

City of La Crosse & La Crosse County Sustainability Indicators 2017 Report

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Acknowledgements

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Introduction

In early 2009 the La Crosse County Board and La Crosse Common Council adopted the *City of La Crosse & La Crosse County Strategic Plan for Sustainability*. The plan identified multiple sustainability indicators to be monitored on an ongoing basis. Some have since been added to or removed, so the set of indicators tracked in this report differs somewhat from the original. Some of these indicators apply to government operations only, while others apply to the City and/or County as a whole. In this report, most indicators are measured and reported separately for the City of La Crosse and La Crosse County.

Table 1: Sustainability Indicators Reported

City/County Government Operations
Electricity Usage
Natural Gas Usage
Facility Energy Use Intensity
Vehicle Fuel Usage
Water Usage
Paper Usage
Green Product Purchasing

Community-Wide
Water Usage*
Solid Waste Generation & Diversion**
Municipal Recycling Collection
MTU Bus System Ridership
Bicycle Route/Trail Lengths
Alternative Commuting Rates
Land Use**
Education Attainment
Median Household Income
Poverty Rates
Unemployment Rates

*: Tracked for City of La Crosse only

** : Tracked for La Crosse County only

For most indicators, 2007 was the earliest year for which reliable data could be gathered. The year 2007 was therefore designated as the “base year” against which future values would be compared. According to the *Strategic Plan for Sustainability*, a report was to be generated on an annual basis to monitor and highlight improvements or setbacks in the pursuit toward sustainability. This report summarizes the status of those indicators through the end of 2017.

City of La Crosse Government Operations

Facility Energy Usage

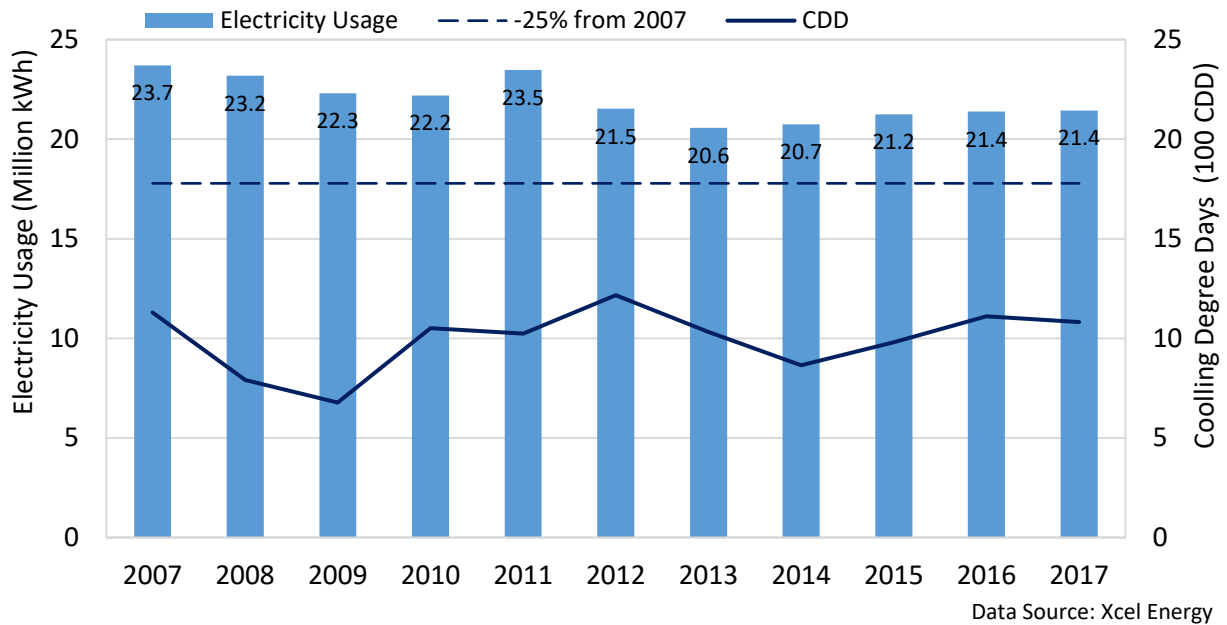
The City of La Crosse government utilizes energy in two forms to operate facilities: electricity and natural gas. Each is examined separately below. The *Strategic Plan for Sustainability* includes two long-term goals related to energy usage at City facilities:

- Goal 1A: By 2025, the City will reduce overall energy consumption as measured per square foot within City facilities from 2007 by a minimum of 25%.
- Goal 1B: By 2025, at least 25% of the City’s energy needs in City facilities will be generated from renewable resources.

Electricity

The City of La Crosse government used 21.43 million kWh of electricity during 2017 – down from 23.71 million kWh in 2007 (-9.6%), but up from 21.38 million kWh in 2016 (+0.3%; see Figure 1)¹. At \$0.11 per kWh, the City government spent \$244,857 less for electricity in 2017 than if usage had remained at the 2007 level.²

Figure 1: City of La Crosse Gov't Annual Electricity Usage with Cooling Degree Days



¹ Some values have been revised from previous reports, as minor errors/omissions were discovered.

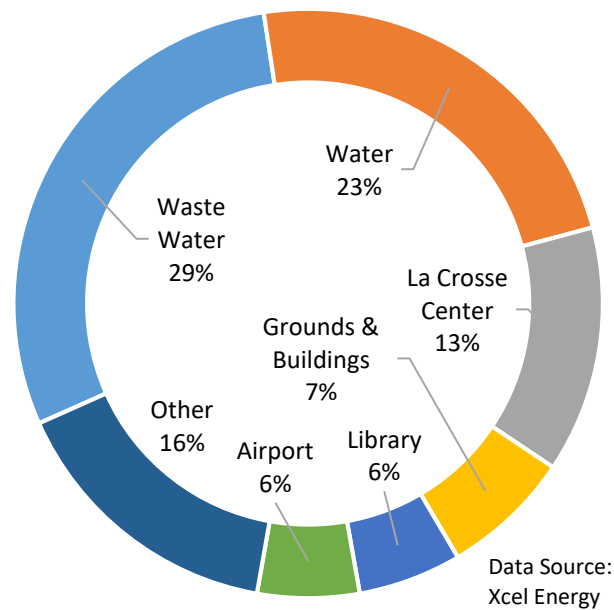
² \$0.11 per kWh was the average commercial price for electricity in WI during 2016 (data source: US EIA).

Cooling degree days (CDD) measure the difference between outdoor temperature and the base indoor temperature of air-conditioned facilities. The annual CDD values shown in Figure 1 represent an index of overall summer heat levels. Higher electricity consumption for air conditioning is expected in years with higher annual CDD values.

Among City departments, the Waste Water Utility used the largest amount of electricity in 2017 (29% of the City total), followed by the Water Department, La Crosse Center and Grounds & Buildings -- which includes City Hall (see Figure 2).

Regarding Goal 1B of the *Strategic Plan for Sustainability*, 28.5% of the electricity that the City government purchased from Xcel Energy in 2017 was produced using renewable sources, primarily wind and hydro (see Figure 11). The City government does not currently operate renewable energy generation equipment. Opportunities to add renewable energy generation equipment may include installation of solar photovoltaic panels on suitable City facility rooftops, and/or utilizing anaerobic digester gas from the Waste Water Treatment Plant to produce electricity.³

Figure 2: City of La Crosse Government 2017 Electricity Usage by City Department



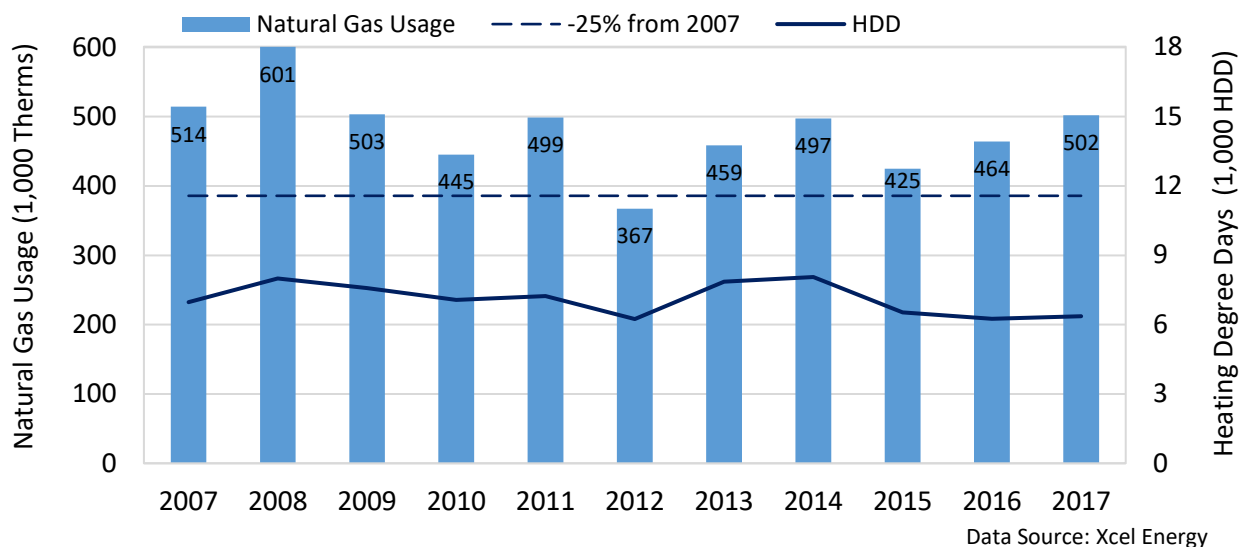
³ For more information about how the City’s waste water treatment facility could generate significant amounts of electricity, see Focus on Energy’s 2003 report, *Anaerobic Digester Methane to Energy: A Statewide Assessment*.

Natural Gas

The City of La Crosse government consumed 501,941 therms of natural gas during 2017 – down from 514,468 therms in 2007 (-2.4%), but up from 464,291 therms in 2016 (+8.1%; see Figure 3).⁴ At \$0.66 per therm, the City government spent \$8,268 less on natural gas in 2017 than if usage had remained at the 2007 level.⁵

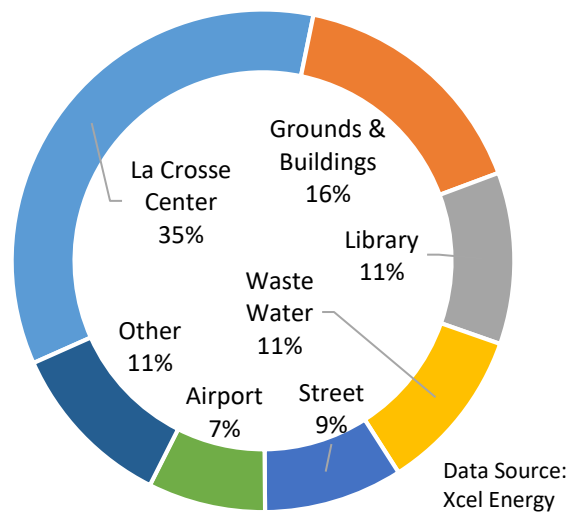
Heating degree days (HDD) measure the difference between outdoor and indoor temperatures. The annual HDD values shown in Figure 3 represent an index of overall winter coldness. Higher natural gas consumption is expected in years with higher HDD values.

Figure 3: City of La Crosse Gov't Annual Natural Gas Usage with Heating Degree Days



Among City departments, the La Crosse Center used the largest amount of natural gas in 2017 – 35% of the City government total (see Figure 4). Other departments using significant amounts of natural gas were Buildings & Grounds (includes City Hall), the Waste Water Utility, and Libraries.

Figure 4: City of La Crosse Gov't 2017 Natural Gas Usage by City Department



⁴ Some values have been revised from previous reports, as minor errors/omissions were discovered.

⁵ \$0.66 per therm was the average commercial price for natural gas in WI during 2016 (data source: US EIA).

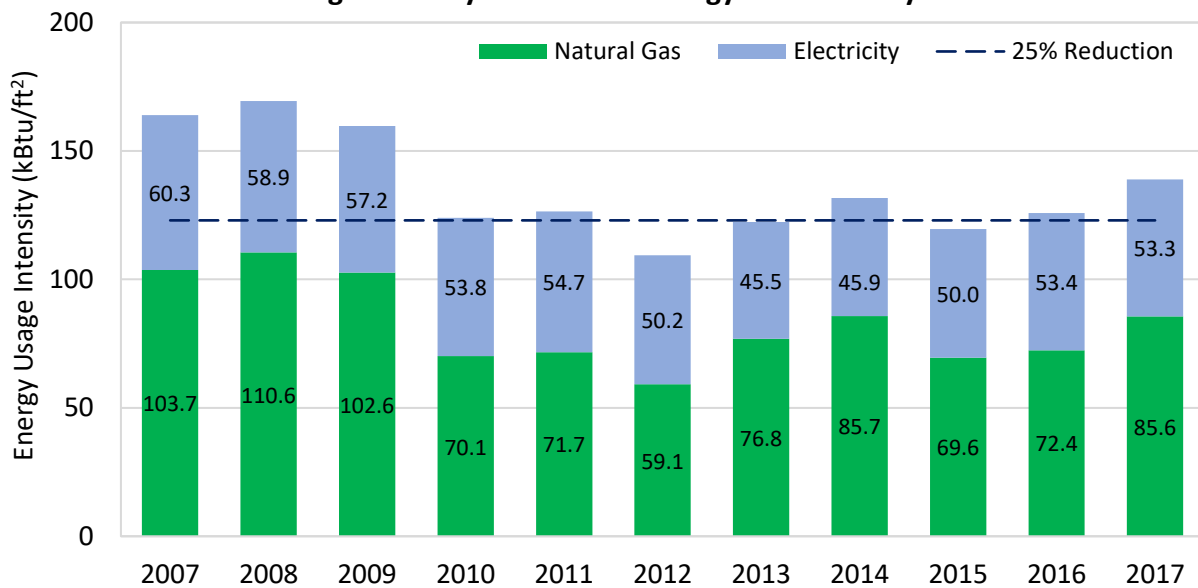
Energy Use Intensity (EUI)

A facility’s annual energy usage per square foot, or *energy use intensity (EUI)*, is a measure of its total annual energy usage (in units of kBtu), standardized by its size (in units of ft²). Goal 1A of the *Strategic Plan for Sustainability* aims to reduce EUI of City facilities 25% from 2007 by 2025. This analysis tracks EUI for two of the largest City government facilities – City Hall and the La Crosse Center – from 2007-2016.

