

CITY OF BOWIE
STATE OF THE ENVIRONMENT REPORT
FOR
FISCAL YEAR 2015

(JULY 1, 2014 TO JUNE 30, 2015)

September 2015

Prepared by the Department of Planning
and Economic Development



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I. Introduction

The *2015 City of Bowie State of the Environment Report* is a summary of the City's environmental actions and sustainability initiatives undertaken during Fiscal Year 2015 (July 1, 2014 through June 30, 2015). The report tracks the performance measurements for environmental programs and activities, specifically highlighting those identified in the Bowie Green Team 3-Year Action Plan, approved by City Council on October 1, 2012, as well as many other noteworthy City actions undertaken in the past year such as those outlined in the City's Climate Action Plan, adopted on January 5, 2015.

The Green Team Action Plan is the key element of the City's participation in the Sustainable Maryland Certified (SMC) program. The Sustainable Maryland Certified program is an initiative of the Environmental Finance Center (EFC) at the University of Maryland that has been designed to support Maryland's 157 municipalities as they look for cost-effective and strategic ways to protect their natural assets and revitalize their communities. Following best practices in resource areas like water, energy, planning, health, food, and economy, a municipality can earn points toward sustainability certification. The City achieved certification in March 2013.

The City's Climate Action Plan was developed by the Department of Planning and Economic Development, the Green Team Executive Committee, and the Environmental Advisory Committee. The plan outlines actions that the City has taken thus far to reduce its Greenhouse Gas (GHG) Emissions as well as actions it will complete in order to reduce total community GHG emissions 20% by 2020, using a 2007 baseline. There are 48 total community actions in the plan, which involve four sectors: Energy, Transportation, Waste, and Land use. Progress on the plan will now be included annually.

This report is organized into three sections. The first provides a full list of environmental accomplishments achieved during FY 2015 organized into the major categories of the Green Team's Action Plan. The second section presents progress made specifically by Bowie's Green Team on its 3-Year Action Plan. The final section of the report identifies some key findings, including some observations of the strengths, weaknesses and challenges for the City's environmental and sustainability actions, as well as an overall conclusion about the City's environment and sustainability outlook.

II. Accomplishments

This list grows each year, and it seemed important to find a better way to present the information in this section for ease of reading. The most logical way was to follow the Green Team Action Plan categories, but this section includes accomplishments made by the City itself; City staff working with schools, churches, and community groups; and the two City environmental committees.

A. *Natural Resources*

- In June 2015, the Public Works Department and City Manager’s Office sent out a city-wide mailing detailing new recycling laws as well as electronics recycling and hazardous waste collection information. They also helped develop a map showing recycling rates in different neighborhoods.
- Planning Department staff developed a pet waste management strategy document that described current City protocols, made suggestions for improvement and identified opportunities for outreach. The first education opportunity was to create and distribute a half-page information sheet on “Dog Ownership in Bowie” that outlines the rights and responsibilities for owners. Residents applying for dog licenses get one.
- In February 2015, the Planning Department staff implemented the initial stages of the pet waste management strategy by providing 250 clip-on pet waste bag dispensers with educational signage to four vet offices and three apartment complexes adjacent to streams. All bag dispensers were given out, and the program was well received.
- The City contracted with RK&K Engineers to design a retrofit for the existing Levitt-era Midwood Lane stormwater facility. The design will provide 100% water quality treatment for nearly 50 acres of impervious area that currently has none.
- Partial funding for a watershed plan, with expectations of receiving grant funds to cover the balance was approved in the FY 2016 budget.
- The Environmental Advisory Committee initiated a limited program to reimburse Bowie residents the \$20 fee required to certify a yard as a National Wildlife Federation (NWF) Wildlife Habitat. There were 41 participants.
- The Bowie Gardens4Wildlife group sponsored its fourth annual tour of NWF Certified Habitats in the City, with more than 80 people attending at least one of the five sites.
- The number of residential properties designated as NWF Certified Wildlife Habitats in the City increased to 183 properties including one City property, the Bowie Gymnasium.
- The second year of the Invasive Control Program at Church Road Park was implemented at a cost of \$15,700. This program is designed to remove and control the non-native invasive plant infiltration that is causing an environmental threat to this park and is

negatively impacting forest mitigation efforts that are occurring there. In addition, the City spent \$39,200 to control invasives at Whitemarsh Park in FY 2015.

- The City's Weed Warrior Program continued at Whitemarsh Park removing English ivy from more than 120 trees during seven work days. A total of 83 volunteers contributed about 250 hours to this effort.
- The City budgeted and spent \$32,000 for the removal and replacement of Emerald Ash Borer infested trees in the City.
- The City planted 275 street trees. In addition, 71 trees were planted in parks and at other City facilities.
- The Urban Greening Cost Share Program continued, with funding of \$10,000. The program provided partial reimbursement for 27 trees planted on residents' lots.
- The City was designated as a "Tree City USA" community for the 23rd consecutive year.
- The City, the Greater Bowie Chamber of Commerce and the Bowie Lions Club sponsored the fifth Bowie Green Expo on April 11, 2015, at the Kenhill Center.
- The Bowie Lions Club sold an additional 56 rain barrels.
- On March 28, 2015, 72 volunteers removed 570 lbs of trash, 775 lbs of recycling and miscellaneous items like folding chairs, five 1-quart containers of used motor oil and several tires as part of the spring stream cleanup.

B. Local Economies and C. Food, Health & Wellness

- A survey about current green purchasing practices was sent to all City department directors in order to determine if improvements were needed and feasible.
- The Green Team held a Food Preservation Workshop in conjunction with staff from the University of Maryland, on November 15, 2014, at City Hall. There were 23 attendees.
- In June 2015, the Green Team and Planning Department started a Green Bowie Business Certification Program.
- The Greater Bowie Chamber of Commerce and City's Economic Development Committee presented a Green Business award to the Pink Orchid in Old Town Bowie in May 2015.

D. Energy and Climate

- A Climate Action Plan was approved by City Council in January 2015.

