Town of Plainville, Massachusetts Energy Reduction Plan

Prepared by the Southeast Regional Planning and Economic Development District (SRPEDD) with support from the Town of Plainville



In Fulfillment of the Massachusetts Green Communities Grant Program Criterion #3

October 2017

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I. Purpose and Acknowledgements

A. Letter from General Government Verifying Adoption of the Energy Reduction Plan



TOWN OF PLAINVILLE

Office of the

BOARD OF SELECTMEN

October 30, 2017

MA Department of Energy Resources Green Communities Division 100 Cambridge Street, Suite 1040 Boston, MA 02114

To Whom It May Concern:

At a public Board of Selectmen meeting held on October 30, 2017, the Board of Selectmen voted unanimously to adopt the attached Energy Reduction Plan for Criterion 3 of the Green Communities Application for Designation.

If you have any questions or need additional information, please don't hesitate to contact me.

Sincerely

Jennifer Thompson Town Administrator

B. Letter from School District Verifying Adoption/Approval of the Energy Reduction Plan



PLAINVILLE PUBLIC SCHOOLS

68 MESSENGER STREET
PLAINVILLE, MASSACHUSETTS

David P. Raiche Superintendent of Schools Telephone: (508) 699-1300 Fax: (508) 699-1302 Email: draiche@plainville.k12.ma.us

October 30, 2017

MA Department of Energy Resources Green Communities Division 100 Cambridge Street, Suite 1040 Boston, MA 02114

To Whom It May Concern:

The Town of Plainville Public School Department has adopted the attached Energy Reduction Plan for Criteria 3 of the Green Communities Application for Designation.

If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

David P. Raiche

Superintendent of Schools

Attachment

The Plainville Public Schools do not discriminate on the basis of age, sex, race, religion, national origin, color or handicap in accordance with applicable laws and regulations.

B. List of Contributors

The collaborative efforts of the offices of Plainville Town Administrator Jennifer Thompson, Plainville Energy Committee Chairperson Rachel Benson, and MA Department of Energy Resources Green Community Regional Coordinator Seth Pickering were all vital in the production this Plan.

Much of the information in this Plan was derived from energy audits performed by Energy Conservation, Inc., led by Christopher Collins. Additional technical assistance was provided by the Southeast Regional Planning and Economic Development District (SRPEDD), the author of this Plan.

II. Executive Summary

A. Narrative Summary of the Town

The Town of Plainville is located in southeastern Massachusetts in southwest Norfolk County. It is located 31 miles southwest of Boston and 14 miles north of Providence, Rhode Island. The town has an approximate area of 11.5 square miles and is bordered by Wrentham on the north; Foxborough on the east; Mansfield on the southeast; North Attleborough on the south; and Cumberland, Rhode Island on the west. According to the 2010 U.S. Census, Plainville had a population of 8,264, having experienced a 7.5% increase in population since 2000.

The Town of Plainville was first settled in the late 17th century and was originally a part of the Town of Wrentham. In 1905, Plainville separated from Wrentham and became its own community, making it the third youngest community in the Commonwealth, behind Millville (1916) and East Brookfield (1920).

Today, Plainville can be described as a desirable bedroom community for both Boston, Massachusetts and Providence, Rhode Island. Plainville experienced dramatic growth after World War II as the many farms in town were developed into housing and commercial activity spread out along the town's major roadways; Route 1, 1A, 106, 152. Plainville is accessible to the larger southeastern Massachusetts region via nearby Interstates 95 and 495. Most recently, Plainville became home of the first casino in Massachusetts – Plainridge Park Casino, located at the intersection of Route 1 and Interstate 495 in the northeast corner of town.