City Hall

City Hall’s 2017 EUI was 138.9 kBtu/ft² – down from 164.0 kBtu/ft² in 2007 (-15.3%), but up from 125.8 kBtu/ft² in 2016 (+10.4%; see Figure 5). The U.S. EPA Energy Star Portfolio Manager program publishes median EUI values by facility type among its participating facilities. In early 2016, the median site EUI value for offices was 67.3 kBtu/ft², suggesting that City Hall uses significantly more energy than most office facilities in the Portfolio Manager program. However, the ages, geographical locations, and specific usage patterns of participating facilities are undisclosed.

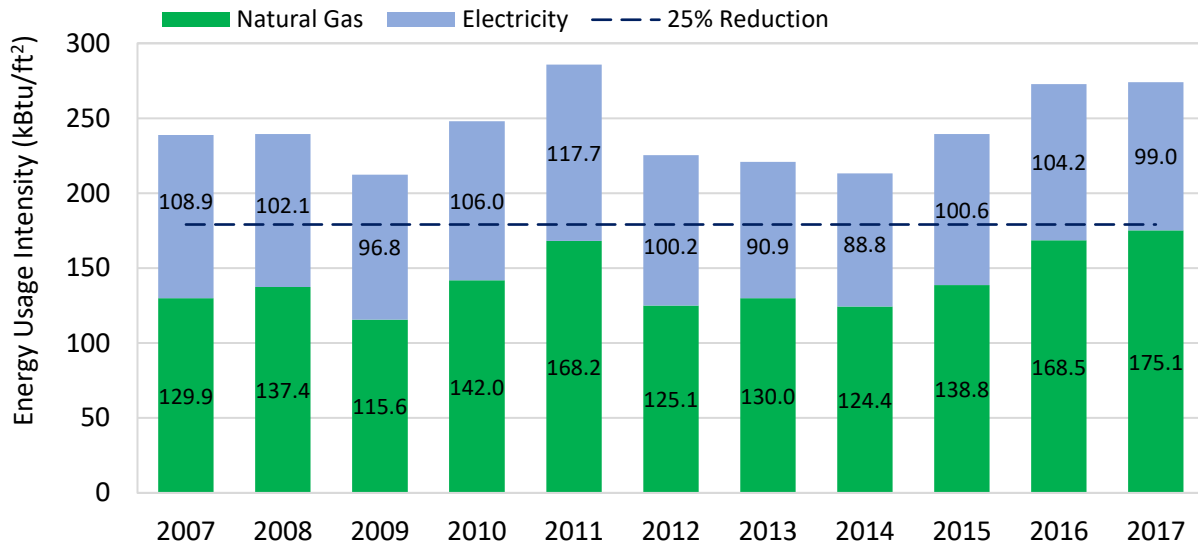
Figure 5: City Hall Annual Energy Use Intensity



La Crosse Center

The La Crosse Center’s 2017 EUI was 274.1 kBtu/ft² – up from 238.8 kBtu/ft² in 2007 (+14.8%), and up from 274.1 kBtu/ft² in 2016 (+0.5%; see Figure 6). In early 2016 the Portfolio Manager median site EUI value for convention centers was 45.3 kBtu/ft², indicating that the La Crosse Center uses more energy than most convention centers in the Portfolio Manager program. However, the ages, geographical locations, and specific usage patterns of participating facilities are undisclosed.

Figure 6: La Crosse Center Annual Energy Usage Intensity



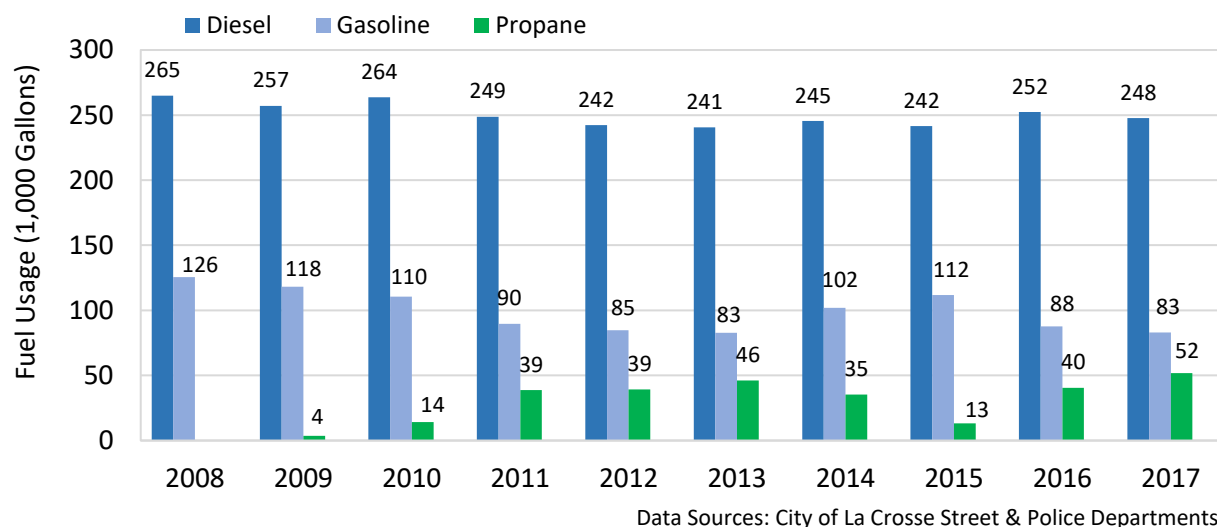
Vehicle Fuels

The City government’s vehicle fleet uses three fuel types: diesel fuel, gasoline and propane. Usage of each type is examined separately below. The City government has set two long-term goals related to fuel usage in its vehicle fleet:

- Goal 1D: By 2025, the City will consume at least 25% less fossil fuel for its vehicle fleet.
- Goal 1E: By 2025, at least 25% of the fuel consumed for the City’s fleet will come from renewable sources and alternative fuels.

With respect to Goal 1D, the City fleet’s total fossil fuel usage in 2017 was 4.5% lower (by energy content) than in 2008. Diesel fuel and propane are purely fossil fuel sources. Most gasoline is formulated as a blend of 90% petroleum gasoline (fossil) and 10% ethanol (renewable). With respect to Goal 1E, renewable and/or alternative fuels accounted for 11.7% of the City fleet’s total fuel usage (by energy content) in 2017. These included propane – an alternative fossil fuel – and the ethanol component of gasoline.

Figure 7: City of La Crosse Government Annual Vehicle Fuel Usage



Diesel Fuel

Diesel fuel is typically utilized by heavy-duty vehicles such as buses, snow plows and construction vehicles. Therefore, diesel fuel usage is influenced by variables including snowfall amounts during winter and construction activity during other seasons.

The City fleet used 247,364 gallons of diesel fuel in 2017 – down from 264,878 gallons in 2008 (-6.5%) and down from 252,351 gallons in 2016 (-1.8%; see Figure 7).^{6,7} Among City departments, the MTU (bus system) used the largest quantity of diesel in 2017 (61% of the City total), followed by the Street Department (21%; see Figure 8).

⁶ Fuel used by the Library Department has been removed from analysis, as information is no longer available.

⁷ The *Strategic Plan for Sustainability* reported the City government’s 2007 diesel usage to be 418,500 gallons - including usage by Western Technical College and the La Crosse School District.

Gasoline

Gasoline is typically utilized by light-duty vehicles such as passenger cars and pickup trucks. The City fleet used 83,089 gallons of gasoline in 2017 – down from 125,522 gallons in 2008 (-33.8%), and down from 87,764 gallons in 2016 (-5.3%; see Figure 7).^{8,9} The Police Department’s use of propane as an alternative option to gasoline explains part of the City government’s gasoline usage reduction.

The Police Department was the largest user of gasoline among City departments (24% of the City total; see Figure 9). The Water, Parks & Recreation, Police Parking, and Street departments also used relatively large proportions of the City government’s total.

Propane

In 2017 the Police Department’s squad vehicles used 51,672 gallons of propane – up from 40,494 gallons in 2016 (+27.6%; see Figure 7). In 2009, the Department began outfitting new squad vehicles for using propane in addition to gasoline, so they can utilize either throughout the year depending on fuel costs. Police department gasoline usage and propane usage are therefore expected to be inversely related to each other.

Figure 8: City of La Crosse Gov't 2017 Diesel Fuel Usage by Department

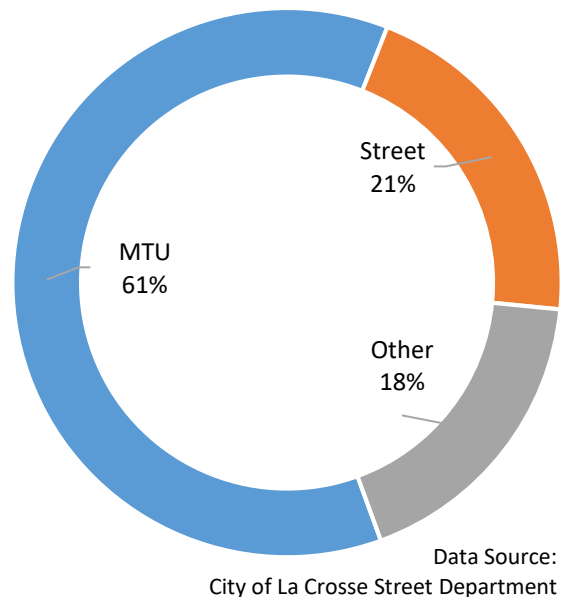
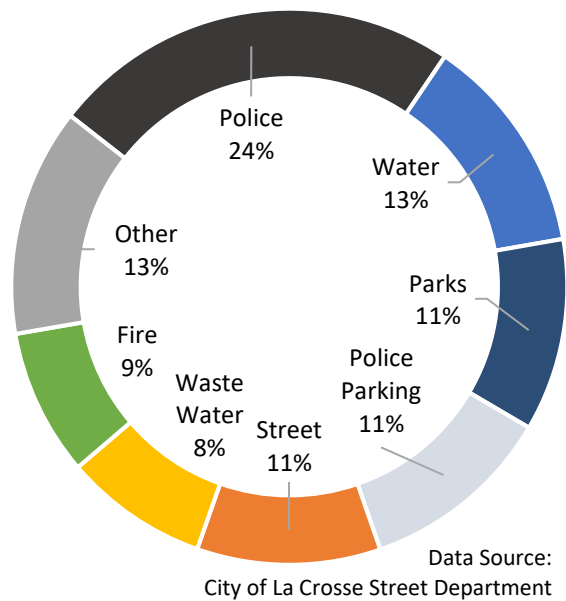


Figure 9: City of La Crosse Government 2017 Gasoline Usage by Department



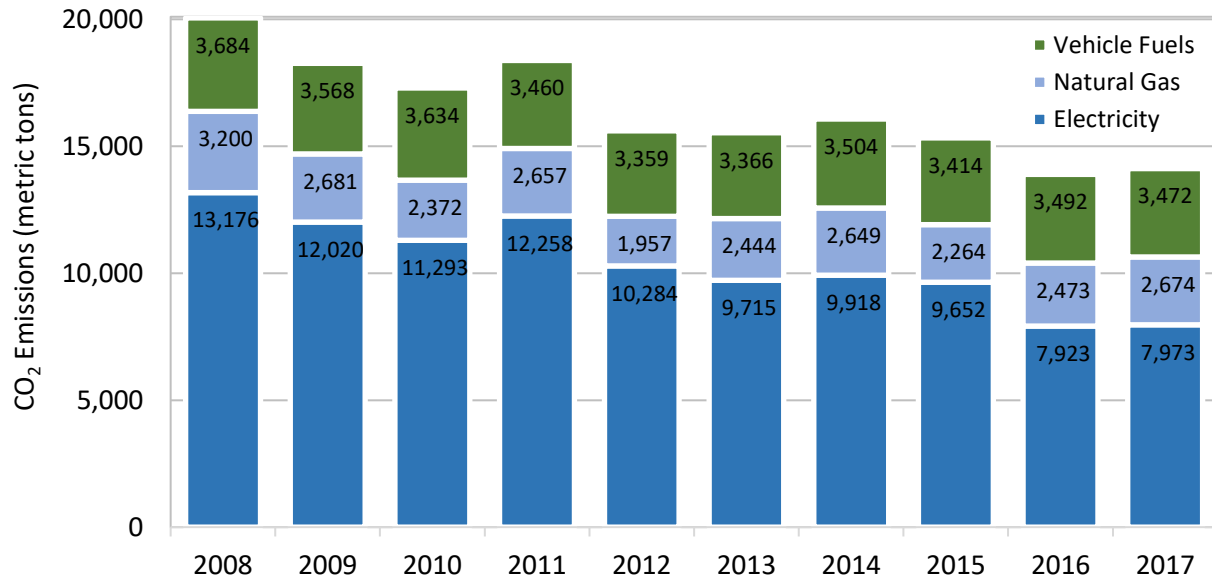
⁸ Fuel used by the Library Department has been removed from analysis, as information is no longer available.

