiny House." The Mobile Energy Education Center is spreading awareness all over Baltimore City around energy efficiency, sustainable living, and affordable housing of the future. The Baltimore Energy Challenge has been using the Mobile Energy Education Center to inspire residents and business to become more energy-efficient, and to educate students on green technology and additional sustainable living options.

Designed by Davin Hong of Living Design Lab, and built by Civic Works, this project was used as a job training opportunity for young AmeriCorps volunteers of the YouthBuild program at Civic Works, teaching them construction and sustainable job skills. Over the course of eight months, participants from YouthBuild built the Tiny House as an exciting addition to Civic Works' ongoing hands-on job training programs. Tiny House project participants gained new skills while simultaneously creating an affordable home that can be used as a model in sustainable living options.

The Tiny House is a 200-square-foot home on wheels that features more than a dozen "green" and energy-saving materials or technologies, including a tankless water heater, a "pedal generator" that produces power via pumping arms and legs, a cool roof and a solar-powered ventilator. The house does have propane heat and a back-up battery to keep the lights and appliances on when the sun isn't shining.

To have the Mobile Energy Education Center visit your community, school, faith-based organization or business, contact the Baltimore Energy Challenge at 443-869-2615 or info@baltimoreenergychallenge.org

# SUCCESS STORY: LOW-INCOME SOLAR PILOT



In the summer of 2015, the Baltimore Energy Challenge (BEC) began its first larger scale solar energy outreach and education project. Solar energy is a renewable resource that turns the energy from sunlight into electricity, significantly reducing the need for homes to pay for electricity from their utility. In the community of CARE, in Southeast Baltimore, BEC performed outreach to find homes that were suitable for cool roofs and solar panels. CARE is considered an urban heat island, which is an urban area that is hotter because of an abundance of dark surfaces and a lack of vegetation, and therefore a prime location for cool roof installations, and solar installations. Interested homeowners were identified by knocking on doors and working with neighborhood community centers, and community association leaders. In total, ten homes were found and chosen for this solar pilot project.

To increase the potential for energy savings, BEC first coordinated cool roof installations on the ten homes. The black tar roofs were replaced with reflective cool roofs. Cool roofs are made from a special white material that reflects away heat rather than absorb it, significantly reducing the need for air conditioning during the peak summer months. Through the Baltimore Energy Initiative grant funding, the two-day installations were completed at no cost to the homeowners. With stronger, longer lasting new roofs, these homes were also certain to be suitable for the solar panel install.

After cool roofs were installed, BEC partnered with the national non-profit organization, Grid Alternatives, to complete the solar install. Grid Alternatives led two-day projects on each home to install the panels and connect them to power the homes. BEC was also able to recruit volunteers to join in on the installation projects led by Grid. Many Civic Works trainees, AmeriCorps Members, and volunteers from the community, learned hands-on about how solar panels are installed and how they can benefit homeowners, families, and the community at large.


With cool roofs and solar panels, these 10 homes are now able to see huge energy savings throughout the year and especially during the peak summer months. The pilot project has helped us launch BEC's Heat Islands Program, in which cool roof installations are the main focus, and BEC is continuing its solar outreach and education as part of its programming. With new community solar programs, and additional renewable energy projects becoming a reality in the City of Baltimore, BEC looks forward to continuing to help educate Baltimore communities and homeowners about energy efficiency and renewable energy options for their homes and businesses.

# SUCCESS STORY: YOUTH INTERNS



In 2015, the Office of Sustainability, in partnership with the Baltimore Community Foundation, took a new approach to student environmental leadership development. Incorporating employment into our model of engagement, we hired three stand-out students from Baltimore City Public Schools as Youth Environmental Interns: Ashley Edwards, Pamela Jackson, and Claire Wayner.

This new internship program builds on several previous years of organizing. In 2011, the Baltimore Green Schools Network was formed to bring partners, advocates, and school officials together into action teams. The Student Environmental Leadership Action Team (SELAT) was led by the Office of Sustainability. During the school year, we held monthly meetings where students could discuss shared environmental challenges and meet with experts. SELAT students made annual presentations to the School Board, took part in advocacy to City Schools' CEO, and hosted the Commission on Sustainability. While all of this work was very worthwhile, it was still fundamentally adult-led. We believed that we could go deeper by putting youth organizing directly into the hands of youth.

We started by meeting with local youth development experts to find out what was already working. Over the summer, we developed our strategy and interviewed more than a dozen exceptional youth candidates for our three positions. We decided on Ashley, Pamela, and Claire due to their exceptional previous experiences, interest in the environment, and drive to affect change at a higher level. We knew that these young ladies would not be afraid to speak out.

Ashley Edwards comes to us after several important outdoor experiences which have helped her hone her leadership skills. She has interned with Real Food Farm, worked on trail development and maintenance with the Student Conservation Association in Herring Run Park, and wanted to get more involved in policy. She is currently a senior at Baltimore City College High School, where she is an International Baccalaureate student and is soon to attend the University of Maryland.

Pamela Jackson is also a senior at Baltimore City College High School. Pamela has participated in a number of organizations including Big Sib, Lil' Sib and Junior ROTC. Her outstanding leadership skills and follow-up stood out in her interview process, and she has continuously demonstrated great organizational skills and professionalism. Pamela interviewed for an Environmental Youth Intern position due to transformative field trips and experiences seeing trash in the Chesapeake Bay. She will be heading to Albright College next year.

Claire Wayner was as a clear choice during the interview process for her leadership skills, experience in the environment, and drive towards service. Claire has been trained as one of the youngest stream monitors in the city, has started a youth group of the Friends of Stony Run, is well versed in ornithology, and has led invasive plant removals in her neighborhood. She is currently a sophomore at Baltimore Polytechnic High School, where she worked on the school's application to become a certified Maryland Green School.

These three young ladies have been a phenomenal asset to our sustainability team. Over the course of their employment so far, they have helped ensure youth input in our processes, plans, and city policies. In 2015, the interns got oriented to the sustainability initiatives underway in Baltimore City, attended their first SELAT meeting, and developed an organizing strategy for connecting to other students. In 2016, they will take part in trainings on advocacy at the local and state level, meet with college environmental clubs, attend the annual conference of the Maryland Association for Environmental & Outdoor Education, talk to state lawmakers in Annapolis, host their own Youth Environmental Summit, and engage other youth in the update of the Baltimore Sustainability Plan. We look forward to continuing to see the fruits of their work!



To learn more about what our interns are up to, visit:

https://bmoregreenblog.wordpress.com

# SUCCESS STORY: LAKELAND ELEMENTARY & MIDDLE GREEN SCHOOL PROGRAM



Lakeland Elementary/Middle School is a public school located in south Baltimore, serving approximately 803 students from pre-kindergarten through 8th grade. Approximately 96% of students receive free and reduced price meals, and roughly a quarter of the student population is learning English as a second language. The school focuses on technology, and competes in robotics on a statewide level. Thanks to a multi-year commitment from the University of Maryland in Baltimore County (UMBC), Lakeland benefits from additional staffing and support for special projects, including greening. In 2015, Lakeland became one of Baltimore's newest certified Maryland Green Schools!

Lakeland first formed a student team focused on the environment, called the Green Lions, in 2011. That first year, the Green Lions received a $1,000 grant from the Green, Healthy Smart Challenge (GHSC) program, run by the Office of Sustainability in partnership with the Baltimore Community Foundation and Baltimore City Public Schools, in order to plant new gardens on the school grounds. Through several more GHSC grants, in 2013, 2014, and 2015, students have now installed a total of six vegetable beds on the school grounds, as well as an herb garden, a strawberry bed, and, most recently, a native plant bed. The native plant bed, which was funded by the National Fish and Wildlife Service, is designed to attract native birds and butterflies, and is a certified Eco-Habitat!

The school has also undertaken a large vermicomposting operation, which uses red wiggler worms to turn some of the fruit and vegetable scraps from the cafeteria into valuable compost for their gardens. After a few successful years of work, the Green Lions have now greatly expanded their outreach to the rest of the school community, creating t-shirts, hats, and buttons for members, putting up signs and posters, and pushing hard for participation in the school's recycling program.

In 2014, Lakeland branched out from gardening to also become an Energy Hub School through the Baltimore Energy Challenge (BEC). This brought more funds for student-led projects into the school, this time focused on saving energy. Students built solar ovens and became "sun-powered cooks". Through a second year of BEC funding in 2015, students in the third and fourth grades built model wind turbines and tracked how much energy and electricity they created. AmeriCorps volunteers from BEC come into the school once a week to teach students lessons about how energy works and how we can conserve it.

Thanks to all of the students' hard work, in 2015 Lakeland successfully certified as a Maryland Green School! The Maryland Green School program is highly rigorous, requiring schools to document two years of activities in environmental instruction, professional development, student-led sustainability practices, community outreach, and more. Currently, only 14% of Baltimore City schools are certified Maryland Green Schools. While this is more than double the amount that were certified just five years ago, we still have a long way to go to reach our goal of making every school in Baltimore a green school. Lakeland and others are leading by example, and helping other school communities see what a dedicated group of students and teachers can accomplish.


To learn more about Lakeland Elementary/Middle School's greening work, visit :

http://lakelandgreenschool.weebly.com/.


# SUCCESS STORY: FREE YOUR VOICE (FYV)



Free Your Voice (FYV) is an environmental advocacy group made up mostly of students from south Baltimore's Curtis Bay. Since 2012, FYV has fought to halt the building of a trash-burning incinerator proposed to be built in their neighborhood by a group called Energy Answers.

The Energy Answers incinerator, proposed to be the largest of its kind in the nation, was to be placed less than a mile from Benjamin Franklin High School and Curtis Bay Elementary School, and was permitted by the Maryland Department of the Environment to release 240 pounds of mercury per year, as well as other pollutants linked to chronic illnesses like diabetes and asthma. The members of FYV saw this as a major environmental justice issue, especially as their community's air quality has already been greatly impacted by industry. In 2007 and 2008, Curtis Bay's zip-code ranked first toxic air pollutants in the entire nation. Baltimore City as a whole was found to have the highest emissions-related mortality rate in the country in a 2013 MIT study.

After years of concerted activism, advocacy, and consciousness-raising, 2015 was a particularly big year for FYV, as both the City of Baltimore and Baltimore City Public Schools voted to disinvest – i.e. not purchase energy from – the incinerator. Its progress towards construction having already been slowed by permitting issues, financial trouble, and public outcry, this seemed to spell the last of the incinerator.

FYV celebrated these wins with a Concert for Fair Development on Earth Day 2015 at Benjamin Franklin High School. The event featured a parade of hundreds of people carryi ng hand-painted sunflowers, performances by both popular local musicians and FYV members, and discussions about what a greener and more fair vision for the community could look like.

FYV was formed as a committee of United Workers, a Baltimore-based human rights organization that works on issues such as public subsidies to developers, environmental justice, and fair housing. When United Workers came to Curtis Bay to talk to high school students and find out about their interests and concerns, no one could have guessed just how successful their eventual campaign would be.

The young members of the group have created videos and raps about their work, created a petition to the Governor with hundreds of signatures, led a tour of their neighborhood for the Baltimore City Board of School Commissioners, and tirelessly educated and organized their neighbors. FYV's efforts have been covered extensively by local and regional media outlets, and the group was even highlighted in a story on community opposition to incinerators around the country which ran in the New York Times



Hear the voices that make up Free Your Voice at:

https://vimeo.com/freeyourvoice


# SUCCESS STORY:COMMUNITY WINS GROWING GREEN TRACKS



Currently there are 14,000 vacant properties in Baltimore City. The solution for the city's many chronically vacant lands and structures begins with a vision for a citywide plan to transform many of Baltimore's most blighted areas into an integrated network of high-performance green spaces, including parks and squares, rain gardens, daylighted streams, recreational trails, urban farms, wetlands, and community gardens. Baltimore faces a unique challenge, to continue growth and stabilization in the more marketable communities, while managing the supply of vacant properties in the areas of greatest difficulty and weakest market.

In June of 2015, the U.S. Conference of Mayors (USCM) and Wells Fargo & Company awarded Baltimore City's Growing Green Tracks with the top honor for the Community WINS grant program which recognizes nonprofits and cities for exemplary leadership in promoting neighborhood stabilization, economic development, and job creation efforts. Growing Green Tracks utilizes two existing City-wide initiatives created by Mayor Rawlings-Blake: Vacants to Value (V2V) and the Growing Green Initiative (GGI) and partnered with Civic Works to eliminate blight along Amtrak's Northeast Corridor by combining strategic demolition with the reuse of vacant land for greening projects, and to provide workforce development opportunities for Baltimore City youth.

The neighborhoods in east Baltimore along the Amtrak line demonstrate many of the issues the City is facing with regard to vacancy and blight. The area is characterized by vacant land and vacant structures that increase perceived public safety risks and attract nuisances such as illegal dumping. While there is nearby redevelopment activity beginning to strengthen these neighborhoods, there are still large concentrations of vacancy that need to be addressed to achieve neighborhood stabilization. The Green Tracks plan combines strategic demolition with the reuse of vacant land for "green" uses and sees these vacancies as opportunities to strengthen and connect these communities through greening and reinvestment.


Growing Green Tracks and the Community Lot Team, which has been a program of Civic Works since 1997 that employs and trains individuals to transform vacant and abandoned lots into community gardens and green spaces, will be implementing the greening projects. Permanent enhanced greening sites including community gardens, urban farms or stormwater management facilities, and public art will provide permanent community amenities, while "clean and green" site improvements and aesthetic boarding address problem areas to stabilize the neighborhoods and increase economic development potential. "Clean and green" improvements, such as tree plantings, low maintenance ground covers, and fencing improve the appearance of vacant land while leaving it available for either future redevelopment or additional community greening. These uses will help reconnect and strengthen the community and support ongoing and future neighborhood redevelopment efforts. through a project by DETAILS, a program of Humanim which provides job training and recovers building materials for reuse. The City's Department of Transportation will contribute to the greening of the site by planting 200 trees as part of their mitigation requirements for the Central Avenue reconstruction project. HEBCAC will adopt and maintain the site as a community open space featuring gathering areas, seating, sculpture, and stormwater management.

# SUCCESS STORY: CRITICAL AREA MANAGEMENT PROGRAM (CAMP) OFFSET GRANTS PROGRAM



The health of Chesapeake Bay and its once bountiful populations of fish, crustaceans, waterfowl and other wildlife can be linked to declines in water quality and destruction of habitat. The residents and the lands immediately surrounding the Bay and its tidal tributaries, including the Patapsco River, have the greatest impact on water quality and natural habitat. Those who benefit the most from the beauty of the Bay also bear the greatest responsibility for its future. The City's Critical Area Management Program (CAMP) addresses this connection by regulating the Critical Area - all land and development within 1000 feet of the Bay and its tidally effected tributaries.

Through the CAMP, significant development projects must address requirements aimed at improving water quality and protecting and enhancing habitat. However, because much of Baltimore's waterfront is intended for dense mixed-use development and industrial uses, the City's CAMP provides some flexibility for projects constrained in meeting the full requirements within the project site. One method of alternative compliance is payment of offset fees into the City's Critical Area Offset accounts. These funds are used by the City to implement projects that improve water quality, expand the tree canopy, and improve riparian buffers and shoreline habitats.One way the City identifies such projects is through the annual Critical Area Offset Fee Fund Grant Program.

Each year in January, the Office of Sustainability announces a request for proposals from non-profits for projects that align with the CAMP goals. Grant awards of $5,000 to $49,900 may be made for proposals that meet one or both of the state-wide goals of the Critical Area law:

- To improve water quality by reducing stormwater pollution
- To conserve and protect wildlife habitat

Strong proposals should also meet two or more of the following criteria:

- Improve quality of life for the citizens of Baltimore
- Provide opportunities for Baltimore City residents, such as education, internships or jobs
- Take advantage of opportunities for collaborations and for the leveraging of resources
- Align with other relevant plans that have been adopted on a community-wide or city-wide basis

Proposals meeting all application criteria are scored on a competitive basis. In 2015, a total of 6 projects were awarded funding:

**BALTIMORE GREEN SPACE (BGS) FOREST STEWARDSHIP PROJECT**

BGS is continuing to implement invasive species management projects and programs as part of their ongoing Forest Stewardship Network. Expected outcomes of the project include mentoring of forest stewards, hosting forest stewardship events, producing training materials, and removing invasive plants and re-establishing understory vegetation in stewarded forest patches.

**BLUE WATER BALTIMORE (BWB) BALTIMORE HARBOR BACTERIAL MONITORING**

BWB has continued tidal and non-tidal bacterial monitoring of a total of 49 sites in the Baltimore Harbor, tidal Patapsco River, Jones Falls watershed, and Gwynns Falls Watershed. In 2015, BWB expanded the temporal scope of the monitoring to year-round rather than only April through November, to eliminate data gaps. Data is shared with Baltimore City Department of Public Works, and may be used to help detect, track, and eliminate sewage leaks entering the streams and harbor. The data is made available to the public through the website Baltimore Harbor Water Alert and through the annual Healthy Harbor Report Card.

**BLUE WATER BALTIMORE (BWB) SUMMER TREE MAINTENANCE AND WATERING**

In 2015, BWB led a summer green jobs program for city youth, hiring a team leader, team coordinators, and Youthworks student workers to work in public parks and stream valleys around the city. BWB also led volunteers in planting new trees in the fall.

**BALTIMORE CONSERVATION LEADERSHIP CORPS STORMWATER REMEDIATION**

Civic Works led a summer green jobs program for city youth, hiring crew leaders and Baltimore Conservation Leadership Corps workers to participate in stormwater management projects at Civic Works Real Food Farm in Clifton Park, and creating rain gardens as part of 3 vacant lot greening projects. Throughout the program, the students gained an understanding of the negative impact that stormwater pollution and runoff has on the environment and how the gardens they helped create will have a lasting impact on the community as well as the larger ecosystem.

### PARKS & PEOPLE FOUNDATION (PPF) SUMMER URBAN FORESTRY YOUTH TEAM

PPF led a summer green jobs program for city youth, hiring team coordinators and youth workers to maintain trees planted in public parks, remove litter from surrounding blocks, and assist with development of a new tree nursery. Youth workers also helped train and lead volunteers who assisted in these activities, and received environmental education opportunities throughout the summer.