State of the Environment Report (2015)

- A Ford Fusion Hybrid vehicle was added to the City's fleet, bringing our total number of hybrid vehicles to seven.
- The City purchased its first electric car, a Nissan Leaf S, which is used as one of the City Hall pool cars. A two-vehicle electric charging station was also purchased.
- Two electric motorcycles were purchased for the City Police Department.
- An Energy Audit Program was approved by Council that provides for the payment of \$100 each for up to 100 homeowners to receive a comprehensive BGE Home Performance Energy Audit. A total of 100 homeowners had energy audits conducted at their homes under this program.
- As part of the Solar Road Map effort (joined in November 2013), the City supported a solar bulk purchase program/co-op with MD SUN. A total of 160 people signed up to be in the co-op. As of September 15, 46 have signed contracts to install solar panels on their homes. Additional contracts are pending for the FY 2015 co-op.
- Exterior building weatherization and joint sealing were completed at the Kenhill Center improving the energy efficiency at this building.
- LED light fixtures were installed at the Public Works Garage.
- LED street lights were installed in the Ensleigh townhome community as a pilot project. This is the City's first outreach in installing LED lighting in a residential community.
- The City applied for a grant from the Maryland Energy Administration (MEA) to convert parking lot lights at Blacksox, Church Road, Jericho, and Whitmarsh Parks; the City Gymnasium; and the Senior Center to LEDs. The City was approved for a grant of \$33,840 to install 24 LED streetlights at the Senior Center.
- Photovoltaic systems (PV) were added to the Streets and Utilities Building and the Wastewater Treatment Plant with a capacity of 31.72 kW. This adds to the 58.55 kW the City already has in PV system capacity, bringing the City's total capacity to 90.27 kW.
- Solar panels were installed by residents on 271 homes, bringing the total to 510 homes since FY 2011.
- The City Council approved entering into an agreement with Solar City Incorporated to construct a solar array on the City-owned Entzian property that will generate 7,830,200 kWh of electricity on an annual basis. This project alone will provide 60.8% of the City's total electricity consumption from a sustainable resource. It is anticipated that this program will save the City approximately \$373,000 annually in electricity consumption and distribution costs.
- The City once again joined the Prince George's County Municipal Collaboration to apply for grant funding from MEA Empower Clean Energy Communities and the Department of Housing and Community Development's Community Legacy grant.

After all the results were in from the FY 2014 program, 25 low to moderate income homeowners in the City received energy audits, and 18 of these also received a range of energy efficient home improvements.

- The Senior Citizen Green Housing Rehab Program continued to provide home energy audits and energy efficiency updates to income-restricted senior homeowners. The program is managed by the Office of Grant Development and Administration. The program provided energy audits and/or home rehabilitation projects totaling over \$140,000.
- The City issued 58 rebates for lawn mowers, including two push-reel mowers, three electric mowers and 53 gas mulching mowers.
- The Planning Department started loaning out an energy use monitor so residents can identify any appliances or electronic devices that use excessive amounts of energy. It has been loaned out nine times.
- The City again participated in the PJM Demand Response Program by agreeing to switch to generators at seven City facilities to curtail energy consumption on high demand days. The City anticipates receiving approximately \$53,000 as a result of this participation. We plan to continue our participation in FY 2016.
- The City's internal workgroup, comprised of staff from departments across the City to implement the recommendations from the Energy Efficiency and Conservation Strategy, continued to meet regularly as the "Municipal Green Team."
- The City's Sustainability Planner became a LEED® Green Associate by completing an exam given by the U.S. Green Building Council.

E. Green Schools and F. Other Outreach

- Funding for the creation of a Sustainability Plan in FY 2016 was approved by City Council.
- The Green Team hosted a Green Forum for Bowie Principals on September 26, 2014, at City Hall, and there were 18 different schools represented at the event with a total of 44 attendees.
- The Bowie Green Team sponsored an informational display at Bowiefest to promote environmental awareness.
- The City's Sustainability Planner continued posting sustainability achievements and successes on the City's Facebook page, significantly increasing the number of interactions with the City website. A weekly Green Bowie Facebook photo concluded in December 2014 with 51 posted photos, 21 shares, 53 comments, and 760 Likes.

- The City’s Watershed Manager presented the EnviroScope watershed model to Bowie Montessori and Whitehall Elementary classes. Also, two classes of environmental science students at Tall Oaks Vocational School received a presentation about Green Bowie programs and volunteer opportunities from the City’s Watershed Manager and Sustainability Planner.
- The City’s Watershed Manager worked with Bowie Montessori students, the Bowie Lions, the Bowie-Crofton Garden Club and several individual volunteers to install more storm drain markers. As of the end of FY 2015, 890 storm drains were marked with “No Dumping, Drains to Waterway” medallions, which represents nearly all Levitt sections.
- The Green Team organized an Earth Day Concert and Art Exhibit held at the Bowie Center for Performing Arts on April 18, 2015. There were about 250 attendees, four musical groups, and three schools submitted recycled art pieces for display.
- The quarterly e-newsletter with information on current Green Bowie activities increased from 263 to 424 subscribers.
- Three rain barrels donated to the City were given to schools that expressed interest in receiving one at the Principals Forum. One rain barrel went to each of the following elementary schools: Whitehall, Northview, and Rockledge.
- On December 6, 2014, Public Works accepted 2.5 tons of electronics from Bowie residents for recycling as part of the County’s e-recycling event.
- Council passed resolutions declaring April 2015 as Earth Month in Bowie and May 2015 as National Bike Month. The City hosted two local pit stops for the regional Bike to Work Day on May 15, 2015, with 40 participants stopping by.
- The City held its annual Arbor Day celebration in April 2015 at Acorn Hill Park, which was marked by a tree planting in honor of the day.
- On June 20, 2015, Public Works held a paper shredding and Styrofoam recycling event where 5.34 tons of paper and 570 pounds of Styrofoam were collected.
- Green industry standard improvements were evaluated and implemented at special events by the Community Services Department that resulted in the elimination of Styrofoam food and beverage containers, fewer paper handouts, and an increased number of recycling containers.