B. Summary of Municipal Energy Uses

- Total Number of Municipal Buildings: 9
- Total Number of Municipal Vehicles: 43
- The Number of Street Lights and Traffic Lights: 67
- Water & Sewer: Town of Plainville Water & Sewer Department

Table 1: Municipal Energy Use Summary

	Number	Ownership
Buildings		
Oil Heat	2	Municipality
Natural Gas Heat	7	Municipality
Propane Heat	0	
Biomass Heat	0	
Electricity	0	
Other Type Heat	0	
Vehicles		
Non-Exempt	1	
Exempt	42	Municipality
Street Lights	59	Municipality
Traffic Lights	8	Municipality
Water & Sewer		
Drinking Water Treatment Plant	2	Municipality
Wastewater Treatment Plant	0	

C. Summary of Energy Use Baseline and Plans for Reductions

Show Department or Facility Category in "Use by..." Chart Baseline Dashboard Use by Facility Category Street/Traffic Lights Null Building Open Space Overall Use (with % Difference from Baseline Vehicle Water/Sewer Facility Category 16K Year Multiple values 194% Ose (MMBTU) 10K A Facility Category of Null or blank indicates buildings that have not yet been assigned a category. 10K 12K % Difference in Use (MMBTU) from first period Use (MMBTU) 8K 2014 2015 2016 -50% **Heating Degree Days** 6.692 Show Heating or Cooling Degree Days Heating 6K 5.335 4 774 Degree Days 4K Heating or Cooling Degree Days for your local weather station are shown for your information, usage data has not been normalized. See the FAQ for more info: 4K 2K 2K http://massenergyin-sight.net/faq#degree days FY 2015 FY 2012 FY 2012 FY 2013 FY 2015 FY 2014 FY 2016 FY 2012 FY 2013 FY 2015 FY 2016 FY 2013 FY 2015 FY 2016 FY 2014 FY 2016 FY 2015 FY 2016 FY 2012 FY 2013 FY 2014 FY 2016 FY 2014 FY 2014 FY 2015 Buildings marked as "Ex-clude from Basline" (list be-low) are not included in totals on this dashboard. **Drill down by Facility Category** (showing Use (MMBTU) Hover over Facility Category and Subcategory and click the plus or minus signs to expand and collapse the table. **Drill down by Department** (showing Use (MMBTU) Hover over Department, Complex, etc. and click the plus or minus signs to expand and collapse Facility Category FY 2016 Department FY 2014 FY 2016 FY 2012 FY 2013 FY 2014 FY 2015 FY 2012 FY 2013 FY 2015 22 563 801 345 388 395 1,227 1,419 Null Administration Building 4,249 4 452 4 603 14,570 12,602 Parks and Recreation 82 76 82 89 80 Open Space 58 49 50 56 52 Public Safety 657 697 618 4.266 6.432 Street/Traffic Ligh 666 695 693 878 1,452 Public Works 2,933 2,979 2,965 3,764 7,432 Vehicle 3,096 7,971 Schools 3,238 3,355 3,574 11,975 9,622

Figure 1: Municipal Energy Use Baseline Dashboard from MEI (FY2016)

Table 2: Summary of Municipal Energy Use: Baseline Year FY2016

2,158

Water/Sewe

2,283

Category	MMBTU Used in Baseline Year	% of Total MMBtu Baseline Energy Consumption	Projected Planned MMBtu Savings	Savings as % of Total MMBtu Baseline Energy Consumption
Buildings	12,602	50.4%	2,697	10.8%
Vehicles	7,971	31.9%	558	2.2%
Street/Traffic Lights	1,452	5.8%	726	2.9%
Water/Sewer/Pumping	2,106	8.4%	0	0.0%
Open Space	52	0.2%	0	0.0%
Null	801	3.2%	N/A	N/A
Total	24,984	100%	3,981	15.9%

III. Energy Use Baseline Inventory

A. Identification of the Inventory Tool Used: The Town of Plainville used the Department of Energy Resources (DOER) MassEnergyInsight (MEI) web-based energy inventory and analysis tool.

<u>B. Identification of the Baseline Year:</u> Fiscal Year (FY) 2016 will serve as the baseline year. FY2016 ran from July 1, 2015 to June 30, 2016. This will give the Town the maximum amount of time (FY2017 - FY2021) to reach its 20% energy reduction goal.

<u>C. Municipal Energy Consumption for the Baseline Year (FY2016)</u>: During the FY2016 baseline year, the town used 24,984 MMBTUs of energy. Table 3 and 4 presents energy use for each municipal facility in native units and MMBTUs.

In order to reach the Green Communities goal of reducing energy consumption by 20%, Plainville will need to reduce its energy consumption by 4,997 MMBTUs.

<u>Buildings:</u> Plainville's 9 buildings use 12,602 MMBTUs, around 50.4% of Plainville's total municipal energy use. The buildings with the largest energy use are the Anna Ware Jackson Elementary School (5,110 MMBTUs) and the Beatrice H. Wood School Elementary School (4,490 MMBTUs), as shown in Figure 2.

<u>Street/Traffic Lights:</u> There are 59 streetlights and 1 traffic light in Plainville. These lights consume 1,452 MMBTUs, 5.8% of the Town's energy use.

<u>Vehicles:</u> Plainville's 43 municipal vehicles use 31.9% of the baseline total, or 7,971 MMBTUs.

<u>Water/Sewer Facilities:</u> The Town of Plainville is serviced for water and wastewater by the Town's Water/Sewer Department. Water/Sewer facilities consume 2,106 MMBTUs, or 8.4% of the town's energy use.

Table 3: Municipal Energy Consumption for Baseline Year FY2016 (MMBTU)

ERP Guidance Table 3b - Municipal Energy Consumption for 2016 (MMBTU)

Please make sure that any data submitted to DOER contains complete Data!

		2016							
		Diesel	Electric	Gas	Gasoline	Oil	Total		
Null	Null			330		471	801		
	Total			330		471	801		
Building	Beatrice H Wood ES		1,857	2,633			4,490		
	Anna Ware Jackson ES		1,882	3,228			5,110		
	Fire & Police		636	919			1,555		
	Senior Center		138	143			282		
	Historical Commission		1				1		
	Town Hall		94	287		255	636		
	Old Wood School		22				22		
	Library		114	365			479		
	Park Building		28				28		
	Total		4,772	7,575		255	12,602		
Open Space	Gazebo		2				2		
	Pool		48				48		
	Ballfield		2				2		
	Total		52				52		
Street/Traffic	Lighting		979				979		
Lights	Lighting		82				82		
	Lighting		369				369		
	Lighting		22				22		
	Total		1,452				1,452		
Vehicle	Vehicles				3,094		3,094		
	Vehicles	4,877					4,877		
	Total	4,877			3,094		7,971		
Water/Sewer	Sewer		8	1			9		
	Pumps		2,082				2,082		
	Water Tank		15				15		
	Total		2,105	1			2,106		
Grand Total		4,877	8,381	7,906	3,094	727	24,985		

IV. Energy Reduction Plan

A. Narrative Summary

1. Overview of Plan Goals Years 1-3:

Anna Ware Jackson School

<u>Interior Lighting:</u> Replacement of recessed 2'x4' systems with advanced recessed volumetric adaptive systems featuring integrated sensors that enable each fixture to dim relative to the amount of daylight in the room and control each fixture based on occupancy. Also, all exterior high intensity discharge (HID) and compact fluorescent lighting are proposed to be replaced with new LED wall packs and floodlights.

<u>Boiler Replacement:</u> The existing boilers will be replaced with new high-efficiency condensing boilers with a 96% efficiency rating. These boilers have turn-down modulation controls that allows the system to run at varying speeds.

<u>VFD Installation on Heating Hot Water Pumps (HWPs):</u> Installation of the new VFDs to control the HWPs will reduce the runtime by determining first if the pumps need to run, then adjusting run speed based on supply and return differential temperature. As this delta T drops below 10 degrees, the VFDs will slow the pumps down as there is not much need for heating in the system. This will reduce both gas and electrical usage.

Beatrice H. Wood School

<u>Interior Lighting:</u> Improvements include custom Light Emitting Diode (LED) adaptive fixtures with integrated motion and daylight sensors. Also, exterior lighting at the School will be converted to LED fixtures.

<u>Boiler Replacement:</u> The existing boiler will be replaced with new high-efficiency condensing boilers with a 96% efficiency rating. These boilers have turn-down modulation controls that allows the system to run at varying speeds.

Public Safety Building (Police & Fire)

<u>Interior Lighting:</u> Improvements consist of replacement of recessed 2'x2' and 2'x4' systems with advanced recessed volumetric adaptive systems featuring integrated sensors that enable each fixture to dim relative to the amount of daylight in the room and control each fixture based on occupancy. Strip fixtures in the Equipment Bays would be retrofitted with new LED strip retrofits. The exterior HID fixtures would be replaced with new LED flood and wall pack fixtures.

<u>Unit Heater Upgrades:</u> The (4) existing unit heaters will be replaced with ultra-high efficiency Reznor Unit heaters. These unit heaters are up to 93% efficient compared to the existing systems 78% efficiency. Significant reduction in usage could be achieved when the system is right sized for the space and maximize use of high efficiency equipment.

Highway Building

<u>Interior Lighting:</u> Improvements include replacement of recessed 2'x4' systems with advanced recessed volumetric adaptive systems featuring integrated sensors that enable each fixture to

dim relative to the amount of daylight in the room and control each fixture based on occupancy. The surface strip systems are proposed to be retrofitted with LED kits, converting existing standard fluorescent strip fixtures to an LED format. The exterior HID fixtures are recommended and proposed to be replaced with new LED flood and wall pack fixtures.

Historical Commission

<u>Interior Lighting:</u> Improvements consist of replacement of surface mounted strip fixtures and track heads with new LED wraps and LED screws in lamps.

Library

<u>Interior Lighting:</u> Improvements consist of the replacement of recessed 2'x4' systems with advanced recessed volumetric adaptive systems featuring integrated sensors enabling each fixture to dim relative to the amount of daylight in the room and control each fixture based on occupancy. The retrofit of surface strip systems with kits would also be installed, converting existing standard strip fixtures to an LED format. The suspended fixtures in the circulation desk and stacks are proposed to be retrofitted with TLED lamps.

Parks Building

<u>Interior Lighting:</u> Improvements consist of the replacement of the recessed 2'x4' systems with new LED volumetric systems that include advanced adaptive systems featuring integrated sensors that enable each fixture to dim relative to the amount of daylight in the room and control each fixture based on occupancy. All exterior HID and incandescent lighting was already replaced with new LED fixtures.

2. Overview of Plan Goals Years 4-5:

Senior Center

<u>Interior Lighting:</u> Improvements consist of the replacement of the recessed 2'x4' systems with new LED volumetric systems that include advanced adaptive systems featuring integrated sensors enabling each fixture to dim relative to the amount of daylight in the room and control each fixture based on occupancy. Back of house fixtures to be retrofitted to LED linear fixtures. All exterior HID and compact fluorescent lighting was previously replaced with new LED wall packs and downlights.

Energy Management System Controls for RTU Enthalpy Control, Pump Lead/Lag, and Boiler OA Settings: Installation of new energy management system (EMS) controls for boilers and pumps will help control the operation of equipment to optimize operational energy efficiency. Boilers can be controlled for outside air (OA) lockout and temperature reset. Pumps can be sequenced and setup for proper alarming. RTU units can use multiple inputs to determine how much OA is needed in the space. This can reduce the need to condition fresh air. Unit can also be scheduled for night setback and can be monitored in case of failure or improper operation.

<u>Boiler Replacement:</u> The existing boiler will be replaced with a new high-efficiency condensing boiler with a 96% efficiency rating. The proposed boilers have turn-down modulation controls that allow the system to run at varying speeds.

Town Hall

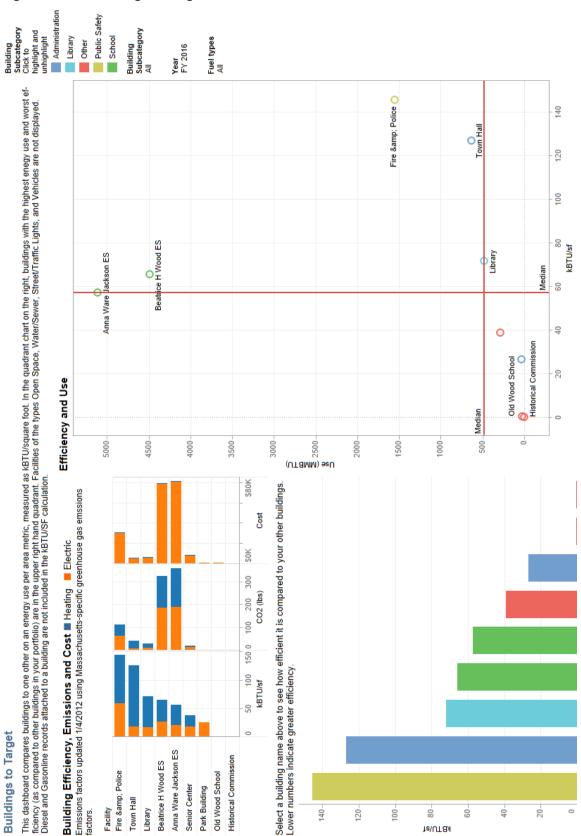
<u>Interior Lighting:</u> Improvements include replacement of recessed 2'x4' systems with advanced recessed volumetric adaptive systems featuring integrated sensors that enable each fixture to dim relative to the amount of daylight in the room and control each fixture based on occupancy. The wrap and strip fixtures would be retrofitted with LED kits, converting existing fluorescent strip and wrap fixtures to an LED format.

<u>HVAC Upgrade</u>: Town Hall has a heating system with radiation throughout the building. Parts of the first floor are also served by unit conditioners under windows. Multiple window A/C units have been installed for cooling of offices. The heating system is antiquated and past its useful life and a complete upgrade of the system is not feasible due to cost. However, installation of a variable refrigerant flow (VRF) system in the building will eliminate the need for natural gas, while providing a low cost option for individualized heating and cooling of each space.

Street Light Conversion

Retrofit all streetlights with LED technology. According to the "Baker-Polito Administration Announces New Partnerships for Municipal LED Streetlight Conversion Program" Press Release on September 25, 2017 converting to LED streetlights can use up to 60% less energy than standard streetlights. For the purposes of this Plan, Plainville used a more conservative 50% energy savings.

Figure 2: MEIs Buildings to Target Dashboard



B. Path to 20% Energy Use Reduction by the end of Fiscal Year 2021

1. Program Management Plan for Implementation, Monitoring, and Oversight

The Town Administrator's Office, in collaboration with the School Department, will be responsible both for oversight of the Energy Reduction Plan and for implementation of energy conservation measures within the Town. The Town Administrator's Office will be responsible for the annual reporting requirements to maintain designation and eligibility for annual competitive grant funding.

2. Summary of Energy Audit(s) or Other Sources for Projected Energy Savings

The attached spreadsheet details interventions that reduce overall energy consumption by nearly 20% over the next five years as identified by Energy Conservation, Inc. through audits. Replacing the town's streetlights to more efficient LEDs, it is predicted that the Town can reduce its streetlight and outdoor school lighting electricity consumption by 726 MMBTUs. This will bring the baseline energy consumption down by a further 3.0%. Implementing the fleet management strategy outlined below will reduce the town's energy consumption another 2.3%. The identified projects in Table 4 below, as well as the adoption of behavior based energy efficiency programs in buildings throughout the town (as described below) the Plan will come close to meeting the required 20% energy reduction threshold. The Energy Conservation, Inc. energy audit is included in Appendix A.

Strategy: Behavior Based Energy Efficiency Program

Institute behavior-based energy efficiency programs at schools and other areas of town operations. *Powering Down*, a study from The Center for Green Schools, looked at five public schools throughout the country and saw their electricity use decline 20% to 37% through the implementation of successful behavior-based strategies. Based on this data and using a conservative 25% energy decline when implementing these behaviors, it is expected there will be an additional 5% energy reduction in the Town from the FY2016 baseline. These strategies include items such as turning the lights off in classrooms and offices when they are empty (after work/school, lunch, recess); turning computers and printers off when not in use; turning off personal appliances when not in use; closing doors during work/class and when the room is empty; closing windows when heat or air conditioning is on; turning the lights off when the sun provides enough light; closing blinds to reduce heat from the sun on warm days and closing blinds to admit heat from the sun on cooler days; and placing no electronic equipment within five feet of the thermostat among others.

Strategy: Fleet Management

As municipalities across the Commonwealth track their energy use, government officials have been surprised to learn what a large part of total energy consumption goes toward fueling municipal vehicles; municipal fleets can sometimes account for over one-third of a community's total energy consumption, as is the case in Plainville. This information points to vehicles as important targets in the reduction of energy consumption and greenhouse gas emissions. Early projections indicate that Plainville can see energy savings beginning at approximately 2.3% of total municipal consumption by adopting the fleet management strategies below.¹

¹ The data presented in this table is informed by energy reductions in Green Communities: Framingham, Westford, and Gill as well as the government "Fuel Economy" website.