### WATERFRONT PARTNERSHIP OF BALTIMORE (WPOB) GREAT OYSTER PARTNERSHIP

WPOB continued to expand their Great Baltimore Oyster Partnership program, which installs oyster gardens consisting of oyster cages of spat-on-shell at locations around Baltimore's Inner Harbor, trains volunteers to maintain them, and then transports the mature oysters to the Fort Carroll Oyster Sanctuary. This year the outreach for the program included the first Inner Harbor OysterFest.

The Office of Sustainability is pleased to be able to support the great work of so many organizations, students, and volunteers through the CAMP offset funds. We look forward to funding another round of exciting projects in 2016.

# DATA AND INDICATORS

*"To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science."*

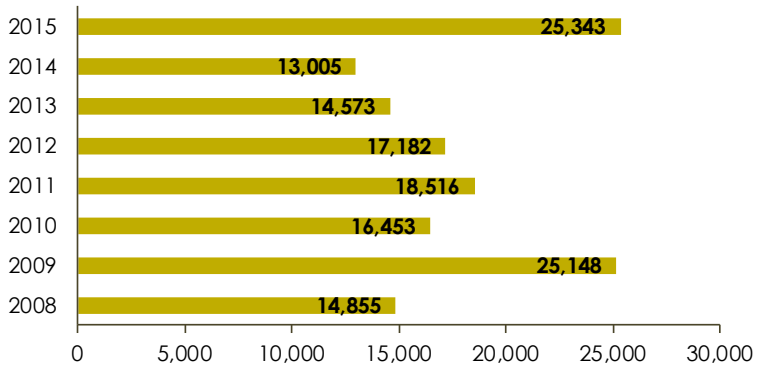
-Albert Einstein

# CLEANLINESS



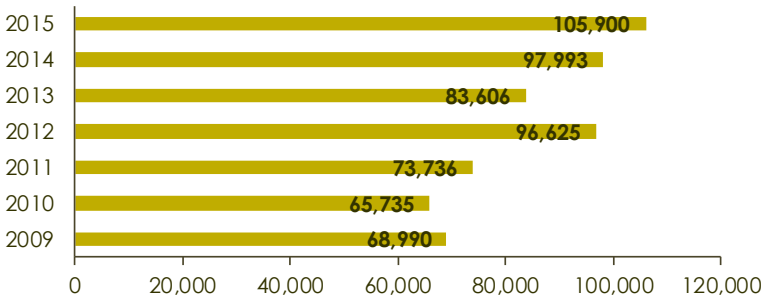
## CLEAN STREETS

### NUMBER OF SERVICE CALLS FOR DIRTY STREETS



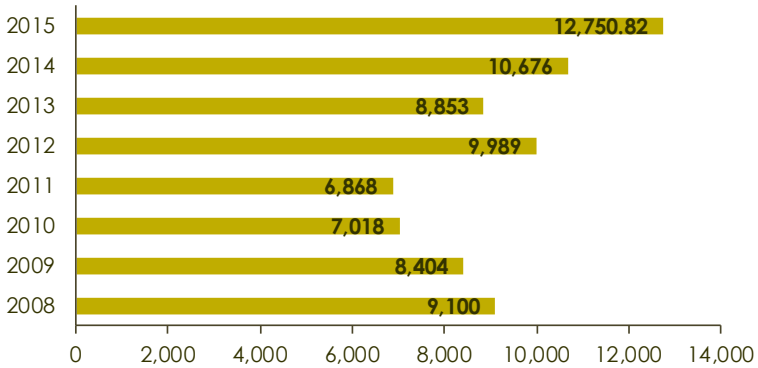

*As noted in the Susatainability Plan, there is too much litter in the streets, neighborhoods, public spaces and stormdrains of Baltimore. Efforts have been made to improve enforcement of the sanitation code, but it also takes residents placing calls and alerting officials to issues in their community. The increase in service calls for dirty streets shows that residents are engaging in the process to help keep our streets clean. In 2010, there were 16,453 calls and in 2011 there were 18,516 calls.*

### MILES OF STREETS SWEPT




*While there was only a slight increase in the tonnage collected from street sweeping in Baltimore, there was a significant increase in the number of miles that were swept. 74,048 miles of streets where swept in 2011. This is almost 10,000 more miles swept than in 2010.*

### TONNAGE COLLECTED FROM STREET SWEEPING

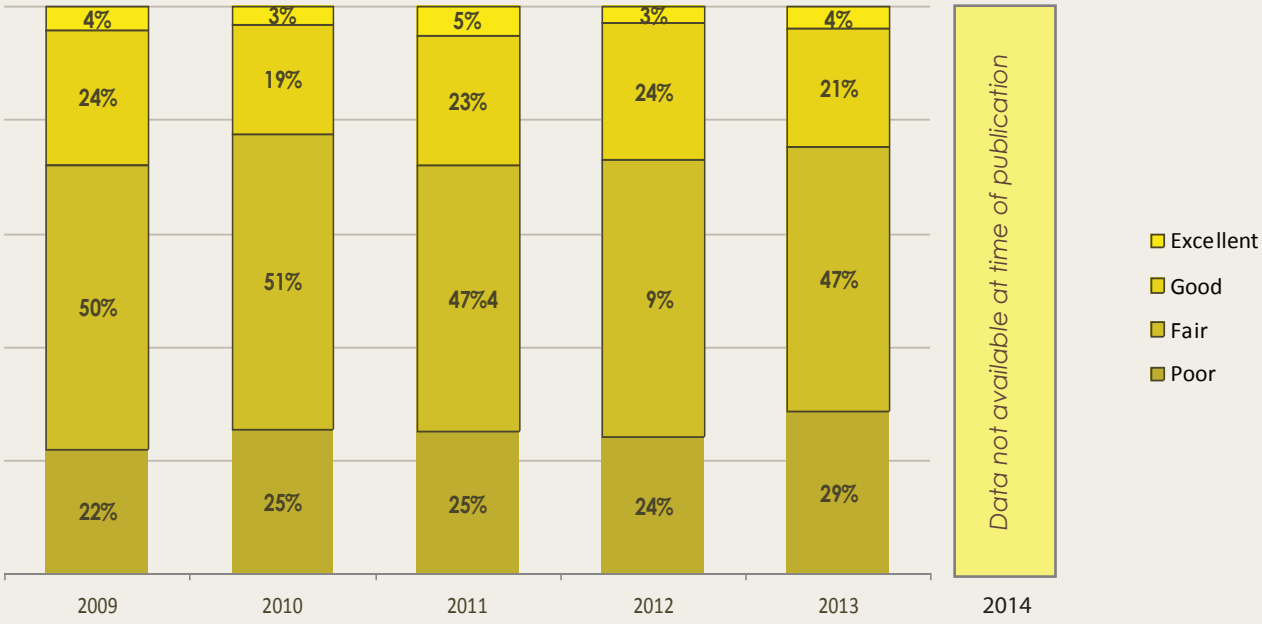



*In 2011, there was an increase in the tonnage collected from street sweeping in the City of Baltimore. 7161 tons of litter were collected, compared to 6972 tons in 2010.*

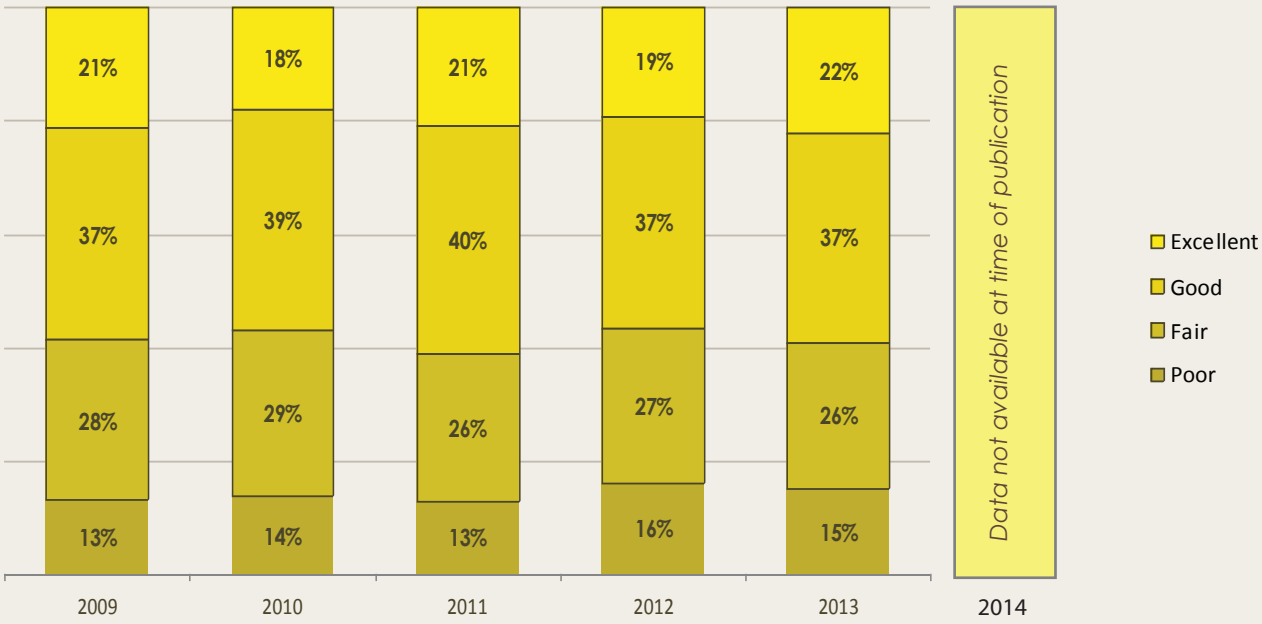
# CLEANLINESS

## PERCEPTION OF CLEANLINESS

### PERCEIVED CLEANLINESS OF THE CITY




### PERCEIVED CLEANLINESS OF "MY" NEIGHBORHOOD



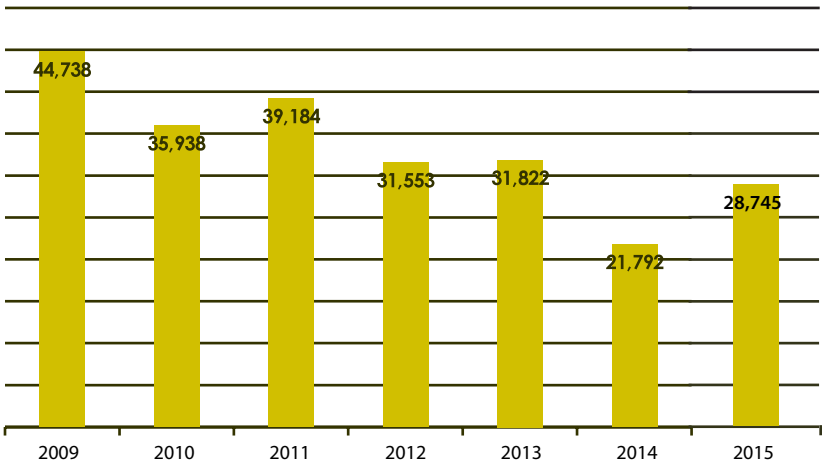

*The Baltimore Citizens Survey is conducted every year by the City's Finance Department. Citizens respond to a variety of questions, including their perception of cleanliness, both citywide (top), and for their own neighborhood (bottom). Residents typically believe their own neighborhoods to be cleaner than the City as a whole. In 2014, 23% reported that they felt their neighborhood's cleanliness was excellent, the highest since 2009. At the same time, 29% of respondents rated their overall perception of cleanliness for the entire city as being poor, the highest yet.*

# CLEANLINESS



## NAME

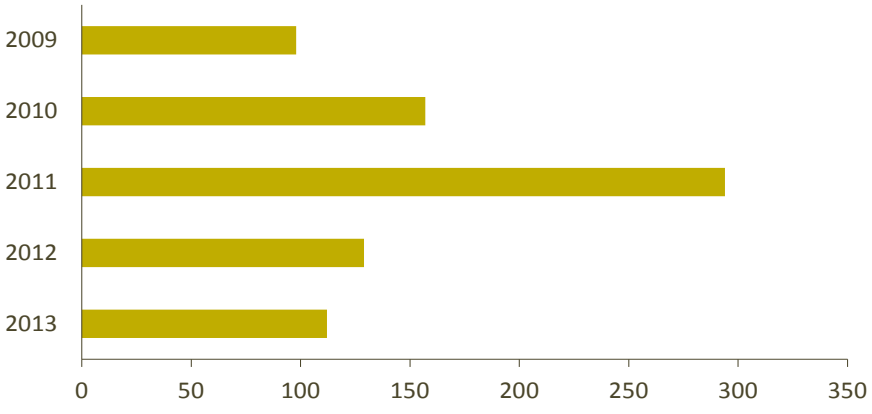
## HCD ISSUED TRASH RELATED CITATIONS




*The Housing and Community Development Code Enforcement Division continues to focus substantial resources on enforcing sanitation codes involving trash and litter. In addition to the use of citations, DHCD also maintains 26 cameras located at sites with a history of illegal dumping. Individuals caught on camera dumping are prosecuted by DHCD under the State Litter Control Law.*

## ADOPT-A-LOT LICENSES

### NUMBER OF LOTS ADOPTED

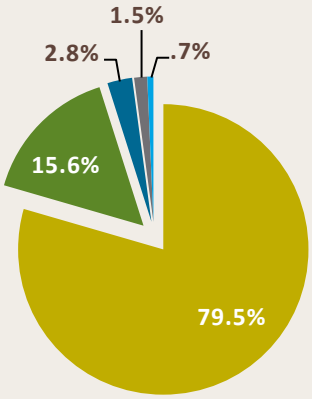



*The City of Baltimore's Adopt-A-Lot program is specifically designed for community gardens and neighborhood beautification. Residents and neighborhood organizations can complete an Adopt-A-Lot License Agreement, and transform vacant lots into assets for their communities. In 2011, the City partnered with the Water Department to provide access to water for adopted lots for a low fixed rate, making it easier to maintain these beautified spaces. For information on available lots in your neighborhood, or for an application, call 410-396-4111, email V2V@baltimorecity.gov, or visit http://www.baltimorehousing.org/vtov_adopt*

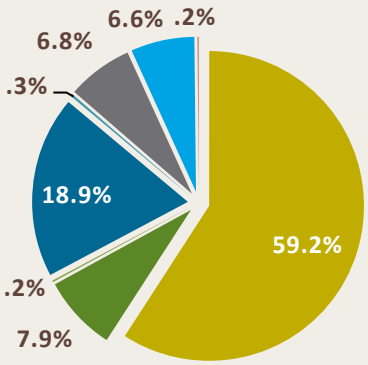
# POLLUTION PREVENTION

## GREENHOUSE GAS EMISSIONS INVENTORY

### BALTIMORE COMMUNITY-WIDE GREENHOUSE GAS EMISSIONS INVENTORY, 2010 BASELINE




### BALTIMORE CITY GOVERNMENT GREENHOUSE GAS EMISSIONS INVENTORY, 2010 BASELINE

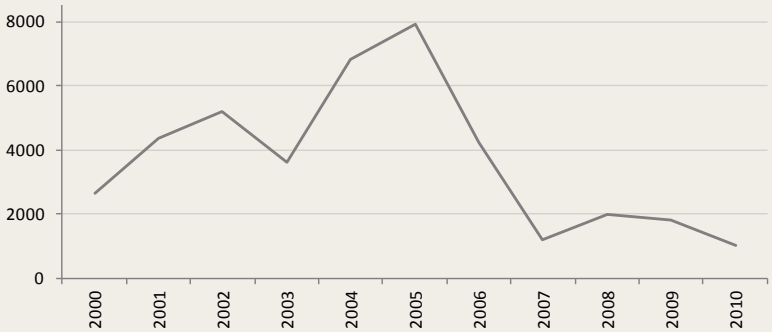



*These charts remain unchanged since 2010, when Baltimore completed its Greenhouse Gas Emissions inventory for the City's Community-Wide data. The City of Baltimore Greenhouse Gas Emissions Inventory update occurred as part of the Climate Action Plan development that occurred in 2012. The City's consultant, AECOM, also completed a peer review of the data and assisted in analysis. The 2010 Greenhouse Gas Emissions inventory for the City's Community-Wide data, showed total emissions of 7,579,144 MT CO2e/yr. Total emissions for City Government were 588,170 MT CO2e/yr. The 2010 Greenhouse Gas Emissions Inventory will now serve as the baseline inventory for the City of Baltimore. With the development of the City's Climate Action Plan, we expect to see reductions as measures are implemented. The next emissions inventory will take place in 2014.*

- Buildings & Facilities
- Streetlights & Traffic Lights
- Water Delivery Facilities
- Wastewater Facilities
- Solid Waste Facilities
- Vehicle Fleet
- Employee Commute
- Transit Fleet

## STORM DRAIN AND INLET CLEANING

### AMOUNT OF DEBRIS REMOVED (in Tons)



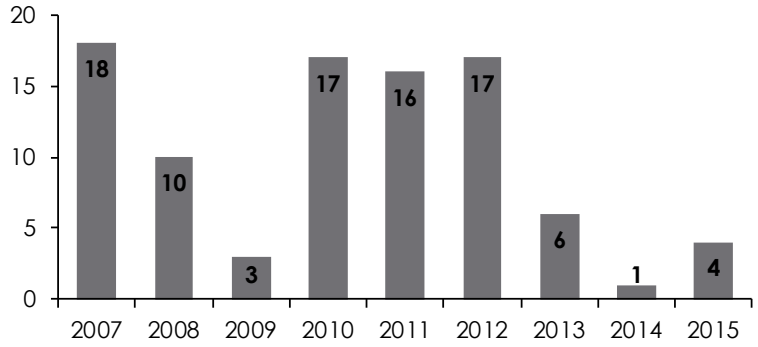

*An important aspect of ensuring that our water bodies are swimmable and fishable is keeping trash and debris from entering the stormwater system.*

*At the time of publication, storm drain and inlet cleaning data for 2014 was not yet available. Updates to the data, when available, will be made available online.*

# POLLUTION PREVENTION

## CODE RED DAYS IN BALTIMORE CITY

### EXCESSIVE HEAT CODE RED DAYS




*The Health Department has established the Code Red declaration criteria based on historical information, climatological norms, and guidance documents from other jurisdictions. The City Health Commissioner declares a Code Red Heat Alert during periods of extreme heat.*