III. Progress on Sustainability Objectives

This section provides a narrative update on each of the Bowie Green Team Action Plan categories, including: Natural Resources; Local Economies; Food, Health and Wellness; Energy; Green Schools; and Other Outreach. It also provides a narrative about progress on the City’s Climate Action Plan. Additional details can be found in the Appendices.

Appendix A contains a summary table outlining Bowie Green Team Actions for the current year. Appendix B provides Sustainability Performance Indicators tracked by the Planning Department. Appendix C highlights City documented measures found in the adopted FY 2016 City budget. Lastly, Appendix D details the progress of community actions included in the Climate Action Plan.

A. Natural Resources

The Natural Resources Actions completed in FY 2015 included assisting with the promotion of National Wildlife Federation Wildlife (NWF) Habitat certifications and educating residents about using natural resources sustainably. One City-owned property was NWF certified, and a volunteer workday was held to maintain the Monarch Waystation at the Bowie Town Center Pond behind City Hall. The Weed Warrior Program continued to make steady progress with 83 participants meeting on seven work days to remove English ivy from over 120 trees at Whitemarsh Park. Also, a Habitat 101 workshop and a Use Water Wisely workshop were held at City Hall.

B. Local Economies

The Local Economies Actions in FY 2015 included continued sponsorship of the annual Bowie Green Expo at the Kenhill Center and the development of a Green Bowie Business Certification Program. The Expo included 32 vendors, seven sponsors, and approximately 250-300 attendees. Children's activities were again provided. In June 2015, program guidelines were created for a Green Bowie Business Certification Program and program information was added to the City website. In addition, a Green Business award was presented to The Pink Orchid at the annual Greater Bowie Chamber of Commerce/Economic Development Committee breakfast with help of the Green Team.

C. Food, Health and Wellness

The Food, Health and Wellness Actions completed in FY 2015 included promotion of healthy eating, exercise, and the Bowie-Crofton Garden Club's local plant sales. A Food Preservation Workshop was held at City Hall, and information sheets about local Community Supported Agriculture pick-up sites and other Farmers' Market locations were created to distribute to residents and post on the website. Also, there was promotion of the Bowie-Crofton Garden Club's fall and spring plant sales using City media sources. Walk on Wednesdays kicked off in June 2015. These walking events were well-attended and were held at various public trails on Wednesday evenings.

D. Energy and Climate

The Energy and Climate Actions completed in FY 2015 included revising and presenting a final draft of the Climate Action Plan to City Council and holding a public hearing with assistance from the Planning Department. City Council adopted the final Climate Action Plan on January 5, 2015.

E. Green Schools

A Green Schools Subgroup was created at the November 2014 Green Team Executive Committee meeting. The Green Schools Actions completed in FY 2015 included hosting a Green Forum for Bowie School Principals and following up with schools after the forum. Green Team members followed up with those who attended and visited schools to provide guidance for greening schools as well as providing environmental education with the schools' existing resources.

F. Other Outreach

An Outreach Subgroup was formed at the June/July 2014 Green Team Executive Committee meeting. The Outreach Actions completed in FY 2015 included promoting the Green Bowie e-newsletter, representing the Green Team at local events, and hosting an Earth Day Concert and Art Exhibit at the Bowie Center for Performing Arts. The Green Team was represented at a MOM's Organic Market event, Bowie Green Expo, Bowie-Crofton Garden Club Spring Plant Sale, Bowiefest, and a Science Day at Whitehall Elementary. A Green Bowie e-newsletter signup sheet was present at many of those events, and the e-newsletter list has increased to 424 subscribers. Also, the first Earth Day Concert and Art Exhibit event was held in April 2015. There were about 250 attendees and four musical groups; three schools submitted recycled art pieces for display.

G. Climate Action Plan Progress

The Climate Action Plan contains 48 actions to complete by 2020. By the end of the fiscal year, 15 of these had been implemented. Using available data from the end of 2014 entered into ICLEI's Clean Air and Climate Protection and ClearPath Programs, it is estimated that the City has achieved about a 1.6% overall total greenhouse gas emissions reduction using a 2007 baseline. Residential energy emissions have decreased by about 2%. Commercial energy emissions have increased by 2.7%. Transportation emissions have decreased by about 2.5%. Waste emissions have decreased by 1.2%.¹

IV. Findings

- Substantial progress was recorded in all categories of the Green Team Action Plan, which has a continuing emphasis on public outreach and education.
- The City's Stream Team cleanups continue, however, the number of participants has decreased substantially over the past year. This is partially due to having only one event rather than two but also due to a desire to spend weekends at home or handling family commitments, according to a Planning Department survey.
- There have been no City afforestation projects since the SHA-funded Intercounty Connector mitigation work in FY 2012.

¹ Each sector contributes a different proportion of greenhouse gases to the total.

