Sustainable City Plan

November 2010

City of Middleton

PREPARED BY MSA PROFESSIONAL SERVICES, INC.
SEVENTH GENERATION ENERGY SYSTEMS, AND GDS ASSOCIATES

THIS REPORT IS FORMATTED FOR DOUBLE SIDED PRINTING

TABLE OF CONTENTS

(this page is intentionally blank)

1. EXECUTIVE SUMMARY

The City of Middleton is a thriving City of approximately 17,000 residents. In recent years, the City has earned many accolades including being named the "Best Place to Live" in America in August 2007 by *Money Magazine*. Upon receiving this award and others, the City realized that it must continue to innovate in order to become a truly resilient, sustainable City. To this end, the City has undertaken numerous sustainable initiatives including the formation of a Sustainability Committee, receiving a grant to replace streetlights with LED lights, updating the Bike and Pedestrian Plan, creating a community garden space, and many others too numerous to list.

While the City embraced these actions, it has also become apparent that the City had no mechanism in place to measure the cumulative success of these initiatives. To that end, in 2009 and 2010, the Middleton Green Team Committee created a Middleton Sustainable City Plan: a systems approach to making the City efficient, sustainable, and resilient.

This document explains the Sustainable City Plan, as well as the intensive public process through which the system was developed.

The Sustainable City Plan addresses seven separate, yet interconnected aspects of life within the City of Middleton: Energy, Transportation, Land Use, Water, Waste, Economy/Food/Fair Trade, and Public Outreach and Education. For each of these seven categories, the City created a vision statement; identified indicators by which performance can be measured; selected desired performance trends; and prioritized a list of possible actions to accomplish these objectives.

The Sustainable City Plan is a living document – a system – and continual improvement and annual updates are an integral part of the system. This living Plan is designed to help the City adapt and improve performance each year through incremental changes that will cumulatively result in increased efficiency, cost-savings, environmental benefits, and long-term resilience. Each year the City will evaluate performance, adjust the desired targets if appropriate, and revise the action plan.

The public process through which this Sustainable City Plan was developed included:

- The creation of a City Green Team consisting of key City personnel and members of the Sustainability Committee
- Numerous public working meetings with the City Green Team, May 2009 through July 2010
- A Public Visioning Session, July 8, 2009
- A Community Survey, late July through September 2009
- Progress reports to the City Council, periodically
- A Public Draft Review Meeting, May 12, 2010
- Adoption by City Council on November 16, 2010

Through this intensive public process, the City has made strides toward integrating sustainability and resiliency into all facets of the City, ensuring that the City will not only be able to gauge the success and merits of initiatives, but also that the City will continue to be a desirable place to live.

(this page intentionally blank)

2. WHAT IS THE SUSTAINABLE CITY PLAN?

This document does not map out a specific path to a sustainable Middleton. This document describes the process by which the City of Middleton will pursue sustainability year by year, and it includes commitments to actions for the next 1-3 years. This system includes six essential components:

- **Vision statements**

  These describe, in qualitative terms, what a sustainable Middleton looks like and how it functions

- **Baseline sustainability indicators (performance, calculated in 2009[1])**

  These are specific metrics, aligned with the vision statements, by which the City can quantify performance and progress toward the Vision

- **Performance Targets (the City's improvement goals)**

  These are specific, measurable goals to which the City aspires

- **Actions**

  These are specific projects, programs, and initiatives to help the City achieve its Targets and Vision

- **Annual Renewal Commitment**

  This is the commitment to measure performance toward the Targets each year, and to recommit to a set of actions each year

- **Adoption**

  The Middleton City Council adoption formalizes the Sustainable City Plan by Resolution.

Together, the above six components constitute the Middleton Sustainable City System.

[1] Most of the 2009 baseline indicators use data for 2008, unless otherwise noted.

3. PUBLIC PARTICIPATION PROCESS

Because the Sustainable City Plan is a living document that is constantly evolving and growing to meet the needs of the City, an essential component to the System is an active public process. Opportunities for public participation included a series of Green Team working meetings, a public kickoff visioning event, an internet survey, the public presentation of the System, and finally, adoption of the System by the City Council.

Green Team Committee Meetings

The City formed a Green Team to coordinate the development of the Sustainable City System. The Green Team consisted of members of the Middleton Sustainability Committee and City staff including members of the Planning, Water Resources, Building Inspection, Police, and Library Departments. The Green Team met on a monthly basis to develop the Sustainability System, beginning in June 2009. As the process progressed, the Green Team also formed a Work Team that met periodically to keep the process moving forward. The Green Team kept the Sustainability Committee, the Plan Commission, and the City Council informed on progress throughout the process.

Public Kickoff Meeting

On July 8, 2009 the Sustainability Committee hosted a public visioning session to help kick off the project. The meeting's activities were organized around the seven categories or systems upon which this project focuses: Energy, Transportation, Land Use, Economy/Food/Fair Trade, Water Resources, Solid Waste Generation and Management, and Public Outreach and Education. During the meeting, participants moved from table to table, and examined their personal views of a sustainable future for Middleton. The visioning session was attended by more than 50 community members. This exercise resulted in two sets of ideas offered by participants: vision statements and actions.

The visions generated at this public meeting were synthesized and refined by the Green Team into the following Vision Statements:

Solid Waste

The residents, businesses, and government of Middleton utilize the most efficient and effective methods available to reduce, reuse, compost, and recycle waste. City government uses incentives and policies to limit unnecessary waste and to promote the profitable reuse of materials. Middleton is a leader in the application of technologies and practices that keep physical resources cycling within the local economy.

Water

Middleton has an abundance of clean water, including surface water and groundwater resources. All public and private users limit their use of groundwater while also seeking to maximize infiltration of stormwater so that there is equilibrium between water used and water returned to the ground. The City is vigilant in its efforts to keep harmful substances out of all water resources, to protect its aquatic ecosystems, and to ensure

that development is not vulnerable to flooding.

Transportation

Middleton has an extensive multi-modal transportation network that is accommodating to the needs of all people, regardless of age, ability or income. City transportation infrastructure is integrated with a regional system that combines timely, cost-effective public transportation options with a safe and ubiquitous network of routes for walking and bicycling.

Energy

The City of Middleton is a leader in energy efficiency and renewable energy generation and use. Public and private energy users are using innovative technologies to make Middleton a "net zero" City that produces all of its energy needs from renewable sources within the City limits.

Land Use

Land uses in the City of Middleton are smartly integrated and development is designed for flexibility and longevity. The City directs development to infill sites near existing mixed-use centers and corridors, thereby preserving surrounding agricultural land and open space around the City. The City also preserves land strategically within the City to enable recreation and small-scale community agriculture and to preserve bio-diversity.

Economy/Food/Fair Trade

Middleton has a balanced, diversified economy which meets the needs of Middleton residents locally. There are unique nodes of retail, service, and office uses throughout the City such that all residents can satisfy at least a portion of their daily needs within walking distance of their homes. The City has a stable employment base which provides attractive, appealing, living-wage jobs to local residents. The skills and contributions of all citizens are valued and appreciated. Middleton residents understand how and where the goods they buy are produced and are empowered to make informed purchasing decisions. Middleton is a leader in the production and consumption of healthy food grown within the community and the region.

Public Outreach and Education

The City of Middleton promotes an environment of creative, innovative learning. It is a City where people of different ages, cultures, and languages respect and learn from each other. Local schools collaborate with the City to help make sustainability a part of every citizen's life in Middleton. Together, as a community, the City focuses on finding the solution to any problem.