DATA & INDICATORS

## AIR QUALITY CODE RED & ORANGE DAYS

| | Number of Days | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Very Unhealthy | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unhealthy | 1 | 6 | 5 | 2 | 0 | 0 | 2 |
| Unhealthy for Sensitive Groups | 10 | 30 | 19 | 20 | 7 | 4 | 14 |
| Moderate | 58 | 66 | 53 | 60 | 136 | 169 | 169 |
| Good | 252 | 259 | 286 | 284 | 222 | 192 | 180 |

*The Air Quality Index (AQI) is used to forecaste and report on daily air quality for Metro Baltimore. The AQI utilizes a numerical, and color coded scale to report on the air quality, and it is calculated on the presence of the following five air pollutants: particulate matter, ozone, carbon monoxide, sulfur dioxide, and nitrogen oxide.*

# POLLUTION PREVENTION

## PREVENTION PROGRAMS IN BALTIMORE

### GREEN & HEALTHY HOMES INITIATIVE

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Properties receiving lead hazard reduction interventions | 323 | 165 | 121 | 139 | 53 | 73 |
| Properties receiving Healthy Homes interventions to reduce indoor allergens and safety hazards | 261 | 201 | 123 | 127 | 102 | 116 |
| Tenants provided with tenant's rights assistance to repair lead hazards in their home | 414 | 152 | 153 | 3,093 | 195 | 120 |
| Families receiving relocation assistance from lead hazardous housing to lead certified housing | 213 | 62 | 43 | 35 | 33 | 37 |
| Properties receiving weatherization and energy efficiency interventions | *New for 2013* | | | | 283 | 185 |

*While not exhaustive, these figures illustrate examples of ongoing efforts in Baltimore to improve the health of indoor environments. Educating home owners on the risks of lead and indoor environmental hazards is crucial to help abate the problems that exist in Baltimore.*

### HEALTH DEPARTMENT INDOOR ENVIRONMENT IMPROVEMENT PROGRAMS

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| People trained in home environmental asthma | N/A | 368 | 365 | 455 | 359 | Data not avalaible at time of print |
| People trained in lead and healthy home interventions | 1,580 | 1,058 | 400 | 378 | 268 | Data not avalaible at time of print |
| People trained on integrated pest management/bed bugs | N/A | 1,750 | N/A | 556 | 360 | Data not avalaible at time of print |
| Families provided with a comprehensive home visit to assess conditions | 2,633 | 1,108 | 600 | 502 | 553 | Data not avalaible at time of print |
| People who received lead and healthy homes materials and outreach at health fairs | 37,269 | 39,229 | N/A | 10,000* | 8,425* | Data not avalaible at time of print |

**Approximate*

*Effective education and outreach by City government and non-profit partners has helped combat lead poisoning cases in the City of Baltimore. The City and its non-profit partners are committed to lowering the number of ER visits related to asthma by offering comprehensive education programs geared towards asthma management. Integrated Pest Management (IPM) is an effective approach to pest management that is environmentally friendly and cost effective. In 2012, the CDC revised the level of concern for lead exposure from 10ug/dL to 5ug/dL. The City is offering a voluntary program to residents to address the concerns around low level lead exposure.*

# POLLUTION PREVENTION



## BAY HEALTH INDEX SCORES


*The Bay Heath Index rates 15 reporting regions of the Bay using six indicators that are combined into a single overarching index of health. The 2014 Index is the most recent report available. Included are figures for Overall Bay, Mid Bay, and Patapsco and Back Rivers which flow through Baltimore. In 2014, we saw a rise in scores for the Overall Bay, Mid Bay and Patapsco and Bak River.*

## EPA & BROWNFIELDS PROGRAMS

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| EPA-funded Site Assessments | 4 | 1 | 7 | 6 | 8 | 9 |
| Baltimore Brownfields Tax Credits | 4 | 0 | 1 | 8 | 0 | 7 |

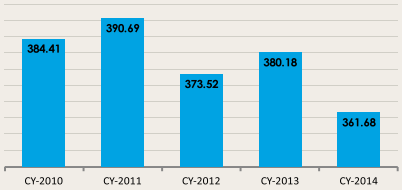
*Enacted in 1998, the Baltimore Brownfields Tax Credit is designed to encourage the cleanup and redevelopment of contaminated and often abandoned and/or underutilized properties in the City of Baltimore. This program offers a city property tax credit on the increased property taxes owed following the completion of eligible improvements (improved value). As part of the City's Brownfields Initiative, grant funding is available from the US Environmental Protection Agency on a first-come, first-served basis to developers that need to conduct Phase I and Phase II environmental site assessments on sites that are in the redevelopment process. Preference is given to properties that will be redeveloped in a timely fashion and that will generate new jobs and associated tax revenue for the City.*

# RESOURCE CONSERVATION

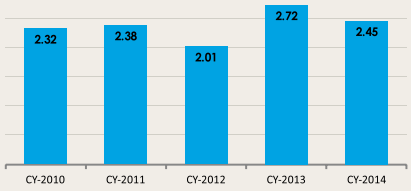
## BALTIMORE CITY ENERGY USAGE

### CITY GOVERNMENT ENERGY USAGE

**Electric Usage (in millions of kWh)**

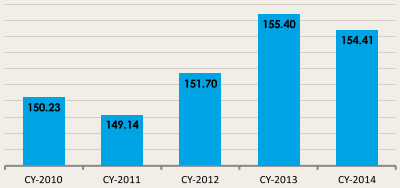



**Natural Gas Usage (in millions of Therms)**

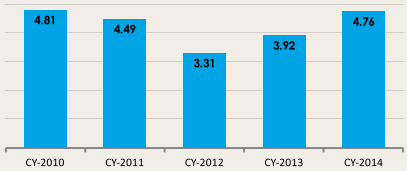



### BALTIMORE CITY PUBLIC SCHOOLS ENERGY USAGE

**Electric Usage (in millions of kWh)**

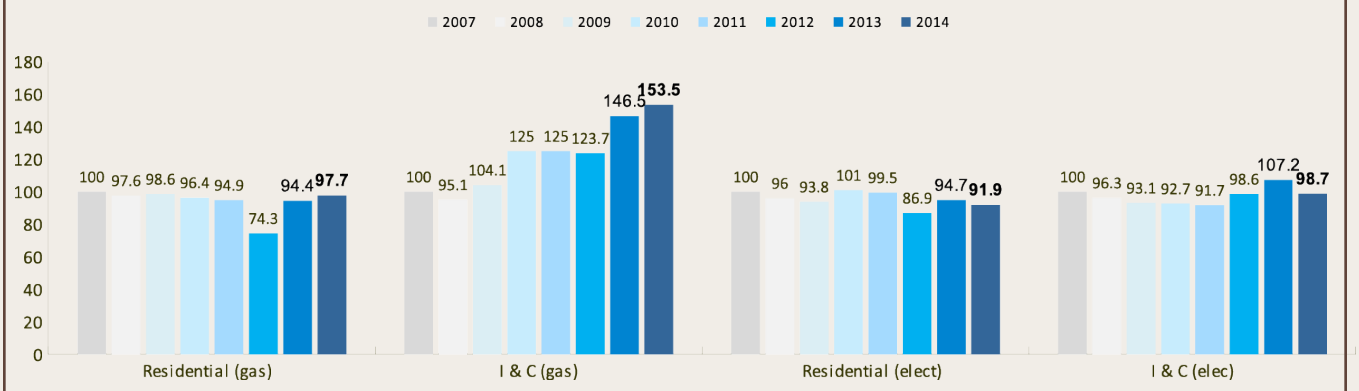



**Natural Gas Usage (in millions of Therms)**




*New to the Annual Report this year, is a data section reporting on the energy usage for City Government and Baltimore City Public Schools. The City of Baltimore, working with the contractor Johnson Controls, has been implementing numerous energy saving features in a number of city buildings. We expect to see savings from these retrofits over the coming years. A number of schools are receiving new windows and boilers, as well as energy efficieniecy education with students, teachers, and administrators on behavior change actions that can be taken in a school to save energy. We hope that over the years we will see increased energy savings at our schools.*

## ENERGY USE RELATIVE TO 2007 BASELINE



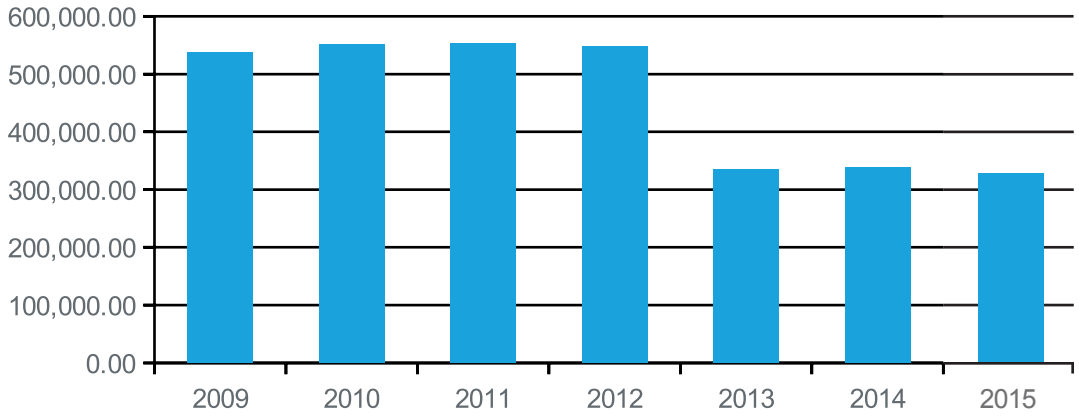

*Changes in electricity and natural gas consumption are affected by a variety of factors including weather variations, behavior changes, economic health, technology, and population shifts.*

# RESOURCE CONSERVATION



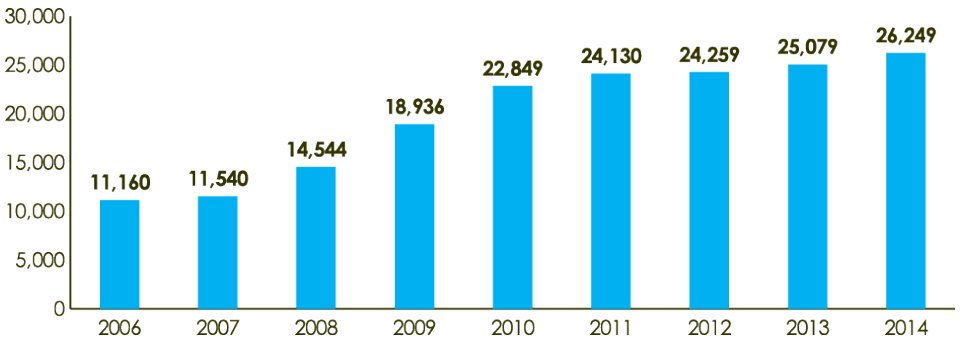
## QUARANTINE ROAD LANDFILL TONNAGE

### TOTAL TONNAGE TAKEN TO LANDFILL




*The City of Baltimore disposes of some municipal solid waste at the Quarantine Road Landfill. Over half of the tonnage per year disposed of at Quarantine Road, is the ash from Wheelabrator BRESCO waste-to-energy facility.*

## RECYCLING TONNAGE COLLECTED BY DPW




*Recycling since 2009 has increased overall dramatically due to the introduction of Single Stream Recycling. In 2014, there was a decrease in the total recycling tonnage collected, dropping from 26,757 tons to 22,956 tons.*

# RESOURCE CONSERVATION

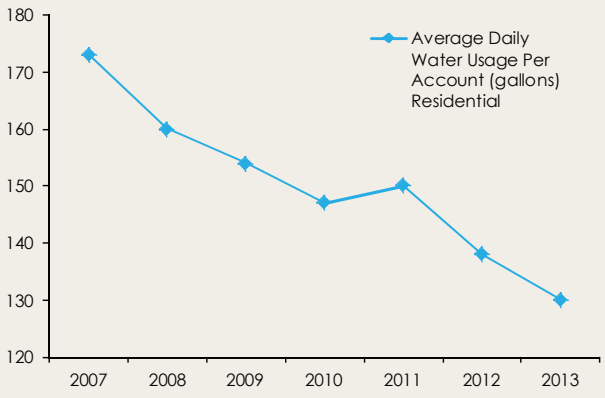
## WHEELABRATOR BRESCO BALTIMORE TONNAGE

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| January | 17,176.40 | 14,102.40 | 12,459.26 | 13,806.20 | 14391.64 | 16,132.50 |
| February | 15,055.20 | 10,348.14 | 13,855.96 | 12,701.31 | 11950.75 | 12,423.86 |
| March | 14,885.81 | 17,328.57 | 16,924.04 | 11,488.27 | 13672.89 | 13,302.09 |
| April | 19,935.24 | 18,586.33 | 16,845.42 | 13,332.49 | 14744.39 | 15,277.62 |
| May | 21,697.62 | 16,618.95 | 17,412.99 | 17,280.10 | 15176.43 | 16,455.53 |
| June | 21,882.62 | 16,725.41 | 14,291.52 | 15,243.21 | 15644.08 | 13,841.85 |
| July | 20,417.32 | 17,695.03 | 14,277.79 | 16,564.85 | 16006.2 | 14,693.84 |
| August | 17,451.42 | 16,987.97 | 16,978.73 | 18,613.11 | 16116.69 | 14,111.95 |
| September | 17,527.79 | 16,669.13 | 16,913.47 | 15,410.25 | 11189.43 | 13,133.37 |
| October | 16,647.44 | 16,373.14 | 14,293.77 | 15,604.60 | 14207.74 | 14,723.28 |
| November | 17,242.22 | 16,321.13 | 16,319.69 | 15,122.22 | 13611.02 | 13,597.60 |
| December | 16,868.13 | 16,314.38 | 16,711.82 | 13,692.94 | 15660.59 | 16,132.50 |
| TOTAL | 216,787.21 | 194,070.58 | 187,284.46 | 178,859.55 | 172371.85 | 175,839.99 |

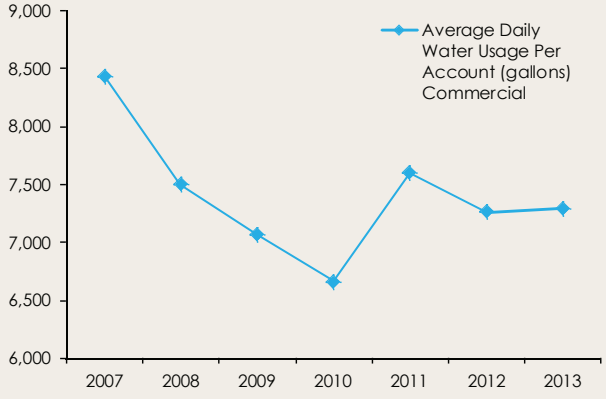
*The City of Baltimore diverts and disposes of most municipal solid waste to the Wheelabrator Baltimore (BRESCO) waste-to-energy facility. Since the implementation of the ONE Plus One program, the total tonnage of waste being diverted to BRESCO has declined. The facility can generate up to 60,000 kilowatts of electricity per day.*

## AVERAGE DAILY WATER USAGE

### RESIDENTIAL




### COMMERCIAL




*Under the Resource Conservation chapter of the Sustainability Plan, Goal 2 is to "Reduce Baltimore's water use while supporting system maintenance". Water consumption had declined steadily since 2007, but we did see an increase in usage in 2011, in both the Residential and Commercial sectors. Excessive water use depletes our freshwater sources, and requires significant energy use to treat and deliver. The City and its partners have several programs that promote water conservation through the use of low-flow faucets and showerheads, and toilet tank banks. Though commercial water use increased slightly in 2014, residential use continued to drop to an average of 130 gallons per day.*

# GREENING

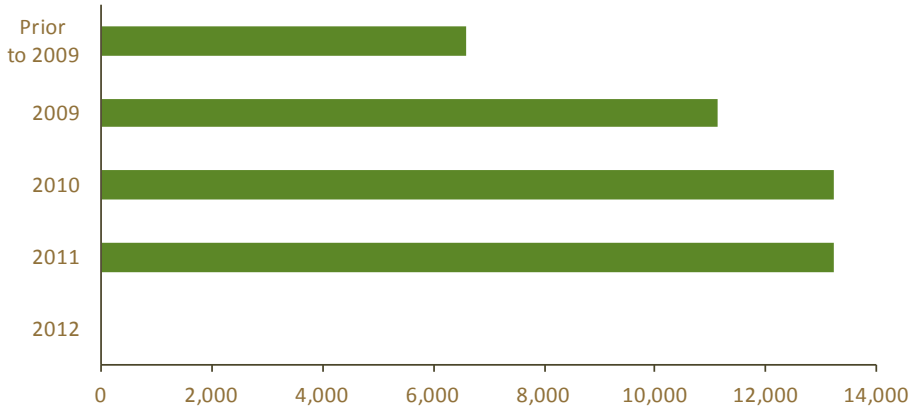
## TREE CANOPY: NET GAINS AND LOSSES

| | Number of Trees | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Residential Plantings (1) | 3,391 | 2,780 | 2,575 | 2,950 | 1,536 | 1,600 | 1,300 |
| School, Park & Community Plantings (2) (3) | 852 | 2225 | 2,864 | 3,386 | 6,646 | 3,256 | 2,709 |
| City Street Tree Plantings (4) | 1,800 | 900 | 485 | 1,285 | 1,292 | 1,968 | 2,176 |
| Road Reconstruction Plantings (5) | 500 | 500 | 500 | 500 | 500 | 600 | 600 |
| Trees Lost to Storms & Poor Health (6) | -2,750 | -3,094 | -4,259 | -3,195 | -2,549 | -2,784 | -2,572 |
| Net Increase or Decrease (7) | 3,793 | 3,311 | 2,165 | 4,926 | 7,425 | 4,640 | 4,213 |
| Running Total (8) | 128,793 | 132,104 | 134,269 | 139,195 | 146,620 | 151,260 | 156,958 |
| Canopy Coverage (9) | 27% | -- | -- | -- | -- | -- | -- |

*(1) TreeBaltimore donations to home owners to plant on Private Property.*
*(2) Larger specimen trees from TreeBaltimore, planted in cooperation with NGO partners.*
*(3) Reforestation plantings are excluded. They are considered zero net gain.*
*(4) Large street tree specimens currently planted under contract with Urban Forestry Division.*
*(5) Department of Transportation tree plantings (Estimate).*
*(6) Based on tree losses reported to Urban Forestry through the city's CSR system.*
*(7) Net increase for each year is conservative.*
*(8) Based on tree inventory estimate for all city streets and developed parkland.*
*(9) Satellite imagery provided by USDA Forest Service every three years. Update due 2016.*

