



# CITY OF MIDDLETON COMPREHENSIVE PLAN 2021

# Acknowledgements

Dedicated to Eileen Kelley, who led the City of Middleton Planning Department with skill and contagious optimism in the years 1988 – 2019. Eileen contributed significantly to this plan prior to her retirement.

Thank you to the City of Middleton committee members, residents, organizations, and businesses who participated in the process and helped make this document possible.

Adopted by City Council on March 2, 2021

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LOVE YOUR NEIGHBOR

OHYASTUDIO

Source: Rob Conhaim

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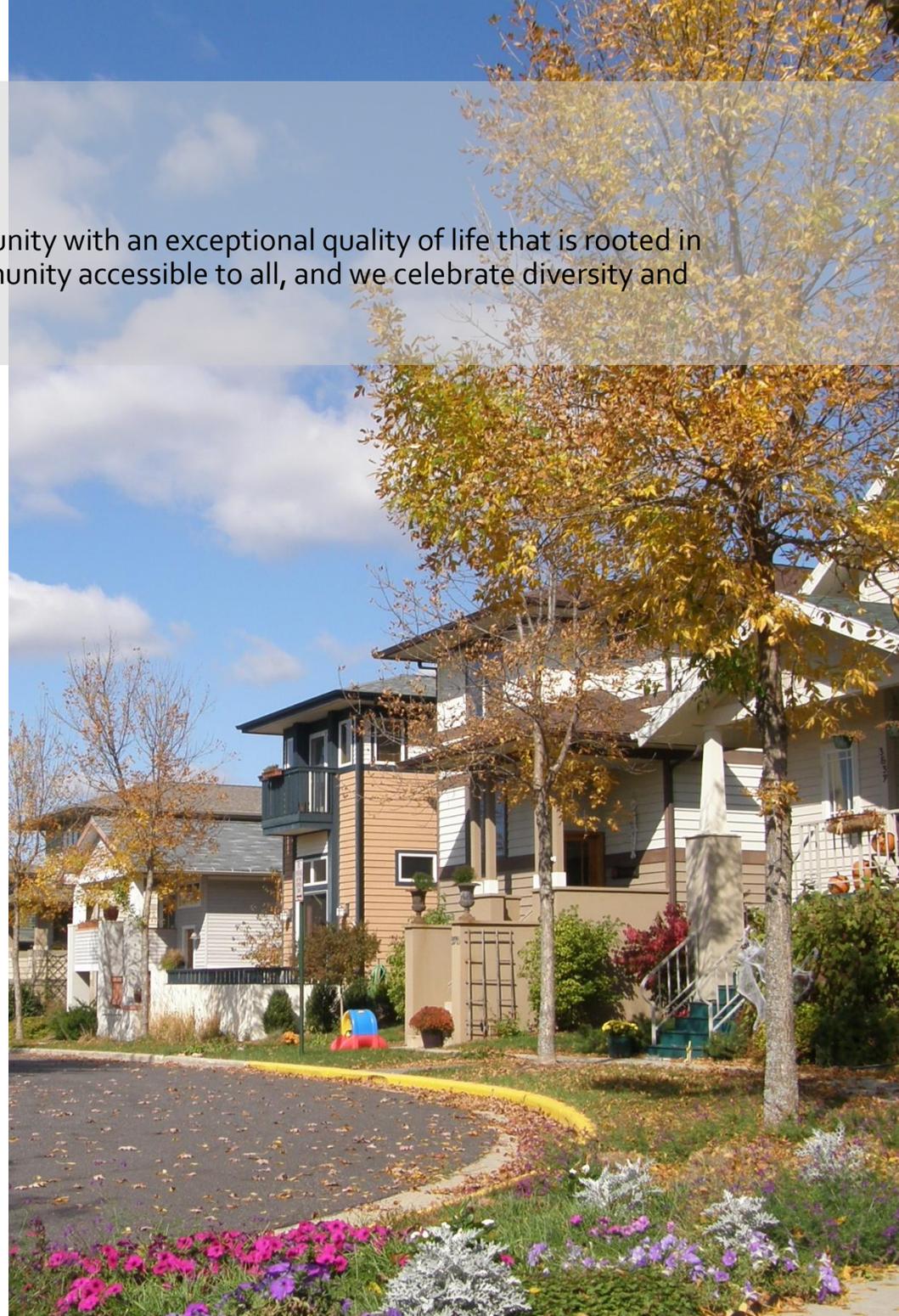
# INTRODUCTION

**VISION:** The City of Middleton is a sustainable, urban community with an exceptional quality of life that is rooted in environmental stewardship. We are a thriving and safe community accessible to all, and we celebrate diversity and equitable opportunities for all people.

## COMMUNITY VALUES

*As the Good Neighbor City, Middleton embraces...*

<b>Community</b>	We are a welcoming, inclusive city with a distinct identity, anchored by a vibrant downtown, unique neighborhoods, and our people.
<b>Sustainability</b>	We meet the needs of the present without compromising the ability of future generations to meet their own needs.
<b>Equity</b>	We celebrate diversity and strive for fair and just opportunities and outcomes for all people.
<b>Health</b>	We focus on the well-being of people and the environment.
<b>Accessibility</b>	We embrace full participation by all members of our community.
<b>Innovation</b>	We collaborate with individuals, businesses, and organizations to embrace new ideas that will foster strong economic growth.
<b>Resiliency</b>	We aspire to be a community that is capable of withstanding and recovering from adverse situations.



*Hello*. And welcome to the 2021 Middleton Comprehensive Plan.

This document is intended to prioritize our values and map out our future for the next 20 years. Some of the priorities that were identified in the 2006 Middleton Comprehensive Plan underlie the goals, strategies, and actions that are included herein. While things like promoting compact growth, protecting the environment, and providing efficient services remain integral to who we are as a community, this plan also addresses major community priorities that have evolved since 2006—particularly equity, sustainability, and public health.

We wish to thank all the community members, city volunteers, and elected officials who have contributed to this planning effort. The last iteration of this plan was approved 15 years ago. Moving forward, the City intends to review and as necessary update this plan annually in order to maintain it as a living document—one that remains relevant and is consulted frequently by officials as they make decisions about how our community grows and changes. We strive to be a local government that is responsive to the community we serve, and we hope this document reflects that.

Sincerely,

The Good Neighbor City



# COMPREHENSIVE PLANNING

Wisconsin State Comprehensive Planning Law (Statute 66.1001) requires cities, counties, and other local units of government to enact a Comprehensive Plan to guide their physical, social, and economic development over a 20-year planning period. The law requires communities to engage residents in a transparent planning process to guide future growth and development as related to land use, housing, transportation, utilities, economic development, agriculture, and intergovernmental relationships.

Comprehensive plans allow local jurisdictions flexibility to address state-wide requirements, such as regional transportation and preservation of agricultural lands, while taking into consideration unique issues and opportunities of each community..

STATE REQUIRED ELEMENTS:	CORRESPONDING MIDDLETON PLAN CHAPTERS:
Issues and Opportunities	Introduction
Housing	Housing
Transportation	Transportation
Utilities and Community Facilities	Governance and Partnerships
Agricultural, Natural and Cultural Resources	Land Use, Green City, and Character
Economic Development	Economic Development
Intergovernmental Cooperation	Governance and Partnerships
Land Use	Land Use
Implementation	Implementation

# THE PLAN:

This plan is organized into 8 major topic areas that influence the quality of life in the city. Within each element, the plan is further defined by an overarching goal, and several strategies and actions. The plan highlights key actions for each strategy, and these actions represent possible implementation opportunities and can often be linked to measurable data. However, they do not represent everything the City is currently doing or could do in the future. More detailed plans and policy studies provide additional specificity.

**8 Elements**

Major topic areas

**8 Goals**

What we want to achieve over the long-term within each Element

**45 Strategies**

General approaches to achieve the Goals

**225+ Actions**

Implementation steps of the Strategies

## Plan Organizational Structure Example

**ELEMENT:** Green City

**GOAL:** Middleton will preserve, protect, and enhance our unparalleled connections to nature, agriculture, and water resources, and we will continue to lead with a community-wide stewardship ethic that will equitably mitigate climate change and adapt to our changing environment.

**STRATEGY:** Mitigate climate change by reducing our community-wide energy use and eliminate greenhouse gas emissions by rapidly switching from fossil fuel sources to local, renewable sources of energy.

**ACTION:** Middleton will continue to embrace and incentivize clean and local energy from renewable sources such as wind, solar, geothermal and DERs (distributed energy resources).

**IMPLEMENTATION EXAMPLE:** Through Tax Increment Financing (TIF), the City provided an incentive for Chartwell Midwest Wisconsin to include a 106 kilowatt solar system at their new location on Deming Way.

Photo: Rooftop solar at Chartwell  
Source: Kraemer Development, LLC

# PUBLIC ENGAGEMENT PROCESS

1 KICKOFF

9 PUBLIC INPUT SESSIONS

28  
PLAN  
COMMISSION  
WORK SESSIONS

27  
COMMITTEE &  
COMMISSION  
SESSIONS

3 SOCIAL MEDIA POLLS

1  
RESIDENT SURVEY

1  
BUSINESS SURVEY

9 PUBLIC HEARINGS

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[Future Land Use – Regional Planning View](#)

[Future Land Use – City Planning View](#)

[Housing & Population Yield Analysis](#)

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[Local Landmarks](#)

[Environmental Features](#)

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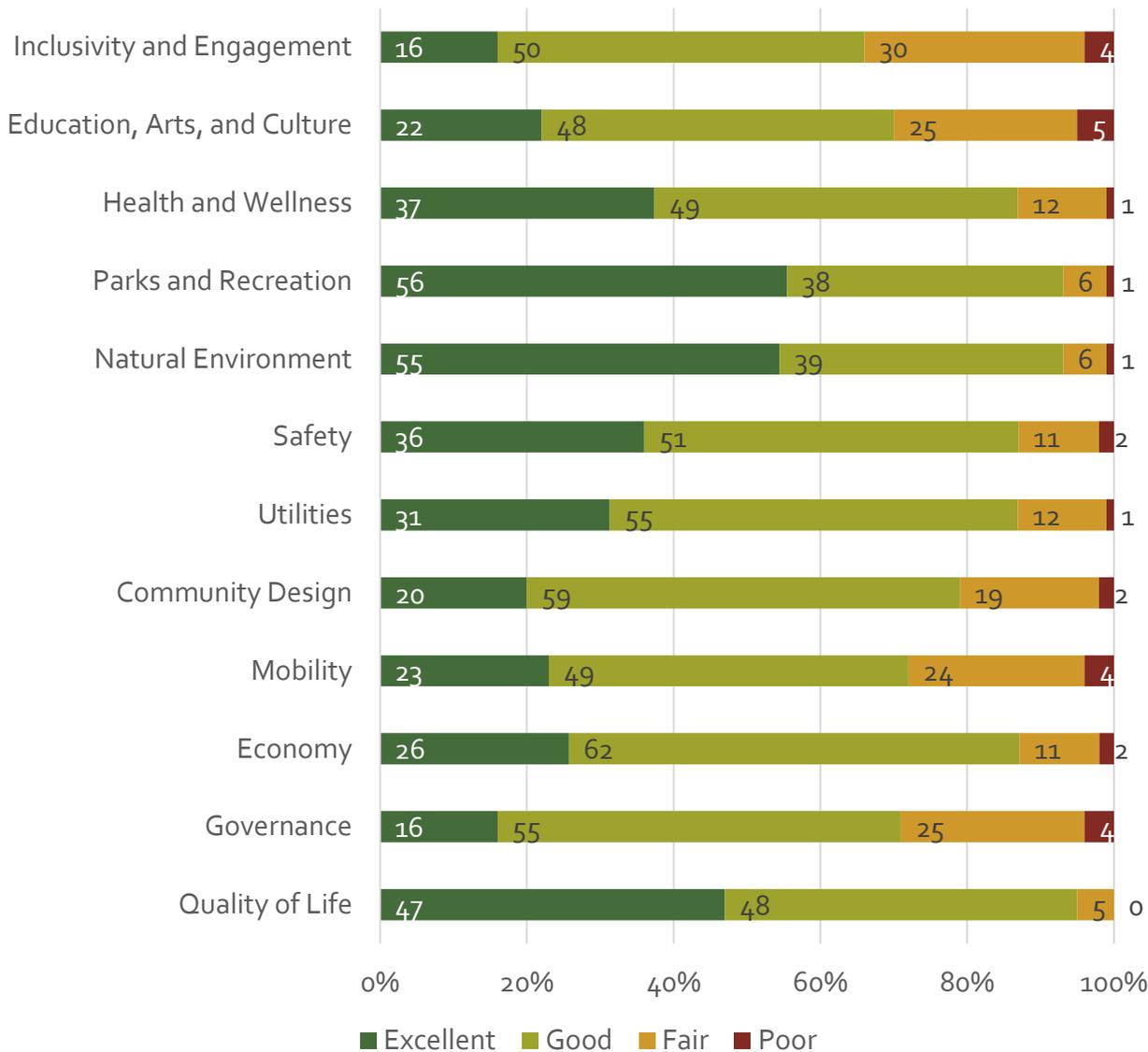
[Central Urban Service Area \(CUSA\)](#)

[Updated Floodplain Maps](#)

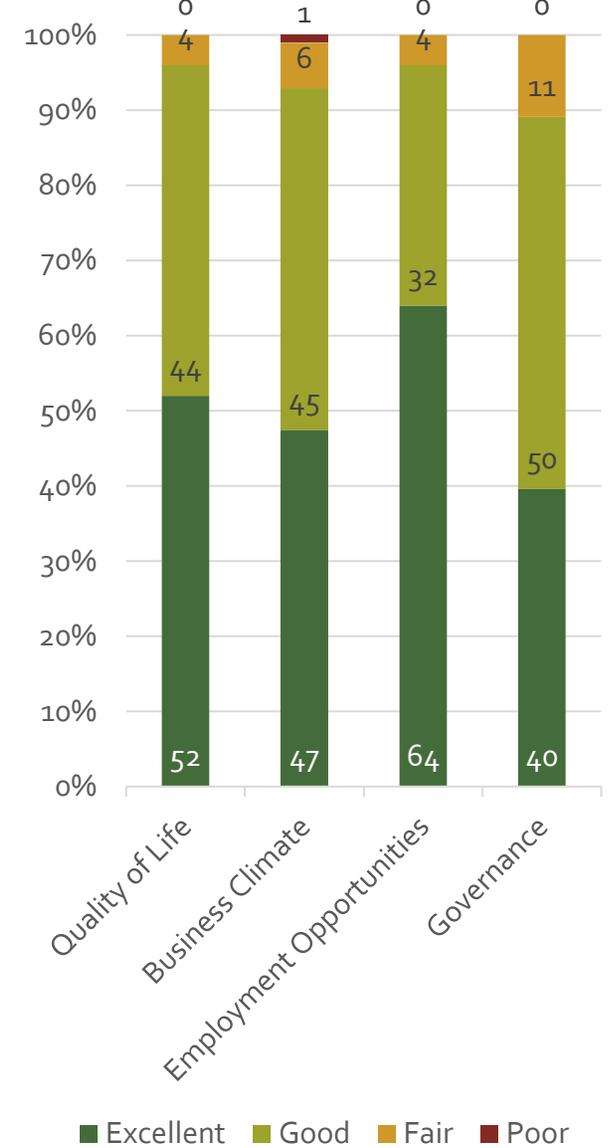


# National Community and National Business Survey Results for the City of Middleton

## Community Survey



## Business Survey



Additional survey results and methodology can be found in the appendix.  
 Source: 2020. National Research Center

## Key Themes throughout the Plan

During the public input process, there were several key themes that commissions were interested in that spanned across chapters. These key themes are pulled out here for quicker referencing.

Abbreviation Key	
LU	Land Use
T	Transportation
H	Housing
ED	Economic Development
C	Character
GC	Green City
GP	Governance & Partnerships
Example:	
LU1B	Land Use Strategy 1 Action B
H1D	Housing Strategy 1 Action D

## Middleton Zoning Code Update:

The City intends to update the Zoning Ordinance in 2021 to better reflect the priorities outlined within this plan. Actions including Zoning Ordinance changes are included below:

**LU1B:** Update Zoning and Land Division Ordinances to reflect adopted land use strategies and to encourage a greater diversity and mixture of land uses.

**LU1C:** Update zoning ordinance to allow recycling and composting facilities in all commercial and industrial zoning districts as a conditional use.

**LU1D:** Create and standardize ordinances relating to short-term rentals, accessory dwelling units (ADUs), and missing middle housing.

**LU1G:** Preserve the long-term viability of community gardening by using zoning or other regulatory tools to designate specific lands within the city for agricultural use.

**LU4A.** Amend the Floodplain Overlay Zoning district to better protect properties in flood-fringe areas.

**LU4B:** Revise the Zoning Ordinance and other relevant codes to promote the reduction of impervious surface areas in order to improve on-site water infiltration

**H1D:** Revise the Zoning Ordinance to allow an increase in density by encouraging accessory dwelling units (ADUs), 'missing middle' housing, and multi-family housing that make efficient use of land.

**H1E:** Amend the Zoning Ordinance to reduce the minimum residential lot size for single family homes, increase the maximum building height for multi-family homes, and other modifications to the dimensional standards, where appropriate.

## Flood Mitigation and Water Resource Management

Throughout the public engagement process, community members and several commissions inquired about flood mitigation and water resource management. Actions referring to flooding and water resources are listed as follows:

**LU3B.** Promote the development of underutilized and environmentally-contaminated sites to protect sites near open space and waterways.

**LU4A.** Amend the Floodplain Overlay Zoning district to better protect properties in flood-fringe areas.

**LU4B.** Revise the Zoning Ordinance and other relevant codes to promote the reduction of impervious surface areas in order to improve on-site water infiltration.

**LU4C.** Support innovative Green Infrastructure practices in all land use decisions.

**T5A.** Overhaul parking standards so that they are more flexible, decrease development costs, and promote less use of private automobiles.

**ED7A.** Promote strong "green building" and sustainability standards to encourage developers to implement the most recent innovations in building design, renewable energy, stormwater management, and landscaping to protect the environment.

**ED7D.** Make critical improvements to stormwater management infrastructure and mitigation practices to increase floodplain protection and avoid widespread damage in the event of extreme rain events.

**GC2B.** Reduce runoff and prevent flooding by maximizing upstream water infiltration and evapotranspiration during increasingly frequent large storm events.

**GC2C.** Incentivize new development to maintain 100% or more (predevelopment) rainwater runoff volume control on site.

**GC2D.** Support and fund regular maintenance of the Pheasant Branch Creek Corridor redevelopment.

**GC2F.** Launch and maintain a yearly Resilient Landscapes Initiative on a neighborhood scale to help residents take actionable steps in their yards and gardens that will improve biodiversity, habitat, reduced storm water runoff, soil health, and promote a stewardship ethic throughout the City.

**GC3H.** Protect property throughout Middleton with upstream flood control and nutrient reduction strategies, in order to preserve restoration and redevelopment investments, and to reduce detrimental downstream effects from runoff.

**GC6A.** Celebrate and promote the value of our streams, creeks, and wetlands, and recognize their importance to our socio-economic and ecosystem health as a community through regular public engagement.

**GC6B.** Preserve the role of wetlands, prairies, savannas and woodlands as essential components of the hydrologic system and valuable wildlife habitat. Protect shoreline and floodplain areas accordingly.

**GC6C.** Continue to lead in partnership with efforts such as the Yahara WINS (Watershed Improvement Network) and the Yahara CLEAN Compact (version 3.0) collaboration to reduce phosphorus loads in our water from both urban and rural lands.

**GC6D.** Consider strategic land acquisition North of the City of Middleton, to improve both water quality and to manage water quantity by employing techniques that increase infiltration and evapotranspiration.

**GC7A.** Incentivize GI in new construction and remove any zoning code restrictions that prohibit grey water systems if they meet designated criteria.

**GC7B.** Promote and model green and blue roof technologies in new municipal building projects.

**GC7C.** Employ multiple site-specific GI strategies street by street during reconstruction projects.

**GC7D.** Celebrate and protect our existing kettle ponds (Tiedeman, Stricker, Esser, Graber) and our conservancy lands that also serve the city as storm water assets.

**GP4A.** Continually monitor the City's Wellhead Protection Plan to identify and address possible contamination of drinking water.

**GP4B.** Require all development within the Urban Service Area (USA) to utilize public sewer and water systems and to meet current urban service standards.

**GP4D.** Prioritize maintenance of the wastewater system and act on the recommendations in the Utility Master Plan Update.

**GP4E.** Focus on maintenance improvements on existing wells, storage facilities, and water mains while planning to add water system capacity in about 25 years.

**GP4F.** Encourage and incentivize water conservation practices and review the City's water rate structure at regular intervals to determine how the City can structure rates to increase water conservation.

**GP8A.** Support the Storm Water Utility, and the Storm Water Utility Board, which manages the Utility.

**GP8B.** Implement the most effective flood control alternative(s) to mitigate future flood hazards.

**GP8C.** Determine the appropriate application for the recently completed Floodplain Study and associated floodplain maps.

**GP8D.** Consider updating the City's Storm Water Runoff Control and Erosion Control ordinances to maintain the highest feasible water quality and quantity control standards that factor in updated rainfall data and best available technology.

## Short, Medium, & Long-term Actions

The Comprehensive Plan contains more than 225 actions which the City plans to undertake to meet our goals. Some actions have a clear beginning and end, and once completed, City officials can tackle other action items. Many of these actions are ongoing, and will require continual pursuit by City elected officials, committee members, and staff. All the actions contained in this plan are important to our community. However, funding and staffing are limited, and therefore not all actions can be completed at once.

The City has compiled the following lists of short-term (should be completed in less than 3 years), medium term (should be completed in 3 – 7 years), and long-term (should be completed in 7+ years), and ongoing actions. The City may choose to tackle these actions in a different priority order as opportunities arise. Although the following lists do not include all the actions listed in this plan, they provide a framework for evaluating progress toward the City's goals.

### **Short-Term (Less than 3 Years)**

**LU1B.** Update Zoning and Land Division Ordinances to reflect adopted land use strategies, ensure a greater diversity and mix of land uses, and modernize the business and industrial zoning categories.

**LU1F.** Update the Bicycle & Pedestrian Plan to increase linkages between existing and new neighborhoods to encourage walking and biking throughout the community.

**LU2D.** Create and adopt a University Avenue Corridor Plan to encourage increased densities, cross access and parking easements to bring the corridor to a more human scale, increase walkability and establish a less auto-centric focus along the thoroughfare.

**LU2E.** Reduce, and in some cases eliminate, minimum parking standards.

**LU4A.** Amend the Floodplain Overlay Zoning district to better protect properties in flood-fringe areas.

**T1A.** Adopt and implement a "Complete Streets" policy so that the design and operations of the entire right-of-way balance the safety and convenience of all road users regardless of age, ability, or mode of transportation.

**T3E.** Adopt and actively refer to an updated Bicycle and Pedestrian Plan

for additional policy and action statements.

**T3F.** Adopt bicycle parking standards by ordinance.

**H1D.** Revise the Zoning Ordinance to allow an increase in density by encouraging accessory dwelling units (ADUs), 'missing middle' housing, and multi-family housing that make efficient use of land.

**H6E.** Maintain a listing of affordable and income-restricted developments, along with the affordability period expiration date. Explore options to maintain affordability within these developments.

**C3C.** Establish a One Percent for the Arts in conjunction with Middleton's Tax Incremental Financing (TIF) Districts to pay for public art.

**GC1D.** Middleton will create a 20-year city fleet replacement schedule that incorporates zero emissions vehicles.

**GC1L.** Use racial equity and social justice assessment tools and a Health in All Policies framework to assess policy decisions and to make sure no one group of people or neighborhood carries the burden more greatly than others because of a particular city policy decision or lack of one.

**GC4A.** Create a bird friendly building ordinance that reduces bird collision mortality in all new developments.

**GC7A.** Incentivize GI in new construction and remove any zoning code restrictions that prohibit grey water systems if they meet designated criteria.

**GC9A.** Promote green building and renewable energy job training programs for recent school district graduates, Black, Indigenous, and people of color, individuals with low incomes, workers in fossil fuel industries, and released prisoners.

**GP1D.** Establish a Diversity, Equity, and Inclusion (DEI) team.

**GP6F.** Update ordinances and policies to promote electrification and alternative-fuel usage for vehicles and expand the supply of electric vehicle charging stations in the city.

**GP8B.** Implement the most effective flood control alternative(s) to mitigate future flood hazards.

**GP9B.** Complete the Community Campus Planning project.

## Medium-Term (3-7 Years)

- T2A.** Prepare a "Vision Zero" Action Plan.
- T3D.** Establish or welcome shared micromobility systems in Middleton, particularly a bike sharing system that can integrate with Madison's BCycle.
- T4A.** Restructure Middleton's transit service to integrate with Bus Rapid Transit.
- H3B.** Support the use of programs that provide energy efficiency upgrades and assistance with home repairs, which will assist low-income seniors to stay in their homes longer.
- H5B.** Re-establish a down payment assistance loan program (DPAP)
- H6C.** Implement a total waiver, or a waiver of a substantial portion of, City fees to encourage homeownership opportunities for families earning 60% or less than the area median income (Habitat for Humanity or Movin' Out homes).
- ED6B.** Extend Belle Fontaine Boulevard to Parmenter Street to connect the North Technology Park to the residential street network to the east.
- C1B.** Improve and update landmark signage in the historic areas of the community and develop an inventory of designated and eligible historic structures and sites.
- GC1C.** The Sustainability Committee along with stakeholders and City elected officials will develop and adopt Net Zero Building Guidelines for new construction.
- GC2A.** The city will write and maintain a Resiliency Plan which includes risk, vulnerability, and capacity assessments; energy security; hazard mitigation; emergency response; and recovery plans.
- GC5D.** Establish a food composting pilot city-wide.
- GC8C.** Identify gaps in the community where there is little access to healthy food or adequate, affordable, reliable transportation to grocery stores, and work to bridge this gap.
- GP1E.** Demonstrate that appointments to local advisory boards and the city's workforce reflect the gender, racial, and ethnic diversity of the City.

## Long-Term (7+ Years)

- T3A.** Complete a network of bicycle lanes and paths linking all city neighborhoods to accommodate all types of bicyclists.
- H5A.** Partner with Habitat for Humanity, Movin' Out, and other organizations to help people with low-incomes and or people with disabilities purchase homes in Middleton.
- H5C.** Form a Community Land Trust to steward long-term affordable housing in our community.
- H6D.** Utilize the "Affordable Housing Extension" that allows the City to extend the life of a tax increment financing (TIF) district by one year to "benefit affordable housing."
- ED9B.** Extend Downtown District northward along Parmenter Street and southward along Terrace Avenue, to enhance the City core.
- GC1B.** Incentivize building design towards a stricter commercial building code and require buildings over 10,000 square feet to report energy use to the city and public on an annual basis.
- GC1H.** Middleton will partner with MG&E to pilot and plan for future microgrid networks that can connect to one another to reduce risk, increase resiliency, and optimize energy distribution.
- GC2I.** Consider establishing a Business Recovery Center (BRC) to help local companies get the assistance they need to re-open or stay open after an event like COVID-19 or a natural disaster.
- GC3I.** Establish a long-term working partnership with the Friends of Pheasant Branch on shared goals and strategies.
- GC5J.** Collaborate with Dane County to establish a community and/or regional anaerobic biodigester that serves the City of Middleton.
- GP1C.** Establish a Communications position.
- GP3A.** Collaborate with the Middleton and Waunakee school districts to ensure that new school facilities or building expansions are planned to serve Middleton's northern growth area in a timely fashion and scaled appropriately to help achieve more compact, pedestrian-oriented development patterns in new neighborhoods.
- GP9A.** Design and construct Net Zero energy/carbon buildings that emphasize conservation of energy.

## Ongoing

**LU1E.** Utilize Tax Increment Financing (TIF) assistance where appropriate to facilitate land uses that otherwise would not have occurred at the same scale, affordability, provision of amenities, or economic growth.

**LU2B.** Support development, redevelopment and infill of a wide range of housing types that make efficient use of land.

**T1E.** Promote active transportation solutions that enhance health and quality of life.

**T5B.** Allow on-street parking spaces to convert to other uses, including outdoor dining, pop-up exercise locations, and bicycle parking.

**H1A.** Support infill development where appropriate, especially in downtown Middleton and in other areas well-served by transit, and in proximity to employment and commercial areas.

**H1B.** Allow “missing middle” housing types, characteristics, and assembly in modifications to existing subdivisions.

**H2B.** Include “missing middle” housing types, characteristics, and assembly in all new subdivisions.

**H6A.** Continue to use tax increment financing (TIF) to support development of affordable and income-restricted housing. Where possible, TIF should be matched with other sources of funding.

**ED1A.** Retain existing businesses, which are Middleton’s greatest resources for attracting new jobs and investment.

**ED4C.** Use public art, especially at City gateways, the wayfinding signage system, and other streetscaping amenities to enhance the visual appeal of the City.

**ED5A.** Work with regional transportation partners, including Madison Area Transportation Planning Board and the Wisconsin Department of Transportation to address regional transportation improvements that will better support the work commute of the City and region.

**ED7D.** Make critical improvements to stormwater management infrastructure and mitigation practices to increase floodplain protection and avoid widespread damage in the event of extreme rain events.

**C1A.** Partner with local First Nations to celebrate their history and sustainable practices in Middleton.

**GC2C.** Incentivize new development to maintain 100% or more (predevelopment) rainwater runoff volume control on site.

**GC3D.** Increase connectivity between Middleton’s public lands, adjacent communities, and other regional open spaces through land acquisition and/or trail easements that create green corridors.

**GC3H.** Protect property throughout Middleton with upstream flood control and nutrient reduction strategies, in order to preserve restoration and redevelopment investments, and to reduce detrimental downstream effects from runoff.

**GC5I.** Adapt to changing recycling markets by educating public about contamination, sorting materials more effectively, and promoting local processing facilities.

**GC6A.** Celebrate and promote the value of our streams, creeks, and wetlands, and recognize their importance to our socio-economic and ecosystem health as a community through regular public engagement.

**GC6B.** Preserve the role of wetlands, prairies, savannas and woodlands as essential components of the hydrologic system and valuable wildlife habitat. Protect shoreline and floodplain areas accordingly.

**GC8A.** Support local community and school gardens and food pantry gardens taking care to serve populations that disproportionately are affected by food insecurities.

**GP1A.** Increase civic engagement that meets neighborhoods and individuals where they are, such as by holding a quarterly “open house” to provide a one-stop shop for accessing key services.

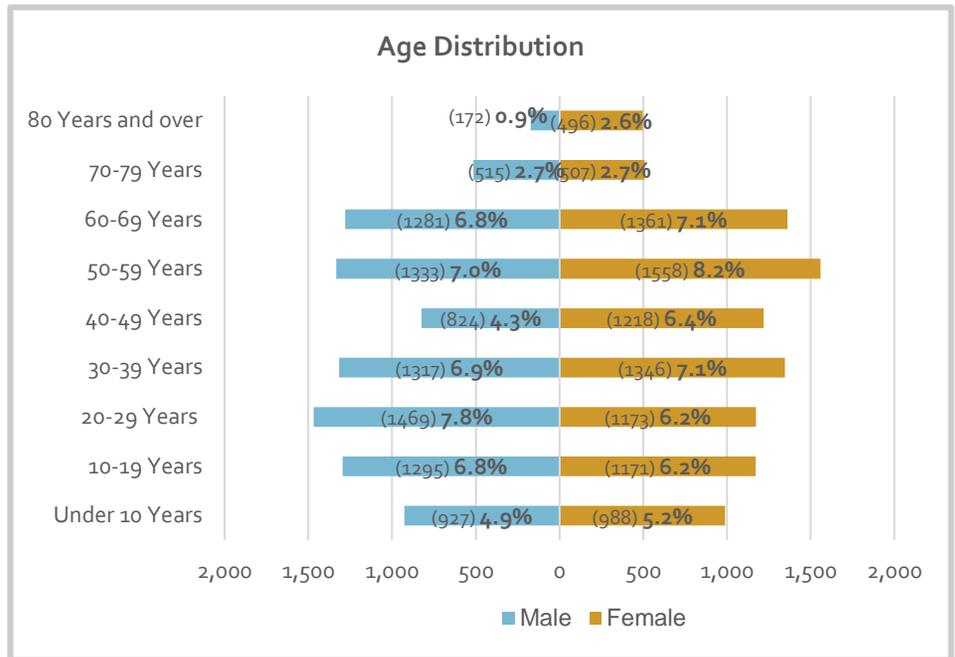
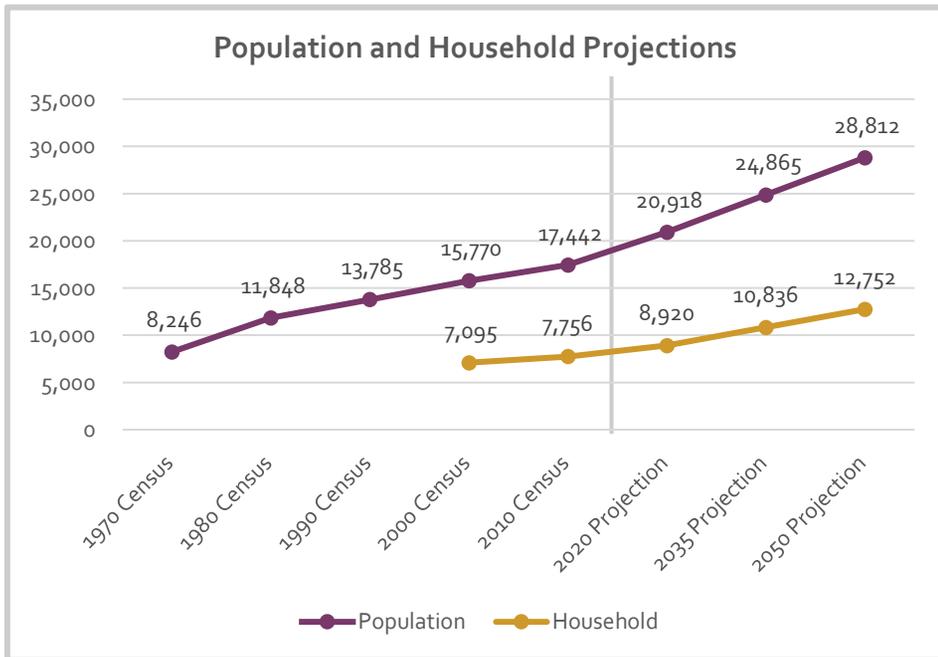
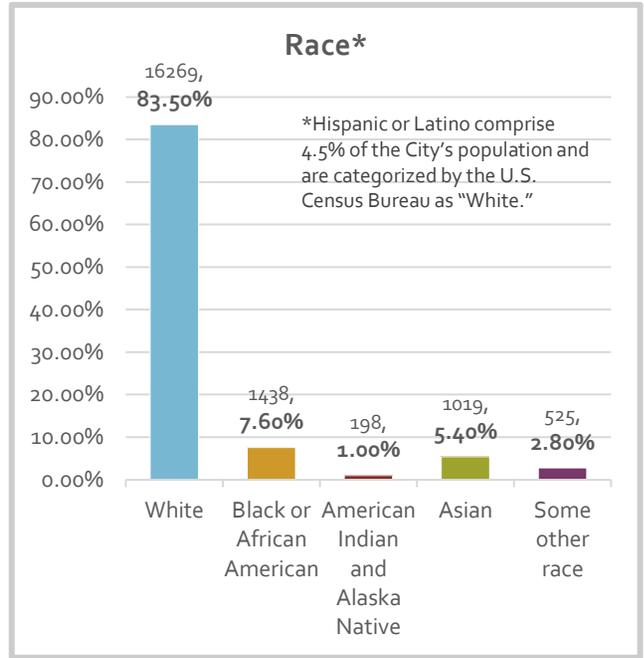
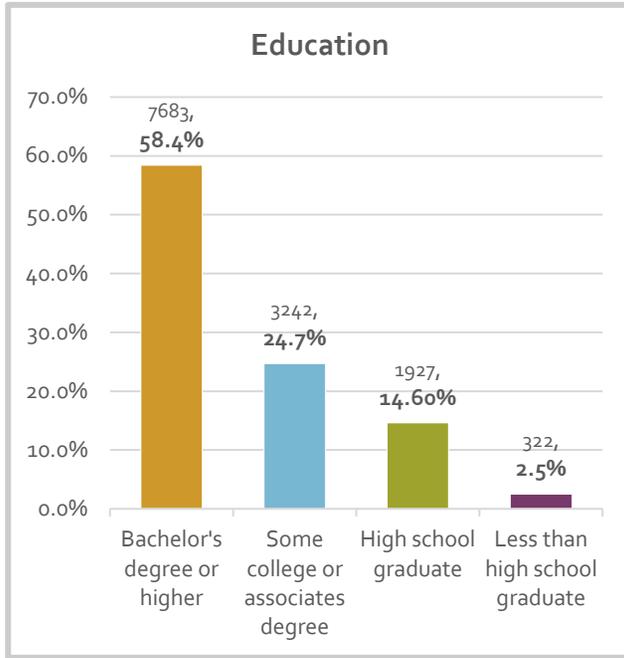
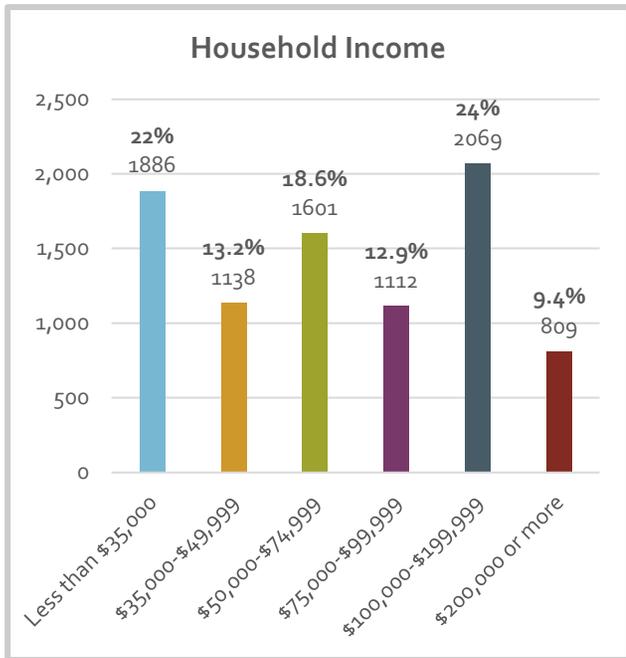
**GP5B.** Enhance operation of the Middleton Recycling Center and implement programs that expand and/or improve opportunities for the recycling and reuse of materials.

**GP6B.** Utilize microgrid and battery storage technology to ensure uninterrupted energy to key functions and services within the city.

**GP6C.** Promote solar installations on additional municipal buildings or land and encourage the private sector to do likewise.

**GP9G.** Provide all city residents with access to health and recreation services as well as opportunities to promote active lifestyles and physical and mental health.

# Middleton Data Snapshot (2019)



United States Census American Community Survey 2013-2017 5-year estimates, population from 2020-2040 is taken from the 2019 Wisconsin Department of Administration population estimates for the City.

# LAND USE

Middleton will establish a land use pattern that promotes compact development, protection of natural resources, a range of housing options, mobility, and economic growth in order to maintain an exceptional quality of life.

Land use is the management of natural and built landscapes for efficient growth and preservation of resources. Good land use practices can result in improved public health, sustained economic growth, and environmental resiliency; while bad land use practices can result in traffic congestion, lack of public greenspaces, and increased pollution. A land use plan allows for the City of Middleton to manage the long-term impacts of development in a sustainable and efficient way that benefits the whole region and preserves the character of the City.

The City of Middleton is located between rural, suburban, and urban regions; and evidence of all three development types can be found within the City's boundaries. These different topographies create unique opportunities and challenges for good land use management within the City. Besides topography, housing and transportation are major concerns as the City continues to be a main job center for Dane County. Finally, the impressive public park and trail system, almost 25% of the City land area, is a land use which is deeply valued and must be maintained.

This chapter aims to balance these diverse land uses with responsible development patterns that are able to support a more resilient quality of life for Middleton residents and businesses. Other plans developed by the City and other chapters in this Comprehensive Plan will have more details relating to certain land uses such as transportation, housing, and sustainability.

These plans can be found in the Appendix and will be consistent with this chapter.

## Strategies

1. Support diverse land uses for a complete community.
2. Promote compact growth strategies to preserve farmland and natural resources and encourage transportation alternatives.
3. Strive to maintain 25% permanent public open space to promote the health and well-being of people and the natural environment.
4. Ensure that all land use decisions incorporate resiliency and adaptation.



**Strategy 1: Support diverse land uses for a complete community.**

Middleton strives to be a complete community where residents can find everything they need within the City boundaries. This not only includes parks and schools, but also jobs, services and retail stores that meet the needs for all residents. It also means that there needs to be a flexible zoning code that allows a diversity of uses in closer proximity to one another. One way to allow a diversity of uses is mixed-use blocks with land uses such as offices, retail stores and coffee shops within residential areas. These blocks do not have to consist of large, mixed-use buildings such as those seen in the downtowns of big cities, but they could feature a corner store or bodega in a single-family neighborhood that serves the residents nearby.

**Actions:**

**A. Support complete neighborhoods throughout the City, both with new subdivisions and, where appropriate, in retrofits that serve existing neighborhoods.**

[Complete Neighborhoods](#) are those where residents can find all their daily needs within a safe walking distance. Having amenities like grocery stores, schools, parks and clinics within a 20-minute walk not only allows people to walk or bike instead of using cars, but also encourages neighborhood community. Visiting the same corner convenience store down the street as neighbors allows more familiarity within the community, more active streets and safer environments for family and children.

**B. Update Zoning and Land Division Ordinances to reflect adopted land use strategies, ensure a greater diversity and mix of land uses, and modernize the business and industrial zoning categories.**

Almost all new residential subdivisions built in

the City of Middleton in the past 20 years have taken place in Planned Development Districts (PDDs) instead of under the City's other zoning classifications. This is due in some part to allow flexibility for mixed, yet compatible, land uses. It's also due in part to the Zoning Ordinance being outdated. The zoning code was last updated in 1984 and land use and planning has changed drastically with improved technology and changing consumer behaviors. Knowing that planning trends will continue to evolve, the City will update the ordinances to include a greater diversity and mix of land uses for the future. This update will also be in accordance with the [Housing Chapter](#).

The city will protect industrial and manufacturing land uses from intrusion of commercial, business and office-oriented land uses in order to preserve our employment base. The City will modernize its business (B1, B2, B3, B4) and industrial zoning categories to accommodate the emerging hybrid nature of many businesses, particularly in the biotechnology and technology sectors.

**C. Update zoning ordinance to allow recycling and composting facilities in all commercial and industrial zoning districts as a conditional use.**

In addition to incorporating new modern land uses, the City will work to incorporate more land uses that improve the sustainability of the City such as recycling and composting facilities. This will not only encourage more responsible waste management for City residents on a local level, but also provide an example for the region on how to manage recycling and composting. Recognizing that this land use can be disruptive to neighborhoods, allowing these facilities as a conditional use allows the City to hold more discretion on where these types of uses can go. Composting facilities should not be directly adjacent to residential properties.

**D. Create and standardize ordinances relating to short-term rentals, accessory dwelling units (ADUs), and missing middle housing.**

Increasing the supply of housing through innovative development strategies like ADUs, cottage cluster developments, and other forms of missing middle housing is important for providing affordable housing options, especially for those facing housing insecurity to build individual. When the housing shortage is finally addressed, having these regulations and standards will also mitigate many of the issues seen with unregulated density and provide flexibility in the future. These standards will be discussed further in the [Housing Chapter](#).

**E. Utilize Tax Increment Financing (TIF) assistance where appropriate to facilitate land uses that otherwise would not have occurred at the same scale, affordability, provision of amenities, or economic growth.**

Many developments face a plethora of barriers even before the project gets a shovel in the ground. Several sites in Middleton need special assistance for proper storm water management systems, remediation for contamination or underground parking in order to fit in with the current character or standards of the City. Using TIF assistance for these costs makes projects more feasible and allows developers to focus on creating more human-scaled developments with improved amenities for the whole community.

**F. Update the Bicycle & Pedestrian Plan to increase linkages between existing and new neighborhoods to encourage walking and biking throughout the community.**

Updating the Bike & Pedestrian Plan to seek out routes between neighborhoods will improve linkages throughout the community as a whole and stimulate more active lifestyles. This action is further explored in the [Transportation Chapter](#).

**G. Preserve the long-term viability of community gardening by using zoning or other regulatory tools to designate specific lands within the city for agricultural use.**

The success of the Bock Community Garden serves as a model for future community gardens. As Middleton's first permanent community garden, it includes space for growing vegetables, fruits, and flowers, as well as space devoted to growing native trees, shrubs and perennials for transplant into the Bock Forest restoration area. In addition, gardeners grow produce for Middleton Outreach Ministry through the Plant-A-Row for the Hungry program. In 2021 the city will update its zoning ordinances to include community gardens and other types of open space. Zoning code laws will be used to protect the gardens over the long term by limiting the types of development that can occur on these tracts. Protecting these plots of land even as the city faces development pressure is vital to neighborhood cohesion, social mixing, public safety, cultural preservation, and place-making.



Photos on this page by Sharon Katovich at Bock Community Garden.



**Strategy 2: Promote compact growth strategies to preserve farmland and natural resources and encourage transportation alternatives.**

It was made evident during public input sessions that the City should focus development within City limits and planned growth areas as a way to preserve adjoining farmland and open space. This decision allows protection for the agricultural industry while also decreasing the transportation mileages and costs for land utilities and resources; ultimately cutting pollution, diminishing costs and maximizing the efficiency of City resources.

Compact development allows more efficient stewardship of resources while also increasing access for residents to amenities. A common misconception is that compact development will cause more traffic because of the density that is created. If good land use practices are used, compact development can in fact decrease traffic by allowing destinations like parks, grocery stores and restaurants to be accessible in every neighborhood; and by making carbon-free modes of travel like walking and biking safer, more enjoyable and more feasible.

**Actions:**

**A. Refrain from expanding the urban service area until needed for planned growth.**

The City of Middleton collaborates with the surrounding towns to preserve their rural and agricultural character through intergovernmental agreements. These intergovernmental agreements will be further described in the [Governance and Partnerships Chapter](#) of the Comprehensive Plan. The City should continue to work with surrounding jurisdictions and ensure that urban service areas are expanded only when needed for planned growth.

**B. Support development, redevelopment and infill of a wide range of housing types that make efficient use of land.**

Increasing housing in Middleton is a primary concern due to rising housing costs. Supporting redevelopment and infill of housing not only allows for more compact development, but also draws more innovative building types and land uses. Additional information about infill housing can be found in the [Housing Chapter](#).

**C. Identify and create priority areas for mixed-use infill and redevelopment, especially along major transportation corridors.**

Focusing larger, infill developments along major transportation corridors like University Avenue, Century Avenue and Parmenter Street helps preserve the character of existing neighborhoods, increases the range of services so that residents will not need to use a car as often to reach their destinations, and enables transit service to be more feasible and cost-effective.

**D. Create and adopt a University Avenue Corridor Plan to encourage increased densities, cross access and parking easements to bring the corridor to a more human scale, increase walkability and establish a less auto-centric focus along the thoroughfare.**

University Avenue is a major thoroughfare for people to reach Madison and vice versa. However, this corridor has become a congested highway with some underutilized and vacant properties. By improving walkability, adding housing and encouraging an eventual expansion of Bus Rapid Transit along the route, University Avenue can become a vibrant and celebrated linkage between both cities.

**E. Reduce, and in some cases eliminate, minimum parking standards.**

In most cases, the size of a development is limited by parking standards set forth by the City. This is especially true for workforce housing. Although parking is a major concern for certain areas like the Downtown, if certain standards such as good transit service, protected bike lanes, and walkable neighborhoods exist, then parking standards would be unnecessary. The City will identify areas where parking standards can be reduced, and other areas where parking standards can be eliminated.

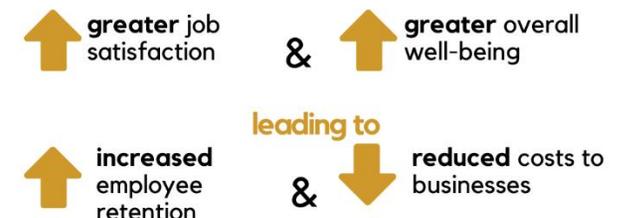
**Benefits to Reducing Parking in the Downtown**

Studies show that reduced parking can increase business activity while promoting healthy lifestyles

Over a month, people who walk to the downtown:



People who walk to work also report



Source: Walking and Cycling: the economic benefits, Transport for London, 2019

# BENEFITS OF PARKS AND OPEN SPACE



## IMPROVES PUBLIC HEALTH

Parks and open space provide places for physical activity and mental respite. A ten percent increase in nearby greenspace was found to decrease a person's health complaints in an amount equivalent to a five year reduction in that person's age.

## RESTORES ENVIRONMENTAL RESILIENCY

Parks and open space manage pollution and stormwater runoff for a community. The U.S. Forest Service calculated that over a 50-year lifetime one tree generates \$31,250 worth of oxygen, provides \$62,000 worth of air pollution control, recycles \$37,500 worth of water, and controls \$31,250 worth of soil erosion.



## INCREASES ECONOMIC ACTIVITY

Parks and open space attract and retain businesses and residents alike by increasing the quality of life for a community. High quality of life makes a place not only attractive to residents, but also to businesses and tourists.

## STRENGTHENS COMMUNITY

Parks and open space, specifically community gardens, strengthen social ties. These places increase residents' sense of community ownership and stewardship, provide a focus for neighborhood activities, expose inner-city youth to nature, connect people from diverse cultures, reduce crime by cleaning up vacant lots, and build community leaders.



**Strategy 3: Strive to maintain 25% permanent public open space to promote the health and well-being of people and the natural environment.**

Although Middleton has limited development space, the City realizes the importance of accessible and public open space; and the benefits these spaces can have on physical, mental and environmental health. As Middleton continues to grow and develop, it is crucial that new homes and offices continue to have access to such places.

### Actions:

**A. Continue to update the Conservancy Lands Plan and the Parks & Open Space Plan every five years.**

These two plans ensure that the parks and open space in the City are not only well maintained, but also expanded as the City grows. During the update process, the City will identify and seek to preserve lands that should be maintained in permanent open space uses by looking at priority infiltration areas. For more information on these two plans, please visit the City website.

**B. Promote the development of underutilized and environmentally-contaminated sites to protect sites near open space and waterways.**

Although development in contaminated sites requires higher construction costs, the value of open spaces and uncontaminated waterways to the natural environment is priceless in comparison. The City of Middleton does not have any open sites on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) registry. However, the benefits these areas provide for the health and well-being of both people and wildlife cannot be recreated if they are taken away, and therefore, as contaminated sites are discovered, the City will focus on redevelopment of underutilized

sites despite the higher construction and remediation costs.

**C. Reject development proposals that have a demonstrable negative affect on public health.**

A demonstrable negative affect on public health can be analyzed through the Healthy Communities Framework, as mentioned in the [Character Chapter](#). City staff will create a checklist and standard based on this framework to review with every new development proposal brought to the City. If the criteria laid out in this framework shows negative impacts, staff will work with developers to create an alternative with mitigations that will have no impact on public health. If no alternatives can be found, staff will recommend rejecting the proposal.

**D. Annually update the City's parkland and park improvement fees to ensure that they are meeting the needs of the community.**

Parkland and park improvement fees are paid by developers to maintain the parks that their developments will be using. These numbers need to be updated each year based on the usage of the parks and needed maintenance. Since these areas make up a quarter of City land, it is important that these fees are accurate and cover the costs of maintaining these public facilities in the best condition.