Survey Results

In the fall of 2009, the Green Team and the City of Middleton hosted an online survey in order to gain a deeper insight into Middleton citizens' existing knowledge and participation in sustainability issues and activities, and desired future direction for the City. The online survey tool was focused on residents of Middleton; however, a business survey was also available should local business-owners want to voice their opinions. In addition, members of the Green Team and the Sustainability Committee completed some random door-to-door samples to help increase participation in the survey.

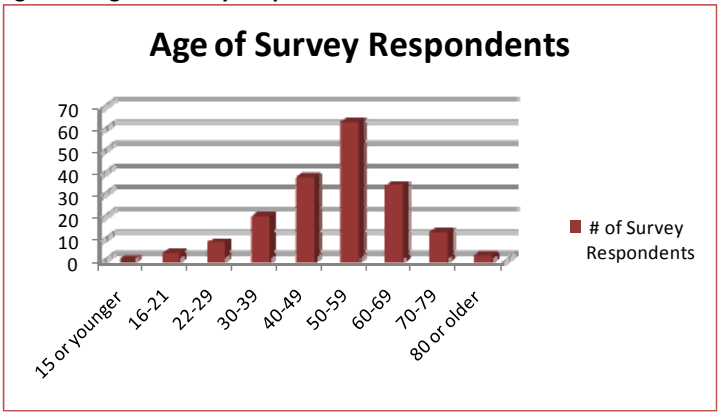
While an online survey is an excellent tool for gathering information, it should not be confused with a statistically significant research study. It is possible for people who live outside of the City of Middleton to respond and for people to take the survey more than one time; therefore the results of this online survey were used simply as a means of gathering increased public participation. Comments and ideas from the community survey, the public meetings, as well as input from City staff and elected officials were used to inform the action items found in the next section of this document.

As with any survey, there were a wide range of responses, ranging from people who are very excited and passionate, as well as knowledgeable, about sustainability issues to respondents who were neither interested nor willing to support the efforts; and there were many responses that fell in between these two extremes. In general, survey respondents embraced many of the different facets of sustainability presented in the survey; however, there was also a general concern with the expenses of implementing many of the actions and with duplicating efforts that were already underway by other organizations. Each section of the survey included a question on willingness to pay. While survey respondents were often willing to pay *some* amount for the programs or services, one common complaint was that the survey did not provide enough information on specific costs and savings to answer the willingness to pay questions in an educated fashion.

The following section presents a brief summary of responses, and complete survey result can be found in Appendix C. In addition, the survey results were posted on the City's website.

There were 189 respondents (177 finished the survey completely). Seven of the respondents volunteered that they don't live in the City. The remaining 182 resident respondents represents a response rate of approximately 1% of the City's population. The majority of the respondents (55.8%) are between 40 and 60 years old; however there were at least a few respondents in each age category except the 15 years of age and younger category. The majority of the respondents (56.5%) have lived in the City for more than 10 years.

Figure 1: Age of Survey Respondents



The survey was divided into different sections, each gathering information on a certain topic:

- Trash and Recycling
- Water
- Transportation
- Energy
- Land Use
- Economy
- Public Outreach and Education
- Other
- A bit about the respondent

Trash and Recycling

In general, survey respondents were well-educated and proactive about recycling. The majority of the respondents answered "yes, always" when asked if they recycle at home and work. Not one survey respondent replied "never". In addition, 68% of the respondents use the Clean Sweep Program to dispose of hazardous household waste. Only 12.2% of the survey respondents did not know about this program. Participation and education on food composting was much less widespread.

Figure 2: Programs and Services related to Trash and Recycling

Would it help you reduce the amount of food you put in your trash if the City did any of the following? (Check all that apply)		
	Response Percent	Response Count
Give out instructions on how to compost	37.8%	62
Sell compost bins at a discounted cost ($40)	37.8%	62
Collect compost in a separate container along with trash and recycling	48.2%	79
The City should not be involved in this matter	22.6%	37
answered question		**164**
skipped question		**25**

Water

In general, survey respondents were supportive of activities to reduce water consumption and improve stormwater management. This was one area, however, where many of the comments reflected concern that this may duplicate the efforts of other organizations.

Figure 3: Programs and Services related to Water Reduction

The average Middleton household uses 172 gallons of water from the City wells each day. Should the City do any of the following to help households and businesses reduce water usage? (check all that apply)		
	Response Percent	**Response Count**
Give out information on indoor and outdoor water efficiency tips	66.7%	116
Offer rebates for low-flow showerheads, toilets and faucets that use less water	68.4%	119
Prohibit lawn watering during extended dry weather	56.9%	99
Offer water efficiency audits	50.6%	88
Encourage use of xeriscaping (plants that don't have to be watered to survive) for residential and business landscaping	68.4%	119
answered question		**174**
skipped question		**15**

Figure 4: Programs and Services related to Stormwater

Stormwater runoff is water from rain or melting snow that "runs off" hard surfaces like parking lots and roofs instead of soaking into the ground. This runoff can pick up pollution like road salt, oil, and trash before it goes to storm sewers and ends up in the Pheasant Branch Creek and eventually Lake Mendota. What should the City do to further reduce stormwater runoff? (Check all that apply)		
	Response Percent	**Response Count**
Offer a hands-on class on how to build a rain garden	57.4%	101
Give out information on chemical-free lawn and garden care	73.3%	129
Paint all City storm drains with "Drains to Creek" to discourage the dumping of pollutants	48.9%	86
Give out information on how to reduce your home's stormwater runoff	79.0%	139
Provide free mulch to City residents each spring.	42.6%	75
answered question		**176**
skipped question		**13**

Transportation

In the Transportation section, the most interest was generated in regards to biking as walking as alternative modes of transportation; very few respondents utilized other forms of mass transit (carpooling, Metro bus, etc.). In general, most of the survey respondents felt that the City ought to undertake activities which make walking and/or biking *safer* (more bike paths, fix hazardous sidewalks, safer crosswalks, etc.)

Figure 5: Survey Respondents who walk or bike to work or shopping (not specifically for exercise)

How often do you walk or bike to get to work or go shopping?						
Answer Options	**Never**	**1-2 times a month**	**1-2 times a week**	**3-4 times a week**	**Every day**	**Response Count**
April - September	47	45	32	33	21	178
Oct - March	66	49	30	8	11	164
					answered question	**179**
					skipped question	**10**

Figure 6: Programs and Services Related to Transportation

What would make you walk or bike more often to get to work or go shopping? (Check all that apply)		
	Response Percent	**Response Count**
More sidewalks	11.0%	15
More bike paths or marked bike lanes	53.7%	73
Stores closer to where I live	61.8%	84
Working closer to where I live	36.8%	50
answered question		**136**
skipped question		**53**

Energy

The section on energy was divided into questions on municipal energy use and individual energy consumption. The majority of the respondents valued renewable energy and energy efficiency, and many were willing to pay the up-front expenses of implementing these technologies. For example, 55% of the respondents thought that City ought to implement strategies and technologies to reduce electricity and natural gas usage *even if* the savings do not cover the cost. The survey respondents displayed a lot of interest in various programs and/or services that the City could offer to help reduce individual energy consumption. It is important to note, that this was another area of the survey where many of the comments cautioned against duplicating the efforts of other organizations.