## STREAM RESTORATION

### CUMULATIVE RESTORATION




*At the time of publication, stream restoration data for 2014 was not yet available. Updates to the data, when available, will be made available online.*

# GREENING

## BALTIMORE FOOD POLICY INITIATIVE

| Metric | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| Number of Participating Markets | 3 | 7 | 7 | 9 | 8 | **8** |
| Electronic Benefit Transfer Transactions | 763 | 1,656 | 3,294 | 4,259 | 2695 | |
| Electronic Benefit Transfer Sales | $15,113 | $27,664 | $54,948 | $71,511 | $51,383 | **$51,482** |

*The decrease in transactions in Baltimore City may be attributable to a new technology system implemented at the Baltimore Farmers Market and Bazaar that had a steep learning curve for customers and vendors. Additionally, SNAP benefits were cut at the end of 2013, resulting in reduced benefits for families in 2014, which could have contributed to the decrease.*

| Metric | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| Number of Public Market Vendors with Healthy Carry-out Menus | 0 | 4 | 24 | 34 | 34 | **32** |

*Sources: Baltimore Office of Sustainability; MD Hunger Solutions*

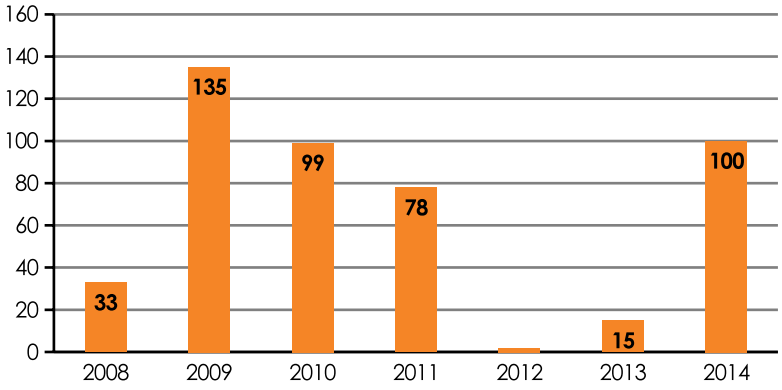
*Maintained number of Healthy Carryout vendors, but expanded the programming to include Healthy Kids meals. Seven vendors at Lexington Market now have kids-sized portions that meet recommendations for calorie, fat and other nutrient levels. These meals come with water and a fruit or vegetable.*

# TRANSPORTATION



## BICYCLING IN BALTIMORE

### NUMBER OF BIKE RACKS INSTALLED

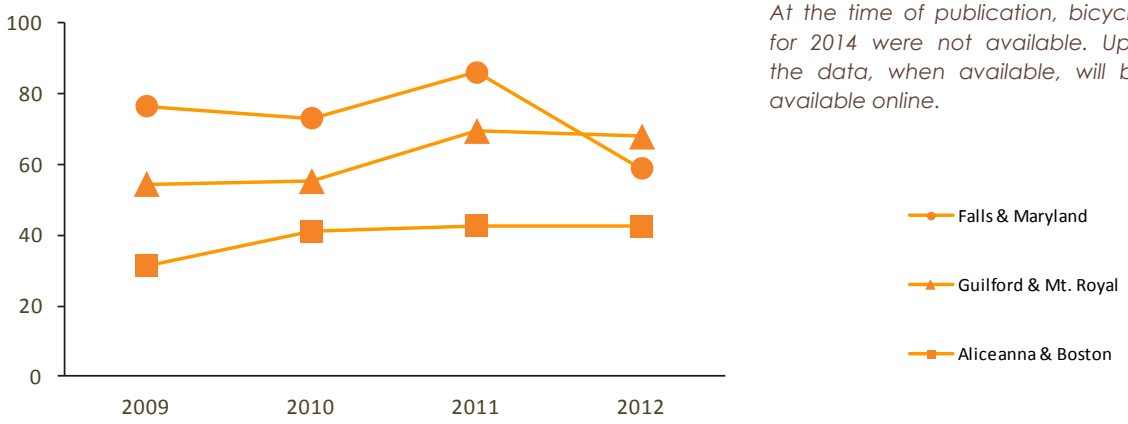



*After the drastic decline in bike rack installations in 2012, we have seen an increase, with 100 racks installed in 2014. In 2014, The City removed minor privilege fees for bicycle rack installations. Businesses can buy and install bike racks without a yearly $79 fee. Businesses can buy and install the bike racks themselves for a one-time fee of $75 or have DOT install for them for a one-time fee of $150.*

### LANE MILES OF NEW ON-STREET BIKE FACILITIES

| Year | > 2006 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|
| Bike Lane | 1.7 | 0.6 | 8.4 | 4.5 | 6.1 | 16.9 | 3.2 | 7.1 | 1.65 |
| Contraflow | - | - | - | - | - | 0.5 | - | - | 0 |
| Shared Bike/ Bus Lane | - | - | - | - | 1.5 | 0.5 | - | - | 0 |
| Sharrow | 0.6 | - | 7.1 | 13.4 | 0.9 | 21.2 | - | 2.7 | 0.5 |
| Sidepath | - | - | - | 0.3 | - | 0.1 | - | - | 3.75 |
| Signed Route | 2.7 | - | 14.2 | - | - | 6 | 1.6 | - | 0 |
| Bike Boulevard | - | - | - | - | - | - | - | 3.4 | 0 |
| **TOTAL** | **5** | **0.6** | **29.7** | **18.2** | **8.5** | **45** | **4.8** | **13.2** | **5.9** |

### PERCENT CHANGE IN BIKE RIDERSHIP

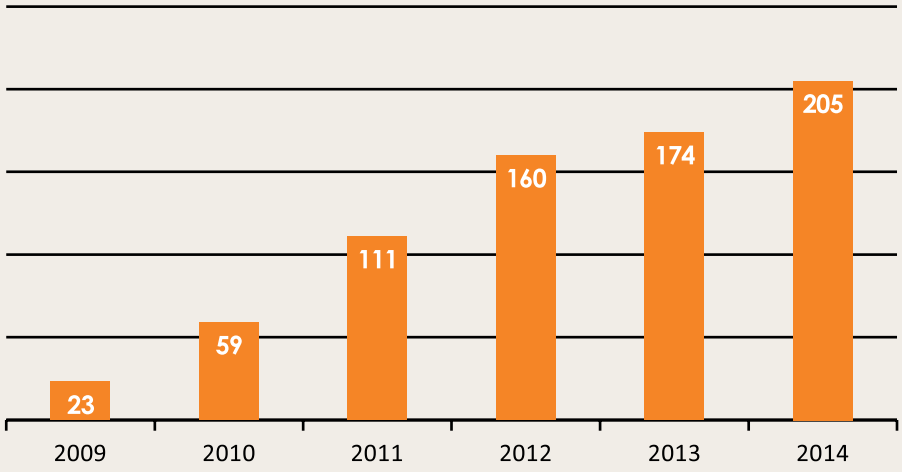



*At the time of publication, bicycle counts for 2014 were not available. Updates to the data, when available, will be made available online.*

# TRANSPORTATION

## ZIPCARS

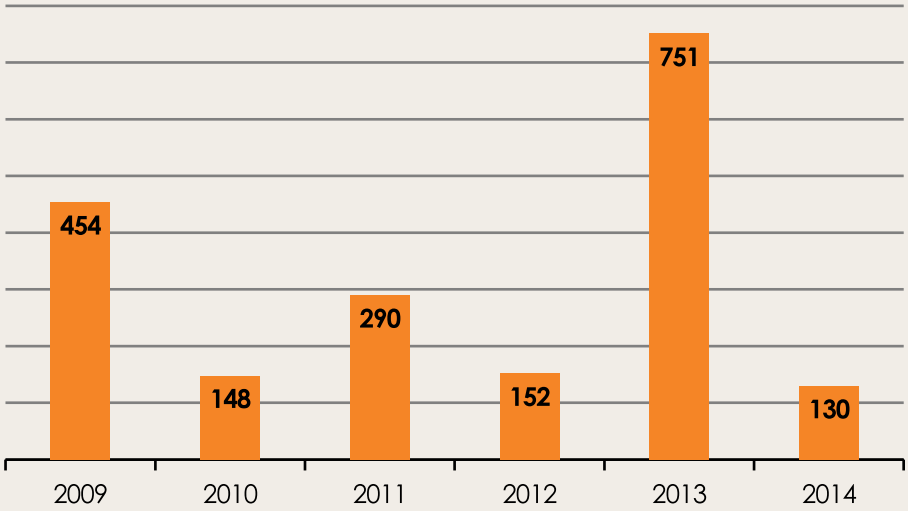
### ZIPCARS AVAILABLE IN BALTIMORE




*As more Baltimore City residents opt to use public transit, sell their personal vehicle, or forego purchasing an additional vehicle, we are seeing an increase in membership in Baltimore.*

## PEDESTRIAN SIGNALS

### COUNTDOWN PEDESTRIAN SIGNAL UNITS INSTALLED

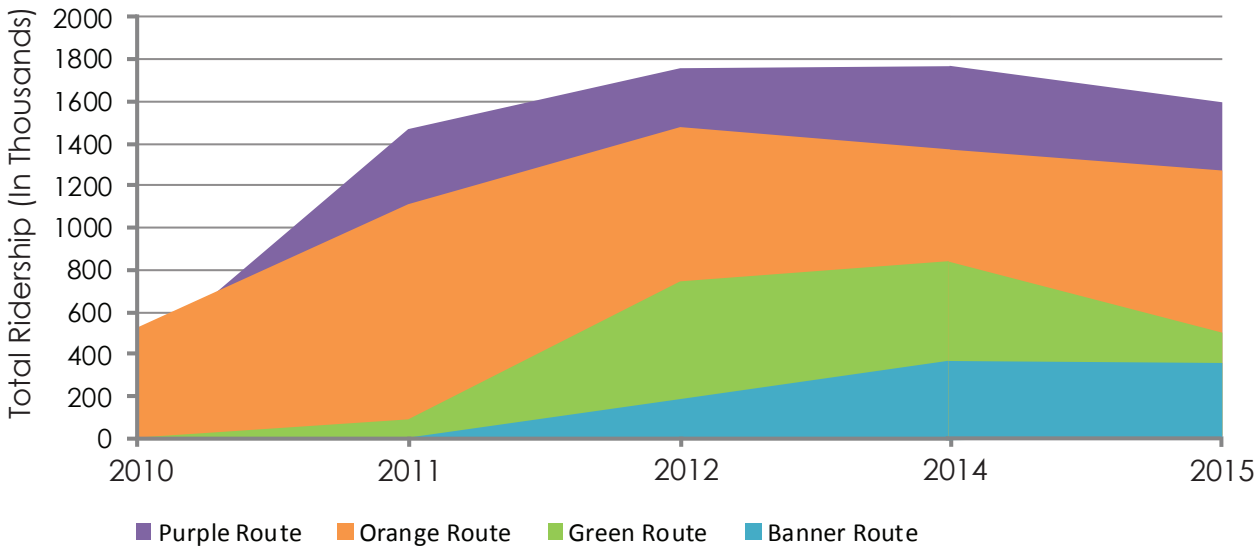



*This metric is used to track improvements in pedestrian facilities. CPS units the Traffic Signal Construction & Maintenance Division has installed. It is not inclusive of the number of signal units installed by TEC contractors.*

# TRANSPORTATION

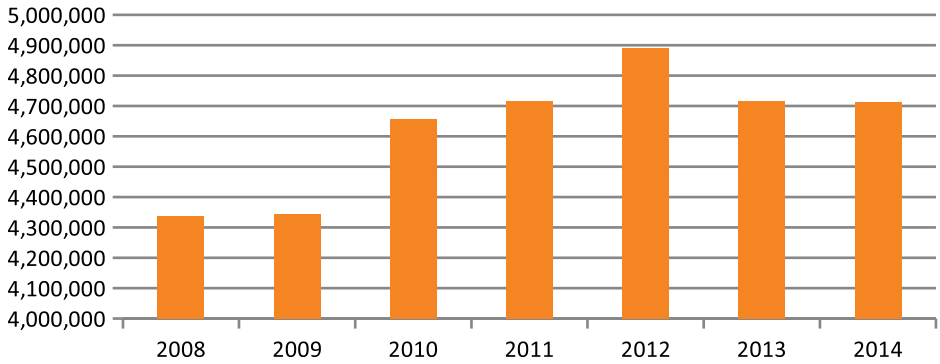


## YEARLY CIRCULATOR RIDERSHIP




*The Charm City Circulator, with Baltimore's first hybrid buses, provides free rides throughout the City on four different routes. In 2014, more than 4,000,000 riders took advantage of the Circulator routes.*

## MTA RIDERSHIP




*This chart represents the average weekday ridership per year on MTA's various forms of public transit between 2008 and 2014.*

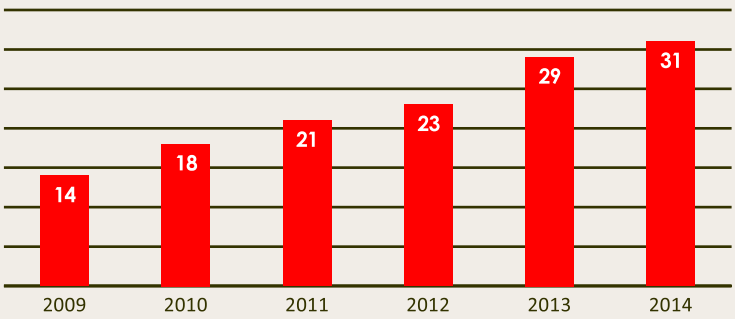
# EDUCATION & AWARENESS

## YOUTH PARTICIPATION IN ENVIRONMENTAL PROGRAMS

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Baltimore Conservation and Leadership Corps | 32 | 30 | 30 | 36 | 33 | 42 |
| Masonville Cove | 1,143 | 1,500 | 1,200 | 1,700 | 2,250 | 4,555 |
| Living Classrooms BUGS Program | 75 | 75 | 60 | 60 | 60 | 60 |
| Civic Justice Corps | 240 | 250 | 250 | 120 | 207 | 250 |
| Baltimore City Schools Green, Healthy, Smart Challenge | N/A | 150 | 564 | 546 | 1,305 | 1,567 |
| Parks and People Foundation | 1,900 | 1,275 | 1,577 | 1,213 | 1,175 | 6,400 |
| Holistic Life Foundation | 350 | 425 | 650 | 725 | - | |
| Real Food Farm | *New for 2013* | | | | 267 | 1,525 |
| Patterson Park Audubon Center | *New for 2013* | | | | 6,114 | 5,804 |

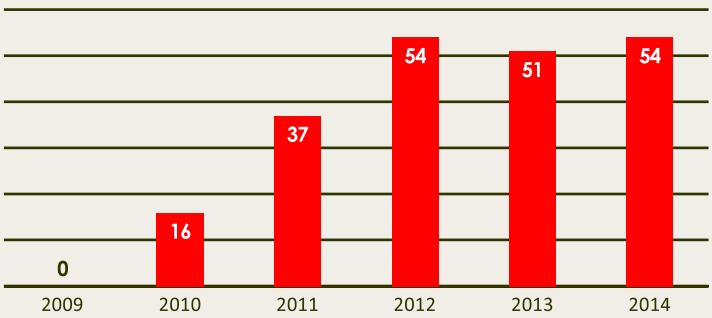
*This is a sampling of community service projects, after-school groups, summer camps, and summer youth job training programs that have an environmental focus. The 2014 added two new programs.*

## BALTIMORE CITY SCHOOLS PARTICIPATING IN THE GREEN, HEALTHY, SMART CHALLENGE




*The Green, Healthy, Smart Challenge (previously referred to in this report as the 'Sustainability Challenge') is a mini-grant program that supports student-led environmental projects such as DIY energy audits, recycling campaigns, rainwater recycling initiatives and schoolyard gardens. As of 2014, approximately $182,000 has been distributed through the program to a total of 90 schools (out of 204 total in the district), engaging thousands of students in making hands-on improvements to their schools and communities.*

## CERTIFIED GREEN SCHOOLS IN BALTIMORE CITY



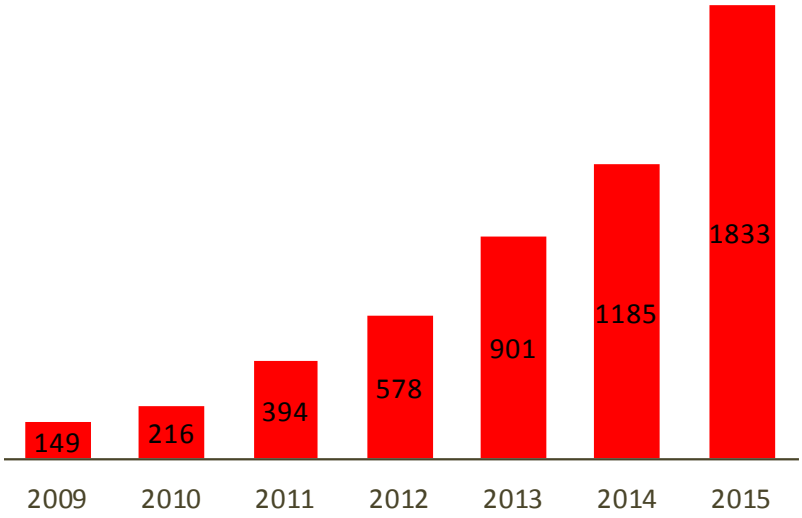

*The Maryland Green School Awards program, run by the Maryland Association for Environmental and Outdoor Education, is a holistic, integrated approach to authentic learning that incorporates local environmental issue investigation and professional development with environmental best management practices and community stewardship. All Maryland schools pre K-12, public, charter and private are eligible.*