**E. Continue to grow the MAPLE (Middleton Area Public Lands Endowment) to support the future of Middleton's public lands.**

Middleton has extraordinary natural resources, protected as public lands, plus great outdoor recreational activity areas and programs. Fewer federal, state and local funds are available to sustain and improve these areas. The Middleton Area Public Lands Endowment (MAPLE) has established a permanent fund to help support, expand and enhance Middleton's vision for public lands. The City should continue to work with MAPLE to expand the endowment.

Source: Sherer, Paul M. (2006). "The Benefits of Parks: Why America Needs More City Parks and Open Space." The Trust for Public Land.

**Strategy 4: Ensure that all land use decisions incorporate resiliency, equity, and adaptation.**

The City of Middleton recognizes that climate change is becoming a bigger and more pressing issue as the days pass. In fact, even if all carbon emissions were cut from this moment onwards, the earth would still warm to a point that will endanger critical earth systems needed for humans to survive. This is why, in addition to improving sustainability and cutting waste production, cities need to now plan for resiliency and adaptation to the changing environment.

As Middleton experienced in 2018, a single unexpected flood event caused years of damage and cost millions of dollars in a single day. The City realized its limited capacity to anticipate and respond to such emergencies, and the importance of being able to bounce back in another emergency event. The City of Middleton's resiliency will not be completely solved with this single strategy. More details about the City's resiliency initiatives can be found in the Green City section.

**Actions:**

**A. Amend the Floodplain Overlay Zoning district to better protect properties in flood-fringe areas.**

A Floodplain Overlay Zoning district will clearly delineate where flooding is most common and most dangerous in Middleton. Development standards in these areas will be more stringent in order to protect the residents, businesses and buildings, so that daily operation can still occur even in the case of a major flood event. Such a district can also be used to inform current residents and businesses of risks and aid them in acquiring flood insurance or taking measures against flood damage before another emergency event happens.

**B. Revise the Zoning Ordinance and other**

**relevant codes to promote the reduction of impervious surface areas in order to improve on-site water infiltration.**

The City should review all ordinances to promote low impact principles to reduce impervious surfaces. Considerations include: reduced street widths, disconnection of roof downspouts from impervious surfaces, reducing or eliminating parking requirements, use of grass swales in place of storm sewers, and more. The current Zoning Code has regulations for lot coverage but not impervious surface coverage. By creating an impervious surface standard to replace the lot coverage standard, water infiltration will be improved throughout the City, thereby lessening the impact of future floods.

**C. Support innovative green infrastructure practices in all land use decisions.**

Green infrastructure has a multitude of benefits in addition to improving water infiltration. Many installations of green infrastructure incorporate community gardens, job training and renewable technologies which provide food security, job development and carbon emission reduction. All these aspects not only improve environmental resiliency, but also provide a diversification across sectors so that the community is not solely reliant on one source of energy, job industry or food source. More details about green infrastructure can be found in the [Green City](#) section.

**D. Use a scientific and data-driven approach to management on public lands and establish data collection and monitoring systems to inform management.**

The city's Conservancy Lands Plan recommends establishing a Geographic Information System (GIS) housed within city government to keep layers of data in a central location. The plan also recommends that the city use GIS as a land management tool and map ecological areas of

special protection such as remnant and restored areas and known locations of rare and threatened species. Other measures include:

Mapping the forest canopy to identify areas for equitable tree planting investments

Biodiversity index to identify target locations for enhancement and community initiatives

Trail counts that monitor usage and can inform trail design, material selection, and mobility and accessibility decisions

Friends of Pheasant Branch Conservancy recommends active monitoring of and mitigating the spread of invasive species in high quality areas in both the county and city parts of the Conservancy. The city, county, and Friends of Pheasant Branch Conservancy should work together to control the spread of invasive species in all parts of the Conservancy. Examples include crown vetch, wild parsnip, and spotted knapweed.

**The following pages show the City of Middleton’s Future Land Use Map with the following categories:**

**Agriculture:** land intended to be preserved primarily for farming, farmsteads, forestry, open space, and agricultural or forestry support activities, with limited recreational uses, farm family businesses, and residential development at or below a density of 1 dwelling unit per 35 acres;

**Airport:** Air transportation and related uses;

**Avenue Mixed Use:** Wide range of indoor and outdoor retail, service, office, institutional, and residential uses outside of the downtown area. These are generally larger and/or more intensive than business in the Neighborhood Mixed Use category.

**Business Park:** Medium- and large-scale retail, service, warehouse, and light industrial uses located near major roads, interchanges, and highways that serve the City as well as neighboring communities, with building heights from 1 to 3 stories;

**Conservancy:** public and privately owned open space or forested areas dedicated to stormwater management and/or passive recreation functions;

**Downtown Mixed Use:** pedestrian-oriented retail, service, office, institutional, and residential uses in a “downtown” setting with on-street parking and minimal to no building setbacks, with building heights from 2-5 stories;

**Established Neighborhood:** For already developed neighborhoods in the city, preservation of urban neighborhood scale and character while providing a variety of housing options to meet the needs of a diverse population; building types could include single-family dwellings, accessory dwelling units (ADUs), 2-3 family homes, and, where appropriate, single-family attached townhomes/condos and small-scale multifamily by conditional use.

**Extraction and Disposal:** landfills and quarries, gravel pits, clay extraction, peat extraction and related land uses;

**General Industrial:** indoor manufacturing, warehousing, distribution, and office uses, with controlled outdoor storage areas;

**Government and Institutional:** public buildings, hospitals, special-care facilities and other institutional uses, such as churches, cemeteries and elementary schools. Small-scale institutional uses may also be permitted in other land use categories;

**Multifamily Residential:** A variety of multifamily residential units served by public sanitary sewer service system; density, scale and height will vary with parcel size, neighborhood context, and street classification; heights not to exceed 5 stories except by conditional use.

**Neighborhood Mixed Use:** small-scale, neighborhood-serving commercial and street classification residential that preserve the residential character of the neighborhood through building-scale, appearance, landscaping and signage; heights not to exceed 5 stories except by conditional use.

**Planned Neighborhood:** For developing areas of the city, carefully planned and integrated neighborhoods that encourages a mix of residential types and sizes and lot sizes; building types could include single-family detached dwellings, single-family attached dwellings (townhomes/condos and 2-4 unit structures), and multifamily dwellings; buildings can also include small-scale public and institutional uses (e.g. schools, churches) and neighborhood business types. Planned Neighborhoods will generally be implemented through Planned Development District (PDD) zoning.

**Private Parks and Recreation:** park and open space facilities devoted to both active and passive recreation, such as playgrounds, play fields, play courts, trails, picnic areas, natural areas, and related recreational activities;

**Public Parks and Recreation:** park and open space facilities devoted to both active and passive recreation, such as playgrounds, play fields, play courts, trails, picnic areas, natural areas, and related recreational activities;

**Single-Family Residential:** single-family detached residential development

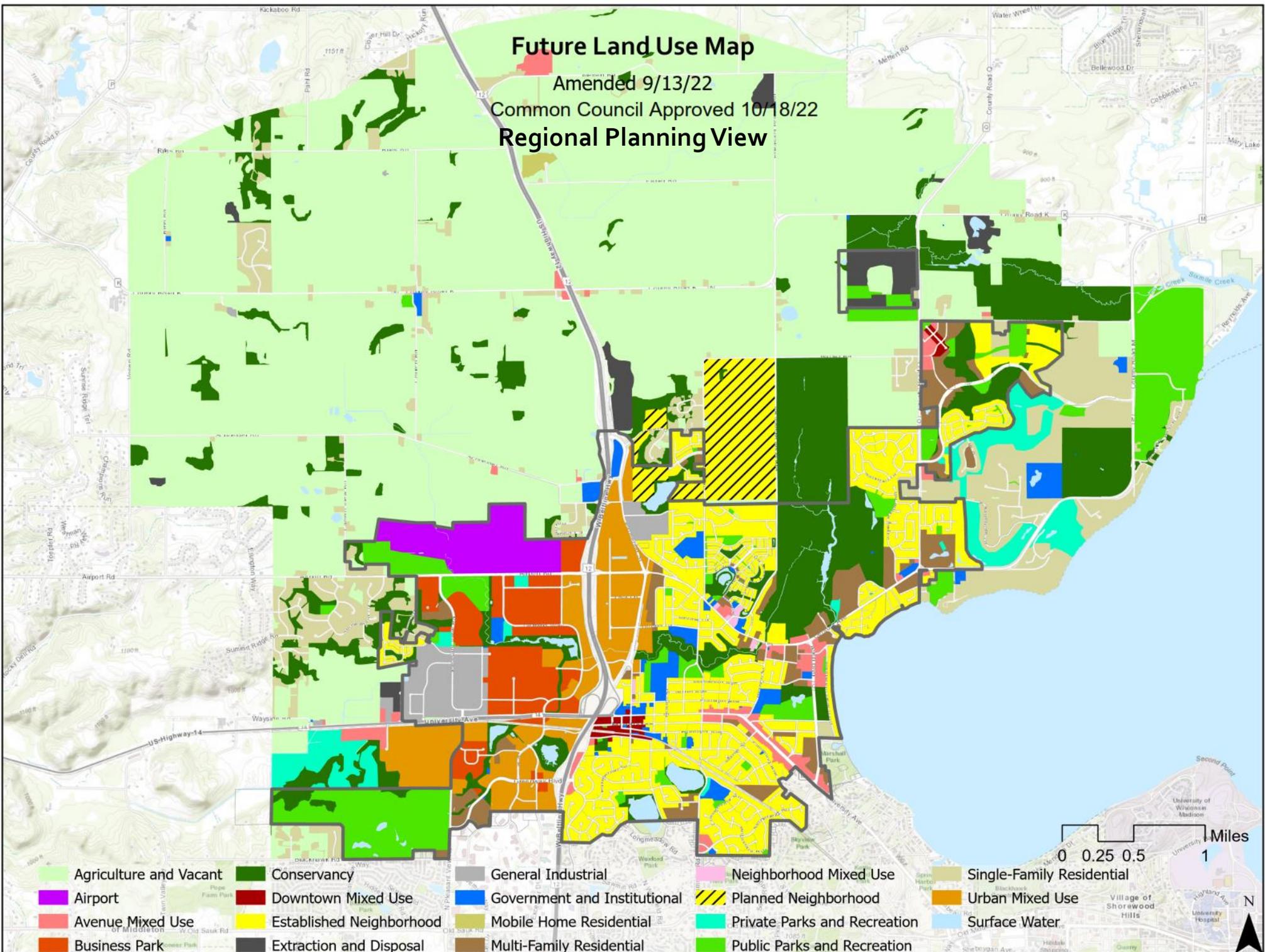
**Urban Mixed Use:** Medium- and large-scale retail, service, and residential uses located near major roads, interchanges, and highways that serve the City as well as neighboring communities, with building heights from 2 to 10 stories.

# Future Land Use Map

Amended 9/13/22

Common Council Approved 10/18/22

Regional Planning View





## Yield Analysis

A yield analysis is an estimate of the amount and location of potential development in the City of Middleton, and the amount of population, housing units, and jobs the City can support.

The City of Middleton has adequate growth area to accommodate our projected population increase, as well as our projected job growth. The Yield Analysis methodology can be found in the appendix.

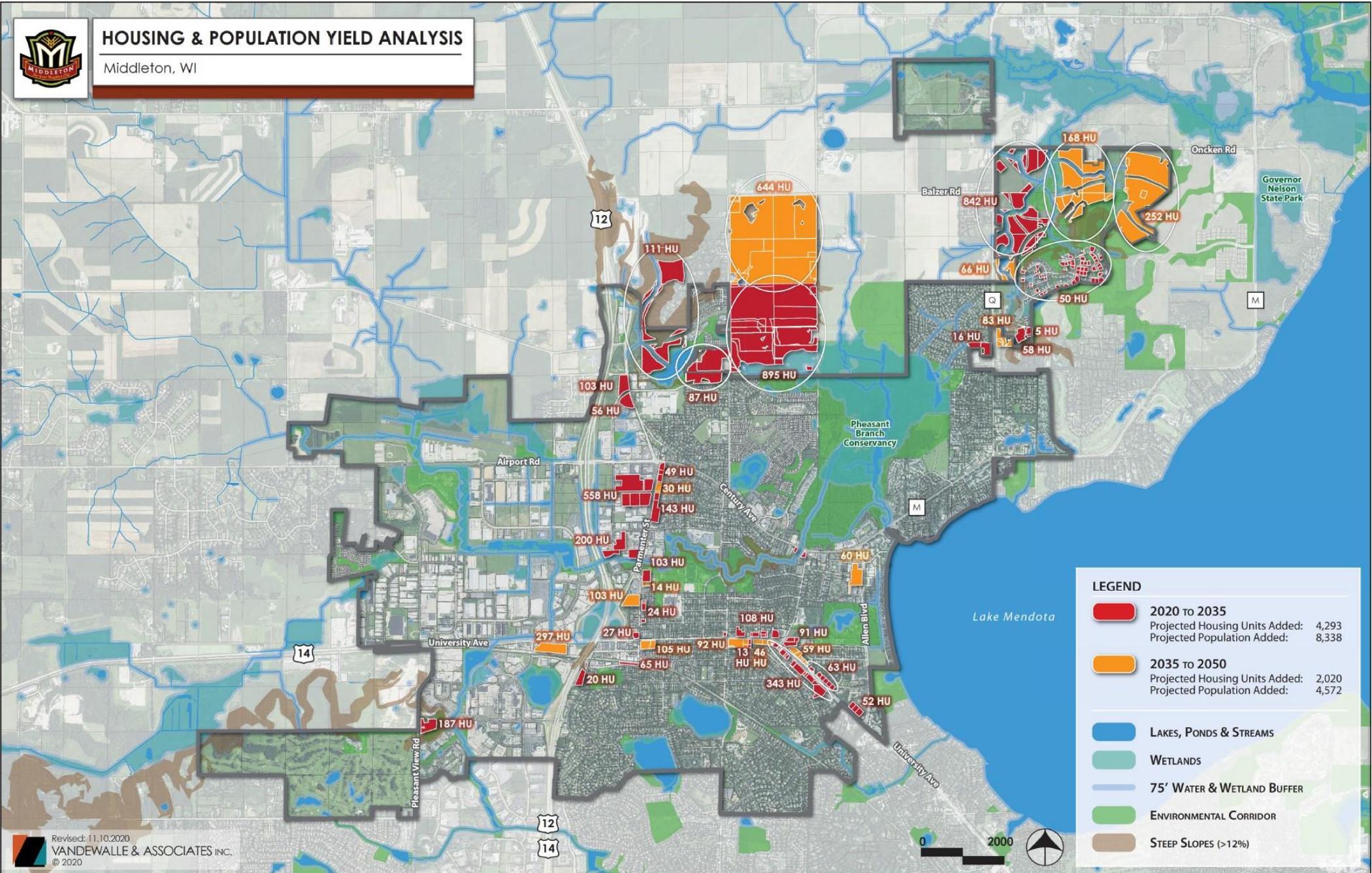
City of Middleton Residential Yield Analysis		Projected Total Housing Units Added	Projected Detached Units Added	Projected Attached Units Added
	Phase			
	2020 to 2035	4,293	542	3,751
	2035 to 2050	2,020	853	1,166
	Phase	Projected Total Housing Units Added within City	Projected Detached Units Added within City	Projected Attached Units Added within City
	2020 to 2035	3,286	151	3,135
	2035 to 2050	1,222	261	961
	Phase	Projected Total Housing Units Added beyond City	Projected Detached Units Added beyond City	Projected Attached Units Added beyond City
	2020 to 2035	1,007	391	616
	2035 to 2050	797	592	205

Note-These projections do not account for potential infill of existing residential land uses



# HOUSING & POPULATION YIELD ANALYSIS

Middleton, WI



**LEGEND**

- **2020 to 2035**  
Projected Housing Units Added: 4,293  
Projected Population Added: 8,338
- **2035 to 2050**  
Projected Housing Units Added: 2,020  
Projected Population Added: 4,572
- LAKES, PONDS & STREAMS
- WETLANDS
- 75' WATER & WETLAND BUFFER
- ENVIRONMENTAL CORRIDOR
- STEEP SLOPES (>12%)

Revised: 11.10.2020  
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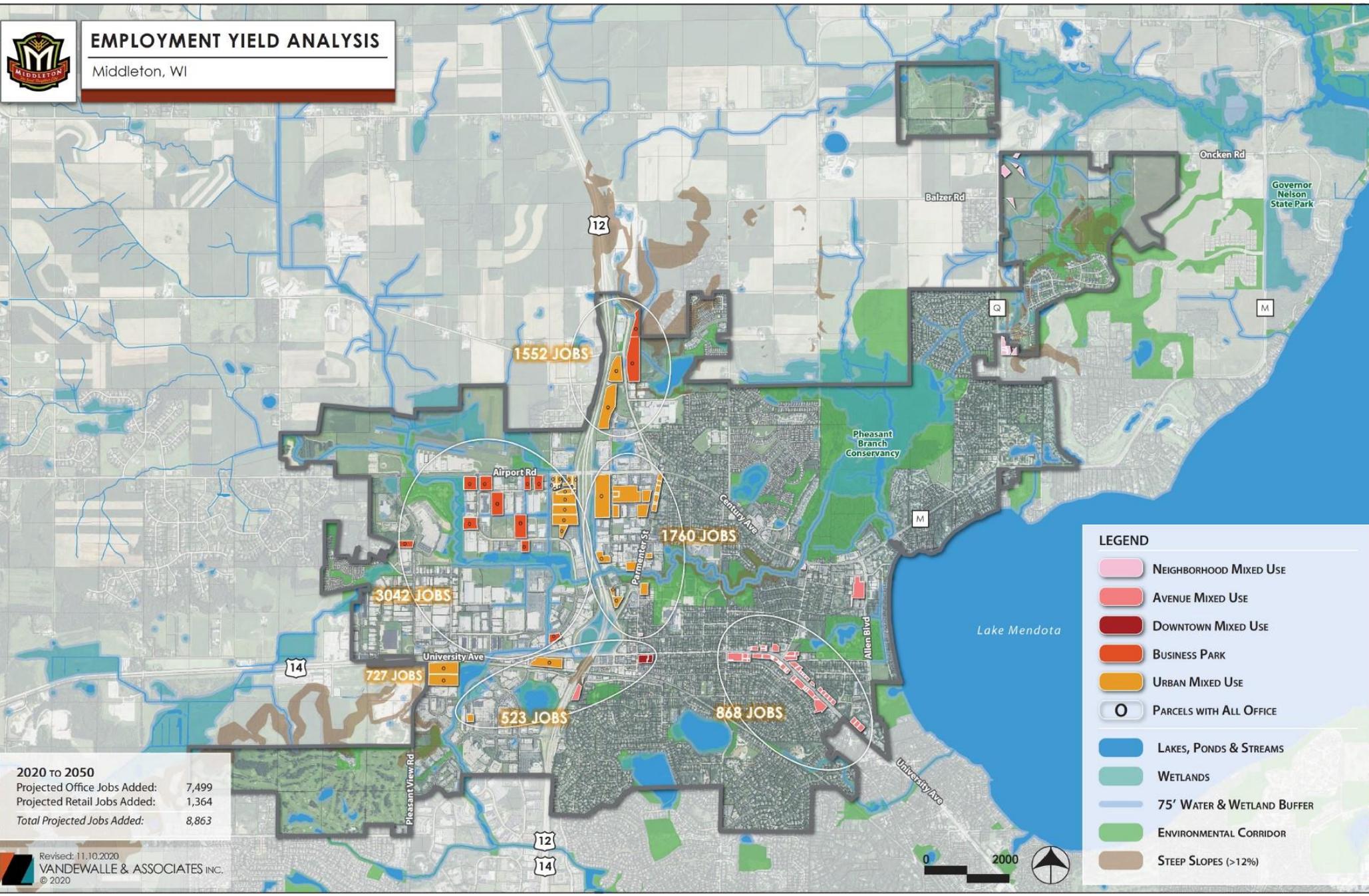


# EMPLOYMENT YIELD ANALYSIS

Middleton, WI

<b>2020 to 2050</b>	
Projected Office Jobs Added:	7,499
Projected Retail Jobs Added:	1,364
<b>Total Projected Jobs Added:</b>	<b>8,863</b>

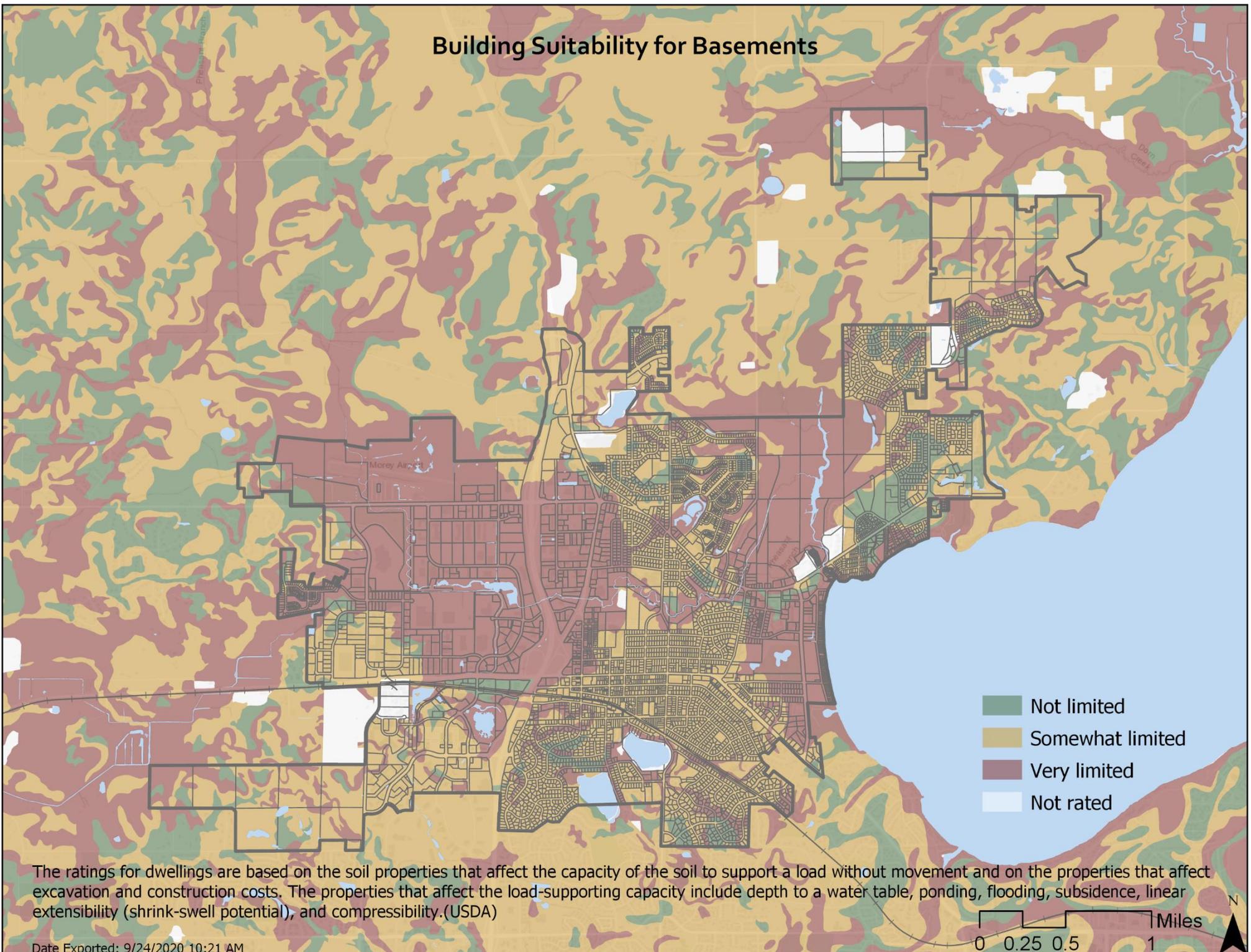
Revised: 11.10.2020  
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**LEGEND**

- NEIGHBORHOOD MIXED USE
- AVENUE MIXED USE
- DOWNTOWN MIXED USE
- BUSINESS PARK
- URBAN MIXED USE
- PARCELS WITH ALL OFFICE
- LAKES, PONDS & STREAMS
- WETLANDS
- 75' WATER & WETLAND BUFFER
- ENVIRONMENTAL CORRIDOR
- STEEP SLOPES (>12%)

# Building Suitability for Basements



# TRANSPORTATION

Middleton’s transportation system will be safe, reliable, convenient, affordable, efficient, and less reliant on single occupancy vehicles to reduce environmental impact, promote active lifestyles, and enhance prosperity for all people regardless of age, ability, or mode of transportation.

Americans rely on personal automobiles for transportation to a greater extent than many other countries. The “right” or “freedom” to drive is highly ingrained in U.S. culture, and land use patterns often are not conducive to walking, bicycling and other forms of micromobility, or taking transit or other shared modes of transportation. Unsurprisingly, the vehicle-miles-traveled (VMT) in the U.S. on a per capita basis is among the highest in the world, although when adjusted to reflect population growth, VMT is a bit lower than its 2005 peak.<sup>1</sup>

For most American households, transportation is the second largest expense after housing. According to the Federal Highway Administration, the average family spends 19% of household income on transportation expenses, although this can drop to 9% if the residence is in a location efficient environment—a place served by transit and proximate to jobs, services, and leisure activities. The American Public Transportation Association has concluded that 93% of every dollar spent on transportation goes to buying, maintaining, and operating a private vehicle.<sup>2</sup> Transportation is associated with other costs as well, for it accounts for 29% of greenhouse gas emissions in the U.S. (slightly more than electricity production).<sup>3</sup>

Such statistics raise important concerns about the affordability, accessibility, connectivity, equity, and sustainability of the transportation system—key factors influencing how we live and

build community. Americans’ dependency on the car also significantly affects safety and public health.

Recent technological advancements are upending how humans have previously conceived of mobility. No longer are private autos, fixed-route transit systems, and bicycling the primary alternatives for traveling between housing, jobs, schools, and leisure activities. Increasingly, urban residents have more shared mobility and demand-responsive choices, and the advent of autonomous vehicles and increased teleworking is changing how and when people choose to travel. The rapid growth of e-commerce transactions is significantly increasing freight movements, while at the same time the use of drones and other technology will likely help ease the spike in delivery vehicles.

The shift to a “delivery economy” and societal changes due to the COVID-19 pandemic will significantly influence how humans live, work, and play in the future. 79% of respondents of the “Madison Region Remote Work Survey: COVID-19 Impact” conducted in June 2020 indicated that they would choose to work from home at least once a week if given the choice even after the pandemic. The director of the Greater Madison Metropolitan Planning Organization to speculate that traffic volumes could very well not return to pre-pandemic levels for five to ten years.<sup>4</sup>

Now more than ever, it is important for cities to engage in holistic transportation planning, recognizing that infrastructure investments and operations can significantly influence urban form (land use), economic productivity, environmental sustainability, individual health, and human equity. This chapter offers strategies and actions for helping Middleton move beyond the past century’s car-centric approaches and its high costs on humans and cities, and for transforming to a transportation system that better meets the needs of today and our collective future.

## Strategies:

1. Reclaim public streets so that they safely accommodate the most vulnerable roadway user, increase transportation choices, promote active lifestyles, improve health, and beautify the city.
2. Protect the right of everyone to move safely around Middleton by adopting the “Vision Zero” approach to eliminate all traffic fatalities and severe injuries.
3. Establish and maintain a robust bikeway network that is comfortable and accessible to people of all ages so that travel by bicycle and other active mobility or personal mobility vehicles becomes more attractive than driving for most trips of three miles or less.

4. Create conditions that help transit become the preferred mode of travel for trips that are not made by walking, bicycling, or using other micromobility solutions.
5. Reform Middleton’s parking regulations by eliminating minimum quantity requirements, adopting parking demand management policies and programs, enhancing facility design, and establishing loading zones in congested areas.
6. Continue to plan for and operate Middleton Municipal Airport—Morey Field in a manner that ensures safe airport operations, supports regional economic development, maximizes financial self-sufficiency, and serves as an attractive and neighborly gateway to the surrounding community.
7. Work collaboratively with stakeholders of the rail corridor to ensure smooth operations of freight trains, and plan and advocate for the return of passenger service.
8. Forge partnerships with other agencies, the private sector, and non-profit organizations to strengthen community linkages, improve efficiencies, and create great places.

**Strategy 1: Reclaim public streets so that they safely accommodate the most vulnerable roadway user, increase transportation choices, promote active lifestyles, improve health, and beautify the city.**

It is commonplace in the U.S. to think of a road as a thoroughfare designed to convey motorized vehicles as efficiently as possible. Yet, as a CityLab contributor recently noted, “for thousands of years, streets were public spaces (that were) used for socializing, playing, business, street vending, meetings, civic activism, and festivals—they were humanity’s living room.” <sup>5</sup>

The advent of the automobile and post-war policies gave rise to an auto-centric mindset that a roadway is not a suitable place for pedestrians—that people moving individually, on their own power, do not belong or are at best of secondary importance. The “car is king” attitude of the 20th century heavily influenced the design of suburban commercial areas and residences, as evidenced by a plethora of parking spaces in front of strip malls or “snout houses” with their prominent garages that hide a welcoming front door. Government policies and private sector sales pitches drove the decisions people made about where to live, work, shop, and interact with others.

One can easily see the car culture’s imprint in Middleton---examples include strip development along University Avenue, low-density land uses along the former Highway 12 corridor (now Parmenter St.), and large parking fields west of the Beltline that are seldom if ever fully occupied. These tend to be places where people prefer to travel past instead of linger, where it can be challenging to cross the street, where adjoining properties may not be functioning at their highest and best use.

This strategy is grounded in the idea that Middleton needs to reimagine its roadways as vibrant public spaces where all people have the “right of way”—the right to travel around our community, using whatever means of mobility to which they have access, in a safe, sustainable way. The actions listed below aim to optimize public rights-of-way for people movement by making transportation system decisions according to the following ordered list, beginning with the most vulnerable roadway user:

- Pedestrians, including people with mobility or sensory disabilities and people with specialized transportation service needs or limited transportation choices.
- Bicyclists and users of personal micromobility devices who travel faster than a pedestrian but slower than a car
- Transit riders and shared mobility users
- Occupants of private automobiles
- Un-occupied vehicles

Broadening the view of streets as a key aspect of the public realm will help the city achieve several of the goals of its comprehensive plan.



Photo: Aerial view of Discovery Springs and Highway 12/14 interchange area.

## Actions:

**A. Adopt and implement a “Complete Streets” policy so that the design and operations of the entire right-of-way balance the safety and convenience of all road users regardless of age, ability, or mode of transportation.**

In recent years, Middleton has taken various steps toward making some of its streets and neighborhoods more accessible to non-motorists, thereby enhancing connectivity and reducing barriers. The minimum sidewalk width standard is now 5 feet, bike lanes exist along at least half of the city’s major streets, and pedestrian-activated signals and beacons have been installed at key road crossings.

The City’s Transportation Network Plan (TNP), adopted in 2006, called for a “narrow roads, wide nodes” approach to road design and helped set in motion a process by which residents could request traffic calming measures. At the same time, the TNP advocated for “traditional motor vehicle capacity expansion” that would benefit city residents as well as the “traveling public,” although it did caution about considering the interests of pedestrians and bicyclists so that the corridor not “become a major barrier to mobility.” The TNP also acknowledged that increasing capacity would reduce costs associated with living in other communities.

Formalizing a Complete Streets (CS) policy would help put all prospective road users on equal footing. Rather than imposing a “one size fits all” approach to every Middleton street or neighborhood, such a policy encourages a deliberative thought process about the design and operational aspects of a particular roadway—things like having frequent and safe street crossing opportunities, median islands, accessible pedestrian signals, and appropriate allocation of roadway space for motorized and

human-powered mobility. The policy would guide the reconstruction of all existing roadways as well as the design of new neighborhoods.

A CS policy can be articulated in various ways, including in design manuals and through executive orders. This plan recommends that the Common Council adopt the policy through a resolution or perhaps even by ordinance. Doing so will articulate a clear set of expectations and standards for not only city officials, but also developers and residents.

**B. Establish “shared streets” within key travel corridors to provide safer routes for non-motorized travel and to emphasize the public realm.**

Interest in this concept has recently grown in popularity as cities around the world have sought to promote physical distancing in congested areas due to public health concerns.<sup>6</sup> Building on the “bike boulevard” concept used in Madison and other communities, a shared street is one that prioritizes people who walk, roll, or bike. Such streets are designed in a way to discourage motorized through-traffic while still being able to accommodate motorized vehicles used by residents, visitors, delivery services, and first responders. They may have textured pavement, curb extensions, shared lane markings (sharrows), bollards, street furniture, and/or landscaping to help define safer spaces

for the people who travel along the street. At the same time, they provide a setting that serves as a desirable gathering place for adjoining residents and visitors.

Shared streets appeal to vulnerable roadway users who lack suitable accommodations along a parallel arterial road. They are especially useful in a downtown setting that has high pedestrian activity but where there is a need to maintain access for delivery vehicles and other slow-moving traffic. Hubbard Avenue west of Middleton Street seems particularly well-suited for a “shared street” designation, or it could even be closed to motorized vehicles outright in certain places and at certain times to accommodate spillover seating from adjoining restaurants and the plaza.

Although not in a downtown environment, another good candidate might be Franklin Avenue—from Branch to Parmenter Streets—so that bicyclists and riders of other personal mobility devices have an alternative to University Avenue with its four travel lanes, narrow sidewalks, and small street terraces.

The National Association of City Transportation Officials maintains an [Urban Street Design Guide](#) that would be a helpful resource for residents, business owners, and city officials who wish to establish one or more shared streets in Middleton.



Photo: Example of a shared street  
Source: <https://nacto.org/publication/urban-street-design-guide/streets/residential-shared-street/>

**C. Add sidewalks and narrow streets as part of reconstruction projects.**

Annual road reconstruction projects present the perfect opportunity to fill in gaps in the City’s sidewalk network and “tame the street.” Many of Middleton’s residential streets—particularly in lower density suburban neighborhoods like Foxridge, Stonefield, and Northlake—provide significantly more capacity than is utilized the vast majority of the time. Such routes have a vehicle-centric design that prioritizes driver convenience, but their surplus width (often measuring 36 ft. curb-to-curb) tends to encourage speeding and require increased time and expense for maintenance, both in terms of snow removal and pavement replacement.

Over the past two decades, most of Middleton’s new residential streets have been built not to exceed 28 feet in width. Benefits of narrowing existing wide streets include lower travel speeds, wider terraces that provide more room for water infiltration, tree growth and snow storage, and the opportunity to build wider sidewalks. While relocating curbs and drainage inlets can significantly increase reconstruction costs, the long-term safety benefits make such an endeavor worthwhile.

From the outset of planning street reconstruction projects, City staff should do a cost-benefit analysis that considers the health and safety benefits of adding sidewalks and reducing the width of an existing street to help overcome the negatives of a vehicle-centric design. The use of various “tactical urbanism” measures could help identify in an interim, low-cost way whether a reconstructed street would benefit from curb extensions, pavement treatments, street furniture, public art, landscaping, or other design techniques.

**D. Require site plans and buildings to connect with the street.**

When reviewing development proposals, the City should ensure that the land use(s), site layout, and building design are pedestrian-oriented. Thinking of each parcel’s street frontage as an extension of the public realm will help ensure compatible design. Buildings and their main entrances should face the street, with bicycle parking placed no farther from the building than the closest off-street auto parking space. Aside from enhancing building design, clear windows at street level help keep “eyes on the street,” while awnings and canopies give pedestrians some protection from the elements. In cases where the interior design does not lend itself to utilizing each window as intended, the City should encourage the use of an attractive window display instead of opaque window coverings to provide visual interest and avoid a bland street wall. Buildings near bus stops should be designed in a way to give waiting riders some temporary shelter from sun and precipitation. A multi-building site—especially one on a larger block—should provide safe and convenient pedestrian connections within and through the development, like the Cayuga Court and Middleton Center projects.

**E. Promote active transportation solutions that enhance health and quality of life.**

Automobile dependence is correlated with sedentary lifestyles and negative impacts to the environment. Encouraging active forms of transportation like walking and bicycling helps reduce vehicle emissions and help prevent or delay the onset of obesity, heart disease, diabetes, and respiratory illnesses. Vehicle exhaust causes air pollution that contributes to asthma and cancer, and emissions of greenhouse gases from vehicles are a major contributor to climate change.

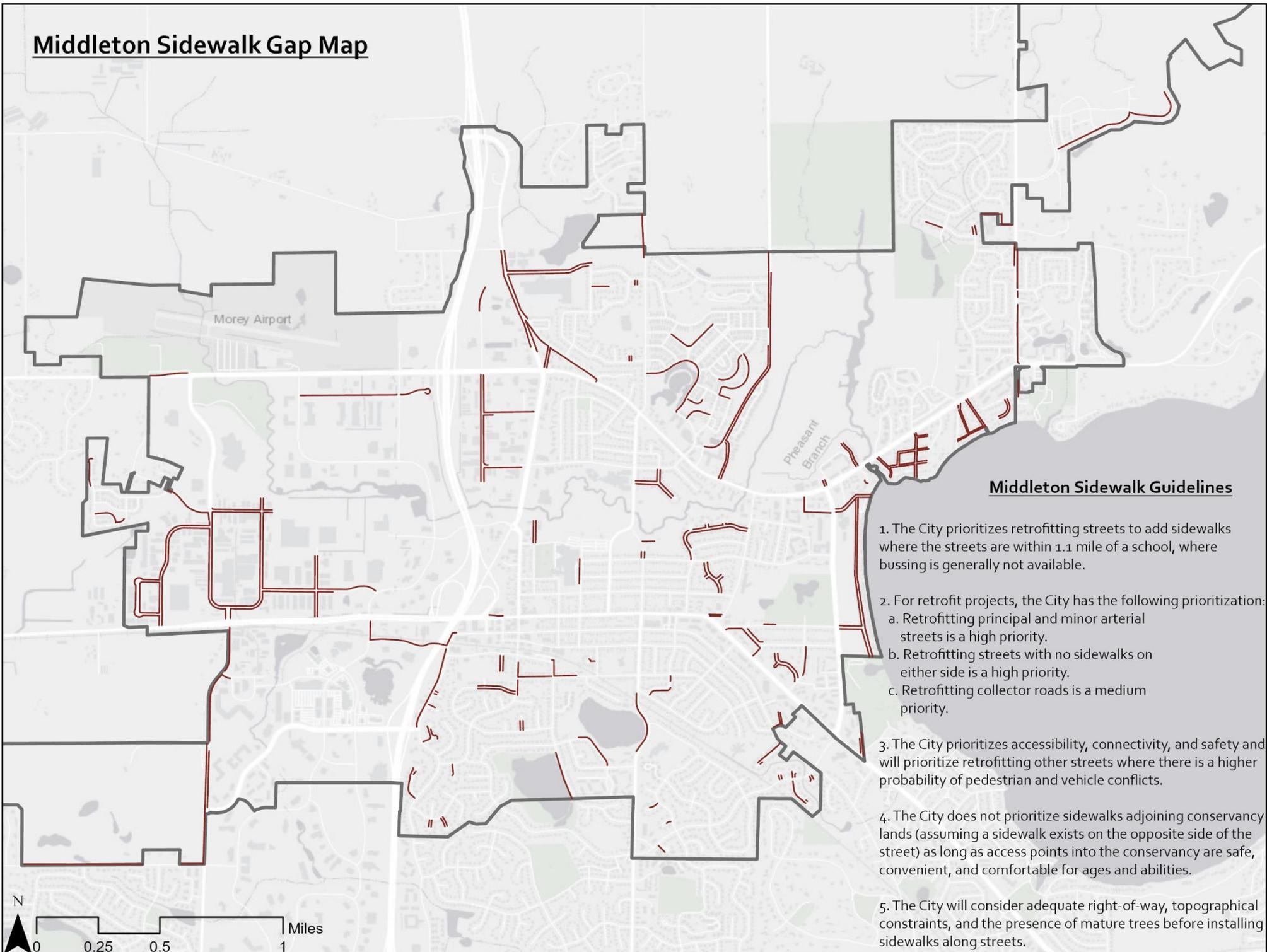
Instead of making it easier to drive, Middleton should continue to prioritize policies that promote walking and bicycling. Although often unpopular with local businesses, placing maximum parking caps on development projects, especially around vibrant downtown or neighborhood commercial centers, help promote active transportation choices. There is not a place in Middleton where drivers must park more than one to two blocks from their destination. It is important, however, for developments to provide ample accessible parking spaces that are proximate to building entrances.

The City should participate in and promote educational campaigns that enhance public awareness of available transportation options and the impact travel choices have on household finances, personal quality of life, health, society and the environment.



Photo: Clovernook Road is an example of a street with far greater capacity than necessary

# Middleton Sidewalk Gap Map



## Middleton Sidewalk Guidelines

1. The City prioritizes retrofitting streets to add sidewalks where the streets are within 1.1 mile of a school, where bussing is generally not available.
2. For retrofit projects, the City has the following prioritization:
  - a. Retrofitting principal and minor arterial streets is a high priority.
  - b. Retrofitting streets with no sidewalks on either side is a high priority.
  - c. Retrofitting collector roads is a medium priority.
3. The City prioritizes accessibility, connectivity, and safety and will prioritize retrofitting other streets where there is a higher probability of pedestrian and vehicle conflicts.
4. The City does not prioritize sidewalks adjoining conservancy lands (assuming a sidewalk exists on the opposite side of the street) as long as access points into the conservancy are safe, convenient, and comfortable for ages and abilities.
5. The City will consider adequate right-of-way, topographical constraints, and the presence of mature trees before installing sidewalks along streets.

**Strategy 2: Protect the right of everyone to move safely around Middleton by adopting the "Vision Zero" approach to eliminate all traffic fatalities and severe injuries.**

Crashes involving motor vehicles are a preventable public health crisis. The only acceptable number of fatal crashes should be zero, yet the U.S. has the highest crash death rate among 19 other high-income countries.<sup>7</sup> Each year, over 40,000 people—the population of two Middletons—are killed on U.S. streets, with many more injured. Key contributing factors include drunk driving, speeding, and inadequate use of safety restraints—factors which can be addressed through improved education, enforcement of regulations, and vehicle technology. Improvements in roadway design, maintenance, and vehicle design are also vital ways to reduce the number and severity of crashes.

After steadily reducing the preceding four decades, the number of fatal crashes involving a motorized vehicle in the U.S. has increased more than 10% since 2011. Vulnerable roadway users comprise a rapidly growing share of total traffic fatalities given that the number of people who walk, bike, or use other forms of micromobility is steadily growing. Unfortunately, so too are incidences of distracted driving.

Nationwide, in 2018 there were 6,283 pedestrians killed in crashes with motor vehicles, an increase of 53% from 2009. In comparison, total traffic deaths increased by 2% during this ten-year timespan. In 2008, pedestrians represented 12 percent of all traffic fatalities but in 2018 they accounted for 17%.<sup>8</sup> According to the Governors Highway Safety Association's (GHSA) analysis of pedestrian fatalities resulting from a crash with a motor vehicle, in 2018:

- 59% occurred on non-freeway arterial streets
- 74% happened away from an intersection
- 76% took place during darkness
- A pedestrian struck by a light truck/large SUV is twice as likely to die as one struck by a passenger car.

The GHSA projects that, once 2019 data are fully compiled, the U.S. will have a pedestrian fatality rate per 100,000 population of 2.0, the highest level since 1997. As is the case with pedestrians, the 857 bicyclists who died in a crash involving a motor vehicle in the U.S. in 2018 is also the highest number since 1990, having grown in urban areas by 48% since 2009. About 58% of bicyclist fatalities occur at non-intersections, and 45% take place after dark. Motorcyclists are also over-represented in fatal crash statistics. There were 4,985 deaths in 2018. Their fatality rate in urban areas has increased by 33% since 2009.<sup>9</sup>

Fortunately, pedestrian and bicycle crashes with motor vehicles in Middleton are relatively low, even as the numbers of pedestrians and bicyclists have noticeably increased over the past couple decades. Although numerous contributing factors such as weather and demographic, behavioral, and technological trends are outside of Middleton's control, city officials can focus on engineering, maintenance, educational, and enforcement measures to improve safety for all roadway users, especially the most vulnerable.

**Actions:**

**A. Prepare a "Vision Zero" Action Plan.**

The City should start by adopting a resolution to join the more than 40 U.S. cities that have already committed to eliminate deaths and severe injuries resulting from traffic crashes. Such tragedies are preventable, not inevitable. Begun in Sweden in the 1990s, the Vision Zero approach to traffic safety emphasizes that there are a variety of ways to lessen the impact of the mistakes that humans naturally make while at the same time increasing safe, healthy, and equitable mobility for everyone.

Preparing a Vision Zero Action Plan will entail collaboration among transportation planners, engineers, police, public health officials, and other members of the community. The plan should address the engineering, education, and enforcement measures that combine to improve safety along each of Middleton's streets and shared use paths.

**B. Analyze crash data and safety complaints annually, prior to the start of the budget development process, to identify and address problem areas.**

State crash records indicate that two fatal crashes (both involving motorcyclists) occurred on or along Middleton streets between 2010 and 2019, and there were an additional 39 crashes involving one or more serious injuries during this time. (This tally does not include off-roadway incidents, such as in private parking lots.) Not surprisingly, the vast majority of the multi-vehicle incidents occurred at intersections. No pedestrians or bicyclists were killed in crashes along Middleton streets during this timeframe.

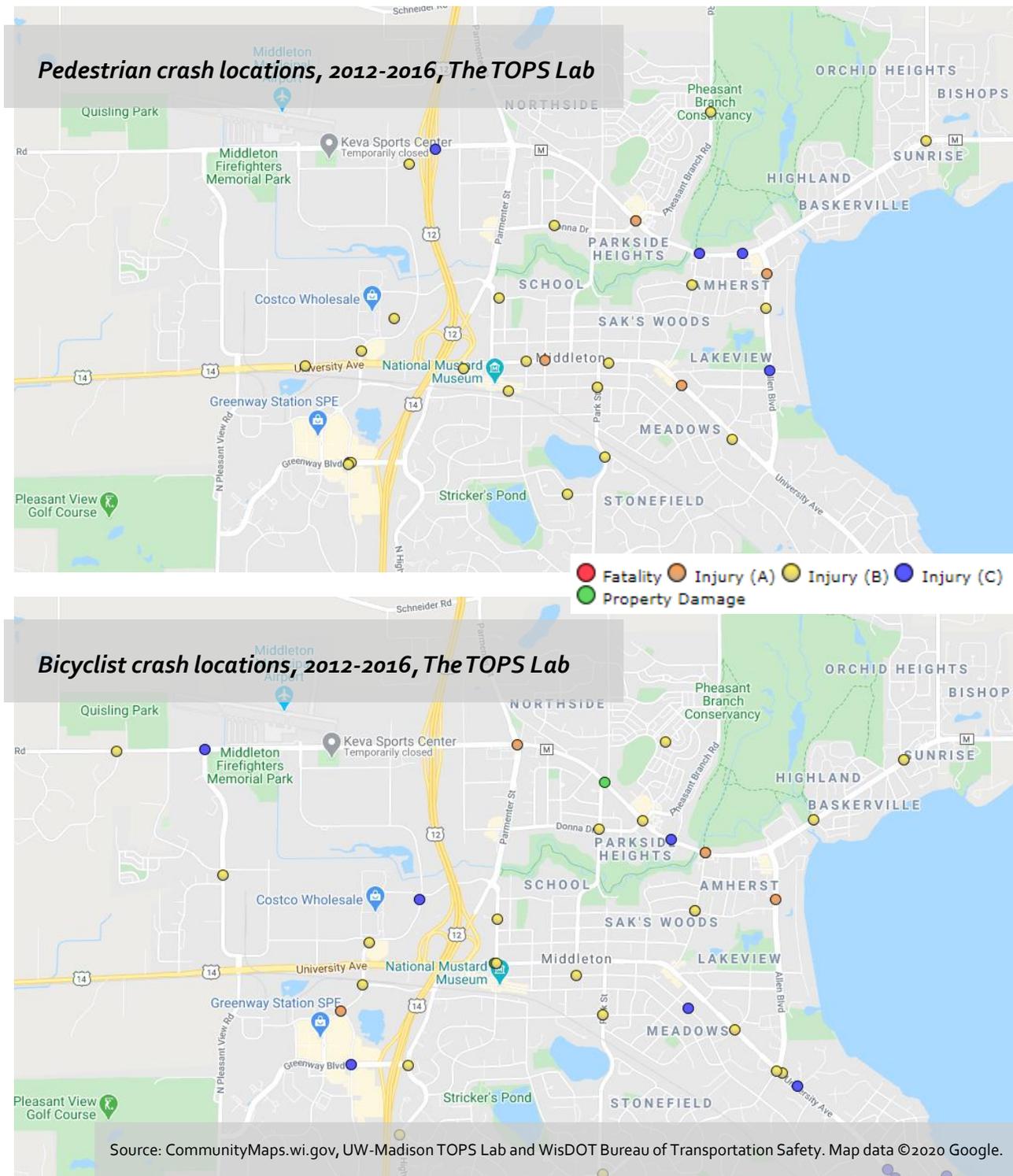
The Traffic Operations and Safety (TOPS) Laboratory (based at UW-Madison) has collaborated with WisDOT to create a Community Maps tool that enables the public to identify where pedestrian crashes occur and to encourage stakeholders to use the data to guide where additional actions or improvements are warranted.

The lab has calculated the crash rates at intersections around Wisconsin using a formula that considers total number of crashes during a specified period and the number of vehicles entering the intersection. This rate (expressed as the number of crashes per million entering vehicles) enables municipalities like Middleton to determine the relative safety of an intersection in comparison to similar intersections within their and other jurisdictions.

The data indicate that one of Middleton’s most troublesome crash locations in recent years has been the University/Parmenter intersection. However, these data predate the City’s reconstruction of that intersection in 2019. After having 89 reported crashes in this location between 2012 and 2016, the addition of dedicated left-turn lanes and signal modifications have likely made the intersection much safer, although pedestrians now have a 25% longer walk to cross University Avenue.

Several other intersections in Middleton stand out using the Community Maps tool, but it is beyond the scope of this plan to analyze crashes throughout the city. The tool provides the ability to identify problematic intersections and crash locations by various measures, including high crash rate locations, crash severity, and crashes involving pedestrians and bicyclists.

City officials should regularly consult crash records in conjunction with preparation of the City’s annual Five-Year Street Improvement Plan, prior to starting the development of the Public Works budget for the following year.



C. Evaluate and enhance the City's crash reporting system so that all crashes are reported and accurately recorded, with pedestrian and bicycle crashes given equal weight to crashes only involving motor vehicles.

Unfortunately, most community and state crash reporting systems have shortcomings that can hamper the ability to identify problem locations and compare incidents across communities. For example, it is not uncommon for crash reports to identify the same location inconsistently or to miss documenting all factors contributing to the incident. Wisconsin statutes define a reportable crash only as one that involves an injury, at least \$1,000 in damage to a vehicle or property, or at least \$200 in damage to state or other government-owned property other than a vehicle.

National research indicates that as many as 55% of crashes involving pedestrians and bicyclists are missing from police-reported crash data, particularly those that cause less severe or no injuries.<sup>10</sup> Under normal circumstances, Middleton police count skateboard and scooter riders involved in crashes as pedestrians for State reporting purposes, but a scooter rider may be classified as a motor vehicle operator under certain circumstances.