Figure 7: Programs and Services Related to Individual Energy Consumption

As it pertains to energy usage in homes, which of the following City actions do you support? (Check all that apply)	Response Percent	Response Count
Give out information about energy efficient appliances, practices, and home construction	66.3%	120
Offer a class on weatherizing your home	53.6%	97
Offer a class on no-cost tips to save energy	58.6%	106
Give out free compact fluorescent light bulbs	32.6%	59
Require more energy-efficient building construction standards than current code requires	63.5%	115
Establish a loan fund for residents and businesses for energy efficiency upgrades	42.5%	77
Provide rebates for Focus on Energy Home Energy Audits	51.9%	94
Provide free hot water piping insulation to City residents	26.0%	47
Start a thermostat recycling program where residents can bring in their old thermostat in exchange for a low-cost 7-day programmable thermostat	47.0%	85
Waive or reduce the building permit fee if installing a renewable energy system	50.8%	92
Sell shade trees to residents each spring, at the City's cost, to be planted near homes to help reduce cooling costs	51.4%	93
I do not think that it is the role of the City to be involved in these activities	8.3%	15
answered question		**181**
skipped question		**8**

Land Use

The section focused on two general questions about land use patterns within the City. Survey respondents were in strong agreement that the City ought to encourage more shopping and service businesses within walking distance of existing neighborhoods; and they also were agreement that the City ought to encourage a mix of shopping, office, and multi-family buildings as part of future housing developments. In addition, there were many write-in comments encouraging infill over green field development. There were also many comments stating that Middleton ought to concentrate on existing businesses and developments before constructing new ones.

Economy/Food/Fair Trade

This section questioned respondents shopping habits, as well as the location of their place of employment. While many of the respondents would prefer to shop from local merchants, the majority of the respondents spend less than 50% of their budget for retail goods and services within the City of Middleton, most commonly leaving the City for better selection. There were many comments specifically mentioning that the City lacks good grocery store options within close proximity to residential neighborhoods. When questioned about the location of their employment, only 12.5% of the respondents reported that they would prefer to work in the city of Middleton but cannot find a job.

Public Outreach and Education

This section of the survey questioned respondents about how they receive information and what activities they would support to increase the public education of sustainability issues within the City of Middleton. Many of the programs and services presented elsewhere in the survey and in this summary would also increase the public outreach and education of Middleton residents.

Figure 8: Preferred contact method

How would you prefer to be informed about City news, initiatives, events, etc.? (Check all that apply)	Response Percent	Response Count
Local cable	11.5%	21
Local newspaper	48.4%	88
City website	56.0%	102
Mailing to your home address	29.1%	53
Email/Listserves	71.4%	130
answered question		**182**
skipped question		**7**

Figure 9: Public Education interest

What educational forums should the City support/promote to encourage greater sustainable practices in Middleton? (check all that apply)	Response Percent	Response Count
Study Circles centered on community sustainability (i.e. Natural Step)	31.8%	55
Neighborhood action teams (i.e. Madison Environmental Group's EnAct groups)	44.5%	77
Sustainability related presentations at a school or the library	71.1%	123
Environmental service-learning projects with the schools	70.5%	122
None – The City should not take an active role in this effort	12.1%	21
answered question		**173**
skipped question		**16**

4. SUSTAINABILITY FRAMEWORK

The Sustainability Framework is the core of the City of Middleton Sustainability System. This System is organized into seven interrelated categories: Solid Waste, Water, Transportation, Energy, Land Use, Economy, and Public Outreach/Education.

Within each category are five types of information:

- Vision Statement
- Sustainability Indicators (performance, baseline calculated in 2009[2])
- Targets (the City's improvement goals)
- Progress Indicators (future performance, to be updated annually)
- Actions

The indicators in each category were prioritized in accordance with the following criteria:

1. Is the indicator worth tracking to see a pattern over time?
2. Does the indicator measure an area where action items can have an impact?
3. Does the indicator have a large impact on the reduction of CO2 and/or impact on overall sustainability?
4. Is the indicator easy to measure?
5. Are the action items related to the indicators accomplishable?

❖ **High Priority Indicators** are coded in orange in the following tables. High Priority indicators often have more specific targets and actions. In addition, high priority indicators will be monitored annually.

❖ **Low Priority Indicators** are coded in yellow in the following tables. Low priority indicators are indicators which the City has deemed important enough to monitor; however, the targets and actions associated with these indicators may be less specific. In addition, low priority indicators may not be monitored and updated annually.

[2] Most of the 2009 baseline indicators use data for 2008, unless otherwise noted.

Solid Waste

VISION STATEMENT

The residents, businesses, and government of Middleton utilize the most efficient and effective methods available to reduce, reuse, compost, and recycle waste. City government uses incentives and policies to limit unnecessary waste and to promote the profitable reuse of materials. Middleton is a leader in the application of technologies and practices that keep physical resources cycling within the local economy.

Indicator	Baseline	Target	Performance		
			2010	2011	2012
Total solid waste (including recycling) collected per capita per year (lbs)	829.8	DECREASE by 10% by 2015 (746.8 lbs)			
Percentage of solid waste that is recycled	25%	INCREASE to 40% by 2015			

Solid Waste Actions	Timeframe	Responsible Party	Cost
Produce an A-Z Guide for Waste Mangement	Completed	Public Works Committee Solid Waste Task Force	$$ Time Reproduction costs
Update the web version of the A-Z Guide on an on-going basis.	On-going	Public Works Committee Solid Waste Task Force	$ Time
Implement an Automatic garbage collection system	Completed	City Council	No cost to City
Enlarge the amount of items accepted at the Clean and Green event, including a metals drop-off area	2010	Sustainability Committee	No cost to City
Form a Task Force to investigate the use of plastic bags within the City.	2010	Sustainability Committee	--- No cost
Add a permanent MedDrop location	2010	Sustainability Committee	$
Research current construction waste recycling efforts to determine how to improve recycling rates	2011	Planning Dept. and Public Works Dept	-- No cost
Determine whether Middleton participation in compost bin sale with Dane County can be resumed	2011	Sustainability Committee	-- No cost
Implement City-wide food compost collection services	2012	Sustainability Committee	$
Research creation of permanent location for scrap metal, plastic bag, Styrofoam, cardboard, hard plastics, and other items that cannot be recyclied curbside	2012	Planning Dept	$
***Highlighted Actions have begun and/or been completed. These actions ought to be celebrated!			

Water

VISION STATEMENT

Middleton has an abundance of clean water, including surface water and groundwater resources. All public and private users limit their use of groundwater while also seeking to maximize infiltration of stormwater so that there is equilibrium between water used and water returned to the ground. The City is vigilant in its efforts to keep harmful substances out of all water resources and to ensure that development is not vulnerable to flooding.

Indicator	Baseline	Target	Performance		
			2010	2011	2012
Gallons of Groundwater Pumped Per Capita per year	42,688	DECREASE			
Percentage of groundwater lost	8-9%	DECREASE			
Gallons of Groundwater Delivered to Residential Users per capita	17,383	DECREASE by 10% by 2020 (15,645 gallons)			
Gallons of Groundwater Delivered to Commercial Users per square foot	49	DECREASE by 10% by 2020 (44.1)			
Gallons of Groundwater Delivered to Industrial Customers per square foot	Data on industrial square footage not available	DECREASE			
Gallons of Groundwater delivered to Municpal customers per square foot	150	DECREASE			

Water Actions	Timeframe	Responsible Party	Cost
Examine how to incentivize measures which encourage reduced water usage and increased water infiltration (possibly including rain barrels, rain gardens, low-flow fixtures, etc.)	2010	Sustainability Committee	$$
Evaluate all municipal buildings for water use, indentify and install water saving fixtures where appropriate	2012		$$
Research water use on residential and commercial lawns, including automatic sprinklers and make recommendations on improving efficiency of water use	2011		-- No cost
Research how City golf course utilizes water, determine if additional policies or technologies can improve water efficiency	2011		
Explore current pesticide and herbicide use on City property and develop recommendations for using environmentally safer products to minimize health impacts on children, animals, and water quality	2011	Public Lands Sustainability Committee	
Review the City's water rate structure, and eliminate incentive to use large volumes of water, while balancing the needs to business	*2011*	Public Works Committee	No cost to City
Recommend the use of porous pavement where appropriate	on-going	Plan Commission	No cost to City

Transportation

VISION STATEMENT

Middleton has an extensive multi-modal transportation network that is accommodating to the needs of all people, regardless of age, ability or income. City transportation infrastructure is integrated with a regional system that combines timely, cost-effective public transportation options with a safe and ubiquitous network of routes for walking and bicycling.

Indicator	Baseline	Target	Performance		
			2010	2011	2012
Percentage of Collector Streets with Marked Bike Lanes	11% (3.1 miles)	INCREASE to 65% by 2015 (18.1 mile)			
Metro Bus Trips per capita per year	8%	INCREASE 10% by 2014 (9.273)			
Ratio of Off-street Bike Path Miles to Total Street Length	18% (15.4 miles)				
Percentage of Collector Street with Sidewalks on Both Sides of the Street	71% (10.2 miles)	INCREASE			
Community Car members	61	INCREASE			
Morey Airport Non-Training Flights	6528	TRACK			
City Accidents per capita	0.0250	DECREASE			

Transportation Actions	Timeframe	Responsible Party	Cost
Adopt an ordinance requiring that all streets in Middleton are "complete streets" *	Completed	City Council	No cost to City
Add marked bike lanes through the City**	2010	Public Works	$$
Submit a TIGER grant application to fund parking/transit center	Completed	Planning Department	Time $
Construct the Good Neighbor Trail and the bike path along the railroad corridor to Madison	2010-2020	Public Lands	$$$
Work with the High School to encourage students to use alternative forms of transportation	2010	Sustainability Committee	No cost to City
Determine whether part-time telecommuting for certain city staff functions is feasible and develop policies	2011	City Administration	-- No cost
Use Safe Routes to School Air Quality grant for the Northside School to determine air quality and create program for improving air quality, including signs, that focuses on reduding idling	2010-2011		
Develop recommendations for bicycle parking in commercial areas	2011	Planning Department	-- No cost
Research potential uses for hybrid or alternative energy vehicles in the City fleet	2012		$$
Evaluate City vehicle idling policies and make recommendations	2011		-- No cost
Highlighted Actions have begun and/or been completed. These actions ought to be celebrated!			

*Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities are able to safely move along and across a complete street.

**Allen Blvd (1 mile), Century Ave (1.3 miles), CTH Q (.5 miles), branch Street (.6 miles), University Ave (1.1 miles), Stonefield Rd (.9 miles), Century Ave (2.5 miles), Parmenter St. north (.75 miles), Parmenter St. south (.3 miles), Deming way (1.25 miles), Nursery Dr (.3 miles), Greenway Blvd (.5 miles), Pleasant View Rd (1.5 miles), Park/High Point/Gammon Rd. (2.5 miles)

Energy

VISION STATEMENT
The City of Middleton is a leader in energy efficiency and renewable energy generation and use. Public and private energy users are using innovative technologies to make Middleton a "net zero" City that produces all of its energy needs from renewable sources within the City limits.

Indicator	Baseline	Target	Performance		
			2010	2011	2012
Total Electricity Consumption (kWh)	301,900,191	REMAIN THE SAME, EVEN WITH GROWTH			
Residential electricity (kWh) consumed per capita	4,639 kWh	DECREASE 10% by 2020 (4,175.4)			
Commercial electricity (kWh) consumed per SF	28	DECREASE by 10% by 2020 (25.2)			
Industrial electricity (kWh) consumed per SF	Data not available on SF				
Municipal electricity (kWh) consumed per square foot	6.6	DECREASE by 20% by 2020 (5.28)			
Municipal electricity (kWh) consumed per streetlight	487	DECREASE 243.5 per streetlight			
kWh consumed by Water Utility/Total Gallons	0.19	DECREASE			
Percentage of Electricity Consumed in the City Generated by Renewable Sources	1.6%	INCREASE to 25% by 2025			
Total Natural Gas Consumption (therms)	11,347,396	REMAIN THE SAME, EVEN WITH GROWTH			
BTU Consumed by RESIDENTIAL USES per capita per HDD (Heating Degree Day)	*3,340*	DECREASE			
BTU Consumed by COMMERCIAL USES per square foot per HDD	12.04	DECREASE			
BTU Consumed by INDUSTRIAL USES per square foot per HDD	Data not available on SF				
BTU consumed by MUNICIPAL USES per square foot per HDD	4.56	DECREASE by 10% by 2020 (4.104)			
Liquid fuel energy consumed per acre of land area maintained	1.15	DECREASE			
Vehicle miles traveled per acre of land maintained	Data not available	DECREASE			

Energy Actions	Timeframe	Responsible Party	Cost
Replace 82 City streetlights with LED	2010	City Council	$$$ - grant funding available
Upgrade government buildings so they are more energy efficient	On-going	City Council	$$$
Adopt a lighting ordinance to encourage energy efficient lights and decrease light wastage	2010	City Council	--- No cost
Install solar panels or a wind turbine in a public place for educational purposes	2010	City Council	$$-$$$$
Offer Focus on Energy literature at City Hall and City of Middleton Library	2010		-- No cost
Evaluate the adoption of a more strict commercial building code to mandate increased energy efficiency	2010	Planning Department Building Inspection Department Plan Commission City Council	--- No cost
Verify municipal computers, where appropriate, are set to hibernate, encourage employees to turn off machines at night if they don't need to be kept on. Identify sources of vampire power use in municipal buildings and provide powerstrips to encourage turning them off when not in use	2010	Planning Intern	$ powerstrips
Survey City staff on use of personal appliances including heaters, refridgerators, etc. and develop policies for acceptable use to maximize safety, energy efficiency, and staff productivity	2011	City Administration	Low cost
Determine whether set back thermometers are being used (and properly programmed) in all municipal buildings and implement where appropriate	2011	Planning Intern	$
Review where motion sensor lighting is and is not currently being used in municipal buildings, and install where appropriate	2011	Planning Intern	$
Research possible incentives to encourage residential building beyond minimum energy efficiency code	2011	Building Inspection Department	-- No cost
Purchase Energy Star rated office equipment, whenever possible	As updates are made	Purchasing Policy	
Require commissioning of all future City structures and determine whether recommissioning is warranted in existing city structures.	2012	City Administration	$$
Create a policy for temperature controls in municipal buildings	2011	City Administration	No cost
Highlighted Actions have begun and/or been completed. These actions ought to be celebrated!			

Land Use

VISION STATEMENT
Land uses in the City of Middleton are smartly integrated and development is designed for flexibility and longevity. The City directs development to infill sites near existing mixed-use centers and corridors, thereby preserving surrounding agricultural land. The City also preserves land strategically within the City to enable small-scale community agriculture and to preserve bio-diversity.