⁹ The *Strategic Plan for Sustainability* reported the City government’s 2007 gasoline usage to be 134,720 gallons but this quantity also includes usage by Western Technical College and the La Crosse School District.

CO₂ Emissions from Facility Energy Usage & Vehicle Fuels

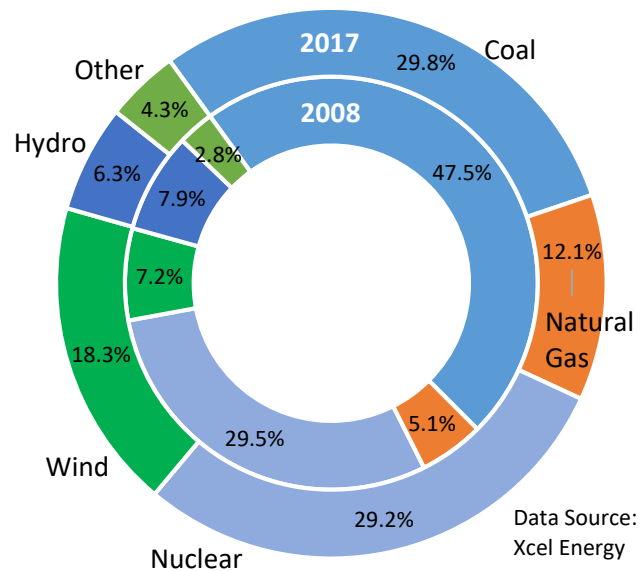
Combustion of fossil fuels to produce energy emits carbon dioxide (CO₂) into the atmosphere. The City government’s 2017 energy usage resulted in an estimated 14,119 metric tons of CO₂ emissions – down from 20,060 metric tons in 2008 (-29.6%), but up from 13,888 metric tons in 2016 (+1.7%; see Figure 10).^{10,11} The electricity component was the largest driver of reduced emissions from 2008 to 2017, having decreased by 39.5%.

Figure 10: City of La Crosse Gov't. Annual CO₂ Emissions from Energy Usage



The City government’s CO₂ emissions from electricity are influenced by two factors: the City government’s electricity usage quantities and Xcel Energy’s electricity emission rates – i.e., CO₂ quantities emitted per unit of electricity produced. Both factors declined from 2008-2017, but reductions in Xcel’s emission rate were primarily responsible for the declining trend in the City government’s CO₂ emissions. Xcel produced less electricity with coal and more with natural gas and wind energy sources (see Figure 11), resulting in a 34.6% lower emission rate in 2017 than in 2008. Though natural gas is a fossil fuel, it produces much less CO₂ than coal.

Figure 11: Xcel Energy Upper Midwest Region Electricity Resource Mix, 2008 & 2017



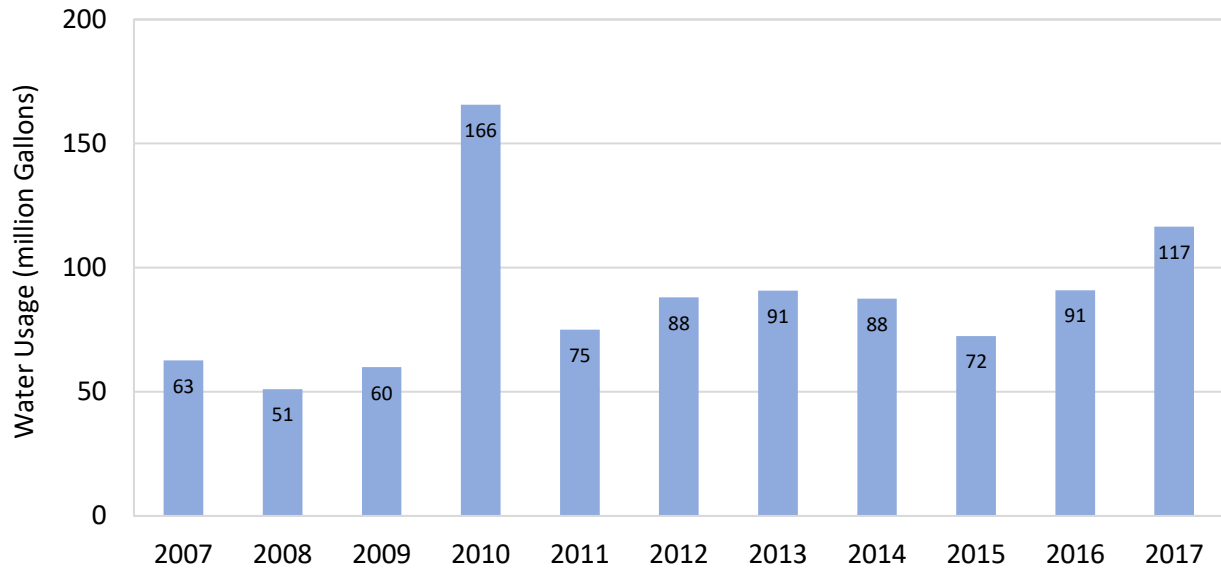
¹⁰ City fleet vehicle fuel usage data are not available for 2007, so 2008 is used as a baseline instead.

¹¹ Some values revised from previous reports, based on revisions to underlying energy use/emission factor values

Water Usage

This indicator tracks City-sourced water used by major City government facilities, including City Hall, La Crosse Center, Libraries, Fire Stations, Swimming Pools & Erickson Ball Fields, Airport, Municipal Service Center, MTU Transit Center, Waste Water Treatment Utility, and the Water Utility’s Myrick Park Pump Station. A number of smaller end uses are excluded. Also excluded is water sourced from on-site wells serving City Hall and the La Crosse Center.

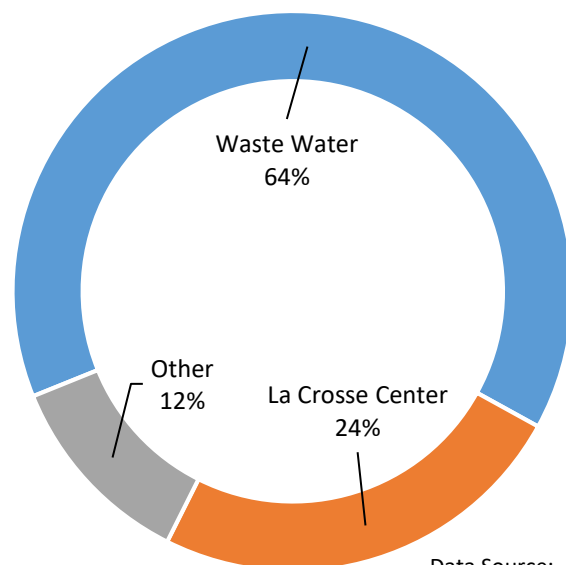
Figure 12: City of La Crosse Government Annual Water Usage



Data Source: City of La Crosse Water Department

The City’s government’s water usage in 2017 was 116.5 million gallons – up from 62.6 million gallons in 2007 (+86.1%), and up from 90.9 million gallons in 2016 (+28.1%; see Figure 12). Among City departments, the Waste Water Treatment Utility accounted for 64% of the City total, and the La Crosse Center accounted for 24% (see Figure 13). Increased usage at City Hall and the La Crosse Center accounts for most of the total increase between 2016 and 2017. Both of these facilities used City-sourced water while problems were being resolved with their on-site wells. The abnormally high water usage in 2010 resulted from flushing of the digester and storage tanks at the Waste Water Treatment Utility.

Figure 13: City of La Crosse Government 2017 Water Usage by Department



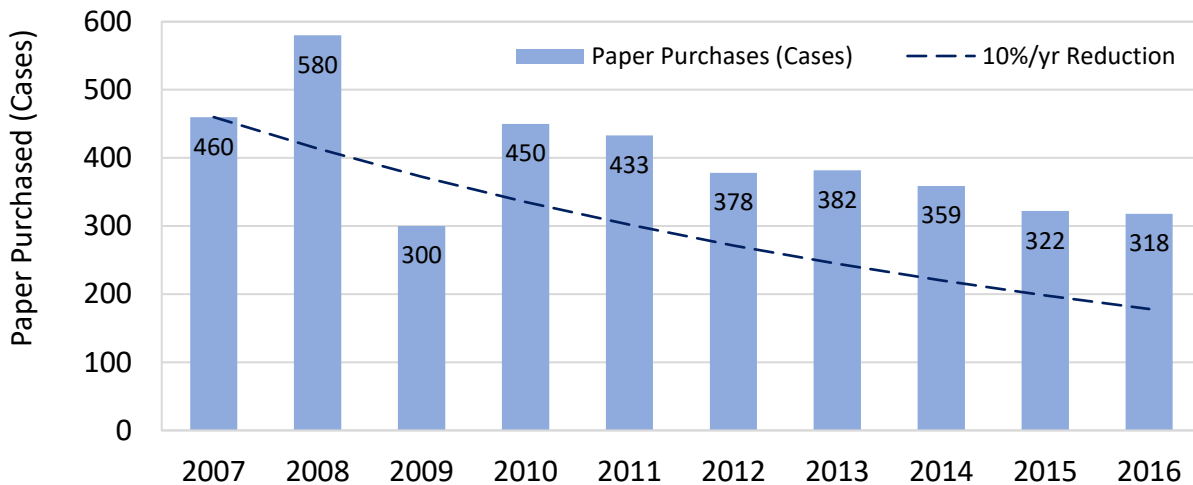
Data Source: City of La Crosse Water Department

Paper Usage

The City government purchased 318 cases of white paper in 2016 – down from 460 cases in 2007 (-30.9%), and down from 322 cases in 2015 (-1.2%; see Figure 14).¹² A large purchase of paper late in 2008 probably explains the abnormally high value for that year and the abnormally low value for 2009. In Goal 3B of the *Strategic Plan for Sustainability*, the City government aimed to reduce paper consumption by at least 10% each year for five years. On average, the City government’s paper usage has declined by 4.0% per year from 2007-2016. At \$0.05 per printed sheet, the City government spent \$35,500 less on paper in 2016 than in 2007.

For 2017, purchase records indicate that the City government purchased 669 cases of white paper. However, the large difference between this quantity and those from previous years likely reflect changes in data collection procedures resulting from personnel changes. The discrepancy is under review but remains unresolved as of the completion of this report.

Figure 14: City of La Crosse Government Annual Paper Usage



Data Source: City of La Crosse Government

Green Product Purchasing

In *Strategic Plan for Sustainability* Goal 2A, the City government set a goal to replace 50% of purchased products with environmentally preferred products. Examples of environmentally preferred products include post-consumer content paper products, chlorine-free paper, and chemical products containing low Volatile Organic Compound (VOC) levels. As of 2013, the City government’s product purchase database contained a relatively small number of environmentally preferred products (see Table 2).

Table 2: City of La Crosse Gov’t Purchase Item Count by Environmentally Preferred Status

Environmentally Preferred Status:	Green Product	Green Potential	No Green Potential	Unknown	Total
Number of Items:	20	100	651	53	824

¹² A case of paper is equivalent to 5,000 sheets.

La Crosse County Government Operations

Facility Energy Usage

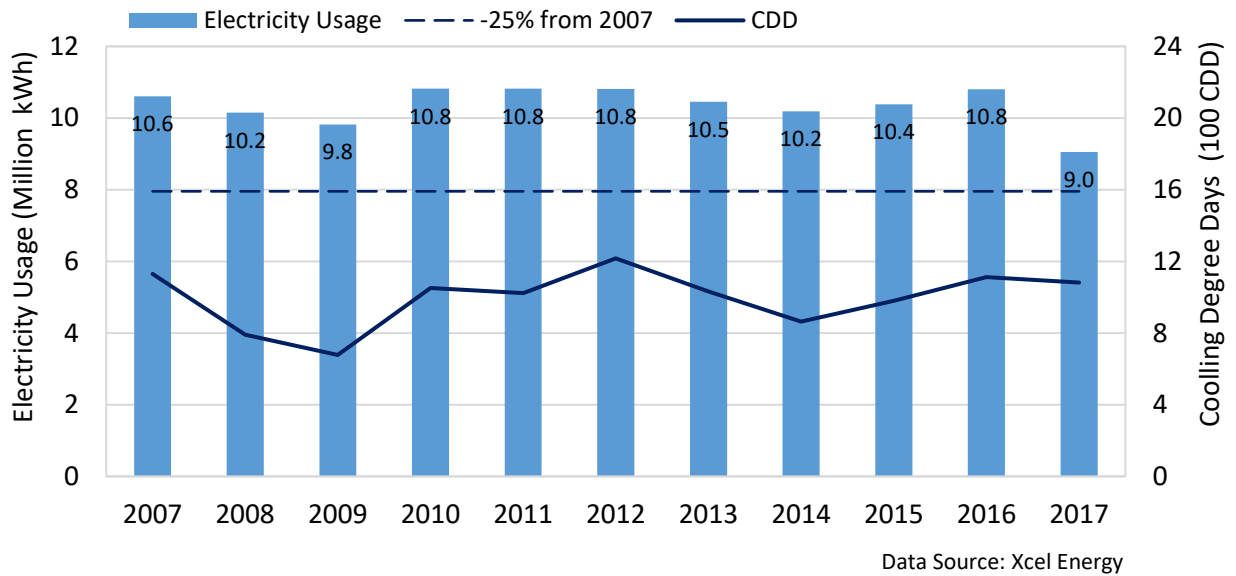
The La Crosse County government utilizes electricity and natural gas energy sources to operate facilities; each is examined separately below. The County government implemented several facility changes in 2016 that impacted 2017 energy usage levels:

- A new Lakeview Health facility opened late in 2016, replacing the old facility.
- The Administration Center was relocated to another existing facility – smaller in area – in La Crosse. After renovations were completed, the new facility opened early in 2017.
- La Crosse County also completed LED lighting retrofits at Law Enforcement Center and Solid Waste facilities.