# EDUCATION & AWARENESS



## SOCIAL MEDIA

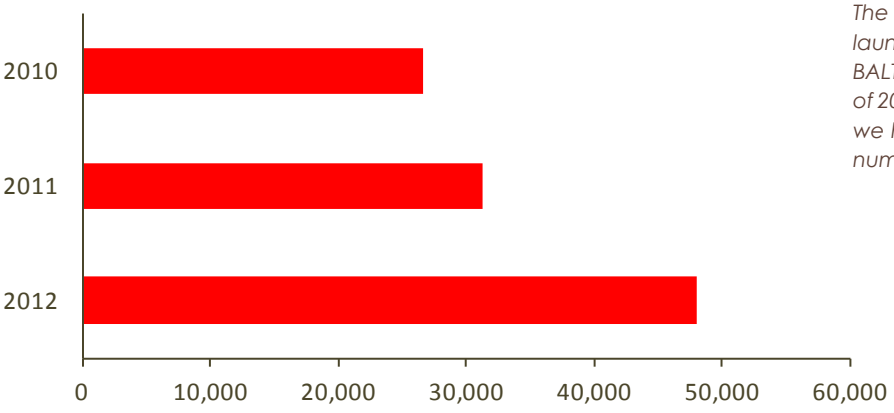
### FOLLOWERS OF THE OFFICE OF SUSTAINABILITY FACEBOOK PAGE



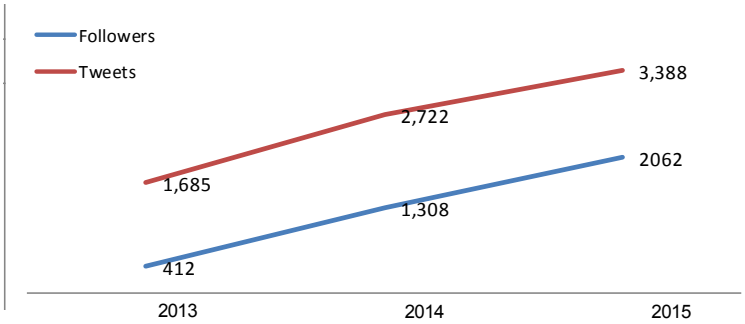

*The Office of Sustainability Facebook page was created in 2009. Since its creation, we have seen an increase in the number of followers. The total number of "likes" has nearly doubled each year, with the largest increase between 2010 and 2011. The Office posts regularly to the site, sharing a variety of information regarding sustainability iniatives in Baltimore.*

*In recent years, the Office has placed additional focus on communications and outreach. http://www.facebook.com/baltimoresustainability*

### MONTHLY VISITS TO THE OFFICE OF SUSTAINABILITY WEBSITE



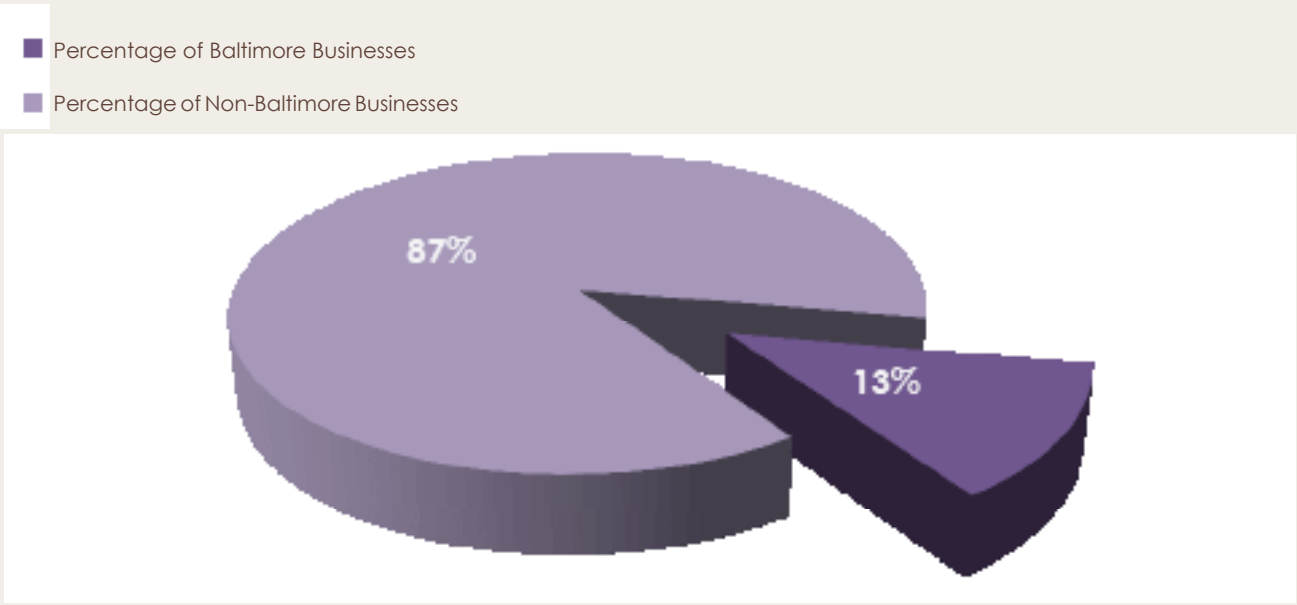

*The Office of Sustainability Officially launched the new website WWW.BALTIMORESUSTAINABILITY.ORG in June of 2009. Since the launch of the website, we have seen a steady increase in the number of visits to the website.*




*At the time of publication, the Office of Sustainability had 3,388 followers on Twitter and posted 2,062 "tweets".*

# GREEN ECONOMY

## GREEN BUSINESSES




*The Maryland Green Registry is a voluntary, self-certfiication program offering tips and resources to help organizations set and meet their sustainability goals. There are 335 businesses participating state-wide, and 45 of those are located in the City of Baltimore. To find out more, or to register your business, visit: http://mde.maryland.gov/MarylandGreen/Pages/Home.aspx*

## WORKFORCE DEVELOPMENT

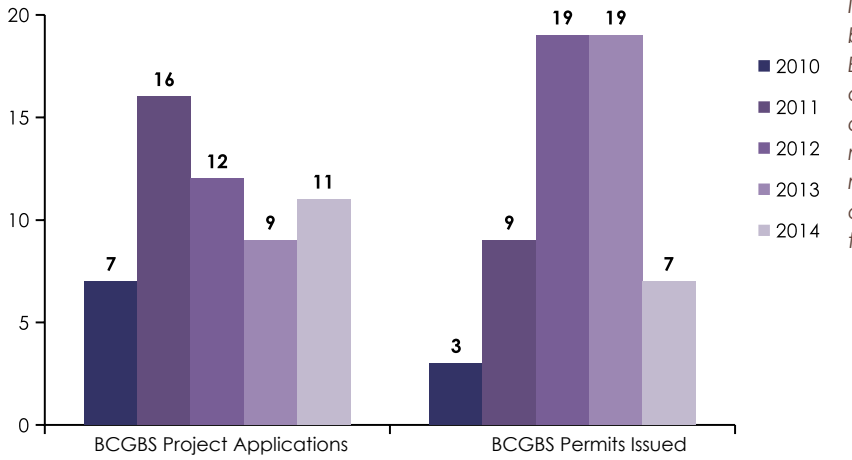
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Baltimore City Public Schools Graduation Rate (Based on 4-Year Adjusted Cohorts) | N/A* | 61.46 | 65.80 | 66.49 | 68.50 | 69.65 |
| Baltimore City YouthWorks - Green Jobs Youth Corps | 360 | 360 | 300 | 300 | N/A | N/A |
| Baltimore City Community College (BCCC) Degrees and Certificates Awarded (FY) | 497 | 466 | 532 | 601 | 499 | 554 |
| Civic Works Bmore Green Job Training | 36 | 27 | 33 | 62 | 74 | 90 |

**The 4-Year Adjusted Cohort Graduation Rate was first published in 2010. Data for 2009 is unavailable. In the past, this report has published the BCPS Graduation Leaver Rate.*

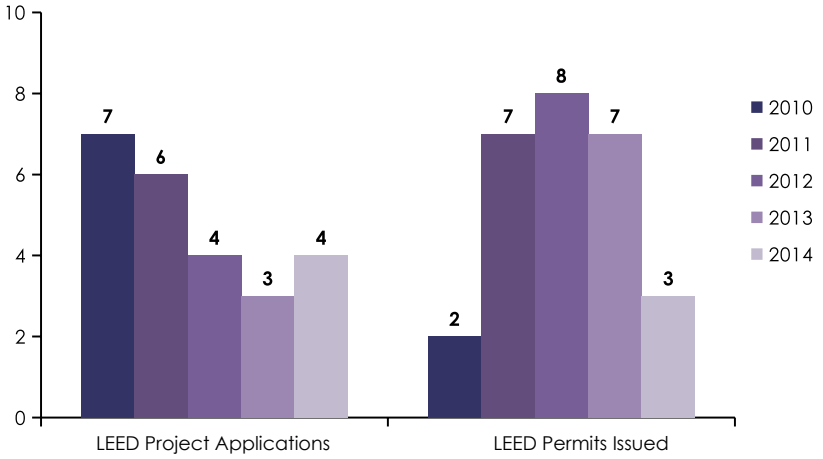
*The preparation for employment begins with elementary and secondary education, and continues through higher education and certificate programs. Exposure to green jobs at a young age can encourage students to explore opportunities for their future. A broad educational background with varied skills can be utilized across many sectors, including green jobs. Since 2010, the Baltimore City Public Schools 4-year adjusted cohort graduation rate has continued to increase.*

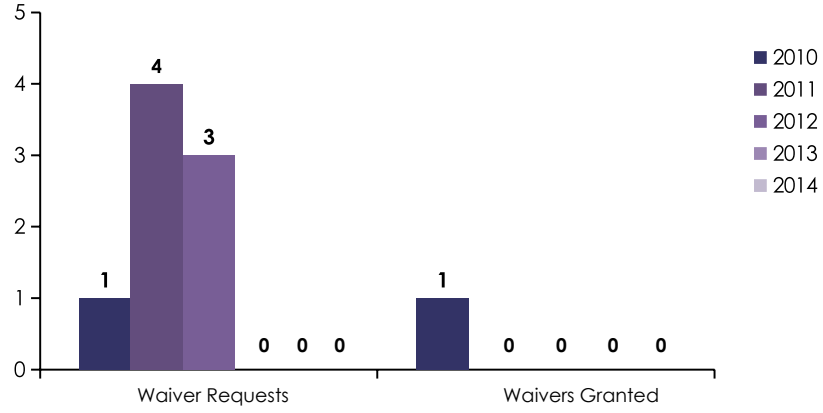
# GREEN ECONOMY

## GREEN BUILDING REQUIREMENTS




*In August 2007, City Council pass a bill mandating the City establish Green Building Standards for commercial and multi-family residential buildings over 10,000 square feet being either newly constructed or extensively modified. The standards were created, and implemented in 2010. In 2014, a total of 7 BCGBS permits were issued.*



# BALTIMORE NEIGHBORHOOD INDICATORS ALLIANCE VITAL SIGNS

*"Every successful individual knows that his or her achievement depends on a community of persons working together."*

- Paul Ryan

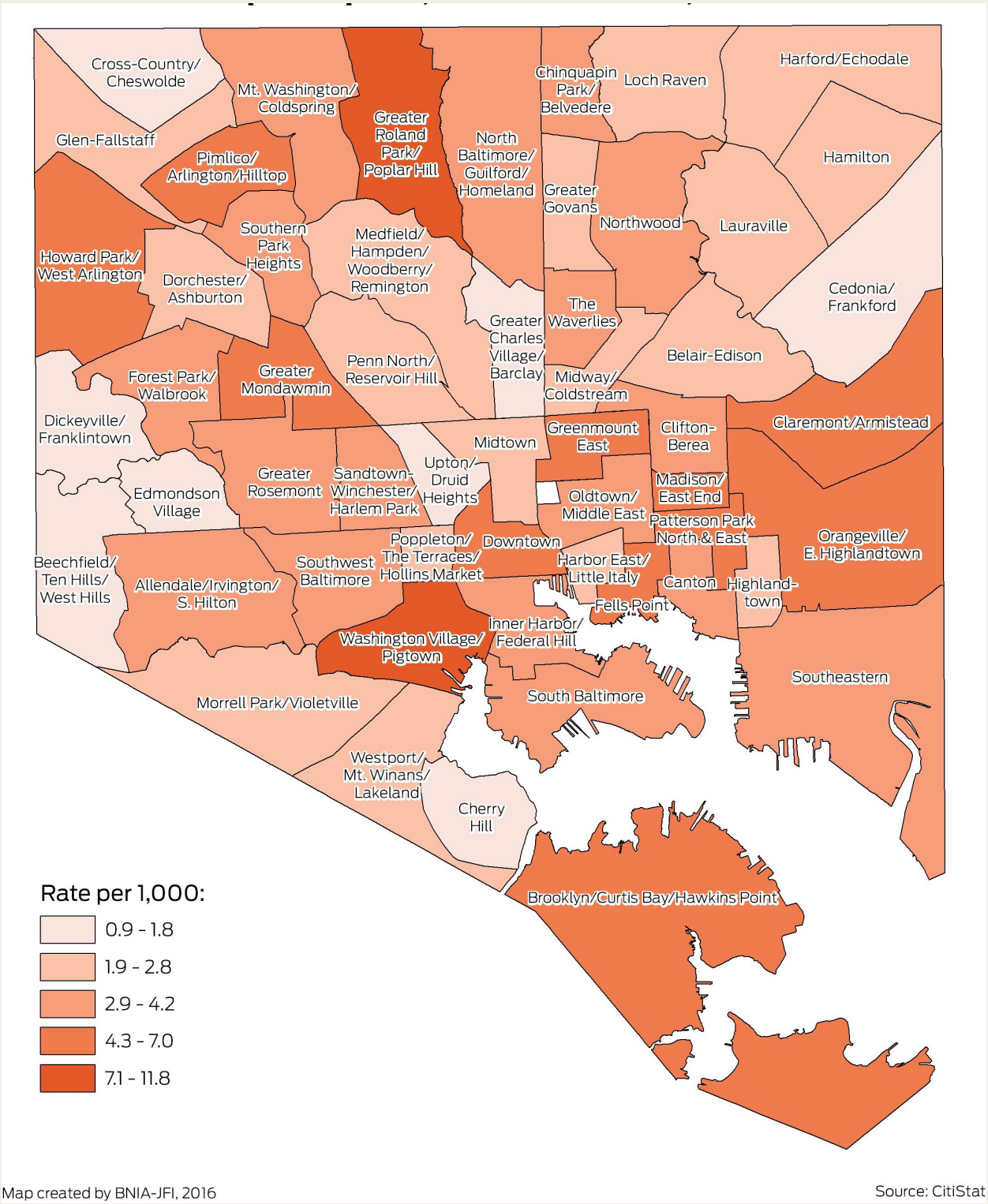

# BALTIMORE CITY MAPS

For more than 10 years, the Baltimore Neighborhood Indicators Alliance-Jacob France Institute (BNIA-JFI) has been committed to enabling decision-making for neighborhood change, using accurate, relevant and accessible data and information for improving the quality of life in Baltimore neighborhoods. Along with an alliance of diverse organizations, BNIA-JFI empowers neighborhoods with measures and indicators to track success across common goals. BNIA-JFI produces an annual report called *Vital Signs* that "take the pulse" of Baltimore's neighborhoods by measuring approximately 110 quality of life indicators for all 55 Community Statistical Areas (CSAs). These indicators were first established through a community-based visioning process in 2000 and revised through a strategic planning process in 2012. The 12th edition of *Vital Signs* was released in April 2015 includes a section dedicated to community-based sustainability indicators on sanitation, transportation, green space, energy efficiency and community engagement. *Vital Signs* indicators are available online and have been used to track and monitor quality of life in neighborhoods as well as plan for the future, advocate for change, leverage funds through grant writing and community-based research.

The Office of Sustainability has partnered with BNIA-JFI to incorporate their community-based sustainability indicators into the Annual Sustainability Report. We feel that being able to look at critical issues on a community level help evaluate progress, as well as where more efforts are needed. We will continue to use these indicators in future years, and hope to expand indicators as we move forward.