- The number of NWF Certified Wildlife Habitats has increased to 183 properties.
- The number of animals-running-at-large calls is decreasing, from 444 calls in Calendar Year 2011 to 281 calls in Calendar Year 2014, while the number of wildlife complaints has decreased to about 200 calls annually.
- The City's vehicle fleet increased to an all-time high of 216 vehicles, including 71 police department vehicles in FY 2015. The total number of vehicle miles driven increased about 2.4% between FY 2013 and FY 2014 and again by the same amount between FY 2014 and FY 2015. The total amount of gasoline purchased rose by over 14% between FY 2013 and FY 2014, but decreased by 7% between FY 2014 and FY 2015. The total amount of diesel fuel purchased decreased by almost 6% between FY 2014 and FY 2015.
- The percent of solid waste recycling was up to 36% this year up from the low-30s in the previous four years.
- The tonnage of material landfilled as a proportion of the City's households decreased from about 0.92 tons per household in FY 2013 and FY 2014 to 0.87 tons per household in FY 2015.
- The number of tons of white metal collected was 79.77 tons in keeping with the average.
- The Public Works Department sweeps well over 1,900 curb miles of street annually. The level of street sweeping has continued to increase each year.
- Miles of street resurfaced decreased by less than one mile between FY 2014 (14.6 miles) and FY 2015 (13.9 miles), reflecting a 5% reduction.
- The number of acres of grass maintained remained constant at 232 acres.
- The number of street trees planted in FY 2015 (275) is 6% higher than that of FY 2014.
- The City maintains 396 miles of storm sewers, 112 acres of basins, outfalls and drainage areas, including 77 ponds and basins and 40 outfalls/drainage areas. About five acres and one basin were added last fiscal year. The City cleaned over 5,000 linear feet of open channels, the same amount as in past years.
- The number of City water system accounts includes 7,700 residential customers and 226 commercial customers. One new commercial customer was added in FY 2015.
- The City's Annual Drinking Water Report for calendar year 2014 indicated no water quality concerns, but the report acknowledged that the City's water system is susceptible to build-up of naturally-occurring iron. The City has installed treatment to remove iron from the raw water. The number of water quality complaints has increased substantially (almost 100%) between FY 2014 and FY 2015 to 95 complaints.
- The percentage of wastewater collection system cleaned peaked at 54.1% in FY 2009. The percentage was recorded at 47% in FY 2015.
- The amount of wastewater treatment sludge produced in FY 2015 (2,500 tons) is 3.8% less than the 2,600 tons produced in FY 2014, while the volume of wastewater treated decreased slightly from 700 million gallons in FY 2014 to 690 million gallons in FY 2015.

V. Conclusion

Assessment of the City's overall progress and the Green Team's 3-Year Action Plan through the annual State of the Environment Report helps the City monitor the conditions of the City's environment and its progress in reaching out to and educating residents about environmental issues. At the end of FY 2015, major progress had been recorded in the implementation of the Bowie Green Team Action Plan. The City's environmental programs and facilities remain in full compliance with all applicable laws and regulations. The state of the City's environment and the City's sustainability outlook remain very good. The information contained in this report demonstrates progress in a variety of environmental initiatives. Continued progress will require ongoing work with the Green Team, implementation of the Climate Action Plan, assessment of the City's watersheds, and examining opportunities to provide stormwater management.

Appendix A: Green Team Actions

Action	Completed	Results
<i>A. Natural Resources</i>		
Educate Residents about NWF Wildlife Habitat Certification	July 2014 to June 2015	Habitat 101 Workshop held at City Hall in July with 25 attendees, which also kicked off a \$20 certification reimbursement program that had 41 participants; Bowie Gymnasium was Wildlife Habitat certified by National Wildlife Federation
Continue Weed Warrior Program	Fall 2014 & Spring 2015	Seven work days held with 83 participants providing over 250 volunteer hours; Over 120 trees cleared of English ivy in Whitmarsh Park
Conduct Water Conversation Outreach	March & April 2015	Use Water Wisely Workshop held with 15 attendees; Promoted My Water Pledge Campaign with a total of 18 participants
Maintain Monarch Waystation	May 2015	Five volunteers assisted with replanting the Monarch Waystation by City Hall
<i>B. Local Economies</i>		
Support and Grow Green Expo	April 2015	32 exhibitors, 7 sponsors, and approximately 250-300 attendees; Kid's Corner with activities and children's poster contest
Start Green Bowie Business Recognition Program	June 2015	Green Bowie Business Certification Program started in June 2015; Information provided now on City's website
<i>C. Food, Health & Wellness</i>		
Promote Spring & Fall Plant Sales	Fall 2014 & Spring 2015	Assisted Bowie-Crofton Garden Club with publicizing Bowie spring & fall plant sales
Host a Food Preservation Workshop	November 2014	University of Maryland Extension staff presented at a food preservation class with 23 attendees
Research Farmers' Market Expansion	Spring 2015	No feasible locations to add another farmers' market; List of local Farmers' Markets in the area was posted to the City's website
Establish a CSA Drop-off Location	Spring 2015	Several existing CSA drop-off locations are in or near Bowie; a list is now on the City's website
Start Walk Wednesdays Events	June 2015	4 Walk Wednesday events were held in June 2015 with about 45 total attendees
<i>D. Energy and Climate</i>		
Revise and Present Climate Action Plan for Adoption	January 2015	A final draft of the Climate Action Plan was completed; Public hearing was held; Plan was adopted by City Council
<i>E. Green Schools</i>		
Participate in MD Green Schools	September 2014	Green Forum for Bowie Principals was held at City Hall with 18 different schools represented and 44 total attendees
Create Green Schools Subgroup	November 2014	Green Schools subgroup was formed with approval from Green Team
<i>F. Other Outreach</i>		
Create Outreach Subgroup	July 2014	An Outreach subgroup was formed with approval from Green Team
Promote Green Bowie E-mail Newsletter	July 2014 to June 2015	Four e-newsletters sent; 424 total subscribers
Represent Green Team at Additional Local Events	July 2014 to June 2015	Staffed booths at MOM's event, Bowie Green Expo, Bowie-Crofton Garden Club Spring Plant Sale, and Bowiefest; Green Team members volunteered to judge Science Day at Whitehall Elementary; 70 T-Shirts ordered with Green Bowie Logo
Bowie Earth Day Event	April 2015	About 250 people attended; 4 musical groups performed; Green Expo Posters displayed; Three schools displayed recycled art pieces.