All collision reports—even those that do not require officer involvement—should be documented, with intersections listed in a consistent way. Furthermore, the public should be encouraged to report all collisions involving pedestrians and other vulnerable roadway users to the Police Department non-emergency line, even if they did not result in injury. These steps will help City officials better identify locations that present a greater hazard for vulnerable roadway users, which in turn helps prevent what is a minor incident on one occasion from being a severe injury or fatality on another.

D. Maintain streets, paths, and sidewalks on a regular basis to minimize risk of harm to persons and property; Ensure that all residents have a safe route during reconstruction projects.

Regular maintenance extends pavement life and staves off the need for expensive repairs, but more importantly, having a smooth surface on which to walk, bike, ride, or drive is one more way to achieve Vision Zero. While the City's Public Works Department makes a concerted effort to fix potholes, remove tripping hazards, sweep streets, and other essential maintenance activities, the Common Council must provide sufficient funding in each annual budget to keep the City's streets, sidewalks, and paths safe for everyone to use.

Prioritizing the following maintenance activities would help make the City's street corridors more pedestrian and bicycle friendly:

- Refresh more regularly the paint used for crosswalks, bike sharrow symbols, and signal sensor markings (so that bicyclists know where to position their bikes to trigger a green signal when they are the only vehicle at an intersection).



- Require abutting property owners to remove vegetation encroaching into the sidewalk space, both from the side and from above.
- Clear snow from transit boarding pads and shelters within 24 hours of the end of the snowfall.
- Prioritize snow removal from designated bike commuter routes.



Photos on this page by : Kierstin Kloeckner

It is essential to view sidewalks and crosswalks from the perspective of someone who uses a wheelchair or another mobility aid. During street reconstruction projects, the City should direct contractors to minimize sidewalk closures so that neighborhoods and businesses remain as accessible as possible. Where a sidewalk exists on both sides of a street, only one should be closed at a time. During the winter, the City's street crew should ensure that a clear and sufficiently wide route extends through the snow and ice that tend to accumulate at intersections due to plowing operations.



Photos: The sidewalks along both the north and south sides of Donna Drive were closed and under construction for several weeks.

#### **E. Establish a uniform, citywide policy for crosswalk design standards.**

This plan advocates viewing crosswalks as a fundamental component of streetscape design rather than as an intrusion into a roadway reserved for vehicles only. Their purpose is to increase visibility of pedestrian crossing routes and encourage drivers to yield or stop as necessary.

Most vehicle crashes involving pedestrian fatalities occur at non-intersection locations, where driver speeds tend to be higher and pedestrian movements are less expected. People choose to cross away from intersections for various reasons, including a lack of nearby marked crosswalks. Although the comprehensive plan seeks to optimize public rights-of-way for people movement, it is unwise and impossible to make all non-intersection locations suitable for pedestrian crossings, particularly along multi-lane thoroughfares that lack medians and have higher travel speeds and traffic volumes. Yet, pedestrian safety is enhanced through strategically located and properly designed crosswalks.

Many of the city's intersections, including along quiet residential streets and some arterials, lack any crosswalk markings. Where pavement markings do exist, they typically consist of a "transverse" pattern (two simple parallel lines that extend across the street). The FHWA has found that these are

less effective during the daytime and on higher-speed streets. Instead, the agency has concluded that "continental" or "bar pair" markings should be used at crosswalks across uncontrolled approaches (those that lack a stop sign or signal) and at midblock crossings. Drivers generally detect such higher-visibility markings at about twice the distance as transverse markings during daylight.<sup>11</sup> This increased distance means that drivers traveling at 30 mph have about eight additional seconds to stop for people in the crosswalk.<sup>12</sup>

Madison and numerous other American cities are increasingly using green pavement markings to highlight crosswalks at intersections with bike paths (even though the FHWA currently authorizes this use to designate bike lanes, not paths). The use of a contrasting color appears to enhance path visibility significantly and informs drivers to look out for faster-moving bicyclists in addition to pedestrians. This design solution seems particularly appropriate to use at multi-lane intersections and where shared use paths carry two-way bicycle traffic alongside a road.

Where crosswalks alone don't provide enough safety for pedestrians, they should be supplemented by other design treatments such as curb extensions or "bulb-outs" (which should extend into parking lanes but not bike lanes), enhanced street lighting, raised medians/crossing islands, the installation of rapid rectangular flashing beacons (RRFB), pedestrian-hybrid beacons (PHB), and various traffic calming measures. More of the City's signalized intersections would likely benefit from the addition of a leading pedestrian interval (LPI) configuration to give pedestrians a head start against drivers making left turns.

Rather than respond to crosswalk enhancement requests on a piecemeal basis, with inconsistent designs, Middleton needs to develop a street crossing policy, consistent with the MUTCD, drawn from online resources<sup>13</sup> and the experience of other communities. Madison's approach should be carefully considered because of the benefit of having a consistent design on a metro-wide basis.

**F. Reduce long gaps between marked crosswalks so that major streets present less of a barrier to non-motorists, prompting them to cross in less safe locations.**

Like many drivers, pedestrians tend to prefer traveling the shortest route. It is quite common for pedestrians to choose to cross a street away from marked crosswalks, even though jaywalking remains technically illegal in most U.S. communities. Fortunately, taking a shortcut is reasonably safe where travel speeds are slow, and the built environment promotes pedestrian activity. However, “superblocks” and multi-lane arterials present greater challenges for non-motorists, and they create a climate where pedestrian traffic is generally discouraged.

Century Avenue is particularly inhospitable to pedestrians because of travel speeds and large gaps between marked crosswalks. Over the 3-mile stretch between Highway 12 and the eastern city limits at Signature Drive, the average spacing between designated crosswalks exceeds 1,600 ft.—almost one-third of a mile! The two longest gaps—between Parmenter and Park Streets, and between Allen Blvd. and Highland Way’s signalized intersection—each measure around 2,200 ft., or almost a half a mile!

Pedestrians wishing to cross Century to reach a bus stop, a business, or a conservancy entrance oftentimes have no marked crosswalk within a reasonable walking distance, understandably compelling them to decide to jaywalk when traffic conditions seem to allow. The City has received numerous requests to install marked crosswalks along this corridor, particularly east of Allen Blvd.

In contrast, along University Ave., the spacing between crosswalks averages 600 ft. between Parmenter St. and Lakeview Ave. (to the east of Branch Street). East of Lakeview, the gaps measure around 1,000 and 1,300 ft. Compared with Century, more of University Ave. is designed with a center median that helps provide a refuge for pedestrians and other vulnerable roadway users.

To reduce street barriers, the City should<sup>14</sup>:

- Install more traffic islands and crosswalks along busy streets, with rapid rectangular flashing beacons at particularly high-volume crosswalks.
- Modify traffic signals to allow leading pedestrian intervals, thereby giving vulnerable roadway users a head-start before drivers begin turning movements.
- Use curb extensions where there are on-street parking lanes to enhance visibility between pedestrian and driver and to reduce the time pedestrians spend crossing the street.
- Widen where possible the roadway at intersections or where a midblock crossing is desirable to make more room for center medians that given pedestrians some refuge.

Distances between Century Ave. Crosswalks	
Distance in Feet	Intersection
1,200	Laura – Parmenter
2,200	Parmenter – Park
1,200	Park – Donna
1,600	Donna – Branch
1,500	Branch – Allen
2,200	Allen – Highland Way
1,650	Highland Way – Valley Ridge Rd
800	Valley Ridge Rd – Q/Hedden
2,200+	Century/Q/Hedden –east City limits

**G. Increase enforcement of driver infractions caused by distraction, speeding, failure to stop/yield, and impaired driving, and promote education campaigns to counter these threats to road user safety.**

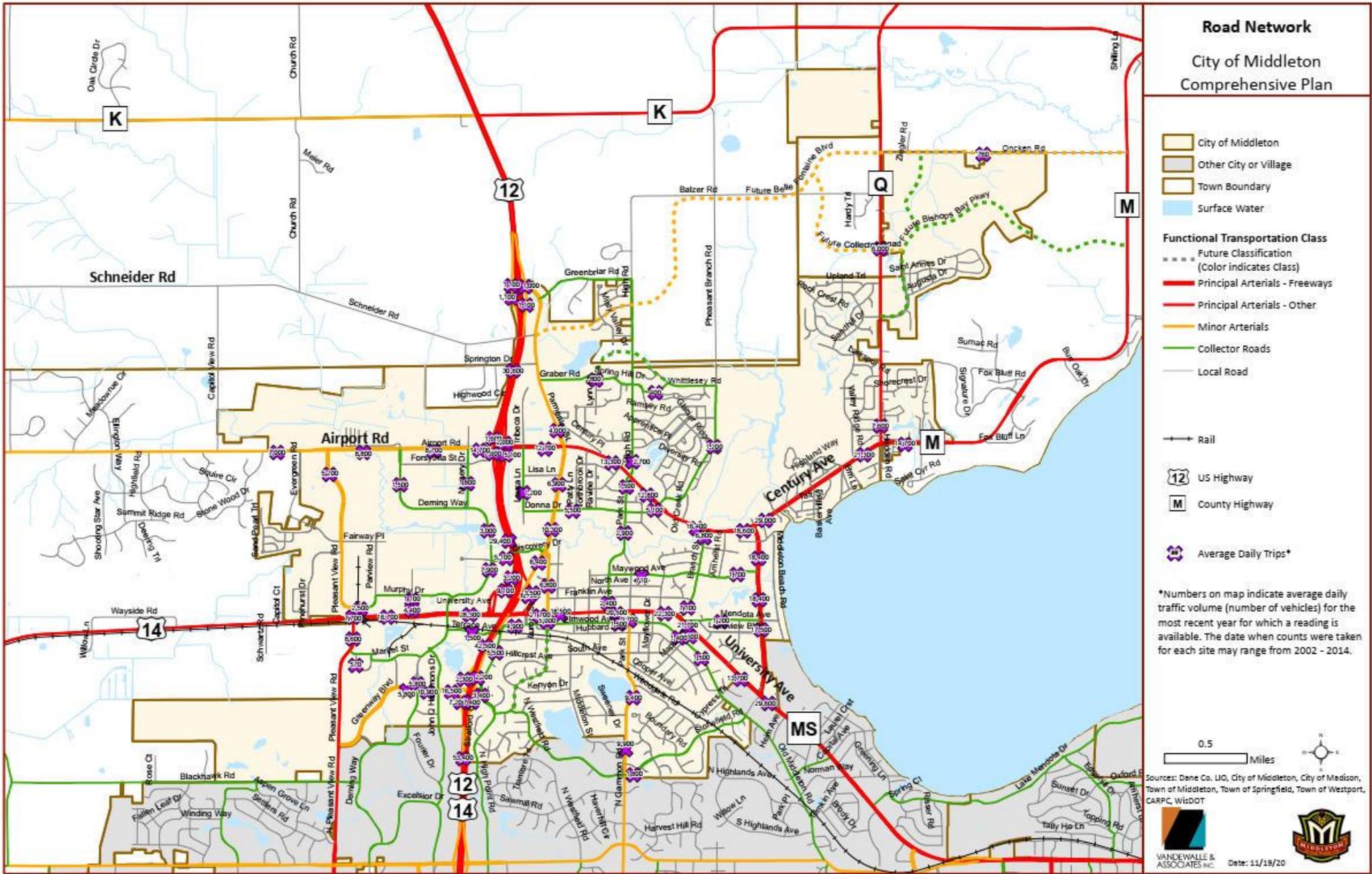
Smart phones and other innovations have increased the prevalence of distracted driving over the past decade. The National Highway Traffic Safety Administration concluded that distracted driving played a role in 10% of U.S. fatalities resulting from vehicle crashes in 2016. Middleton officials often receive complaints about speeding along city streets, especially arterials like Century and University Avenues and through school zones.

Laws and educational campaigns are only meaningful if there is effective enforcement. Over the past decade, the City has placed about a dozen speed feedback signs along major streets and near schools, and it periodically deploys several temporary mobile speed feedback displays in response to speeding complaints. In order to respond to the volume of complaints it receives, the City needs to ensure that the police department has additional resources to increase enforcement of traffic violations.

As part of developing the Vision Zero strategy, the City should consider taking the following actions:

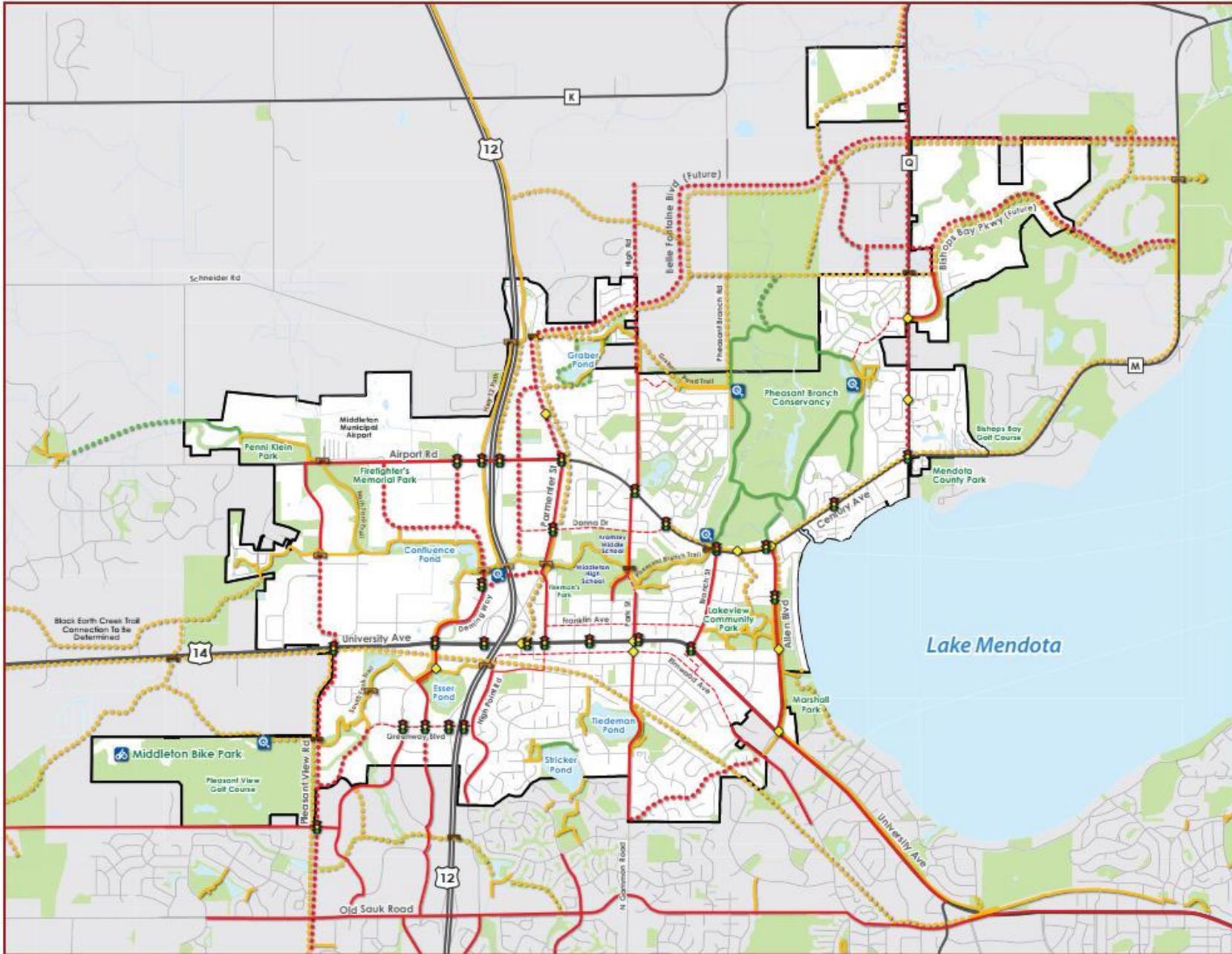
- Deploy more in-roadway crosswalk signs, particularly in places with high or unexpected levels of pedestrian activity.
- Build on existing collaborations with the school district and parent groups to enhance safe routes to school.
- Offer bicycle education classes taught by a certified cycling instructor through the Recreation Department.
- Ensure that speed feedback signs are uniformly set to provide consistent driver education.
- Conduct pedestrian safety audits to identify ways to reduce the risk of conflicts between pedestrians and other roadway users.
- Update the sign ordinance as necessary to address evolving technology related to driver distraction caused by video displays and other attention-grabbing images and devices.





# Bicycle Network Plan

## City of Middleton Comprehensive Plan



Revised: November 20, 2020

**Strategy 3: Establish and maintain a robust bikeway network that is comfortable and accessible to people of all ages so that travel by bicycle and other active mobility or personal mobility vehicles becomes more attractive than driving for most trips of three miles or less.**

Interest in bicycling grew significantly in 2020 as people sought alternatives to public transit and capacity-limited fitness centers. Demand for purchasing bicycles surged in both the U.S. and around the world.<sup>15</sup> As shared use paths grew congested, numerous bike-friendly cities closed or severely restricted certain streets to automobiles in order to add capacity for people choosing active modes of transportation. Although Middleton did not limit the use of streets during 2020, the number of people bicycling (and walking) around the city was noticeably higher than just one year earlier.

While one can clearly attribute these unexpected developments directly to the pandemic, Middleton’s investment in bicycling infrastructure over the past two decades made it much easier and safer for residents to shift gears from sedentary forms of transportation. Increasingly, residents are embracing two-wheeled mobility or learning how to use other micromobility devices to travel around the community.

Establishing a bikeway network helps prioritize the implementation of measures that promote safer and more direct travel paths along an interconnected network of facilities throughout the community. Coupled with educational initiatives, residents and visitors will feel increasingly comfortable choosing active or other personal modes of transportation, whether for commuting or recreation purposes.

### Micromobility

**Micromobility** refers to various small, lightweight devices that are designed to carry individuals relatively short distances at speeds generally below 16 mph. Although the term is used to describe electric bicycles, e-scooters, Segways, and similar device; traditional examples include manual bicycles, scooters, and skateboards.

#### Actions:

##### **A. Complete a network of bicycle lanes and paths linking all city neighborhoods to accommodate all types of bicyclists.**

Bicyclists have the legal right to travel along all Middleton streets except Highway 12, which is a limited access freeway. However, not all streets are equally safe for bicycling due to factors such as the number and width of travel lanes, vehicle speeds, traffic volume, intersection design, pavement condition, and the presence of parked vehicles.

The Bicycle Network Plan Map identifies locations of existing bicycle lanes and shared use paths as well as proposed additions to the network. Over the past decade, the City has made a concerted effort to mark bike lanes along its arterial and collector streets, accomplishing the feat by removing on-street parking from at least one side of the road. In one case—N. Gammon Road—traffic volumes were low enough that the City was able to prescribe a “road diet” that reduced a four-lane road to two lanes with a two-way left-turn lane in the center.

Nearly each of Middleton’s major north-south streets now has bike lanes. Unfortunately, they tend to end shortly before a signalized intersection in order to accommodate vehicle turn lanes without a corresponding increase in the width of the public right-of-way. In such locations, on-street bicycle symbols (“sharrows”) would help convey continuity of the bike route through the intersection. Park Street between Elmwood and University Avenue is a notable example.

The two major east-west routes through the City—Century and University Avenues—are constrained by limited right-of-way and have traffic volumes that do not lend themselves to a road diet without resulting in significant traffic congestion at various times of the day. There simply is not room to add bike lanes along University Avenue between Highway 12 and Branch St., or along Century between Parmenter St. and the east city limits.

Therefore, for University Ave., the Bicycle Network Plan advocates establishing parallel bikeways (through posted signs and on-street pavement markings) along Elmwood and Franklin Avenues. Along Century, the City is planning to replace a narrow sidewalk with a 10-ft wide, City-maintained shared use path along the north side of the corridor, east of Old Creek Road, thereby creating an all-season route connecting Middleton’s northeast neighborhoods with the rest of the community.

Although a side-path along a roadway is not an ideal design, bicyclists and others will at least have an alternative to sharing a regional road with vehicles often traveling in excess of 35 mph. Side paths are operating successfully in Madison, Waunakee, and other communities.

Bicyclists with less riding experience typically favor off-street paths, whereas commuters tend to feel more comfortable biking in a dedicated lane. To reduce conflicts with motorists, the City endeavors to provide both facility types where possible and practical. It should study establishing buffered bike lanes and secure Federal approval to use green pavement markings at certain intersections to increase the visibility of bike lanes and paths.

**B. Promote active mobility solutions that enhance health and provide safe routes to schools.**

There is abundant evidence that leading an active lifestyle promotes physical and mental well-being and lower medical expenses. Ideally, such a habit develops during childhood, as kids begin yearning for more personal freedom.

For decades, many Americans have chosen to drive their kids to school—even if the building is only a few blocks away—because vehicles often weighing a ton or more have dominated the roadways. Nationally, 10-14% of automobile trips during the morning peak hour are school-related travel.<sup>16</sup> To promote health and ease pollution and congestion around schools, City and school officials have started working with neighborhood groups to help children and their caregivers develop the confidence to travel to and from school using human-powered transportation.

Engaging in active mobility requires an appropriate amount of knowledge about the “rules of the road.” Over the past few years, Middleton’s elementary schools have hosted educational “bike rodeos” that feature bike safety and obstacle courses, bike maintenance, helmet checks for proper fit and condition, and even “bike drives” to encourage the donation and reuse of bikes. A neighborhood-organized group ride to school in the form of a “bike bus” is another fun way to develop bike safety skills, neighborhood camaraderie, and healthy lifetime habits. City and school officials should collaborate on formalizing a Safe Routes to School program and planning activities in conjunction with annual events such as Wisconsin Bike Week and Good Neighbor Festival. Restaurants and other businesses could offer incentives for patrons who arrive by foot or bike.

For adults, group rides hosted by local establishments or groups have become quite commonplace in Middleton over the past couple decades. Through its Recreation Department, the City could regularly offer bicycle education classes taught by a certified cycling instructor trained by an organization such as the League of American Bicyclists. There may be local community groups with whom to collaborate to offer such classes at no cost to participants.

Photo: Group ride leaving Capital Brewery



Photo: Bike rodeo at Northside Elementary School



**C. Embrace the use of personal electric vehicles (PEVs) and other micromobility devices while establishing regulations that treat them like bicycles.**

The use of electric bikes, e-scooters, e-skateboard, hoverboards, and various other PEVs has mushroomed over the past few years, particularly where private companies have deployed shared micromobility solutions.

**Shared Micromobility**

“Shared micromobility” refers to a variety of human- or electric-powered vehicles that are small, lightweight, publicly available, and shared between multiple users. These devices are popular ways to travel a relatively short distance, often just a few blocks or a mile or so—a distance that is often referred to as the “last mile” of a daily commute, connecting parking space or transit stop with the office.

A 2018 report from the Portland (OR) Bureau of Transportation found that micromobility devices replaced as many as one-third of car trips.<sup>17</sup> Although the pandemic led to reduced travel demand and increased reluctance to share high-touch devices, these systems have experienced considerably less decline in ridership in 2020 compared to their local transit networks. However, despite their recent rapid growth in their popularity, e-scooters and skateboards will likely not become as popular as bicycles because they do not go as fast, they lack cargo capacity, and fewer people feel comfortable using them.

How users ride and park PEVs can present a challenge to communities. It is not uncommon for riders to operate them on sidewalks or weave around slow-moving or stopped vehicles. At the end of the ride, some users park the device in places that block doorways or create tripping hazards for pedestrians.

As long as micromobility devices meet certain minimum operating requirements as defined in state statute (for example: standards for maximum speed, braking ability, lighting), the City should welcome their addition to the transportation network. To safeguard pedestrian safety and comfort, the City should update its ordinances to restrict the use of PEVs to appropriate places, including bike lanes and shared use paths. To minimize conflicts with pedestrians, the City should not allow operation or parking of these devices on sidewalks, particularly in downtown Middleton or other places where buildings are close to the street.

**D. Establish or welcome shared micromobility systems in Middleton, particularly a bike sharing system that can integrate with Madison’s BCycle.**

Bicycle sharing systems—either dockless or station-based—provide affordable access to bikes used for short-distance trips. They are often used to travel the first- or last-mile of a commute, to run errands (many feature a front basket), or to explore the community.

One bike sharing system typically serves an urban area, and Madison is one of 47 cities served by BCycle. Last year, Madison’s system became the first in the U.S. to convert its entire fleet to electric-assist bikes, which amplify pedaling power and allow a rider to travel up to 17 mph. In 2019, 7,000 additional people (for a total of 17,000) used the system and the number of rides more than doubled, to 231,000 trips.<sup>18</sup> The bike share station near the University Ave./Whitney Way intersection is the closest to Middleton of the system’s nearly 50 stations.

In other metro areas, including some with bike share, various private companies have established a network of e-scooters, which are cheaper to deploy and maintain than e-bikes. At least one company is interested in deploying e-scooters in Madison, which has an ordinance to allow them to operate under a pilot program.

Over the past decade, there has been periodic interest in Middleton in installing over half a dozen BCycle stations to connect the hotels and shops in the Greenway Center area with the businesses and services near Middleton’s center. Having alternative, on-demand transportation between the two areas would reduce car trips and demand for downtown parking. The City should collaborate with its Tourism Commission, the Chamber of Commerce, and local developers to sponsor stations and maintain its portion of an expansion of Madison’s BCycle system. E-bikes could supplement or potentially replace the customized trolley that operates every 30 minutes along a fixed-route.

Rather than relying solely on the private sector for micromobility solutions, a public bike-share system provides cities with greater control over their design and operation, and it ensures the ability to serve neighborhoods that have been ignored or avoided by providers in the private sector.

# GOALS FOR EXPANDING BICYCLE IN MIDDLETON



<b>Visitor Transportation</b>	Connect hotel visitors to downtown, commercial centers, and existing bicycle trails/greenway
<b>Experience-Based Opportunities</b>	Utilizing the Dash System to guide tourists and citizens through various tours of Middleton
<b>Marketing</b>	Provide advertising opportunities at stations, on bicycles (side) and within the Dash System
<b>Wayfinding</b>	Program the Dash System to guide users to destinations
<b>Workforce Retention</b>	Provide businesses with employee day-time recreational opportunities and ability to bike to commercial areas
<b>Workforce Mobility &amp; Affordable Transportation</b>	Connect neighborhoods to employment centers
<b>Sustainability</b>	Reduce transportation emissions by providing a greener way to move about the City
<b>Safe Routes to Schools</b>	Connect neighborhoods to high school and middle school
<b>Linkage</b>	Increase linkages to public spaces, retail, and services as a key component to the Urban Greenway Study
<b>Health</b>	Promote public health and improve the quality of life for employees, residents, and visitors

## E. Adopt and actively refer to an updated Bicycle and Pedestrian Plan for additional policy and action statements.

The Bicycle Network Plan Map completed with this comprehensive plan articulates the City's current plan for a system of low-stress bike lanes, paths, and routes that connect all parts of Middleton. City staff should update this map regularly as new facilities are constructed, but more importantly, prepare a new Bicycle & Pedestrian Plan to identify much more comprehensively opportunities for improving bicycling as a preferred mode of transportation. The most recently adopted plan dates back to 2009, before electric bicycles became as widespread as they are today and before Madison developed a bike-sharing system.

## F. Adopt bicycle parking standards by ordinance.

The City's Off-Street Parking regulations currently do not list any standards for the provision of bicycle parking and storage at multifamily, commercial, or institutional land uses. To date, the City has required (albeit inconsistently) bike parking as a condition of rezonings or project design approval.

All buildings should have bike parking to serve staff, customers, clients, and other visitors. City standards should address guidelines for bike parking quantity, placement, and design. For example:

- Multifamily units should have at least one bike parking space per bedroom.
- Ideally, bike parking is located at least as close to a building entrance as the closest auto parking space, and places offering indoor bike parking should also have outdoor accommodations for visitors.

- A bike rack must be able to properly support the bike and accommodate a U-lock.

Some cities provide on-street bike corrals, which allow shared parking solutions where off-street space is limited and a high demand for bike parking exists. Placing corrals in a street between bollards or even curb extensions help reduce street width, thereby creating shorter pedestrian crossings.

## G. Install wayfinding signs for a backbone network of low-stress bike routes.

To help guide bicyclists through Middleton and inform drivers about their likely presence, the City should install wayfinding signs along low-stress bike routes. Low-stress facilities appeal to a casual bicycle rider because they minimize conflicts with other road users while providing direct connections between major neighborhoods. [The Dane County Bicycle Wayfinding Manual](#) provides a step-by-step process for planning for and installing such signs.

**Strategy 4: Create conditions that help transit become the preferred mode of travel for trips that are not made by walking, bicycling, or using other micromobility solutions.**

Effective public transportation benefits urban areas by reducing traffic congestion, improving safety, supporting economic development, promoting healthy and sustainable lifestyles, enhancing personal opportunities, and providing mobility for all people regardless of ability. The USDOT has concluded that there are clear linkages between transit use and lower levels of air pollution, improved safety, and higher physical activity levels.<sup>19</sup>

Since the 1980s, Middleton has been served by a transit system that is now considered one of the country’s most highly rated according to several performance measures. For example, Metro Transit ranks in the top 5% in terms of riders per bus per hour, and in the lowest 11% in cost per rider. Metro Transit provides a level of service in the 72 square mile Madison area that is comparable to the transit system serving Indianapolis, a metro area that has a population that is more than three times larger. In 2018, Metro averaged over 57,000 passenger trips each weekday during the school year.<sup>20</sup>

Through much of the past decade, transit ridership in the Madison area had been growing faster than transit service levels, resulting in bus overcrowding and requests for faster, more frequent, and more expansive service, including on a couple peak-hour buses serving Middleton. As identified in the region’s most recent Transit Development Plan, any significant expansion of Metro transit service has been limited by the fleet size, capacity of maintenance facility, and the region’s current transit funding structure.

More recently, however, Madison area transit service, and systems across the country, have seen some decline in ridership. Factors include the increase use of ride-hailing services and

micromobility solutions like e-scooters, historically inexpensive gas, and increasingly unaffordable housing in city centers, prompting some people to relocate to suburban transit deserts. Of course, the pandemic has had a dramatic negative impact on Metro Transit.

Service levels and ridership are unlikely to rebound to pre-pandemic levels for quite some time. Aside from being linked to economic recovery, transit ridership may be hampered by the perception that taking the bus is risky to one’s health. It is quite likely that several former bus riders will have settled into a pattern of teleworking. Several years of scaled-back service will also hamper growth in ridership. But it’s important to keep in mind that there are people for whom transit is a critical service because they have no viable alternative. The likely fallout from the pandemic in the near-term is decreased bus service amid severe funding challenges. There may be pressure to shift to more demand-responsive service during low use hours.

**Actions:**

**A. Restructure Middleton’s transit service to integrate with Bus Rapid Transit.**

Madison’s MetroForward initiative calls for Metro Transit to begin operating Bus Rapid Transit (BRT) as early as 2024. Although the initial phase of BRT route will not directly serve Middleton, residents and employees will still be affected by its integration into the transit system.

MetroForward is the culmination of several decades of studying various options (including light rail and commuter rail) for providing efficient, high-capacity transportation to and through central Madison. To reduce delays due to congestion, BRT systems often operate in their own “track” by using a dedicated lane for a majority of the route, and buses can receive priority at traffic signals to help avoid traffic queues. A BRT system uses high-capacity vehicles with comfortable seating and is

**Madison Metro Transit Data Snapshot (based on 2018 system-wide, fixed-route service)**

Middleton Routes	Days in service	Type of service	Ridership in 2019	Ridership compared to 2018	Passengers per revenue hour	System rank (out of 59)
70	Mo-Fr	Off-peak	134,428	2.1%	19.98	35
71	Mo-Fr	Peak	107,489	2.7%	30.21	9
72	Mo-Fr	Peak	137,906	3.1%	27.19	16
73	Mo-Fr	All day	93,345	-8.8%	15.51	44 *
78	Sat.	All day	9,365	8.4%	10.47	51 *
Total system (excludes campus routes)			10,785,344	-1.5%	28.43	* = routes <60% of system avg.

characterized by increased service frequencies and enhanced transit stations with amenities. Madison envisions that its BRT routes will offer 10-15-minute service levels during the daytime.

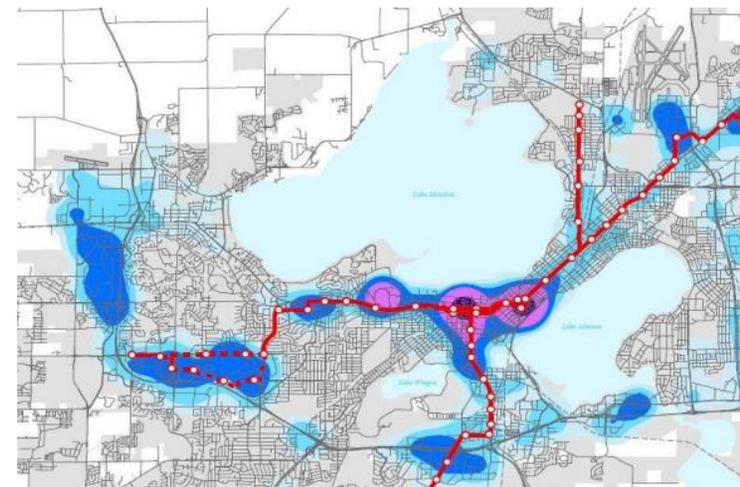
An east-west BRT route is planned to operate along the Mineral Point Road / Whitney Way / University Avenue / East Washington Avenue corridor, including a stop at the West Transfer Point on Tokay Blvd. This alignment was selected because it would provide service within a 10-minute walk of almost 120,000 jobs and 80,000 residents. Bus routes serving Middleton could interface with BRT at Hilldale and in the West Towne area (probably near the Mineral Point Rd. / High Point Road intersection).<sup>21</sup> So that long-time Route 71 and 72 riders would not have to transfer to BRT, Middleton should work with Metro planners to ensure that at least some peak hour buses continue to provide direct service to downtown Madison. These buses could continue to serve the University Ave. bus stops east of Whitney Way that would be skipped by the BRT route. It would be reasonable for Route 70, Middleton's off-peak route, to terminate at the Hilldale BRT stop.

Middleton should request that Metro Transit establish a route that directly connects Greenway Center and downtown Middleton with both BRT's western terminus and its Hilldale station. This would improve access to the high concentration of jobs west of the Beltline and would establish direct, all-day service along the full length of University Avenue. Currently, the businesses west of the Beltline are served primarily by Route 73, which connects Greenway Center in a rather circuitous manner with the West Transfer Point via Junction, Watts, and Odana Roads.

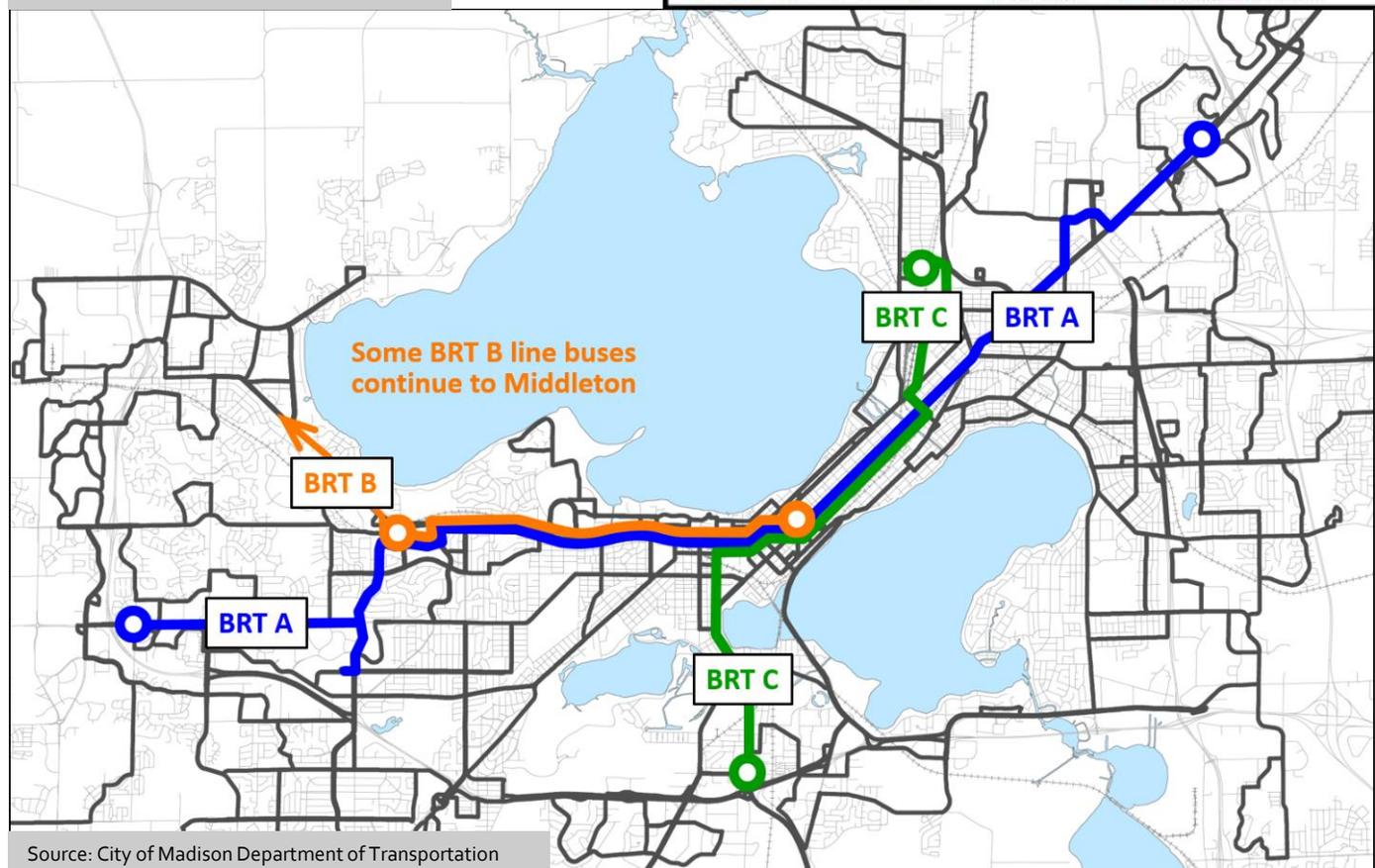
The City should actively participate in the Metro Transit Network Design Study that is about to get underway as well as in regional discussions regarding transit funding and governance. It is

quite possible that Middleton's annual contribution to the transit system will increase to help support the implementation of BRT—therefore, the city should also realize benefits to its bus service.

BRT systems are often designed to attract discretionary riders—people who have the means to choose between driving and transit—but as the pandemic has highlighted, it is vital that the bus system continues to serve riders who rely on transit for their daily transportation.



### Bus Rapid Transit Service Plan



Source: City of Madison Department of Transportation

**B. Regularly study opportunities for making cost-effective transit service enhancements.**

There are three optimal times to evaluate making improvements to Middleton’s bus service—each spring when Metro Transit is planning for changes it will implement in August (prior to the start of the school year), every five or so years when regional planners collaborate on updating the Madison area’s Transit Development Plan, and whenever a developer proposes a new subdivision or large employer. City officials should actively engage transit riders and the business community in discussions about service improvements, and they should encourage designers of new buildings along transit corridors to incorporate a canopy or awning to provide shelter near bus stops.

The following are some specific ways the City of Middleton could enhance transit service:

- Establish Sunday service, which would likely mirror Saturday service.
- Plan for bus routes—and design streets accordingly—along Pleasant View Road, Parmenter St. north of Century Ave., County Highway Q, and the future Belle Fontaine Blvd. and Bishop Bay Parkway corridors.
- Work with Metro Transit and other communities to evaluate the potential for routes around the north side of Lake Mendota (connecting Middleton with the North Transfer Point) and commuter routes serving nearby communities such as Cross Plains and Waunakee.
- Study the feasibility of establishing time-coordinated transfer points near major activity centers and key intersections, such as at Century/Allen.

Work with Metro Transit and potentially other contracting partners to implement micro-transit solutions that improve the rider’s experience by operating on-demand public transit services that offer flexible routing and/or flexible scheduling using smaller minibus vehicles.

**C. Provide bus stops that are accessible, safe, comfortable, and well-maintained.**

Waiting at a bus stop is often the least desirable experience of using transit. Bus stops tend to be located along heavily traveled roadways and are exposed to the elements. Too many require boarding from grass, dirt, or—worst of all—a deep snowbank. Providing amenities such as a hard-boarding service, seating, and a shelter significantly enhances accessibility and convenience.

Of the 162 bus stops located in Middleton, just over half (84) have an accessible boarding surface (compared with 73% of the stops throughout the bus system). Nearly all the accessible bus stops are located east of the Beltline whereas only eight exist west of the highway. The 10 bus stops in the city with the highest ridership are all accessible, as are nearly all the downtown Madison-bound stops. There currently are 13 bus stops with shelters, two of which were installed by adjoining businesses. Some shelters include a bench, and one bus stop has a bench with no shelter. Schedules are posted at 27 of the city’s bus stops. [22](#)

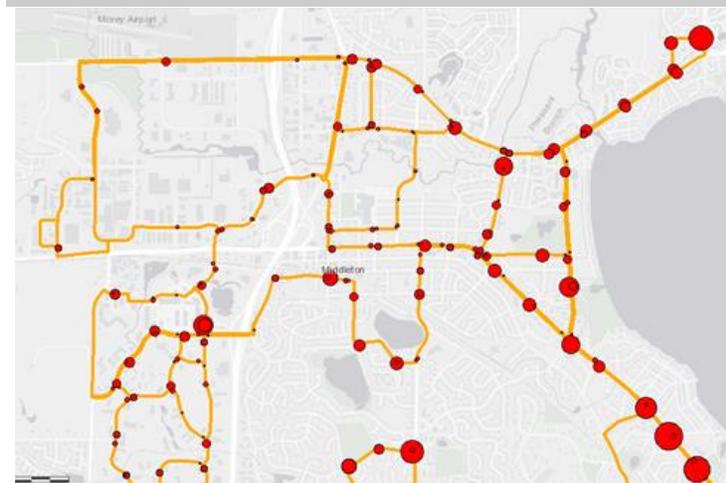
Over the past decade, the City has made a concerted effort to install ADA-compliant surfaces in conjunction with street reconstruction projects and through its annual sidewalk improvement program. This program should continue, with particular emphasis given to the Greenway Center area which has relatively good bus service and ridership generated by both multifamily housing and businesses. Ultimately, every bus stop needs to be accessible.

City staff should also develop a plan for installing benches and possibly shelters at high-use bus stops after re-evaluating the siting criteria it developed in 2013. Finally, the City should ensure that snow is removed from bus stops in conjunction with removal of snow from adjoining streets and sidewalks.

**D. Advocate for the re-establishment of a Regional Transit Authority.**

The establishment of a regional transit authority would help Middleton and the greater Madison area with planning, budgeting, operating, and managing a more robust and equitable regional transit system. Governed by a board comprised of elected officials, an RTA could be funded by a regional sales tax authorized through a referendum adopted by a majority of voters in each municipality forming or seeking to join the RTA. For the past decade, state law has not allowed such an entity to exist in Dane County.

**Middleton Bus Ridership Map**



# A REGIONAL TRANSIT AUTHORITY

People hardly travel only within one city. In a metropolitan area, one might live in one city, work in the next city over, have family in another, and a dentist in yet another.

Because we move throughout a metropolitan area like Dane County seamlessly, it only makes sense for our public transportation system to also allow us to move throughout an area seamlessly with a regional transit authority.

## WHAT IS IT?

A Regional Transit Authority (RTA) is an intergovernmental body that is created between multiple municipalities to manage the budgeting, governance, operations, and planning of a transportation system.

## WHY IS IT BENEFICIAL?

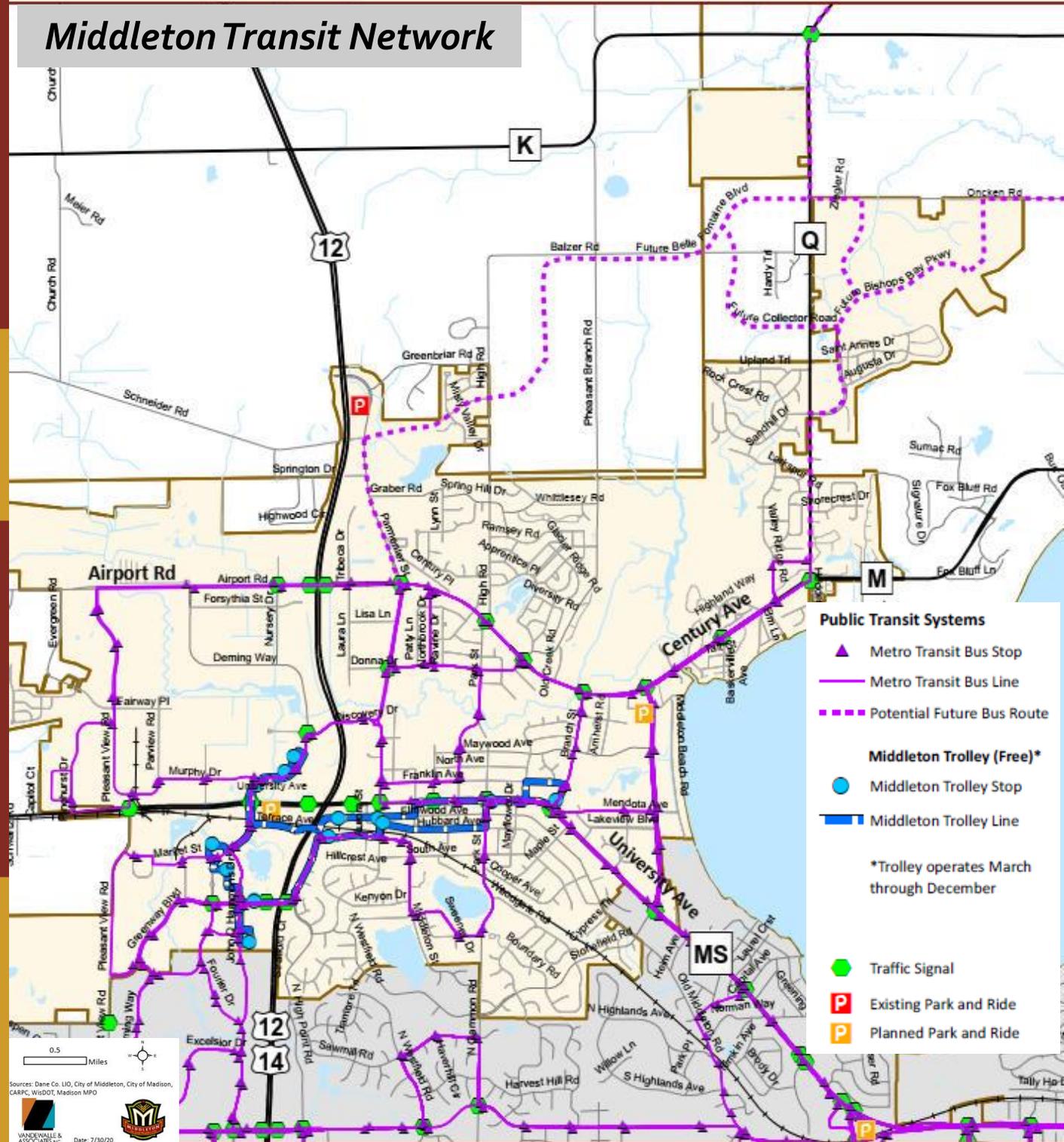
An RTA provides a more robust and comprehensive transit system throughout a metropolitan area.

- Allows accessibility to smaller cities or towns that may not be able to support their own transit system
- Receives more secure State and Federal funding sources
- Provides additional infrastructure and collaboration to existing transportation systems

## IS IT A GOOD FIT FOR DANE COUNTY?

Currently, the only robust transit system in Dane County is Madison Metro which contracts its services to the surrounding communities like Middleton, Fitchburg, and Verona. The 2009 Biennial Budget Act (2009 Act 28) established a means for creating RTAs, however the 2011 Biennial Budget Act (2011 Act 32) struck RTAs from the budget, dissolving the Dane County RTA.

# Middleton Transit Network



**Strategy 5: Reform Middleton’s parking regulations by eliminating minimum quantity requirements, adopting parking demand management policies and programs, enhancing facility design, and establishing loading zones in congested areas.**

The average single-occupancy vehicle is 80% empty and is unused most of the day. In many downtowns, streets and parking spaces consume 50 to 60% of the land area. There are an estimated billion parking spaces across the country, which equates to about four spots for every car.<sup>23</sup>

Urban areas thrive when they focus on people, not cars or trucks. People prefer to enjoy special places and share experiences with each other instead of spending time stuck in traffic, searching for parking spaces, or hearing and smelling vehicle exhaust. While cars are necessary to reach these special places, they should be parked efficiently and out of the way when not in use.

Increasingly, cities are adopting policies and programs that are designed to reduce parking demand, promote alternatives to car trips, and preserve parking for certain trip types. Middleton needs to follow suit and overhaul its parking spaces. In turn, this will help the city achieve the modal hierarchy that underpins the transportation element of this plan.

**Actions:**

**A. Overhaul parking standards so that they are more flexible, decrease development costs, and promote less use of private automobiles.**

Adopted in 1986, Middleton’s Off-Street Parking Areas Specifications and Standards document is woefully out of date. The impact that parking minimums have had on urban areas is readily apparent—fields of parking that go unused

(except perhaps the day after Thanksgiving, in the case of retail sites), unattractive street walls that frame parking structures, vast impervious surface areas that contribute to storm water runoff and urban heat islands, and lower urban density that hinders walkability.

Some cities have concluded that a quarter to a third of parking spaces are not being used during peak occupancy. A Madison study of parking space utilization during peak times in residential buildings revealed that the average occupancy was almost 70%--meaning that over 30% of the spaces that had been built were not being regularly used. Vacant spots take up valuable space and can easily cost \$30,000 per space in a parking structure. This, in turn, makes building costs and lease rates more expensive.<sup>24</sup>

Fortunately, large surface parking lots can accommodate infill development quite easily. Instead of requiring a certain minimum number of parking spaces for certain land uses, the City should identify maximums for cars and reserve minimum parking standards for bike parking (see Action 3-F).

Over the past decade, Middleton has allowed

developers of multifamily buildings in Planned Development Districts to have lower parking ratios than the 35-year-old standard. City planning staff have not received any complaints about a shortage of parking from either building owners or managers following full building occupancy. The only project that has led to public complaints about residents parking on the street has been in downtown Middleton.

The City could ameliorate the negative externalities of parking and manage parking demand in a variety of ways, including:

- Eliminate off-street parking minimum requirements throughout the city (thereby acknowledging that demand for parking will still result in new supply being built).
- Minimize the size of surface parking lots and discourage their use altogether. Mitigate the negative effects of parking lots through screening, landscaping, stormwater management, and fully cut-off and shielded light fixtures.
- Encourage new buildings to provide underground parking.

Parking Ratios for Multi-family Buildings in Middleton			
Project Name	Dwelling units	Ratio per unit	Ratio per bedroom
The Kestrel	39	1.13	1.02
Meadow Ridge	95	1.47	0.84
Parmenter Circle	124	1.54	1.11
Stagecoach	46	1.61	1.14
The Trotta	124	1.31	1.04

- Require above-grade parking structures to be designed with active uses along the street walls and to allow for adaptive reuse of at least some of the structure for residential or office space. (The City should anticipate potential parking demand reductions that could occur as the result of emerging shared mobility strategies and the potential impacts of the emergence of autonomous vehicles.) Key design issues include structural capacity, floor-to-floor heights, and maximizing the use of flat floors.
- Install clear signage and use automated parking space counters to minimize the amount of time drivers search for parking spaces, thereby adding to street congestion.
- Enforce the two-hour limit for parking in much of downtown Middleton to discourage employees from parking close to businesses, thereby freeing up street parking spaces for customers.
- Encourage landlords and employers to provide transit passes or annual bike-share or car-share memberships.
- Encourage residential landlords to unbundle parking from their leases so that tenants must rent them separately. (Having a guaranteed place to park, or a parking space included as part of a lease, encourages private vehicle ownership and use. With bundled parking, a carless resident is helping subsidize parking for other tenants. Separating parking from the lease would help make housing less expensive while promoting greater rates of active mobility and use of transit, which in turn would increase farebox revenue.)
- Require that autonomous vehicles are parked in low-demand areas when not in use.

**B. Allow on-street parking spaces to convert to other uses, including outdoor dining, pop-up exercise locations, and bicycle parking.**

Many streets are wider than necessary and have excess capacity, so the City could allow a portion of them to be used for other purposes (as discussed in Strategy 1, Action 2). Curbsides can feature a wide variety of uses beyond on-street parking. One or two parking spaces can accommodate a bike corral, vendors, or a parklet.

A parklet typically consists of a public seating platform that is flush with the sidewalk level and incorporates seating and greenery, which in turn increases foot traffic and revenues for the adjoining, sponsoring business. They help free up space on sidewalks and narrow street terraces for street furniture and other amenities, increase seating capacity of sidewalk cafés, and provide more opportunities for physical distancing. These temporary structures must be properly designed so as not to hinder stormwater runoff, and they should incorporate vertical elements (such as posts or bollards) that increase their visibility to drivers. The sponsoring business maintains the parklet, removing trash and other debris as needed.

Based on the experience of other cities, Middleton should entertain requests by adjoining businesses to “spill” into the street where appropriate.

**C. Designate strategic locations for allocating curb space for loading zones, factoring in proximity to businesses relying on frequent freight deliveries while preserving on-street parking for customers during peak periods.**

The advent of the “delivery economy” has noticeably increased the amount of freight vehicles traveling along streets and highways.

Although it is not difficult to imagine drones and robots autonomously delivering small supplies and other purchases in the next few years, human-controlled trucks of various sizes will remain a fixture in cities for many years into the future.

The City routinely receives complaints about delivery trucks double-parked in certain congested areas, such as along Hubbard Avenue just east of Parmenter St. and Elmwood Ave. just west of Parmenter. Due to time constraints and weight of products, drivers understandably want to park close to their customers. Establishing a few loading zones would promote public safety and relieve delivery driver liability for any crashes resulting from blocking traffic. Criteria for siting these zones include:

- Proximity to businesses receiving frequent shipments.
- Far side of an intersection to enhance truck maneuverability and increase visibility of the driver and any pedestrians using the nearby crosswalk.
- Away from street café seating areas.
- The direction the delivery driver must travel to reach and depart from the loading zone.

Based on these criteria, observations of loading and parking activities, and discussions with representatives of numerous downtown businesses, Planning staff have identified several locations in downtown Middleton that appear well-suited for loading zones: eastbound Elmwood Ave. just past Aurora St. (next to Stone Horse Green), eastbound Hubbard just past Parmenter St., and southbound Parmenter just past Hubbard Ave. Given that most deliveries arrive in the morning and customer demand grows significantly around lunchtime, loading zone parking restrictions should expire by noon each day. The City should also anticipate the need for loading zones as it approves multi-story buildings in other parts of the community.

**Strategy 6: Continue to plan for and operate Middleton Municipal Airport—Morey Field in a manner that ensures safe airport operations, supports regional economic development, maximizes sustainability and financial self-sufficiency, and serves as an attractive and neighborly gateway to the surrounding community.**

The City of Middleton owns and operates the only public general aviation (GA) facility in western Dane County. The National Plan of Integrated Airport Systems lists Middleton Municipal Airport—Morey Field as a Regional GA facility, while Wisconsin’s State Airport System Plan classifies it as one of 14 Large GA facilities in the state. (This does not include the eight airports served by commercial airlines.)

As of 2019, exactly 100 small aircraft (including two jets and four helicopters) are based at C29, the code assigned to the airport. Although most respondents to a 2018 survey indicated that they fly for recreational and/or flight training reasons, one-third stated that the airport is important to their business. Small turboprop planes have been making freight deliveries quite regularly since 2015. Chartered aircraft also are part of the approximately 41,000 operations per year (a takeoff and landing counts as two operations). Since the completion of a 4,000 ft. paved runway in 2004, more than 40 hangars have been constructed, and airport operations have been almost entirely sustained through on-field revenues (land leases and fuel tax) supplemented by a \$150,000 annual Federal entitlement funding allocation.

In addition to supporting the aviation community, the airport property houses a 5 MW solar array, 1.5 of which supplies electricity to the city and school district. Airport lands also provide crucial flood storage capacity and serve as a buffer between Middleton’s business parks and prime farmland to the north.

**Actions:**

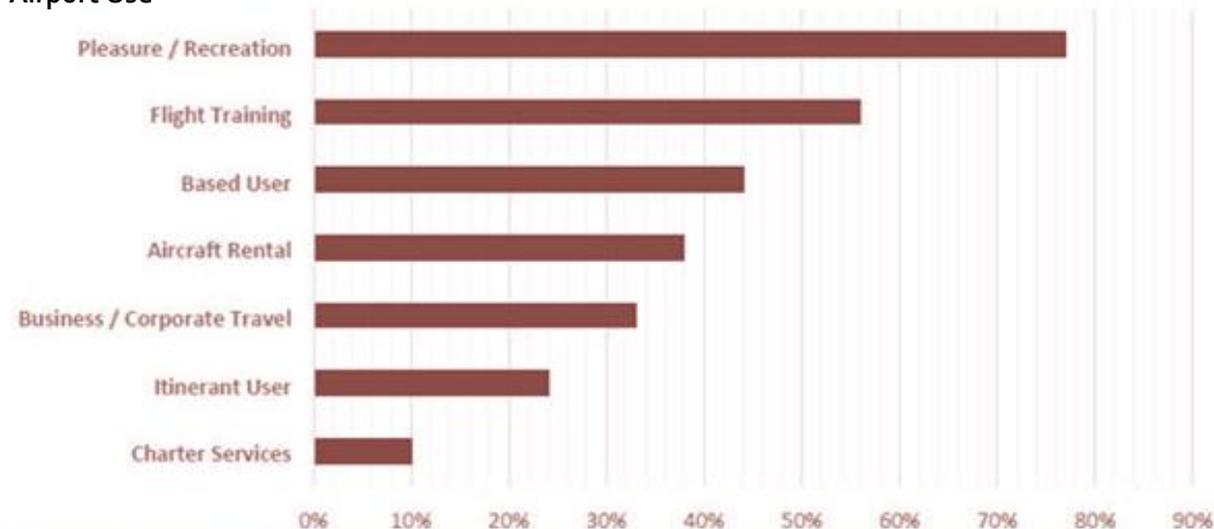
**A. Ensure that the airport master plan that is under development complies with all applicable regulations and undertake a community survey prior to its completion and adoption.**

In 2018, the City and Wisconsin Bureau of Aeronautics initiated work on an airport master plan—the first since the City’s acquisition of C29 in 1998—in response to continued requests for airplane hangar space and improved airport facilities. Guided by an advisory committee that includes a variety of airport stakeholders, including representatives from the Towns of Middleton and Springfield, the master planning process will evaluate the adequacy of the existing paved and unpaved runways and approaches, identify suitable locations for hangar development, and assess the need for land to accommodate any potential airport improvements. A key consideration is airport compatibility with surrounding land uses.

All available hangar sites at C29 were developed by 2016, and the number of aircraft based at the airport grew from 39 in 2004 to 100 in 2019. Only seven other airports in Wisconsin have more based aircraft, including the 121 private airplanes that are based at Dane County Regional Airport. Taking into account user demand and continued population growth and economic strength in the Madison region, the City’s airport master planning consultant projects that C29 will have 125 based aircraft by 2039, with total annual operations growing by almost 13,000, or 31%.

Demographic, economic, and technological trends indicate that single- and multi-engine piston (non-turbine) aircraft will decrease as a percentage of the total GA fleet in the future, but non-turbine-powered aircraft are still projected to comprise about 93% of the planes based at C29 by 2039. The

**Airport Use**



*\*The survey respondents could select all use types relevant to them, so totals are greater than 100 percent. Source: Airport User Survey – May 2018; Administered through Polco Source: Draft Airport Master Plan, Figure 2.2*

Fleet type	2019 Fleet Mix	Projected 2039 Mix
Single-Engine piston	86 aircraft (86%)	99 aircraft (79%)
Multi-Engine piston	8 (8%)	17 (14%)
Turbine engine	2 (2%)	5 (4%)
Helicopter	4 (4%)	4 (3%)
TOTAL	100	125

Source: Table 2-42 of Aviation Demand Forecast as approved by the FAA

FAA estimates that there currently are 908 small jet and turboprop aircraft operations (including itinerant, or non-based planes) at C29 every year, which equates to an average of almost 9 takeoffs and landings every week. The airport consultant projects that this number will roughly double (to 1,713 annual operations) over the next two decades. City officials expect the master plan to help assess whether any airport improvements would yield an improved safety margin without significantly changing the mix of small aircraft currently using the facility.

After the airport master plan has been drafted but before it is finalized and adopted, the Common Council has committed to conduct a community survey of City residents as well as people who live in the Towns of Middleton and Springfield. The City has also committed to holding public hearings before deciding to proceed with any potential airport expansion project.

**B. Promote ongoing pilot safety seminars and other educational programs to maximize safe operations and minimize the potentially negative impact of below-pattern altitude flights over residential areas surrounding the airport while adhering to applicable FAA regulations and standards.**

A flight school and aircraft maintenance shop have operated at the airport since it opened in its current location in 1942. Residential subdivisions began developing in the vicinity of the airport in the 1960s. According to 2019 population estimates, approximately 14,000 people now live within two miles of either end of the primary runway—about 11,800 in the City of Middleton, 1,750 residents in the Town of Middleton, and about 470 in the Town of Springfield.

Aircraft noise complaints have increased over the years, particularly since 2017, so in 2019 the City supplemented a dedicated phone hotline with an online reporting form, published a Pilot Handbook, and updated the airport’s noise abatement procedures to help minimize disruptions to noise-sensitive areas. These procedures are voluntary because they are contrary to standard FAA guidance for flying a pattern and because the City does not have the authority to regulate how pilots operate their aircraft once they leave the ground. Federal regulations require that pilots must fly at least 1,000 feet above the highest obstacle in a “congested area” (which includes most of the land around C29) except for during takeoff or landing maneuvers or instrument procedures.

The airport manager endeavors to identify the aircraft and pilot that prompted a noise complaint for the purpose of providing information about Federal regulations and the City’s voluntary noise abatement procedures, but the manager will only report a possible violation to the FAA if he or she has reason to believe that a Federal law was violated and there is adequate supporting evidence. The airport manager makes contact information available to residents who wish to report to the FAA incidents that they feel have violated regulations. The airport will continue to make noise abatement procedure information available to pilots through posted signs at C29, the City and airport’s websites, and the FAA’s published airport facilities directory (which pilots use to familiarize themselves before flying into an airport).

The airport manager and the Airport Commission should frequently review the noise complaint log maintained by airport staff, look for any patterns that may exist, and communicate with based pilots and local aviation groups to promote aircraft operations that minimize disturbance to noise sensitive areas and to ensure that the airport is operating as safely and as harmoniously with surrounding residents as possible.

**C. Protect the airspace and approach corridors in the vicinity of the airport to prevent obstructions from encroaching into existing runway approaches as well as future approaches identified in the airport master plan.**

Airspace around an airport is a perishable commodity because the presence of trees or structures such as antennas and buildings can limit the angle at which an aircraft can land or take off. Airport compatible land use planning is essential to enhance safety of people in the aircraft and on the ground, protect airport viability (both present and future), and maintain the quality of life for airport neighbors. As the recipient of Federal grant funding for the airport, the City has the responsibility to protect airspace and approach corridors.

State law enables the City to use various techniques to address and preferably prevent incompatible land uses in the vicinity of the airport. For example, when it reconstructed the facility, the City adopted a height limitation zoning ordinance that regulates the elevations of structures and vegetation within a 3-mile circumference, regardless of municipal boundaries. Unfortunately, the HLZO alone did not carry enough weight in 2017 when, over the City's objections, the American Transmission Company installed high-voltage transmission towers about 9,400 ft. west of the airport, along Bronner Rd. The presence of the transmission lines raised the minimum descent altitude for a "non-precision approach" by about 50 feet, thereby somewhat reducing the functionality of the airport for some aircraft during certain (low-ceiling) weather conditions.

To prevent this situation from happening again, City officials need to communicate proactively with both the Wisconsin Public Service Commission and ATC whenever a new transmission line is proposed for installation within three miles of the airport. The City should also work with the Bureau of Aeronautics to update and modernize the HLZO upon completion of the airport master plan.

More broadly, the City needs to work with the Towns of Middleton and Springfield and Madison to reduce the risk of future obstructions and other incompatible land uses that could encumber airport operations.

Existing and potential future obstructions to the runway approach surfaces will be shown in the airport layout plan resulting from the master planning process.



Photo: Aerial of the Middleton Municipal Airport – Morey Field by Skot Weidemann

**Strategy 7: Work collaboratively with stakeholders of the rail corridor to ensure smooth operations of freight trains, and plan and advocate for the return of passenger service.**

Since 1856, Middleton has been served by the railroad tracks that connect Madison with communities to the west. At one time, passenger trains stopped regularly in downtown Middleton, but the State-owned corridor has served freight operations almost exclusively over the past half century. While most freight movements today occur by truck, a few Middleton businesses (particularly Lycon) rely on rail cars for the shipment of goods.

Wisconsin & Southern Railroad is the exclusive operator along the tracks through an agreement with the Wisconsin River Rail Transit Commission, which manages the corridor. The WRRTC is a multi-county organization dedicated to preserving and protecting various publicly-owned railroad corridors throughout southern Wisconsin and northern Illinois.

Passenger trains are unlikely to serve Middleton in the foreseeable future. Over a decade ago, a consortium known as “Transport 2020” developed plans and ultimately recommended a \$337.1 million commuter rail system with Middleton as its western anchor. The regional passenger rail discussions prompted City initiatives to establish the Greenway Center rail spur and plan for a multi-modal transportation hub just west of the Highway 12/14 interchange. However, the commuter rail plans fell apart due to the withdrawal of State support for development of a high-speed rail corridor between Chicago and the Twin Cities as well as due to the State’s decision to eliminate the short-lived Dane County Regional Transportation Authority, which would have provided a local funding mechanism.

Because Middleton officials have continued to prioritize transit-oriented development and growing a vibrant downtown, the City remains ideally situated to capitalize on the

reintroduction of passenger rail service, should the opportunity arise again in the future.

**Actions:**

**A. Participate actively in regional discussions regarding freight operations, and support safety initiatives to reduce trespassing incidents while preserving existing rail crossings, including pedestrian crossings.**

Unlike automobiles, trains cannot stop quickly to avoid a collision. Due to concerns over potential liability, railroad operators and administrators actively seek ways to reduce potential conflicts at street and pedestrian crossings and to prevent trespassing within the railroad right-of-way. Because rail operations and safety regulations fall under the jurisdiction of the Federal Railroad Administration, Wisconsin has limited autonomy regarding rail safety concerns, and communities have little influence on train operations. Railroad operators have the incentive to minimize their risk exposure, so they therefore have a natural tendency to want to close crossings to improve safety.

The railroad tracks running through Middleton cross seven streets (Pleasant View Road, Deming Way, N. High Point Road, Parmenter St., South Avenue, Park St., and Stonefield Road) and two pedestrian-only routes (both in downtown Middleton). These crossings are integral to the City because closed crossings impede traffic circulation, decrease neighborhood connectivity, and can reduce direct access to businesses and residences.

With the steady increase in population density in downtown Middleton, railroad representatives in 2020 requested the installation of a 4 ft. high fence and gates in the vicinity of Middleton Center to discourage dog walkers and other pedestrians from traveling in the rail corridor. By then, much of the area had

already developed. As the City continues to promote redevelopment along the rail corridor, it should work with developers to orient building entrances away from the tracks so as to help discourage trespassing incidents and thereby hopefully reduce calls for additional barrier installations.

The FRA requires train operators to sound the locomotive’s horn 15-20 seconds prior to an at-grade crossing unless a Federally approved “quiet zone” has been established. A quiet zone is a designated stretch of land, at least a half-mile long, in which trains are not required to sound their horn. Such zones can be an effective way to help mitigate the disruptive effects of locomotive horns, but the sponsoring community is required to institute various federally-required safety measures, such as the installation of enhanced gates at track crossings. It typically costs about \$250,000 per crossing to install all the necessary upgrades. Madison has implemented seven quiet zones covering 29 crossings, and the city is planning several others.

Middleton officials should actively monitor the monthly Wisconsin River Rail Transit Commission meetings to keep apprised of any issues that potentially affect the community.

**B. Provide input into the Wisconsin DOT Rail Plan 2050 that is currently under development**

Led by WisDOT, this plan will set Wisconsin’s priorities for passenger rail, commuter rail, freight rail and rail crossing safety for the next 30 years. The agency is actively soliciting stakeholder input, including from local governments, through the end of 2020. The City and public will also have opportunities to comment during the Draft Plan Phase in late winter 2021 and during the Final Plan Phase, which is scheduled for fall 2021. Middleton should reiterate its support for protecting existing crossings and advocate for passenger rail as part of this planning process.

**Strategy 8: Forge partnerships with other agencies, the private sector, and non-profit organizations to strengthen community linkages, improve efficiencies, and create great places.**

Middleton's transportation system is heavily influenced by other governmental entities—including Dane County, the Greater Madison MPO, the City of Madison and other neighboring governments, Metro Transit, and the Wisconsin Department of Transportation—and private sector providers that provide ride-hailing or specialized transportation services. This section expands upon the actions listed under [Strategy 2 in the Governance and Partnerships chapter](#).

**Actions:**

**A. Participate in regional planning initiatives that may affect Middleton's transportation system, and regularly consult the plans of other agencies as they pertain to projects and programs within Middleton's jurisdiction.**

As a unit of local government, Middleton is an implementing agency for the [Regional Transportation Plan 2050 for the Madison Metropolitan Area](#) (RTP), which was adopted by Metropolitan Planning Organization (MPO) serving the Madison urban area in 2017. The plan assesses national and regional trends and forecasts; inventories the various transportation modes serving the region; establishes goals, policies, and performance measures; documents transportation system needs and recommendations; and presents a financial capacity analysis.

To help implement the RTP, the Greater Madison MPO adopts an annual [Transportation Improvement Program](#) (TIP), which lists the short-range, multimodal transportation improvement projects anticipated to be undertaken in the Madison area in the next

five-year period. The TIP is primarily based upon capital improvement programs and budgets adopted by local and state agencies. Projects such as the expansion of Pleasant View Road must be included in the TIP in order to be eligible to receive federal funding assistance. The Greater Madison MPO also undertakes a variety of other plans and studies of interest to the city, including the Performance Measures Report (published annually).

Various mode-specific plans and corridor studies that have been undertaken since the 2006 comprehensive plan and have a direct impact on Middleton include:

- [US 12 Freeway Conversion Study](#)
- [Planning and Environmental Linkages \(PEL\) Study of the Beltline](#)
- [US 14 Corridor Preservation Access Study](#)
- [North Mendota Parkway](#)
- [Bicycle Transportation Plan for the Madison Metropolitan Area and Dane County](#)
- [Transit planning initiatives](#) such as Bus Rapid Transit and the periodic update of the region's Transit Development Plan.

To maximize interagency coordination, City officials (either elected or appointed) should serve on committees overseeing or advising these planning initiatives. For example, a Middleton alderperson currently serves on the Madison Transportation Policy and Planning Board, the city planner currently serves on the Greater Madison MPO as a representative of small cities and villages, and the city engineer serves on the MPO's technical advisory committee.



**B. Preserve transportation corridors through intergovernmental agreements and official mapping.**

Keeping regional traffic off local streets helps keep neighborhoods streets safer. For this reason, the City opposes the idea of widening Highway M to four lanes between Highway K and the city limits.

For over two decades, the City has advocated for the construction of the North Mendota Parkway to reduce truck traffic along Century Avenue and enhance the connection between the large employment areas west of Highway 12 with residents north and east of Middleton. About a decade ago, the City worked with the Towns of Springfield and Middleton to reserve through its official mapping authority a corridor for this route, roughly following Highway K.

In addition, the City officially mapped the Belle Fontaine Blvd. corridor west and east of the Middleton Ridge / Misty Valley subdivision so that this local street will eventually provide a direct connection between Parmenter Street and Highway Q, giving northern Middleton residents an alternative to Century Avenue. Given Dane County's 2019 purchase of the Acker farm, a segment of this latter corridor needs to be remapped.

The City should ensure that future revisions to the intergovernmental agreements it has with neighboring town governments protect the City's interests in having orderly development of the major transportation corridors needed to serve its growth areas. This will help avoid having the disjointed corridors that can easily arise given that landowners typically sell to developers independently of one another.

**C. Share transportation system data with regional agencies that maintain databases used for regional planning.**

City staff should routinely inform regional agencies of any changes to the city's transportation facilities so that they can keep current their geodatabases and provide better transportation planning assistance. Examples include roadway functional classifications (principal arterials, minor arterials, collectors, and local), pavement ratings, sidewalk and path locations, street improvement plans, and bus stop amenities. Maintaining accurate data positions the City to prepare more successful grant applications.

Footnotes:

1. 2014. The FRED Blog – How much do Americans drive? <https://fredblog.stlouisfed.org/2014/06/how-much-do-americans-drive/>
2. American Public Transportation Association (APTA) – Public Transportation Facts <https://www.apta.com/news-publications/public-transportation-facts/>
3. 2020. Environmental Protection Agency (EPA) – Sources of Greenhouse Gas Emissions <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
4. 2020. Greater Madison Metropolitan Planning Organization (MPO). Madison Region Remote Work Survey: COVID-19 Impact <https://www.greatermadisonmpo.org/planning/documents/MadRegionCOVIDTeleworkSurveyWebVersion.pdf>
5. 2019. Topjian, T. CityLab – Why We Need to Dream Bigger than Bike Lanes <https://www.citylab.com/perspective/2019/10/micromobility-urban-design-car-free-infrastructure-futurama/600163/>
6. 2020. Posaner, J., Cokelaere, T., & Hernández-Morales, A. Politico. – Life after COVID: Europeans want to keep their cities car-free <https://www.politico.eu/article/life-after-covid-europeans-want-to-keep-their-cities-car-free/>
7. 2016. Center of Disease Control (CDC) – Motor Vehicle Crash Deaths. <https://www.cdc.gov/vitalsigns/motor-vehicle-safety/>
8. 2020. Governors Highway Safety Association’s Annual Report – Pedestrian Traffic Fatalities by State: 2019 Preliminary Data <https://www.ghsa.org/resources/Pedestrians20>
9. USDOT – 2018 Fatal Motor Vehicle Crashes <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812826>
10. Pedestrian and Bicycle Information Center – Safety [http://www.pedbikeinfo.org/factsfigures/facts\\_safety.cfm](http://www.pedbikeinfo.org/factsfigures/facts_safety.cfm)
11. 2010. USDOT Federal Highway Administration (FHA) Research and Technology – Crosswalk Marking Field Visibility Study <https://www.fhwa.dot.gov/publications/research/safety/pedbike/10067/index.cfm>
12. America Walks – High-Visibility Crosswalks <https://americawalks.org/high-visibility-crosswalks/>
13. USDOT FHA Pedestrian Safety Guide and Countermeasure Selection System – Recommended Guidelines/Priorities for Sidewalks and Walkways [http://www.pedbikesafe.org/pedsafe/resources\\_guidelines\\_crosswalks.cfm](http://www.pedbikesafe.org/pedsafe/resources_guidelines_crosswalks.cfm)
14. 2018. USDOT FHA – Crosswalk Visibility Enhancements [https://safety.fhwa.dot.gov/ped\\_bike/step/docs/TechSheet\\_VizEnhancemt\\_508compliant.pdf](https://safety.fhwa.dot.gov/ped_bike/step/docs/TechSheet_VizEnhancemt_508compliant.pdf)
15. 2020. Associated Press – ‘They’re buying bikes like toilet paper’ — pandemic leads to a bicycle boom, shortage <https://www.marketwatch.com/story/theyre-buying-bikes-like-toilet-paper-pandemic-leads-to-a-bicycle-boom-shortage-2020-06-15>
16. 2015. USDOT – Safe Routes to School <https://www.transportation.gov/misssion/health/Safe-Routes-to-School-Programs>
17. Portland Bureau of Transportation – 2018 E-Scooter Findings Report <https://www.portlandoregon.gov/transportation/article/709719>
18. 2020. Hubbuch, C. Wisconsin State Journal – Electric bikes supercharge BCycle program; ridership doubled in 2019 with electrified fleet [https://madison.com/wsj/business/electric-bikes-supercharge-bcycle-program-ridership-doubled-in-2019-with-electrified-fleet/article\\_408e380c-8441-58cf-be21-83cc19d12fo4.html](https://madison.com/wsj/business/electric-bikes-supercharge-bcycle-program-ridership-doubled-in-2019-with-electrified-fleet/article_408e380c-8441-58cf-be21-83cc19d12fo4.html)
19. 2015. USDOT – Public Transportation Trips per Capita <https://www.transportation.gov/mission/health/public-transportation-trips-capita>
20. 2018. Metro Transit – Annual Report <https://www.cityofmadison.com/metro/documents/annual-reports/2018.pdf>
21. City of Madison – Implement Bus Rapid Transit <https://www.cityofmadison.com/transportation/initiatives/metroforward/implement-bus-rapid-transit>
22. City of Madison Open Data – Metro Transit Bus Stops <https://data-cityofmadison.opendata.arcgis.com/datasets/metro-transit-bus-stops>
23. Plumer, Brad. Vox – Cars take up way too much space in cities. New technology could change that. <https://www.vox.com/a/new-economy-future/cars-cities-technologies>
24. 2017. McCahill, C. State Smart Transportation Initiative – Factors Affecting Residential Parking Occupancy in Madison, Wisconsin <https://doi.org/10.3141/2651-08>

# HOUSING

Middleton will support a wide range of housing types, sizes, and costs throughout the City, including quality affordable housing, in order to meet the projected housing needs.

Housing is a fundamental need for all people. In addition to providing safety and shelter, housing provides a source of stability and investment. The location, affordability, and density of housing is directly related to transportation needs and economic development of a city. These impacts are felt by residents in the City of Middleton whose primary comments expressed by participants in the public input sessions were about the need for more affordable housing, the inadequate supply of particular types of housing, and a desire for better integration of residential and non-residential uses.

This plan seeks to better align the housing supply with the future housing needs in Middleton and to reduce the “housing gap.” The housing gap for a community is the gap between the wages paid to the workforce in the community and the price and supply of housing available in the community. The lack of workforce housing negatively affects Middleton employers, causing higher employee turnover due to longer commute times and lower job satisfaction. In 2015, the City adopted a Workforce Housing Strategy goal of “Encouraging compact development and a mixed-income and diverse community where people who work in Middleton are able to afford to live in Middleton” as a natural follow-up to the major theme of Compact Urban Development in the 2006 Comprehensive Plan.<sup>1</sup> The City’s Workforce Housing Committee oversees the Workforce Housing Strategy and

makes policy recommendations to the City Council which aim to increase the supply of housing affordable to the workforce and all residents in Middleton.

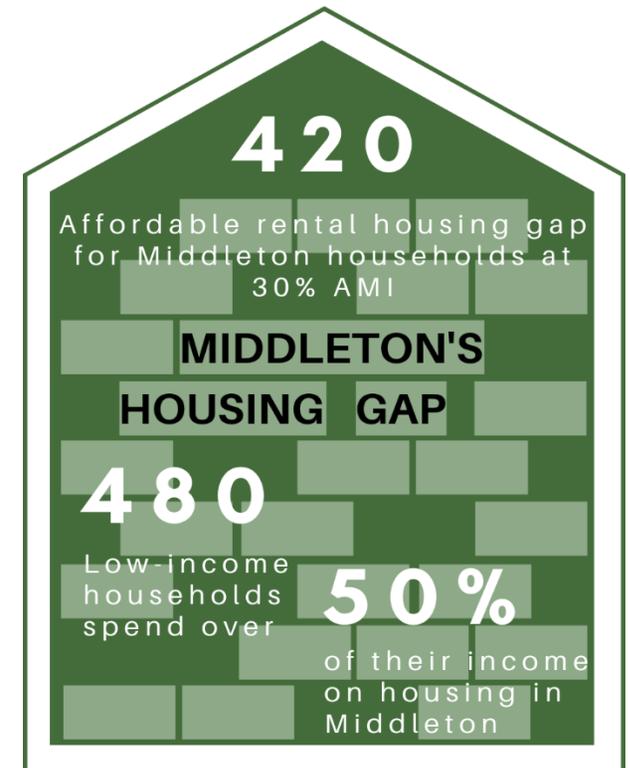
As a community, we recognize that the housing needs in Middleton are changing, and a housing type that works for a working family with children may not work for a senior on a fixed income. As Middleton grows, we must support a wide range of housing types throughout the City, while also maintaining flexibility that comes with a changing housing market.

## Strategies

1. Increase the amount of housing units available in the City, while ensuring that the overall density of housing (measured in dwelling units per acre) is either maintained or increased with growth.
2. Ensure that all land annexed to the City for housing is planned as a complete neighborhood that includes a range of housing types; a range of costs; and access to services, transit, and open space.
3. Preserve and support rehabilitation of the housing stock in existing residential neighborhoods.
4. Support, and where possible incentivize,

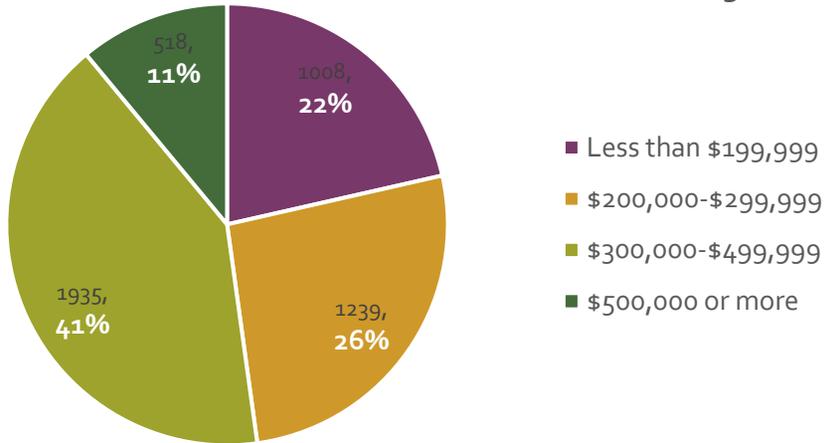
housing that meets the highest standards for energy efficiency, water stewardship, and renewable energy generation.

5. Promote homeownership opportunities for first-time buyers.
6. Provide incentives for the creation and preservation of affordable and income-restricted housing.



Data source: Dane County Housing Needs Assessment

### Housing Value

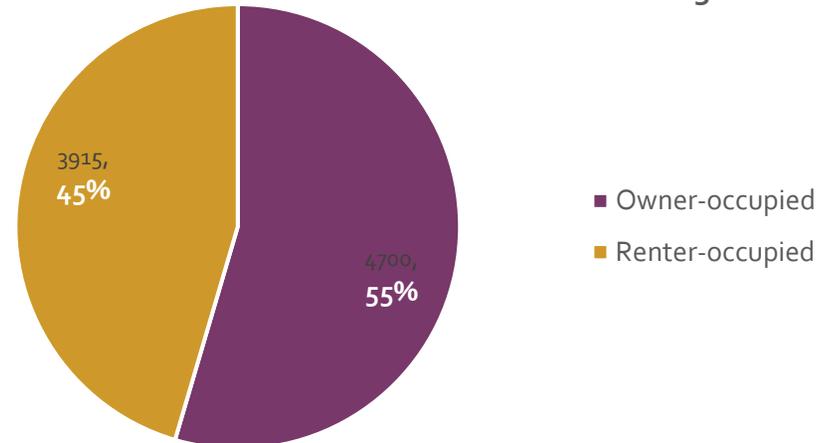


**Median Home Value**  
\$309,900 (2017)

**Dane County Comparison**  
\$242,700 (2017)

The City's median home value has increased approximately 17.87% since 2010

### Housing Tenure



**Vacancy Rate**

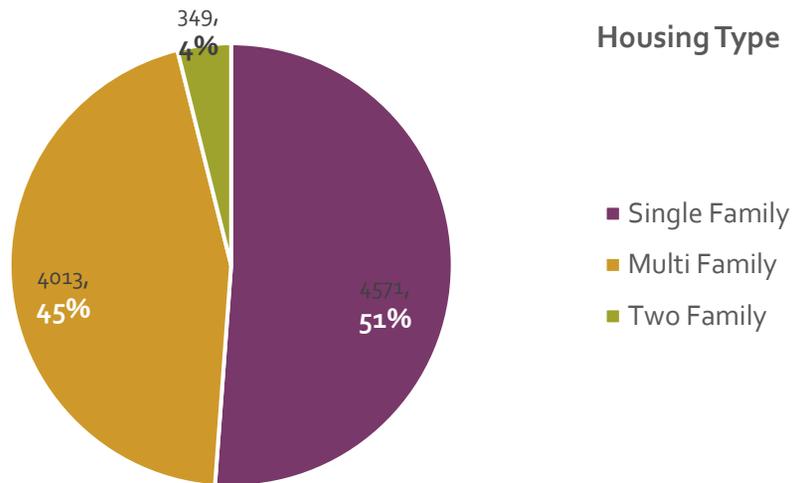
Owner: 0%  
Renter: 1.6%

**Ideal Vacancy Rate**

Owner: 1%  
Renter: 5%

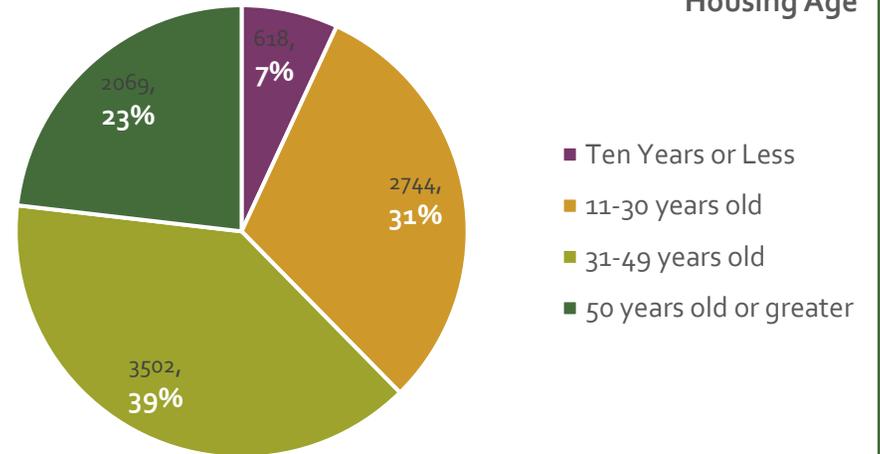
Middleton's housing vacancy rates are lower than the US Department of Housing and Urban Development's (HUD) healthy vacancy rate

### Housing Type



In 2000, Middleton was 50% Single Family and 46% Multi-Family. The mix of units have stayed the same for the past 20 years.

### Housing Age



Most of Middleton's housing stock is more than 30 years old.

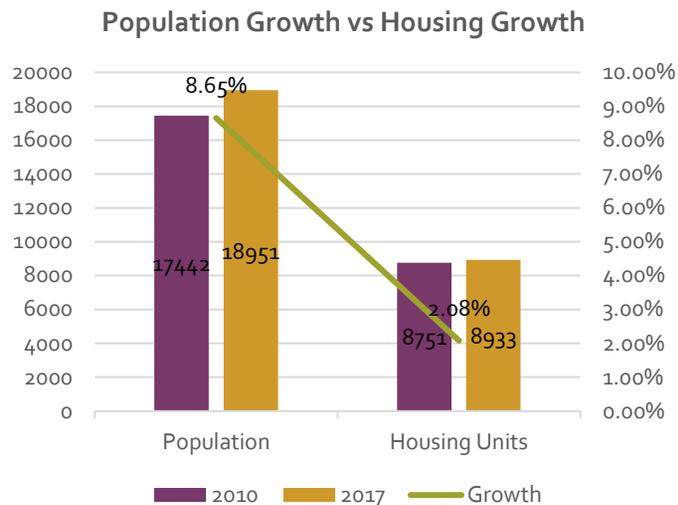
Source: United States Census American Community Survey 2013-2017 5-year estimates, DP-04

**Strategy 1: Increase the amount of housing units available in the City, while ensuring that the overall density of housing (measured in dwelling units per acre) is either maintained or increased with growth.**

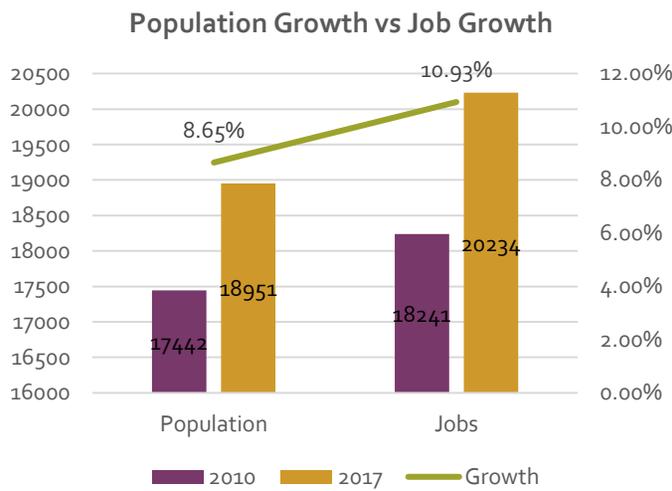
Despite robust production of housing in Dane County, the production has not kept up with the need for additional housing relative to household growth. There is a real shortage of all types of housing units in Dane County.<sup>2</sup> The trends in Middleton reflect those of Dane County overall but are intensified as the City's job market grows faster than the population. That means that as Middleton grows, more people are commuting into the City each day. Middleton is also adding population faster than we are adding housing units. Meaning that market rate rents are increasing due to demand and vacancy rates have declined. Overall, Middleton is becoming more unaffordable for the middle class as housing units cannot catch up to population or job growth. The City of Middleton should strive to keep our residents in our community.

In order to keep costs from increasing further, Middleton must add housing units to meet the demand. In keeping with the City's recent development patterns and with a goal in the 2010 Sustainable City Plan <sup>5</sup> new growth should occur at the same, or a higher level of development density. This will help the City respond to national housing market trends, including: smaller household sizes, people living longer, aging baby boomers (which sometimes results in a desire to downsize, and/or be partial year residents in the community), millennials choosing to rent due to a desire for mobility, and people choosing to live near their work.

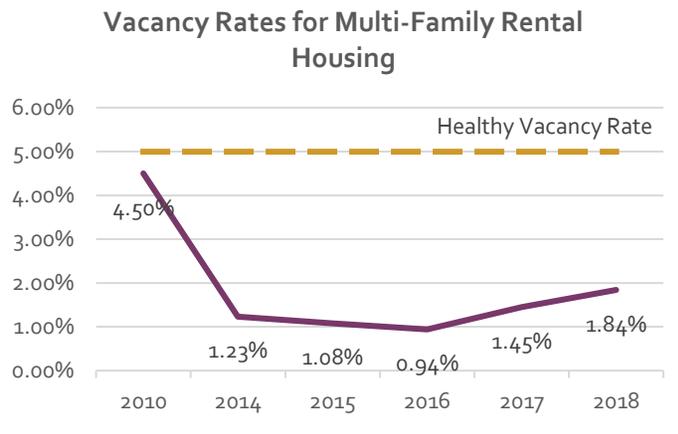
In addition, compact growth patterns will help to preserve farmland north of the City. The Future Urban Development Area (FUDA) Plan modeled three future growth scenarios using a land demand analysis. After extensive public participation, the recommended scenario took into consideration existing adopted plans for the City but enhanced them with opportunities for more redevelopment and compact growth.<sup>6</sup> Another benefit of "smart growth" patterns is that they are associated with lower government spending on a per capita basis.<sup>7</sup>



Middleton is also adding population faster than we are adding housing units. (ACS, 2019)



Middleton is adding jobs faster than we are adding population. (ACS, 2019)



That means that vacancy rates have declined, and market rate rents are increasing due to demand. (MGE, 2019)

## Actions:

### A. Support infill development where appropriate, especially in downtown Middleton and in other areas well-served by transit, and in proximity to employment and commercial areas.

It is no surprise that the preference expressed during public input sessions was for preservation of farmland outside of the City limits over development of farmland. The City, working with the Village of Waunakee, the Town of Westport, and the Town of Springfield, studied the Future Urban Development Area (FUDA) and developed a recommended scenario in 2013. The scenario shows how much land will be needed to accommodate projected 2035 land demand with projected population growth, along with general locations where the demand could be accommodated. In order to accommodate the City's expected growth, a combination of both greenfield development and infill development will be needed.

Redevelopment projects are tricky. Every infill and redevelopment site in the City has an existing context. Architects, developers, and the City must understand how a new building will fit into the existing context. Residents of the neighborhood may object to the development proposal due to concerns over protecting the character of the neighborhood.

Regardless of the type of project, the developer should involve the surrounding neighborhood early in the process. Corridor and neighborhood plans can also help to involve the neighborhood residents and businesses in the planning process and give developers some certainty over the types of redevelopment projects that will be permitted in the area. The Plan Commission and Common Council must keep these issues in mind as they balance wishes of neighborhood residents with the housing needs of the community.

### B. Allow “missing middle” housing types, characteristics, and assembly in modifications to existing subdivisions.

“Missing middle” housing is a range of multi-unit or clustered housing types scaled between single-family detached houses and larger apartment buildings. Missing middle housing can be an affordable option that can help meet the growing demand for walkable urban living. These housing types typically have a footprint no larger than a large detached single-family home, making them easier to integrate into existing neighborhoods. When distributed throughout a block, these housing types can help transition from a single-family neighborhood to a higher density commercial corridor.<sup>8</sup>

### C. Embrace Transit-Oriented Development (TOD), especially along major roads connecting activity centers, such as University Avenue, Century Avenue, Allen Boulevard, Parmenter Street, and the Park Street and Gammon corridor, as well as the rail corridor.

TOD is the creation of mixed-use commercial, residential, office, and entertainment districts centered around or located near a transit station. Convenient access to transit fosters development, and density encourages people to use the transit system. Focusing growth around public transportation systems capitalizes on public investments in transit and provides benefits, such as:

- Increased ridership and associated revenue gains for transit systems
- Incorporation of public and private sector engagement and investment
- Revitalization of neighborhoods
- A larger supply of affordable housing
- Economic returns to surrounding landowners and businesses
- Traffic congestion relief and associated environmental benefits
- Improved safety for pedestrians and cyclists through non-motorized infrastructure<sup>9</sup>



**D. Revise the Zoning Ordinance to allow an increase in density by encouraging accessory dwelling units (ADUs), 'missing middle' housing, and multi-family housing that make efficient use of land.**

The Common Council adopted the City's Zoning Ordinance in 1984. Since that date, the Ordinance has undergone modifications due to changes in State Statutes, but the City has not completed an overhaul of the Zoning Ordinance. Therefore, nearly all new residential subdivisions and multi-family buildings constructed in the City of Middleton in the past 20 years have rezoned to Planned Development Districts (PDDs) to match housing trends that do not fit with the current Zoning Ordinance. Revising the Zoning Ordinance will allow the City to incorporate a range of housing types as permitted or conditional uses to address evolving housing needs and trends.



Photo: Historic home in Downtown Middleton

**E. Amend the Zoning Ordinance to reduce the minimum residential lot size for single family homes, increase the maximum building height for multi-family homes, and other modifications to the dimensional standards, where appropriate.**

Revising the Zoning Ordinance will also allow the City to consider more compact dimensional standards. The minimum lot size of 7,200 square feet has not changed since the adoption of the code in 1984. Most of the recent subdivisions of land have been granted re-zonings to PDD in order to incorporate smaller lot sizes, or to incorporate a range of lot sizes. These include, among others, Middleton Hills, Hidden Oaks, Middleton Ridge at Misty Valley, and the Community of Bishops Bay. The minimum lot size should be reduced in order to reflect changing standards in development.

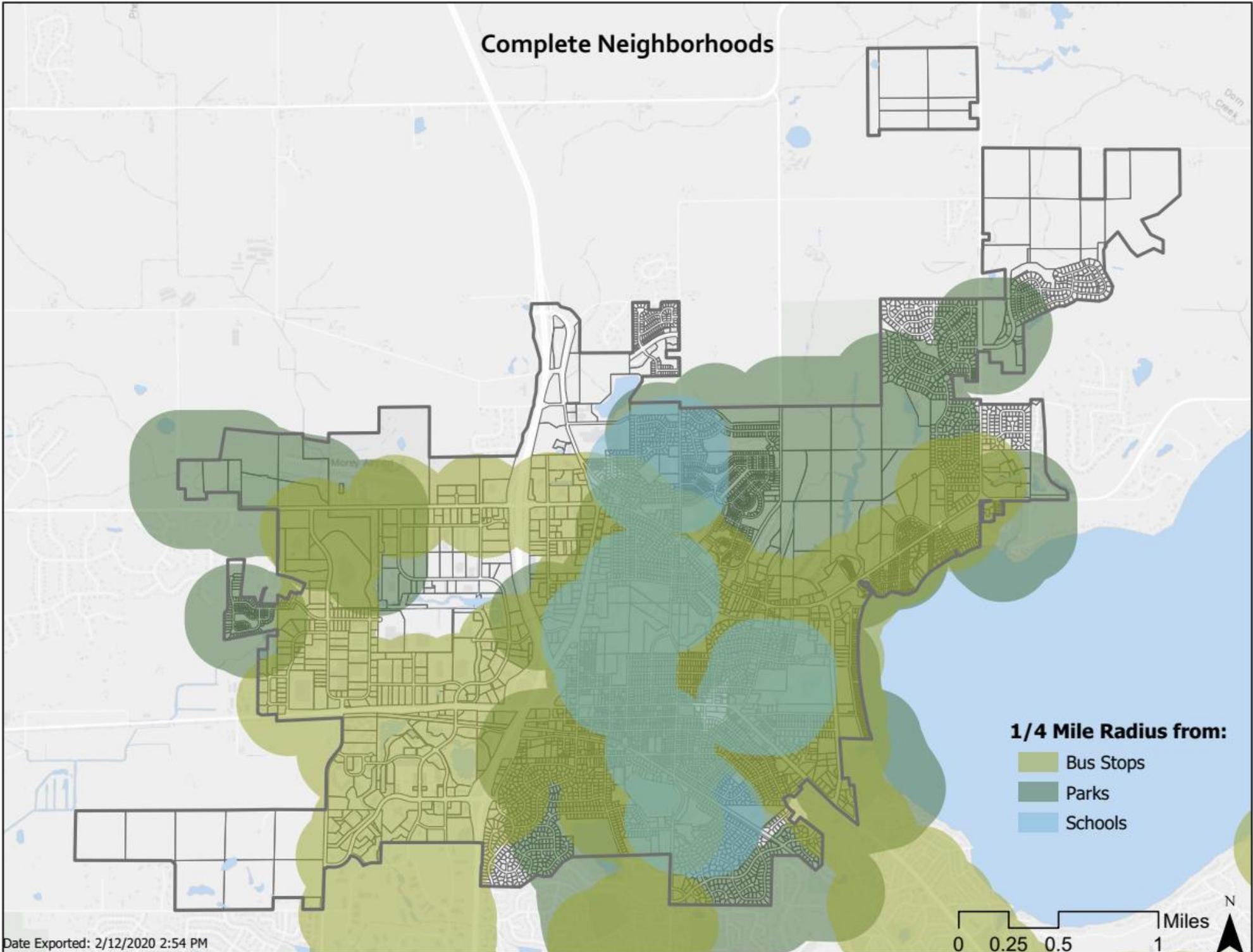
The maximum building height of three stories or 35 feet (whichever is less) for multi-family homes has also not changed since the adoption of the code. Most of the recent multi-family developments have been granted re-zonings to PDD in order to incorporate taller building heights. These include, among others, Parmenter Circle (I & II), Oak Ridge, Meadow Ridge, Stagecoach Trails. Revising the Zoning Ordinance will allow more certainty in the types of dimensional standards that the City will accept.

### Middleton Housing Comparison

Neighborhood	Average Lot Sizes (sqft)
Middleton Hills	6149
Hidden Oaks	7150
Middleton Ridge	7307
Downtown Middleton	8444
Northlake	14658

Apartment	Building Height
Oak Ridge 7635 Lisa Lane	46' 6"
The Aviary 7622 Lisa Lane	53'
Stagecoach Trails 6620 Century Avenue	53' 10"
Middleton Station 7710 Terrace Avenue	59' 6"
Heritage Senior Housing 6202 Maywood Avenue	60'

# Complete Neighborhoods



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**Strategy 2: Ensure that all land annexed to the City for housing is planned as a complete neighborhood that includes a range of housing types; a range of costs; and access to services, transit, and open space.**

Complete neighborhoods are neighborhoods where residents have safe and convenient access to the goods and services needed in daily life. This includes a range of housing options and affordability levels, grocery stores and other retail services, high quality public schools, public lands and recreational facilities, reliable public transportation and civic amenities. A complete neighborhood is walkable and bikeable and can serve residents of all ages and abilities.

Many neighborhoods in Middleton – both old and new – meet the definition of a complete neighborhood. Some neighborhoods on the fringe of Middleton have less access to goods and services. Retrofitting existing neighborhoods to ‘complete neighborhoods’ can be challenging and costly. Therefore, it is important that all land annexed to the City be planned initially as a complete neighborhood.

**Actions:**

**A. Integrate lower priced housing into all new subdivisions by including choices such as multi-family residential, smaller homes on smaller lots, tiny homes, ADUs, and other creative options.**

Middleton’s supply of affordable housing is not sufficient to meet the needs in our community. The difference in the number of very low-income households living in Middleton and the number of units which would be affordable to these households is 420 housing units.<sup>2</sup> However, based on an analysis of development regulations within Middleton, reducing lot sizes from 7,200 ft<sup>2</sup> (current R1

zoning) to 3,600 ft<sup>2</sup> (as in some areas of newer subdivisions permitted under PDD zoning) reduces housing costs more than 20 percent.<sup>3</sup> In addition to building smaller homes on smaller lots, integrating the other options such as tiny homes and ADUs will help bridge the need for more affordable homes.

**B. Include “missing middle” housing types, characteristics, and assembly in all new subdivisions.**

Missing middle housing types used to be common in American cities but they have largely disappeared with post-war zoning codes. Retrofitting existing neighborhoods with missing middle housing types comes with the same challenges as any redevelopment project (consolidation of parcels, relocating of existing businesses or residents, environmental assessments and clean-up, moving utilities, the cost of demolition), but don’t provide the same rental revenues as larger redevelopment projects. For this reason, developers who are proposing redevelopment projects are typically looking for a more significant increase in density in order to make their projects cash flow. While the City should continue to support missing middle infill projects, it is imperative that new subdivisions include this housing type, in order to provide more choice in the market.

**C. Proactively communicate expectations with property owners through annexation agreements.**

When the City receives a petition for annexing property into the City of Middleton, it is important that the City convey its expectations of the type of development it is willing to accept. This will help the property owner plan their subdivision in a way that is supported by the City and its Comprehensive Plan goals.

## HOUSING TRENDS ACROSS THE NATION



Affordable Housing continues to be an issue throughout the US



Millennials are buying homes and forming households at a lower rate than earlier cohorts



Baby Boomers are aging in place, further restricting the supply of housing



Among all generations, household mobility rates have fallen



Federal assistance programs have not kept pace with the realities of the affordable housing crisis



Housing supply has not kept up with demand, particularly for entry-level homes

**Strategy 3: Preserve and support rehabilitation of the housing stock in existing residential neighborhoods.**

Middleton’s housing stock is in average or better condition overall. However, nearly half of the housing stock in Middleton is more than 50 years old.<sup>10</sup> Without continued investment, the housing stock in Middleton will deteriorate. Reinvestment in existing housing stock, in conjunction with new housing development, will contribute to the development of safe and healthy neighborhoods for all residents.

**Actions:**

**A. Partner with the Department of Energy Weatherization Assistance Program, Project Home, and other entities to encourage rehabilitation of the housing stock in existing neighborhoods.**

The City has ambitious sustainability goals, and by investing in efficiency improvements in existing housing, residents can save money on their utility bills while also helping to meet the City-wide goal to reach 100% renewable energy by 2050.

**B. Support the use of programs that provide energy efficiency upgrades and assistance with home repairs, which will assist low-income seniors to stay in their homes longer.**

The City endeavors to assist seniors on fixed incomes to live independently in their homes as long as they are able. Efficiency upgrades can both help these seniors to stay in their homes longer while also helping the City meet its ambitious sustainability goals.

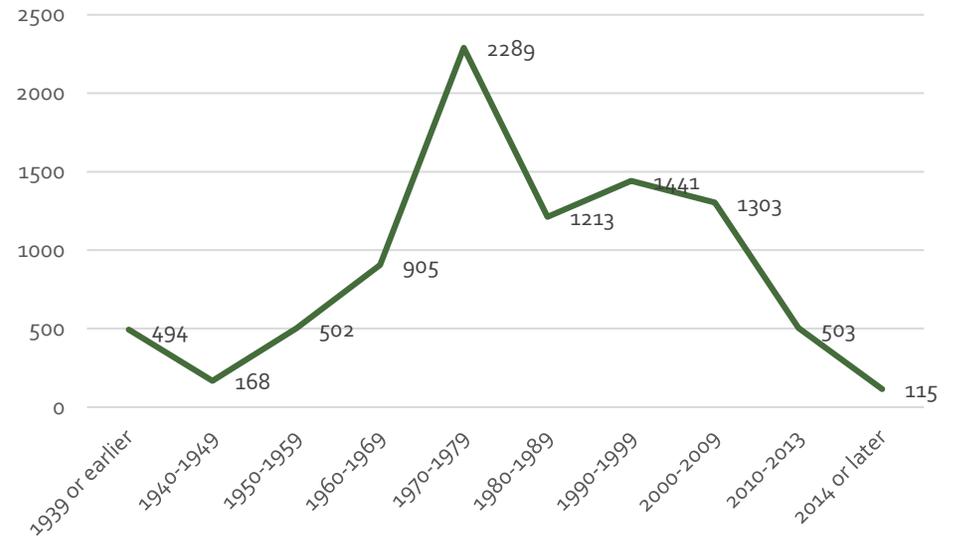
**C. Establish a revolving loan fund (RLF) for smaller projects serving families earning less than 80% of the County Median Income (CMI), such as rehabilitation of owner-occupied housing.**

Because land costs in Middleton are so high, nonprofit and affordable housing developers often face difficulties in pre-development financing and land acquisition. The City should establish a revolving loan fund for these developers to use for small projects.

**D. Consider the development of a loan program (low or no interest) that will help residents preserve their housing investments.**

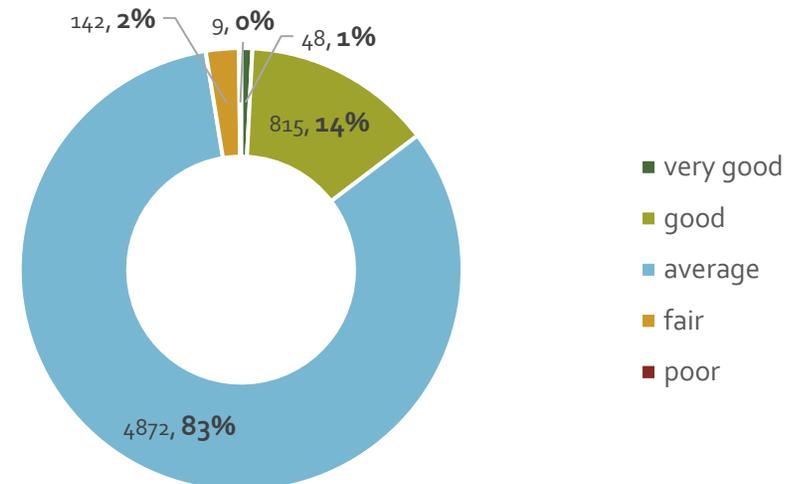
The City of Madison has a program that is funded through the closure of a tax increment district (TID) that allows residents to access loans for home improvements from the City. Middleton should consider instituting a similar program.

**Graph 4: Year structure built**



Source: 2018 5-year Estimates American Community Survey, US Census Bureau

**Graph 5: Condition, Desirability, Usefulness (CDU) Rating of Homes in Middleton**



Source: City of Middleton City Assessor property data

**Strategy 4:** Support, and where possible incentivize, housing that meets the highest standards for energy efficiency, water stewardship and renewable energy generation.

Efficient homes are less costly to operate and maintain, more environmentally-friendly, and they're more comfortable to live in. The City strives to support the highest efficiency standards for homes in Middleton.

**Actions:**

**A. Partner with MGE, Focus on Energy, and other entities to encourage energy efficiency and renewable energy generation.**

Middleton cannot meet its energy goals alone. We must continue to partner with the utility, and other organizations to leverage support for energy efficiency and renewable energy generation.

**B. Encourage MGE to consider an on-bill financing and repayment program that allows property owners to pay for investments in clean energy upgrades through their utility.**

On-bill financing for energy efficiency is designed to make it as easy as possible for property owners to access capital for energy efficiency measures. In an on-bill financing program for energy efficiency, utility customers repay their energy efficiency loan through monthly repayments on their energy bill.

On-bill financing can be an attractive financing option because in most cases, the monthly repayments will be lower than the savings from energy efficiency projects, resulting in net savings from day one. Also, on-bill financing can be accessible for property owners who do not qualify for traditional loans. Depending on how on-bill financing is structured by the utility, it could even allow the financing to transfer to a new property owner in the event of a property sale.

**C. Continue to use tax increment financing (TIF) to support development of renewable energy systems and consider requiring energy modeling on TIF projects to support efficiency that is beyond the Building Code standard.**

The City has used tax increment financing (TIF) to incentivize and develop about 1.5 megawatts of solar energy from 2011 to present. This is equivalent to the power needed to supply 181 homes per year.

Projects with TIF financed Solar	Kilowatts
Stagecoach	24.8
Oak Ridge	28
Goodwill	100
Hy Cite	300
Market West	375
Laser Express	117
Parmenter Circle	71
Meadow Ridge	25
Terrace Avenue Pavilion (TAP)	20
Treysta	400

**THE AVIARY@MIDDLETON MARKET**



The Aviary at Middleton Market is a mixed-use development at 7622 Lisa Lane. The City worked with this developer to incorporate many sustainable features into her project, which consists of 263 units of housing and 30,000 square feet of commercial space, including a European-style food hall and market.



The site for this development was an underutilized, privately-owned ball field.



This development will consist of 400 kilowatts of solar photovoltaic power.



It includes a purple pipe recycled water distribution system.



The Middleton Market will feature stalls for vendors to sell regional foods.

**Strategy 5: Promote homeownership opportunities for first-time buyers.**

Homeownership remains a primary way for families to build wealth in America. While discriminatory housing policies were outlawed by the Fair Housing Act in 1968, the data for Middleton shows the negative effects linger. Nationally, homeownership rates for black households are lower than that of white households (44% compared to 74%), but in Middleton it's far worse (3% compared to 56%). Hispanic families are also underrepresented in homeownership (24%). The City should work to promote homeownership opportunities for first-time buyers, especially for households who have affected by a century of discriminatory housing policies.

**Actions:**

**A. Partner with Habitat for Humanity, Movin' Out, and other organizations to help people with low-incomes and or people with disabilities purchase homes in Middleton.**

Producing affordable housing requires partnership between municipalities, other government entities, and non-profit housing organizations.

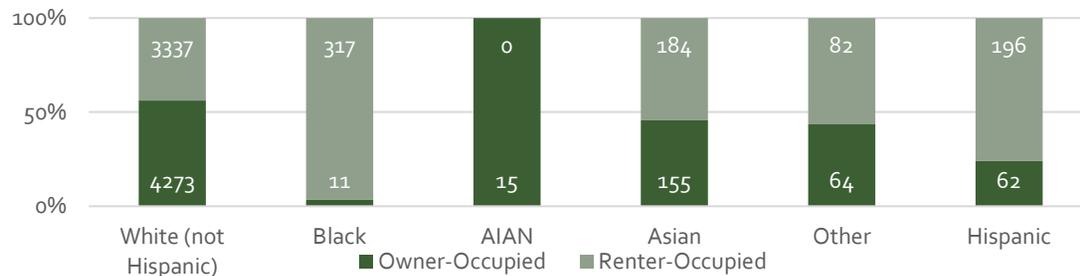
**B. Re-establish a down payment assistance loan program (DPAP)**

Statewide resources for down payment assistance are available through WHEDA and the Federal Home Loan Bank of Chicago (FHLBC). Middleton previously had a DPAP program that could be used as a matching source of funds to leverage other assistance. Eighteen households in Middleton received down payment assistance before the funding entity, the Middleton Community Development Authority (CDA), ended funding support for the program. Middleton should re-establish a DPAP program, which should be designed to leverage and maximize other funding sources.

**C. Form a Community Land Trust to steward long-term affordable housing in our community.**

Community land trusts are nonprofit, community-based organizations designed to ensure community stewardship of land. Community land trusts are primarily used to ensure long-term housing affordability. To do so, the trust acquires land and maintains ownership of it permanently. With prospective homeowners, it enters into a long-term, renewable lease instead of a traditional sale. When the homeowner sells, the family earns only a portion of the increased property value. The remainder is kept by the trust, preserving the affordability for future low- to moderate-income families. High land costs are one of the primary obstacles to affordable homeownership in Middleton, and therefore, a community land trust should be considered to steward long-term affordability in Middleton.

**Housing Tenure by Race**

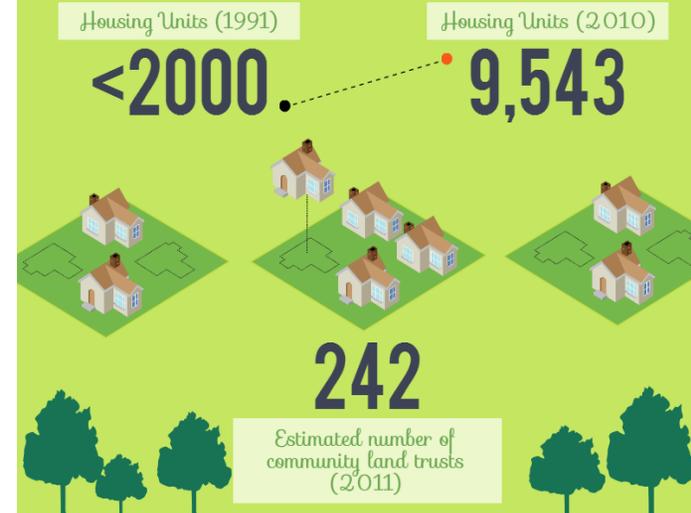


Source: 2018 5-year Estimates American Community Survey, US Census Bureau, B25003

# KEY FACTS & FIGURES

on community land trusts

Community land trusts (CLTs) are nonprofit, community-based organizations that help create permanently affordable housing, build equity, and reduce the displacement that can accompany rapidly rising or falling property values. CLTs are a key strategy for helping low-income communities build assets through home ownership while mitigating the destructive consequences of speculation and large fluctuations in housing markets.



For more information on community land trusts, please visit: [bitly/communitylandtrusts](https://bit.ly/communitylandtrusts)

Source: <https://community-wealth.org/content/key-facts-figures-community-land-trusts>

Sources: "Community Land Trusts (CLTs)," The Democracy Collaborative, Community-Wealth.org, accessed June 30, 2015, <http://bit.ly/communitylandtrusts>.

Designed by Benjamin Yi



**Strategy 6: Provide incentives for the creation and preservation of affordable and income-restricted housing.**

The 2015 Dane County Housing Needs Assessment<sup>4</sup> identified a present affordable housing “gap” or “need” of between 295 to 795 units in the City of Middleton. 295 units represented the gap between the number of very low-income households currently living in Middleton and the number of units that would be affordable to these households. 795 units represented the number of “cost burdened” very low-income renter households (paying more than 30 percent of their income in rent) currently residing in Middleton.

That year, the City adopted a goal of encouraging, facilitating, and supporting affordable homeownership for families earning up to 80% of the area median income (AMI) and to increase Middleton’s housing supply of affordable housing units by at least 295 units by 2018-2020. In the time period since the goal was adopted, approximately 180 new affordable housing units have been created.

Even with these new housing units, the 2019 Dane County Housing Needs Assessment shows the new housing gap to have increased for the gap between the number of very low-income households currently living in Middleton and the number of units that would be affordable to these households (from 295 to 420) yet decreased for the number of “cost burdened” very low-income renter households (paying more than 30 percent of their income in rent) currently residing in Middleton (from 795 to 435). As stated in the Dane County Housing Needs Assessment, “These patterns and trends in Middleton perfectly represent the complexities of Dane County’s housing markets over the past years: continued population growth at all income levels, significant increases in supply of units, but still not enough units constructed.”

**Actions:**

**A. Continue to use tax increment financing (TIF) to support development of affordable and income-restricted housing. Where possible, TIF should be matched with other sources of funding.**

TIF has been used to incentivize 100% of the affordable housing that has been developed in recent years (see section above). It is the primary tool that Middleton has to incentivize affordable housing, and as the City works to close the housing gap, it is imperative that this incentive continue to be used to leverage other funding for affordable housing.

**B. Modify the parking requirements to reduce or waive parking requirements for affordable and income-restricted housing.**

Middleton’s parking requirements for housing were initially adopted in 1986 and have not kept up with current standards in planning and development. The current standards require 1 parking stall per efficiency unit, 1.5 parking stalls per 1-bedroom unit, and 2 parking stalls per 2-bedroom unit or above. Many recent multi-family developments have gained approval through the planned development district (PDD) zoning process to reduce the number of parking stalls provided. With affordable housing developments, the demand for parking is even lower. High minimum parking requirements create an oversupply of parking, reduce the supply of housing by decreasing the amount of developable land on a site, and increase housing costs. Middleton should work to adjust the parking requirements for multi-family housing developments and consider eliminating parking requirements for affordable housing developments.

**C. Implement a total waiver, or a waiver of a substantial portion of, City fees to encourage homeownership opportunities for families earning 60% or less than the area median income (Habitat for Humanity or Movin’ Out homes).**

Homeownership opportunities for families earning 60% or less than the area median income will be extremely difficult to accomplish in Middleton due to the high land values and high construction costs. If a non-profit agency can develop housing at these affordability levels, the City should implement a waiver of fees to help make these projects possible.

**D. Utilize the “Affordable Housing Extension” that allows the City to extend the life of a tax increment financing (TIF) district by one year to “benefit affordable housing.”**

Before a TIF district is terminated, it can be repurposed for one additional year to benefit affordable housing and improve housing stock anywhere in the community (even outside of the TIF district boundary). Several Wisconsin communities have taken advantage of the affordable housing extension in the TIF law to fund housing and neighborhood programs, to provide developer incentives for tax credit projects, to implement affordable housing plans, to create low-interest loan programs to renew the existing housing stock, and to fund construction of new affordable owner-occupied housing. Middleton has a strong need for affordable housing and should utilize the affordable housing extension on the closure of TIF district 3 (2030) and TIF district 5 (2036).

**E. Maintain a listing of affordable and income-restricted developments, along with the affordability period expiration date. Explore options to maintain affordability within these developments.**

The U.S. Department of Housing and Urban Development (HUD) maintains a database of low-income housing tax credit (LIHTC) developments and the affordability period for each development. Using this publicly-available database, Middleton should maintain a listing of affordable housing in the City and track upcoming expiration periods. Middleton should work with WHEDA (the Wisconsin Housing and Economic Development Authority), non-profit housing developments, and utilize the Affordable Housing Extension, in order to extend the affordable life of these developments.

**F. Continue to implement the strategies and policies in the City's adopted Workforce Housing Strategy.**

The City's Workforce Housing Strategy (adopted in 2015) recommends 14 strategies and policies to increase the supply of affordable housing in Middleton. The City should continue to implement these strategies, and the Workforce Housing Committee should continue to recommend updates to the Strategy as needed.

**G. Partner with local nonprofits to inform residents of support services helping to keep Middleton affordable.**

Local nonprofits like MOM provide a direct linkage to families in our community that require assistance. The City should partner with nonprofits to provide families with information about available support services as needed.

## Footnotes

1. Workforce Housing Strategy Recommendations <https://www.cityofmiddleton.us/DocumentCenter/View/3371/Workforce-Housing-Strategy-Recommendations?bidId=>
2. 2019 Dane County Housing Needs Assessment <https://danehousing.countyofdane.com/documents/assessmentReport/2019/Dane-County-Housing-Needs-Assessment-2019.pdf>
3. 2019 Housing Affordability Analysis <https://www.cityofmiddleton.us/DocumentCenter/View/6821/Middleton-2019-Housing-Affordability-Report>
4. 2015 Dane County Housing Needs Assessment [https://plandev.countyofdane.com/pdf/Housing-Needs-Assessment\\_01152015.pdf](https://plandev.countyofdane.com/pdf/Housing-Needs-Assessment_01152015.pdf)
5. Middleton Sustainable City Plan <https://www.cityofmiddleton.us/DocumentCenter/View/48/SustainCityPlan?bidId=>
6. North Mendota Future Urban Development Area (FUDA) Planning Study <https://www.cityofmiddleton.us/DocumentCenter/View/864/Future-Urban-Development-Area-Study?bidId=>
7. Fiscal Impact of Alternative Development Patterns – Madison Scenario Analysis <https://www.1kfriends.org/wp-content/uploads/2015/04/Pioneer-Fiscal-Impact-Analysis-Jan-2015.pdf>
8. Missing Middle Housing <https://missingmiddlehousing.com/>
9. Federal Transit Authority (FTA) Transit-Oriented Development <https://www.transit.dot.gov/TOD>
10. U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates DP-04
11. Community Wealth: Community Land Trusts (CLTs) <https://community-wealth.org/strategies/panel/clts/index.html>

# ECONOMIC DEVELOPMENT

Middleton will support an inclusive and innovative economy that includes a range of high-quality jobs and educational opportunities to serve the needs of the community at large.

The local economy in Middleton is strong, and that is due in part to a stable relationship between the City of Middleton, the Middleton Chamber of Commerce, and the Middleton-Cross Plains Area School District. Middleton is home to many large employers, including PPD (1,350 employees), Electronic Theatre Controls (880 employees), and UW Health/Medical Foundation (800 employees). Middleton's primary employment sectors are: Professional, Scientific, and Technical Services (18%), Accommodation and Food Services (17%), and Retail Trade (13%).

Middleton benefits from its location within the Madison Region because of its proximity to the Capitol and State Departments and to the University of Wisconsin, a top ten research university. The City is not only an attractive place to live for such employees in Madison, but Middleton is also consistently a net provider of jobs to the region. In 2017, the City supplied a net of over 10,000 jobs to the region.

The primary tool Middleton uses for economic development is tax increment financing (TIF). Middleton has two active tax increment districts (TIDs), TID #3 and TID #5. TID 3 was initially established in 1993 with a base value of \$34 million. The TID was expanded in 1996 to encompass an expanded base value of \$65 million. The City has used \$120 million in increment in the TID to leverage nearly \$920 million in value that has transformed the

community. Significant community improvements have been made within the district, including the Confluence Pond, trail projects, public street projects including Airport Road, Deming Way, Greenway Boulevard, and Parmenter Street. The City has subtracted over \$340 million in increment from the district to return the tax base to the underlying jurisdictions. TID #3 will close in 2030.

TID #5 was established in 2009 with a base value of \$89 million. Approximately \$70 million in new value has been generated within the District, with the potential for another \$600 million being added before the District is scheduled to close in 2031. Community improvements in TID #5 include the acquisition of a trailhead property for the Pheasant Branch Conservancy as well as a portion of the planned North Mendota Trail project.

Economic development allows the City of Middleton to influence growth through action and investments. Middleton should embrace a vision of economic development that can deliver continuous growth, prosperity, and inclusion that can raise the standards of living for all people.

## Strategies:

1. Foster entrepreneurship, business retention and growth of Middleton businesses.
2. Harness economic development opportunities and ensure adequate sites

are available to meet the needs for job growth.

3. Continue economic development collaboration with the State agencies, Madison Region Economic Partnership, regional communities, and local economic development organizations.
4. Improve quality of life in Middleton by providing high-quality amenities, public services, and public lands that make it an attractive and desirable place.
5. Address workforce mobility to ensure that employees in Middleton have a variety of safe, reliable, and affordable transportation alternatives.
6. Continue to invest in public infrastructure.
7. Make environmental sustainability a priority in all economic development decisions.
8. Increase tourism in Middleton highlighting its many existing community assets, expanding its presence as a destination for outdoor recreation, and investing in support amenities.
9. Protect and enhance the historic character of the community.

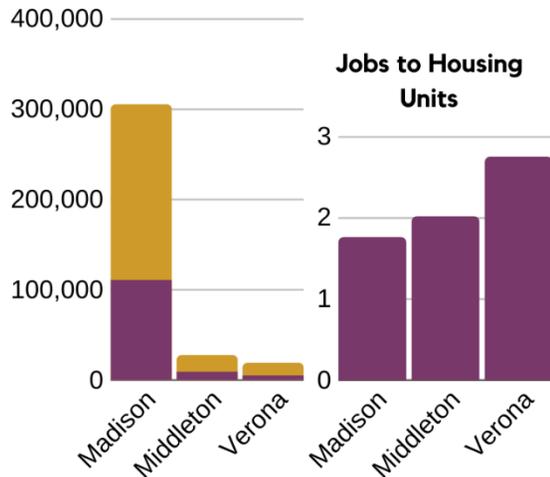
# MIDDLETON JOBS

18,706 people come to Middleton for work



8,675 people leave Middleton for work

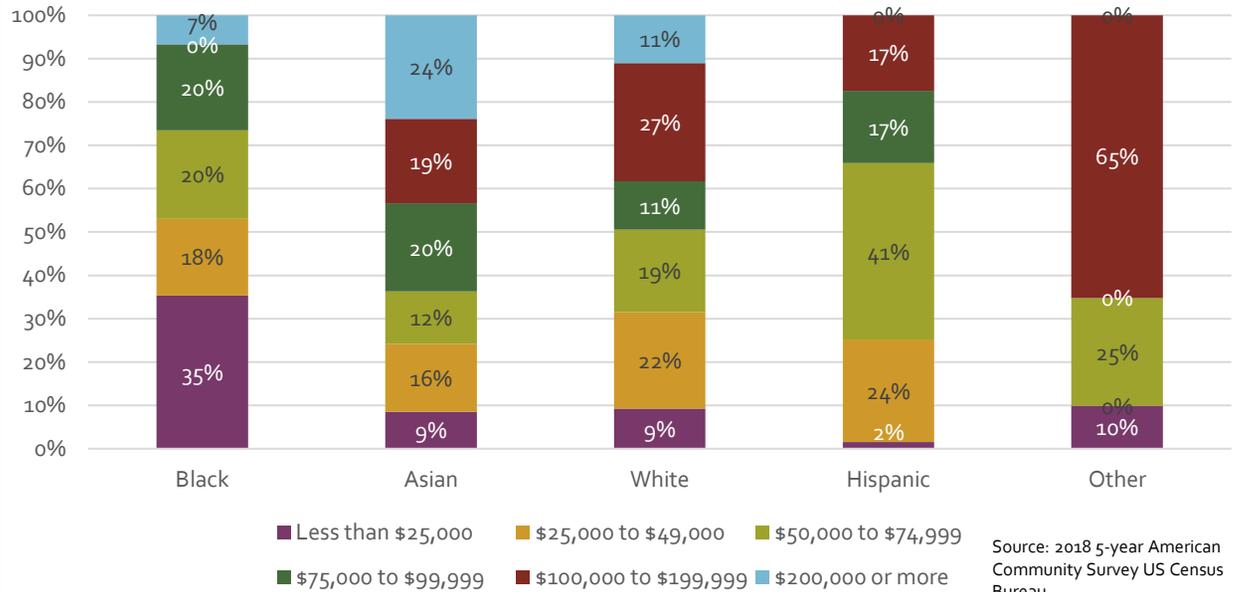
Number of Jobs and Housing Units



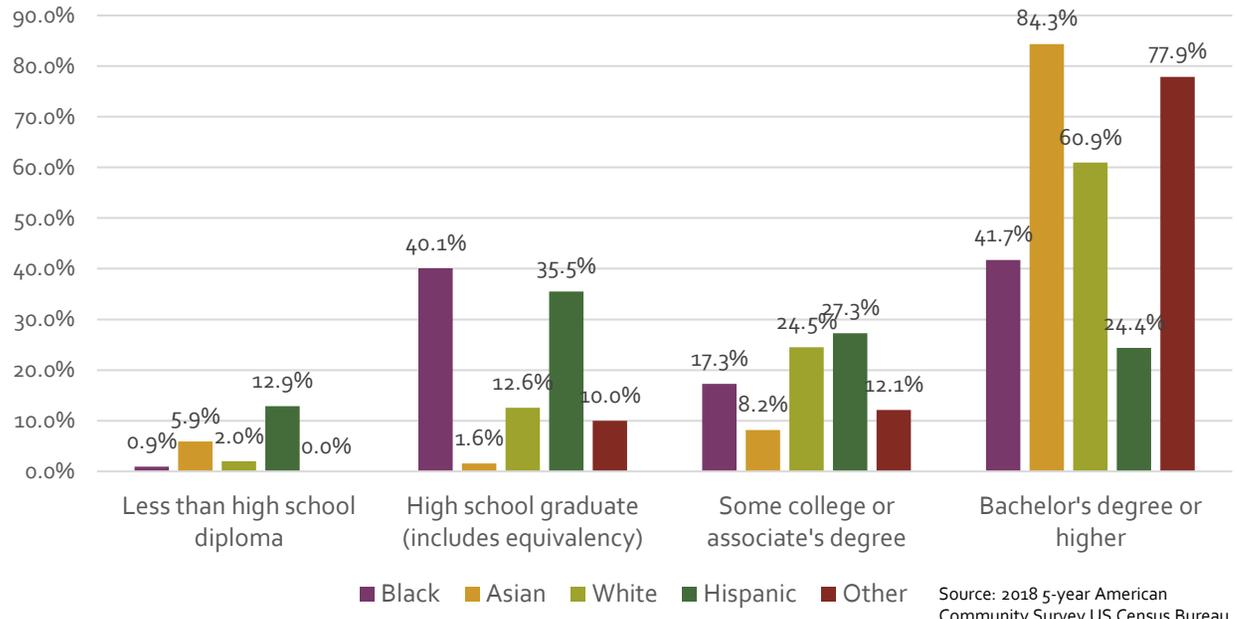
Of the communities in Dane County with more than 4,000 jobs, Middleton has the **second highest jobs/housing ratio at 2.011**.

Source: 2016 5-year American Community Survey US Census Bureau. 2017 OnTheMap

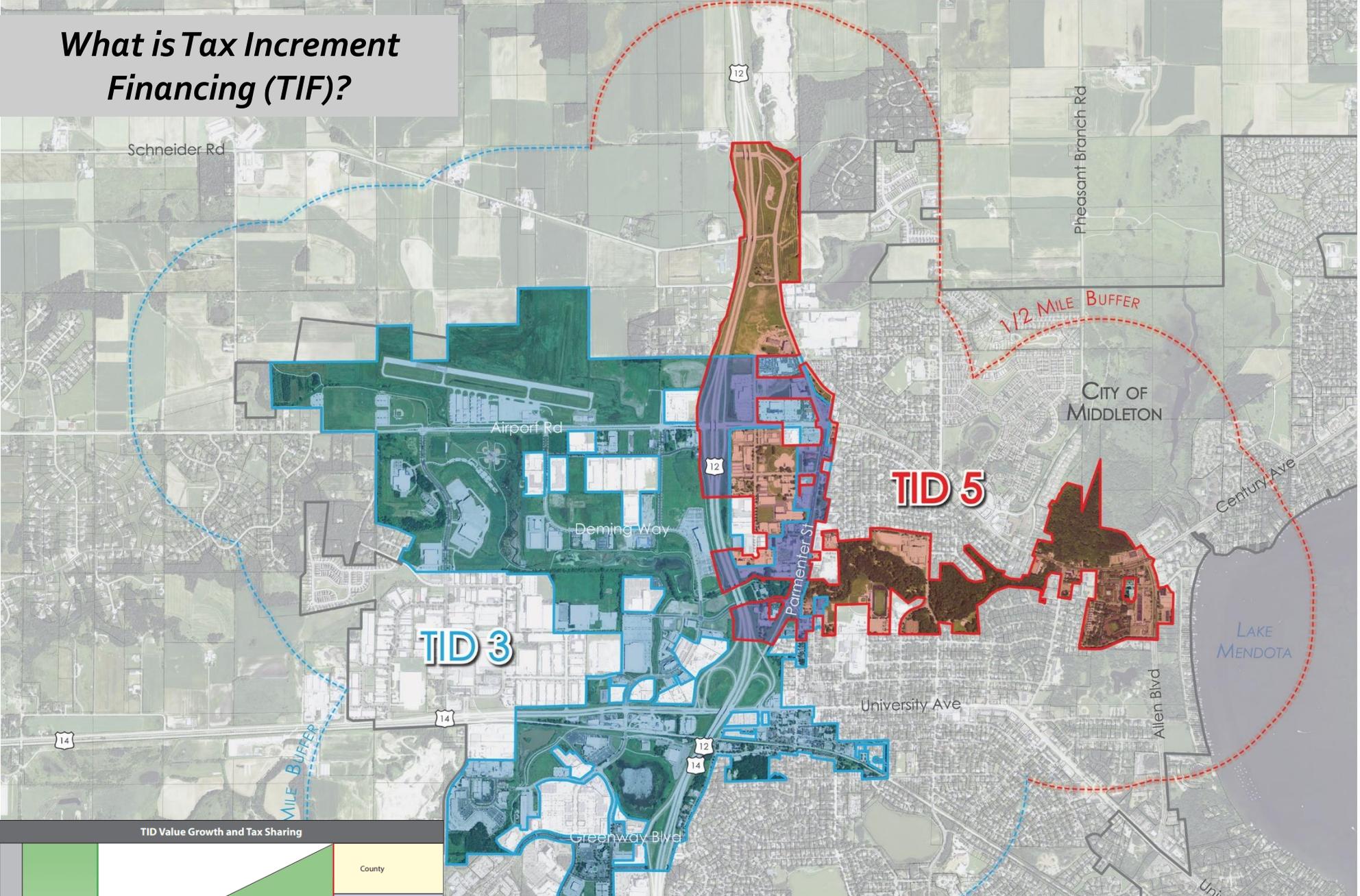
## Percent Household Income by Race/Ethnicity



## Educational Attainment

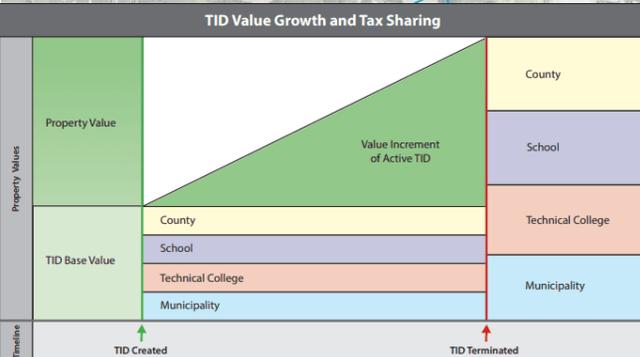


# What is Tax Increment Financing (TIF)?



**TID 3 AND 5 BOUNDARY**  
Middleton, Wisconsin 2016

Revised: 2/15/19  
WANDERVILLE & ASSOCIATES, INC.  
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TIF is a financing tool where cities can use the increased property tax revenue from new development or redevelopment in an area (called a TIF District or TID) in order to pay for public infrastructure projects or economic development projects in the TID. TIF works by temporarily capturing a portion of property tax revenues collected in the TID to pay for eligible project costs as described in the TID project plan. When project costs have been repaid through tax increments, the TID closes and the total value of properties in the TID are added to the tax base of the city, county, and school district. TIF is the main economic development tool available to Wisconsin cities.

**Strategy 1: Foster entrepreneurship, business retention and growth of Middleton businesses through targeted initiatives, programs and business development support.**

Middleton businesses are the lifeblood of our economy. From large company headquarters like American Girl and Fiskars to small businesses like The Regal Find and 1847 at the Stamm House, Middleton has a variety of employers. Middleton should work to ensure existing businesses continue to find success and support their opportunities to expand within the city. The City should also pursue strategic opportunities to bring new employers to Middleton.

**Actions:**

**A. Retain existing businesses, which are Middleton’s greatest resources for attracting new jobs and investment.**

Currently, the City holds an Ex-Officio spot on the Middleton Chamber Board of Directors and provides monthly updates to the Chamber Economic Development Committee. The City should partner further with the Chamber of Commerce to use effective business retention measures like hosting roundtable discussions and one-on-one meetings with key employers and municipal leaders, and regularly attending networking events to maintain a collaborative relationship with the business community.

**B. Use Middleton’s economic development goals outlined in the TIF Policy to assist companies that match Middleton’s assets, coincide with our priorities, and have growth potential that will help diversify the local economy.**

The City revised its TIF application process in 2020, developing a new policy, application form, and review process. Elected officials and City staff should continue to improve the TIF application process to ensure that the City’s priorities are reflected in the goals.

**C. Maintain a friendly business environment.**

Middleton’s job growth has continued to increase at a steady pace, along with population growth. As Middleton grows, it is important to keep the small-town customer service levels that have benefitted the City’s business environment. City staff and elected officials are approachable and helpful, and the City consistently hears compliments about the ease of doing business here.

## TAX INCREMENT FINANCING (TIF) POLICY

The City adopted a new TIF policy in 2020. The TIF policy creates an evaluation framework for the Finance Committee and Common Council as they consider requests for assistance. The TIF Policy includes the following adopted goals:

- 1 GROWING THE PROPERTY TAX BASE**
- 2 FOSTERING THE CREATION AND RETENTION OF QUALITY JOBS**  
for individuals of all backgrounds and abilities
- 3 REDEVELOPING BLIGHTED AREAS**  
that are obsolete or detrimental to public health and well-being
- 4 PROMOTING INFILL DEVELOPMENT**  
and redevelopment that can achieve highest and best use of land
- 5 REMEDIATING CONTAMINATED BROWNFIELD SITES**
- 6 INCENTIVIZING THE DEVELOPMENT OF WORKFORCE HOUSING OPTIONS**  
that can close the housing affordability gap
- 7 MITIGATING CLIMATE CHANGE**  
and adapting to our changing environment
- 8 FUNDING PUBLIC IMPROVEMENTS**  
that enhance livability, improve the City’s infrastructure, enhance the urban greenway, improve multi-modal transportation options, enrich the aesthetics of key areas and corridors within the City, and boost the stormwater management capabilities
- 9 LEVELING THE PLAYING FIELD**  
for sites that are challenging to develop due to extremely poor soil quality
- 10 IMPLEMENTING ADOPTED CITY PLANS AND POLICIES**  
particularly the City’s Comprehensive Plan
- 11 ENSURING THAT SUFFICIENT INCREMENT IS AVAILABLE**  
to fund public infrastructure projects as described in TID project plans

The TIF Policy can be found as an appendix.

**Strategy 2: Harness economic development opportunities and ensure adequate sites are available to meet the needs for job growth.**

The City should continue to proactively plan for economic growth in the community. In addition to TIF, zoning can be a powerful tool that can implement the City's economic vision. The City should continue to implement land use controls along major transportation corridors, interchanges, access points, and arterial entrances, in order to control commercial development at these key locations to encourage healthy business growth. Middleton should continue to maintain the corporate identity corridor along Beltline that provides visibility and access to businesses that benefit from name recognition. In addition, as the City grows northward, it will be important to reserve areas for future business park development. Business growth not only provides jobs to support families, but it also provides a fiscal benefit to the City. Business uses generally produce more tax revenue than it costs to provide City services to support them.

**Actions:**

**A. Maintain a database of all available sites and buildings.**

Middleton should continue to work with the Madison Region Economic Partnership (MadREP) to respond to site selector searches and encourage businesses to locate in Middleton. One of the first things site selectors request from the City is a listing of available sites and buildings. City staff should maintain a detailed list of sites that includes zoning, size, proximity to infrastructure and utilities, the sites' advantages, and the site's shortcomings with mitigation plans to address any issues.

**B. Create new opportunities for economic growth with infill employment centers that utilize existing spaces and adaptively re-use areas to accommodate businesses at varying stages – from startups to established businesses looking to expand.**

The City has a variety of tools to support adaptive reuse of properties. Middleton should layer incentives like urban planning, TIF incentives, state and federal tax credit programs, and more in order to establish new infill employment areas. The City should focus tools and incentives on areas that are well-served by transit.

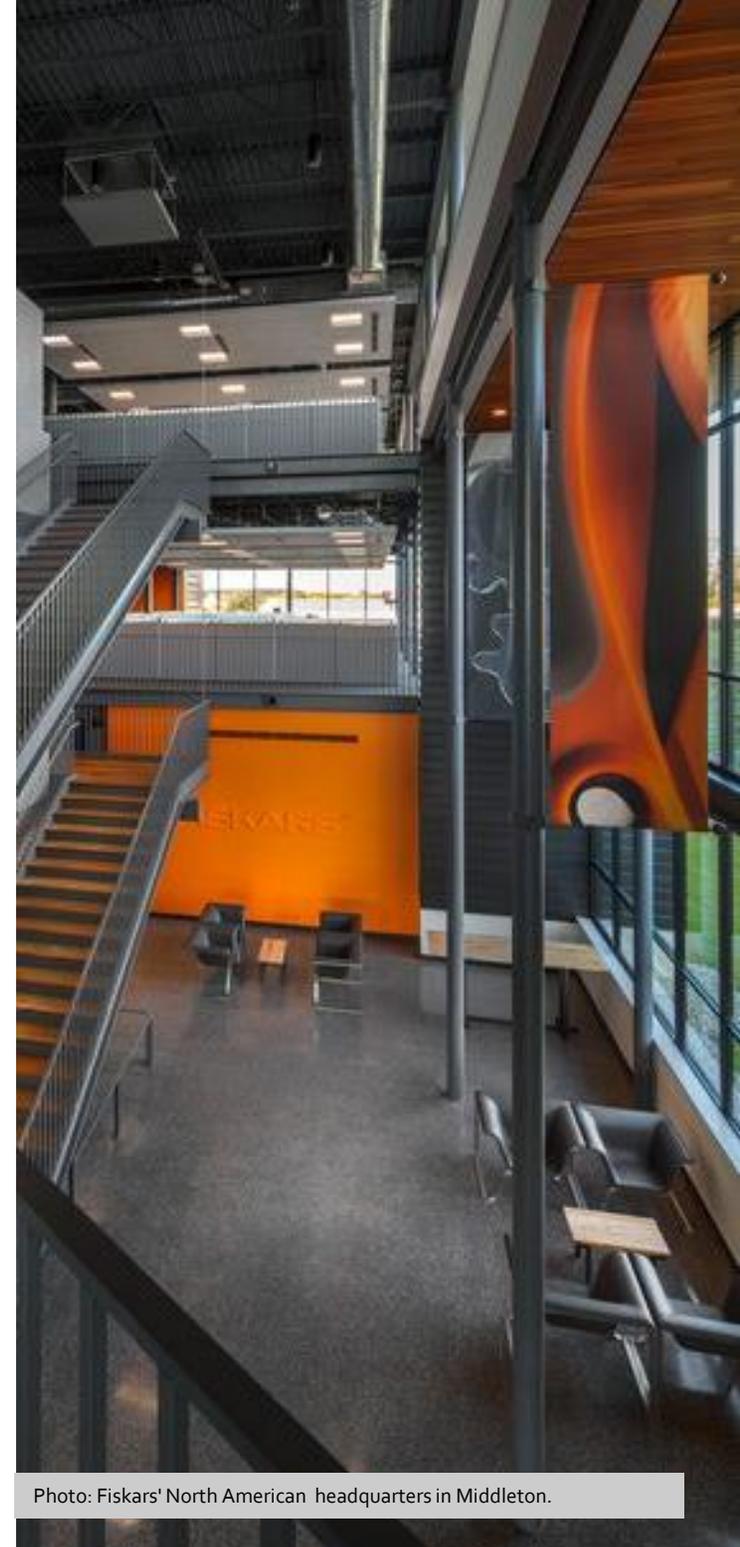


Photo: Fiskars' North American headquarters in Middleton.

**Strategy 3:** Continue economic development **collaboration** with the State agencies, Madison Region Economic Partnership, regional communities, and local economic development organizations including the Middleton Chamber of Commerce, the Middleton Area Development Corporation (MADC), and the Middleton Community Development Authority (CDA).

Collaboration is key to successful economic development. The City should continue to work with key stakeholders around a common vision for economic development.

**Actions:**

**A. Work with state and regional agencies to promote economic development and seek grants and other financial incentives for projects in Middleton.**

The City should continue to partner with state and regional economic development agencies, including the Middleton Chamber of Commerce, the Middleton Area Development Corporation, the Wisconsin Economic Development Corporation (WEDC), the Wisconsin Economic Development Association (WEDA), and MadREP, as well as other agencies that promote economic development in our region.

**B. Work with Middleton businesses, economic development partners, and the Middleton-Cross Plains School District to attract technology jobs that provide a high-quality work environment for employees, including competitive salaries, benefits, and quality of life.**

Technology advances have changed the way we live, interact, and conduct business. The City should pursue the location of technology jobs within our community. Digital services jobs are continuing to grow as innovation and technology advances continue to reshape our lives in every way imaginable.

**C. Support the development and sustainability of business associations along major corridors and the Downtown Middleton Business Association (DMBA).**

The City, and the Community Development Authority (CDA), work closely with the DMBA to resolve issues as they arise within the business community, and support initiatives on behalf of the businesses. The City should continue to support the development of business associations, which can provide a liaison to the City to share information.

**D. Continue the excellent working relationship with the Middleton Chamber of Commerce and their 743 businesses.**

The Middleton Chamber is very successful at connecting the local business community by providing programming and networking opportunities to help foster growth, inspiration, and contribute to Middleton's economy. The City values our partnership with the Chamber and will continue to work directly with the Chamber on economic development.

**E. Continue to support the Middleton Area Development Corporation and their mission to foster business growth in Middleton by offering loans to qualified companies.**

The Middleton Area Development Corporation promotes economic development within the City of Middleton by offering loan programs to expand and develop business opportunities with qualified companies. The City should continue to partner with MADC to enhance economic development in our City.



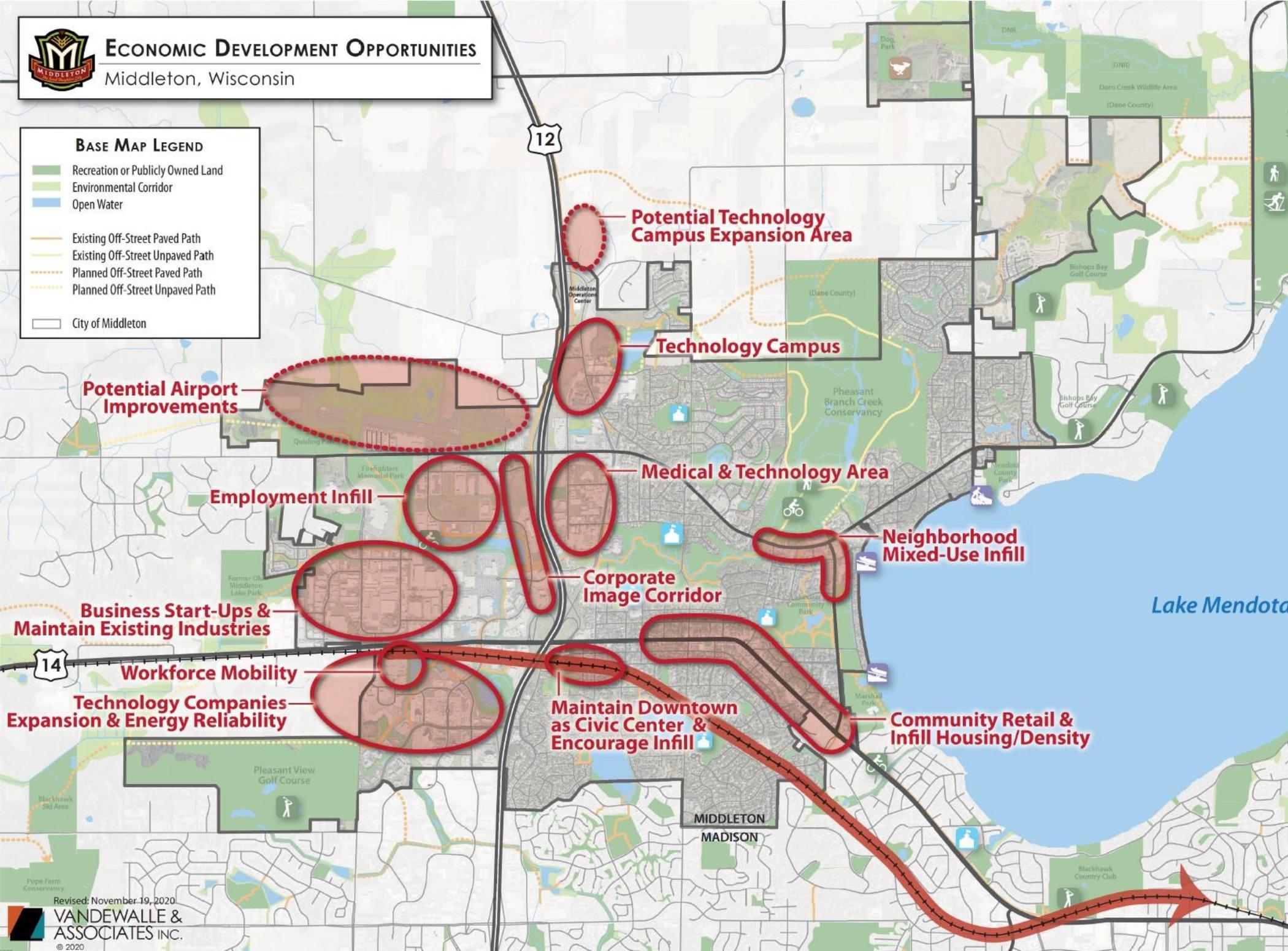


# ECONOMIC DEVELOPMENT OPPORTUNITIES

Middleton, Wisconsin

## BASE MAP LEGEND

- Recreation or Publicly Owned Land
- Environmental Corridor
- Open Water
- Existing Off-Street Paved Path
- Existing Off-Street Unpaved Path
- Planned Off-Street Paved Path
- Planned Off-Street Unpaved Path
- City of Middleton



\$9.7B

Value added to state's economy by the arts

3.1%

Arts' value-added as a share of state's economy



\$5.6B

Arts worker compensation



94,167

Arts employment

Arts and Cultural Production Satellite Account (ACPSA), 2016; U.S. Bureau of Economic Analysis, National Endowment for the Arts  
B = billions

#### Strategy 4: Improve quality of life in Middleton by providing high-quality amenities, public services, and public lands that make it an attractive and desirable place to live, work, and do business.

In addition to making Middleton a great place to live, quality of life factors can increase employment attraction and strengthen Middleton's ability to access top talent. Quality of life improvements help Middleton to distinguish itself in the competitive regional economy.

##### Actions:

#### A. Enhance and maintain the visual attractiveness of commercial areas and transportation corridors.

Middleton should continue to invest in improvements that can enhance commercial areas and primary transportation corridors. Madison has emphasized redevelopment along University Avenue (Hilldale, Madison Yards and University Row areas in particular) and as the primary connection to Madison, Middleton should prioritize transforming the University Avenue into a vibrant mixed-use corridor. As TIF District 3 ends, Middleton should consider establishing a TIF District along University Avenue that can help to stimulate investment in the corridor.

#### B. Protect and enhance Middleton's natural areas, and our status as a Greenway City.

The City should continue to protect and maintain the Pheasant Branch Conservancy and other public lands and trails as economic incentives for businesses to relocate and to stay in Middleton. In 2017, the City developed an Urban Greenway Study to study Middleton as a Greenway City. A traditional definition of a greenway is a linear open space corridor that links cultural and environmental resources; but a Greenway City is more than that. A thoughtfully integrated greenway can play several social, environmental, and economic roles in the community, as it does in Middleton. The Middleton Urban Greenway connects many of the city and surrounding area's greatest assets, including Governor Nelson State Park, Pheasant Branch Creek Conservancy, Pleasant View Golf Course, Middleton Bike Park, Greenway Center, Greenway Station, Middleton Industrial Park, Discovery Springs, public school campuses, office and employment districts, medical and biotechnology hubs, downtown Middleton, and numerous residential neighborhoods. Many major employers have located in Middleton due to Middleton's established Urban Greenway.

The Urban Greenway Study is available as an appendix.

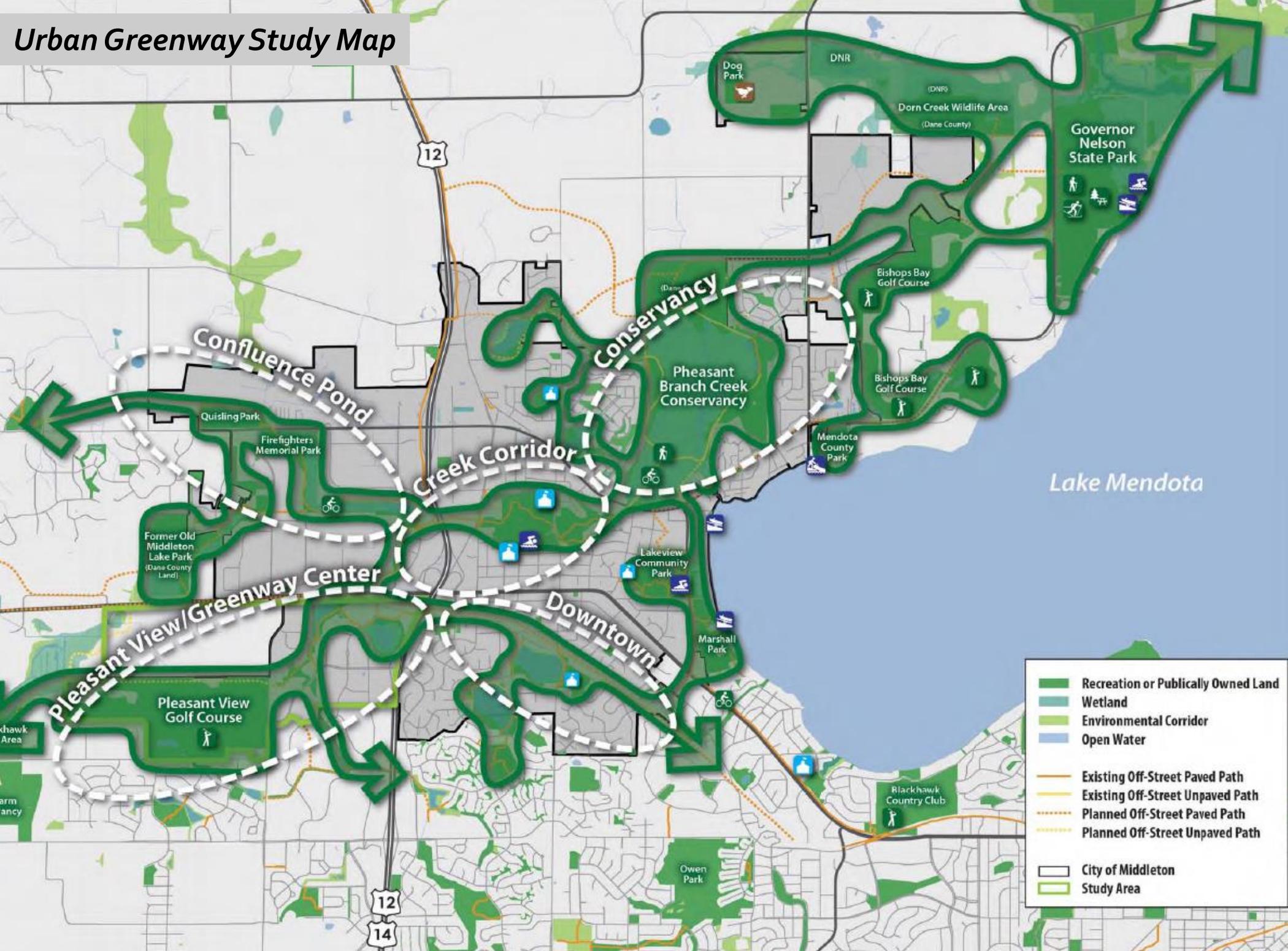
#### C. Use public art, especially at City gateways, the wayfinding signage system, and other streetscaping amenities to enhance the visual appeal of the City.

The City of Middleton has an adopted Master Plan for Public Art and Design and is in the process of rebooting the plan. The Master Plan recommends creating a "spine of public art" along Parmenter Street and establishing entryway art in a variety of locations. The City has an established Public Arts Committee that is charged with creating recommendations to the Common Council regarding plans and policies to further the City of Middleton's commitment to the promotion, creation, and maintenance of public art in the community. In addition to enhancing the visual appeal of Middleton, public art stimulates the economy. A 2016 National Endowment for the Arts study found that the arts contribute \$9.7 billion to the Wisconsin economy. See the [Character Chapter](#) for more information.

Photo: **Invisible Work-In Visible Earth:** Phase I of the salt storage shed mural at the Middleton Operations Center is complete. Invisible Work-In Visible Earth was designed by Jenie Gao and Rhea Ewing for Dane State Mural Arts (DAMA). The piece was painted in part by Middleton students from Clark Street Community School and the Middleton Youth Center.



# Urban Greenway Study Map



- Recreation or Publicly Owned Land
- Wetland
- Environmental Corridor
- Open Water
- Existing Off-Street Paved Path
- Existing Off-Street Unpaved Path
- Planned Off-Street Paved Path
- Planned Off-Street Unpaved Path
- City of Middleton
- Study Area

**Strategy 5: Address workforce mobility to ensure that employees in Middleton have a variety of safe, reliable, and affordable transportation alternatives that provide access to employment centers.**

As Middleton grows, the City should ensure that job development and housing are located in areas that are walkable, accessible, and well-served by transit. The City should continue to invest in transportation alternatives that eliminate car trips for residents and reduce transportation costs and carbon emissions.

**Actions:**

**A. Work with regional transportation partners, including Madison Area Transportation Planning Board and the Wisconsin Department of Transportation to address regional transportation improvements that will better support the work commute of the City and region.**

The Madison Area Transportation Planning Board is the federally designated Metropolitan Planning Organization (MPO) for the Madison Urban Area. As the MPO, it is the policy body responsible for cooperative, comprehensive regional transportation planning and decision making for the Madison Metropolitan Planning Area. The Transportation Improvement Program (TIP), which the Madison Area TPB updates annually, is a coordinated listing of short-range transportation improvement projects anticipated to be undertaken in the next five-year period. The TIP is the mechanism by which the long-range transportation plan is implemented and represents the transportation improvement priorities of the region. Middleton should continue to collaborate with the Madison Area Transportation Planning Organization and continue to seek funding in the TIP for transportation improvements. The reconstruction and capacity expansion of Pleasant View Road in Middleton is a major

programmed TIP improvement.

**B. Continue to support and pursue the North Mendota Parkway as a major transportation corridor for employees from north of Middleton.**

As the number of jobs west of the Beltline has grown, so has the number of drivers commuting to work around the north side of Lake Mendota. Commuters who live in Waunakee, DeForest/Windsor, Sun Prairie, and northeast Madison have steadily sought alternatives to congested Century Avenue by traveling along County Highway K and even along narrow roads such as Balzer and Greenbriar in the Towns of Springfield and Westport. Since the 1990s, the City has actively promoted the creation of a four-lane road to funnel traffic along a more appropriate route that is less disruptive to existing neighborhoods. To this end, the City has officially mapped the corridor area that was adopted in 2010 by the Dane County Board of Supervisors based on the work of the North Mendota Parkway Implementation Oversight Committee, and the City continues to advocate for County and State funding assistance to help address this regional traffic issue.

**C. Construct the North Mendota Trail.**

The planned North Mendota Trail is a 10' wide, paved, shared-use path along the north side of Century Avenue in Middleton. The path will connect the North Mendota Trail that is being developed along Highway M in the Town of Westport with the Pheasant Branch Trail at the intersection of Century and Branch Street in Middleton. The path will provide a largely uninterrupted, direct connection to over 15,000 jobs west of US Highway 12/14, and connect over 5,000 residents to schools, grocery stores, and Metro Transit routes. A safe connection does not currently exist for these residents. At the entrance to the Pheasant Branch Conservancy on Century Avenue, a trail head

and shelter with interpretive signage is planned to serve both trail and Conservancy users.

**D. Construct the "Link" crossing and trailhead to allow pedestrians and bicyclists to safely cross Century Avenue and provide much needed amenities to visitors and residents.**

The primary "Link" in the Urban Greenway System is at Century Avenue and Branch Street. Trail users currently must use narrow sidewalks to cross a bridge, and then cross Century Avenue at grade. The safest option to improve this "Link" is to construct an underpass beneath Century. This solution is complicated because it requires major improvements to the Century Avenue bridge, which is under the County's jurisdiction. In the interim time before the County bridge is improved, the City should plan lower-cost safety improvements for this critical "Link" in the Urban Greenway system. The City has also acquired property – in part funded by the Knowles-Nelson Stewardship Program – to construct a trailhead at this "Link."

**E. Encourage the development of housing that meets the needs of all people who work in Middleton, so that they can have housing choices close to their jobs.**

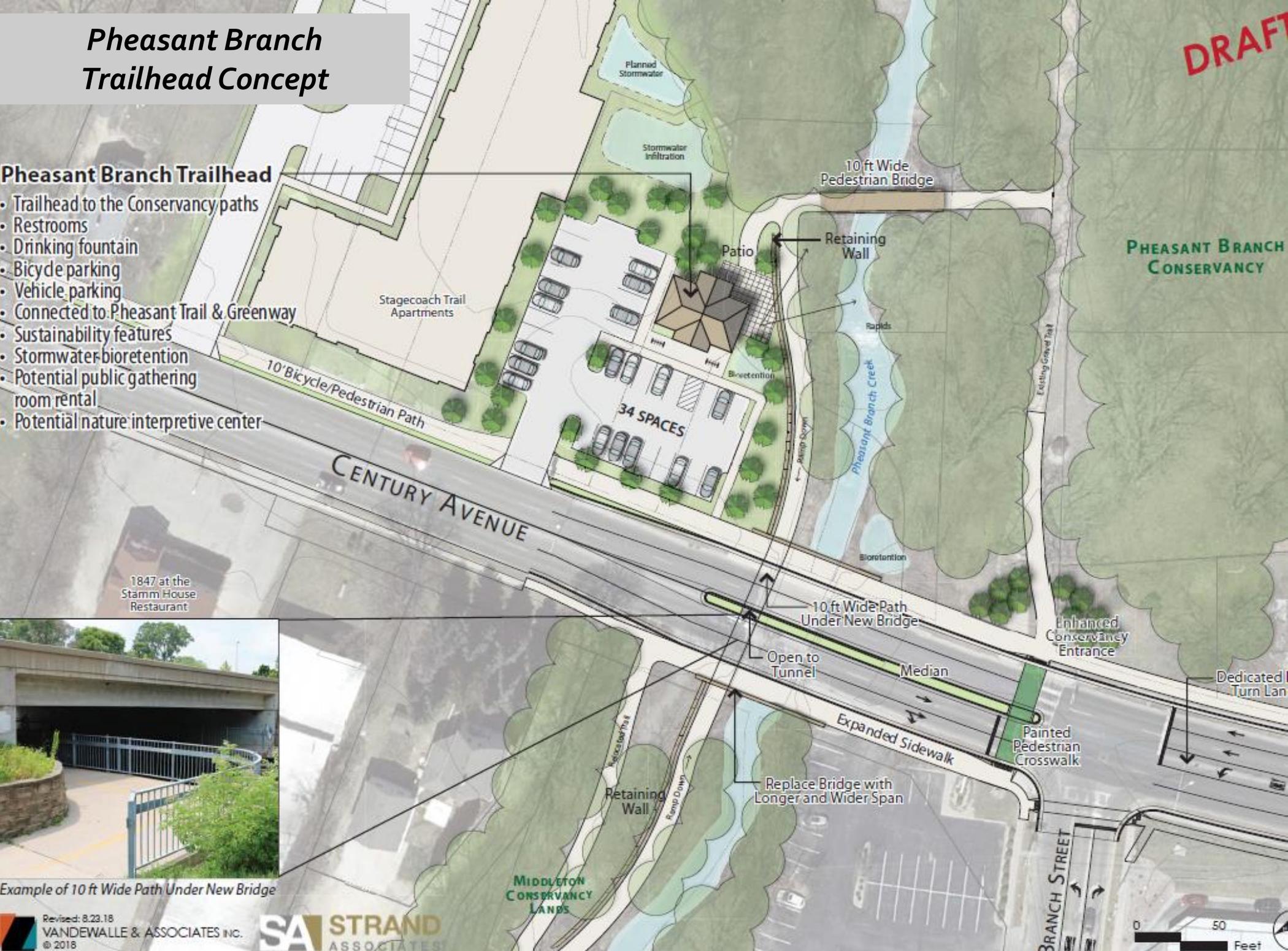
As the City grows, Middleton should assure that new growth is balanced and provides for the sustainable development of both rental and ownership housing for a range of incomes, for people with different life situations, cultural and ethnic backgrounds, income levels, and for those needing assistance. Housing should be in proximity to jobs so that residents can reasonably rely on alternate modes of transportation to work.

# Pheasant Branch Trailhead Concept

DRAFT

## Pheasant Branch Trailhead

- Trailhead to the Conservancy paths
- Restrooms
- Drinking fountain
- Bicycle parking
- Vehicle parking
- Connected to Pheasant Trail & Greenway
- Sustainability features
- Stormwater bioretention
- Potential public gathering room rental
- Potential nature interpretive center



Example of 10 ft Wide Path Under New Bridge

Revised: 8.23.18  
VANDEWALLE & ASSOCIATES INC.  
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**Strategy 6: Continue to invest in public infrastructure that makes Middleton a competitive community for private investment.**

Access to high-quality infrastructure expands economic opportunities to more communities, improves quality of life, and boosts economic competitiveness. Many recent public infrastructure projects (University Avenue, Parmenter Street, Terrace Avenue) have been constructed using Tax Increment Financing (TIF) revenues due to the direct positive impact on the local economy.

**Actions:**

**A. Improve the Parmenter North Infrastructure to connect the new North Technology Park to the community.**

Improve Parmenter Street to create an urban street cross section that includes a reduction of lanes, improved intersections, pedestrian infrastructure and streetscaping.

**B. Extend Belle Fontaine Boulevard to Parmenter Street to connect the North Technology Park to the residential street network to the east.**

Belle Fontaine is an officially mapped corridor that will connect Parmenter Street on the west to Highway Q and Oncken Road on the east. Only a small segment of Belle Fontaine has been constructed within Middleton Ridge neighborhood. As the City grows north, additional segments of Belle Fontaine will be constructed at the developer’s expense. The City will need to modify the official map so that a segment of Belle Fontaine, shown bisecting the Acker Farm which was recently purchase by Dane County for conservancy lands, is re-routed north of the Acker Farm property. The City is beginning discussions of a possible off-street

paved path that could utilize a portion of the Belle Fontaine right-of-way that was initially intended for a wider roadway.

**C. Improve the Middleton Municipal Airport to better serve the Middleton business community.**

The Middleton Municipal – Morey Field Airport is owned and operated by the City of Middleton. The airport includes a primary runway that is 4,000 feet long by 100 feet wide as well as a turf runway. The airport generates approximately 41,000 aircraft operations and hosts 100 based aircraft. In an effort to establish a solid plan for development of the Airport in the future, the City of Middleton, along with the Wisconsin Department of Transportation Bureau of Aeronautics (BOA) and Federal Aviation Administration Chicago Airports District Office (FAA-ADO) are preparing a Master Plan for the Airport. The City expects the Master Plan to be completed in 2021. The airport produces \$4,000,000 in value added to the Middleton economy annually and should continue to be improved to serve the business community.

**Middleton Municipal-Morey Field Airport Local Economic Impact**

	EMPLOYMENT <sup>1</sup> (FTE)	LABOR <sup>2</sup> INCOME (\$M)	VALUE <sup>3</sup> ADDED (\$M)	OUTPUT <sup>4</sup> (\$M)
<b>DIRECT EFFECT</b>	30.8	\$2.0	\$2.2	\$8.3
<b>INDIRECT EFFECT</b>	18	\$976,568	\$1.8	\$3.0
<b>TOTAL</b>	<b>48.8</b>	<b>\$3.0</b>	<b>\$4.0</b>	<b>\$11.3</b>
<b>INDUCED EFFECT</b>	13.1	\$645,174	\$1.2	\$2.1

Note: 2019 Dollar values

**Middleton Municipal-Morey Field Airport Visitor Spending Impact**

	EMPLOYMENT <sup>1</sup> (FTE)	LABOR <sup>2</sup> INCOME (\$)	VALUE <sup>3</sup> ADDED (\$)	OUTPUT <sup>4</sup> (\$)
<b>DIRECT EFFECT</b>	8.4	255,242	395,264	613,828
<b>INDIRECT EFFECT</b>	1.4	76,621	140,035	235,716
<b>TOTAL</b>	<b>9.8</b>	<b>331,863</b>	<b>535,299</b>	<b>849,544</b>
<b>INDUCED EFFECT</b>	1.4	\$71,495	\$137,543	\$227,739

Note: 2019 Dollar values

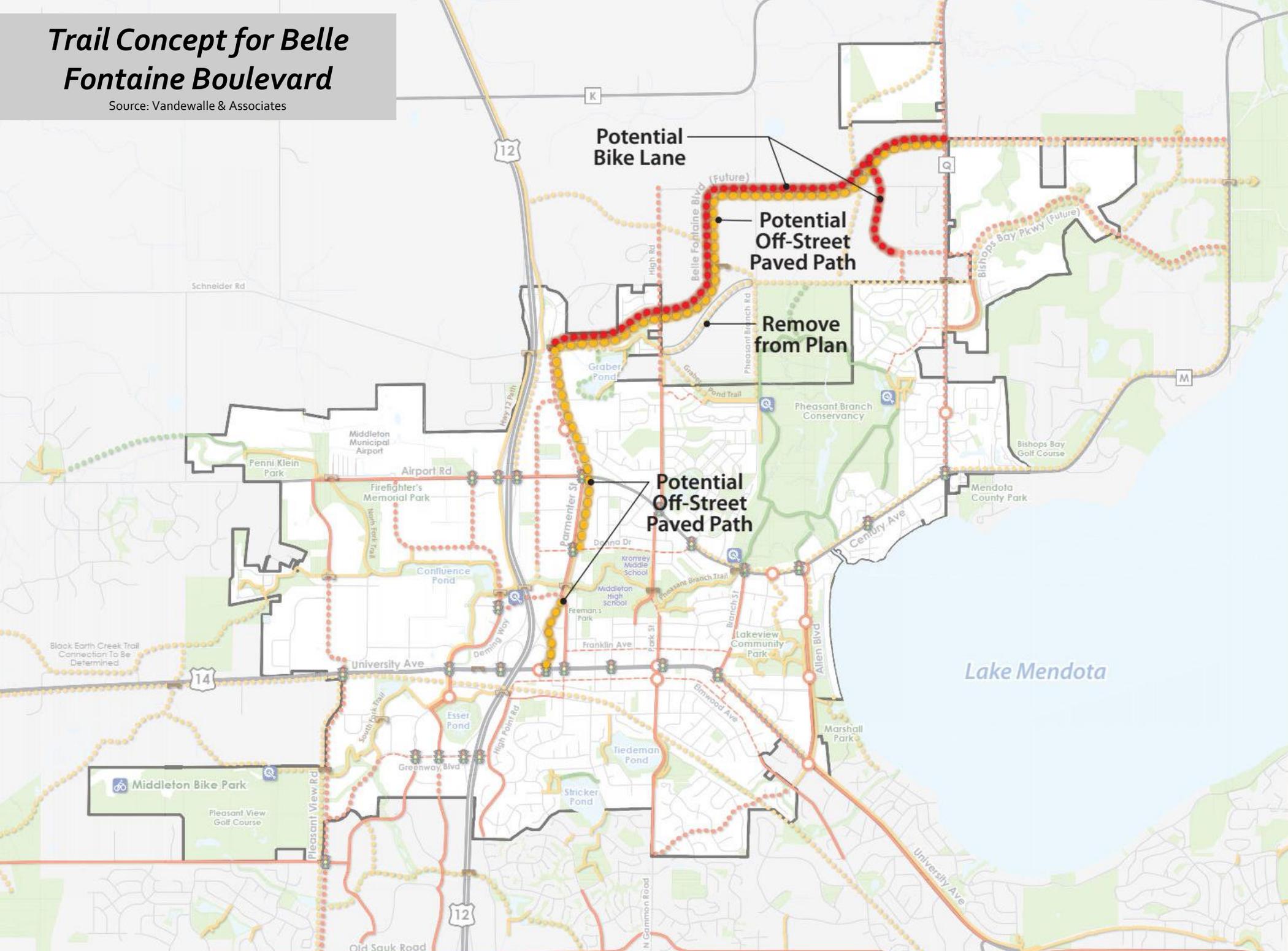
**Middleton Municipal-Morey Field Airport 2018 Public Revenue Benefit** 

<b>REVENUE FROM LEASES</b>	\$120,174
<b>LOCAL FEES, TAXES AND REVENUES</b>	\$88,464

Source: WisDOT Bureau of Aeronautics, WisDOT Bureau of Planning and Economic Development (2019). Economic Impact Report.

# Trail Concept for Belle Fontaine Boulevard

Source: Vandewalle & Associates



**Strategy 7: Make environmental sustainability a priority in all economic development decisions.**

In order to meet the City's ambitious sustainability goals, we must weave sustainability through all City decisions. Middleton should continue to make sustainability a priority in economic development and use economic development tools to meet the City's goals.

**Actions:**

**A. Promote strong "green building" and sustainability standards to encourage developers to implement the most recent innovations in building design, renewable energy, stormwater management, and landscaping to protect the environment.**

While the City cannot require commercial buildings to meet a stricter standard than the Wisconsin Commercial Building Code, we can encourage and incentivize these practices. It is important that City staff continue to promote these goals during each meeting about a new development in Middleton. In addition to energy efficiency and renewable energy, water efficiency, the use of recycled and locally-available materials, and high-quality stormwater management practices, the City has more recently been encouraging bird-friendly design guidelines in new construction.

**B. Use TIF incentives to support private development of renewable energy systems in order to help the City reach its goal of meeting 100 percent of communitywide energy needs with renewable energy by 2050.**

Since 2015, the City has used TIF financing to support private development of solar in 7 commercial developments. These solar systems total 1.5 megawatts of solar.

**C. Pursue development and policies that will build energy reliability, putting Middleton on the forefront of energy independence and security.**

The City of Middleton views energy reliability as an increasingly important component of resiliency. The City's TIF Team has developed concepts for an energy reliability district that could serve as a micro-grid, building redundancy and backup energy storage into the grid to attract technology companies with energy security needs. The City supports working with Madison Gas and Electric and other energy partners to incorporate energy backup solutions in the grid through renewable energy and battery storage options and would like to explore this idea for the [Community Campus Plan](#).

**D. Make critical improvements to stormwater management infrastructure and mitigation practices to increase floodplain protection and avoid widespread damage in the event of extreme rain events.**

The City experienced a devastating 1000-year flood in August of 2018, which caused over \$30 million in damage to Middleton businesses, particularly those located in the Discovery Springs and Airport Road Business Park areas. In order to provide protection for future large rainfall events, the City should continue to invest in infrastructure and mitigation practices that can provide more resiliency as these weather events become more frequent due to climate change.

**E. Encourage the location of "sustainable businesses" which have no negative impacts on the global and local environment, community, and economy.**

A sustainable business has no negative impact, or potentially a positive impact, on the global or local environment. These businesses strive to meet the triple bottom line (accounting for financial growth as well as social and environmental growth). Often, sustainable businesses have progressive environmental and human rights policies. These businesses have missions that align well with the City's priorities and should be encouraged in Middleton.

**Strategy 8: Increase tourism in Middleton highlighting its many existing community assets, expanding its presence as a destination for outdoor recreation, and investing in support amenities like hotels, downtown spaces, and signature programming.**

Middleton visitors accounted for \$172 million in 2017. (Tourism Economic Impact Study, Executive Summary) This was an increase of 2.52% from 2016 levels. The Middleton Tourism Commission should continue to drive the economic impact of tourism through destination marketing, promotion and support of tourism development.

**Actions:**

**A. Work with the Middleton Tourism Commission to enhance and market Middleton’s existing tourist assets.**

The Middleton Tourism Commission has three primary objectives:

- Drive economic impact in Middleton through overnight stays
- Facilitate relationships with travel industry partners through effective communication, education and support services
- Responsibly and strategically use room tax and other resources

The City should continue to support Middleton Tourism as the entity that is focused on increasing the economic impact of tourism in Middleton.

**B. Support the development of excursion trains from Middleton to downtown Madison and western Dane County to provide access to exciting events, like University of Wisconsin sporting events, and alternative recreational opportunities, like the Driftless Area.**

Work with partners to make use of the rail spur in Greenway Station to attract visitors and provide recreational opportunities for residents.

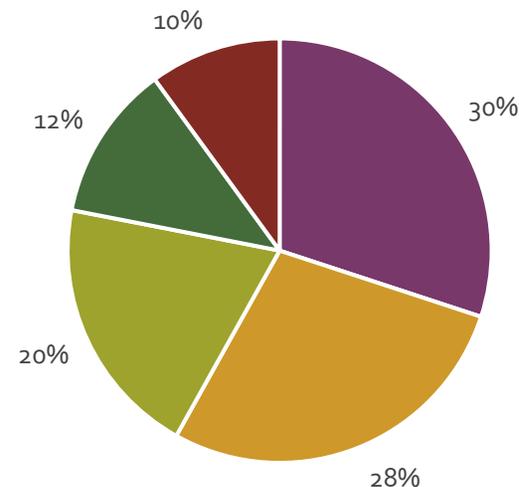
**C. Continue to diversify range of activities available in Middleton to attract populations across generations, socioeconomic levels, and cultures.**

As Middleton continues to grow and become more diverse, it will be important that activities in the community a reflective of that diversity.

**D. Invest in placemaking and community building activities that will further establish Downtown Middleton as vibrant place to visit.**

Downtown Middleton received high marks of people traveling to the area and enjoying the experience in a recent Tourism survey. (Tourism Economic Impact Study, Executive Summary) Middleton should continue to invest in amenities that enhance Downtown Middleton.

2019 Visitor Spending



- Lodging
- Food & Beverages
- Retail
- Recreation & Entertainment
- Local Transportation

2019 Visitor Spending (in millions)	
Lodging	\$53.0
Food & Beverages	\$49.5
Retail	\$35.2
Recreation & Entertainment	\$21.0
Local Transportation	\$17.7
<b>Total</b>	<b>\$76.4</b>

**Strategy 9: Protect and enhance the historic character of the community.**

In an increasingly 'placeless' form of urban development in cities across the United States, Middleton should protect its precious identity and unique character. Historic preservation is essential to cultural, social, economic, and environmental sustainability. Historic resources are key ingredients to quality of life in Middleton.

**Actions:**

**A. Follow the [Historic Pheasant Branch Crossing Design Guidelines](#) to create a cohesive area that preserves and highlights the settlement's history while advancing the City's development and revitalization goals, as described in the TID No. 5 Project Plan.**

Pheasant Branch was an early settlement in Middleton Township, platted as a Village in 1853, eventually becoming part of the City of Middleton after the railroad was constructed. The Pheasant Branch settlement was founded at the intersection of the Old Sauk Trail (a federal military route connecting Chicago and Minneapolis along the current Century Avenue alignment) and a road connecting Fort Howard in Green Bay with Fort Crawford in Prairie du Chien. The area contains some of the oldest buildings in Dane County, including the historic Stamm House, which was built in 1847 and has served as a store, a post office, and possibly even a station on the "Underground Railroad" offering refuge to former slaves seeking freedom in the North. The City has an approved Historic Pheasant Branch District Concept Plan and Design Guidelines that guide the development of properties within the Pheasant Branch area.

**B. Extend Downtown District northward along Parmenter Street and southward along Terrace Avenue, to enhance the City core.**

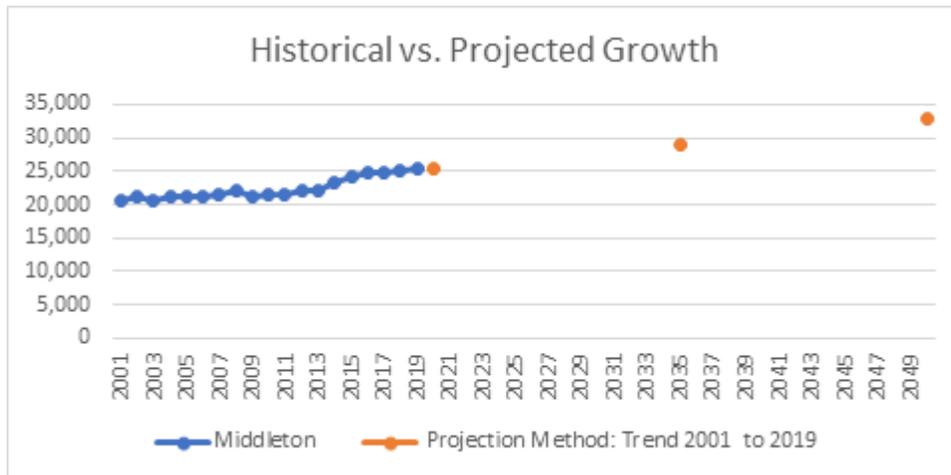
Downtown Middleton provides a charming and eclectic mix of buildings, local shops and restaurants. In order to further support these businesses, Middleton should develop a plan for enhancing downtown by investing in extending the district to include areas on the "fringe" of downtown. This could be done through lighting, streetscaping, artwork, or other means.



Ad from  
Middleton Times- Tribune  
On Oct. 28, 1898  
The Pheasant Branch Brewery

### City of Middleton Projected Job Growth

	2020	2035	2050
<b>Projected Employment</b>	<b>25,417</b>	<b>29,081</b>	<b>32,745</b>
Sector Employment			
Other	5,078	6,070	7,062
Retail	3,236	3,442	3,648
Services	17,104	19,569	22,035
Sector % of Employment			
Other	20.0%	20.9%	21.6%
Retail	12.7%	11.8%	11.1%
Services	67.3%	67.3%	67.3%



# CHARACTER

Middleton will embrace the vibrant characteristics that shape our community's evolving identity while celebrating its heritage.

The character of a place is distinctly tied to its history and its people. A neighborhood with character and vibrancy has a strong sense of community built through its rich history and a deep connection between neighbors. In Middleton, there are many neighborhoods with character that should be preserved, which complement others that are transitioning to evolve with the growing population. The City of Middleton strives to provide the space for character to grow and be maintained in all these different neighborhoods and strives to create an inclusive, cohesive and distinct community. This not only benefits the residents and visitors, but also attracts community involvement, enhances public safety and fosters business development.

This chapter will discuss how Middleton will conserve and promote the effective management of historical and cultural resources, community design, and recreational resources according to Wisconsin Smart Growth Law. The City will use these strategies and actions to create a vibrant place to live that is welcoming to residents and visitors alike. It will build upon previous plans created by the City but requires the active participation by community members in order to see these strategies to fruition.

## Strategies

1. Preserve and honor the historical, cultural and natural resource assets and heritage in Middleton.
2. Create accessible community spaces that are open and welcoming to all groups of people throughout the City
3. Improve the sense of place and strengthen community identity in Middleton.



**Strategy 1: Preserve and honor the historical, cultural and natural resource assets and heritage in Middleton.**

The City of Middleton is part of the TreeJop or Dejope region (pronounced, day-JOPE, meaning "Four Lakes"), the indigenous territory of the Ho-Chunk, a Woodland Siouan tribe. The Ho-Chunk were the first and primary inhabitants of the region, though the Algonquin Tribes migrated through the region and used the area as campgrounds. Middleton acknowledges and respects the Ho-Chunk Nation and looks to their resilience as a people and stewardship of land as a model.

In addition to the history of the Ho-Chunk Nation, Middleton seeks to honor the many other places, events, and people that have shaped it to what it is today. Of the 21 locally designated landmarks, the Rowley House, the Middleton Train Depot, Stricker Pond, and the Heim Effigy Mound are listed in the National Register of Historic Places. The East End Historic District is also listed on the national register. Though not all of Middleton's historic landmarks can be recognized on a national scale, the preservation and appropriate re-use of many of Middleton's historic landmarks allows the local history to live on and continue to be used by current and future community members.

**Actions:**

**A. Partner with local First Nations to celebrate their history and sustainable practices in Middleton.**

In addition to their rich history in our region, the Ho-Chunk and other First Nation tribes have long practiced holistically sustainable practices which should be celebrated alongside their historical impact in Middleton. The City will work with local First Nation representatives to best honor the indigenous history of our region and continue to support and advance sustainability for all residents. In order to move forward

equitably, we must understand injustices of the past and how those injustices move through time unresolved. Middleton aims to honor the needs of our indigenous voices about how we can honor ancestral lands and effigy mounds that exist today throughout our public lands.

**B. Improve and update landmark signage in the historic areas of the community and develop an inventory of designated and eligible historic structures and sites.**

In order to better celebrate Middleton landmarks and better inform the community, the City will work with current landmark property owners and potential landmark property owners to update landmark status, information and signage. With current landmark property owners, the City will work with the owners to update their plaque information and location to allow for better viewing of the information.

In addition to the current list of landmarks, the City of Middleton's Landmark Commission will maintain a list of potential or eligible structures to be added as landmarks. The Commission will work with staff to contact the owners and provide education and information for owning a historic building.

**C. Identify areas where it may be desirable to establish design guidelines.**

One such area is the East End of Historic Downtown which consists of 37 homes built from the 1920s to the 1950s which are in the National Register of Historic Places. These homes feature the Colonial Revival, Tudor Revival, Dutch Colonial Revival, and bungalow styles.

The Middleton Landmarks Commission will work with the research and archives of the Middleton Area Historical Society (MAHS) to establish these design guidelines to preserve the

character of the neighborhood. In addition to the East End of Historic Downtown, the Landmarks Commission will continue to identify areas where design guidelines can help the community establish a sense of place and preserve the local history.

**D. Encourage wider public exploration of City history and culture through the Middleton Public Library and the Middleton Area Historical Society.**

In order to support wider exploration of City history and culture, the City will assist MAHS and the Middleton Public Library with new initiatives to make local history more accessible.

MAHS currently provides historical tours, public programs, and educational information for the public on local Middleton History; as well as managing the Rowley House museum and collecting artifacts and archives for the future.

The Middleton Public Library is also committed to celebrating and educating the community about the history and culture of Middleton through access to collections, programs and partnerships. To encourage the exploration and creation of local history, the Middleton Public Library will create a dedicated Local History Room for research, local collections, and local self-published authors.

**E. Review the Middleton Landmark Commission's ordinance and City role in preservation of history.**

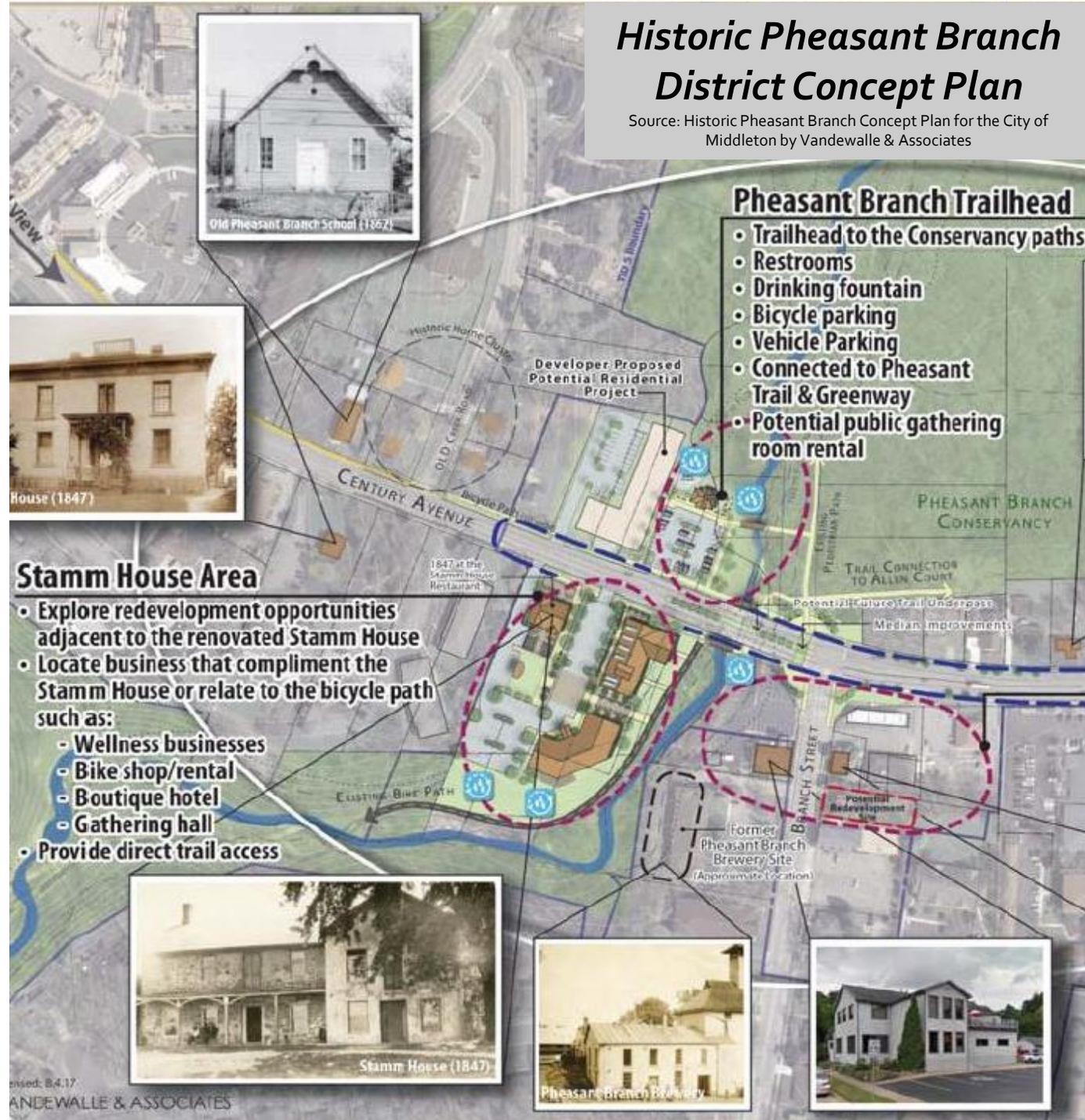
The commission will also review the current landmark designation/removal process in the Landmarks Ordinance and create policies that clearly define the process and circumstances around designating and removing a local landmark. The commission will also look into what aspects of city documents should be preserved and archived, and how the City can make these documents accessible to the public.

**F. Apply the design guidelines for the Historic Pheasant Branch Crossing District**

The Historic Pheasant Branch Crossing District has an important place in Middleton’s history as one of the first settlements vying for Wisconsin’s capital. The area is also located near the original stagecoach route, Pheasant Branch Conservancy, and the historic Stamm House. These three historic locations along Century Avenue seemed disconnected from one another until 2017, when design guidelines for the Historic Pheasant Branch Crossing District were set/implemented to create a cohesive and vibrant historic area. The design of Stagecoach Trail Apartments used these guidelines, and the city will continue to apply these to future developments to continue efforts in revitalizing the area. The historical importance of the Pheasant Branch Crossing will be an important and compelling component of the story for visitors to the future planned trailhead and shelter.

# Historic Pheasant Branch District Concept Plan

Source: Historic Pheasant Branch Concept Plan for the City of Middleton by Vandewalle & Associates



**Strategy 2: Create accessible community spaces that are open and welcoming to all groups of people throughout the City**

In addition to these historic sites, places like the Pheasant Branch Conservancy, the Middleton Public Library, the nationally accredited Middleton Senior Center, the Middleton Splash Pad, and the Middleton High School Performing Arts Center add community spaces where people can gather and celebrate in Middleton. These places comprise the Social Infrastructure of Middleton.

Just as there exists a transportation infrastructure made up of a network of roads, bus stops, and airports, social infrastructure in a community makes up a network of social services such as schools, hospitals and government buildings. These services provide important basic functions for a community so that all residents can have access to the opportunities and support they need.

**Actions:**

**A. Prioritize creating a community center where residents can gather freely, take classes, and interact with each other.**

Currently, Middleton lacks a community center where one can sign up for and take recreation classes, pay their utility bill, or just meet with their neighbors all in one place. Having an indoor community center that operates throughout the year will improve the sense of community in Middleton and offer a central location where people can gather and meet their neighbors.

**B. Make City Hall an open and welcoming place where community members can freely gather.**

The [Community Campus Plan](#) is an initiative by the City to plan for a more efficient use of the downtown by looking at how City buildings

such as City Hall, the Middleton Public Library, and the Middleton Senior Center, can better interact with one another. Through this plan, the City will redesign City Hall to be a more open, welcoming building where residents want to spend time while preserving the historic nature of downtown Middleton.

**C. Revise the City’s permitting process for special events to encourage local initiative and foster community engagement.**

Hosting special events requires numerous permits across several departments to be obtained weeks before the event itself. However, these local events create a lively and vibrant streetscape, and they provide opportunities for participation, skill development, volunteering, as well as promote social, cultural, economic and environmental developments. Creating an Events Application Package, with all the necessary documents and forms in one place, streamlines the process, enabling residents to more easily create their own neighborhood events and spur social connectivity.

**D. Provide a wide range of park facilities to address the needs of existing and changing demographics.**

This is detailed in the City’s Parks and Open Space Plan from 2014-2019. In addition to planning for new parks and recreational facilities as the populations change, the goal in the Parks and Open Space Plan also illustrates customized recreational opportunities for Middleton’s demographics. Building off this goal, the City will support the Public Lands, Recreation, and Forestry Department on accomplishing this goal, while also ensuring that these parks function as gathering spaces inclusive to all people.

**E. Measure the quality of the Middleton community through the Healthy Community Framework from Health in All Policies once every couple years.**

Every City emphasizes improving the quality of life for its residents and community members, but it is difficult to truly measure if the local government is maintaining these promises. The Healthy Community Framework provides a comprehensive checklist for cities to track data. This will allow Middleton to provide a more accurate measurement of quality of life and feedback on how it can be improved. Completing a Healthy Community Framework study every couple of years also provides trackable data which can be used to see how the City is growing and improving.

**A Healthy Community provides for the following through all stages of life:**

<b>HEALTHY COMMUNITY FRAMEWORK</b>	<b>Meets basic needs of all</b>
	<ul style="list-style-type: none"><li>• Safe, sustainable, accessible, and affordable transportation options</li><li>• Affordable, accessible and nutritious foods, and safe drinkable water</li><li>• Affordable, high quality, socially integrated, and location-efficient housing</li><li>• Affordable, accessible and high quality health care</li><li>• Complete and livable communities including quality schools, parks and recreational facilities, child care, libraries, financial services and other daily needs</li><li>• Access to affordable and safe opportunities for physical activity</li><li>• Able to adapt to changing environments, resilient, and prepared for emergencies</li><li>• Opportunities for engagement with arts, music and culture</li></ul>
	<b>Quality and sustainability of environment</b>
	<ul style="list-style-type: none"><li>• Clean air, soil and water, and environments free of excessive noise</li><li>• Tobacco- and smoke-free</li><li>• Green and open spaces, including healthy tree canopy and agricultural lands</li><li>• Minimized toxics, greenhouse gas emissions, and waste</li><li>• Affordable and sustainable energy use</li><li>• Aesthetically pleasing</li></ul>
	<b>Adequate levels of economic and social development</b>
	<ul style="list-style-type: none"><li>• Living wage, safe and healthy job opportunities for all, and a thriving economy</li><li>• Support for healthy development of children and adolescents</li><li>• Opportunities for high quality and accessible education</li></ul>
<b>Health and social equity</b>	
<b>Social relationships that are supportive and respectful</b>	
<ul style="list-style-type: none"><li>• Robust social and civic engagement</li><li>• Socially cohesive and supportive relationships, families, homes and neighborhoods</li><li>• Safe communities, free of crime and violence</li></ul>	

Rudolph, L. and Caplan J. (2013). "Health in All Policies: A Guide for State and Local Government"

### Strategy 3: Improve the sense of place and strengthen community identity in Middleton.

According to Edward T. McMahon from the Urban Land Institute, “A sense of place is a unique collection of qualities and characteristics – visual, cultural, social, and environmental – that provide meaning to a location. Sense of place is what makes one city or town different from another, but sense of place is also what makes our physical surroundings worth caring about.” Having this sense is not only beneficial for community members to feel more attached to one another and where they live, but it is also one of the biggest factors in sustainable economic development.

For Middleton, there are certainly neighborhoods with a strong sense of place and attachment. But as the City continues to grow, it is important to prioritize beautiful places and community gathering spaces, so this sense of place is not lost. To do this well, it is necessary to continually engage the community – not just through public meetings, but also through neighborhood improvement, art and community celebrations.

#### Actions:

**A. Implement a mini-grant program where neighborhoods can apply for funding improvement, support community building programs and events, and other projects.**

A mini-grant allows community groups, a neighborhood association, or even a block of neighbors to gather around a common goal, participate in their community, and improve the sense of place. It can empower residents to be more involved in the planning process of their neighborhoods and determine what they care about in their physical surroundings. This grant also allows the City to re-invest in the issues that neighborhoods care about.

**B. Rewrite and incentivize implementation of the Public Art Master Plan for 2020-2030.**

The last Public Art Master Plan was created in 2008 and planned to be completed in 2020. Unfortunately, very little of the recommended art installations were installed during the timeline set in the plan due to funding constraints. However, during this time, the City has begun planning several public art pieces, and learned that coordinating with capital projects made implementing public art more feasible. Therefore in the next iteration of the Public Art Master Plan for 2020-2030, the City will prioritize creative funding mechanisms to implement public art more efficiently.

**C. Establish a One Percent for the Arts in conjunction with Middleton’s Tax Incremental Financing (TIF) Districts to pay for public art.**

In order to overcome the barrier of funding constraints seen in the last Public Art Master Plan, one option could be establishing a Percent for Arts program with TIF. This would require developers requesting TIF assistance to set aside a certain amount of money for new public art into their development or other locations nearby. All artwork established this way will go through the same public art process established by the Middleton Arts Committee.

**D. Stimulate community around temporary and tactical art pieces such as chalking, yarn bombing, parklets, etc.**

In addition to formal public art pieces, community engagement can stem from temporary art pieces such as sidewalk murals with chalk or wooden parklets in parking spots. These are collectively known as Tactical Urbanism, a grassroots movement that encourages creative and cost-effective approaches to make cities more vibrant and safer. Tactical urbanism can take many different forms, but requires a strong community

backing to initiate such a movement. The City will partner with community groups to encourage safe and creative tactical urbanist pieces throughout the city.

## Five Characteristics of Tactical Urbanism

### DELIBERATE CHANGE

Tactical urbanism features a deliberate, phased approach for the purpose of instigating change



### SHORT-TERM COMMITMENT

These ideas are always temporary or short-term but done with realistic expectations on what is to be accomplished



### LOCAL IDEAS

The best tactical urbanist ideas stem from having an offering of local ideas that solve local challenges



### LOW RISK

Short-term commitments also mean low risks, but success often comes with high reward



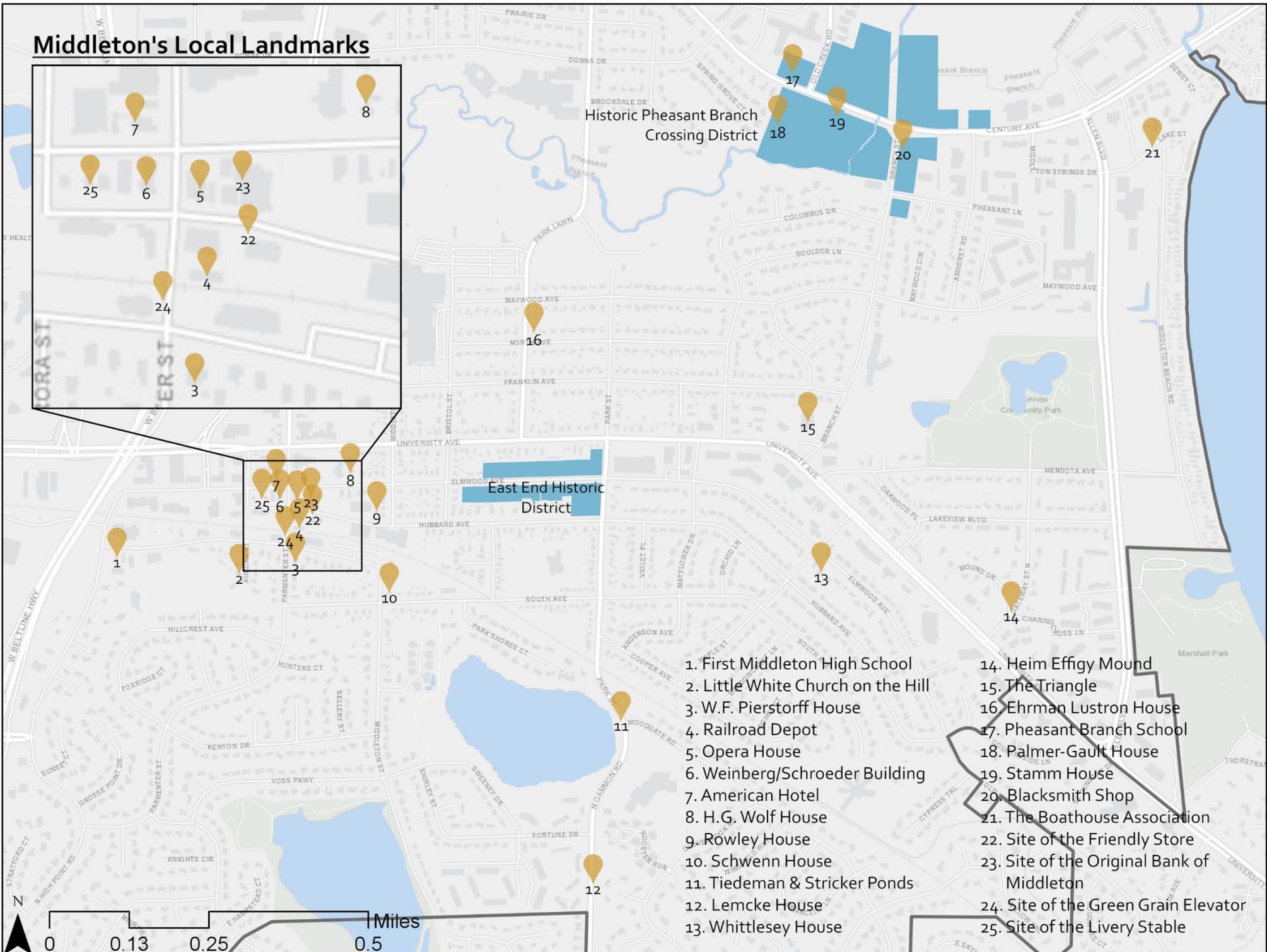
### CAPACITY BUILDING

Development of social capital and building of organizational capacity between public/private institutions, non-profits, and constituents



Source: (2012). Tactical Urbanism Vol. 1. The Street Plans Collaborative.

# Middleton's Local Landmarks



1. First Middleton High School
2. Little White Church on the Hill
3. W.F. Pierstorff House
4. Railroad Depot
5. Opera House
6. Weinberg/Schroeder Building
7. American Hotel
8. H.G. Wolf House
9. Rowley House
10. Schwenn House
11. Tiedeman & Stricker Ponds
12. Lemcke House
13. Whittlesey House
14. Heim Effigy Mound
15. The Triangle
16. Ehrman Lustron House
17. Pheasant Branch School
18. Palmer-Gault House
19. Stamm House
20. Blacksmith Shop
21. The Boathouse Association
22. Site of the Friendly Store
23. Site of the Original Bank of Middleton
24. Site of the Green Grain Elevator
25. Site of the Livery Stable

# GREEN CITY

Middleton will preserve, protect and enhance our unparalleled connections to nature, agriculture, and water resources, and we will continue to lead with a community-wide stewardship ethic that will equitably mitigate climate change and adapt to our changing environment.

Sustainability is well-being for all, now and in the future. The most widely cited sustainability definition from the Brundtland Commission, 1997 reads “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” This makes sustainability appear a zero-sum game. Middleton’s vision for sustainability provides a roadmap for inclusive governance and empowers the wider community to co-create a better city to live in. Sustainability plans and policies should serve as a catalyst for residents and our ecological resources to flourish as our city evolves and grows. Middleton will respond to disruptive changes in our climate, ecological, and social systems in ways that connect us to an emerging future rather than by reacting against the patterns of the past – which can mean perpetuating systems that are not sustainable (structural racism, ecological destruction, and profit-oriented decision-making that does not protect people’s and the environment’s well-being).

Sustainability planning also builds in resiliency to bounce back from disasters, climate change induced weather events, economic downturns, and unforeseen events that challenge our city. The ecological web of life embodies resilience through variation and biodiversity, creating redundancies, employing a diversity of responses when there are disruptions, and by increasing connections amongst living systems. Ideally a sustainable Middleton will build inter-connections and social cohesion on three levels:

between ourselves and nature, between individuals within their community, and with our own mental and spiritual health. Together we are stronger in every way.

The air we breathe, the lakes we swim in, and the groundwater sources that supply our drinking water cut across multiple municipalities. Migration routes for our Sandhill Cranes don’t stop at city boundaries. Middleton must collaborate with surrounding communities and Dane County. We will leverage the best ideas, funding, and resources to more quickly address needs in our own City. In order to adequately and equitably address the climate crisis and improve quality of life issues, Middleton needs an engaged community. Elected leaders must deploy strategies that react to needs on an individual, neighborhood, and city-wide scale where governance can affect efficient change. The City will embrace the complexity of these many overlapping sustainability challenges and potentials.

The strategies and actions included within the Green City Chapter of this Comprehensive Plan aim to elevate our City’s potential for well-being and a sustainable future. They also lay a course for net gains in economic well-being, ecological enhancement, social cohesion, and equitable distribution of our civic and ecological assets. In 2020 we are facing intense challenges from multiple, intersecting crises. The novel Corona Virus that causes the illness called COVID-19

erupted into a global pandemic that is proving to be much more fatal to people of color, seniors, and those with pre-existing health care problems. During the first months of 2020 our nation witnessed multiple acts of police brutality and racism against Black Americans, which prompted waves of protest, unrest, and a national reckoning for social justice unlike anything we’ve seen since the 1960’s. All of this is happening under the looming and ever-present climate crisis. City budgets and residents face uncertain financial futures due to the economic fallout from COVID-19 quarantines and temporarily shuttered businesses. Sustainability planning is well poised to address the ecological crisis, as well as provide a framework for recovery and community resiliency on the economic and social justice fronts. Middleton aims to lead by example, and proto-type solutions that accelerate wider adoption statewide.

A new Green Economy is taking shape in our region in response to climate change and this creates an opportunity for Middleton to become early adopters and reap early benefits in job creation and a healthier environment and way of life for all of Dane County. Middleton is a growing ring city adjacent to rich agricultural lands. Sustainability planning offers optimism and simultaneous co-benefits for both rural and urban interests. New economic potential for farmer-owned biodigesters is on the horizon thanks in large part to the Dane County

Landfill's Renewable Natural Gas facility that will allow renewable natural gas generated elsewhere (including in the Lake Mendota watershed) to be sold and injected into the regional pipeline. Not only does this provide economic stability and new sources of revenue for farmers in the region, but it also helps our water quality and ecosystem health.

This Chapter includes overarching guiding principles which are applied to all strategies within this Comprehensive Plan. These guiding principles are Equity, Health and Wellness, and Resiliency. All policy decisions will use these themes as guidance and not as an afterthought. The City of Middleton must regularly assess that we are meeting the needs of everyone and inform staff and elected officials in a timely manner where we can do better. Trust, transparency, and civic empowerment are important components of servant leadership and absolutely necessary to move forward from this moment on.

The following Strategies and Actions in this chapter will help to ensure that the City of Middleton residents and surrounding communities experience the benefits of a livable and healthy environment as the city continues to grow and change.

### Strategies

1. Mitigate climate change by reducing our community-wide energy use and eliminate greenhouse gas emissions by rapidly switching from fossil fuel sources to local, renewable sources of energy.
2. Adapt to climate change effects, community emergencies, economic downturns, and unforeseen events that challenge our City through robust resiliency planning that will reduce risks, mitigate ecological degradation, and provide equitable disaster response for all citizens, businesses, and industry.
3. Protect and enhance our impressive public lands system that makes up 25% of Middleton's land use (conservancies, parks, forests, and trail system) and provides recreation, beauty, tranquility, and multi-functional, ecological system services.
4. Promote biodiversity and value the many co-benefits provided by species in our ecological biome.
5. Reduce waste with robust policies and resources for reuse, recycling, and community curbside composting programs, and move the narrative away from "waste management" and instead to "resource recovery."

6. Celebrate and protect our shared watersheds and adjacent Yahara Lakes system, conserve our water resources, and safeguard the quality of our drinking water that comes from abundant underground aquifers.
7. Develop a more systematic approach to implementing green infrastructure storm water practices and innovate ways to improve our watershed health and community resilience in the face of ever-increasing extreme weather events due to climate change.
8. Support a local and just food system where everyone has access to healthy, safe, affordable food.
9. Provide entry points into the new Green Economy for local citizens and school district graduates through job training, job creation via renewable energy projects, and reduced energy costs that center people historically burdened by unjust systems.

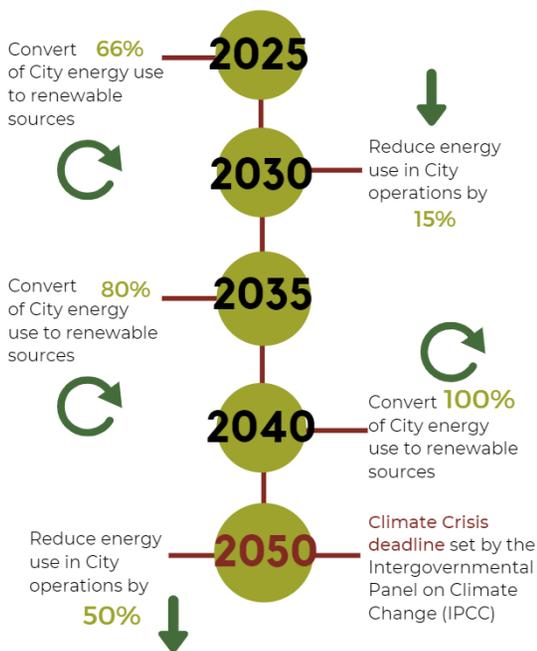
See the [City's Sustainability Plan](#) for more detailed recommendations and metrics. This Plan will be updated in 2021 with new prioritized actions.

**Strategy 1: Mitigate climate change by reducing our community-wide energy use and eliminate greenhouse gas emissions by rapidly switching from fossil fuel sources to local, renewable sources of energy.**

The City of Middleton has set both city government energy goals and community-wide energy goals. For Middleton to use 100% renewable energy by 2050, we must first reduce energy use across the board.

**City of Middleton's  
2018 Resolution to Combat Global Warming  
with 100% Renewable Energy (#2018-32)**

Goal: 100% Renewable Energy by 2050 by the City



For more information see the [United Nations Sustainable Development Goals](#)

Our community-wide energy goals for 100% renewable energy use by 2050 can only be met, however, if the business and residential communities also adopt stringent energy use strategies.

Luckily, the City of Middleton residents support efforts to combat Climate Change. Middleton was the first city in the nation to hold an advisory climate referendum asking residents directly if they support a carbon fee and dividend proposal. A resounding 72% voted “yes.” The City was chosen by MGE to pilot the first two shared solar arrays. The City, along with the Middleton- Cross Plains Area School District, were the first two customers in the state of Wisconsin to buy solar energy through a novel Renewable Energy Rider rate structure provided by MGE. RENEW WI awarded the Pioneer of the Year Award to Middleton in 2020 for our work in partnership with our utility and school district. The United States Green Building Council also recently awarded Middleton a grant to pursue Leadership in Energy and

Environmental Design (LEED) for Cities and Communities Certification. Middleton was one of 20 cities selected nation-wide to take part in this grant. Our City will be the first Wisconsin community to achieve Citywide LEED certification. We have momentum and tools at our service for the task ahead.

Beyond city and community energy goals, we must envision and anticipate future county, state, and federal mandates and requirements for carbon emissions, adherence to the Paris Climate Accord and the United Nations Sustainable Development goals. Anticipating future policy changes, other cities in Wisconsin are already drafting net zero energy building guidelines, electric vehicle fleet plans, and energy storage feasibility studies. The state currently disallows municipalities from requiring these policies if they exceed state mandates, but the trend is pointing towards a radical shift in our grid architecture and energy system delivery in the near future. Middleton must anticipate and prepare to widely integrate new technologies that have long-term economic and ecological benefits.

We are already seeing the effects of climate change in our city. In 2018 Middleton experienced a 1000-year flood event that caused loss of life and over 30 million dollars in damages. Southern Wisconsin will continue to get hotter and wetter between now and mid-century. The number of days each summer that the high temperature is above 90 degrees Fahrenheit is historically 10 to 15 days a year. In 2050 that range will be 30 to 40 days each summer. The IPCC tells us that we have 10 years to act to significantly reduce carbon emissions. To keep global warming to 1.5 degrees Celsius, the world needs to reduce greenhouse gas emissions (GHG) by 45% by 2030. Working within the constraints of city budget cycles and levy limits, and with recent state legislation limiting municipalities from requiring higher building code standards than the state mandate, the task ahead of us is challenging. With challenge comes new opportunities to re-work and co-create a sustainable community with greater depth and reach for all citizens. Dane County and the City of Middleton have led sustainability efforts in the region over the past decade, and civic and community leaders are in the unique position to not only reduce emissions locally, but to inspire and model workable strategies that can be quickly scaled up in communities all over Wisconsin and the Upper Midwest. The city will lead rapid change and uptake of new technologies.

The following Actions are important steps the City must take to lead a rapid scaled-up reduction in Carbon emissions.

**Actions:**

**A. Partner with Dane County and other agencies to administer equitable energy efficiency programs for homeowners, renters, and businesses that reduce both energy costs and greenhouse gas emissions. Middleton will prioritize assistance to those who need it the most and for those who have been historically**

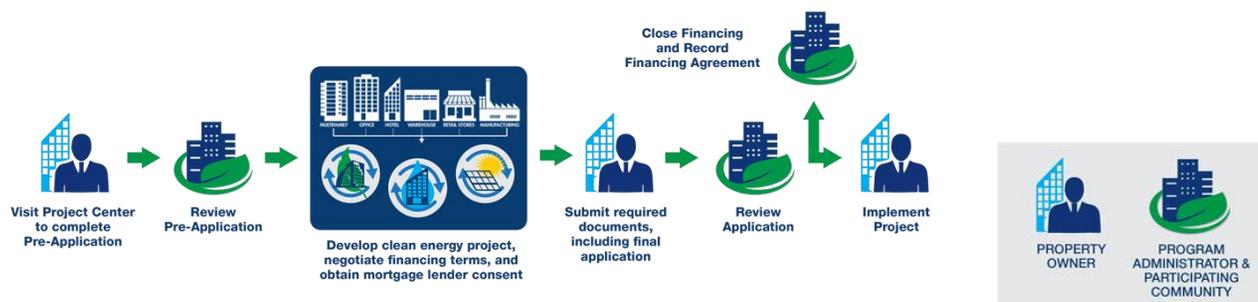
excluded from economic opportunities due to a legacy of unjust policies and racism.

The first step in reducing fossil fuel use is to reduce energy use. City government can provide resources and education for effective, low-cost efficiency improvements and upgrades for residents and businesses, and for landlords of multifamily housing rentals. Wisconsin's Focus on Energy Program provides energy efficiency rebates, design assistance, and energy saving LED lights at no cost to residents and businesses upon request. Property Assessed Clean Energy (PACE) financing is another tool available to businesses in Middleton and Dane County that makes upfront investments in renewable energy systems or efficiency upgrades easy and cost effective. The City will work with our Chamber of Commerce to support and launch PACE projects in our community.

Middleton will also partner with outside organizations such as Elevate Energy and Sustain Dane to promote pilot energy efficiency programs in multi-family housing and Naturally Occurring Affordable Housing (NOAH). It is critical that solar and energy efficiency strategies benefit Black, Indigenous, and people of color (BIPOC) communities who often suffer the most from climate change, while simultaneously paying higher energy costs. The City of Middleton aims to prioritize programs for those who would benefit the most from lower electricity bills and have been historically excluded by unjust public policy decisions. Please also reference in the Appendix the following committee statements and Common Council Resolutions that address racism: 2020-39 Repudiating Racist Covenants in Local Real Property Records; 2020-31 Honoring the Life of George Floyd with Our Actions; 2020-34 Recognizing Racism as a Public Health Crisis; Sustainability Committee Statement Supporting Black Lives Matter.

In the green building industry, professionals often say, "You can't improve what you don't measure first." The City of Middleton has done a good job benchmarking our own buildings for energy use, in order to prioritize projects. Our seven-city collaborative grant through the Office of Energy Innovation in 2018-2020 resulted in a tailored Energy Plan that identified low-hanging fruit for energy efficiency expenditures within city government. For community-wide benchmarking of energy use, the City of Middleton will be doing a greenhouse gas inventory as part of our 2020 LEED for Cities Certification. This will pinpoint which sectors of the community emit the most CO<sub>2</sub> and offer potential for improvement by way of targeted investment and initiatives. This information will hopefully empower and inform a wider swath of the community about where our emissions are generated.

### PACE Application Process:



Source: <https://www.pacewi.org/project-center.html>

Designed by Slipstream for PACE Wisconsin, use with permission only

**B. Incentivize building design towards energy use targets that exceed commercial building code, and work with community stakeholders on a voluntary benchmarking and energy use reporting program for buildings over 25,000 square feet, on an annual basis.**

Municipalities are prohibited by state statute to require building codes that exceed state mandate. While energy codes mandate increasingly stringent levels of energy efficiency in new buildings and major renovations, they do not address existing buildings that are not otherwise being renovated; they do not ensure that the properties are managed for efficiency; and they don't encourage performance beyond the code minimum. Energy benchmarking programs and annual energy use reporting tracks energy use over time and allows comparison of energy performance to a building's past performance and to other similar buildings. Benchmarking helps identify abnormalities in energy use as well as areas for improvement. Benchmarking energy use has the following benefits:

- Helps to visualize your building's energy use
- Compares your building to similar buildings with similar uses
- Tracks your energy use over time to help identify high energy use in a particular area/system
- Allows City to recognize your building for energy reduction accomplishments
- The United States Environmental Protection Agency (EPA) has recorded that buildings reduce energy use by an average of 2.4% per year when benchmarking is done consistently over time.

The city will work with diverse stakeholder

groups to draft a voluntary energy benchmarking program for commercial and government buildings. The city will aid program participants by providing information about resources such as PACE financing for energy projects that reduce energy consumption and training for a benchmarking platform such as Energy Star Portfolio. The City will provide recognition and reward building owners for energy use reduction that helps Middleton meet its community wide energy goals.

**C. The Sustainability Committee along with stakeholders and City elected officials will develop and adopt Net Zero Building Guidelines for new construction.**

Net Zero Energy Buildings are buildings that are highly energy efficient with remaining energy needs powered from on-site and/or off-site renewable energy sources. The Wisconsin State Legislature prohibits municipalities from requiring buildings to exceed building codes mandated by the state. There is a financial case to be made however for building owners and developers to aim for Net Zero Carbon buildings voluntarily. The Sustainability Committee will prioritize drafting Net Zero Building Guidelines that will serve as a roadmap for architects, developers, and businesses who are building from the ground up or doing major renovations where net zero carbon can be achieved.

Achieving net zero energy use in a building is site and building specific but some tools employed early on such as whole building energy modeling and setting energy use intensity (EUI) targets are key strategies. Other strategies outlined in more detail within the Net Zero Building Guidelines would include choices for building envelope materials and design, HVAC and smart controls, day-lighting, commissioning systems, and measurement and verification plans. After efficient buildings are designed, energy use that draws upon fossil fuels can be replaced by right-sized renewable energy installations such as on or off-site solar PV, battery storage capability, and geothermal systems.

**D. Middleton will create a 20-year city fleet replacement schedule that incorporates zero emissions vehicles.**

The transportation sector recently surpassed all other sectors as the number one emitter of CO<sub>2</sub> emissions. Transitioning the city fleet to electric vehicles, renewable natural gas vehicles, and interim Hybrid police squad cars will help the City reach its 100% Renewable Energy goals and reduce emissions locally. The Sustainability Committee working in tandem with staff and the City of Middleton mechanic will develop an Electric Vehicle plan and replacement schedule that incorporates city staff training for electric vehicle maintenance and repair. It is important to city staff that new technologies and vehicles are properly vetted to ensure performance, especially for our first responders in EMS, Fire, and the Police Department. New vehicle models and technologies as well as various charging station infrastructure is evolving. Working in collaboration with the county, our utility (Madison Gas and Electric), and sharing information between communities about new fleet vehicles and their maintenance will be key to early adoption of these technologies.

The Sustainability Leadership Collaborative for city governments in Dane County, started by County Executive Joe Parisi and Madison Mayor Satya-Rhodes Conway, formed a working group for fleet management and replacement in 2019. This collaborative is currently a good resource for information and training opportunities.

**E. The Sustainability Committee will work in conjunction with the Airport Commission to find ways to measure and then reduce emissions and leaded fuel use at the Middleton Municipal Airport.**

New technologies, electric aircraft, and changing fuel sources that are less toxic are in demand and beginning to appear on the market. The City would like to be at the forefront of

cleaner air travel. The City currently has energy goals that include transitioning its fleet to electric (EV), hybrid Police patrol vehicles, and/or cleaner Renewable Natural Gas. It has not measured emissions or CO<sub>2</sub> associated with air traffic in Middleton. The City will work collaboratively to measure and propose actions that will make our Airport more sustainable.

**F. The city will support robust electric charging infrastructure in the city including requiring that new multi-family housing developments include charging stations.**

The City will partner with our utility (MGE) to site charging stations that will efficiently serve city fleets on city owned property, and within the greater community. The city will require all new housing and office development projects to provide charging stations for electric vehicles. As the market is flooded with new electric vehicle options, prices will continue to come down and the demand for charging stations at home and at work will go up. New housing and office developments will stand out when they provide ample charging infrastructure for their residents and/or employees. Utilities are currently offering to install charging stations free of cost if they own the infrastructure and can sell the electricity through the charging station. Other options include movable solar parking pads.



Photo: An electric vehicle owner charging up at the station behind the Middleton Public Library.

The City will require electric vehicle charging infrastructure for projects receiving a TIF incentive. The City will amend the Off-Street Parking Areas Specifications and Standards to include standards for electric vehicle charging infrastructure.

**G. Middleton will collaborate with Dane County to utilize Renewable Natural Gas (RNG) processed at the Dane County Landfill and eventually establish an RNG filling station in Middleton.**

The Dane County Landfill captures its methane gas emitted from the breakdown of debris dumped in the landfill. It is then cleaned at their on-site bio-gas facility and converted into quality grade renewable fuel that can power both large and small vehicles. Excess gas is pumped into the transnational natural gas pipeline that runs adjacent to the Dane County Landfill and sold as profit. This innovative process is the first of its kind in the nation. Middleton will capitalize on this local source of renewable fuel, thereby reducing emissions in our community. The landfill's biogas cleaning facility has also changed the price point for farmers who would like to build more manure bio-digesters to manage their dairy waste. This provides important co-benefits for the environment, helps farmers economically, and protects surface water runoff by reducing phosphorus pollution and groundwater nitrate contamination from raw manure spreading.

**H. Middleton will use "smart city" technology to improve energy efficiency in buildings, stormwater management, and traffic efficiency.**

The Middleton School District has already successfully partnered with our local utility MGE's Demand Response Program at Kromrey Middle School which produced immediate savings on electricity. Efficiency can be further achieved by selecting smart controls that

provide interoperability, integration with other building systems, and flexibility for when and how energy is used throughout the city. The city will also use smart controls paired with green infrastructure elements such as green or blue roofs. These systems use forecast data to prepare for rain events and manage water.

**I. Middleton will partner with MG&E to pilot and plan for future microgrid networks that can connect to one another to reduce risk, increase resiliency, and optimize energy distribution.**

A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the electrical grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode. This resiliency component would provide residents of the city and city-owned command centers with an islanded power source/"Resiliency Hub" in the face of disaster or power outage that isn't fossil fuel dependent.

A microgrid not only provides backup for the grid in case of emergencies, but can also be used to cut costs, or connect to a local resource that is too small or unreliable for traditional grid use. A microgrid allows communities to be more energy independent, resilient in the face of disasters that cut power, and more environmentally friendly. Distributed energy resources and new models of grid architecture are the future and utilities know this. The Department of Energy is currently seeking to fund regional grid harmonization projects that use microgrids to manage grid loads, reduce peak energy use, and save money. Middleton will pursue partnerships and grant opportunities and work with our local utility MGE to build this resiliency into our local energy system.

**J. Middleton will continue to embrace and**

**incentivize clean and local energy from renewable sources such as wind, solar, geothermal and DERs (distributed energy resources).**

The price of renewable energy sources has come down significantly in recent years. Utilities see the writing on the wall and have begun closing coal plants in the state because it makes financial sense and because customers are demanding cleaner energy sources to power their homes and electric vehicles. More efficient solar panels combined with future battery storage technology push the economics of installation past a tipping point where it always makes financial sense to embrace renewable energy with building and renovation projects.

The City will continue to invest in renewable energy resources on existing buildings and when new infrastructure is built. The Energy Plan completed by Slipstream in 2020 identified and prioritized city buildings for solar generation. The city currently supports two shared solar programs owned by our utility, MGE, and has purchased 500kw of power from the shared solar array at Middleton's Municipal Airport. This novel purchase agreement with our utility served as a new finance model in the state in 2019. Middleton also has solar arrays on its police department building and at the Terrace Avenue Pavilion. Three more solar installations will be installed in early 2021. Once these are energized, the city will obtain 50% of its electricity from renewable resources.

Middleton will continue to provide incentives for renewable energy on TIF eligible projects. As of 2020, the city has incentivized over one MW of solar through developer financed TIF assistance. TIF eligible projects also incentivize energy efficient buildings through whole building modeling. Modeling the design of the envelope, HVAC systems, window coverings, airflow, and roofing materials can help a building reach net zero energy use.

Renewable energy access for residents is an important issue for the City to address moving forward. Federal tax credits are diminishing for individual homeowners, and other unique financing options like PACE are only available to business owners. The shared solar program through our local utility, MGE, is a viable option for renters or those whose houses are not well suited for solar. Energy bill relief however is minimal for investing in this program. The city will explore the solar garden model that has been successful in other states like Minnesota.

## WHAT IS A COMMUNITY SOLAR GARDEN?

Community Solar Gardens are centrally located solar photovoltaic (PV) systems that produce electricity for participating subscribers. They may be utility owned, or potentially owned by a cooperative or community group.

Middleton will explore partnerships with local utilities, the Wisconsin State Office of Innovation, and the Wisconsin Home Energy Assistance Program (WHEAP) to find ways to prioritize renewable energy and electric bill reduction for residents who are most affected by climate change and have high energy bills relative to their income.



<https://www.nrdc.org/stories/tribe-northern-minnesota-shows-country-how-do-community-solar>

### K. Place a value on Middleton’s urban tree canopy using carbon valuation on the market that corresponds to their carbon sequestration potential.

The urban tree canopy improves air and water quality, reduces energy costs, and improves human health, while also storing carbon. Middleton will pilot new carbon storage land management strategies in our greenways, conservancies, parks, and urban tree cover. The city will establish a baseline biodiversity inventory and provide guidance to help private landowners manage existing cover that will maximize carbon sequestration on their property.

### L. Use racial equity and social justice assessment tools and a Health in All Policies framework to assess policy decisions and to make sure no one group of people or neighborhood is excluded nor carries the burden more greatly than others because of a particular city policy decision or lack of one.

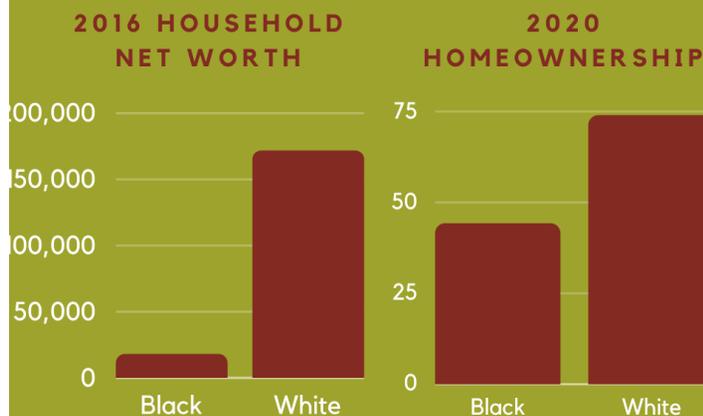
Government policies at every level affect different demographic groups in different ways. It is important that officials and elected leaders examine who benefits and who is potentially harmed by any new city policy. Black and Indigenous communities, and at times other people of color, have suffered greatly from government policies that were crafted specifically to remove or separate them from white communities. We see this in Middleton with racial segregation housing covenants during the 1940’s which barred anyone other than the “Caucasian race” from owning or purchasing houses in the Park Lawn Neighborhood. Although these covenants were ruled illegal in the late 1940’s, the historical legacy lives on. The original covenants have not only affected the diversity of neighborhoods to this day, but they’ve also limited wealth generation largely tied to home equity, which benefited white people disproportionately in the

Going forward, the City of Middleton must examine policy decisions related to transportation, renewable energy access and affordability, housing, economic growth, and access to civic assets such as our public lands, library, senior center, through the lens of these historical legacies. If we center the needs of residents who have disproportionately been excluded from taking part in fair housing, wealth generation, healthy food access, and affordable living standards then it will lift everyone up and make our community safer and more equitable across the board. Assessment tools and frameworks like Health in All Policies are useful tools for understanding how a policy decision might overburden the very communities and businesses the city is trying to help the most.

The graphic below reflects national-level data.

The Federal Housing Administration, which was established in 1934, furthered segregation efforts by refusing to insure mortgages in and near African-American neighborhoods — a policy known as "redlining." At the same time, the FHA was subsidizing builders who were mass-producing entire subdivisions for whites — with the requirement that none of the homes be sold to African-Americans.

Though redlining was banned in name with the passing of the 1968 Fair Housing Act, the racial homeownership gap is today wider than it was in the 1940’s when it was 22.8%.



Sources: See footnotes 1 and 2

**STRATEGY 2: Adapt to climate change effects, community emergencies, economic downturns, and unforeseen events that challenge our City through robust resiliency planning that will reduce risks, mitigate ecological degradation, and provide equitable disaster response for all citizens, businesses, and industries.**

This plan was written during the worldwide COVID-19 pandemic, a result of a disease caused by the novel Corona Virus. This emergency will no doubt change the way the City of Middleton defines community resilience. The year 2020 quarantined and isolated within households with nearly all economic activity shuttered, while those deemed “essential workers” head to work daily outside of the home, will inform and shape policy decisions for years and perhaps decades to come. Unlike a lot of local and acute disasters, this one cascades down through all governance levels and geographic locations. It affects people of different demographics inequitably. Uncertainty about the virus’s duration and potential resurgence makes the challenge even more complex. This section of the Green City Chapter will benefit from lessons learned during our city’s response efforts to this pandemic and will need to be updated with welcomed hindsight in the aftermath of this critical moment in history.

Resiliency is defined broadly in both ecological and social constructs as “a measure of a community’s overall capacity to provide services, maintain infrastructure and sustain its economy in the face of a hazardous event or trend.” The COVID-19 global pandemic will test this definition not only in measuring how fast Middleton’s economy and public health will bounce back, but it also lays bare how different populations and demographics within our city’s borders suffer inequitable burdens during crises in general. This pandemic has threatened

those already vulnerable by pre-existing health conditions and shown a bias towards certain age groups and demographics that only time and data will clarify.

Krista Tippett, an American journalist and entrepreneur, provides a more expansive view of resiliency:

“Resilience is a companion to sustainability. It acknowledges from the outset that things will go wrong. To nurture a resilient human being, or a resilient city, is to build in an expectation of adversity, a capacity for inevitable vulnerability. As a word and a strategy, resilience honors the unromantic reality of who we are and how we are, and so becomes a refreshingly practical compass for the systems and societies we can craft.”

By understanding and naming the vulnerabilities in our community, subject to the types of challenges we face, we see more clearly the changes we need to make at a deeper systems level.

Middleton has, over the past few years, dealt with several large unforeseen events and community challenges. The city suffered a local workplace mass shooting at Greenway Station that tested our first responders who acted quickly, heroically, and who thankfully prevented a terrible situation from becoming a national tragedy. Soon after that the City was hit by a massive rainstorm that dumped a record breaking 11 inches of rain in just a few hours in the Middleton area; Cross Plains to our west reportedly received as much as 15 inches of rainfall. The City estimates that nearly \$30 million dollars’ worth of damage was done to private property, the business district,

and our public lands from flooding within the city, and erosion and associated destruction in the Pheasant Branch Creek corridor. In 2020 Middleton faces a global pandemic that has already resulted in incredible loss of life and a world-wide recession, or perhaps a nation-wide economic depression. All these events occur in the shadow of a longer trending climate crisis that portends future flooding and climate disruptions affecting agriculture, the economy, and our ecological web. These disasters have common threads, similar capabilities for disruption of normal life, but also similar mitigation and adaptation strategies that can simultaneously offer hope and community resilience on several fronts. Mitigation strategies for addressing climate change could perhaps launch a local green economy that helps local businesses recover more quickly and become more self-sufficient, safeguard public health, and reduce flooding all at once.

Middleton is a state leader in sustainability. The City aims to lead proactively on comprehensive and “just resiliency” planning and model efficient governance strategies as well. Communities across Wisconsin are grappling with similar challenges. The actions described in this chapter address resiliency using the three pillars of sustainability: Ecology, social justice and well-being, and a strong equitable economy. The overarching priority is drafting a city Resiliency Plan and risk/vulnerability/capacity assessments. A companion to the resiliency plan is a governance structure that is nimble, adaptive, flexible, and takes into consideration what roles elected officials might play in collaboration with community leaders and citizens during unforeseen disasters or events. The budget costs for this sort of planning are not simply about return on investment, but they are prudent tools to avoid spending far more money down the road if we are not prepared right now.

**Actions:**

**A. The city will write and maintain a Resiliency Plan which includes risk, vulnerability, and capacity assessments; energy security; hazard mitigation; emergency response; and recovery plans.**

This Resiliency Plan will be reviewed every three years for updates. The Plan will include both disaster prevention strategies and disaster response. Disaster prevention strategies will encompass what we know from best practices in watershed management, preparation and training for unforeseen community events, and trusted relationships built over time with the wider community. The Resiliency Plan will build off existing plans the City has already written such as the Pandemic Plan, Sustainability Plan, and the Hazard Mitigation Plan. It will meet the requirements of LEED for Cities and Communities Natural Systems Credit: Resilience Planning.

This plan will center equity as a defining characteristic and will use vetted toolkits such as the NAACP Environmental and Climate Justice Program toolkit: Our Communities, Our Power: Advancing Resistance and Resilience in Climate Adaptation, Action Toolkit2 or the National Association of Climate Resilience Planners toolkit: Community Driven, Climate Resilience Planning: A Framework3.

The risk assessment included within the Resiliency Plan will estimate the probability of occurrence of the extreme events. It will study their characteristics, frequency and potential severity. The risk assessment includes a socio-economic and environmental assessment of the impact. The vulnerability and capacity assessment identifies the most exposed and affected sections of the city for each extreme event listed (examples in Table 1B).

Table 1b Extreme Events			
Natural		Man-Made	
Geo-Physical	Earthquake	Social	Complex Emergencies/Conflicts
	Landslide		Displaced Populations
Hydrological	Flood	Industrial	Fire
Climatological	Extreme Temperatures		Explosion
	Drought		Accidents
	Wildfires	Transport	Road/Air/Maritime/Railway Accidents
	Heat Island Effect	Pollution	Air and Water
Meteorological	Tornadoes		
	Storms		
Biological	Disease/Epidemics		

Finally, the Resiliency Plan will address the following areas:

- **Fundamental Emergency Planning and Preparedness** - Access to basic needs, first aid, emergency supplies, water, food communication, temporary shelter.
- **Early Warning Systems** - Strategies for early warning systems and operation of critical facilities during the extreme event and post-event rehabilitation.
- **Critical Infrastructure Location** - Map and reduce over time any critical infrastructure that is in designated high- risk areas.
- **Policy Intervention** - Incorporate building structure resilience strategies to withstand the potential damage due to natural hazards in the building regulations.
- **Capacity Building** - Design awareness programs to educate different stakeholders (at least one at community level and one at internal administrative level) about hazard management. Plan for implementation the programs at regular intervals for at least one year. The programs should have the provision for revisions after stakeholders’ feedback.

In order to be resilient, a community must plan ahead, strengthen internal connections, be prepared with a wide variety of responses, and know ahead of time who or what systems will need immediate triage. When stability is generally present- these are the moments to grow our values and build interconnections with one another.

**B. Reduce runoff and prevent flooding by maximizing upstream water infiltration and evapotranspiration during increasingly frequent large storm events.**

While Middleton works to mitigate climate change and drawdown its carbon emissions and fossil fuel use, adaptive strategies must be used to offset the potential social, economic, and ecological impacts of climate change related events and our rapidly changing “new normal.” If our air temperatures continue to rise, science data tells us that the air will hold more moisture and release this moisture in heavier storm events.

The City must work on several fronts simultaneously to capture and safely convey storm water from larger rain events and prevent damaging floods. The City recognizes that a holistic approach incorporating green and grey infrastructure along with source controls and regional controls will be needed to meet this need. Management approaches must consider the entire watersheds – within, and outside of, the City’s municipal boundary. These lands are privately-owned and outside the city limits in the towns of Middleton and Springfield. The city will have to budget money for acquisition (or secure grants) and work cooperatively with landowners and the towns to protect these areas. Achieving a resilient storm water system will require additional funding and revisions to local regulations to install the infrastructure and set aside the lands necessary to safely contain and convey large storm events.

In order to incentivize GI strategies such as green/blue roofs, rain gardens, vegetated swales, permeable pavement, etc., the Water Resources Commission must set criteria and standards for how much green infrastructure applications will reduce flow volume.

Elected officials, along with the planning department and city committees will prioritize future land conservation in the North Fork of Pheasant Branch Watershed and look for demonstration sites to trial site-specific deep rooted prairie plantings, soil preparation with deep tillage, applying compost in soils in order to hold more water capacity, and on-site 100% volume control. This must be done to safeguard current investments in our Pheasant Branch Creek Corridor as it undergoes redevelopment according to the Pheasant Branch Creek Corridor Master Plan.

**C. Incentivize new development to maintain 100% or more (predevelopment) rainwater runoff volume control on site.**

The Wisconsin State Assembly Bill 770 (AB 770) disallows local governments from requiring that developers maintain more than 90% of existing rainwater runoff volume control in their new development. It can, however, allow developers to maintain 100% rainwater runoff volume control if they so volunteer. This legislative bill prohibits the city from enforcing greater volume control measures than the Department of Natural Resources (DNR) currently require. However, greater infiltration, in site appropriate locations, is necessary to prevent flooding in our communities and must be incentivized in specific areas north of the Pheasant Branch Creek Corridor to safeguard investments we make in our Public Lands. The City recognizes that an increased annual rainfall has likely resulted in elevated groundwater in certain locations of the City. Maximizing storm water infiltration on new developments must carefully consider neighborhood soil and water table conditions to avoid negative impacts from high groundwater.

## MIDDLETON 2050 CLIMATE SCENARIO

Using future climate criteria compiled in the report [Dane County Climate Change and Emergency Preparedness](#), here is a likely climate scenario for our region looking towards 2050:

110-112°F Annual peak temperature

20 more days over 90°F, more frequent and longer heatwaves

+ 6°F Annual average temperature

+2" Annual precipitation, increasing rainfall frequency and intensity

500 more cooling degree days

Increased groundwater recharge

Source: Wisconsin Initiative on Climate Change Impacts - A1B scenarios for mid-21st century

**D. Support and fund regular maintenance of the Pheasant Branch Creek Corridor redevelopment.**

The Pheasant Branch Creek Corridor provides a vital circulation linkage through Middleton. It is a multifunctional civic asset serving as a commuter route for bikers and students who attend Kromrey Middle School, a recreational trail for residents, habitat for birds, amphibians, fish and native plant species, and conveyance for stormwater. It also houses our sanitary sewer line and other important underground utilities. Restoration and design improvements made in 2021 will allow for larger flows with reduced damage through natural stream restoration techniques, enhanced floodplain storage, resilient infrastructure and native vegetation establishment.

The city of Middleton will simultaneously prioritize upstream management strategies that will minimize large flows through Pheasant Branch Creek Corridor and protect investments designed and constructed in 2021.

**E. Identify and fund a diversity of tree species in the urban tree canopy that consider climate mitigation, carbon sequestration, and resiliency in both urban forestry, and to mitigate existing rural afforestation.**

Urban trees are beneficial and multifunctional and address all three pillars of the sustainability movement. They reduce the City's heat island effect by shading impervious pavement and provide water evapotranspiration by absorbing excess flood waters during rains. Trees in our urban forest canopy sequester carbon and store it. They also may provide cooling for houses through shading, reducing energy bills. The city will evaluate the overall tree canopy and species selection for climate change mitigation and other ecological co-benefits and measure their efficacy for carbon sequestration potential. This

information will be used to help the city forester plan an efficient and beautiful urban tree canopy. Information will be available and communicated to the public so that they can use these metrics to make decisions about their own private yards and properties.

**F. Launch and maintain a yearly Resilient Landscapes Initiative on a neighborhood scale to help residents take actionable steps in their yards and gardens that will improve biodiversity, habitat, reduced storm water runoff, soil health, and promote a stewardship ethic throughout the City.**

The Resilient Landscapes Initiative began as a regional partnership in 2020 to protect our Yahara Chain of Lakes and make them swimmable again.

Partners include: City of Middleton, Clean Lakes Alliance, UW Arboretum, Olbrich Gardens, Aldo Leopold Nature Center, Allen Centennial Garden, Weedman, Wisconsin Nursery and Landscape Association, Friends of Lake Wingra, and Fund for Lake Michigan.

The initiative promotes and celebrates ten manageable landscape actions that individual homeowners/apartment dwellers can introduce into their yards and gardens. Actions such as these often have ripple effects. They inspire others to make small changes that add up to measurable collective impact when an entire neighborhood decides to take part. The initiative is meant to have a zero-barrier entry for residents interested in supporting ecology and watershed health. People who take even one action each year will be celebrated through social media and events that recognize resiliency in action.

**HELP *the* LAKES *at* HOME**

**MANY SMALL ACTIONS = BIG IMPACT**

If every single-family home in Dane County installed **just one 55-gallon rain barrel**, we could capture **7.5 MILLION GALLONS** of runoff from a single rain event!

That's enough to fill **10 FOOTBALL FIELDS** with water **25-FEET DEEP**

Source: Clean Lakes Alliance

# HELP *the* LAKES *at* HOME

G. In conjunction with the Resiliency Plan, the city will maintain strong and tested partnerships with the county and local groups and institutions such as the Senior Center, Youth Center, School District, Library, First Responders, Public Health Department, Chamber of Commerce, and organizations such as MOM and Second Harvest Food Bank.

Strong partnerships are necessary for clear and efficient information exchange during any kind of community disaster or event. The COVID-19 pandemic has already taught us lessons about how quickly institutions large and small can organize and about how residents and neighborhoods mobilize organically. People find a niche and fill it. What this particular moment in history does tell us as a city, is that Middleton is well poised for a quick and nimble response to the needs of its residents. A collaborative network of resources is already in place through our county government, and the COVID-19 pandemic has shown us that governance in the broadest sense is an important tool.

The City of Middleton depends upon establishing and maintaining public trust in order to be efficient and most helpful during a crisis. Regular communication with other jurisdictions such as Dane County and state agencies help Middleton remain knowledgeable about the latest data and news. Elected officials also have an important role to play during challenging times. They advocate for or champion ideas. Some are visionary. Others ensure accountability, oversight, and equality for their constituents. Elected officials will work to understand vulnerabilities in their districts with both quantitative and qualitative data.

## Plant Native & Diverse Vegetation



Deep-rooted native plants and trees help absorb water and hold topsoil in place during rain events. As an added bonus, they will add beauty to your property and provide habitat for songbirds and butterflies.

## Create a Rain Garden



Not only will rain gardens capture stormwater runoff and beautify your property, they also provide biodiversity that helps butterflies and bees survive.

## Redirect Downspouts



This simple action allows you to redirect rainwater to your lawn or garden, while also reducing the amount of stormwater that goes to streets and directly into the lakes via storm sewers.

## Pick Up Pet Waste & Litter



This simple act helps reduce the potential of *E. coli* pollution from washing into our lakes and closing our beaches after rain events. If you don't have a pet, simply pick up trash you may see on your walk to reduce pollution and make our community more beautiful for everyone!

## Reduce Salt Use



Winter salt runoff into our lakes can be toxic to aquatic plants and animals. Reducing salt does NOT need to compromise public safety. By shoveling snow, using sand, and limiting salt use, you can be lake friendly and safe at the same time.

Source: Clean Lakes Alliance

## Start Home Composting



Turn your food trash and yard waste into valuable, nutrient-rich soil that reduces fertilizer use and provides you with a cost-saving solution for use in your garden, planters, or rain garden!

## Install a Rain Barrel



By capturing rainwater from your roof, rain barrels reduce the amount of stormwater runoff that reaches the lakes and also provide you with stored water that can be used on gardens and lawns.

## Plant Home Food Gardens



Planting a garden will provide food for you and your family. Gardens also reduce transportation costs, provide a place for mulch and compost use, and help infiltrate stormwater.

## Inspire a Friend or Neighbor



Leading by example creates a large ripple effect! Can you inspire friends, family, and neighbors to adopt these actions at their own homes? Share what you're doing or bring someone to a Clean Lakes Alliance event so they can learn more about helping our lakes.

## Rake for Leaf-Free Streets



Leaves contain phosphorus. When left in the street, stormwater passes through leaves like a teabag and brings the phosphorus with it. Raking leaves from the street edge (3 feet from curb) and onto lawns will help fertilize the grass and reduce cyanobacteria blooms in our lakes!

During the recovery period, elected officials will team up with local organizations in their district to lead community restoration efforts, including critical infrastructure, essential services, business retention, and redevelopment of damaged housing units.

Specifically, staff have met with members of the Middleton Library Board who are interested in expanding the capacity of the Middleton Public Library to serve as a resource hub to help the community heal during uncertain times like COVID-19.

**H. Consider establishing a Business Recovery Center (BRC) to help local companies get the assistance they need to re-open or stay open after an event like COVID-19 or a natural disaster.**

A business recovery center serves as a one-stop shop to provide local, county, and federal resources to businesses after a catastrophic event. A BRC carries out disaster recovery functions through a centralized location. Middleton's BRC could be housed at the Chamber of Commerce or in an entirely new location centrally located to the business district. Care should be taken to make sure there are materials in other languages that accommodate local business owners. During a pandemic such as COVID-19, public health orders may prevent in-person gathering, and a well-organized one stop shop online resource would be helpful. In the event of long-term power and internet outages, a specific centrally located brick and mortar location would work better.

## Lessons Learned from Mobilization during Disaster

The school district mobilized food service to families in need almost overnight and set up nine different pick-up locations for daily breakfast and lunch. The Middleton Youth Center contacted all the families it serves and delivered a box of food and supplies, plus handwritten letters to its students and their families each week. The Senior Center maintained its food programs and transportation to health providers for seniors who use these services. They have also handled an influx of additional mental health needs due to challenging and cascading ripple effects of long-term quarantine and isolation. Citizen volunteers organized online neighborhood hubs and weekly check-ins, community spirit weeks, and letter writing campaigns thanking essential workers. The City held a successful in-person Spring election under extraordinary circumstances requiring management of a record number of absentee votes and strict public health guidelines for in-person voting. There was no play-book for how to manage an election under these circumstances. One lesson learned is that people rise to the occasion during disasters and that citizens are just as adept at quickly organizing as institutions in many cases.

**Strategy 3:** Protect and enhance our impressive public lands and open space that make up 25% of Middleton’s land use (conservancies, parks, forests, and trail system) and provides recreation, beauty, tranquility, and multi-functional, ecological system services.



Source: Photography by Kathleen Henning

“Our ability to perceive quality in nature begins as in art with the pretty. It expands through successive stages of the beautiful to values as yet uncaptured by language. The quality of cranes lies, I think, in this higher gamut, as yet beyond the reach of words.” – Marshland Elegy, A Sand County Almanac.

The City of Middleton’s award-winning public lands system is a defining feature of Middleton and contributes to the quality of life for residents and visitors alike. The 835 acres of forests and conservancy lands, 156 park land acres, and 27 miles of off-road hike and bike, cross country ski, and mountain biking trails provide cultural, spiritual, and aesthetic value while supporting local biodiversity in our urban ecosystem. Pheasant Branch Conservancy and Lakeview Park are popular destination spots for locals and out of town visitors who bring economic activity to local businesses. Middleton’s active and passive recreational offerings support mental and physical health for a wide variety of users of all ages and abilities. Our public lands also provide multi-functional ecosystem benefits that aid in flood control and stormwater conveyance, which is central to the city’s resiliency in the face of disruptive climate change. They are essential to Middleton’s sustainability in every way.

Middleton has been tested by two disruptive community challenges over the past two years that have proven how valuable our conservancies and parks are to the public. In 2018, Middleton suffered a record setting flood as the result of an 11-15-inch rain just west of the city. The floodwaters roared through the Pheasant Branch Creek Corridor and Conservancy before entering Lake Mendota. Damage was estimated in excess of \$30 Million dollars and affected public and private infrastructure throughout the city. The city’s kettle ponds also flooded and remained high for months because there was nowhere for the water to go, even if pumped, due to downstream high lake levels and slow drainage through the watershed. Residents could not fully access conservancy lands or adjacent parks for months as crews worked to remove debris and begin the process of cursory streambank stabilization and bridge repair. Although the storm was unprecedented and there was incredible damage done to our public lands, the flood made it abundantly clear how instrumental our public lands are in conveying heavy storm runoff through the city, protecting both life and property. Middleton is likely to see more frequent storms because of moisture laden atmospheric trends from warmer air. It is essential for the city to prioritize upstream water infiltration and evapotranspiration, and work with both existing and new developments to manage their on-site water runoff using green infrastructure techniques, in order to protect our public lands and reduce flooding impacts. This work must happen in conjunction with the Water Resources Commission and the planning department. Residents must also be involved on private lands. Restoration work, streambank stabilization and trail design and buildout will continue in 2021 and 2022 within the creek corridor, and strategies for kettle pond management will continue into 2021. Funding will come from FEMA in limited circumstances, Middleton’s stormwater utility, charitable organizations and individuals, and city funds. It is important to recognize that spending money now for infrastructure improvements that are built to withstand more frequent storm events, along with investments upstream for flood control, will save money in the long run when the rains come.

Middleton faced another unforeseen challenge in 2020 as a result of the COVID-19 global pandemic. With businesses shuttered, schools closed, and a nation-wide quarantine in effect for months, Middleton’s public lands became an essential escape for socially distanced recreation and mental health. When Governor Evers shut Wisconsin State Parks, people flocked to Middleton in large numbers to enjoy nature and landscapes that the parks and public lands here offer. City staff closely monitored usage, posted signage about social distancing, and followed guidance from our local public health officials in order to keep these essential amenities open to the public. Middleton also made the decision to open our aquatic center for the summer (one of only a few public pools in the region to do so) by following strict guidelines laid out by the State and

County Health Department. Middleton’s aquatic center provided needed stress relief and recreation for families and provided a nugget of normalcy in an era of social unrest and economic uncertainty. The COVID-19 pandemic continues in 2021, and Middleton’s Public Lands are expected to see higher than normal use, which in turn means additional maintenance. The pivot of in-person recreational programming to small, socially distanced group and online programming has also affected the City’s recreation budget which is dependent on fee-based programming. The pandemic has highlighted gross disparities in health outcomes across communities who are Black, Indigenous and People of Color, as well as for seniors and differently abled individuals whose programs and resources have been depleted or shuttered during this crisis. Recreation and accessibility to public lands is a necessary city service. Mental, physical, and spiritual health is difficult to quantify but perhaps the most important of all.

**Actions:**

**A. Conduct regular updates to the City’s Park and Open Space Plan; Bicycle and Pedestrian Plan; Americans With Disabilities Act (ADA) Review; Conservancy Lands Plan; Public Lands, Recreation, and Forestry Strategic Plans, and coordinate with Dane County on plans for the Pheasant Branch Conservancy.**

Please see these city plans as well as the Middleton Urban Greenway Area Study, and other individual park and kettle pond master plans for details and to learn about initiatives and projects taking place on our Public Lands. Each conservancy area should have a dedicated Management Plan/Master Plan. Most public lands plans are updated every 5 years. A Master Plan should have a minimum lifespan of 10 years but no longer than 25 years. Middleton will coordinate with Dane County Parks to write a master plan for the Pheasant Branch Conservancy.

**B. Expand community partnerships that support education and outreach, provide hands-on ecological and recreation experiences, and promote life-long learning opportunities for the residents of Middleton.**

Recommended outreach strategies include inclusive interpretive programming, community surveying and monitoring to collect scientific data, engagement through social media, evaluation of online conservancy media through web analytics, and an interactive mobile application.

Middleton’s public lands are situated adjacent to several local schools in the district. Kromrey Middle School, Middleton High, and Clark Street Community School back up to the Pheasant Branch Creek Corridor; Sauk Trail Elementary connects to Lakeview Park, and Elm Lawn Elementary School is across the street from Tiedeman Pond. The Friends of the Pheasant Branch Conservancy has been dedicated to working with the school district for over 20 years through the award-winning Kids for the Earth program. They continue to develop new curriculum and events like Conservancy Days. Students and teachers use these park land and conservancy spaces to foster an understanding and respect of our surrounding ecosystem and natural world. Many student volunteers help to maintain adjacent rain gardens or collect data on bird collisions with building glass near the conservancy. In a recent survey however, of 1200 Middleton High School Students surveyed about environmental literacy, only 324 responded that they feel confident in their environmental knowledge upon graduation. Meaningful engagement embedded in our local ecology will help foster a lifetime stewardship ethic that translates to enhanced career choices and investment in local life-sustaining ecosystems. Other groups that are engaged with work in our public lands include the Friends of Pheasant Branch Conservancy,

# Economic Impacts of Parks & Recreation




Friends of the Kettle Ponds, Bock Community Gardeners, Middleton Area Public Lands Endowment (MAPLE), Sports Associations, American Girl, and the Boy Scouts of America.

**C. Recognize the importance of funding ongoing maintenance costs for our public lands during the yearly budget process.**

Middleton is unique in that its open spaces are owned by the city unlike many neighboring municipalities. An advantage of Middleton's ownership of public land is its connectivity to city parks, city trails, and community centers. However, challenges include limitations in staffing and funding and regular maintenance of restored spaces that are still in transition to a functioning native ecosystem. Restoration efforts in Middleton Hills, Bock Forest, and around Tiedeman Pond have been true success stories. They have enhanced areas that were recently devoid of native species and biodiversity. Restoration efforts take years to establish and must be maintained regularly in order not to lose ground and prior investments. Middleton will prioritize regular maintenance including prescribed burns and invasive species removal.

Current staffing and funding levels are a constraint on conservancy lands management and enhancement. Future funding, staffing levels, and staff expertise will need to adjust to demands of the conservancy lands system. Future funding of conservancy lands will require contributions through grants and donations.

**D. Increase connectivity between Middleton's public lands, adjacent communities, and other regional open spaces through land acquisition and/or trail easements that create green corridors.**

Community Surveys from 2018 show support and desire for creating and expanding connections to other public lands and regional

open spaces. Survey comments expressed interest in connections to Madison, to the communities of Waunakee/Westport, and to communities west of Middleton. An Urban Greenway Study was prepared in 2016 providing recommendations for expansion of a greenway connecting downtown Middleton to the Middleton Bike Park area and areas west of Middleton's city limits. Other opportunities for increased connectivity include the urban greenway to the north of the North Lake subdivision, bike path connections to the Westport area, and expansion of the Graber Pond Trail as development continues to the east and west of Graber Pond.

The city will also use green corridor connections to integrate wildlife and pollinator habitat as much as possible. A general planting scheme designed to provide ecological benefits beyond human connectivity could be overlaid with the Urban Greenways Study with the objectives to:

- Increase carbon sequestration with deep rooted, long lived native plants, and
- Provide pollinator habitat for endangered and native pollinator species such as the rustic bumblebee and non-native but essential honeybees
- Increase biodiversity in both plant species and the insect population they support
- Increase infiltration and evapotranspiration of excess stormwater runoff
- Provide cover, food, and foraging habitat for wildlife and bird species
- Enhance aesthetics along multi-modal transportation corridors

**E. Implement an Integrated Pest Management (IPM) approach to pest and invasive species management on all public lands in Middleton and promote IPM community wide through public outreach.**

IPM is a sustainable, science-based, decision-making process that combines biological, cultural, physical and chemical tools to identify, manage and reduce risk from pests and pest management tools and strategies in a way that minimizes overall economic, health and environmental risks. IPM means responding to pest problems with the most effective, least-risk option. Applying pesticides to landscapes or in buildings on a routine basis, regardless of need, is not IPM. Applications of pesticides are always the last resort in an IPM program.

Community IPM is an approach to managing pests in buildings and landscapes including homes, businesses, rights-of-way and recreational areas using proactive, preventative, knowledge-based and low-risk methods. Community IPM practitioners work to identify and correct pest-friendly conditions by first correcting the conditions that lead to pest problems and using approved pesticides only when necessary.

**F. Support enhanced and future recreation opportunities in growth areas that meet the needs of Middleton residents.**

The 2018-2023 Dane County Parks and Open Space Plan (POSP) identifies disc golf and mountain biking as the two largest growth areas in Dane County. Middleton will incorporate recreational opportunities customized to Middleton demographics. Current trends show that there will be an increase in the population aged 50 and up in the near future. Activities that meet this age group's needs could include skiing/snowshoeing, biking, tennis, hiking/walking, etc.

**G. Current and future initiatives and infrastructure improvements in public lands will seek to improve accessibility for Middleton’s aging seniors, differently abled residents, those with cognitive challenges, and children.**

Middleton will continue to adapt trails, parks, and conservancy lands to promote safe and enjoyable use by all residents regardless of their mobility, age, or cognitive abilities. The Friends of Pheasant Branch Accessibility and Use Committee is a leader in developing and implementing programming for users regardless of their mobility, age, or cognitive abilities. The city will coordinate with this committee and Dane County to provide the widest array of outdoor experiences to all users.

Middleton offers nearly 9 miles of ADA-accessible trails. Adaptive fishing equipment is available for free (loaned) and there is an adaptive fishing port at Lakeview Park. Graber Pond has an accessible boat landing off of the boardwalk. The Conservancy has a free all terrain wheelchair available for trail use that can be checked out of a storage shed at Orchid Heights Park.

Other accessibility objectives include improvements to wayfinding and interpretive signage, creation of sensory corridors to host sensory tours, and the integration of interpretive programming with a Mobile Device App. Parks will prioritize ADA compliant barrier-free access in all new or improved park facility construction, play areas, and sports field areas in accordance with adopted regulations and recommendations set forth in the 2012 RAC report. Curb cuts that are lacking in some parks and preclude easy access for pedestrians from street to park also pose a barrier for cyclists. Barrier-free access to Middleton’s lakefront should also be prioritized.

The issue of electric bicycles versus no electric bicycles on public trails in Middleton is a topic

that will be addressed in the next iteration of the Bike and Pedestrian Plan Update. As electric bicycles rise in popularity and acceptance, seniors and people not normally able to bike for long distances are able to access destinations that they currently reach using a single use vehicle. Electric bicycles are not currently allowed on conservancy trails by city Ordinance, but this could change.

**H. Protect property throughout Middleton with upstream flood control and nutrient reduction strategies, in order to preserve restoration and redevelopment investments, and to reduce detrimental downstream effects from runoff.**

The majority of urban storm water nutrient and sediment loads come from small to medium size rain events. However, increased urbanization combined with the effects of climate change puts additional pressure on conservancy lands in Middleton and downstream communities during increasingly frequent, large storm events. Sedimentation particles carried by runoff settle in detention ponds by design, but an abundance of phosphorus in these ponds carried by storm water runoff can promote algae blooms. Intense flows from larger storms also create faster conveyance through our Pheasant Branch Creek system causing bank destabilization and vegetation loss.

Middleton must utilize multiple, site specific strategies to slow the flow of runoff during storms of multiple sizes and durations and locate land and soils best suited for infiltration and evapotranspiration. Until land acquisition in the North Fork of Pheasant Branch is feasible and/or inter-jurisdictional land management practices are agreed upon with the Towns of Middleton and Springfield, the city must charge ahead using a combination of other bold and varied strategies. These include promoting green infrastructure in both new developments

and retrofits for existing buildings and infrastructure to manage the more frequent small to medium storm events. The City of Middleton might also work with the Adaptive Management Program to increase infiltration practices on farms. Homeowners also have a role to play with managing water on their own properties. Our conservancy areas provide inspiring examples for how residents can use native restoration and infiltration methods in their own yards.

## Accessibility in the Parks

The Friends of Pheasant Branch (FOPB) Senior Advisory Council has been instrumental in organizing events such as Make a Memory Day for older adults, individuals with cognitive challenges and those with limited mobility. Their Advisory Council recruited and trained naturalists to lead tours into the conservancy with the use of large golf carts and the new all-terrain wheelchairs provided by Access Ability Wisconsin. FOPB promotes lifelong learning opportunities guided by an inclusive process that draws ideas from resource organizations that serve seniors and community of seniors.



Parks will be designed with storm water best practices in mind. They will integrate rain gardens and bio-retention facilities and use rain barrels near park structures. Areas in the park that provide passive recreation will choose more deeply rooted native plantings and trees that sequester carbon and take up excess water.

**I. Establish a long-term working partnership with the Friends of Pheasant Branch on shared goals and strategies.**

The Friends of Pheasant Branch are a non-profit organization dedicated to restoring, protecting and promoting the Pheasant Branch Conservancy and watershed for today and tomorrow. This mission drives the Friends' programs and decisions as they advocate for the Conservancy, and do physical, informational and educational work. The Friends have been instrumental in protecting the Pheasant Branch Conservancy as a regional treasure and serving as the voice of all the jurisdictions that impact it. The City will continue to work collaboratively with the Friends of Pheasant Branch and will establish a long-term working partnership to address shared goals and strategies.



Photo by Tom Croizer

**Strategy 4:** Promote **biodiversity** and value the many co-benefits provided by species in our ecological biome.

Historically, southern Wisconsin supported a mosaic of prairie, oak savanna, oak woodlands and wetlands. Today, less than 0.1% of original prairie and oak-dominated communities remain. Middleton's conservancy lands include areas of remnant and restored native plant communities, including prairie, sedge meadow, oak savanna and oak woodland which support habitat for insects, wildlife and birds. Biodiversity boosts ecosystem productivity where each species, no matter how small, all have an important role to play. For example, a larger number of plant species means a greater variety of crops able to withstand various extreme conditions or diseases – in this way, healthy ecosystems are more resilient. Natural communities are impacted by past land use legacies and ongoing stressors such as habitat loss, fragmentation and degradation. Threats to natural communities are either directly or indirectly a result of human influence on the landscape. Major threats to southern Wisconsin's natural communities include fire suppression, habitat loss, habitat fragmentation, loss of biodiversity, invasive species, changes in hydrology, and climate change.

Middleton is a designated a Bird City, and Tree City, and is located on the Mississippi Valley Flyway Migration Route. 235 species of birds have been identified in Pheasant Branch Conservancy. Other bird viewing hotspots in Middleton include Strickers Pond, Tiedeman Pond, Middleton Hills Pond, and Graber Pond. Birders come from near and far to photograph and catch a glimpse of nesting cranes and eagles in Pheasant Branch Conservancy and our kettle ponds. Conservancy marshes with open water, springs, prairies, meadows, lowland forest and wooded hills, sustain a wide variety of plants and animals, including some that are threatened or endangered. The City will enforce the off-leash policy in sensitive birding areas and will remind pet owners through signage and web postings of the threat that off-leash dogs pose to ground nesting birds. In addition, the City will ensure that commercial development near the Conservancy (and other preserve lands) will use appropriate lighting (downlighting) that does not adversely affect the nocturnal patterns of wildlife. See the Conservancy Lands Plan to see a list of locally endangered species in Middleton.

# Economic Impacts of Parks & Recreation Continued...



## WILDLIFE VIEWING

Wisconsin ranks

**9th**

in the nation since 2011 for wildlife viewing related expenditures

with

**\$1.5 billion**

in direct and indirect expenses including food & lodging, equipment, and landscaping designed to attract wildlife.

Nationally, of the

**86 million people**

people who engaged in wildlife watching in 2016,

**28%**

participated by travelling over a mile from home

**94%**

participated less than a mile from their home

Source: Caudill, James. 2014. Wildlife Watching in the U.S.: The Economic Impacts on National and State Economies in 2011. Addendum to the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. Report 2011-2 US Fish and Wildlife Service. Washington, DC

The Friends of Pheasant Branch Conservancy (FOPBC), a local non-profit group, has been instrumental in funding and leading restoration efforts in our Conservancy and also providing education for residents and school district students to engage in this work. The City of Middleton will continue to protect habitat, diversify the tree canopy, and promote native species that aid pollinators in residential neighborhoods through outreach and public education.

**Actions:**

**A. Create a bird friendly building ordinance that reduces bird collision mortality in all new developments.**

Over 500 million birds die every year in America due to window strikes – about 10% of the total bird population. These window strikes typically occur low to the ground within the first one-three stories of a building. They happen when migrating birds take breaks to forage and then encounter visual disorientation with windows and reflections upon take-off. Locally in 2019, Bird Collision Corps volunteers from Clark Street Community School monitored Kromrey Middle School’s windows facing the Pheasant Branch Creek Corridor for bird collision mortality. The low-level monitoring was conducted during spring and fall (2-3 times per week). There were 12 documented window strike mortalities, mostly all songbirds, and a Kingfisher. Similar data was collected on the campus of University of Wisconsin- Madison by the Bird Collision Corps. The BCC has documented hundreds of window strikes in just the dozen or so Madison buildings they monitor on campus and at Kromrey Middle School. 66 species of birds have been affected, including 9 Wisconsin-designated Species of Greatest Conservation Need, and 1 state threatened species. Most are small, beautiful, charismatic songbirds.

Middleton will form a Bird Collision Mitigation Task Force in 2020-21 to explore bird friendly building ordinances that reduce collision mortality for birds. Design considerations made up front at the beginning of a building design process are cost effective, are often more energy efficient, and have positive measurable outcomes for our local bird population.

**B. Catalogue biodiversity in the city to identify hot spots for interventions and investment, areas that are most at risk, and areas with greatest potential for adding and supporting biodiversity.**

In Middleton we have many areas that are low in tree canopy cover – no surprise given the prevalence of the emerald ash borer. Canopy cover should increase over time given all of the new trees the Forestry department plants. However, to assess whether low tree canopy is impacting neighborhoods where Black, Indigenous, and other people of color live, a canopy cover analysis should be done that overlays our city’s information regarding housing type and demographic information.

Cities are beginning to understand the benefits of wildlife and biodiversity and how to measure the health and interconnections between plant species and the presence of birds, pollinators, and other wildlife. Middleton will seek out available tools for urban planners to assess how a proposed development would affect local wildlife, or which neighborhoods could benefit most from habitat improvements. These assessments also help measure a city’s baseline biodiversity condition. Understanding what’s happening before species start to disappear opens the opportunity for interventions and urban design to retain them.

Middleton will create a system for monitoring wildlife, identify and monitor threatened and endangered species, and use collected data to

inform management. The City will establish a framework for submitting observations that can be used by City staff as well as citizens and volunteers.

1. Consider hosting an [iNaturalist bioblitz](#) in a defined conservancy area. According to iNaturalist, “a bioblitz is a communal citizen-science effort to record as many species within a designated location and time period as possible.”
2. Link with established local projects such as the WDNR’s Snapshot Wisconsin project and the UW-Madison’s Urban Canid project. Snapshot Wisconsin is a volunteer-based partnership to monitor wildlife across the state. Participants submit trail camera footage that is classified (species identified) using crowdsourcing methods.

**C. Support and maintain native plantings, restoration practices, and broaden invasive species control beyond conservancies and parks by collaborating with state and local agencies as well as private landowners.**

Native plants support habitat for a wide range of insects, wildlife and birds. They also provide other ecological benefits to the local ecosystem. High below-ground biomass leads to increased carbon sequestration and native plants host more nutrient and pollutant-reducing microorganisms compared to non-natives. They also stifle non-native invasive species from taking hold. When initiating a native plant establishment project, the City recommends a 10-year establishment period prior to shifting the project from capital to maintenance budgets. This allows the planting to establish and become resilient to degradation from invasive species, flooding, or other outside influences. The best approach to control invasive species is to prevent a small number of plants from becoming a major infestation through regular monitoring and prompt control.

Middleton residents are lucky to have plentiful parks and conservancy lands that provide inspiration for their own yards and shared spaces. The city will engage with developers and conservancy neighbors to plant conservancy-compatible vegetation along lot lines. For example, if an area contains prairie and prescribed burning is an intended management tool, the city will encourage adjacent developments against planting heat-sensitive plants such as *Arborvitae*.

**D. Middleton’s Sustainability Committee supports obtaining a Bee-City designation coupled with a “No Mow May” Campaign for residents to protect pollinator habitat.**

The city will continue to follow a “grow not mow” policy in city parks to limit how often (and what portions of) parks are mowed. Adding a day or more to the mowing cycle and preserving natural grasslands and other features in parks can reduce the amount of fossil fuels consumed in city operations, increase natural buffers around shoreland and wooded areas, and reduce soil erosion. Mowing lawns, a little less often — not weekly but every two or three weeks — will increase the population of native bees and other pollinators.

**E. Support conservation programming, like ecological tours, sensory walks, or birding events that draw public interest and enthusiasm.**

The City of Middleton will partner with Friends of Pheasant Branch and support programs that increase biodiversity and education about the importance of biodiversity in our public lands and on private property. The City will maintain and update interpretive media for conservancies on the city website. The city currently has a “crane cam” set up and funded by American Transmission Company (ATC).

**F. Identify and establish wildlife corridors between green spaces, parks, and conservancy lands.**

Middleton’s network of urban green spaces should provide wildlife corridors through the urban matrix. When these corridors are plentiful and within proximity to each other, they have the potential to lessen the risk of sink habitats in urban areas. Models of networks suggest that even small patches within a city have the potential to connect populations of highly mobile and small animals (e.g., butterflies) with source habitat in the peri-urban area.<sup>3</sup>



Photo by Dee Finnegan

**Strategy 5: Reduce waste with robust policies and resources for reuse, recycling, and community curbside composting programs, and move the narrative away from “waste management” and instead to “resource recovery.”**

Middleton has been a leader in resource recovery for over a decade now. The city’s sustainability committee was instrumental in leading these efforts beginning in 2010, with “clean and green” events in the city that collected materials for recycling in bulk. Since that time, the City has made steady progress in reducing waste city-wide.

The City of Middleton contracts with a private company to provide garbage and recycling services to City residents and some small businesses, whereas larger multi-family and commercial buildings have their own contracts with private haulers. Since 2008, the City has contracted with Pellitteri Waste Systems to provide weekly curbside collection of trash and items for “single-stream” recycling. Bulk items (including appliances) are picked up on call. Pellitteri disposes of solid waste at the Dane County Landfill, and they sort and bale the mixed recyclables at their Kipp Street Station in Madison before shipping them to manufacturers for reuse.

The City actively encourages residents to find suitable alternatives for sending household items to the landfill. In 2015, the City opened the Middleton Recycling Center, which is part of the Middleton Operations Center located at 4330 Parmenter Street. The center is open year-round on Saturdays from 8:00 AM to Noon, excluding major holidays, and accepts a wide variety of items for recycling. A [Trash & Recycling Guide](#) is kept current on the City’s website.

The City’s street crew collects brush from street terraces between April through October on a set schedule.

**Actions:**

**A. Reduce point source waste by encouraging less consumption and greater material reuse.**

Middleton will reduce its waste by reviewing and updating its purchasing policy to address upstream waste produced during manufacturing and through material choice. Materials should meet at least one of the following sourcing and extraction requirements:

- Products purchased from a manufacturer must have an Extended Producer Responsibility (EPR) program. An EPR is a policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products. In principle this type of policy provides an incentive to prevent waste at the source and promotes more sustainable product design.
- Materials purchased have been used once already. This includes salvaged, refurbished or reused materials/products.
- Materials purchased have a high recycled content.

The city will also encourage residents to buy used, look for products with less packaging, buy reusable over disposable items, maintain and repair products instead of throwing fixable items away, and borrow, rent or share items that are used infrequently.

**B. Middleton will recover materials from the waste stream which have a high value and provide a mechanism for collection and channelization of these back to the producer thereby moving towards a circular economy.**

For Middleton to foster a circular economy, the city will first conduct a waste stream audit for all non-recyclable waste generated within the city

and identify the top five major contributing waste producers. The city will then initiate a dialogue with the identified producers to take appropriate measures for the safe collection, storage and recycling/reuse to take product back into the system.

The city may be able to leverage support for addressing and establishing a local circular economy by collaborating with Dane County and the Made in Dane Manufacturing Network. One first step will be to work through the Sustainability Leadership Collaborative and launch a working group to map gaps and potentials of this idea.

**C. Continue to work with the Chamber of Commerce on a Public Education Campaign to reduce single use plastic in the city.**

The Sustainability Committee will prioritize single use plastic reduction in the city and partner with the Middleton Chamber of Commerce to amplify a public education campaign that provides resources to encourage plastic reduction. The two groups will convene a group of interested businesses who will discuss potential initiatives and set a scope for reducing single use plastics in Middleton. The city will also engage restaurants to voluntarily join the Great Lakes Healthy Restaurants Program. Criteria for admittance into the Great Lakes Healthy Restaurants Program include:

- No expanded polystyrene use
- Proper recycling practices are followed
- Only reusable food ware is used for onsite dining
- No plastic bags offered with take out or to-go orders and utensils are provided only upon request.
- Paper straws are provided only upon request

#### D. Establish a food composting pilot city-wide

Survey results from the 2019 City of Middleton Community Survey show that there is community support for a curb-side food scrap composting service. It was mentioned several times by survey respondents. Middleton has been waiting for the outcome of a feasibility grant with the EPA that Madison received in 2019 to look at developing a community bio-digester that could take local municipality food scraps on a large scale. Previous pilot composting programs in Madison have come to a halt after bin contamination issues and subsequent required oversight of individual bins became too difficult for city crews to maintain. Food waste accounts for 25% of all waste in the Dane County Landfill, and end use composting is only one partial waste reducing solution in the life of food production. A successful curb-side composting program would require a clear and effective public education campaign that persists for years, until behavioral change kicks in and separating our food waste becomes the norm.

One first step will be to host a city composting pilot in three municipal buildings downtown: City Hall, the Library, and the Senior Center. The Sustainability Committee supports a pilot program using a local composting service that will pick up food waste from these buildings on a weekly basis. This program will model leadership on this issue, and the sustainability coordinator will measure success and use the metrics to launch a city-wide education campaign around food waste.

#### E. Track and measure waste stream for both non-recyclable and recyclable materials on a city-wide, yearly basis.

Again, as with energy consumption, you can't improve what you don't first measure. LEED for Cities Certification requires Middleton to report on waste streams city-wide. This will require

businesses and developers who don't contract with the City's residential trash and recycling contractor to provide the name of their hired service when they pull a permit for building or renovation. The sustainability coordinator will oversee collecting yearly waste stream data as required within the Sustainable City Plan.

#### F. Purchase bottle filling stations for the downtown district and set up a reusable water bottle program with participating businesses.

As part of a downtown district initiative to reduce single use plastic use, the City will partner with participating businesses and help secure funding for several public bottle filling stations to reduce dependence on plastic bottle purchases. This will be coupled with a reusable water bottle program with participating businesses that will encourage behavioral change to reduce waste.

#### G. Encourage Middleton Hotels to participate in a vetted, third-party green business certification that uses science-backed standards, benchmarks, and guidelines and has a clear and transparent certification process.

The City Sustainability Committee and Planning Department will work with Middleton's Tourism Department to encourage greater local hotel industry participation in third party, vetted certifications such as LEED (Leadership in Energy and Environmental Design), B Corp, Energy Star, WELL Building. The City will highlight efforts and success stories in the city's branding and marketing materials.

A third-party sustainability certification program tailored towards the hospitality industry supports Middleton's energy benchmark goals referenced in Strategy 1: Action B and would allow hotels to measure their improvements.

Measurable Sustainability Categories Include:

- Communication and Education (Customers, Employees, Public)
- Waste Reduction, Reuse, and Recycling
- Energy Efficiency, Conservation, Renewable Energy
- Water Conservation and Wastewater Management
- Indoor Air Quality
- Wildlife and Landscape Conservation and Management
- Transportation Accessibility
- Sustainable Purchasing
- Support for Local Community Benefits



Photo: New bubbler with bottle filling station at Woodside Heights Park.

**H. Use the TRUE rating system to evaluate and pursue zero-waste goals in municipal buildings.**

The City will follow the TRUE rating system, an offshoot of LEED (Leadership in Energy and Environmental Design) to help evaluate and act on meeting zero-waste energy goals by 2030 in city owned buildings.

The TRUE certification program enables facilities to define, pursue and achieve their zero waste goals, cutting their carbon footprint and supporting public health. A TRUE project's goal is to divert all solid waste from the landfill, incineration (waste-to-energy) and the environment. TRUE promotes processes that consider the entire lifecycle of products used within a facility. The Sustainable City Plan will provide further guidance on zero-waste goals and will outline necessary actions and indicators to move us towards this goal.

**What is Zero-Waste?**

Zero-waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero-waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing zero waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.

**I. Adapt to changing recycling markets by educating public about contamination, sorting materials more effectively, and promoting local processing facilities.**

The key to successful community wide recycling and waste reduction is sustained and frequent education and communication about how to recycle properly. Contamination is the biggest challenge for recycling and compost programs. City staff will update the Trash and Recycling Guide City to help make it a more user-friendly, and accessible resource for residents.

Sustainability staff and the Public Works Department will communicate frequently and provide learning opportunities to stay abreast of changing recycling methods, markets and new offerings. The city will highlight successes, provide yearly updates and metrics on city recycling percentages, and encourage Middleton residents to move towards a zero-waste household by providing increased outlets for recyclable materials and food waste.

**J. Collaborate with Dane County to establish a community and/or regional anaerobic biodigester that serves the City of Middleton.**

Middleton will work closely with Dane County and surrounding communities to establish a feasible anaerobic biodigester outlet for community food waste. The city will explore how this biodigester might also provide opportunities for local farmers to manage their waste and then receive a financial return on the sale renewable natural gas that is collected from the biodigester and pumped into the transnational gas pipeline at the Dane County Landfill.

Anaerobic digestion, like composting, breaks down organic materials like food waste, scraps and manure and harnesses the methane they produce. For many years, digesters powered generators and sold electricity back to the

power grid. Now there's an option to turn it into renewable natural gas Middleton is waiting to hear the results of a feasibility study for a community digester produced for Madison by the EPA in 2020. Middleton provided data for this grant and will be a part of future discussion around regional food waste recovery. Please see the Sustainable City Plan for next steps. One key part of this action will be pairing the infrastructure with a community education program. Anaerobic digesters cannot manage much contamination, and the cost will go up if a food waste hauler spends too much time surveying bins for contamination on a pickup route.

**Strategy 6: Celebrate and protect our shared watersheds and adjacent Yahara Lakes system, conserve our water resources, and safeguard the quality of our drinking water that comes from abundant underground aquifers.**

Middleton is rich in abundant water resources. Our city is part of the Lake Mendota watershed, which is a sub-watershed of the Yahara River, which drains into the Upper Rock River. The Rock River is a tributary of the Mississippi River. Middleton is geographically bordered to the east by Lake Mendota, and the 7-mile Pheasant Branch Creek and its tributaries flow into the Lake. Pheasant Branch Creek drains an area of over 22 acres and contributes 1,800 gallons of water a minute into Lake Mendota.<sup>4</sup> Middleton's four kettle ponds (Stricker Pond, Tiedeman Pond, Graber Pond, and Esser Pond) are glacial features, depressions in the earth created as retreating glaciers left chunks of ice buried in the terminal moraine. They have no natural surface water outlets. The kettles receive their water from precipitation or groundwater, or a combination of the two, and aid the hydrologic cycle through infiltration and evapotranspiration. The challenge is to infiltrate water upstream so that engineered solutions such as pumping water from the kettle ponds into lake Mendota is not needed to prevent flooding around the ponds.

Middleton draws 100% of its drinking water from six sandstone wells, ranging in depth from 330 feet to 856 feet. These wells penetrate the Franconia, Galesville, Eau Claire and Mount Simon formations.

Middleton also contains significant wetlands. The Wisconsin Wetlands Association considers the Pheasant Branch Conservancy one of 7 "Workhorse Wetland Gems" in the state.<sup>5</sup> These wetlands demonstrate functional values of a wetland as described by the Wisconsin Rapid Wetland Assessment Methodology.

The Pheasant Branch Conservancy is highlighted for its high groundwater connections.<sup>6</sup> Natural springs discharge 2.6 million gallons of groundwater into the Pheasant Branch wetlands daily.

The Yahara Watershed is one of the most studied watersheds in the world. Even with incredible data and awareness, it is still designated an "impaired waterway." Non-point source runoff, especially nutrient and sediment storm water runoff, is a major pollutant of Middleton's surface waterways. Excess nutrients such as phosphorus create conditions that impair water quality and encourage blue-green algae blooms, which are a human health hazard. Sedimentation in runoff reduces water clarity, and high bacteria concentrations (especially near beaches) create beach closures and a health hazard for swimmers. The region has worked hard for decades with both urban and rural partners to reduce phosphorus runoff. Phosphorus has been measurably reduced; however, climate change has brought more frequent, intense storms that have exacerbated runoff from agricultural lands. There are also many factors affecting water quality simultaneously: Land use and urbanization, invasive species, and climate trends all play into the shifting strategies of conservation practices.

Our lakes, kettle ponds, creeks, wetlands and groundwater resources form a vital network that supports ecology and habitat, provides recreational health and well-being, recharges our drinking water wells, and serves as stormwater conveyance during flood events. Understanding our place within this watershed and how our health is inextricably tied to the health of our watershed enhances the value of our ecological assets. The following actions seek to celebrate, and initiate citizen engagement with our watershed features and function. The hydrologic cycle touches everything in the city and beyond. Our water resources are greatly affected by the policy decisions and land use changes we employ. City government and Middleton residents both carry responsibility to protect our watershed.

## Actions:

**A. Celebrate and promote the value of our streams, creeks, and wetlands, and recognize their importance to our socio-economic and ecosystem health as a community through regular public engagement.**

The City will continue to partner with and amplify the work of local groups such as Friends of Kettle Ponds and Friends of Pheasant Branch Conservancy (FOPBC) who offer programming, volunteer days, and education about our water resources. Citizens are encouraged to join an extensive network of citizen stream monitors through the Rock River Coalition that augment existing stream monitoring established by the WDNR, MMSD and USGS. Citizen monitors collect data for in-stream water quality conditions in Pheasant Branch Creek; and track changes in stream water quality over time (trends) that may be caused by changing land use and water management practices.

**B. Preserve the role of wetlands, prairies, savannas and woodlands as essential components of the hydrologic system and valuable wildlife habitat. Protect shoreline and floodplain areas accordingly.**

Conservancy lands protect and provide buffers for Middleton's water resources. Pheasant Branch Creek, its source springs and seeps, and its tributaries (North Fork, South Fork) are protected by connected public open spaces that include Pheasant Branch Conservancy and Creek Corridor and the North and South Fork Trails. Middleton's Kettle Ponds are also protected by conservancy lands that in recent years have been improved with native plantings. Native plants have deeper roots than many non-native plants. Deeply rooted plants help infiltrate water, build good soil structure that holds water, and allow excess water to move down towards the water table. Native species also

help speed the evapotranspiration of excess water more quickly during flood conditions.

The city will continue to promote the interconnection and co-dependency between land use planning, the protection of our public lands, and the value our lakes provide.

**C. Continue to lead in partnership with efforts such as the Yahara WINS (Watershed Improvement Network) and the Yahara CLEAN Compact (version 3.0) collaboration to reduce phosphorus loads in our water from both urban and rural lands.**

Middleton's location in the watershed, its proximity to Lake Mendota, and the Pheasant Branch Creek system that drains parts of West Madison, town of Middleton, and the town of Springfield, places the City in a unique position to leverage actions regarding water quality and quantity in the entire Yahara Chain of Lakes. It is important for Middleton to lead responsibly, work with adjacent towns on jurisdictional agreements that build community resiliency and sit at the table when making regional watershed policy.

The City of Middleton is one of 23 participants in the Yahara WINS (watershed improvement network) watershed phosphorous reduction project organized by the Madison Metropolitan Sewerage District (MMSD), the WDNR, and partnering organizations. The project initiated in 2012 as a pilot regulatory compliance strategy called Watershed Adaptive Management, in which all sources of phosphorus in a watershed work together to reduce phosphorus.

Phosphorus from storm runoff from both rural and urban land is the biggest water quality issue in our lakes. Algae and cyanobacteria become a problem when an abundance of phosphorus is available. Most phosphorus comes into our surface water system during both winter and spring storms when agricultural land is bare.

Climate impacts (greater amounts of annual rain) are keeping phosphorus loads high even though the region has managed to employ measurable actions that reduce phosphorus concentrations in runoff. Most urban phosphorus comes from leaves left in the streets in the fall and from construction sites that don't have proper erosion control techniques in place. Phosphorus can also be stored in wetlands, streambanks, streambeds, and lake beds and may be released later into the water under certain conditions. There are effective management practices in place on many farms to reduce nutrient loads during spring storms. Farmers use planning tools to select the appropriate practices for their site-specific situations. One challenge scientists and farmers have in measuring success from management techniques is that there is a lag time between when action is taken to reduce phosphorus and when we see the reduction in the lakes. Loads also vary from year to year depending upon rain and snow melt variations.

The city is working in cooperation with the Friends of Pheasant Branch Conservancy and Madison Metropolitan Sewerage District to reduce the amount of salt entering our Pheasant Branch Creek and Lake Mendota. The city has been and will continue to be a leader in reducing the amount of road salt applied by its snow removal fleet and by encouraging homeowners to reduce the amounts of sidewalk and water softener salt they use.

Middleton is also part of the third iteration of the Yahara CLEAN Compact (Capital Lakes Environmental Assessment and Needs) collaborative effort. The Compact's overarching goal is to remove the region's five lakes and eight public beaches off the federally impaired waters list. Ultimately, it is a promise to cooperatively deliver solutions and actionable timelines that will improve water quality in our lakes by strengthening community partnerships and accountability. This collaboration aims to promote a culture of watershed sustainability that will benefit this and future generations.

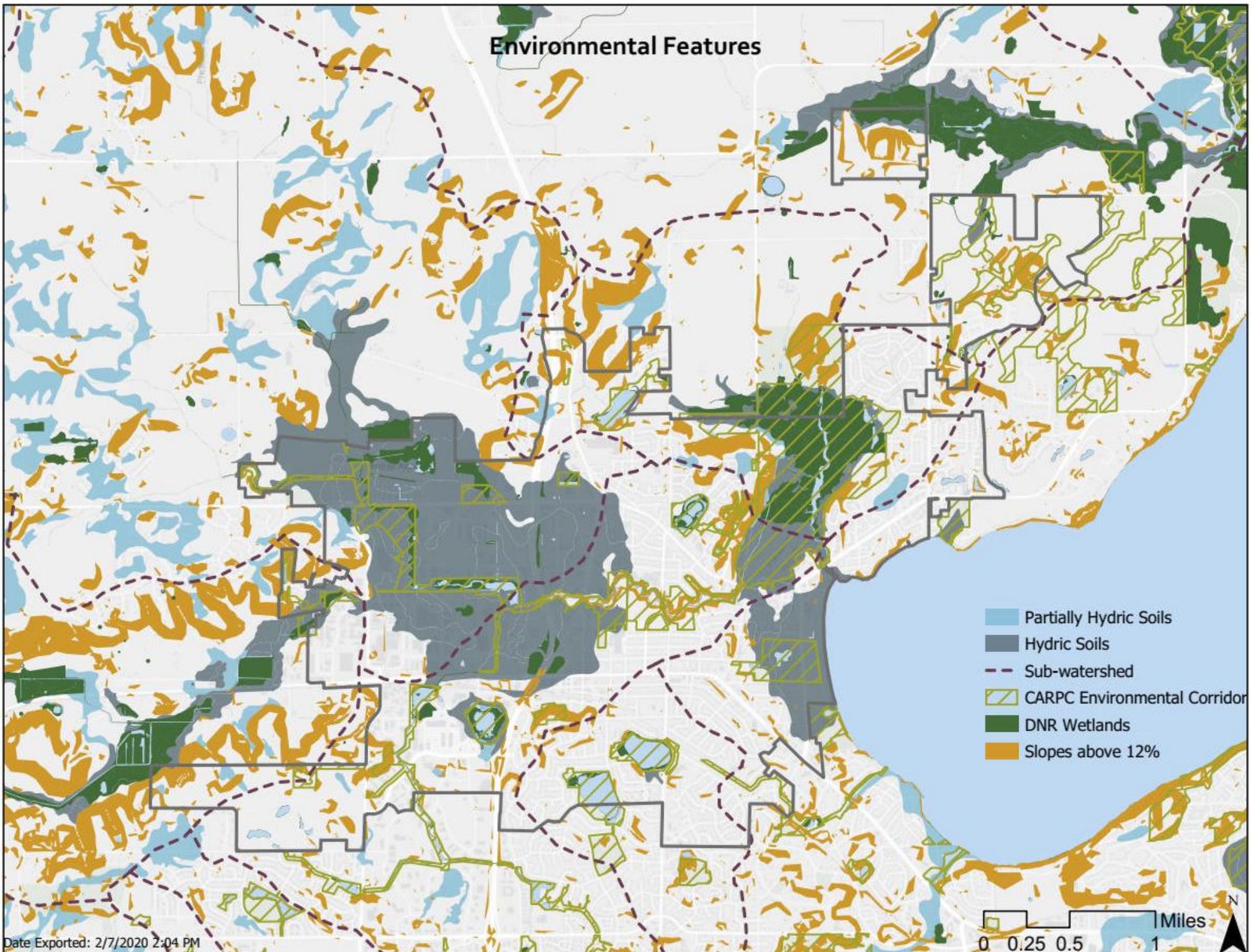
**D. Consider strategic land acquisition North of the City of Middleton, to improve both water quality and to manage water quantity by employing techniques that increase infiltration and evapotranspiration.**

Many actions that improve water quality also help manage water quantity, reduce scouring flood flows, and prevent downstream lake flooding during large rain events.

Middleton will continue to take guidance from and coordinate with the Water Resources Management Commission regarding runoff control measures and acquisition of lands for enhanced mitigation of runoff. The WRMC is currently investigating land acquisition around the North Fork of the Pheasant Branch Creek for corridor buffers and storm water detention basins. These areas could additionally provide benefits for wildlife habitat and recreational use.

Middleton will also work closely with surrounding towns and Dane County to identify potential sites for water detention or infiltration. Dane County has made significant land purchases in the past two years that directly affect flood flows and water quality protection adjacent to our conservancy lands. Dane County purchased 160 acres of land adjacent to Pheasant Branch Conservancy. It was the largest property acquisition for conservation ever approved in the county. The recently acquired land will be restored to prairie, wetlands, berms, and basins to manage stormwater. This will have a positive effect on the springs in Pheasant Branch Conservancy. The County also bought 79 acres of land at the source of Black Earth Creek in the town of Middleton to advance wetland restoration efforts and create more flood water storage in an area that flooded heavily in 2018.

# Environmental Features



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**Strategy 7: Develop a more systematic approach to implementing green infrastructure storm water practices and innovate ways to improve our watershed health and community resilience in the face of ever-increasing extreme weather events due to climate change.**

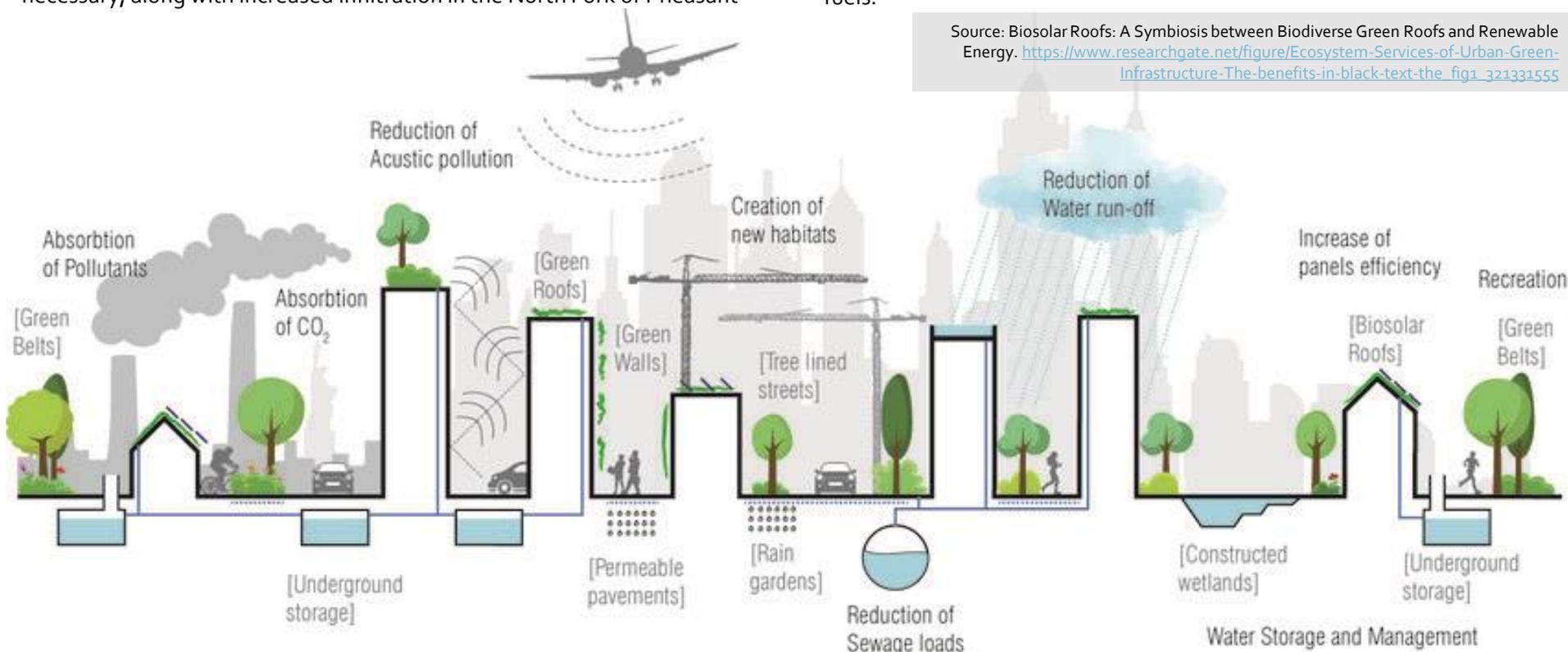
Green infrastructure (GI) is a building feature that manages water by mimicking the natural water cycle. GI brings climate resiliency to building and landscape plans and is often multifunctional and combined with other GI interventions and design features. GI is a cost-effective and flexible approach to mitigate excess runoff during small-medium sized storm events. In order to integrate nature into our cities and manage increased flood risks, we must deploy unique strategies where buildings or other impervious surfaces limit what the standard landscape code can accomplish. Green infrastructure enables projects to stack ecosystem benefits literally and systematically.

Middleton will recommend GI for new building projects and major renovations in order to manage flood risks that are increasing with development pressure (urbanization), impacts from climate change, regional deforestation, and destruction of wetlands. These strategies are necessary, along with increased infiltration in the North Fork of Pheasant

Branch to control future flooding that results from climate impacts. Luckily, GI has many other co-benefits and is often cost-effective when considering the life cycle analysis of a building or landscape. Examples of GI in building infrastructure include rooftop bio-solar, green roofs, blue roofs, green walls, rain barrels, etc. Landscape GI includes rain gardens, constructed wetlands, curb cuts to rain gardens or bio-swales along roads, community gardens, porous pavement, native landscaping, permeable paving units, and underground water catchment basins.

GI has many co-benefits in addition to reducing stormwater runoff. GI can hold water and effectively reduce flooding by allowing for evapotranspiration of excess water from plantings on rooftops and/or slow its release. Managing stormwater on rooftops and increasing the infiltration area in the city reduces the burden on municipal stormwater systems. For developers, GI can increase property value, improve aesthetics, and reduce energy use and energy costs. GI can improve our local ecology as well by increasing biodiversity, providing islands of habitat for pollinating insects and foraging birds, and filtering water from roads before it reaches our groundwater or our lakes. GI also supports the local green economy and job growth as we transition away from fossil fuels.

Source: Biosolar Roofs: A Symbiosis between Biodiverse Green Roofs and Renewable Energy. [https://www.researchgate.net/figure/Ecosystem-Services-of-Urban-Green-Infrastructure-The-benefits-in-black-text-the\\_fig1\\_321331555](https://www.researchgate.net/figure/Ecosystem-Services-of-Urban-Green-Infrastructure-The-benefits-in-black-text-the_fig1_321331555)



GI can be embedded into public parks, plazas, on top of buildings, along roads, in neighborhood rights-of-way, and in parking lots. Downtown Middleton already employs some GI strategies including permeable

pavers, underground detention basins, and native plantings in front of civic buildings. Future development projects like Stone Horse Green and the Community Civic Campus are planning to use GI to manage runoff and support biodiversity. In the future, captured water can be reused using GI techniques combined with smart technology, effectively closing the water loop in buildings.

#### Actions:

**A. Incentivize GI in new construction and remove any zoning code restrictions that prohibit grey water systems if they meet designated criteria.**

Middleton will continue to support and incentivize GI in its TIF policy. The city will remove zoning code barriers to innovative grey water systems and provide permit fee remittance for appropriate GI improvements.

**B. Promote and model green and blue roof technologies in new municipal building projects.**

Green roofs consist of a layer of vegetation planted over a waterproofing system that is installed on top of a flat or slightly-sloped roof. They fall into three main categories—extensive, intensive, and semi-intensive. A blue roof is designed explicitly to provide initial temporary water storage and then gradual release of stored water, typically rainfall. Both Green and Blue roof technologies can be combined with solar (bio-solar) on a roof to achieve multiple benefits. Blue roofs paired with smart technology can also track weather patterns and forecasts and use sensors to manage rainfall storage and release.

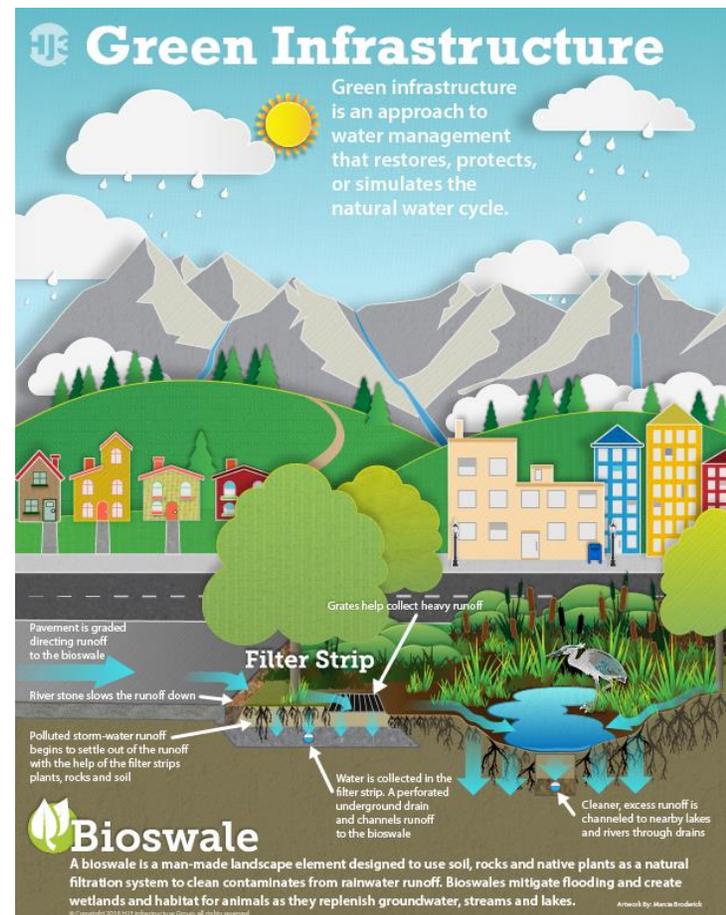
**C. Employ multiple site-specific GI strategies street by street during reconstruction projects.**

Green infrastructure will be prioritized in urban areas using a matrix that measures cost, efficacy, timing and budget opportunities with routine road maintenance and reconstruction, and co-benefits for ecology, economy and people. As the city moves through its road projects year by year, an analysis will be done ahead of time to estimate costs and efficacy of simultaneously integrating green infrastructure into road construction or water main replacement projects. Examples include narrowing roads and adding bioswales in some neighborhoods, curb cuts that empty rainwater into bio retention basins, installing additional tree canopy, and/or using porous pavement or permeable pavers in parking lots or on bike trails.

**D. Celebrate and protect our existing kettle ponds (Tiedeman, Stricker, Esser, Graber) and our conservancy lands that also serve the city as storm water assets.**

With future development in the Graber Pond watershed, coupled with anticipated increased rain events, the flooded area around Graber will grow beyond current levels. To mitigate this, the City could create a “no build” buffer delineation beyond areas that routinely flood around all of the kettle ponds (especially Graber).

At the neighborhood scale, the city will work with residents to promote resiliency through collective impact, using small individual actions at a scale where impact can be measured.



**Strategy 8: Create a local and just food system where everyone has access to healthy, safe, affordable food.**

Although Middleton is located in one of the nation's most productive agricultural counties and is one of the region's most wealthy communities, food security is a pressing issue for older and lower-income residents here.

"Food insecurity, when food access is insufficient or uncertain for at least one person in the household at some point in the year, is a day-to-day reality for nearly 12 percent of all people and 17.5 percent of children in Dane County, according to a report from Public Health Madison & Dane County."<sup>7</sup> In our community, food insecurity affects nearly 1 in 4 and nearly 45% of those served at the Middleton Outreach Ministry (MOM) Food Pantry are children.<sup>8</sup> Many children in the Middleton Cross Plains Area School District depend upon the school breakfast and lunch program, the weekend food program, and the summer meal program offerings to get the food they need. With school closed during the COVID-19 quarantine in 2020, the school district and partners quickly organized and raised funds to provide food pick-up at nine locations in the city. This helped fulfill the greatest needs in the short term, but it is only a stop-gap measure for tackling more systemic problems that require a comprehensive approach to food security in Middleton. The Senior Center also regularly provides meals for seniors through several food programs run through Dane County. COVID-19 quickly and clearly highlighted disparities community wide and showcased how disproportionately seniors and low-income individuals suffer from food insecurity. Volunteers worked many hours during the pandemic to make sure meals still reached those who were strictly quarantined.

Middleton currently supports 87 community garden plots. Bock Garden is located in a food underserved part of town on the Northeast side of the city. The Middleton Station community gardens are located at the Middleton-Cross Plains School District Administration Center on South Avenue. MOM hosts a food pantry garden on the West side of town, and the Senior Center runs several county and local food programs from its center downtown. The following actions address ways that local government can co-create a just and healthful food system, ensuring that all residents have access to healthy, affordable, foods. This section in particular demands that the city work together with the community and groups already working in this space who have important community connections and can identify strategies to increase equitable food access which meet the needs of residents on their terms.

"Why should there be hunger and deprivation in any land, in any city, at any table, when man has the resources and the scientific know-how to provide all mankind with the basic necessities of life? There is no deficit in human resources. The deficit is in human will." – Dr. Martin Luther King Jr.

**Actions:**

**A. Support local community and school gardens and food pantry gardens taking care to serve populations that disproportionately are affected by food insecurities.**

The city, working in tandem with community members, will identify food insecure areas that would like to have community garden spaces available at low to no cost. The city will work with the Community Garden Committee, MOM, REAP, and use high-touch, ongoing engagement techniques via surveys, interviews, meetings in neighborhoods and alder outreach to address community demands for garden plots.



Photos on this page taken by Sharon Katovich at Bock Community Garden.



**B. Support local farmer’s markets in areas of town accessible to all and promote acceptance of food stamp and SNAP benefits to pay for items.**

Local governments can select vendors that participate in nutritional food stamp programs such as the WIC (Women, Infants, and Children) and Senior Nutrition programs. Markets that accept vouchers from these federal programs can help income and age-qualified residents buy products they otherwise would not be able to afford or could not readily find.

**C. Identify gaps in the community where there is little access to healthy food or adequate, affordable, reliable transportation to grocery stores, and work to bridge this gap.**

The city will work to attract and retain healthy food and grocers to underserved neighborhoods in Middleton. Transportation access and affordability intersects closely with access to food, farmers markets, and community gardens.

**D. Establish a citizen-led, local Food Policy Council.**

A just food system cannot flourish in a community without collaboration between local groups already working in this space, and citizens who are engaged. A Food Policy Council is citizen-led and serves as a collaboration between partners such as the school district, MOM, Second Harvest Food Bank, Willy Street Co-op, the community garden committees, Youth Center, and other regional groups that can tap into small farmer networks in Dane County. A Food Policy Council could address food insecurity, access barriers, policy barriers, and wield citizen power to speak to the needs of those who are food insecure. Food Policy Councils are a way to address the food system, often bringing the weight of local and county government behind grassroots initiatives. They work across sectors and establish platforms for coordinated local action.

A Food Policy Council (FPC) consists of a group of representatives and stakeholders from many sectors of the food system. Ideally, the councils include participants representing all five sectors of the food system (production, consumption, processing, distribution and waste recycling). They include anti-hunger and food justice advocates, educators, nonprofit organizations, concerned citizens, government officials, farmers, grocers, chefs, workers, food processors and food distributors. Food Policy Councils create an arena for studying the food system as a whole. Because they are often initiated by government officials, Food Policy Councils maintain a formal relationship with city government.

Councils generally have four functions:

- To serve as forums for discussing food issues,
- To foster coordination between sectors in the food system,
- To evaluate and influence policy, and
- To launch or support programs and services that address local needs.

**E. Support a food recovery program that re-distributes surplus food, saves businesses money, and reduces carbon emissions generated from excess food waste.**

The food system is vast and there are multiple entry points where waste could be diverted and turned into a resource for people who need healthy food. This begins on the farm and follows the economic chain through the grocery store and food distribution network, to restaurants, to individual homes, and finally to the landfill or compost bin. Part technology, part accounting, and part hands-on food distribution, a city or region-wide food recovery program gives businesses control of their surplus food, converts it back to savings for the company via tax breaks for food donations, creates business opportunities that support the new green economy, and reduces the city’s carbon footprint while empowering the local community.

Food waste accounts for 25% of all waste sent to the Dane County Landfill. Much of the food we throw away is not in fact waste. Facilities such as FEED Kitchens in Madison process and redistribute excess food from a variety of original sources. In a food recovery program, producers and restaurants are incentivized to donate fresh or processed food inventory for the direct benefit of public charitable organizations and the needy. Under an enhanced tax deduction, all businesses may deduct up to 25% under the CARES Act for 2020.

Potential partners to launch this approach to food recovery and distribution would include the Middleton Chamber of Commerce, Senior Center, Dane County officials, MOM, REAP, Healthy Food for All, and potential distribution centers such as the new Middleton Market.

**Strategy 9: Provide entry points for local citizens and school district graduates into the new Green Economy through job training, job creation via renewable energy projects, and reduced energy costs that center people historically burdened by unjust systems.**

A “green economy” is defined as low carbon, resource efficient, and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment into economic activities, infrastructure, and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services.<sup>9</sup> Recognizing that climate change disproportionately affects low income and overburdened communities, Middleton will transition to a low-carbon economy by developing an appropriate set of initiatives that center populations who have suffered economically exclusionary practices resulting from systemic racism.

Economic challenges created by the COVID pandemic combined with our increasingly dire global climate crisis turns a spotlight on the importance of a just recovery and just transition to a fossil free economy. The cost of not adjusting in industries and labor markets may be significant, as consumer demand for greener products combined with regulatory policies become an important factor in industry competition. