Naperville FY15 Sustainability Report

Leadership & Education:
Recycling Carts, Household Hazardous Waste & More

Resources & Energy:
Water Survey & Energy Consumption

Transportation & Mobility:
Electric Vehicle Charging Stations & Transit Ridership

Waste Management & Recycling:
New Life to Electronics Recycling

Development & Infrastructure:
Emerald Ash Borer & LED Streetlights

JULY 2015

ACKNOWLEDGMENTS

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WHY SUSTAINABILITY?

- **The Changing Landscape of Society – Organizations today face heightened expectations around their wider role in society.**
- **The Role of Government – Cities have a civic responsibility to properly manage public goods, resources and facilities in a way that supports sustainable development objectives and promotes the public interest.**

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Goal Review

Each year the EnviroTeam identifies three goals to pursue.

During FY15, the EnviroTeam committed to the following: **(1) improve recycling at special events; (2) educate consumers on how to make better purchases to reduce waste and energy consumption; and (3) provide community education about the benefits of native and natural landscaping.**

Initially, it was anticipated that a recycling policy for special events would be drafted. After surveying all Special Events and Cultural Amenities (SECA) grant applicants, a recommendation checklist was created instead (see page 14). This tool will be included with all SECA grant applications.

The other goals were addressed through a variety of communication outlets. The Communications division spearheaded the City's involvement in Earth Hour, a symbolic event to encourage residents and local businesses to reduce energy consumption by turning off non-essential lights for one hour. Articles detailing how citizens can reduce waste and consumption were also posted on the EnviroTeam website and *Naperville Connected* newsletters during the holidays.

The EnviroTeam website also featured articles detailing the benefits of native and natural landscaping. This information was also linked to the the Naperville Area Homeowners Confederation at www.napervillehomeowners.com.

INTRODUCTION

The Naperville EnviroTeam is a group of City employees committed to identifying opportunities and measuring the City's progress as an environmentally sustainable community.

This report provides an update on the various projects and progress the City has made during the 2015 fiscal year, which ran from May 1, 2014, to April 30, 2015. It focuses on measurable data to support the work City staff has put into building a cleaner and more efficient community.

The EnviroTeam includes representatives from all City departments and divisions who annually set and accomplish three goals selected from the 2010 Sustainability Plan. This plan initially included nearly 50 objectives directed toward promoting sustainability. Release of this annual report represents one of those objectives.

In the following pages you will read detailed information about various projects and ongoing endeavors which are all focused on reducing Naperville's environmental footprint.

We hope this report is educational and encouraging toward a brighter, greener Naperville.

Sincerely,
The Naperville EnviroTeam

BENEFITS OF SUSTAINABLE REPORTING:

- Operational efficiency
- Reputation management
- Employee satisfaction
- Potential access to capital
- Minimized environmental and societal impacts

STRATEGIC PLAN CONNECTIONS TO SUSTAINABILITY

In November 2013, the Naperville City Council adopted a new strategic plan. All three goals contained in that plan inspire sustainability.

Strategic Plan Goal	2010 Sustainability Plan Relationship
Embrace E-Government	The motivation behind this goal is to offer a convenient 24-hour government. As a result, trips to the Naperville Municipal Center can be reduced, if not eliminated. Fewer trips means less impact on the environment. Likewise, more online transactions will reduce paper. The City Council's conversion to a paperless agenda process is estimated to save 350,000 pages of paper per year.
Reduce Traffic Congestion	One of the major accomplishments related to transit and mobility in FY15 was the opening of the 95th Street bridge. This project reduced the driving distance between 95th Street/ Plainfield-Naperville Road and Boughton Road/Kings Road by 1.1 miles. This will save motorists 15,400 travel miles per day.
Set the Standard for Community Education & Involvement	The Naper Notify system hit a major milestone during FY15, as 10,000 residents opted-in to the mass notification system. Naper Notify launched in November 2013 and allows the City to electronically communicate with residents and eliminate the need for excess paper use and divert motorists away from emergency situations, reducing gridlock and idle vehicles.

Sustainable Categories

LEADERSHIP & EDUCATION

The City of Naperville's Strategic Plan recognizes environmental stewardship as a value reflected in the Naperville community. When it comes to the more efficient and effective use of our natural resources, the City of Naperville not only encourages residents and businesses to respect and protect the environment, but also is an active participant in doing the same. By embracing the role as a municipal leader in environmental sustainability, the City of Naperville becomes more marketable to businesses. These efforts will further advance the City of Naperville into the global economy and protect the environment for future residents.

RESOURCES & ENERGY

Resources and energy represent a critical intersection between the City of Naperville as a consumer and the City of Naperville as a provider of such commodities. As a good consumer, the City strives to conserve resources in a fiscally responsible manner. As a provider of energy, the City facilitates informed decision-making by its consumers. As a provider of water, the City recognizes the finite availability of this resource and supports fiscally responsible conservation efforts.

TRANSPORTATION & MOBILITY

A sustainable transportation system is accessible, affordable, operates efficiently and offers a variety of easily navigable transportation modes which support a vibrant and successful community.

WASTE MANAGEMENT & RECYCLING

Waste management and recycling programs provide consumers with a variety of options to responsibly dispose of their waste while benefitting the environment in a number of ways.

SUSTAINABLE DEVELOPMENT & INFRASTRUCTURE

Sustainable development encourages economic growth and development while conserving resources in the long-term interest of individuals, the community and our ecosystem. Key elements of sustainable development include:

- Thoughtful land planning
- Protecting land and ecosystems
- Using natural resources wisely

Naperville's sustainable infrastructure includes sanitary sewer lining, storm sewer maintenance, flood and storm water improvements and tree preservation and protection measures.

DID YOU KNOW?

Naperville is one of only four cities in the state of Illinois with a Household Hazardous Waste facility. For more details about the facility visit www.naperville.il.us/hhw.aspx

The Naperville Household Hazardous Waste Facility located at 150 Fort Hill Drive

Naperville Completes Household Hazardous Waste Facility

Naperville officially opened its new Household Hazardous Waste Facility on February 21. It is one of only four permanent drop-off locations for household hazardous waste in operation in Illinois.

Located at 156 Fort Hill Drive, just north of the Department of Public Works building, the facility operates from 9 a.m. to 2 p.m. on Saturdays and Sundays, excluding holidays.

The new facility represents a significant boost to the City's household hazardous waste program, which since 1992 operated at Fire Station No. 4 on Brookdale Road. As the program progressed, the old site became woefully undersized and often resulted in long lines of cars waiting an hour or more to complete drop-offs.

The new facility provides added capacity and a more convenient location. These changes are expected to alleviate issues by improving efficiency in sorting materials, shortening wait times for drop-offs and increasing protection for the public and employees through spill control, sprinklers and ventilation.

With the facility complete, Naperville's Environmental Collection Campus is now whole. The campus features multiple waste-specific drop-off and drive-through lanes for customers wanting to recycle electronics, drop off traditional recyclables or dispose of hazardous waste. It serves as a "one-stop-drop" for area residents to safely recycle everything from paper and electronics to household chemicals and prescription medications.

The new facility was funded through a grant from the Illinois Department of Commerce and Economic Opportunity and operates in partnership with the Illinois Environmental Protection Agency.

New Recycling Program Rolls Out

Former Mayor George Pradel delivers a new recycling cart to the West Highlands neighborhood on Sept. 2, 2014.

Naperville introduced a new residential Recycling Cart Program in FY15. The program extended a service contract with Resource Management Inc. at a favorable rate and, over time, is expected to increase the City's diversion rate, which is the amount of refuse diverted from a landfill.

The program cost a total of $1.87 million with residents covering 80 percent of the costs through a resident charge back of $3 per month on their utility bills for 12 months. Those participating in recycling will pay a total of $36 for their cart, which acounts for nearly $1.5 million total. Remaining funds to support the program were taken from the City's general fund, including $200,000 from FY14 excess funds and $175,000 from the FY15 general fund.

The City ordered 40,250 carts. Delivery began in September 2014 and was completed at the end of the calendar year. Residents were provided with the option of a 32-, 65- or 95-gallon cart.

The $8 million, five-year extension with Resource Management Inc. carried over a favorable $2.43 per resident recycling rate for the City. The rate was established in 2009 and is 57 percent less than the next lowest bidder. This new extension, which runs through August 2018, was contingent on a Recycling Cart Program being implemented.

In addition to cost savings, the program addresses a desire by residents for improved recycling options.

An online survey conducted by the Department of Public Works in 2013 found 45.26 percent of residents used multiple or additional recycling bins besides the one provided to them by the City and 63.8 percent wanted a recycling cart program. Of the 369 respondents, 69.9 percent preferred a 95-gallon cart and 30.1 percent preferred 68-gallon carts.

The online survey followed the 2012 Citywide Citizen Satisfaction Survey, which found 81 percent of residents felt it was important for City to provide opportunities to increase recycling and more than 50 percent felt it was very important. Thirty-six percent also indicated curbside recycling should receive the most emphasis over the next two years.

The new carts also streamlined recycling by replacing old 22-gallon totes with bins constructed for an automated lift-arm on collection trucks. Carts also feature lids to help prevent spillage and contamination from wild animals, weather and other issues.

From 2006 to 2012, Naperville had an average diversion rate of 30.23 percent, which ranked 10th out of 17 local communities. This program is expected to increase that rate, with a long-term goal of more than 40 percent. By achieving that goal rate, the City would divert more than 11 million pounds of refuse from landfills annually.

Substations Receive CVR Technology Upgrades

A major component of the Naperville Smart Grid Initiative (NSGI) started rollout in FY15. The Conservation Voltage Reduction (CVR) program was implemented as a pilot program at select electric utility substations. Following the pilot, the program was scheduled for installation at all 16 of the City's substations by mid-2015.

Work on CVR began May 19, 2014, with a pilot at Meadows Substation. Staff examined how the substation reacted to a reduction in voltage and determined how much could be saved.

Working with Dominion Voltage Inc., the City analyzed the electric loads out of the substation between July and October. The result of the study allowed staff to formulate a per substation calculation of future savings based around load type affect.

CVR is one of the biggest saving components of the NSGI, accounting for 42 percent of the project's estimated savings. The Department of Public Utilities-Electric (DPU-E) estimates the program will save between $1 million to $2 million annually in purchased energy.

The program allows the City to optimize the electric utility through more accurate data received via the smart grid. This information explains how power travels from substations to homes and businesses. This knowledge will allow DPU-E to reduce line loss (wasted power), which will reduce bulk power purchase. This results in a more efficient, environmentally friendly electric utility.

EnviroPage gains visits

Leadership and education pursuits outlined in the 2010 Naperville Sustainability Plan directly support the City's Strategic Plan. In FY15, the City of Naperville maintained an environmental webpage at www.naperville.il.us/enviroteam.aspx.

In FY15, the site received 1,399 visitors, including 1,172 first-time viewers. This was a increase from last year, when the page received 836 visitors and 736 first-time viewers. On average, visitors spent more than three minutes browsing the site.

According to the 2012 Citizen Satisfaction Survey, 66 percent of residents indicated the *Naperville Connected* newsletter was their primary source for City information. For this reason, each April the entire *Naperville Connected* edition is dedicated to sustainability.

100 Customers Participate in ePortal Pilot

The City hosted an ePortal trial for 100 of its electric utility customers as part of the Naperville Smart Grid Initiative, which allows the City to serve its electric customers in a more reliable and efficient way.

The ePortal pilot launched in September 2014 as an online tool that could be used by trial participants to monitor and manage electric use on a daily and monthly basis.

Trial company Lowfoot emailed a weekly energy report and provided the ePortal to trial participants for evaluation.

Participants were invited to provide feedback to the City on the value of the weekly email and portal in helping to understand how each household used energy and the benefit it provided in evaluating their energy use patterns. The no-cost trial lasted three months.

Following the trial's conclusion in December 2014, the City sent participants a follow-up survey prioritizing the feedback received.

Participants were asked to rank preferred educational and technical enhancements to any future ePortal in order of importance. An open house in February 2015 allowed participants to interact face-to-face with City staff and provide final feedback.

All feedback will be incorporated into a future recommendation regarding an ePortal solution for the entire City.

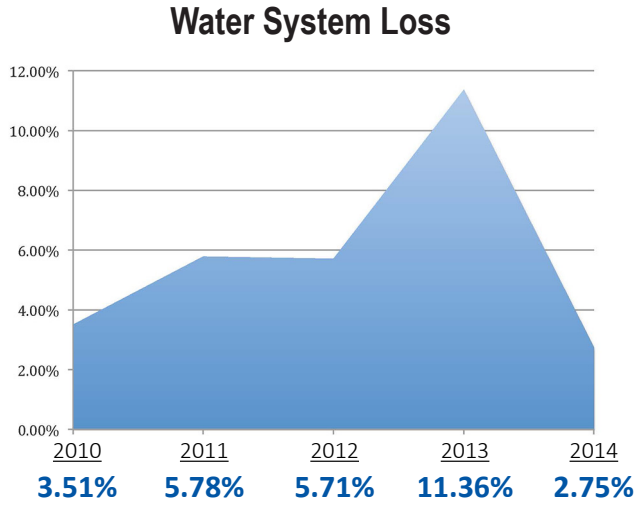
Naperville Leads in Water Conservation

The Department of Public Utilities-Water and Wastewater (DPU-W) reported a 2.75 percent loss of water in its annual water audit for 2010. The system accounted for 97.25-percent of total pumpage for the year. This was a noticeable increase in efficiency from last year, when the system accounted for 88.64-percent of total pumpage.

The new efficiency can be attributed to a reduction in leaks, which conserved 486.55 million gallons of water and saved the City $2 million in water costs from the previous year, according to the annual Illinois Department of Natural Resources water audit.

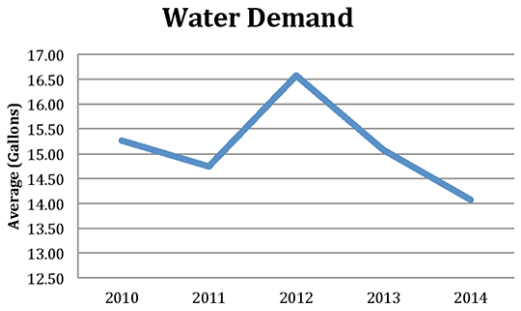
DPU-W re-established the Water Distribution System Leak Detection program prior to FY15 after a two-year halt. Surveys use sound equipment to identify leaks, which hiss as water escapes the system.

The program discovered 50 leaks in FY15 and saved an estimated 503,000 gallons of water per day after repairs. The total savings from the surveys was 184 million gallons of water, equaling an estimated $900,000 in cost savings. The 2014 survey cost $70,441 and was conducted by ADS Environment Services.



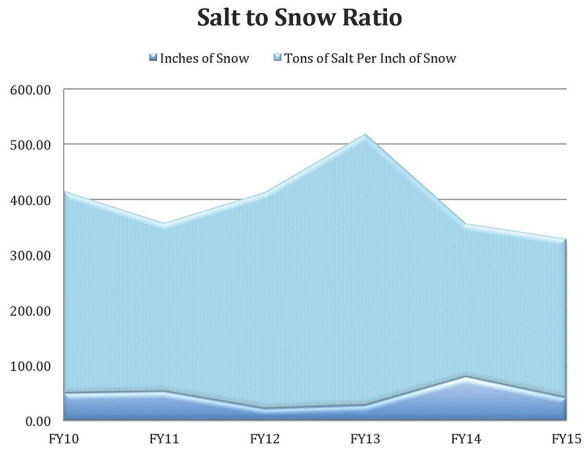
Most water supply systems report losses of 10 to 20 percent. Starting in 2015, the Illinois Department of Natural Resources will only allow communities up to 8 percent water loss. This new limit will require communities to increase water conservation.

Naperville expects to remain well below this threshold and serve as a model to other communities.



The average daily demand for water was 14.074 million gallons, a decrease of nearly 7 percent from last year. The decrease likely reflects last year's cooler temperatures. It also likely indicates residents implemented more conservative water practices (e.g. rain barrels) and increased their use of water efficient appliances.

Year	Million Gallons	Change
2010	15.26	n/a
2011	14.75	-3.38%
2012	16.57	12.38%
2013	15.08	-9.00%
2014	14.07	-6.68%



In FY15, the City responded to 21 winter events and spread 11,768 tons of salt. The application ratio for the winter was 287.73 tons of salt per inch of snow, well below the five-year average of 350.15.

In FY14, the City implemented a salt conservation method with positive results. By reducing salt application, the City can minimize budget costs and strain on the environment. Road salt can alter the chemistry of water and erode infrastructure and vegetation.

	FY10	FY11	FY12	FY13	FY14	FY15
Snow (Inches)	49.20	52.73	21.76	27.90	79.14	40.09
Tons of Salt	18,000	16,046	8,501	13,686	21,964	11,768
Ratio	365.85	304.30	390.67	490.54	277.53	287.73

NREP Declines; City Targets Improvements

Participation in the City's Renewable Energy Program declined in 2014, yet remained nationally ranked for participation percentage according to the U.S. Energy Department's National Renewable Energy Laboratory.

While participation declined, the program maintained more than 3,500 enrollees, which accounts for almost 1 percent of the total energy consumed by Naperville utility customers.

The purpose of the Naperville Renewable Energy Program (NREP) is to allow residents and businesses the option of supporting renewable energy generated from Illinois-based renewable energy facilities. The program requires a small monthly fee to cover the cost of renewable energy purchased and utilized in the City's power grid.

	2010	2011	2012	2013	2014
Number of Participants	4,446	4,534	4,392	4,049	3,609
% Change	N/A	1.98%	-3.13%	-7.81%	-10.87%
Amount of Energy (MWh)	16,741	17,555	17,014	14,299	13,401
% of Energy Purchased	1.15%	1.26%	1.23%	1.05%	0.94%
Total Energy Consumed	1,452,379	1,397,985	1,387,621	1,361,753	1,432,671

The program began in 2004 and became a City-managed program in 2012.

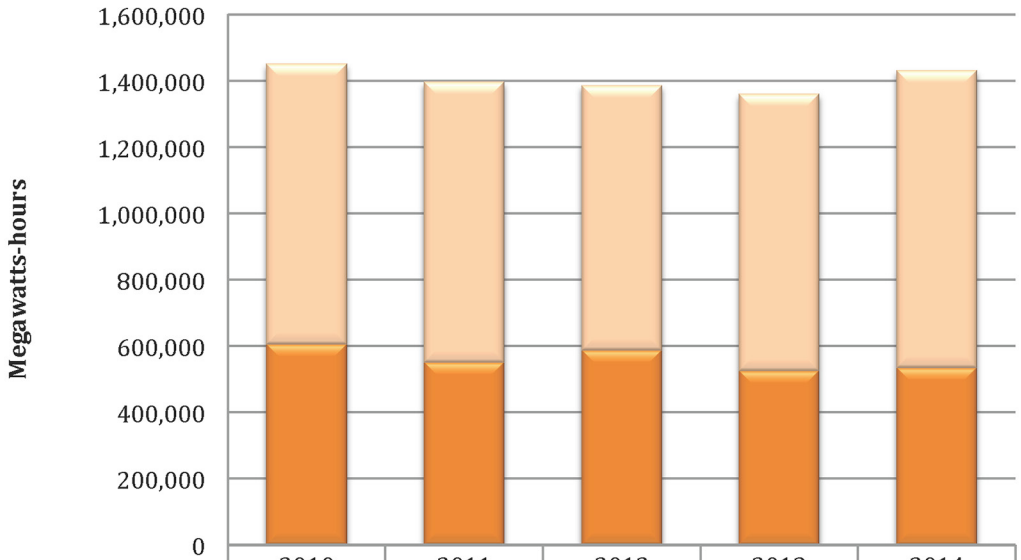
Last year, participants purchased more than 14 million kilowatt-hours of renewable energy, roughly equivalent to removing 3,264 passenger vehicles from the road.

In the coming year, the electric utility will re-evaluate NREP to better meet the needs and wishes of customers in 2015 and beyond. Through these efforts, the City will work to regain participation in a relevant sustainable, program.

Energy Consumption

	2010	2011	2012	2013	2014
Total Consumed (MWh)	1,452,379	1,397,985	1,387,621	1,361,752	1,432,671
Consumption Change	n/a	-3.75%	-0.74%	-1.86%	5.21%
Total Customers	56,470	56,784	57,300	57,482	58,693
Customer Change	n/a	314	516	182	1,211
MWh Per Customer	25.72	24.62	24.22	23.69	24.41

Total Energy Consumption



	2010	2011	2012	2013	2014
Non-Residential	846,737	847,179	799,270	835,571	897,954
Residential	605,642	550,806	588,351	526,181	534,717

Customer Breakdown

Residential

Year	Customers	MWh per Customer
2010	50,622	11.96
2011	50,825	10.84
2012	51,278	11.47
2013	51,440	10.23
2014	52,411	10.20

Non-Residential

Year	Customers	MWh per Customer
2010	5,848	144.79
2011	5,959	142.17
2012	6,022	132.73
2013	6,042	138.29
2014	6,282	142.94

In Review: Energy Grants

The City awarded 14 Illinois Municipal Electric Agency (IMEA) Energy Efficiency grants for projects in FY15. Of those 14 projects, 10 were completed, two remain in progress and two were cancelled.

The 14 projects cost $454,000, with grants providing $135,000 in funding. With the two cancellations, the final grant amount came to $105,000.

When completed, the 12 projects are estimated to save the City 99.52 kilowatts at the time of peak demand and approximately 1.1 million kilowatt-hours. The result is a potential annual savings of $51,947 for the City.

For customers, these combined projects will potentially save approximately $58,264 based on new electric rates applied on May 1, 2015. The DuPage Children's Museum alone could save 704,680 kilowatt-hours, equaling $33,050 per year.

This was the second of a three-year grant program awarded to Naperville through IMEA.

The IMEA grant provides $340,000 per year to the City to assist residential, commercial, educational, non-profit and institutional utility customers interested in energy efficiency, renewable energy and green technologies. The grant encourages energy projects that would otherwise be ignored without funding.

The first two years of the program were divided into two parts – customer grants for energy efficiency and sustainable City initiatives.

Customer grants were awarded externally and provided based on a project's estimated kilowatt savings. This allowed the City to prioritize projects, yielding the highest cost reduction on power purchases.

The aim was to award six large-scale grants and four small-scale grants totaling $170,000 in the first two years of the grants. Large-scale projects received up to $25,000 and small-scale projects received up to $5,000. Grants covered up to 50 percent of an applicant's total costs for energy improvements.

The City's portion of the grant, which included half of Year 1 and Year 2, as well as all of Year 3 and leftover funds from cancelled or unawarded projects, will aid the LED Streetlight Replacement Project.

IMEA Grant Review

	FY14	FY15
Projects	9	12
Grant Money	$159,000	$105,000
Est. Power Savings (kilowatts)	315.94	99.52
Est. Cost Savings*	$45,116	$14,211
Est. Annual Power Savings (kilowatt-hours)	2,300,000	1,078,156
Est. Annual Cost Savings of kilowatt-hours**	$80,500	$37,735
Total Potential Savings to the City	**$125,616**	**$51,947**

*Based on electric rate of $11.90 per kW effective 5/1/15

**Based on IMEA rate of $.035 per kWh consumed

Applicant	Description of Work	Awarded Incentive
First Congregational Church	Change interior and exterior lighting to LEDs	$4,138.20
Indian Prairie School Dist. 204	Change 30 High Intensity Discharge lamps to 30 t-5 fixtures at 6 gyms in 204	$21,816.00
Saints Peter and Paul School	Change 20 400W MH to 20 120W LEDs in gym	$4,044.00
DuPage Children's Museum	HVAC management system	$25,000.00
Agellan Warrenville, LP	LED parking lot lights	$14,800.80
Agellan Warrenville, LP	LED parking lot lights	$10,388.40
Naperville Park District	DuPage River Sports Complex Parking lot LED lights	$8,200.00
First American Bank	Exterior LEDs	$4,727.50
First American Bank	Exterior LEDs	$3,067.50
Naperville Heritage Society	Change 200 50W lamps to 250 13W LEDs	$4,387.50
Independence Village	Interior and exterior lighting	$1,916.50
Studio Luxe	Interior Lighting - LEDs	$1,601.60

City Adds Charging Stations

The City of Naperville added three electric vehicle charging (EVC) stations during FY15, bringing the City's total to four stations.

All EVC stations are level-two charging stations employing 220-240 volts and require a shorter charging time than a wall-plug residential unit.

Two stations were added to the Van Buren Surface Lot. The lot has a dual charging station, and an additional dual charging station is located on the first level of the Van Buren Parking Deck.

Despite the new charging stations, plug-ins declined by 18 percent, which is likely the result of a fee associated with the stations.

The current cost to charge a vehicle through a City station is $1.50 an hour, and vehicles are permitted to charge for up to three hours. Prior to 2014, the City had no financial fee attached to its public charging station.

The added cost presents a potential deterrent for Naperville residents, who benefit from favorable electric rates, making it less expensive to plug in vehicles at home.

Electric Vehicle Charging Stations	2010 & 2011	2012	2013	2014
# Stations	program not initiated until 2012	1	1	4
# Plug Ins		161	707	579
Plug Ins % Change		N/A	32%	-18%
Consumption (kWh)		842	4,783	2,329
kWh % Change		N/A	100%	-51.30%

Metra and Pace Ridership

Naperville ridership at the Route 59 and Naperville Metra stations continues to average the highest usage on the BNSF Railway.

According to data collected in 2014, the Route 59 and Naperville Metra stations have an average weekday boarding of 9,876 riders. The BNSF is one route with a total of 94 trains.

Pace updates its ridership data on an annual basis. In 2014, there was a 2.9 percent decrease in ridership compared to 2013.

Pace Ridership					
	2010	2011	2012	2013	2014
Routes	21	21	21	21	21
% Change	0	0	0	0	0
Riders	1,234	1,276	1,167	1,315	1,277
% Change	-4.50%	3.40%	-8.60%	12.70%	-2.90%

* Ridership data does not include routes 820, 827 and 829.

Sidewalk program to return after FY15

The City of Naperville put a hold on the new sidewalk program in FY15 after failing to obtain federal funding until after the construction season.

The lack of funding pushed the program back one year.

The City is currently in the design phase of the 2015 New Sidewalk Program, which will begin construction in the summer and fall of this calendar year.

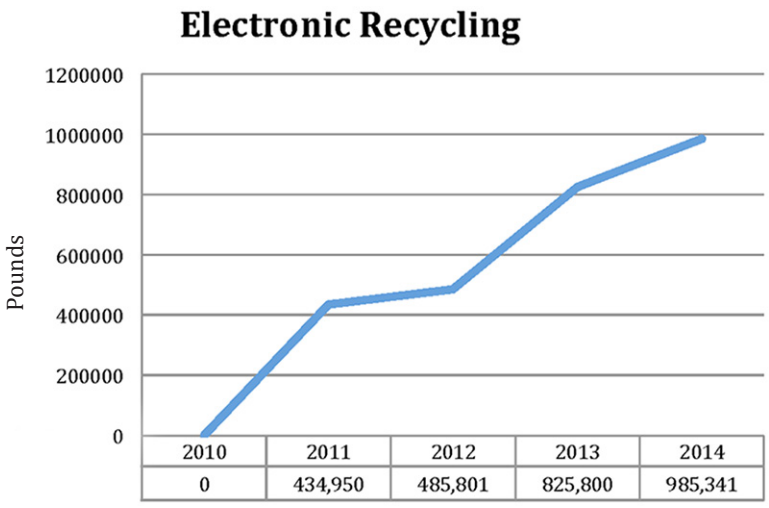
Electronics Recycling Finds New Life

The City's electronics recycling continued to increase in FY15, despite a turbulent year with vendors.

The Department of Public Works (DPW) was able to sustain the program through three vendors and a hectic holiday season to collect 985,341 pounds of electronics recyclables.

Naperville started the year with Creative Recycling Services (CRS) as its electronics recycling vendor. CRS was under contract with DuPage County and served as the area's primary vendor until July 2013, when the company was forced into bankruptcy. Depleted funds from manufacturer obligations made it impossible for CRS to offer rebates on recycling and could no longer provide service without charging a fee.

While surrounding communities were forced to halt electronics recycling, Naperville was able to sustain the program by switching to Elgin Recycling, who offered to recycle electronics at no cost for three months as a test program.



After the three months, Elgin could not maintain the program without requiring a fee of approximately $7,200 per month, which pushed DPW to reduce collection to two days per week with an estimated cost of $5,000 per month.

The plan worked until a spike around Thanksgiving pushed operation expenses to $7,000. DPW responded by limiting drop-offs to Naperville residents only and allowed only one cathode ray tube drop-off per vehicle. This allowed the program to remain operational and control costs.

In January 2015, the program found stability with an 18-month agreement with New Life Electronics. The agreement partners with DuPage County, came at no cost to the municipality.

Household Hazardous Waste

The Household Hazardous Waste Facility was used by 16,107 cars, including 5,868 from Naperville. Those cars provided 56,565 gallons of hazardous materials, the bulk of which included flammable liquid and oil-based paint.

	2010	2011	2012	2013	2014
Pounds	432,250	440,700	515,950	531,600	570,050
Cars	15,187	14,670	15,890	15,988	16,107
Avg. per Car	28.46	30.04	32.47	33.25	35.39

Prescription Drugs

2,192.75
POUNDS

The Prescription Drug Drop-Off Collection program completed its first full year of operation. Drop boxes are located at all fire stations 24 hours a day and the police station's main lobby from 7 a.m. to 8 p.m., Monday through Friday.

This program ensures expired or unneeded prescription drugs and over-the-counter medications are properly disposed of, which reduces the chance of the drugs contaminating water sources or being ingested by animals or minors.

Police
440.00 LBS.

Fire
1,752.75 LBS.

Diversion Rate Hits an Incline

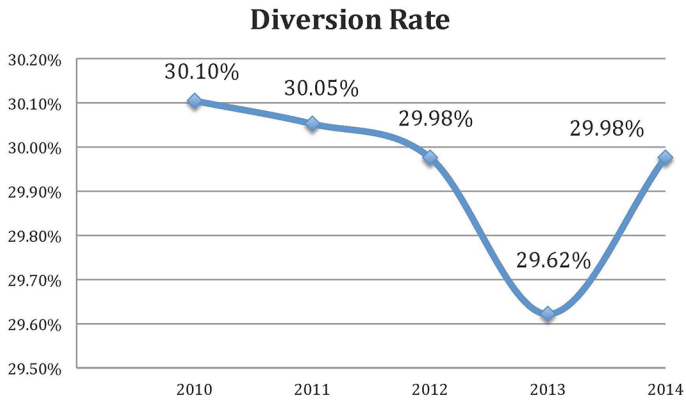
The City's diversion rate climbed in 2014, falling just under the 30 percent mark. It is the highest diversion rate since 2011 and halted back-to-back years of decline.

The upward trend is a positive sign for the City's long-term goal of a 40 percent diversion rate, which should be aided by the new recycling cart program.

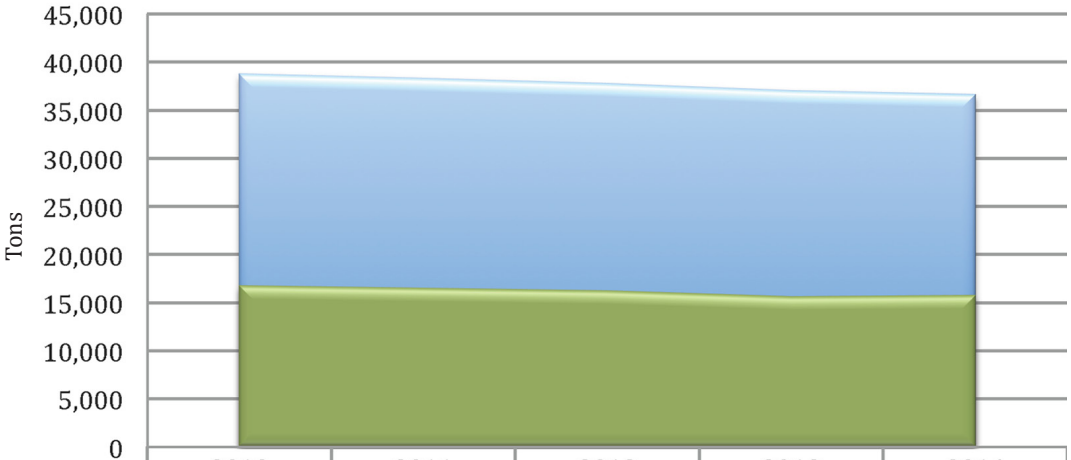
Additionally, the City experienced a notable drop in refuse, collecting 419 tons less in garbage compared to last year. Naperville finished the year below 37,000 tons for the first time since 2010.

Reviewing the past five-years, Naperville residents appear to be consuming less. Since 2010, refuse collection has declined by more than 2,100 tons and recycling collection has dropped by more than 1,000 tons.

Reduced consumption by residents will help the environment and the City. With less waste collection, future prices for waste removal should remain competitive.



Overall Reycling



	2010	2011	2012	2013	2014
Refuse	38,781	38,367	37,813	37,076	36,657
Recycling	16,703	16,484	16,187	15,605	15,692

Recycle My Fridge

	2010	2011	2012	2013	2014
Units Recycled	N/A	120	63	53	102
CO_2 Savings (tons)	N/A	1,148	603	507	976

Checklist Added to SECA Application

In an effort to review the possibility of recycling at special events in Naperville, City staff put together a checklist of helpful recycling ideas and tips that will be provided as part of the City application packet to any organization planning a special event.

The checklist will provide options for environmentally friendly materials and procedures. While not a requirement, the City hopes to encourage recycling by providing this information to groups planning their events.

The checklist was developed following a survey conducted by City staff to review opportunities to increase the amount of recycling occurring at special events within Naperville. Staff conducted the survey with event organizers to see what recycling opportunities currently exist, why they do or do not at various events and whether recycling could be incorporated into future events.

The City hopes the checklist will be the first step in providing cleaner events with less waste destined for the landfill.

Naperville Maintains Urban Forest Amid EAB Challenge

Naperville's ongoing battle with Emerald Ash Borer (EAB) continued into its third year.

The Department of Public Works-Forestry Division treated 12,812 trees in 2014. An inspection completed in late summer 2014 showed 91 percent of the City's parkway trees exhibited only minor or no EAB damage. Six percent of the parkway ash trees exhibited moderate signs of EAB damage and will be re-evaluated, and three percent required removal.

In 2008, when EAB was initially discovered in Naperville, the City was home to 17,300 ash trees. In FY15, 14,300 of those trees remain.

In the three years since the City started treating ash trees comprehensively, only 17 percent of the overall ash population has been removed.

In the past three years, tree removals related to EAB leveled to approximately 700 to 800 per year. This is counter to the exponential mortality curve experienced elsewhere. Some communities have opted to cut ash trees upon discovery of EAB. Naperville made a commitment to fight the insect and save as many trees as possible, believing a robust urban forest is essential for air quality and reducing the "heat island" effect. By saving trees, the City also protects against deterioration of curb appeal and property values.

Naperville treats healthy parkway ash trees with Xytect (Imidacloprid), Safari (dinotefuran) or Tree-Age (emamectin benzoate).

Arbor Day Tree Sale Turns 25

The Department of Public Works hosted the 25th annual Arbor Day Tree Sale on April 25. Three hundred and fifty-two trees were sold for a total of $13,405.

The sale featured 45 different species and sizes of container-grown trees with prices ranging from $25 to $60.

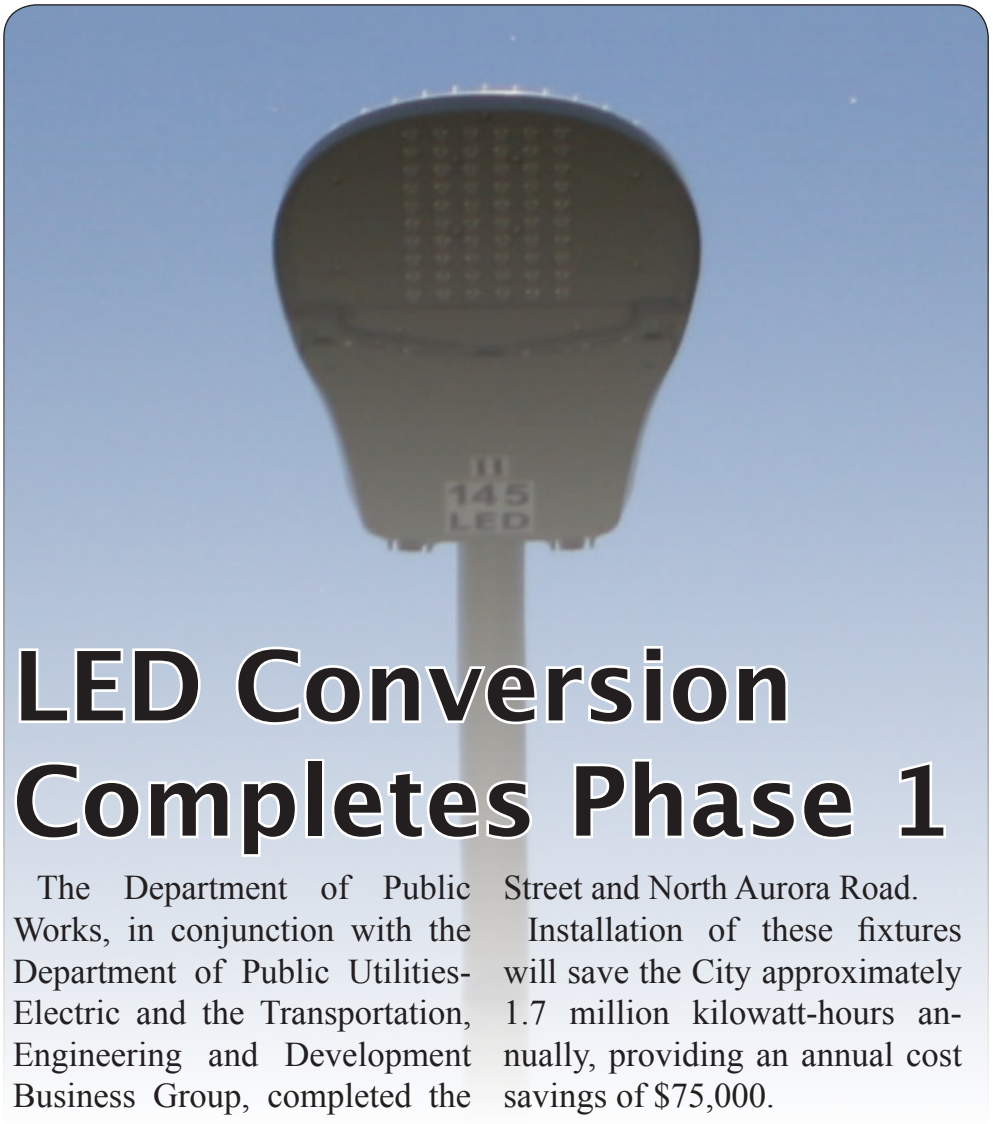
A total of 443 trees were available. The 91 unsold trees were made available for purchase to City employees and the Naperville Park District. The remaining 40 unsold trees were planted on City sites adding to the City's urban forest.

Storm Sewer Maintenance

The Department of Public Works provides ongoing and emergency stormwater management projects for the City. These projects are designed to control erosion, stormwater system failures and localized flooding. Projects include structure rebuilds and repairs, pipe-lining, reconstruction, patch work and open drainage repairs and cleaning.

In 2014, the City received approximately 1,220 requests from residents for stormwater-related repairs. The goal of the program is to reduce localized flooding issues and ensure the stormwater system functions properly. Here is a breakdown on the result of those requests.

JULIE Locates	**35,252 tickets**
Inlets Cleaned/ Inspected	**3,268**
Catch Basins Cleaned/Inspected	**2,115**
Sewer Lines Flushed	**35,726 linear feet**
Lines Televised	**27,614 linear feet**
Pipe Re-Lined	**21,700 linear feet**
Storm Sewer Reconstruction	**129**



LED Conversion Completes Phase 1

The Department of Public Works, in conjunction with the Department of Public Utilities-Electric and the Transportation, Engineering and Development Business Group, completed the first phase of the Light Emitting Diode (LED) streetlight replacement project.