Electricity

The La Crosse County government consumed 9.05 million kWh of electricity during 2017 – down from 10.61 million kWh in 2007 (-14.7%), and down from 10.80 million kWh in 2016 (+16.2%; see Figure 15).¹³ At \$0.11 per kWh, the County government spent \$171,291 less in 2017 than if electricity usage had remained at 2007 levels.¹⁴

Figure 15: La Crosse County Gov't Annual Electricity Usage with Cooling Degree Days



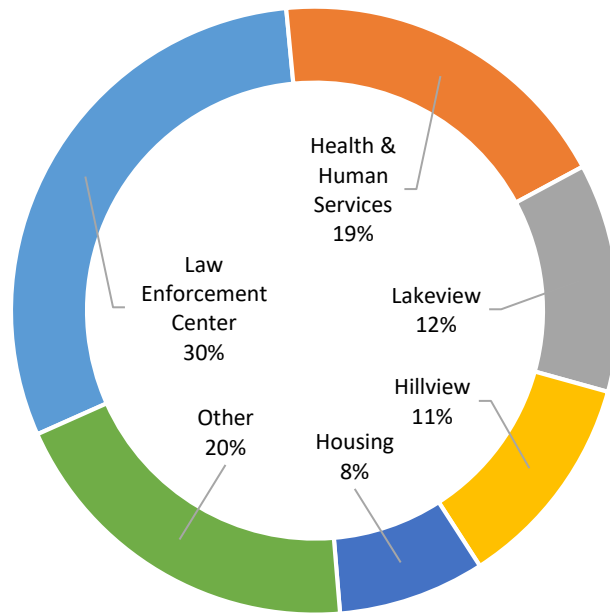
¹³ Data from previous years was updated in this report as some information had previously been omitted.

¹⁴ \$0.11 was the average commercial price for electricity in WI during 2017 (data source: US EIA).

Cooling degree days (CDD) measure the difference between outdoor temperature and the base indoor temperature of air-conditioned facilities. The annual CDD values shown in Figure 15 represent an index of overall summer heat levels. Higher electricity consumption for air conditioning is expected in years with higher annual CDD values.

Among County facilities, the Law Enforcement Center used the largest amount of electricity in 2017 (30% of the City total; see Figure 16). Health and Human Services, Lakeview Health Center, and Hillview Health Care Center also used relatively large quantities.

Figure 16: La Crosse County Government 2017 Electricity Usage by Facility

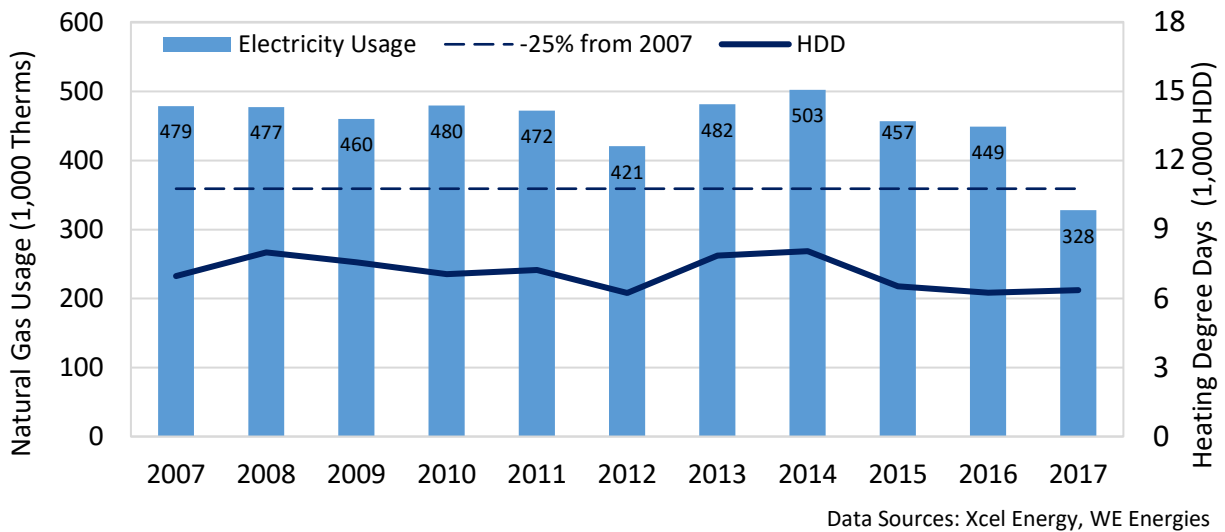


Data Source: Xcel Energy

Natural Gas

The La Crosse County government consumed 327,912 therms of natural gas during 2017 – down from 478,918 therms in 2007 (-31.5%), and down from 449,006 therms in 2016 (-27.0%; see Figure 17).¹⁵ At \$0.66 per therm, the County government spent \$95,133 less for natural gas in 2017 than if usage had remained at the 2007 level.¹⁶

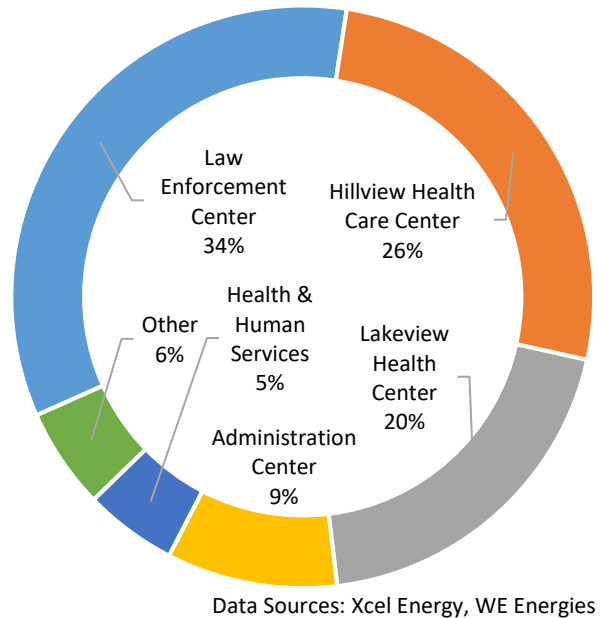
Figure 17: La Crosse County Gov't Annual Natural Gas Usage with Heating Degree Days



Heating degree days (HDD) measure the difference between outdoor and indoor temperatures. The annual HDD values shown in Figure 17 represent an index of overall winter coldness. Higher natural gas use is expected in years with higher HDD values.

Among County facilities, the Law Enforcement Center used the largest amount of natural gas in 2017 (34% of the County total; see Figure 18). Hillview Health Care Center and Lakeview Health Center also used relatively large quantities.

Figure 18: La Crosse County Government 2017 Natural Gas Usage by Facility



¹⁵ Data from previous years was updated in this report as some information had previously been omitted.

¹⁶ \$0.66 per therm was the average commercial price for natural gas in WI during 2016 (data source: US EIA).

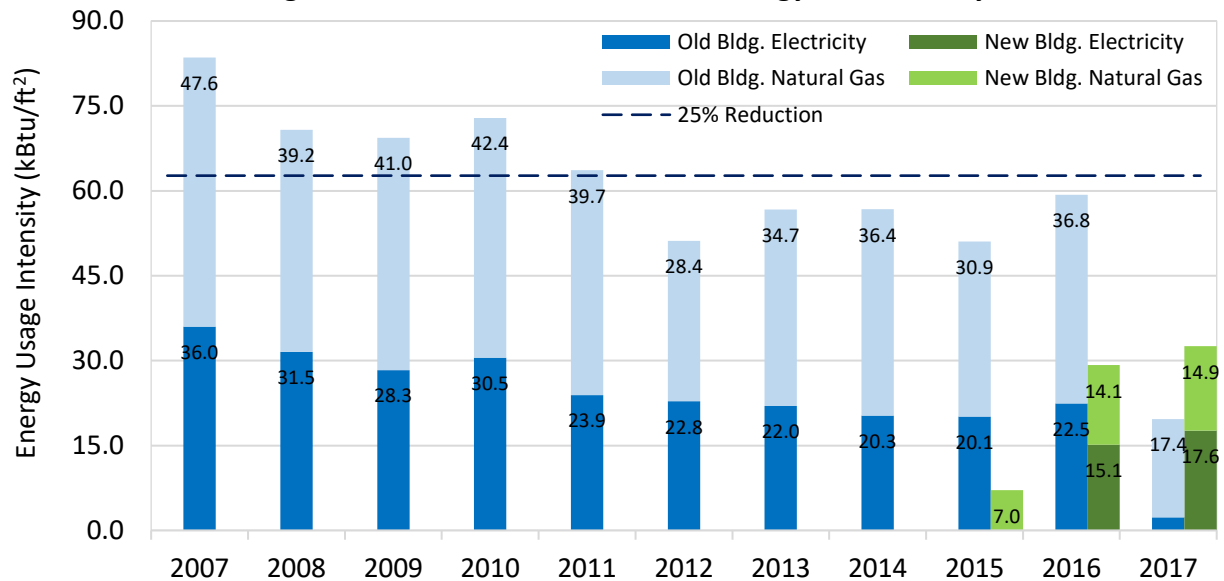
Energy Use Intensity

A facility’s annual energy usage per square foot, or *energy use intensity (EUI)*, is a measure of its total annual energy usage (in units of kBtu), standardized by its size (in units of ft²). EUI is useful for comparing energy use among facilities of different sizes. This analysis compared EUI of the new Administrative and Lakeview Health Center facilities with EUI of their predecessors.

Administrative Center

The La Crosse County government relocated its Administrative Center from the previous facility (400 4th Street N) to a renovated existing facility (212 6th Street N) at the end of 2016. The new facility’s EUI in 2017 was 32.5 kBtu/ft², which is 36.2% lower than the EUI of the previous facility in 2015 – its most recent full year of operation (51.0 kBtu/ft²; see Figure 19).¹⁷ For comparison, U.S. EPA’s Energy Star Portfolio Manager publishes median EUI values by facility type. As of March 2016, the median site-level EUI value for offices was 67.3 kBtu/ft².

Figure 19: Administration Center Energy Use Intensity



The renovated Administrative Center consumes less energy than its predecessor because of its lower EUI and because of its smaller size (68,500 ft² vs. 120,000 ft²). Total energy usage (including electricity and natural gas) of the renovated facility in 2017 was 63.6% lower than that of the previous facility in 2015. At \$0.11/kWh and \$0.66/therm, this represents an annual cost savings of \$55,874.

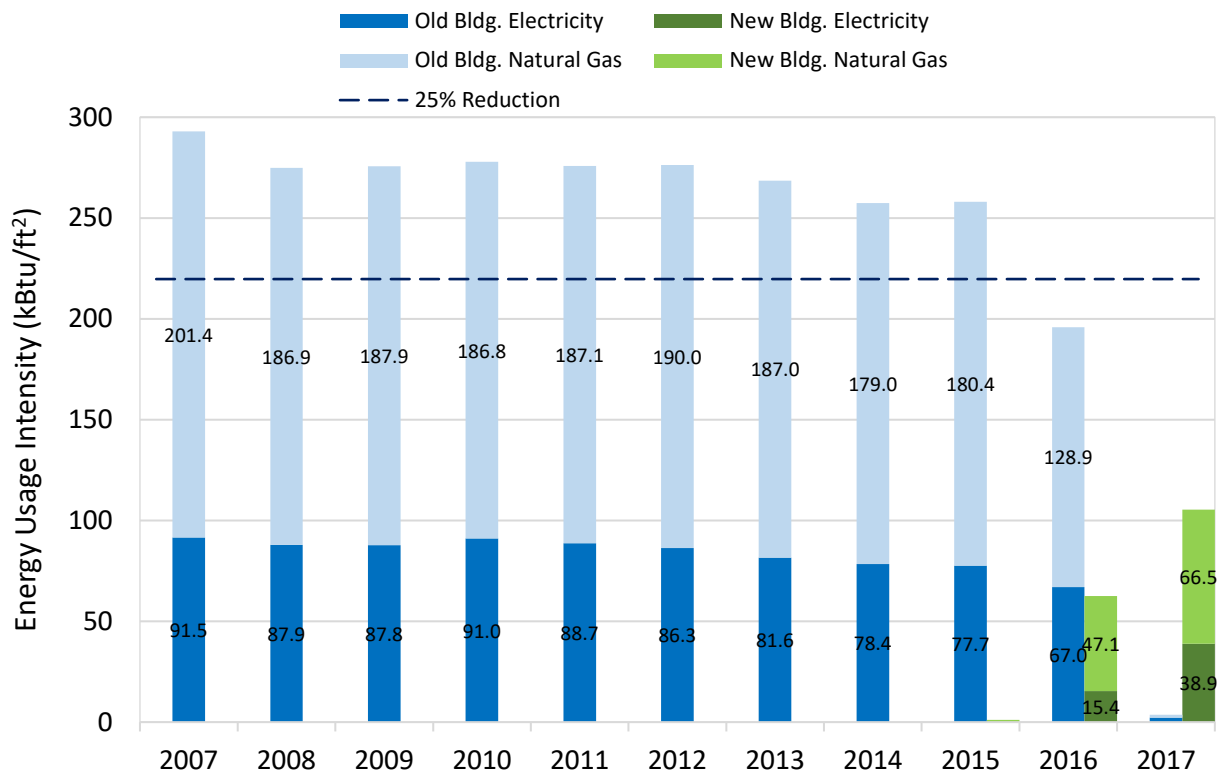
¹⁷ The County government continued to pay utility costs for the previous facility in early 2017 until property transfer to new ownership was complete.