Indicator	Baseline	Target	Performance		
			2010	2011	2012
Residents per square mile of land in City limits	1,407	MAINTAIN OR INCREASE			
Area OF Community Gardens (Acres)	0.25	INCREASE			
Percentage of Land Devoted to Parks/Recreation/Open Space	20%	MAINTAIN OR INCREASE			
Proximity to Bus Stops (1/4 and 1/2 mile)	88% / 98%	INCREASE			
Proximity to Grocery Stores (1/4 and 1/2 mile)	8% / 24%	INCREASE			
Proximity to Middleton Parks (1/4 and 1/2 mile)	95% / 100%	TRACK			
Proximity to Conservation Areas (1/4 and 1/2 mile)	97% / 100%	TRACK			
Percentage of Housing Units in Multi-Unit Buildings	57%	DECREASE			
Percentage of Housing that is Owner Occuppied	52%	DECREASE			

Land Use Actions	Timeframe	Responsible Party	Cost
As a part of the Plan Commission design review process, encourage new residential subdivision over 10 units (both single and multi-family) to provide garden spaces for their residents.	2010	Planning Commission	-- No cost
Open an additional community garden site	2011	Sustainability Committee	$$
Revise zoning standards to reflect parking maximums in commercial areas	2011	Plan Commission	$$
Review zoning and building codes to identify impediments to green and sustainable building practices such as green roofs, grey water systems, etc.	2010	Planning Department Plan Commission	$ Time

VISION STATEMENT
Middleton has a balanced, diversified economy which meets the needs of Middleton residents locally. There are unique nodes of retail, service, and office uses throughout the City such that all residents can satisfy at least a portion of their daily needs within walking distance of their homes. The City has a stable employment base which provides attractive, appealing, living-wage jobs to local residents. The skills and contributions of all citizens are valued and appreciated. Middleton residents understand how and where the goods they buy are produced and are empowered to make informed purchasing decisions. Middleton is a leader in the production and consumption of healthy food grown within the community and the region.

Economy/Food/Fair Trade

Indicator	Baseline	Target	Performance		
			2010	2011	2012
City median household income	$50,786	TRACK			
% of studentfs that qualify for free and reduced lunch - Elm Lawn Elementary	7.46%	TRACK			
% of studentfs that qualify for free and reduced lunch - Northside Elementary	14.07%	TRACK			
% of students that qualify for free and reduced lunch - Sauk Trail Elementary	40.31%	TRACK			
% of students that qualify for free and reduced lunch - Kromrey Middle	18.40%	TRACK			
Number of jobs in the City per capita	0.84	INCREASE			
% of City residents with jobs within the City	16.00%	INCREASE			
Number of businesses per capita	0.036	INCREASE			

Economy/Food/Fair Trade Actions	Timeframe	Responsible Party	Cost
Develop sustainability guidelines for City purchasing including office supplies, building and remodeling supplies (paint, carpet), and services to encourage local, environmentally-friendly products and/or fair trade purchases	2010	Sustainability Committee	No cost to the City
Research and institute green cleaning practices in municipal buildings	2011	Sustainability Committee	No upfront costs, on-going maintenance costs

Public Outreach and Education

VISION STATEMENT

The City of Middleton promotes an environment of creative, innovative learning. It is a City where people of different ages, cultures, and languages respect and learn from each other. Local schools collaborate with the City to help make sustainability a part of every citizen's life in Middleton. Together, as a community, the City focuses on finding the solution to any problem.

Indicator	Baseline	Target	Performance		
			2010	2011	2012
Residents who receive an environmental message (related to the implementation of this document)	Unknown	INCREASE			
Sustainability Seminar participation hits on site	Unknown	INCREASE			
Clean and Green particpation by # of participants	Unknown	INCREASE			
MedDrop participation by # of lbs collected	2,509 (in 2009)	INCREASE			
Participants per year at Green Thursdays	Unknown	INCREASE			
Compost Bins Sold	N/A	INCREASE			

Public Outreach and Education Actions	Timeframe	Responsible Party	Cost
Offer Green Thursday Sustainability Events to provide information on a variety of sustainbility topics to Middleton residents	on-going	Sustainability Committee	-- No cost
Promote at least one EnAct group annually	on-going	Sustainability Committee	-- No cost
Provide information on the City's website on renewable energy and available incentives	2011	Sustainability Committee	No cost to City
Encourage low water plans and vegetable gardens for productivity	2011	Sustainability Committee	No cost to City
Host a Green Home and Business Tour	2010	Sustainability Committee	$
Provide information through neighborhood associations and alders (targeting older neighborhoods) on Focus on Energy home energy performance contracts	on-going	Sustainability Committee	No cost
Highlighted Actions have begun and/or been completed. These actions ought to be celebrated!			

5. METHODS

INDICATOR CALCULATIONS

The indicator calculations are based upon obtainable data that is normalized for the community in order to compare similar data from year to year. This data generally has several components and ensuring that the same calculation occurs every year, the following data is required.

Global Variables

The most common way to normalize data is to provide a common denominator that can be used by all components of the indicator category. Community wide data can most commonly be normalized using the following data:

- **Population** – City of Middleton
  - **Source**: Annual Department of Administration Estimate
  - **Baseline**: 2009 Estimate = 17,020
  - **Update**: Annually
  - **Definition**: This number is used to define the indicators of consumption of residents.

- **Population** – Dane County
  - **Source**: Annual Department of Administration Estimate
  - **Baseline**: 2008 Estimate = 471,559
  - **Update**: Annually
  - **Definition**: This number is used to define the indicators of consumption of the region.

- **Building Square Footage - Residential** – City of Middleton Residential Buildings
  - **Source**: City Assessor's Office
  - **Baseline**: 2008 = 14,081,813
  - **Update**: Annually
  - **Definition**: This number can be used to obtain a measure of residential building stock energy efficiency in the City that can be compared to the rest of Wisconsin and the Nation.

- **Building Square Footage - Commercial** – City of Middleton Commercial Buildings
  - **Source**: City Assessor's Office
  - **Baseline**: 2008: 7,156,144
  - **Update**: Annually
  - **Definition**: This number can be used to obtain a measure of commercial building stock energy efficiency in the City that can be compared to the rest of Wisconsin and the Nation.

- **Building Square Footage - Industrial** – City of Middleton Industrial Buildings
  - **Source**: State Assessor's Office
  - **Baseline**: Not obtained in time for this report; The State Assessor is in the process of revising their records to electronic. At that point it will be possible to obtain this record.
  - **Update**: Annually
  - **Definition**: This number can be used to obtain a measure of industrial energy use in the City.

- **Industrial Customers** – City of Middleton Industrial taxed customers

- **Source**: State Assessor's Office
- **Baseline**: 2008 = 53
- **Update**: Annually
- **Definition**: This number is used to define indicators to measure the industrial businesses in the City in the absence of square footage data.

❖ **Building Square Footage – Municipal** – City of Middleton Municipal Buildings
- **Source**: City Assessor's Office
- **Baseline**: 2008: 168,700
- **Update**: Annually
- **Definition**: This number can be used to obtain a measure of municipal building stock energy efficiency in the City that can be compared to the rest of Wisconsin and the Nation.

❖ **Land Area** – City of Middleton
- **Source**: City GIS Mapping
- **Baseline**: 2008 = 5,243 acres
- **Update**: Annually
- **Definition**: This number is used to define indicators that measure land area.