Appendix B: Additional Performance Indicators

Indicator	FY11	FY12	FY13	FY14	FY15
Number of lawnmower rebates issued	216	150	152	89	58
Pounds of trash removed from streams	2,675	2,175	1,410	590	570
Pounds of recyclables removed from streams	2,300	1,925	1,900	1,010	775
Number of stream team participants ⁺	412	307	169	75	72
Number of rain barrels registered*	143	185	196	210	267
Number of LEED certified buildings located in City (2008-2010: 1 gold, 4 silver, 1 certified)	1 (silver)	2 (gold)	1 (gold)	1 (silver)	0
Number of energy audit rebates issued by City*	n/a	n/a	n/a	49	149
Number of trees planted under City rebate program*	n/a	n/a	n/a	50	77
Number of street trees planted	149	104	165	222	275
Number of park trees planted	11	17	60	28	71
Number of acres afforested	0	42.5	0	0	0
Square feet of turf converted to native landscaping*	13,500	16,000	19,500	24,500	28,000
Number of certified NWF habitats*	91	102	132	135	183
Number of residential homes with solar panels*	6	21	68	239	510
Number of MAEOE Certified Green Schools	0	1	1	0	3
Number of storm drains marked “No Dumping” (2009 – 19, 2010 - 133)	179	114	59	175	211
⁺ In FY14 and FY15, only one stream cleanup was held. *Each year’s number presented for these indicators is the cumulative total. **Starting in 2015, the number of rain barrels will not necessarily represent the number registered in the City because addresses of Lions Club purchases are no longer available, though many are likely in the City.					

Appendix C: City Documented Measures

These tables were taken from the City’s Approved Budget for Fiscal Year 2016.

Animal Control

The Animal Control division of the Department of Community Services is responsible for wildlife complaints and general animal control in the City. This includes capturing any reported wild animals and pets that are either ‘running-at-large’ or are not leashed in public. Note: these numbers are reported on a Calendar Year (CY) basis.

	CY11	CY12	CY13	CY14	CY15	CY16
Number of running-at-large calls	444	404	352	281	300	300
Number of wildlife complaints	306	247	211	196	200	210

Equipment Maintenance/Garage

Maintaining and repairing all City vehicles and equipment is the responsibility of the Equipment Maintenance and Garage division of the Department of Public Works.

	FY11	FY12	FY13	FY14	FY15	FY16
Number of vehicles in service	199	201	206	210	216	218
Total number of vehicle miles driven	1,613,500	1,662,000	1,659,600	1,700,000	1,740,000	1,740,000
Number of Police vehicles	56	59	64	65	71	73
Gallons of gasoline purchased for all vehicles	122,019	109,530	104,628	119,793	111,498	118,498
Gallons of diesel purchased for all vehicles	88,547	89,333	86,900	97,783	92,299	92,799

Solid Waste

The Solid Waste division of the Department of Public Works is responsible for the collection and disposal of the City's solid waste. This includes bulk trash pickup, glass, cans, newspaper, magazines, junk mail and yard waste pickup for recycling, twice weekly household refuse pickup, weekly pickup of special metals and tires, and processing of plastics.

	FY11	FY12	FY13	FY14	FY15*	FY16
Number of households served	20,745	21,086	21,100	21,164	21,500	21,550
Total number of tons collected	29,627	29,409	30,120	28,876	26,088	28,500
Number of tons land filled	20,559	19,966	19,350	19,267	16,792	19,000
Number of tons recycled	9,068	9,443	10,770	9,609	9,296	9,500
Single stream tons recycled	3,866	4,434	4,799	5,062	5,018	5,500
Percent of solid waste stream recycled	31%	32%	32%	33%	36%	33%
Sales Revenues from Recyclables	\$41,211	\$70,166	\$28,799	\$27,324	\$29,200	\$29,500
Number of tons of white metal collected	114	91	58	80	80	85

*FY15 has actual values for solid waste landfilled and recycled rather than the projected values from the budget

Streets

The responsibilities of the Streets division of the Department of Public Works include all street and sidewalk maintenance as well as street and traffic signs, posts, snow removal and ice control on approximately 187 miles of City streets.

	FY11	FY12	FY13	FY14	FY 15	FY 16
Miles of street maintained	186.7	187.5	190.5	190.9	190.9	191.2
Square Yards of Streets Resurfaced	157,262	194,485	173,968	248,704	220,835	175,000
Miles of street resurfaced	9.1	12.88	11.50	14.6	13.9	12
Curb-miles of street swept	1,867	1,875	1,905	1,909	1,909	1,912
Miles of sidewalks maintained	128.2	129.8	129.8	139.3	139.3	139.8
Number of street lights maintained	5,636	5,651	5,729	5,840	5,870	5,900

Public Buildings and Grounds

The Public Buildings and Grounds division of the Department of Community Services is responsible for the maintenance at all City owned buildings and facilities.

	FY11	FY12	FY13	FY14	FY15	FY16
Square feet of buildings cleaned//maintained	190,732	190,732	190,732	190,732	190,732	151,354

Parks and Grounds

The Parks and Grounds division of the Department of Community Services maintains all City ball fields, parks, bike trails, fences, play areas, play equipment and flower beds as well as all trees, shrubs, and lawns on City property and the fencing along Route 197.

	FY11	FY12	FY13	FY14	FY15	FY16
Number of acres of grass maintained	202	232	232	232	232	232
Average number of times mowed per year	32	38	36	36	37	36
Acres of R.O.W. and Parkland maintained	72	102	102	102	102	102
Acres of athletic field turf maintained	130	130	130	130	130	130
Number of fields maintained	65	65	65	65	65	65
Number of fields irrigated	26	26	26	26	27	27
Number of fields lighted	21	21	21	21	21	21
Miles of trail maintained	24	24	24	24	24	24
Number of trees in right of way inventoried	17,500	17,500	17,500	17,500	17,850	17,850
Number of trees maintained (pruned)	2,500	4,506	3,795	3,195	3,500	3,500
Number of trees planted in right of way	200	111	212	259	275	300
Number of annuals/color planted	5,000	8,000	9,126	9,109	9,265	9,200

Stormwater Management

The Stormwater Management division of the Department of Community Services currently provides stormwater facility management to the City's stormwater system.

	FY11	FY12	FY13	FY14	FY15	FY16
Miles of Storm Sewers	396	396	396	396	396	396
Total acres of basins, outfalls and drainage areas maintained	101	104	107	107	112	112
Number of SWM ponds and basins maintained	71	73	76	76	77	77
Number of SWM outfalls and drainage areas maintained	40	40	40	40	40	40
Open channels cleaned (in linear feet)	5,805	5,000	5,000	5,000	5,000	5,000

Water

The Water division of the Public Works Department is responsible for the production and purification of the water supply for the City which meets or exceeds all State and Federal health standards. The water is fluoridated for health purposes and the iron is removed by a filtration-flocculation aeration-sedimentation process. The cost of maintaining the water distribution system is included in this division.