Lakeview Health Center

The La Crosse County government replaced its previous Lakeview Health Center facility with a new-construction facility in late 2016. The new facility’s EUI in 2017 was 105.3 kBtu/ft², which is 59.2% lower than the EUI of the previous facility in 2015 – its most recent full year of operation (258.1 kBtu/ft²; see Figure 20).¹⁸ For comparison, the Portfolio Manager’s median EUI value for residential care facilities in March 2016 was 125.7 kBtu/ft²

At \$0.11/kWh and \$0.66/therm, the total energy cost for the new facility in 2017 was \$170,022 less than the total energy cost of the old facility in 2015.

Figure 20: Lakeview Health Center Energy Use Intensity

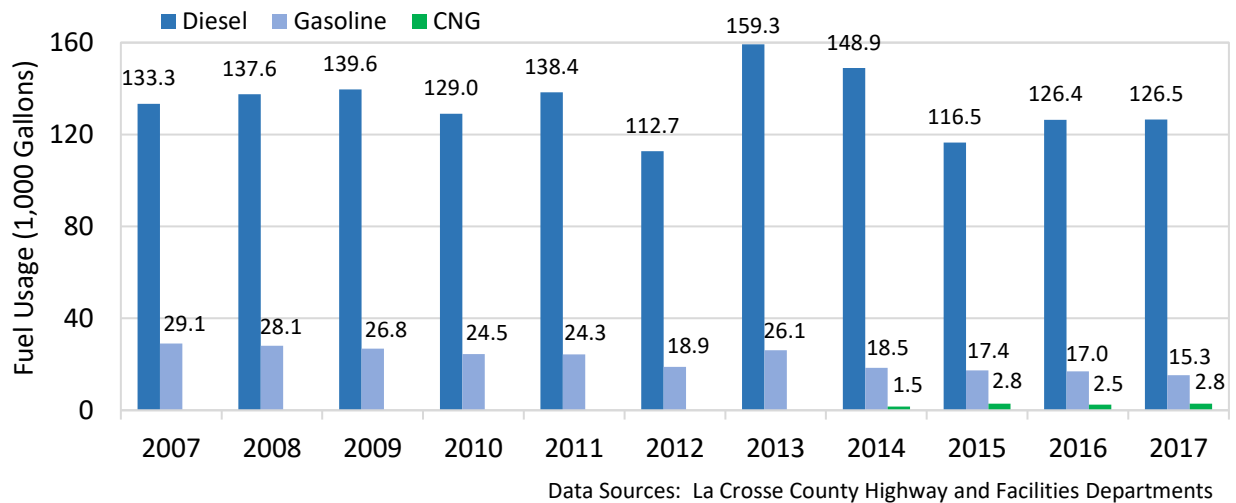


¹⁸ The County government continued to pay utility costs for the previous facility in early 2017 until property transfer to new ownership was complete.

Vehicle Fuels

The County government’s vehicle fleet uses three fuel types: diesel fuel, gasoline and compressed natural gas (CNG).¹⁹ Usage of each type is examined separately below. Overall, the County fleet’s total vehicle fuel usage in 2017 was 10.3% lower (by energy content) than in 2007.

Figure 21: La Crosse County Government Annual Vehicle Fuel Usage



Diesel

Diesel fuel is typically utilized by heavy-duty vehicles such as buses, snow plows and construction vehicles. Therefore, diesel fuel usage is influenced by variables including snowfall amounts during winter and construction activity during other seasons. The County government used 126,542 gallons of diesel fuel in 2017 – down from 133,348 gallons in 2007 (-5.1%), but up from 126,404 gallons in 2016 (+0.15%; see Figure 22). The Highway Department accounted for 99% of diesel usage in 2017, and the Facilities Department for 1%.

Gasoline

Gasoline is typically utilized by light-duty vehicles such as passenger cars and pickup trucks. The County government used 15,256 gallons of gasoline in 2017 – down from 29,050 gallons in 2007 (-47.5%), and down from 16,992 gallons in 2016 (-10.2%; see Figure 22). The Highway Department accounted for 75% of gasoline usage in 2017, and the Facilities Department for 25%.

Compressed Natural Gas (CNG)

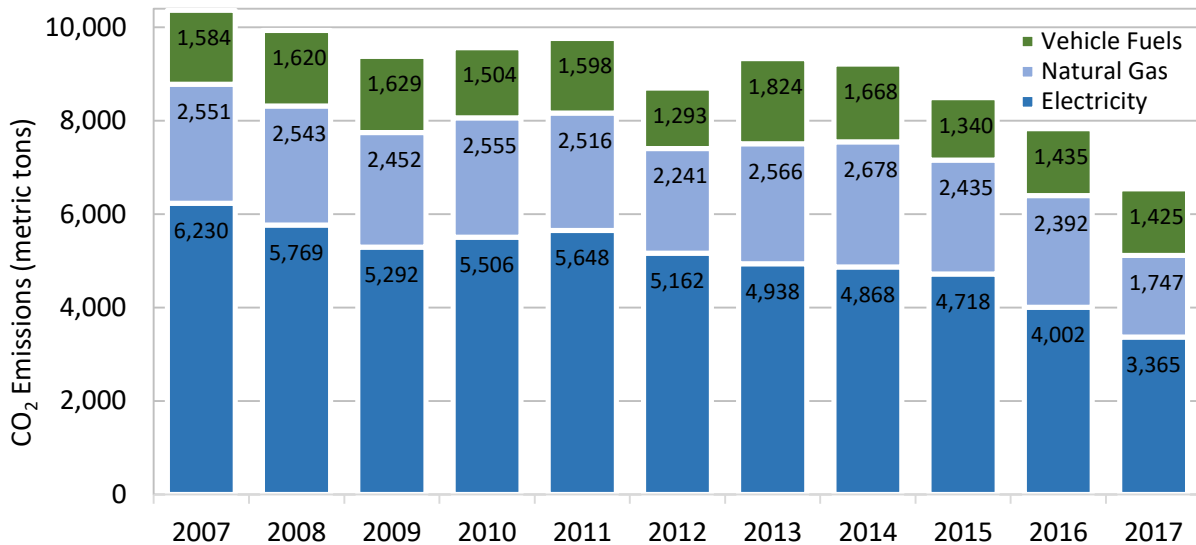
In 2014, the Highway Department began operating two full-size pickup trucks that were converted to use compressed natural gas (CNG) rather than gasoline. Total usage in 2017 was 2,833 gallons of gasoline equivalent (GGE), which was up from 2,499 GGE in 2016 (+13.4%; see Figure 21). CNG quantities are typically measured in GGE, which represents a quantity of CNG whose energy content is equal to that of a gallon of gasoline.

¹⁹ Sheriff’s department fuel usage is excluded from County fuel usage values.

CO₂ Emissions from Facility Energy Usage & Vehicle Fuels

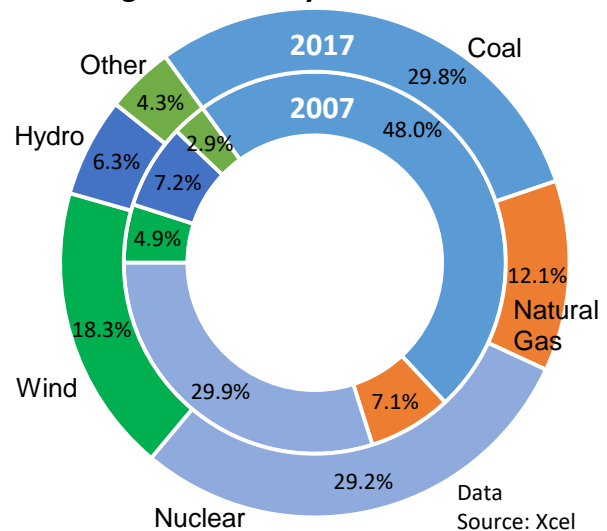
Combustion of fossil fuels to produce energy emits carbon dioxide (CO₂) into the atmosphere. The County government’s 2017 energy usage resulted in an estimated 6,537 metric tons of CO₂ emissions – down from 10,365 metric tons in 2007 (-36.9%), and down from 7,829 metric tons in 2016 (-16.5%; see Figure 22).²⁰ The electricity component was the largest driver of reduced emissions from 2007 to 2017, having decreased by 46.0%.

Figure 22: La Crosse County Government Annual CO₂ Emissions from Energy Usage



The County government’s CO₂ emissions from electricity are influenced by two factors: the County government’s electricity usage quantities and Xcel Energy’s electricity emission rates – i.e., the amount of CO₂ emitted per unit of electricity produced. Both factors declined from 2007-2017, but reductions in Xcel’s emission rate were primarily responsible for the declining trend in the County government’s CO₂ emissions. Xcel produced less electricity with coal and more with natural gas and wind energy sources (see Figure 23), resulting in a 36.7% lower emission rate in 2017 than in 2007.

Figure 23: Xcel Energy Upper Midwest Region Electricity Resource Mix

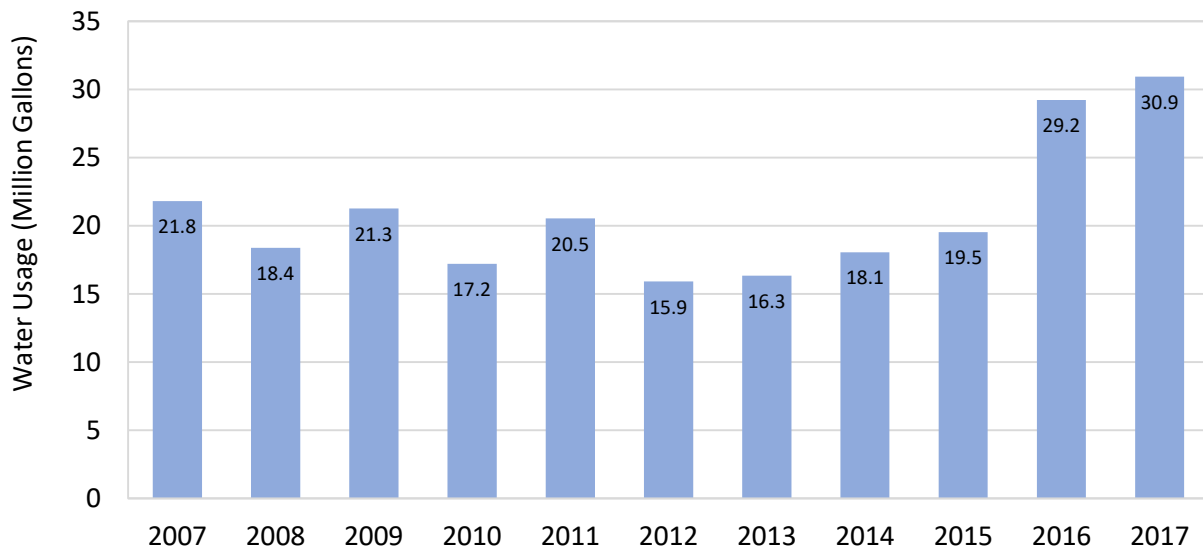


²⁰ Some values revised from previous reports, based on revisions to underlying energy use/emission factor values

Water Usage

This indicator includes water usage only at County government facilities that are located within the City of La Crosse and served by the City Water Utility: Administration Center, Health & Human Services, Law Enforcement Center, Hillview Health Care Center, Carroll Heights and the Highway Department facility on Park Lane Dr. A number of facilities located in other municipalities are excluded; e.g., Lakeview Health Center, Highway Department Headquarters. Also excluded is water sourced from on-site wells at the Administrative Center, Health and Human Services, and Law Enforcement Center facilities.

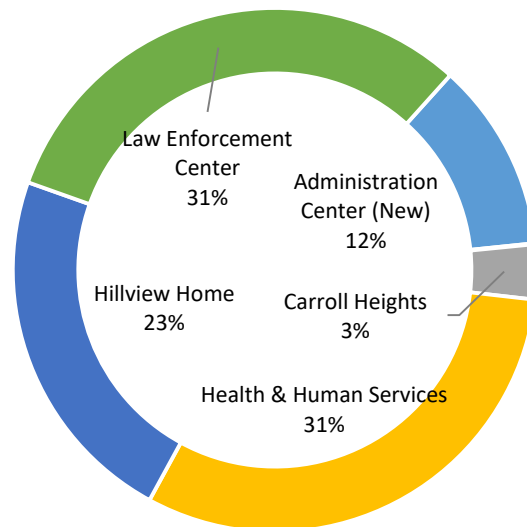
Figure 24: La Crosse County Government Annual Water Usage



Data Source: City of La Crosse Water Department

Figure 25: La Crosse County Gov't 2017 Water Usage by Facility

The County government’s water usage in 2017 was 30.9 million gallons – up from 21.8 million gallons in 2007 (+41.8%), and up from 29.2 million gallons in 2016 (+5.9%; see Figure 24). Among included County facilities, the Law Enforcement Center and Health and Human Services facilities used the largest proportions 31% of total each; see Figure 25). Hillview Health Care Center also used a relatively large quantity. Increased usage at the Health and Human Services facility accounts for most of the total increase between 2016 and 2017. The facility used City-sourced water while problems were being resolved with its on-site well.