❖ **Heating Degree Days**
- **Source**: Wisconsin Department of Administration
- **Baseline**: 2008: 7,714
- **Update**: Annually
- **Definition**: This number is used to normalize the natural gas use in the residential and commercial sectors to annual temperature variations.

Transportation Data & Indicators

Transportation indicators provide a measurement of the opportunity for all forms of transportation within the City of Middleton.

❖ **Road Lengths** – City of Middleton
- **Source**: City GIS Mapping
- **Baseline**: 2008 = 86 miles

A) Total miles of principal arterials - Other Freeways (mi)	2.8
B) Total miles of other principal arterials (mi)	7.6
C) Total miles of minor arterials (mi)	5.9
D) Total miles of Urban Collectors (mi)	14.3
E) Total miles of Local Roads (mi)	49.0
F) Total miles of Private roads	6.4

- **Update**: Annually
- **Definitions**:
  - Principal Arterial = restricted access freeway (Hyw 12)
  - Other Principal Arterial =
  - Minor arterial =
  - Urban Collector =
  - Local roads =

- Private Roads =

❖ **Sidewalk Length –** City of Middleton
- ➢ **Source**: City GIS Mapping
- ➢ **Baseline**: 2008
  - 10.2 miles along collector street
  - 107.5 miles of total sidewalk
- ➢ **Update**: Annually
- ➢ **Definitions**: Does not include 4.8 miles of unpaved pedestrian only paths.

❖ **Bike Path Length –** City of Middleton
- ➢ **Source**: City GIS Mapping
- ➢ **Baseline**: 2008
  - 3.1 miles along collector street
  - 15.4 miles off street path
- ➢ **Update**: Annually
- ➢ **Definitions**: Does not include 4.8 miles of unpaved pedestrian only paths.

❖ **Flights –** Middleton Municipal Airport
- ➢ **Source**: Airport Manager
- ➢ **Baseline**: 2009 = 6,528
- ➢ **Update**: Annually
- ➢ **Definitions**: This is an estimated count of non-training flights at the airport.

❖ **Community Car Usage**
- ➢ **Source**: Business owner
- ➢ **Baseline**: 2008 = 61 "rentals"
- ➢ **Update**: Annually
- ➢ **Definitions**: This is defined as the number of times a Middleton based car is "rented" by the vehicle communal owners.

❖ **Public Transit Bus Trips**
- ➢ **Source**: Metro Bus
- ➢ **Baseline**: 2008 = 143,000
- ➢ **Update**: Annually
- ➢ **Definitions**: The number of rides originating in the City of Middleton.

❖ **Shared Ride Access Points**
- ➢ **Source**: City Planning Department
- ➢ **Baseline**: 2009 = 1
- ➢ **Update**: Annually
- ➢ **Definitions**: The number of available park and ride areas as designated by City Planning Staff.

❖ **State Van Pool Trips**
- ➢ **Source**: State Department of Administration
- ➢ **Baseline**: 2008 = 0
- ➢ **Update**: Annually
- ➢ **Definitions**: This is an estimated number based upon the State's record of van pool pickups in

the City of Middleton.

- **Police Calls for Traffic Accidents –** City of Middleton
  - **Source**: Comprehensive Plan – Chapter 5 (Police Department)
  - **Baseline**: 2008
    - 373 police calls for public street accidents
    - 51 police calls for private street accidents
  - **Update**: Annually
  - **Definitions**: Police calls are not recorded for every accident.

❖ INDICATORS: To What Extent Does the City Enable Alternative Modes of Transportation?

- **Indicator**: Percent of Collector Street miles with sidewalk on both sides.
  - **Calculation**: Collector street miles with sidewalk on both sides ÷ collector street miles.
  - **Update**: Annually
  - **Definition**: These percentages measure the opportunity for pedestrian travel on the urban collector streets.

- **Indicator**: Percent of Collector Street miles with marked bike lanes.
  - **Calculation**: Collector street miles with marked bike lane ÷ Total collector street miles.
  - **Update**: Annually
  - **Definition**: These percentages measure the opportunity for bicycle travel on the major roads within the City of Middleton.

- **Indicator**: Ratio of Off-Street Bike Path Miles to total Street Length
  - **Calculation**: Measurement of total off-street bike path miles ÷ total street length
  - **Update**: Annually
  - **Definition**: The number of miles of off-street paths creates an alternative transportation system for non-motorized transportation where they are not competing with motor vehicles for space. The ratio provides a comparative analysis to determine if non-motorized travel services are keeping a similar growth pattern to motorized vehicle amenities solely on a length basis.

- **Indicator**: Middleton Municipal Airport Non-training Flights
  - **Calculation**: Number of data point collected
  - **Update**: Annually
  - **Definition**: Tracks the number of long haul trips from the local small airport.

- **Indicator**: Community Car Use
  - **Calculation**: Number from Data Point
  - **Update**: Annually
  - **Definition**: An increasing number of community car rentals indicates the acceptance of community members to not purchase an additional car for the small amount number of trips where it is necessary. This in turn will reduce the number of underutilized resources of the community and decrease the incidental fuel use from “convenience” vehicle trips.

- **Indicator**: Shared ride access points
  - **Calculation**: Number from Data Point
  - **Update**: Annually
  - **Definition**: An increasing number of shared rides indicated the ease of travel within and outside the City without operating a personal vehicle. Assuming the access points are used, the number of points will indicate the ease of operating on limited personal vehicle mileage budget.

- **Indicator**: State Van Pool Trips
  - **Calculation**: Number from Data Point
  - **Update**: Annually
  - **Definition**: An increasing number of van pool rides indicated the ease of travel within and outside the City without operating a personal vehicle. The State van pool represents a tracked number of customers for a service that is designed to increase car pooling to employment centers.

❖ INDICATOR: How Safe are the Middleton Streets?

- **Indicator**: Accidents per capita
  - **Calculation**: Number of police calls for traffic accidents on public and private streets ÷ population of Middleton.
  - **Update**: Annually
  - **Definition**: The number of police calls is an indicator of the number of traffic accidents; the number of accidents that do not have a police officer called to the scene is not determinable. Vehicle and pedestrian/bicycle accidents without injury typically are the highest percentage of unreported accident types. Assuming that accident reporting remains a relatively consistent percentage of total accidents, this indicator will provide information regarding the overall safety of the transportation system in Middleton.

Solid Waste Indicators

Solid Waste indicators provide a measurement of the efficiency with which the City of Middleton residents utilize the materials in the environment. This includes measuring the amount of material disposed, the amount of which is recycled, and the proper disposal of hazardous material.

❖ INDICATOR: How Much Waste Does the City Produce?

- **Indicator**: Pounds of residential solid waste per capita
  - **Calculation:** Total waste collected by City contracted waste hauler ÷ residents
  - **Source**: City contracted waste hauler records
  - **Update**: Annually, collected monthly
  - **Definition**: This indicator is a measure of the efficiency of consumption within the community. Decreasing consumption or decreasing the waste associated with the consumption will reduce this number. Recycling is included as collected waste.

- **Indicator**: Percentage of waste that is recycled
  - **Calculation:** Total waste recycled by City contracted waste hauler ÷ Total waste collected by City contracted waste hauler
  - **Source**: City contracted waste hauler records
  - **Update**: Annually, collected monthly

- **Definition**: This indicator is a measure of the residential use of the recycling system in place to handle their waste. Increasing the types of material and creating easier handling of materials will create increased recycling in the waste stream.