BALTIMORE MAPS

# Rate of Clogged Storm Drains*
## *By Community Statistical Area*



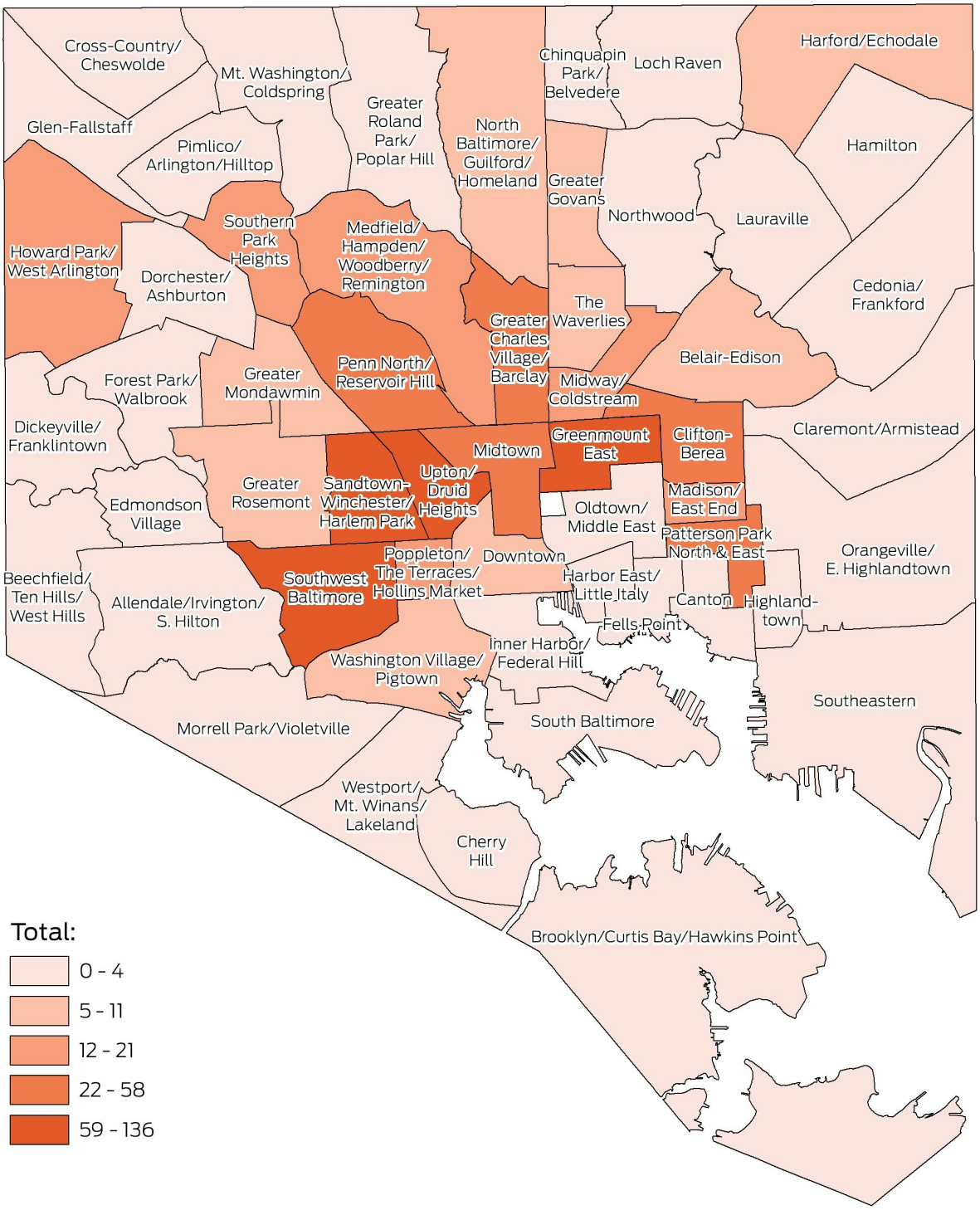

Map created by BNIA-JFI, 2016

Source: CitiStat

*Data from 2014

# Community Managed Open Spaces*

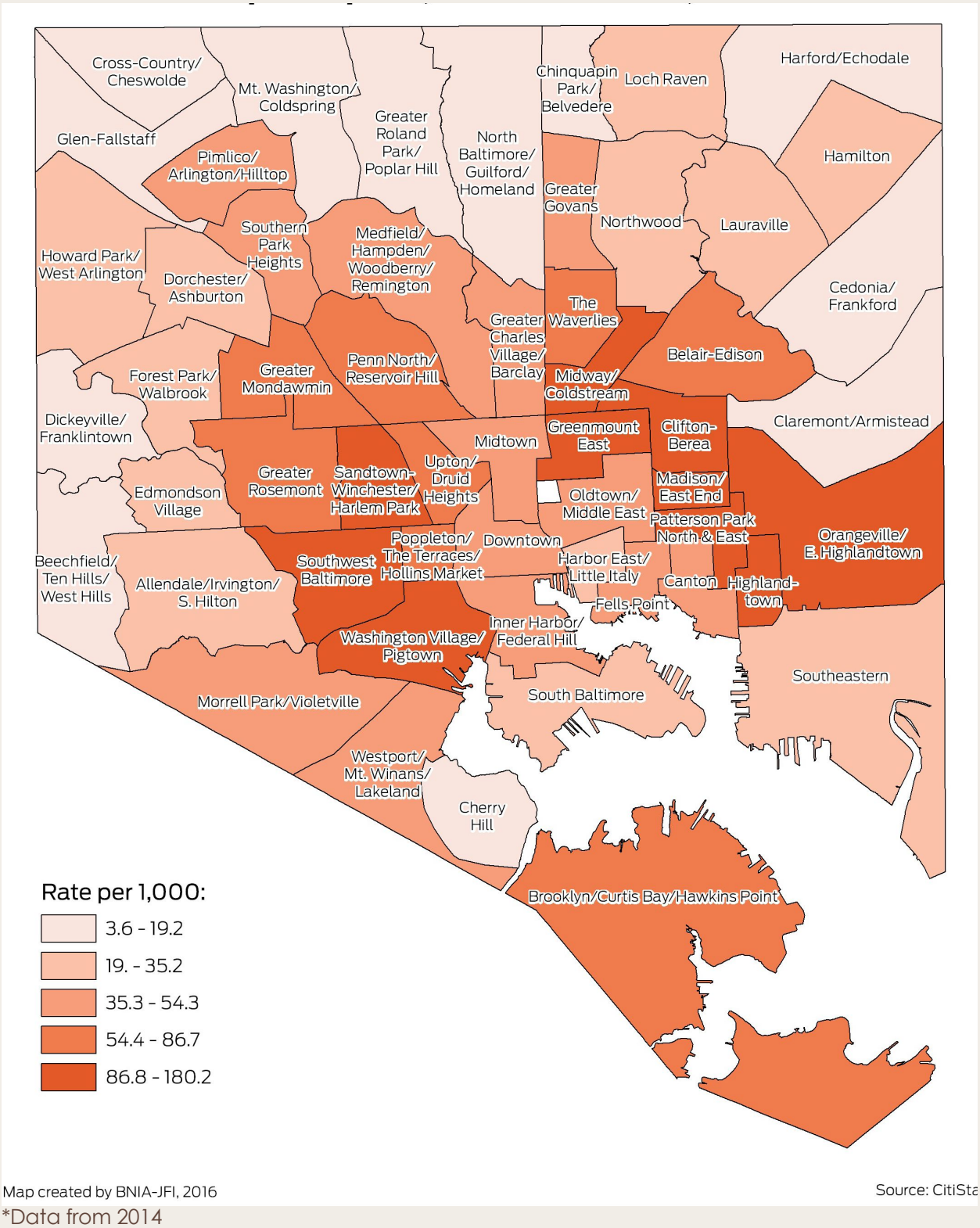
## *By Community Statistical Area*




Map created by BNIA-JFI, 2016
*Data from 2014

Source: BNIA-J

# Rate of Dirty Streets and Alleys*
## *By Community Statistical Area*



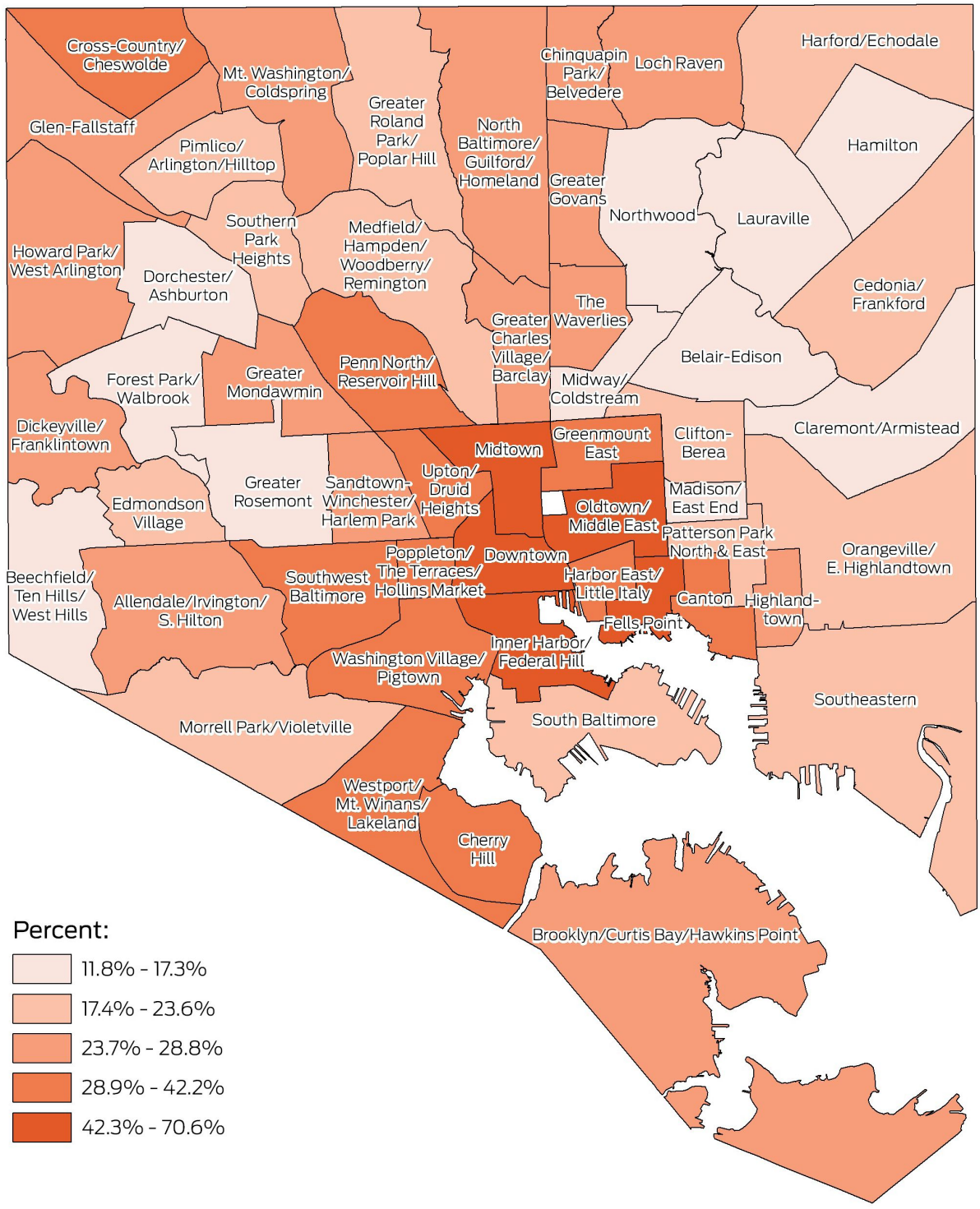

Map created by BNIA-JFI, 2016

Source: CitiSta

*Data from 2014

# Percent of Residences Heated by Electricity*

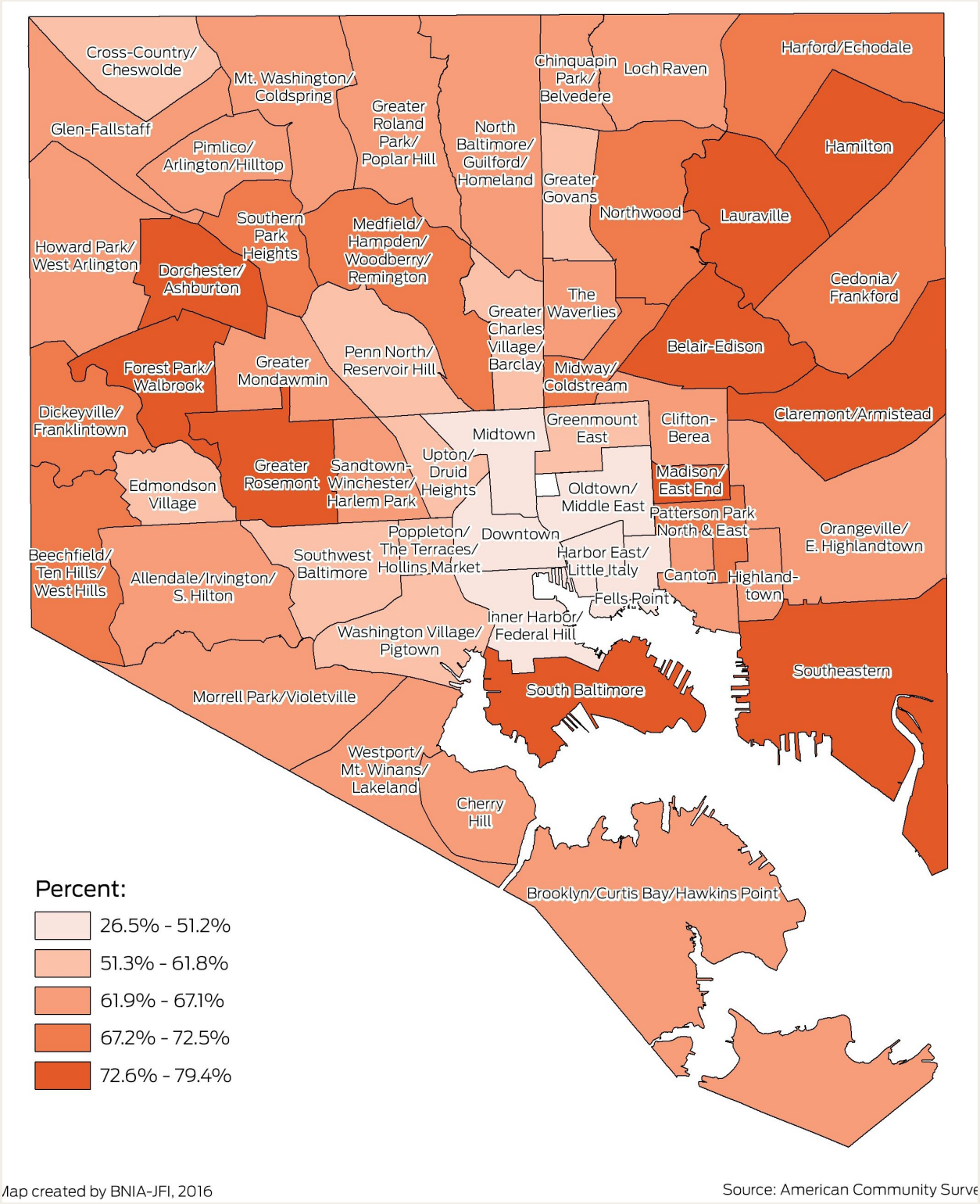
## *By Community Statistical Area*




*Data from 2010-2014

# Percent of Residences Heated by Utility Gas*

## *By Community Statistical Area*

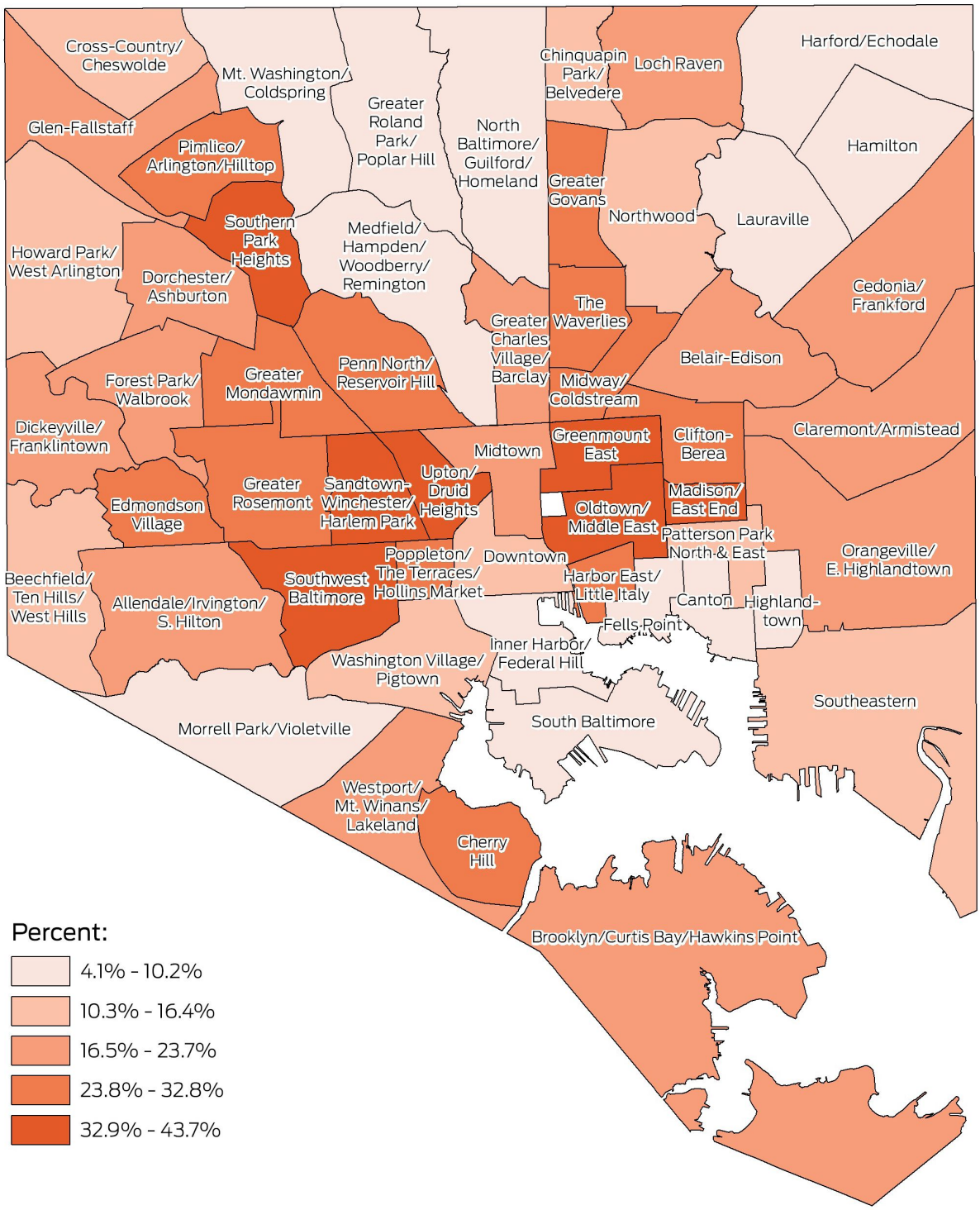



Map created by BNIA-JFI, 2016

Source: American Community Surve

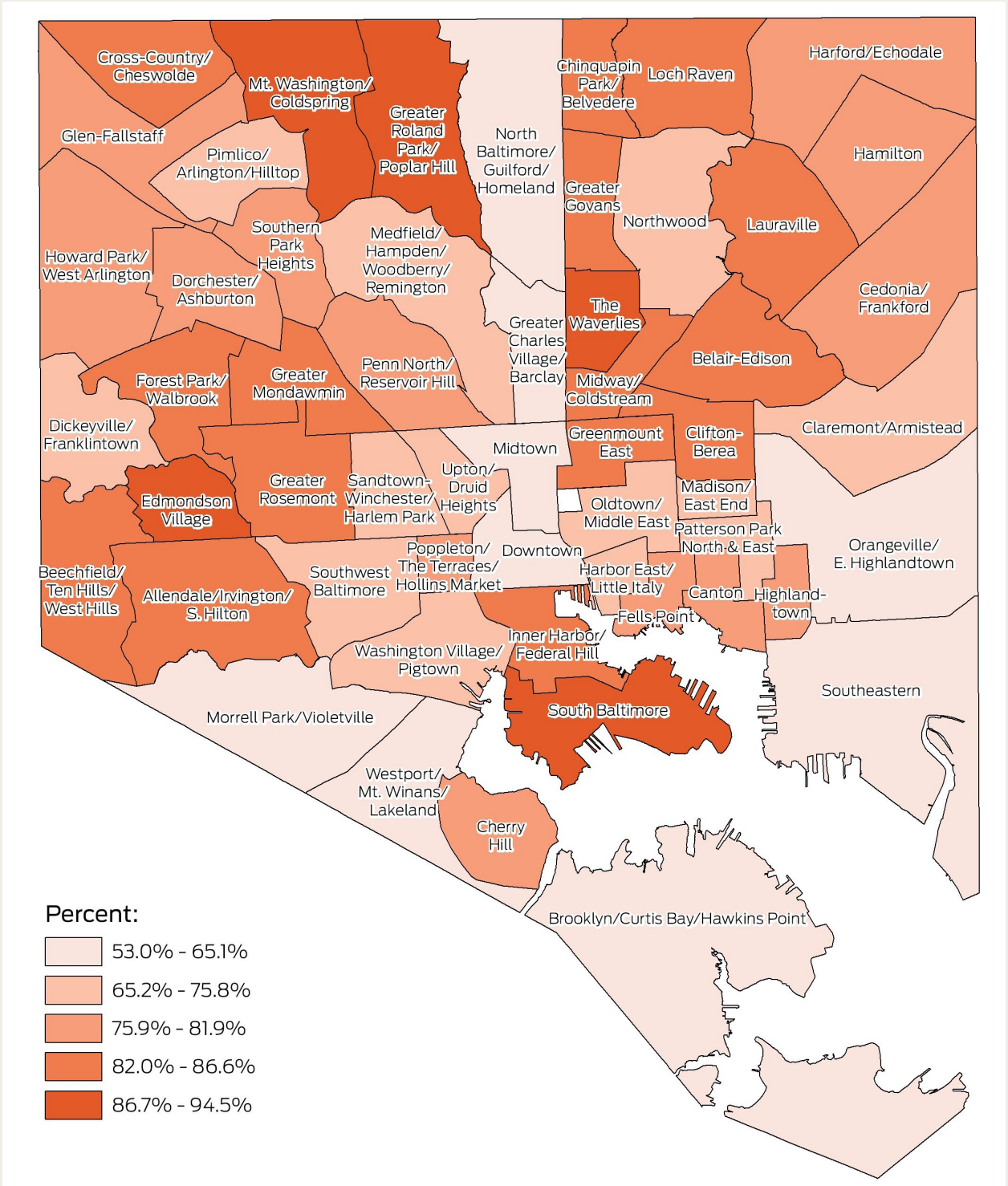
# Percent of Population that Took Public Transportation to Work*