	FY11	FY12	FY13	FY14	FY15	FY16
Miles of pipeline	90	90	90	90	90	90
Millions of gallons treated/delivered	746	586	572	589	595	600
Number of water/sewer customers-residential	7,700	7,700	7,700	7,700	7,700	7,700
Number of water/sewer customers-commercial	222	224	225	225	226	226
Customer complaints about water quality	8	29	12	48	95	100

Wastewater

The Wastewater division of the Public Works Department is responsible for the collection and treatment of raw sewage. After treatment, the water is returned to the Patuxent River in full compliance with State and EPA permit standards. The cost of maintaining the sewer collection system is included in this division.

	FY11	FY12	FY13	FY14	FY15	FY16
Miles of collection mains in the system	85	85	85	85	85	85
Miles of collection system cleaned	30	20	30	41	40	44
Million gallons of wastewater treated	700	715	680	700	690	680
Tons of sludge produced	2,800	2,700	2,400	2,600	2,500	2,400

Appendix D: Climate Action Plan Progress

Estimated GHG emissions reduction at end of 2014 using available data entered into ICLEI's CACP and ClearPath Programs = **about 1.6% total reduction compared to 2007 levels**

Residential Energy Emissions ↓ by 2% **Transportation Emissions** ↓ by 2.5%
Commercial Energy Emissions ↑ by 2.7% **Waste Emissions** ↓ by 1.2%

State of Maryland Climate Action Progress

- 8.2% of In-State Energy Generated from Renewable Sources, Target is 20% by 2022
- 8% Decrease in Maryland's Annual Greenhouse Gas Emissions since 2006, Target is 25% by 2020

48 Actions in City's Plan to Complete by 2020

Short-Term Action Progress

15 Short-Term Actions

- All have been implemented
- 14 of 15 Actions are at least 70% complete

Mid-Term Action Progress

20 Mid-Term Actions

- 6 are currently in progress
- 6 are planned for FY 2016
- 8 are planned for FY 2017

Long-Term Action Progress

13 Long-Term Actions

- 2 currently in progress
- 9 planned for FY 2018
- 2 planned for FY 2019

SECTOR: Energy	Action	Time-Frame	Status
	<i>Goal A. Promote and expand new and existing residential energy efficiency and conservation programs</i>		
	1. Enhance outreach efforts and increase participation in existing low-income energy audit and weatherization assistance programs.	Short-Term	- Implemented - Goal 230 energy audits and weatherization projects - 168 audits/weatherization completed for seniors through the City’s Residential Energy Efficiency Program, updated for FY 2015 info. - 24 audits/weatherization projects completed with MEA Municipal Collaboration updated with FY14 info. About 83% Complete (192 out of 230 audits)
	2. Provide financial incentives for City residents that complete energy audits on their homes.	Short-Term	-Implemented -Goal 1,000 households to complete BGE energy audits -149 BGE energy audits completed through incentive program - About 825 BGE QHECS and HPWES audits completed in Bowie since 2009 (used Bowie area percentage and zip code only data) 974/1000 = about 97% Complete
	3. Promote residential energy audits at green team events and on City website.	Short-Term	- Implemented - Residential energy audit webpage created - Residential energy audits promoted at 3 City events in FY 2014 - Residential energy audits promoted at 4 City events in FY 2015 and will continue to promote at future City events along with Bowie’s Energy Audit Program Mostly Complete
	4. Develop common energy efficiency improvement recommendations for Levitt house designs. Distribute information to Levitt community homeowners.	Mid-Term	- Collect information about Levitt house designs as part of the FY 2016 BGE energy audit incentive program, add question to application - Goal is to have 770 homes make improvements - Send out mailing in FY 2017 and track responses to mailing To Be Implemented – FY 2017
	5. Work with homeowner and condo association management companies that have properties in Bowie to educate residents about energy efficiency.	Mid-Term	- Set up meetings in FY 2016 and track number of households reached - Goal to educate 1,034 households To Be Implemented – FY 2016
	6. Promote energy efficiency programs available for rental and multi-family residence buildings.	Mid-Term	-Set up meetings in FY16 and track number of households reached - About 420 units completed as part of BGE multi-family program (used area percentage and zip code data) To Be Implemented – FY 2016
7. Provide information to potential homebuyers regarding the County’s program for an Energy Efficiency Mortgage and regarding utility bill disclosure ordinance.	Mid-Term	- Add Energy Efficiency Improvement Info to City Welcome Packets - Set up meeting with local real estate agencies and track number of meetings. To Be Implemented – FY 2016	