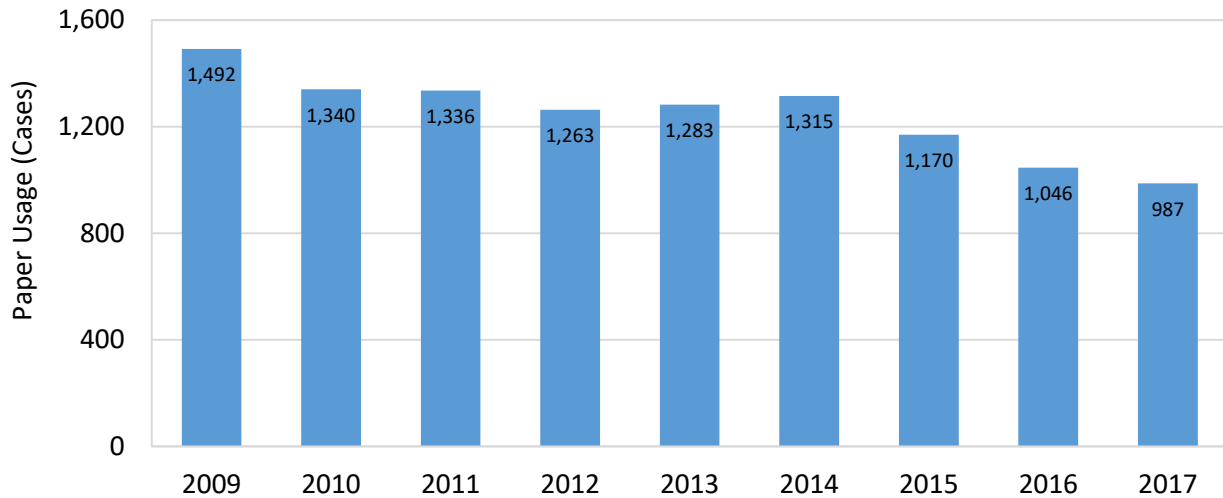


Data Source: City of La Crosse Water Department

Paper Usage

In 2017, the County government used 987 cases of paper – down from 1,492 cases in 2009²¹ (-33.8%), and down from 1,046 cases in 2016 (-5.6%; see Figure 26). At \$0.05 per printed sheet of paper, the County spent \$126,226 less on paper in 2017 than in 2009.

Figure 26: La Crosse County Government Annual Paper Usage



Data Source: La Crosse County Government

Green Product Purchasing

In August of 2008, the County Board passed a resolution to incorporate a sustainability provision into its purchasing policy. The resolution, established priority for purchasing products, equipment and services that meet sustainability standards. Examples include paper products (paper towels, toilet paper, etc.) with 100% recycled content, biodegradable hand soaps and environmentally friendly cleaning products. As of 2009, all Request for Proposals received from vendors for \$20,000 or more must include sustainability criteria.

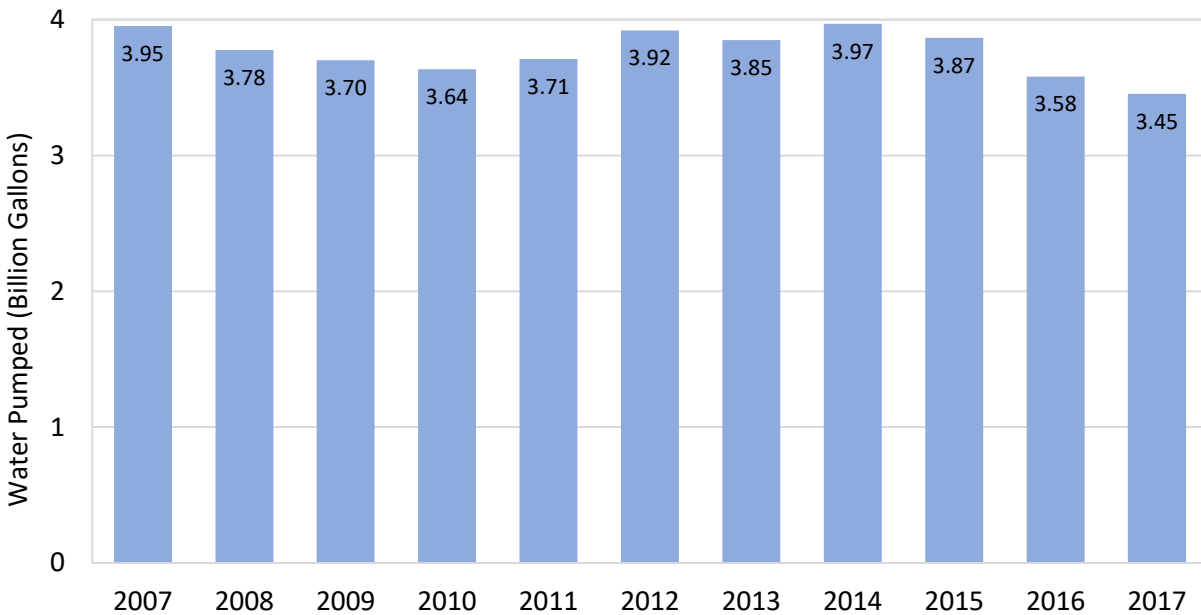
²¹ 2009 is the earliest year for which County paper usage data is available.

Community-Wide Indicators

Water Usage

This indicator tracks the total amount of water pumped annually by the City Water Utility’s wells. It includes both metered usage and unmetered usage/losses such as main breaks, service leaks, system flushing, and fire suppression. Community-wide, the City of La Crosse used 3.45 billion gallons of water in 2017 – down from 3.95 billion gallons in 2007 (-12.6%), and down from 3.58 billion gallons in 2016 (-3.6%; see Figure 27). Total water usage is influenced by growing-season rainfall amounts, as more pumped water is used for landscape irrigation during periods of low rainfall.

Figure 27: City of La Crosse Annual Water Usage



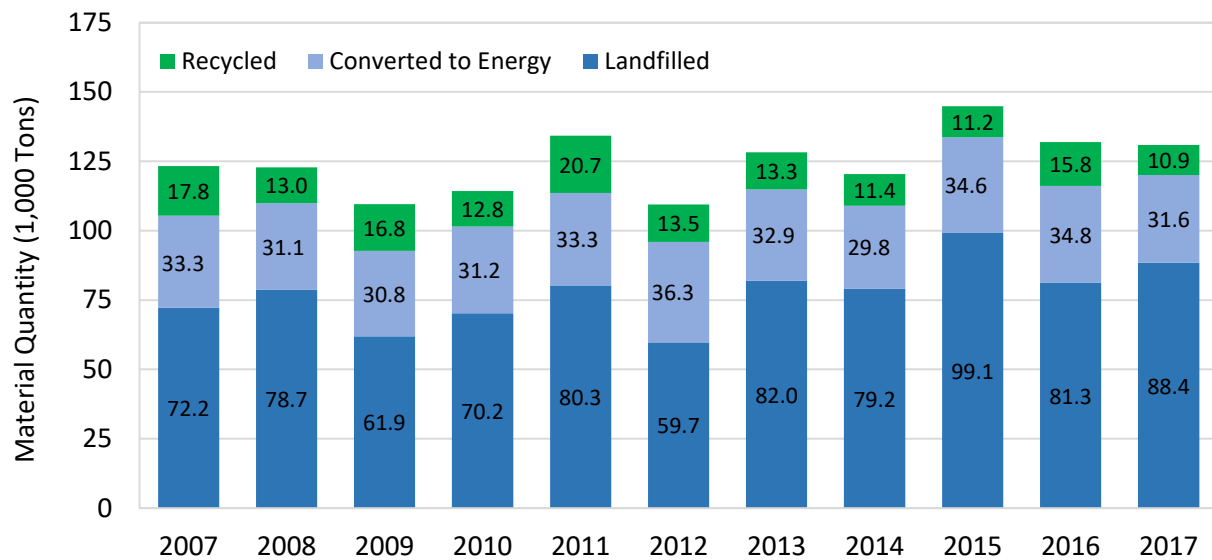
Data Source: Wisconsin Public Service Commission

Solid Waste Generation & Diversion

Solid waste managed by La Crosse County enters one of three waste streams: deposition in the La Crosse County Landfill, incineration at the Xcel Energy Waste-to-Energy facility on French Island (which generates electricity), or recycling. Recycled quantities include both materials collected by municipalities (see following section), and materials diverted for recycling at the landfill. The latter include shingles, concrete, tires, scrap metal, yard waste and wood waste.

In total, La Crosse County handled 130,925 tons of solid waste in 2017 – up from 123,274 tons in 2007 (+6.2%), but down from 131,976 tons in 2016 (-0.8%; see Figure 28). Solid waste generation is influenced by trends in economic activity. In particular, more construction activity generates more solid waste. Economic recession may explain the relatively low quantity of solid waste generated in 2009 and the subsequent increasing trend.

Figure 28: La Crosse County Annual Solid Waste Quantities



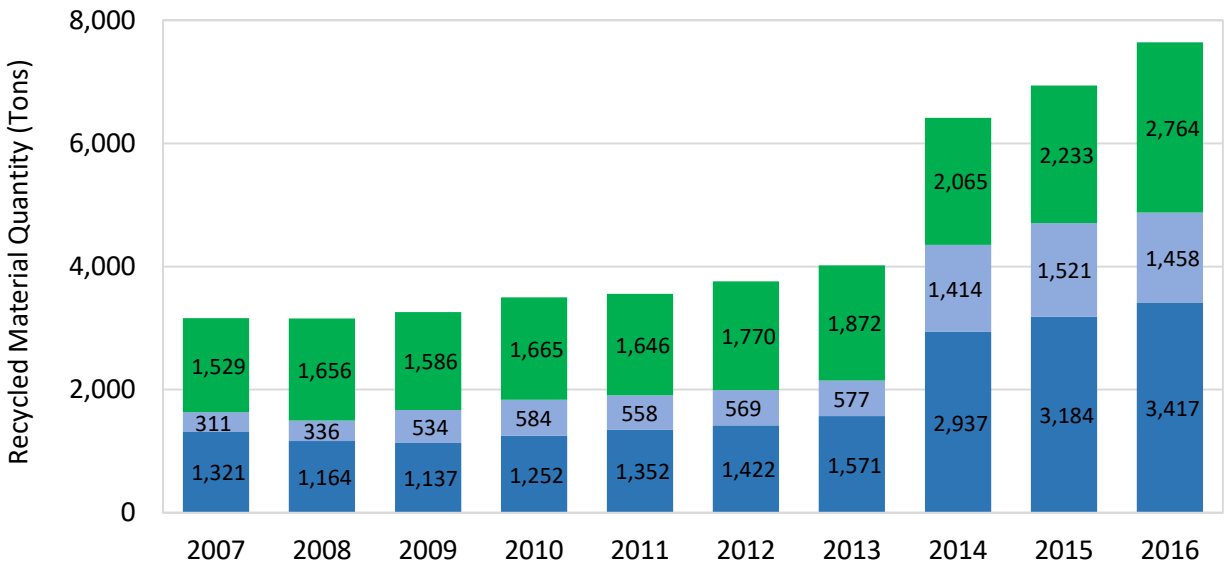
Data Source: La Crosse County Solid Waste Department

Of the total solid waste handled in 2017, 67.6% was deposited into the landfill, 24.2% was incinerated to produce electricity, and 8.3% was recycled. The 2017 total diversion rate (i.e., the sum of the percent incinerated and the percent recycled) was 32.4%, down from 38.4% in 2016 and down from 41.4% in 2007. Incinerated waste from La Crosse County was used to produce an estimated 20.6 million kWh of electricity, enough to supply approximately 2,270 households.

Municipal Recycling Collection

This indicator tracks quantities of recyclable materials, collected through curbside and drop off collection methods, by all municipalities within La Crosse County. Materials include paper products (newspaper, corrugated, magazines), containers (aluminum, steel, bi-metal, plastic, glass) and polystyrene foam packaging.

Figure 29: La Crosse County Annual Municipal Recycling Quantities



Data Source: Wisconsin Department of Natural Resources

Recycling collection quantities have increased significantly since 2007. Together, the County’s municipalities collected 7,639 tons of materials for recycling in 2016 – up from 3,160 tons in 2007 (+141.8%), and up from 6,938 tons in 2015 (+10.1%; see Figure 29)²². The increase in recycled quantities between 2013 and 2014 for the Cities of La Crosse and Onalaska coincide with the initiation of a “single stream” collection process and distribution of much larger storage containers to residents in both communities.

²² Data for 2017 were not available as of the completion of this report.