Municipal Fleet Energy Reduction Strategy	Details	Estimated Reduction in Consumption (% of Vehicle Consumption)
Closely monitor tire air pressure. When ready for replacement, choose fuel efficient tires.	Maintaining appropriate air pressure in vehicle tires can decrease that vehicles fuel consumption by as much as $4\%^2$	1% - 2%
Use 100% synthetic oil in all vehicles.	The use of 100% synthetic oils reduces fuel consumption, the number of annual oil changes and labor costs. ³	2%
Institute a town-wide "no idling policy" for municipal vehicles.	Idling vehicles contribute significantly to air pollution and waste fuel, increasing fleet management costs. Municipalities across the Commonwealth and the nation have seen significant cost and greenhouse gas emission reductions since implementing a town-wide "no idling" policies for municipal vehicles.	4%
Total Reduction in Vehicle	(Based on Predicted Fuel	7% - 8%
Energy Consumption (%)	Consumption)	

Most municipalities find that the fuel used to power municipal vehicles can constitute between 20% and 40% of their overall energy consumption; therefore, increasing the efficiency of municipal vehicles can result in substantial cost and energy savings. Additional elements to add to such a vehicle program will include: a preventative maintenance schedule that tracks use, repairs and preventative maintenance and closely monitors tire air pressure. Please note that as part of this Plan the Town is committing to purchasing fuel efficient vehicles if any non-exempt vehicles are purchased.

The use of 100% synthetic oil can reduce fuel consumption up to 2% according to national studies.⁵ Synthetic oil also reduces the number of oil changes needed each year, leading to a corresponding reduction in associated oil expense and labor. Synthetic oil is safe to use as a substitute to conventional petroleum-based oils and does not result in ill-effects to engines, including older engines. A no-idle policy for municipal vehicles had been enacted in several Green Communities and in communities across the nation, and has led to significant reductions in both pollution and unnecessary fuel consumption. As part of this ERP, the Town is committing to implement these aforementioned strategies - using synthetic oil in its vehicles and instituting a town-wide no idling policy.

3. Energy Conservation Measures

Table 4 lists recommended energy conservation measures. References for each measure are included in the table and these references are included as appendices to the Energy Reduction Plan. Projected annual

² http://www.fueleconomy.gov/feg/pdfs/OwnerRelatedFuelEconomyImprovements.pdf

³ http://www.fueleconomy.gov/feg/pdfs/OwnerRelatedFuelEconomyImprovements.pdf

⁴ http://aceee.org/sector/local-policy/case-studies/minneaplois-anti-ilding-vehicle-ordin

⁵ http://www.fueleconomy.gov/feg/pdfs/OwnerRelatedFuelEconomyImprovements.pdf

at a municipal grand total.

Table 4: Energy Conservation Measures for Plainville Municipal Energy Use

Measure	Status	us Energy Data					Financial Data						Reference		
		Status	Projected Annual Energy Savings				Projected Estimated Green			Estimated	Estimated F	Funding	Source for Energy		
Category/Building	Measure	(Completed Year or Planned Year)	Electricity Savings (kWh)	Natural Gas Savings (Therms)	Gasoline Savings (Gallons)	Diesel Savings (Gallons)	Propane Savings (Gallons)	Annual Cost Savings	Total Project Cost (\$)	t Grant (\$)	Utility Incentives (\$)	Cost After Utility Incentives (\$)	Payback After Incentives (Years)	Source	Savings
Anna Ware Jackson School	Interior & Exterior Lighting	August 2018	147,871					\$23,659	\$401,102		\$85,550	\$315,552	12.1		Energy Conservation, Inc.
Anna Ware Jackson School	Boiler Replacement	October 2018		5,380				\$4,842	\$148,949		\$48,000	\$100,949	20.9		Energy Conservation, Inc.
Anna Ware Jackson School	Pump/Motor/Drive	October 2018	11,613					\$1,858	\$14,675		\$5,700	\$8,975	4.8		Energy Conservation, Inc.
Beatrice H. Wood School	Interior & Exterior Lighting	June 2018	103,314					\$16,530	\$345,577		\$50,030	\$295,547	16.2		Energy Conservation, Inc.
Beatrice H. Wood School	Boiler Replacement	October 2018		4,388				\$3,939	\$153,345		\$44,000	\$109,345	27.7		Energy Conservation, Inc.
Public Safety-Fire/Police Department	Interior Lighting	June 2018	32,478					\$5,197	\$43,875		\$7,125	\$36,750	6.6		Energy Conservation, Inc.
Public Safety-Fire/Police Department	Unit Heater Upgrades	October 2018		1,644				\$1,480	\$94,341		\$3,000	\$91,341	61.7		Energy Conservation, Inc.
Highway Building	Interior Lighting	June 2019	13,923					\$2,228	\$28,805		\$5,310	\$23,495	9.8		Energy Conservation, Inc.
Historical Commission	Interior Lighting	June 2019	58					\$9	\$5,183		\$630	\$4,553	65.7		Energy Conservation, Inc.
Library	Interior Lighting	June 2018	6,776					\$1,084	\$20,246		\$1,390	\$18,856	14.3		Energy Conservation, Inc.
Parks Building	Interior Lighting	June 2018	2,390					\$382	\$11,061		\$1,300	\$9,761	35.3		Energy Conservation, Inc.
Senior Center	Interior Lighting	June 2018	7,556					\$1,211	\$33,793		\$8,045	\$25,748	17.9		Energy Conservation, Inc
Senior Center	EMS	June 2018	6,700	310				\$1,351	\$65,625		\$6,000	\$59,625	44.1		Energy Conservation, Inc
Senior Center	Boiler Replacement	June 2018		160				\$144	\$52,200		\$1,500	\$50,700	49.0		Energy Conservation, Inc
Town Hall	Interior Lighting	June 2019	5,783					\$925	\$25,758		\$4,485	\$21,273	19.4		Energy Conservation, Inc
Town Hall	VRF	October 2018		3,542				\$4,027	\$294,000		\$0	\$294,900	73.2		Energy Conservation, Inc
Town Wide Streetlight Replacement	Streetlight Replacement	June 2020	212,769												Baker-Polito Press Release: New Partnerships for LED Streetlight Conversion
Vehicle Fleet Management Strategies	Monitoring Tire Air Pressure, Use of Synthetic Oil & No Idling Policy	Proposed 2018-2020			4,432	5,614									Owner Related Fuel Economy Improvements
Totals			551,231	15,424	4,432	5,614		\$68,866	\$1,738,535		\$272,065	\$1,467,370			

C. Summary of Long-Term Energy Reduction Goals – Beyond 5 Years

1. Municipal Buildings (including schools)

To better strategize for the long-term maintenance and management of municipal buildings, Plainville will work with internal schools and town staff as well as outside consultants, when necessary, to assess and document the condition of major municipal buildings on an annual basis. In addition to exposing continuing opportunities for energy use reductions, this effort will provide the Town with a clear, long-term asset management strategy for the effective budgeting and maintenance of buildings.

2. Vehicles (including schools)

The Fuel-Efficient Vehicle policy will have become engrained within municipal purchasing practices after five years, and the Town will seek to explore even more efficient policies and tracking systems to enable more efficiency.

3. Street and Traffic Lighting

With the Town planning to have all streetlights retrofitted with LED bulbs within the 5-year period, the Town will next look to retrofit traffic lighting with LEDs as well as other lighting opportunities into the future.

4. Perpetuating Energy Efficiency

Ongoing dialogue with Town and School staff can tap into the knowledge of the employees who use and maintain the buildings every day. It can empower building staff to develop a detailed repair and management schedule and collect data on problems and inefficiencies that may be missed by traditional third party audits. The use of a web-based application system like See Click Fix creates additional real-time opportunities for efficiencies in operation and maintenance.

The Town of Plainville will grow its capacity to retrofit and build more efficient facilities, purchase more efficient vehicles, and illuminate the Town through more efficient lighting throughout the 5-year period. These practices will become more engrained in the culture of the Town and will provide opportunities to instill the ethos into additional policies and programs for more dedicated long-term funding streams and strategies.

Appendices:

- Energy Conservation, Inc. Audit
- USGBC *Powering Down* Report
- "Baker-Polito Administration Announces New Partnerships for Municipal LED Streetlight Conversion Program" Press Release - September 25, 2017 http://www.mass.gov/eea/pr-2017/new-partnerships-for-municipal-led-streetlight.html
- Owner Related Fuel Economy Improvements Study