SECTOR: Energy (cont)	Action	Time-frame	Status
	8. Work with energy providers and the County and State to maximize use of existing financial incentives and other resources that assist residents in promoting energy efficiency.	Mid-Term	<ul style="list-style-type: none"> - Set up meetings with State/County and track number of meetings - Publicize State/County Programs To Be Implemented – FY 2017
	<i>Goal B. Promote and expand new and existing commercial energy efficiency and conservation programs</i>		
	1. Establish a Green Bowie Business Recognition Program that promotes energy and GHG reduction efforts of local businesses.	Mid-Term	<ul style="list-style-type: none"> - Implemented in June 2015 - Goal is to certify 65 businesses - Zero businesses certified yet In Progress
	2. Promote the State of Maryland’s Green Registry for businesses.	Mid-Term	<ul style="list-style-type: none"> - 2 Bowie Businesses on Maryland Green Registry as of April 2015 - Link to Green Registry Program on City website - To be implemented heavily with roll out of Green Bowie Business Certification In Progress
	3. Work with energy providers and the County and State to maximize use of existing financial incentives and other resources that assist businesses in improving energy efficiency.	Mid-Term	To Be Implemented – FY 2017
	4. Benchmark and disclose energy performance and improvements of commercial buildings.	Long-Term	<ul style="list-style-type: none"> -Track number of businesses using Portfolio Manager To Be Implemented – FY 2018
	<i>Goal C. Increase green building projects for new and existing buildings</i>		
	1. Establish a City policy regarding green building standards for commercial and residential buildings.	Long-Term	<ul style="list-style-type: none"> - Policy to affect 1,870,812 sq. ft. of building space To Be Implemented – FY 2018
	2. Track and showcase green building projects throughout the community.	Mid-Term	<ul style="list-style-type: none"> - City green buildings highlighted on City website - Need to start tracking other green buildings – schools, businesses, organizations as well - Plan Green Building Tour To Be Implemented – FY 2016
<i>Goal D. Increase installation of renewable energy projects</i>			
1. Track and showcase innovative renewable energy projects throughout the community (city, schools, businesses, individuals).	Short-Term	<ul style="list-style-type: none"> - Implemented All renewable energy projects are tracked and showcased on the City’s website - MWCOG solar presentation on November 20, 2015 - January and March Solar Co-op information sessions attended by Bowie residents who already installed solar on their home -<u>Look into having Bowie homes on DC Metro Solar Tour in October</u> Mostly Complete	

SECTOR: Energy (cont)	Action	Time-frame	Status
	2. Increase number of residential and commercial solar systems installed by promoting solar technology.	Short-Term	<ul style="list-style-type: none"> - Implemented - Heavily promoted solar co-op from Jan. April 2015 - Worked with resident on solar opinion piece in March/April 2015 - Solar Co-op Completed - As of June 2015, there are 510 residential solar systems that are on average 8 kW in capacity, and one business (Target) with a 513 kW system. - Goal is 24,758 kW of capacity - Solar installations have been increasing by over 50% every year since 2010 - County property incentive funds spent into 2017 <p>About 19% Complete (4,593 of 24,758 kW goal)</p>
	3. Complete Solar Roadmap goals.	Short-Term	<ul style="list-style-type: none"> - Implemented - Remaining goal to encourage financial stakeholders to provide solar loan programs <p>About 89% Complete (8 of 9 goals met)</p>
	Goal E. Decrease use of natural gas lawn mowers		
1. Incentivize purchasing of electric and push reel lawn mowers.	Short-Term	<ul style="list-style-type: none"> - Implemented - Publicized on City website, Facebook page, and Green Bowie e-newsletter - As of July 2015, there were 8 push reel mower rebates issued and 10 electric mower rebates issued <p>Mostly Complete</p>	

Tables continue on next page.

SECTOR: Transportation	Action	Time-Frame	Status
	<i>Goal F. Reduce single occupant vehicle trips</i>		
	1. Work with major employers in the City to promote multiple-occupant commuting. Encourage car-sharing, Dial-a-Ride, RideSmart, RideFinders, preferred parking for carpooling employees.	Mid-Term	- Track number of businesses and employees that participate in multiple occupant commuting - Publicize available programs - Goal is 349 people carpooling/vanpooling To Be Implemented – FY 2017
	2. Investigate opportunities for additional commuter parking lots and more effective use of the existing park and ride lot on Northview Drive.	Long-Term	- Investigate/install additional commuter parking lots - Get data of usage for Northview Park and Ride To Be Implemented - FY 2019
	3. Consider expanding shuttle services for senior and disabled residents.	Long-Term	- Get ridership data from Community Services - Goal is 174 daily ridership increase from 2007 To Be Implemented - FY 2018
	<i>Goal G. Reduce vehicle miles of travel</i>		
	1. Work with WMATA and Prince George’s County to evaluate route restructuring for City areas, and expand new service, including the Bus, to employment areas and other generators efforts of local businesses.	Long-Term	- Get ridership date updated data from WMATA - Goal is 523 additional daily riders from 2007 To Be Implemented - FY 2018
	2. Promote walking and biking through events such as Bike to Work Day and Car Free Day.	Short-Term	- Both promoted through City resolutions and City media sources using flyers, Facebook, Twitter, Website, local newspapers, and cable ads Mostly Complete (need additional data)
	3. Apply the City’s Development Review Guidelines and Policies in land use and planning and urban design, in order to create bike and pedestrian friendly communities.	Short-Term	- Implemented - Guidelines are being used Mostly Complete (need additional data)
	4. Increase bicycle and pedestrian mode share through bike-sharing systems, bicycle racks, bicycle lanes, pedestrian trails, reprogrammed traffic signals, and improved pedestrian access to bus stops, rail stations.	Long-Term	- Goal is 3,489 additional weekly bike trips from 2007 To Be Implemented – FY 2018
5. Continue to inventory pedestrian and bicycle facilities and identify pedestrian safety projects, (e.g. Safe Routes to School), sidewalk linkages and hiker-biker trail improvements to encourage walking and bicycling.	Short-Term	- City staff currently completes these inventories Mostly Complete	
6. Encourage Transit Oriented Development at Melford and Bowie Regional Center.	Long-Term	- Currently working with Melford developers - About 2,623 Melford/Regional Center units being created In Progress	

SECTOR: Transportation (cont)	Action	Time-Frame	Status
	7. Work with WMATA to expand transit service along the MD 450 Corridor and to Old Town Bowie as identified by the Bowie and Vicinity Master Plan.	Long-Term	To Be Implemented - FY 2018
	8. Work with the State, County, and M-NCPPC to implement roadway infrastructure priorities identified by the Bowie and Vicinity Master Plan.	Long-Term	To Be Implemented - FY 2018
	<i>H. Increase electric vehicle use and the efficiency of existing transportation</i>		
	1. Partner with MWCOG and other stakeholders to develop and increase electric vehicle and other alternative fuel vehicle infrastructure.	Short-Term	- Implemented - State incentives available for purchasing electric vehicle stations and charging stations - State electric vehicle incentives highlighted at Nissan of Bowie Booth at Bowie Green Expo - Goal to have 5 electric charging stations in the City of Bowie - 4 electric charging stations installed within City limits as of April 2015 – Bowie Town Center, Semacconnect, City Hall, Nissan of Bowie About 80% Complete (4 out of 5 installed)
	2. Promote the locations of alternative fuel charging stations.	Short-Term	- City website has link to EPA map of electric charging stations in the U.S. - Bowie Town Center and City Hall electric charging stations promoted on City Facebook page - 2 marketing strategies utilized to promote charging station locations Mostly Complete
	3. Explore the possibility of a Zipcar drop off point at the Northview Park and Ride.	Long-Term	-Goal to have 1,117 participants To Be Implemented - FY 2018
	4. Educate the public about eco-driving techniques.	Mid-Term	To Be Implemented - FY 2016
	5. Explore the potential for reserving hybrid vehicle parking spaces at shopping centers.	Mid-Term	-Reserved hybrid spots currently at City Hall To Be Implemented - FY 2017
6. Investigate and apply Transportation Systems Management.	Long-Term	To Be Implemented –FY 2019	

SECTOR: Waste	Action	Time-Frame	Status
	Goal I. Increase recycling rate, reduce the generation of waste, and promote reuse of materials		
	1. Provide additional opportunities for residents and businesses to recycle cardboard, glass, paper, and plastic products in the community, such as once-a-month paper shredding and Styrofoam collection events at revolving locations throughout the City.	Mid-Term	<ul style="list-style-type: none"> - Larger recycling bins provided to all Bowie households - One held on June 20, 2015 for Styrofoam /paper - By increasing recycling tonnage from 23% to 35% of the waste stream by 2014, it was estimated that the City would avoid an additional production of 396 metric tons of CO₂ equivalent emissions – this is included the municipal climate actions, however anything beyond 35% rate should be included in community climate reductions - Goal to divert 300 lbs per person per year <p>In Progress</p>
	2. Initiate a backyard composting program that provides rebates to residents for composting bins and rebates to homeowner or condo associations that create and use compost piles.	Mid-Term	<ul style="list-style-type: none"> - Ordered 320 backyard compost bins to sell to City residents for \$20 - Goal to divert 300 lbs per person per year <p>In Progress</p>
	3. Encourage use of reusable grocery bags.	Short-Term	<ul style="list-style-type: none"> - City webpage created with info. about reusable bags - Green Team participated in baseline study for Bowie reusable bag use in FY14 – 8% reusable bag use as of 2014 - Highlighted reusable bag use in the May 2014 Bowie Spotlight - Large signs promoting reusable bag use at FY 2014 and FY15 Green Expo events - Nearly 500 bag tags encouraging reusable bags used were passed out at various Green Bowie events - Over 100 reusable bags passed out at each FY 2014 and FY 2015 Green Expo events, over 200 passed out in total - Farmers’ Market reusable bags distributed annually - Highlights in city-wide mailing about new County Plastic Bag Recycling Law <p>Mostly Complete</p>
	4. Give educational notices to residents that are not recycling large items.	Mid-Term	To Be Implemented - FY 2017
	5. Work with the County to conduct one or more hazardous household waste collection days per year.	Mid-Term	<ul style="list-style-type: none"> - An electronics recycling event was held on Saturday, December 6, 2014, at Public Works. Over 200 vehicles arrived at Public Works and approximately 6.25 tons of electronic equipment was collected and recycled. <p>In Progress</p>
	6. Educate public on services such as electronics recycling, hazardous waste collection and disposal, batteries, old paint and other hard to dispose of or recycle items for which the county offers services.	Mid-Term	<ul style="list-style-type: none"> - A City-wide mailing that detailed new recycling laws as well as electronics recycling and hazardous waste collection went out in June 2015 <p>In Progress</p>

SECTOR: Waste (cont)	Action	Time-Frame	Status
	6. Educate public on services such as electronics recycling, hazardous waste collection and disposal, batteries, old paint and other hard to dispose of or recycle items for which the county offers services.	Mid-Term	-A City-wide mailing that detailed new recycling laws as well as electronics recycling and hazardous waste collection went out in June 2015 In Progress
	7. Explore cooperation with Prince George’s County in enforcing aspects of the Solid Waste Master Plan.	Long-Term	To Be Implemented - FY 2018
	8. Work with the Greater Bowie Chamber of Commerce to advise local businesses of County recycling requirements.	Mid-Term	To Be Implemented - FY 2016
	<i>J. Improve the carbon footprint of the waste collection system</i>		
	1. Gain support from residents for once a week trash and recycling pick up.	Long-Term	- Public Works Dept. completing study in FY 2016 In Progress
2. Install a solar power trash compactor at Jericho Park as a demonstration project and promote this technology to commercial businesses.	Mid-Term	- Solar powered self-contained compacting/recycling receptacles are proposed for City Hall and the Ice Arena in FY 2016 To Be Implemented - FY 2017	

SECTOR: Land Use	Action	Time-Frame	Status
	<i>K. Increase tree canopy</i>		
	1. Increase tree canopy by providing financial incentives to residents, HOAs, and organizations for planting trees.	Short-Term	- 77 trees planted as part of the City Tree rebate program as of June 2015 - 40 trees planted at All Saints Church in May 2014 - About 35 trees planned to be planted at Yellowstone Place in FY 2016 - No participants from Bowie yet in Tree ReLeaf as of June 2015 - 1,328 street trees planted in Bowie from FY 2008 - FY 2014 - Goal 1800 trees including street trees planted About 80% Complete (1,445 out of 1,800 trees)
	2. Encourage the replacement of trees removed from residential properties.	Mid-Term	- Work with Chesapeake Bay Trust to receive marketing grant for tree plantings/replacements in Bowie To Be Implemented - FY 2017
3. Publicize local tree planting grants available for businesses, churches, and local organizations.	Short-Term	- Provided Tree ReLeaf information to Northridge HOA in 2015 and to Princeton Square Townhouses HOA - Included information about Tree ReLeaf program in Green Bowie e-newsletter - No participants from Bowie yet in Tree ReLeaf as of June 2015 Mostly Completed	

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