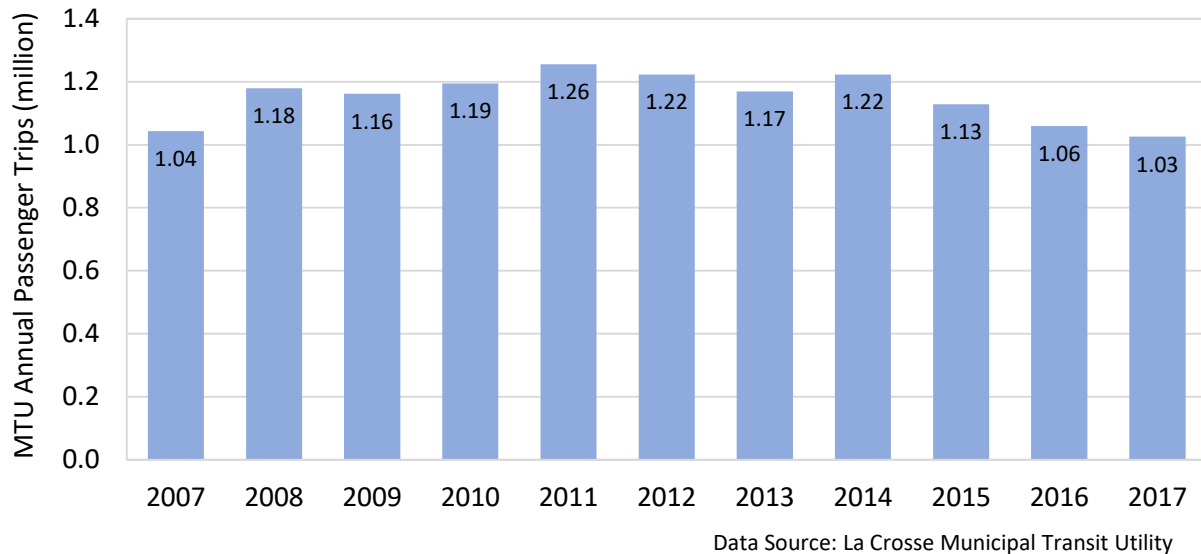
Transportation

This report tracks three indicators related to alternative forms of transportation: ridership on the La Crosse Municipal Transit Utility (the City bus system), the total length of bicycle routes and trails within the City and the County, and residents’ usage of alternative methods for commuting to work. In Goal 1G of the *Strategic Plan for Sustainability*, the City set a general goal to “enhance our community’s transportation system.”

La Crosse Municipal Transit Utility Ridership

The La Crosse Municipal Transit Utility provided 1.03 million passenger trips in 2017 – down from 1.04 million trips in 2007 (-1.7%), and down from 1.06 million trips in 2016 (-3.2%; see Figure 30).

Figure 30: La Crosse Municipal Transit Utility Annual Passenger Trips



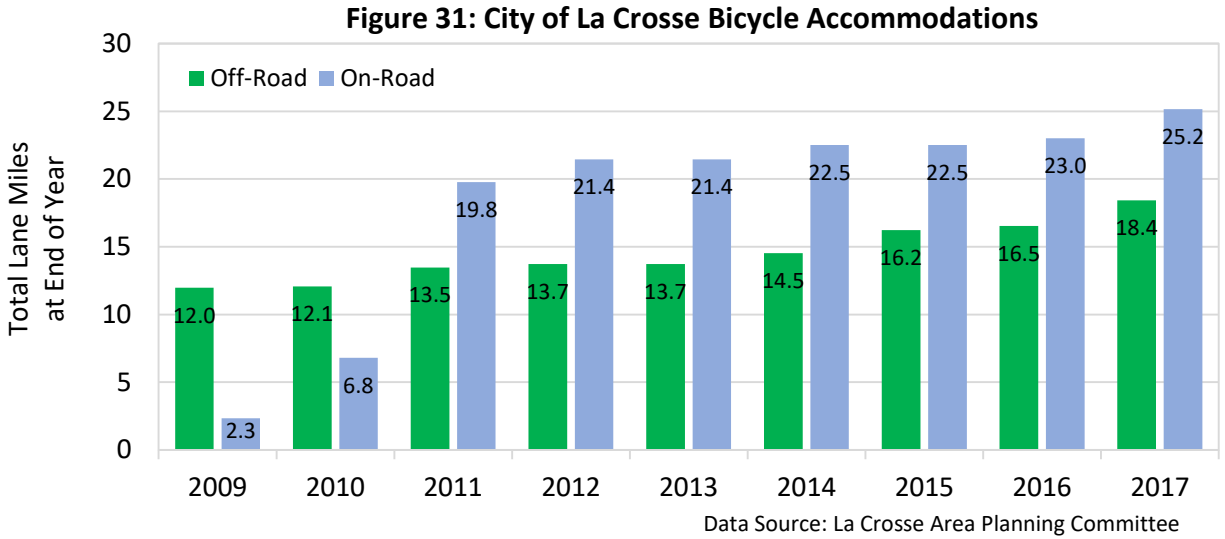
Bicycle Accommodations

This indicator includes on-road and off-road accommodations for bicycle transportation. On-road accommodations include designated bicycle lanes and streets marked with sharrow symbols. Off-road accommodations include paved trails that are at least eight feet wide, and also state trails. Trails with grass or earth surfaces are not included.

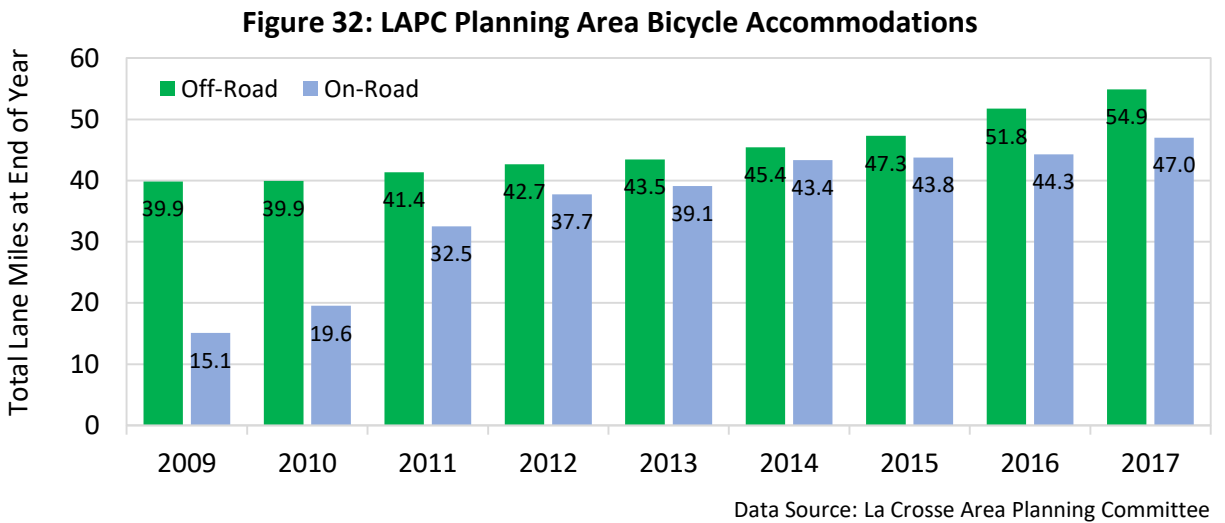
The City of La Crosse had 25.2 lane-miles²³ of on-road bicycle accommodations at the end of 2017 – up from 2.3 lane-miles at the end of 2009 (+977.6%), and up from 23.0 lane-miles at the end of 2016 (+9.3%; see Figure 31).²⁴ The City had 18.4 lane-miles of off-road bicycle accommodations at the end of 2017 – up from 12.0 lane-miles at the end of 2009 (+53.9%), and up from 16.5 lane-miles at the end of 2016 (+11.5%; see Figure 31).

²³ defined as the centerline length multiplied by the number of lanes

²⁴ 2009 is the earliest year for which bicycle accommodation data is available.



The La Crosse Area Planning Committee (LAPC) Planning Area²⁵ contained 47.0 lane-miles of on-road bicycle accommodations at the end of 2017 – up from 15.1 lane-miles at the end of 2009 (+211.6%), and up from 44.3 lane-miles at the end of 2016 (+6.2%; see Figure 32). The Planning Area contained 54.9 lane-miles of off-road bicycle accommodations at the end of 2017 – up from 39.9 lane-miles at the end of 2009 (+37.7%), and up from 51.8 lane-miles at the end of 2016 (+6.1%; see Figure 32).

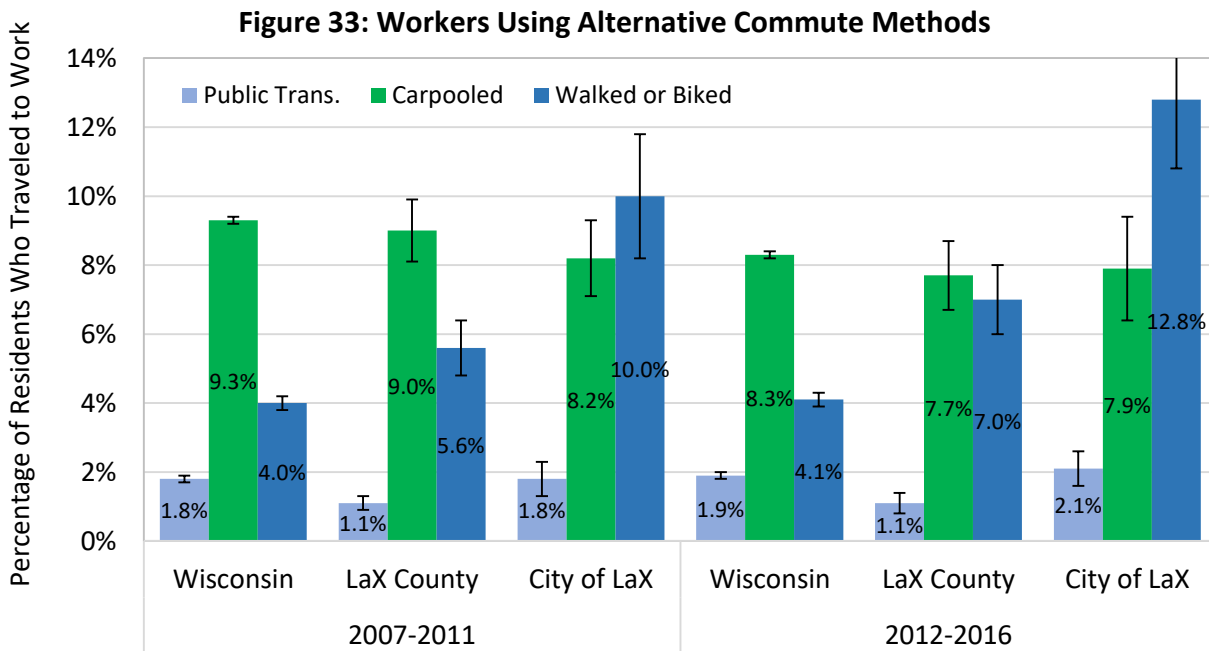


²⁵ The LAPC Planning Area includes the city of La Crescent, MN as well as all of La Crosse County except for the towns of Farmington, Washington, Rockland, Burns, and Bangor. See www.lapc.org/content/about/map.htm

Alternative Commuting Rates

This indicator examines percentages of workers who travel to work in ways other than driving alone in an automobile: bicycling or walking, public transportation or carpooling. Data are collected as part of the US Census Bureau’s American Community Survey (ACS). ACS results are published as 5-year averages; this analysis examines alternative commute rates in two periods: 2007-2011 and 2012-2016.

In both periods, a higher percentage of City residents than County or state residents walked or bicycled to work (see Figure 33). The City’s relatively compact spatial arrangement with short travel distances between residential and commercial areas make walking/bicycling practical. Although many students also walk or bike to school in the City, students are not included in the analysis. Also in both periods, a lower percentage County residents than City or state residents used public transportation, presumably because of relatively low availability. Carpooling percentages appeared higher among state residents than City or County residents, but this is not statistically significant when margins of error are considered.