Energy Indicators

Energy indicators will measure the amount of energy consumed in different sectors of Middleton and how it is produced. A table following indicator definitions has the relevant data from the past five year and a duplicate blank table to be filled in future years:

❖ INDICATOR: How Much Energy does the Middleton Community consume each year?

- **Indicator**: Total Electricity Use
  - **Calculation**: Total community electricity delivered through regulated electric distribution grid
  - **Source**: MG&E and Alliant Energy
  - **Update**: Annually from Electricity supplier
  - **Definition**: This number is obtained by adding together the residential, commercial, industrial, agricultural and municipal consumption.

- **Indicator**: Residential Electricity Use per square foot
  - **Calculation**: Electricity delivered to residential customers of the regulated electric distribution grid ÷ Residential building square footage
  - **Source**: MG&E and Alliant Energy
  - **Update**: Annually from Electricity supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the Electricity provider based upon billing record breakdown.

- **Indicator**: Commercial Electricity Use per Square Foot commercial space
  - **Calculation**: Total Electricity delivered to commercial customers through regulated electric distribution grid ÷ Building square footage commercial
  - **Source**: MG&E and Alliant Energy
  - **Update**: Annually from Electricity supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the Electricity provider based upon billing record breakdown.

- **Indicator**: Industrial Electricity Use
  - **Calculation**: Total Electricity delivered to industrial customers through regulated electric distribution grid
  - **Source**: MG&E and Alliant Energy
  - **Update**: Annually from Electricity supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the Electricity provider based upon billing record breakdown.

- **Indicator**: Total Natural Gas Use per Capita
  - **Calculation**: Total community natural gas delivered through regulated electric distribution system ÷ Population
  - **Source**: Alliant Energy, Harvey Dorn

- **Update**: Annually from natural gas supplier
- **Definition**: This number is obtained by adding together the residential, commercial, industrial, agricultural and municipal consumption.

- **Indicator**: Natural Gas Consumption
  - **Calculation**: Natural gas delivered to all customers of the regulated gas distribution grid
  - **Source**: MG&E
  - **Update**: Annually from natural gas supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the natural gas supplier.

- **Indicator**: Residential Natural Gas Use per Square Foot residential space per HDD
  - **Calculation**: Total natural gas delivered to residential customers through regulated gas distribution system ÷ Building Square Footage Residential ÷ Heating Degree Days (in BTU)
  - **Source**: MG&E, Alliant Energy, and Wisconsin DOA
  - **Update**: Annually from natural gas supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the natural gas provider based upon billing record breakdown.

- **Indicator**: Commercial Natural Gas Use per Square Foot commercial space
  - **Calculation**: Total natural gas delivered to commercial customers through regulated gas distribution system ÷ Building Square Footage Commercial ÷ Heating Degree Days (in BTU)
  - **Source**: MG&E, Alliant Energy, and Wisconsin DOA
  - **Update**: Annually from natural gas supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the natural gas provider based upon billing record breakdown.

- **Indicator**: Industrial Natural Gas Use per Square Foot industrial space
  - **Calculation**: Total natural gas delivered to industrial customers through regulated gas distribution system ÷ Building Square Footage Industrial ÷ Heating Degree Days (in BTU)
  - **Source**: MG&E, Alliant Energy, and Wisconsin DOA
  - **Update**: Annually from natural gas supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the natural gas provider based upon billing record breakdown.
  - **Note**: The industrial building square footage was not obtained by the deadline for the report. In order to track this indicator, the square footage will have to be obtained from the State assessor's office.

❖ How Much Energy does the Middleton Government Consume Each Year?

- **Indicator**: Municipal Electricity Use per Square Foot municipal space
  - **Calculation**: Total Electricity delivered to the municipality properties through regulated electric distribution grid ÷ Building square footage municipal
  - **Source**: MG&E and Alliant Energy
  - **Update**: Annually from Electricity supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the Electricity provider based upon billing record breakdown.

- **Indicator**: Municipal Electricity consumer per street light
  - **Calculation**: Electricity estimate consumed by street light type * number of streetlights of that type/total number of streetlights
  - **Source**: MG&E and Alliant Energy
  - **Update**: Annually from Electricity supplier
  - **Definition**: This is the annual average consumption per streetlight fixture based upon the utility estimates of electricity consumption per various street light types.

- **Indicator**: Water utility Electricity consumption
  - **Calculation**: Total Electricity consumed by water utility ÷ total gallons pumped
  - **Source**: MG&E and Alliant Energy and Water utility
  - **Update**: Annually from Electricity supplier and Water utility
  - **Definition**: This number is obtained by summing the monthly data provided by the Electricity provider based upon billing record breakdown and dividing it by the total number of gallons pumped into the Middleton potable water distribution system.

- **Indicator**: Municipal Natural Gas Use per Square Foot municipal space per HDD
  - **Calculation**: Total natural gas delivered to municipal customers through regulated gas distribution system ÷ Building Square Footage Municipal ÷ Heating Degree Days (in BTU)
  - **Source**: MG&E, Alliant Energy, and Wisconsin DOA
  - **Update**: Annually from natural gas supplier
  - **Definition**: This number is obtained by summing the monthly data provided by the natural gas provider based upon billing record breakdown.

- **Indicator**: Municipal Liquid Fuel Use per Acre of Land
  - **Calculation**: Total municipal liquid fuel receipts (in MMBTU) ÷ Land Area acres
  - **Source**: City records
  - **Update**: Annually
  - **Definition**: This number is obtained by summing the annual bulk/tracked diesel and gasoline purchases from all applicable departments.

- **Indicator**: Municipal Vehicle Miles Traveled per Acre of Land
  - **Calculation**: Total municipal tracked vehicle miles traveled ÷ Land Area acres
  - **Source**: City records
  - **Update**: Annually
  - **Definition**: This number is obtained by summing the mileage associated with City business for all vehicles and department.

Water Indicators

Water indicators provide a measurement of the clean water used per resident in the community. Once extracted from the ground the water is subject to water quality issues and can carry those pollutants back to the underground aquifer. Extracting the water and treating it also consumed electricity within the municipal energy consumption indicator. The indicators measure the amount of use and the efficiency of the delivery and collection system.

❖ How efficiently is Our Use of Water in the City?

- **Indicator**: Gallons of groundwater pumped per capita
  - **Calculation**: Metered gallons at groundwater extraction point ÷ population
  - **Source**: City Water department records
  - **Update**: Annually, collected monthly and reported annually to Wisconsin PSC.
  - **Definition**: These indicators measure the amount of water that is extracted to serve the community water distribution and fire protection system. These measurements are taken at the groundwater extraction point prior to insertion into the distribution system.

- **Indicator**: Gallons of groundwater lost
  - **Calculation**: 100% - Total billed gallons ÷ total metered gallons at groundwater extraction point
  - **Source**: City Water department records or as Calculated by the Wisconsin PSC
  - **Update**: Reported annually to Wisconsin PSC.
  - **Definition**: This indicator measures the efficiency of the water distribution system to provide potable water. Losses include fire protection services, system losses, unmetered services, and meter calibration losses.

- **Indicator**: Gallons of groundwater delivered to residential customers, per capita
  - **Calculation**: Billed gallons for residential services ÷ residents
  - **Source**: City Water department records
  - **Update**: Annually, collected monthly and reported annually to Wisconsin PSC.
  - **Definition**: This indicator measures the amount of water that is consumed by each resident at their home per year. This measurement is taken at each customer meter after transmission through the potable water distribution system.