## *By Community Statistical Area*



# Percent of the Population (Over the Age of 18) Who are Registered to Vote*

## *By Community Statistical Area*

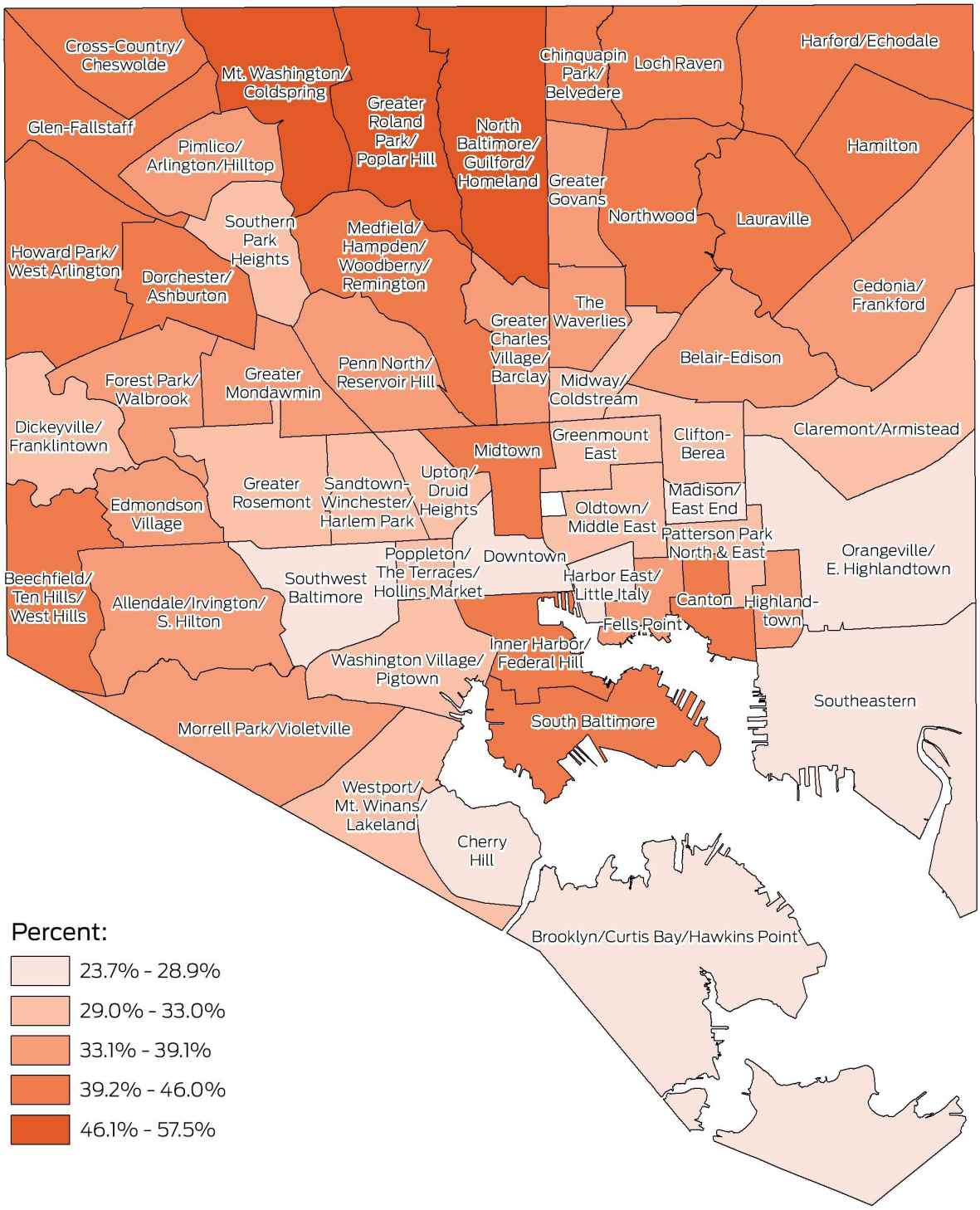





BALTIMORE MAPS

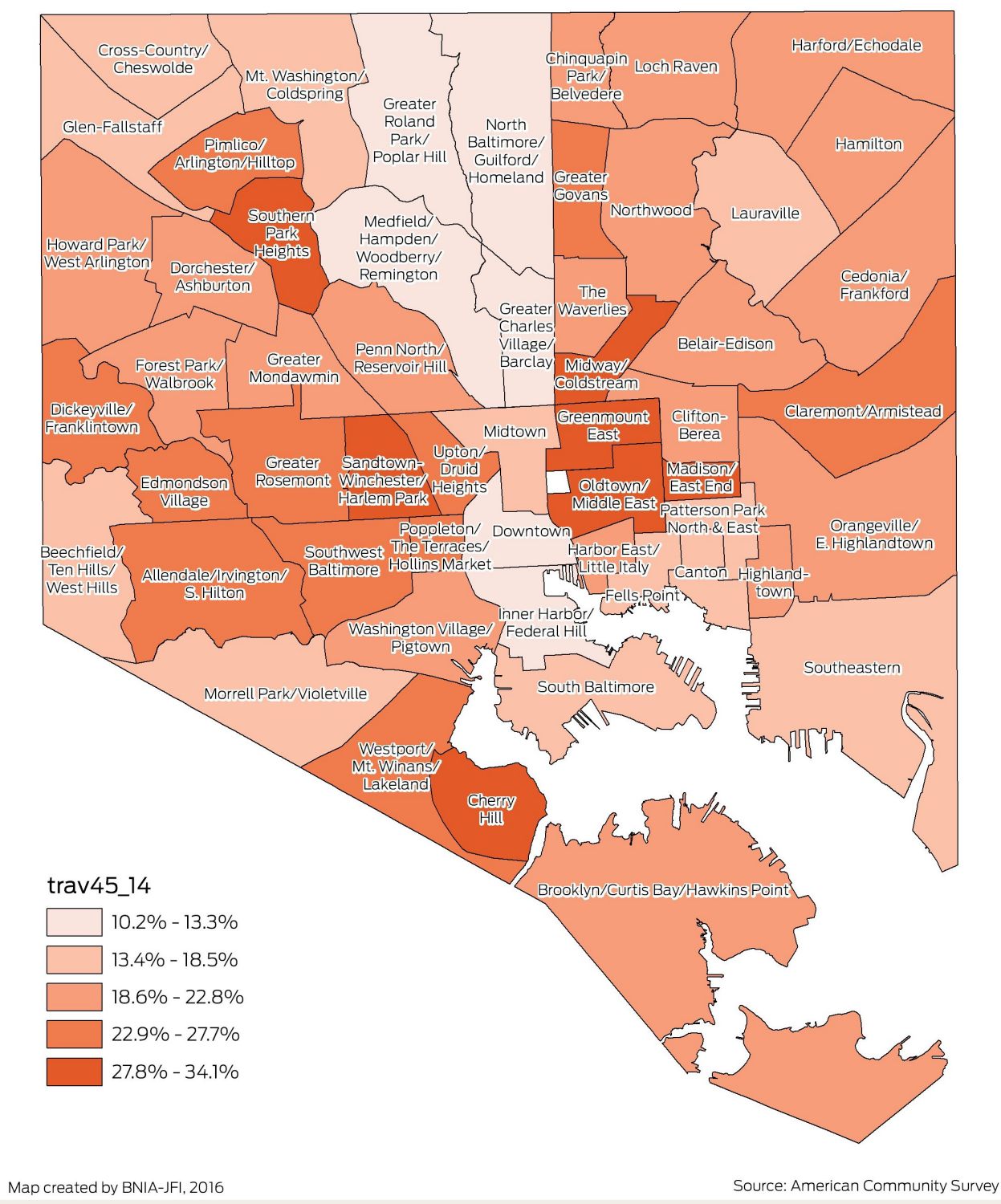
# Percent of Registered Voters that Voted in the Last General Election*

## *By Community Statistical Area*



# Percent of Employed Population with a Travel Time to Work of 30-44 Minutes*

## *By Community Statistical Area*

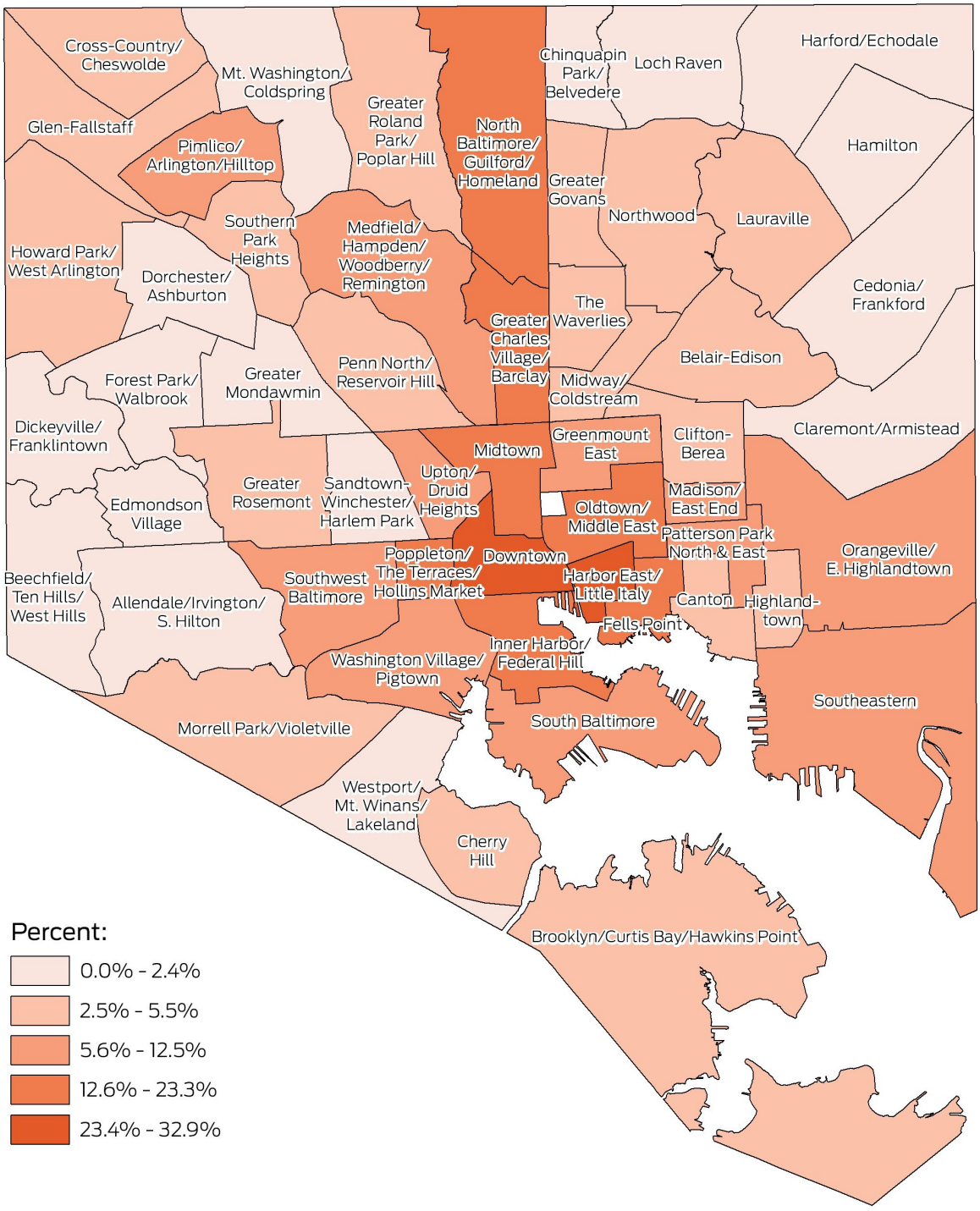



Map created by BNIA-JFI, 2016

Source: American Community Survey

# Percent of Population that Walked to Work*

## *By Community Statistical Area*




Map created by BNIA-JFI, 2016

Source: American Community Survey

# STEPS YOU CAN TAKE

## BUSINESS

- Switch to a LOCAL BANK

## BUY LOCAL

- Use Baltimore's local currency: the BNote
- Tell a friend about the importance of buying local !
- Support local farmers & retailers @ the FARMERS MARKET
- Shop at NEIGHBORHOOD BUSINESSES

## STEPS YOU CAN TAKE

CLEANLINESS

EDUCATION & AWARENESS

GREEN ECONOMY

GREENING

RESOURCE CONSERVATION

TRANSPORTATION

POLLUTION PREVENTION

## RIDE

- Utilize MTA's "RATE MY RIDE" survey tool
- Urge your elected officials to support sustainable transit projects
- Show your support for transit projects by using them

## SHARE

- Team up with neighbors and co-workers to start a rideshare program
- Sign up for ZIPCAR
- Encourage your employer to create a ZIPCAR account

## DRIVE

- Be RESPECTFUL OF CYCLISTS, maintain 3-foot clearance
- Consciously plan car trips to DRIVE THE SHORTEST DISTANCES between destinations

## PEDAL

- Encourage your workplace to add parking for bikes
- Talk with a "BIKE2WORK" mentor about how to get ready to commute by bike

## FOOD

- Join a Community Supported Agriculture (CSA) program
- Grow your own edible backyard garden OR Participate in a community garden

## TREES

- Plant & care for TREES around your property and in your neighborhood
- Visit & utilize BALTIMORE'S PARK SYSTEM!

## PLANT!

- If you have a garden, plant native species to PROVIDE HABITAT for local pollinators and birds

## DRIVE LESS

- Use public transportation or try walking or biking
- Ask your employer to arrange for telecommuting during Code Orange and Red days

## WATER BODIES

- NEVER pour harmful household products down the sink, toilet, or storm drain !!!
- Bury pet waste, or dispose of it in trash receptacles to prevent it from washing into waterways
- +
- Instead of using pesticides or insecticides on your property, use alternative methods such as Integrated Pest Management (IPM)
- +
- Avoid gas-powered lawn mowers, leaf blowers & trimmers that create air pollution

## INDOOR ENVIRONMENT

- Use NATURAL CLEANING PRODUCTS
- Install a Carbon Monoxide detector
- TURN LIGHTS OFF
- Make your home more energy efficient

## GREENHOUSE GAS REDUCTION

- Calculate your greenhouse gas emissions at HTTP://WWW.EPA.GOV/CLIMATECHANGE/EMISSIONS/IND_CALCULATOR.HTML

## CUT POLLUTION

# STEPS YOU CAN TAKE

Organize a COMMUNITY **CLEAN-UP**

Adopt a vacant lot in your neighborhood & transform it into COMMUNITY GREEN SPACE

Work with neighbors to manage community open space

With the Community Greening Resource Network (CGRN)

Encourage your local school to work towards Maryland Association for Environmental and Outdoor Education "GREEN SCHOOL" certification

**INFORMATION**

Utilize the local resources featured in the PARTNER LIST on the following pages

**VOLUNTEER**

**YOUTH**

With a park stewardship program

With an organization that works w/ youth in Baltimore City

Organize a TREE PLANTING at your local school

Help your local school create or maintain an outdoor education space

Always place your trash in a can with a TIGHTLY FITTING LID...

..... In the proper location the morning of your scheduled pick-up

CALL 311 to report excessive trash, mini landfills, or illegal dumping!

**SPREAD THE WORD!**

Participate in community outreach and awareness activities to promote the 3Rs: reduce, reuse, recycle!

HOST A SUSTAINABILITY HOUSE PARTY to exchange tips & information with your friends & neighbors

Stay informed about ENVIRONMENTAL ISSUES and support legislature which will progress Baltimore's sustainability goals by voting and writing to your representatives!