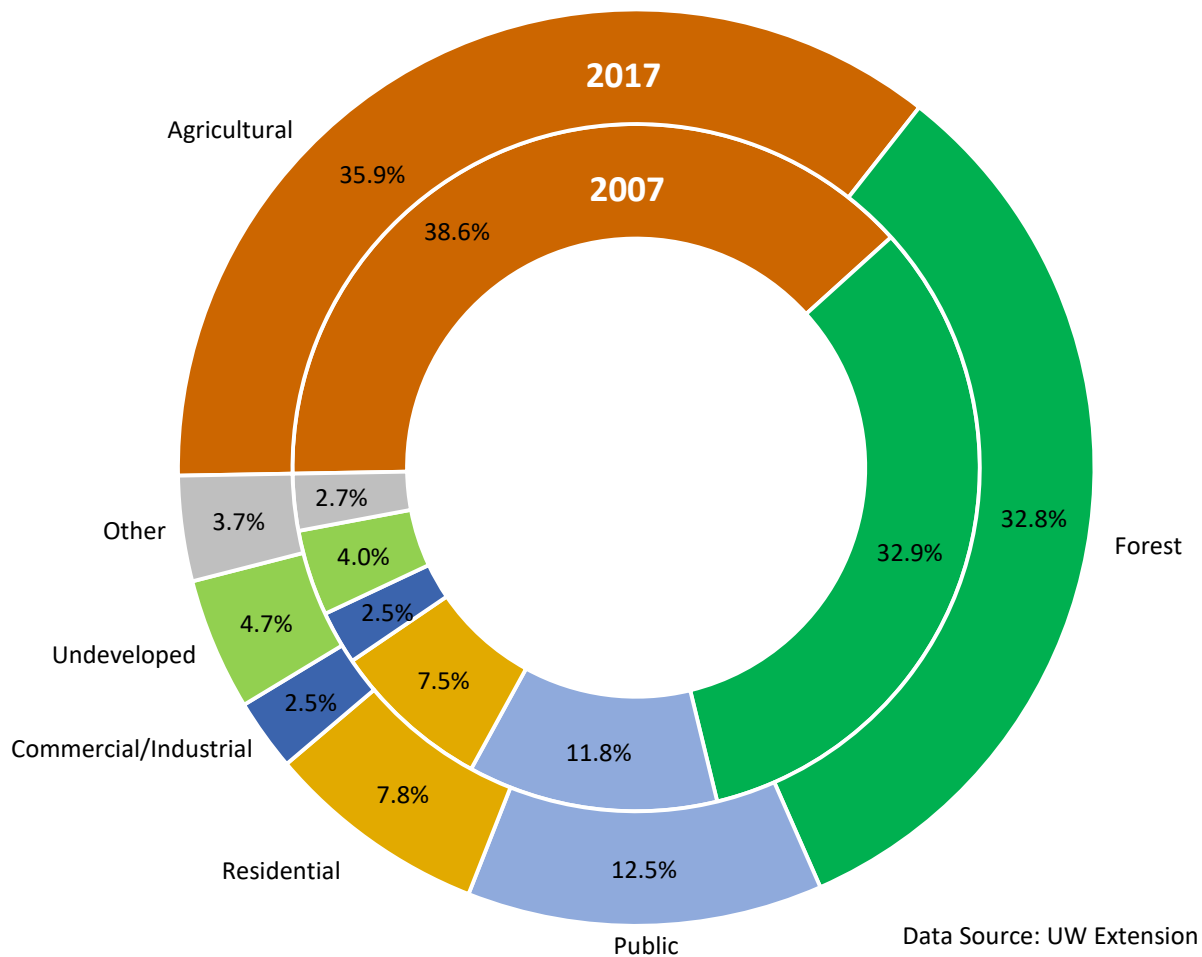
Data Source: U.S. Census Bureau

The percentage of residents who walked or bicycled to work in the City and the County apparently increased from the 2007-2011 period to the 2012-2016 period, but this is not statistically significant when margins of error are considered. Percentages of workers who carpooling apparently declined in all three geographies, but this also is not statistically significant. The apparent decline in carpooling may be a result of declining fuel prices. Percentages of workers using public transportation were nearly unchanged between periods.

Land Use

This indicator tracks land use change across La Crosse County. Land classification categories include: residential, agricultural, forest, commercial/manufacturing, public (i.e., local/state/federally owned), undeveloped and other. Most of the County’s land area is classified as agriculture or forest (see Figure 34). Public and residential uses make up most of the remainder.

Figure 34: La Crosse County Land Use Classifications



Public, residential, undeveloped and other land use types gained area between 2007 and 2017. Agricultural and forest lands were the only types that lost area. Transition of agricultural land into “undeveloped” land may occur with Conservation Reserve Program enrollment, or loss of access for a season because of high water. Of perhaps greater concern is conversion of agricultural land into residential areas. The increase in public land may result from WI DNR stewardship grants in within the County, or from any road building or expansion projects that increase right of way.

Socio-Economic Indicators

Socio-economic indicators specified by the *Strategic Plan for Sustainability* include educational attainment, median household income, poverty rate and unemployment rate. Values for each are compared among the City of La Crosse, La Crosse County and the state of Wisconsin.

For all socioeconomic indicators, data for 2017 were not yet available to include in this report. For all but the unemployment rate, the source of these data is the US Census Bureau’s American Community Survey (ACS). ACS results are now published as 5-year averages, but were previously published as 3-year averages.

Education Attainment

For all three time periods examined – 2006-2008, 2009-2011 and 2012-2016 – a higher percentage of both City and County residents than state residents apparently held high school diplomas (see Figure 35) and bachelor’s degrees (see Figure 36). However, only the bachelor’s degree category in the 2012-2016 period is statistically significant when margins of error are considered. In general, County rates appeared to be slightly higher than City rates, with the exception of the 2012-2016 period for bachelor’s degrees. However, none of these differences are statistically significant when margins of error are considered.

Both high school diploma and bachelor’s degree indicators reveal apparent trends toward higher education levels among City, County and state residents over the time periods examined. However, the trends are not statistically significant when margins of error are considered.

Figure 35: Percent of Residents with HS Diploma or Equivalent

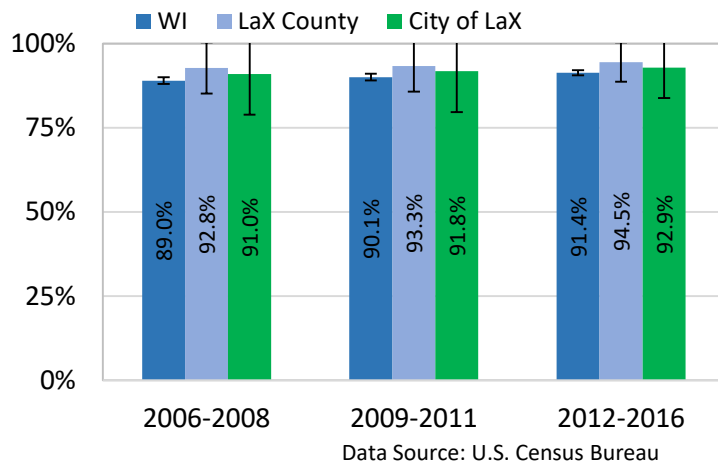
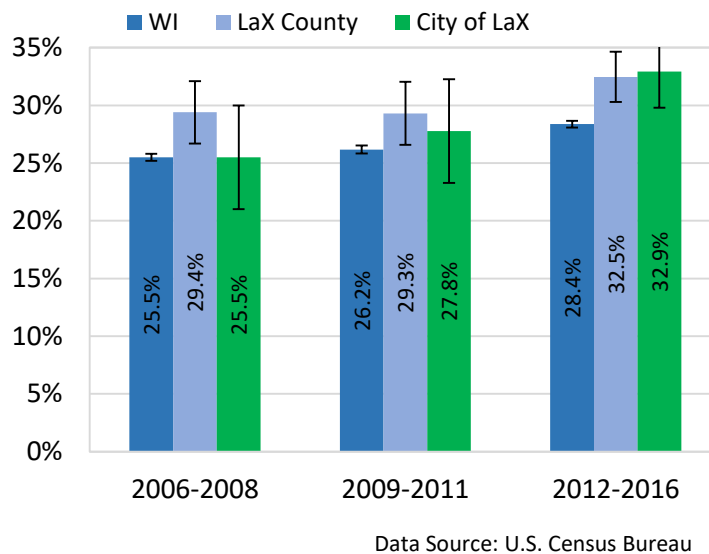


Figure 36: Percent of Residents with Bachelor's Degree

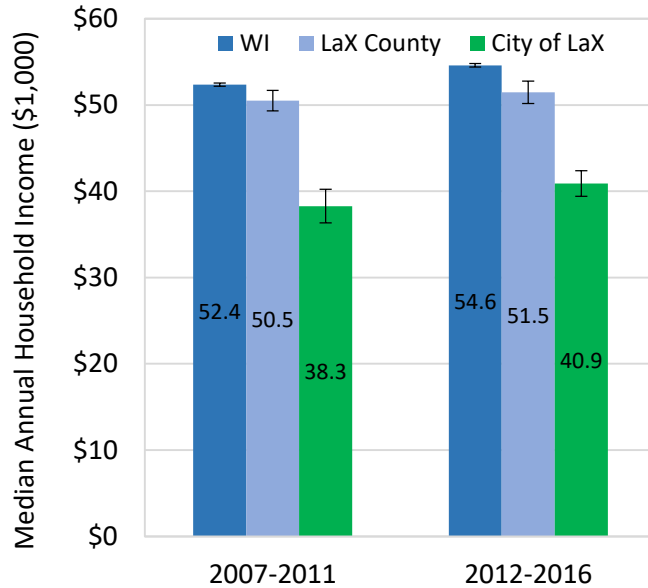


Median Household Income

For the 2012-2016 period, median household income (MHI) in the City of La Crosse (\$40,899) was significantly lower than County (\$51,477) and statewide (\$54,610) MHI values (see Figure 37). This pattern was also evident in the previous period, 2007-2011. Since the City of La Crosse is included within La Crosse County, it follows that MHI among households in other municipalities within the County must be higher than the County-wide MHI value.

MHI for City, County and state all appear to have increased between the 2007-2011 period and the 2012-2016 period, concurrent with economic recovery from the “great recession” across the nation. However, the apparent changes were not statistically significant for the City or for the County, when margins of error are considered.

Figure 37: Annual Median Household Income



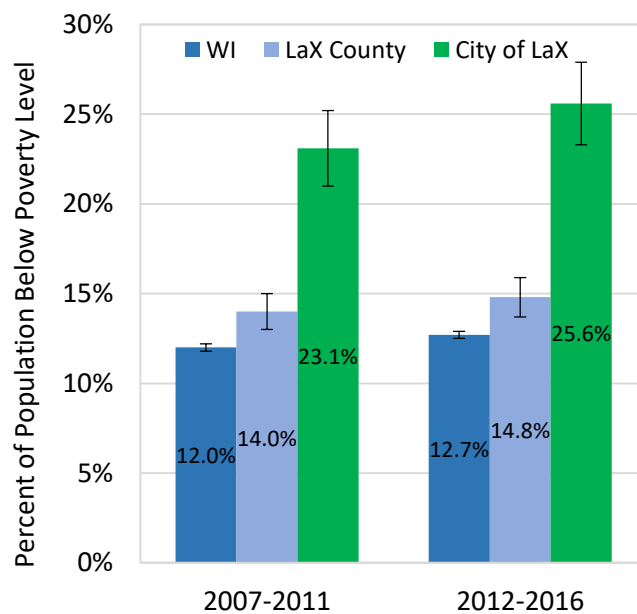
Data Source: U.S. Census Bureau

Poverty Rate

This analysis examines the percentage of residents whose income in the past twelve months was below poverty level. For the 2012-2016 period, that percentage was much higher in the City of La Crosse (23.9%) than in the County (14.8%) and the state (13.0%, see Figure 38). One factor that likely contributes to the City’s relatively high poverty rate is its large college student population, since college students living off campus are included in poverty measures.

At City, County and State levels, poverty rates appear to have increased between 2007-2011 and 2012-2016 periods. However, the apparent changes were not statistically significant for the City or for the County, when margins of error are considered.

Figure 38: Resident Poverty Rates

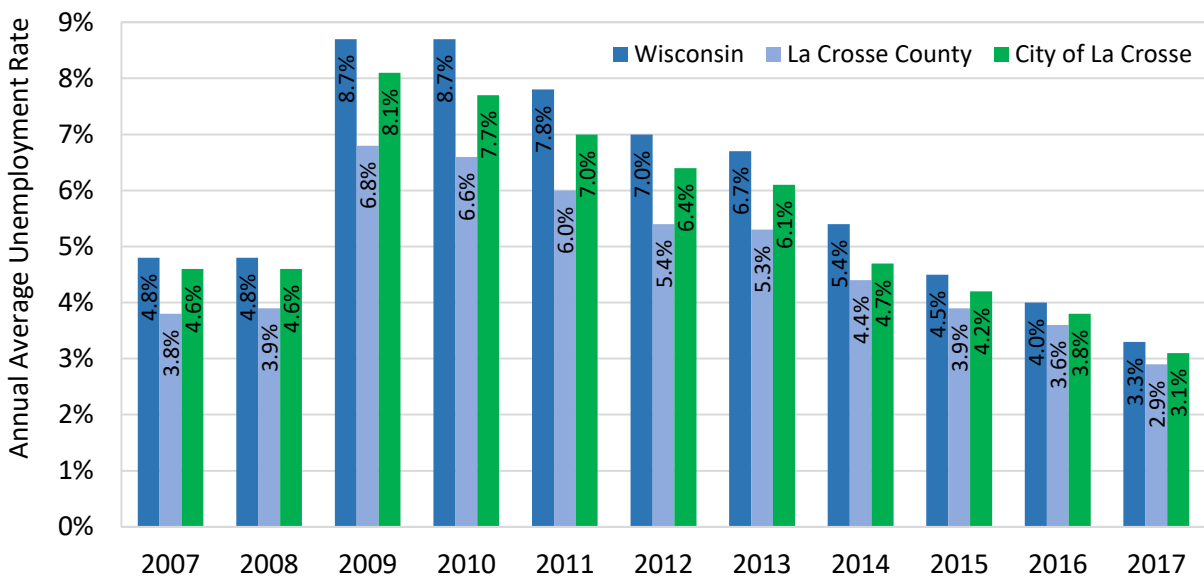


Data Source: U.S. Census Bureau

Unemployment Rate

This indicator tracks trends in annual average unemployment rate, as measured by the Wisconsin Department of Workforce Development. The City, County and state all experienced a large jump from low unemployment rates in 2007 and 2008 to much higher rates in 2009, as a result of the “great recession” (see Figure 39).²⁶ Rates then slowly declined as the economy gradually recovered, and by 2015 rates had returned to 2007-08 levels. Unemployment rates continued to decline in 2016 and 2017. Throughout the analysis period, annual average unemployment rates in La Crosse County have been consistently lower than those in the City of La Crosse. Both have been consistently lower than the rates in the state overall.

Figure 39: Annual Average Unemployment Rates



Data Source: Wisconsin Department of Workforce Development

²⁶ Values for 2013-2017 revised from previous report, as the WI Department of Workforce Development issued final revised data.