- **Indicator**: Gallons of groundwater delivered to commercial customers, per square foot
  - **Calculation**: Billed gallons for commercial services ÷ Building square footage Commercial
  - **Source**: City Water department records
  - **Update**: Annually, collected monthly and reported annually to Wisconsin PSC.
  - **Definition**: This indicator measures the amount of water that is consumed by each commercial service at the property line. This measurement is taken at each customer meter after transmission through the potable water distribution system.

- **Indicator**: Gallons of groundwater delivered to industrial customers, per square foot
  - **Calculation**: Billed gallons for industrial services ÷ Building square footage industrial
  - **Source**: City Water department records
  - **Update**: Annually, collected monthly and reported annually to Wisconsin PSC.
  - **Definition**: This indicator measures the amount of water that is consumed by each industrial service at the property line. This measurement is taken at each customer meter after transmission through the potable water distribution system.

- **Indicator**: Gallons of groundwater delivered to the municipal facilities, per square foot
  - **Calculation**: Billed gallons for municipal services ÷ Building square footage municipal
  - **Source**: City Water department records
  - **Update**: Annually, collected monthly and reported annually to Wisconsin PSC.
  - **Definition**: This indicator measures the amount of water that is consumed by each municipal service at the property line. This measurement is taken at each customer

meter after transmission through the potable water distribution system.

Land Use Indicators

Land Use indicators provide a comparative measurement of the existing City community. Goals can be set to alter the makeup of the community make up or they can be compared against similar communities.

❖ How efficiently are we using land?

- **Indicator**: Density
  - **Calculation**: Number of residents ÷ Total land area
  - **Source**: General Data; residents ÷ land Area (in square miles)
  - **Update**: Annually
  - **Definition**: This indicator of residents per square mile is easily calculated by many communities. It measures how efficiently we are using our developed land within a community.

❖ How Much City Land is protected as open Space, either for public use of Preservation?

- **Indicator**: Percentage of Land devoted to Parks/Recreation/Open Space
  - **Calculation**: Acres of Park/Recreation + Open Space ÷ Total land acre acres
  - **Source**: City GIS mapping
  - **Update**: Annually, or when GIS mapping land use layer is updated.
  - **Definition**: This percentage is the land amount of area that is not available for development.

- **Indicator**: Community Garden Area
  - **Calculation**: Cumulative land area of Community garden properties
  - **Source**: City records
  - **Update**: Annually, or when additional community gardens are set up.
  - **Definition**: The number of Community garden locations is an indicator of the potential for all residents to supply a portion of their own food from within the City limits.

❖ What percentage of properties are within walking distance of basic services?

- **Indicator**: Proximity to Transit Stop
- **Indicator**: Proximity to Grocery Store
- **Indicator**: Proximity to Open Space
  - **Calculation**: This is an interactive calculation utilizing GIS capabilities and known locations of open space, transit stops, and grocery stores. It will provide a percentage of land area or properties that are within ¼ mile or ½ mile of known amenities
  - **Source**: City GIS Map and GIS operator
  - **Update**: Annually, or when GIS mapping land use layer is updated.
  - **Definition**: The number of people within close proximity to these basic services is an indicator of how efficiently the City is using land and successfully the City is supplying basic services to its residents.
  -

❖ Is the Supply of Housing Balanced and Meeting the Needs of All that Would Like to Live Here?

- **Indicator**: Percentage of Housing that is other than single family detached.
  - **Calculation**: Number of Multiple unit family homes ÷ (Number of Single family homes **+** Number of Multiple family homes)
  - **Source**: Federal Census
  - **Update**: 10 years on release of Census Data
  - **Definition**: This indicator is based upon the number of units available. It does not matter the size of each of the units.

- **Indicator**: Percentage of Housing that is owner-occupied.
  - **Calculation**: Number of owned homes ÷ (Number of owned homes **+** Number of rental homes)
  - **Source**: Federal Census
  - **Update**: 10 years on release of Census Data
  - **Definition**: This indicator is based upon the number of units available. It does not matter the size of each of the units.

Economy/Food/Fair Trade Indicators

Economy indicators provide a theoretical analysis of the number of jobs available for residents and the number of different businesses offering those positions.

❖ Is there adequate employment with a living wage accessible to City residents?

- **Indicator**: City Household median income
  - **Calculation**: Data point from US Census.
  - **Source**: Federal Census
  - **Update**: 10 years on release of Census Data
  - **Definition**: This indicator is a data point developed by the US Census.

- **Indicator**: Number of jobs in the City per capita
  - **Calculation**: Economic census number of jobs data point ÷ population
  - **Source**: Federal Economic Census
  - **Update**: 10 years on release of Economic Census Data
  - **Definition**: This indicator is based on a data point developed by the US Economic Census which occurs approximately two years after the US Census.

- **Indicator**: Percentage of City Residents with jobs in the City
  - **Calculation**: Data points from US Census for number of city residents who have jobs within the city and number of residents that work from home ÷ population
  - **Source**: Federal Census
  - **Update**: 10 years on release of Census Data
  - **Definition**: This indicator is based on a data point developed by the US Census.

❖ To What Extent do families within the City and the entire school district have the resources to meet basic needs?

- **Indicator**: Percentage of students in elementary and Middle School that qualify for free and reduced lunch (Broken out per school)
  - **Calculation:** Number of students at Elm lawn Elementary/North side Elementary/Sauk Tail Elementary/Kromrey Middle schools ÷ total number of student
  - **Source**: Middleton School District
  - **Update**: Collected every year
  - **Definition**: This indicator provides a basis of the ability of families to provide basic needs for school aged children.

Public Education and Outreach Indicators

Public Education and Outreach indicators provide a level of knowledge within the community of the work being done. This is critical because the overall success of the communities initiative rely upon the individual actions of the residents. A better informed community will make the best long term decision.

❖ What is the Awareness Level of Middleton's Sustainability Initiatives?

- **Indicator**: Percentage of residents who receive an environmental message
  - **Calculation:** Number of residents on the email list serve ÷ population
  - **Source**: Email list serve administrator
  - **Update**: Annually
  - **Definition**: This is an indicator of the level of activity and support that the residents will provide to the City's communal goals.

- **Indicator**: Sustainability Seminar participation hits on website.
  - **Calculation:** Number of website hits on the City supported Sustainability Seminar website.
  - **Source**: Webmaster
  - **Update**: Annually
  - **Definition**: This is an indicator of the level of activity and support that the residents will provide to the City's communal goals.

- **Indicator**: Clean and Green Participation
  - **Calculation:** number of visits to clean and green Drop sites
  - **Source**: Site employees and volunteers
  - **Update**: At each clean and green Event
  - **Definition**: This is an indicator of the level of awareness residents have regarding disposal of materials.

- **Indicator**: Med Drop participation
  - **Calculation:** Pounds of material collected by MedDrop events
  - **Source**: med drop employees and volunteers
  - **Update**: at each med drop event
  - **Definition**: This is an indicator of the level of awareness residents have regarding disposal of materials.
- **Indicator**: Green Thursdays Participation
  - **Calculation:** number of participants at Green Thursday Events
  - **Source**: Site employees and volunteers at events
  - **Update**: Monthly

- **Definition**: This is an indicator of the level of awareness residents have regarding sustainability, which is the topic of the event.

- **Indicator**: Compost Bins Sold
  - **Calculation:** number of compost bins sold
  - **Source**: Site employees and volunteers at event
  - **Update**: Per event
  - **Definition**: This is an indicator of the level of awareness residents have regarding disposal of materials.