In FY15, 1,742 streetlight fixtures were converted from high-pressure sodium (HPS) to LED fixtures. The focus of the first phase was to convert all fixtures located on arterial roads, including 87th Street, 248th Street, 111th Street, Washington Street, Naper Boulevard, Wehrli Road, Hobson Road, West Street, Rickert Drive, Raymond Drive, Diehl Road, Freedom Drive, Warrenville Road, Naperville-Wheaton Road, Aurora Avenue, 104th Street and North Aurora Road.

Installation of these fixtures will save the City approximately 1.7 million kilowatt-hours annually, providing an annual cost savings of $75,000.

The arterial conversion will save enough energy to power nearly 155 homes each year. This is based on the U.S. Energy Information Administration, which found the average electricity consumption for U.S. residential utility customers was 10,908 kilowatt-hours.

HPS lights are rated for 10,000 hours (2-3 years) and the LED fixtures are rated at 50,000 hours (10-15 years). The conversion will reduce energy usage, relamping fees and maintenance costs. The lights are expected to have a payback in six years.

LED Conversion Moves to Residential Streets in Phase 2

The LED Streetlight Replacement Project will shift into Phase 2 in FY16.

The project went out for bid at the end of FY15 and will replace 3,245 residential streetlights north of 75th Street.

Originally planned as a five-year project costing $4.7 million, the program was expedited to take advantage of favorable pricing in LED fixtures.

In FY15, the Department of Public Works (DPW) received an estimated project cost of $1.65 million, $3.05 million less than originally planned, prompting recommendation to accelerate procurement and condense the final four years into FY16 and FY17. Phase 1 replaced all arterial lights and was completed in FY15.

The new plan reduced the project payback period to approximately six years from the original 10.25-year plan and increases total savings to $4.56 million. The incremental savings is $430,000 over 10 years.

Phases 2 and 3 will focus on residential fixtures. The City has more than 6,400 residential lights, accounting for nearly 75 percent of its streetlights.

Prior to FY15, Naperville used high-pressure sodium (HPS) lights ranging from 70 to 400 watts and rated for 10,000 hours, or three to four years. LED lights are rated for 50,000 hours, or approximately 15 years, and will reduce energy use, re-lamping fees and maintenance costs.

Total estimated savings of the project is $3.05 million over 15 years. This will reduce annual electric costs by $210,808, annual maintenance by $339,517 and annual re-lamping services by $91,885.

This project began with a pilot program that replaced seven fixtures on Diehl Road in 2009. Fixtures were observed for light levels and energy consumption and compared to existing HPS lights.

In 2011, the full-scale project was added to DPW's FY14 five-year Capital Improvement Plan, following conversion of 29 fixtures on Modaff Road, a decline in prices and improvement in LED technology.

The conversion will improve visibility and safety, reduce light pollution, reduce environmental impact through energy reduction and provide the City maintenance and energy consumption savings.

Fire Dept. Set for EcoSmart Fleet

After successfully using an EcoSmart ambulance for a year, the Naperville Fire Department will replace another ambulance with a similar model.

In 2014, the Fire Department purchased its first EcoSmart ambulance unit, which featured a solar panel to charge the vehicle batteries and operate an on-demand "green" air conditioning condenser unit. The ambulance is the most efficient in the emergency equipment industry and can reduce energy consumption by 52 percent over conventional technology.

Naperville's current EcoSmart Ambulance at Fire Station 2, 601 E. Bailey Road, on the corner of Naper Boulevard and Bailey Road.

Over time, as vehicles age and ambulances require replacement, the Fire Department plans to convert its entire front line fleet of ambulances to "EcoSmart" units.

The Fire Department has 10 stations strategically located across the City and currently maintains eight front line ambulances with four in reserve.

Artist rendition of the proposed Compressed Natural Gas (CNG) Fueling Station, which will be located on the corner of Fort Hill Drive and Jefferson Avenue.

DPW Set to Add CNG Station

Plans to add a compressed natural gas (CNG) fueling station to Naperville continue to progress.

The Department of Public Works (DPW) added the Naperville-Illinois Clean Energy (NICE) project to its list of long-term goals, with design and building projected for FY17.

The NICE project aims to bring CNG to the forefront of Naperville's push to be an area leader in alternative fuels. Currently, Downers Grove and Mokena are the only CNG options within 30 miles of Naperville. This is one component of DPW's plan for a sustainable fleet utilizing electric, compressed natural gas, propane and traditional fueling sources.

Estimated at $2.1 million, the facility will be located on the corner of Jefferson Avenue and Fort Hill Drive and designed like a traditional gas station with access and curb appeal for both public and private use.

The site could eventually accommodate thousands of fleet vehicles and save taxpayers millions each year.

In addition to serving the City, Naperville has received commitments of interest in the project from numerous partners, including NICOR, the Naperville Park District, the Forest Preserve District of DuPage County, Naperville Community Unit School District 203, Indian Prairie School District 204 and Waste Management. City staff continues to aggressively pursue all available public and private partnerships and grant opportunities.

Naperville currently purchases 460,000 gallons of gasoline and diesel fuel annually at an estimated cost of $1.67 million. The City's fleet consists of more than 300 vehicles, which contribute a significant amount of carbon emissions into the atmosphere. CNG will relieve some of those costs, as it is 90 percent more efficient than gasoline and reduces both greenhouse gas emissions and dependence on foreign oil.

Construction of this facility will allow the City to begin the transition from traditional fueling sources to a cleaner, eco-responsible and cost effective source.

DPW is currently purchasing vehicles that can easily convert to CNG and other fuels, including light-duty trucks, heavy-duty trucks, squad cars, buses, vans and other equipment.

www.naperville.il.us/enviroteam.aspx