Share Your Sustainability Success Story @ www.BALTIMORESUSTAINABILITY.org

**WATER**

Replace your old toilet with a *WaterSense* or *Dual Flush* model

Fix leaky faucets

Utilize only native plants {WHICH REQUIRE LESS WATERING} in your landscape

Install a RAIN BARREL to collect rain for watering the garden

Install a low-flow showerhead

**ENERGY**

Call the Baltimore Energy Challenge {410.927.6088} to receive your free Energy $avers Kit

Get in-home education & FREE INSTALLATION of a programmable thermostat

Set it no higher than 68° in the winter, and no lower than 78° in the summer

Power-off all unused devices & use power strips

{ Most electronic devices still pull several watts of power when in standby mode. }

**"WASTE"**

*Reduce*

*Reuse*

**DO MORE WITH LESS**

DONATE to BALTIMORE FREE STORE

PURCHASE IN BULK to reduce packaging waste

Visit WWW.DMACHOICE.ORG & stop any unwanted mail

CARRY REUSABLE BAGS

Purchase items that are *RECYCLABLE* & *RECYCLED*

Find creative ways to re-use your stuff

**RECYCLE**

Compost yard & food waste

Participate in the *Single Stream Recycling* program

RECYCLE. Just one person recycling for one year is enough to save 471 pounds of greenhouse gases

CREATED BY MEGAN GRIFFITH

## $AVE $70+ A YEAR on your energy bills.

Replace the light bulbs in your **5 MOST FREQUENTLY USED FIXTURES** with ENERGY STAR® qualified bulbs [EPA]

**Protect your home with flood insurance.**

**Stay hydrate**

especially in periods of extreme heat.

**Trees & their limbs may fall during a storm.**

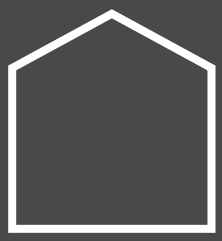
Proactively pruning trees will reduce hazards that could cause injury to people or damage to property.

**Reduce your carbon footprint!**

## WEATHERIZE YOUR HOME.

Insulate walls & ceilings
+
Caulk & weatherstrip around doors & windows, and
+
Wrap your water heater in an insulating jacket

**Reduce up to 4,000 lbs $CO_2$ emissions a year!** [EarthShare]



**Plant a vegetable garden on your property to produce FREE & FRESH FOOD**

## Make a Plan

Reducing Baltimore's vulnerability begins with its residents. Make sure that you and your family are prepared with your own emergency plan ***before*** a disaster hits.

ed,

## Build a Kit

A disaster supply kit should include basic items that you and your family may need in the event of an emergency.

Water conservation lessens load on infrastructure, and rainwater capture strategies collect rainwater reserves for use during low-precipitation periods

**Rain barrels can save most Mid-Atlantic homeowners**

**1,300 GALLONS OF WATER**

**during peak summer months.**

[EPA]

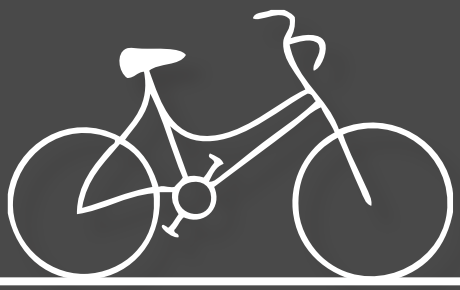
## Help Each Other

Know your neighbors & check in with each other regularly.

Walking and/or cycling provide redundancy in the transportation system in the event of an emergency or storm event, when public transit may be temporarily disrupted or vehicular access may be more difficult.

**Bike, walk, or use public transportation just 2 DAYS A WEEK.**

**1,590 lbs $CO_2$ A YEAR**



## SAVE UP TO 20% ON HEATING & COOLING COSTS

Improve home comfort with insulation & sealing. [EPA]

## Know the warnings.

Understand Baltimore's early warning alert system so that you will be prepared when disaster strikes.

CREATED BY MEGAN GRIFFITH

# PARTNERS LIST

1000 Friends of Maryland
www.friendsofmd.org
410.385.2910

Altcar
www.altcar.org
410.814.3000

Amtrak
www.amtrak.com
1.800.USA.RAIL

Art Blocks
www.artblocks.org
410.243.3834

B Corporation
www.bcorporation.net

B-more Mobile
www.bmoremobile.org

Back River Restoration Committee
www.savebackriver.org

Baltimore Area Convention and Visitors Association
www.baltimore.org
877.225.8466

Baltimore Biodiesel Coop
www.baltimorebiodiesel.org
410.889.6842

Baltimore Business Journal
www.bizjournals.com/baltimore/
410.576.1161

Baltimore Center for Green Careers
www.baltimoregreencareers.org
410.929.6120

Baltimore City Commission for Historical & Architectural Preservation
www.baltimorecity.gov/Government/BoardsandCommissions/HistoricalArchitecturalPreservation.aspx

Baltimore City Department of General Services
www.baltimorecity.gov
410.396.3704

Baltimore City Department of Health (BCHD)
www.baltimorehealth.org
410.767.5300

Baltimore City Department of Housing and Community Development (HCD)
www.baltimorehousing.org
410.514.7000

Baltimore City Department of Planning (DOP)
www.baltimorecity.gov/Government/AgenciesDepartments/Planning.aspx
410.767.4500

Baltimore City Department of Public Works (DPW)
publicworks.baltimorecity.gov
410.396.6070

Baltimore City Department of Recreation and Parks (BCRP)
bcrp.baltimorecity.gov
410.396.7900

Baltimore City Department of Transportation (DOT)
www.baltimorecity.gov/Government/AgenciesDepartments/Transportation.aspx
410.396.7665

Baltimore City Mayors Office of Employment Development
www.oedworks.com
410.396.1910

Baltimore Community Foundation
www.bcf.org
410.332-4171

Baltimore Development Corporation
410.837.9305

*MAIN STREETS PROGRAM*
baltimoredevelopment.com/baltimore-main-streets

*BROWNFIELDS PROGRAM*
www.baltimoredevelopment.com/brownfileds

Baltimore City Farms Program
bcrp.baltimorecity.gov/ProgramsandInitiatives/CityFarms.aspx
410.396.0181

Baltimore City Food Policy Initiative
http://www.baltimorecity.gov/Government/AgenciesDepartments/Planning/BaltimoreFoodPolicyInitiative.aspx

Baltimore City Forestry Board
www.baltimoreforestry.org

Baltimore City Parking Authority
www.baltimorecity.gov/Government/QuasiAgencies/ParkingAuthority.aspx
443.573.2800

Baltimore City Public School System
www.bcps.k12.md.us
443.984.2000

Baltimore County Environmental Protection and Sustainability
www.baltimorecountymd.gov/Agencies/environment
410.887.3733

Baltimore Ecosystem Study
www.beslter.org
410.448.5663 | ext. 125

Baltimore Energy Challenge
www.baltimoreenergychallenge.org

Baltimore Free Farm
www.baltimorefreefarm.org
410.575.4BFF (4233)

Baltimore Gas & Electric Smart Energy Savers Program
www.bgesmartenergy.com/
1.877.685.SESP (7377)

Baltimore Green Currency Association
www.baltimoregreencurrency.org

Baltimore Green Forum
www.baltimoregreenforum.org

Baltimore Green Map
www.baltimoregreenmap.org
410.235.0838

Baltimore Green Space
www.baltimoregreenspace.org
443.695.7504

Baltimore Green Works
www.baltimoregreenworks.com

PARTNER LIST

Baltimore Heritage
www.baltimoreheritage.org

Baltimore Metropolitan Council
www.baltometro.org
410.732.0500

Baltimore Neighborhood Indicators Alliance
www.bnia.org
410.837.6651

Baltimore Office of Promotion & the Arts
www.bop.org
410.752.8632

Baltimore Orchard Project
www.baltimoreorchard.org
410-695-3445

Baltimore Tree Trust
www.baltimoretreetrust.org

Baltimore Running Festival
www.thebaltimoremarathon.com
410.605.9381

Baltimore Workforce Investment Board
www.Baltoworkforce.com
410.396.1910

Bethesda Green
www.bethesdagreen.org
240.396.2440

Big City Farms
www.bigcityfarms.com
443.890.3280

Bike Baltimore
www.baltimorecity.gov/Government/AgenciesDepartments/Transportation/Planning/BikeBaltimore.aspx

Bike Maryland
www.bikemd.org
410.960.6493

Biohabitats
www.biohabitats.com
410.554.0156

Blue Water Baltimore
www.bluewaterbaltimore.org
410.254.1577

BMore Streets for People
www.facebook.com/pages/BMore-Streets-for-People/121281651312486

Boone Street Farm
www.baltimorediy.org

Butterbee Farm
www.butterbeefarm.com

Carrie Murray Nature Center
www.carriemurraynaturecenter.org
410.396.0808

CDM eCycling
www.cdm4recycle.com

Center for Community Progress
www.communityprogress.net
DC Office | 877.542.4842

Central Maryland Transportation Alliance
www.cmtalliance.org
410.332.4172 | ext. 123

Charm City EcoVillage
www.facebook.com/CharmCityEcovillage

Cherry Hill People's Garden
cherryhillpeoplesgarden.wordpress.com
410.704.2553

Chesapeake Bay Foundation
www.cbf.org
1.800.SAVEBAY

Chesapeake Bay Trust
www.cbtrust.org
410.974.2941

Chesapeake Climate Action Network
www.chesapeakeclimate.org
+1.240.396.1981

Chesapeake Compost Works
www.chesapeakecompost.com

Children in Nature Network
www.childrenandnature.org

Citizens Planning & Housing Association
www.cphabaltimore.org
410.539.1369

City Bizlist
baltimore.citybizlist.com
443.562.9472

Civic Works
www.civicworks.com
410.366.8533

CleanerGreener Baltimore Initiative
www.cleanergreenerbaltimore.org
410.396.3835

College of Notre Dame
www.ndm.edu
410.435.0100

Community Greening Resource Network
www.parksandpeople.org/greening/resource-network/
410.448.5663

Commuter Connections | *GUARANTEED RIDE HOME PROGRAM*
www.mwcog.org/commuter2/commuter/grh/index.html
1.800.745.RIDE (1.800.745.7433)

Constellation Energy
www.constellation.com
1.866.237.7693

Construction and Energy Technologies Education Consortium
www.cetecmd.org
443.840.4661

Coppin State College
www.coppin.edu
410.951.3000

CSX Corporation
www.csx.com
1.877.ShipCSX (1.877.744.7279)

East Coast Greenway
www.greenway.org
+1.919.797.0619

Eat Fresh Maryland Network
www.eatfreshmd.com
+1.301.891.7244

Eco-check
www.eco-check.org
410.221.2005

EnviroEducation
enviroeducation.com/states/Maryland

Environmental Justice Partnership
www.environmentaljusticepartnership.org

The Environmental Literacy Council
www.enviroliteracy.org
202.296.0390

The Farm Alliance of Baltimore City
www.farmalliancebaltimore.org

Friends of...

CARROLL PARK
www.friendsofcarrollpark.blogspot.com

DRUID HILL PARK
www.druidhillpark.org
443.469.8274

GWYNNS FALLS/LEAKIN PARK
www.friendsofgwynnsfalls leakinpark.org

HERRING RUN PARKS
www.thefhrp.org

MARYLAND'S OLMSTED PARKS AND LANDSCAPES
www.olmstedmaryland.org

PATTERSON PARK
www.pattersonpark.com
410.276.3676

STONY RUN
www.stonyrunfriends.org/srcms/

WEST BALTIMORE SQUARES
www.westbaltimoresquares.org

WYMAN PARK DELL
www.wymanparkdell.org

Future Harvest
www.futureharvestcasa.org

Gather Baltimore
www.gatherbaltimore.org

Great Kids Farm
www.baltimorecityschools.org/greatkidsfarm
443.642.3928

Great Kids Up Close
www.greatkidsupclose.org
443.642.3954

Green & Healthy Homes Initiative
www.greenandhealthyhomes.org
410.534.6447

Green Building Institute
greenbuildingnetwork.groupsite.com/main/summary
443.733.1234

Green Jobs Network
www.maryland.greenjobs.net

Greening Reservoir Hill
rhicgreen.org
410.225.7547

Greenspring Energy
www.greenspringenergy.com
443.322.7000

Hamilton Crop Circle
www.facebook.com/HamiltonCropCircle?ref=ts
1.910.200.9181

Healthy Harbor Initiative
www.healthyharborbaltimore.org

Hidden Harvest Farm
facebook.com/groups/hiddenharvestfarm

Holistic Life Foundation
www.hlfinc.org
410.669.0645

Housing and Transportation Affordability Index
htaindex.cnt.org

Interfaith Power & Light
interfaithpowerandlight.org/
+1.415.561.4891 [California]

Irvine Nature Center
www.explorenature.org
443.738.9200

Johns Hopkins University
www.jhu.edu
410.516.8000

Johns Hopkins Center for a Livable Future
www.jhsph.edu/clf
410.502.7578

Johns Hopkins Sustainability Office
www.sustainability.jhu.edu
410.516.5544

Johns Hopkins ZipCar
www.zipcar.com/jhu
1.866.4ZIPCAR (1.866.494.7227)

Living Classrooms
www.livingclassrooms.org
410.685.0295

The Loading Dock
www.loadingdock.org
410.558.3625

Main Street Maryland
www.neighborhoodrevitalization.org/programs/mainstreet/mainstreet.aspx

Maryland Association for Environmental and Outdoor Education
www.maeoe.org
443.733.1220 | ext. 114

Maryland Clean Energy Center
mdcleanenergy.org
443.949.8505

Maryland Department of Agriculture
www.mda.state.md.us
410.841.5700

Maryland Department of Business & Economic Development
www.choosemaryland.org
410.767.6300

Maryland Department of the Environment
www.mde.state.md.us
410.537.3000

Maryland Department of Natural Resources
www.dnr.state.md.us
1.877.620.8DNR (8367)

*PROGRAM OPEN SPACE*
www.dnr.state.md.us/land/landconservation.asp

*TREE-MENDOUS MARYLAND*
www.dnr.maryland.gov/forests/treemendous/

Maryland Department of Planning | *SMART, GREEN & GROWING*
www.green.maryland.gov
410.260.8021

Maryland Division of Labor and Industry (DLLR)
www.dllr.state.md.us/greenjobs/
410.230.6001

Maryland Energy Administration
energy.maryland.gov

Maryland Farm-To-Table Produce
www.mdfarmtotable.com/web/content/Home.aspx
443.762.1677

Maryland Green Registry
www.mde.maryland.gov/MarylandGreen
410.537.3000

Maryland Hospitals for a Healthy Environment
mdh2e.org

Maryland Institute College of Art (MICA)
www.mica.edu
410.669.9200

Maryland Hunger Solutions
www.mdhungersolutions.org.
410.528.0021

Maryland League of Conservation Voters
www.mdlcv.org
410.280.9855

Maryland Master Gardeners
www.mastergardener.umd.edu
410.531.5556

Maryland Native Plant Society
www.mdflora.org/chapters/baltimore/baltchapter.html

Maryland Pesticide Network
www.mdpestnet.org

Maryland Port Administration
www.mpa.maryland.gov

Maryland Sierra Club
www.maryland.sierraclub.org
301.277.7111

Maryland Transit Administration
mta.maryland.gov

Maryland Transportation Authority
mdta.maryland.gov
410. 537.1000

The Maryland Zoo in Baltimore
www.marylandzoo.org
410.396.7102

Masonville Cove Environmental Education Center
www.masonvillecove.org
410.246.0669

Morgan State University
www.morgan.edu
443.885.3333

National Aquarium
www.aqua.org
410.576.3800

Neighborhood Design Center
www.ndc-md.org

Northeast Maryland Waste Disposal Authority
www.nmwda.org
410.333-2730

Parks and People Foundation
www.parksandpeople.org
410.448.5663

Patterson Park Audubon Center
pattersonpark.audubon.org
410.558.2473

Pescatore Backyard Delicacies
www.adamopescatore.com

Power in Dirt
www.powerindirt.com

Real Food Farm
www.realfoodfarm.org
443.531.8346

Rebuilding Together
www.rtbaltimore.org
410.889.2710

Relay Foods
www.relayfoods.com
202.618.6048

Retrofit Baltimore
www.retrofitbaltimore.org
410.929.6139

The Samaritan Women Farm
www.thesamaritanwomen.org

Second Chance
www.secondchanceinc.org
410.385.1101

Sojourner-Douglass College
www.sdc.edu
410.276.0306

Terracyle
www.terracycle.com
609.393.4252

Transit Riders Action Council
getontrack.org
410.837.0225

TreeBaltimore
www.treebaltimore.org
410.458.7888

Under Armour
www.underarmour.com
888.727.6687

Urban Farmhouse
www.urbanfarmhouseonline.com
410.963.2712

US Green Building Council | Maryland
www.usgbcmd.org
202.828.7422

Waste Neutral Group
www.wasteneutral.com
443.838.1826

Waterfront Partnership of Baltimore
www.waterfrontpartnership.org
410.528.1523

Walkscore
www.walkscore.com/

Whitelock Community Farm
www.whitelockfarm.org
410.205.OKRA (6572)

Youthworks
www.oedworks.com/youthserv/summer.htm
410.545.1820

Zero Litter
www.zerolitter.com
www.facebook.com/ZeroLitter

Zipcar
www.zipcar.com/baltimore/find-cars
410.685.1867


You may view the Annual Sustainability Reports from previous years by clicking on the **RESOURCE CENTER** tab of the Baltimore Office of Sustainability Website. Or, by entering the following url into your browser:

**http://www.baltimoresustainability.org/resources**

The Resource Center is your go-to source for information on all things relating to sustainability in Baltimore. It offers a variety of downloadable content as well as links to outside resources.

At the Resource Center, you may view information on current **PROGRAMS** or download past **EDUCATIONAL PRESENTATIONS**—like those given at Commission on Sustainability meetings. Additionally, the site offers a number of downloadable **SUSTAINABILITY GUIDES,** including:

- *Baltimore's Eco-Friendly Holiday Guide*
- *Bicycle Commuter Resource Guide*
- *Energy Saving Tips and Resources*
- *Greening Neighborhoods Guide*
- *Guide to Composting in Baltimore*
- *Guide to Preserving Community Managed Open Spaces*
- *Guide to Turn Vacant Lots into Gardens*

In addition to the abovementioned resources, the site offers information on the Baltimore City Plastic Bag Reduction Program, Community Energy Savers Grant, School Programs, Urban Agriculture, and much more.

**As of 2014, the Commission on Sustainability meets on the 3RD Tuesday of every month. Check the website for any changes.**

# ACKNOWLEDGEMENTS


## BALTIMORE COMMISSION ON SUSTAINABILITY

**Ted Atwood**
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**@SustainBmore**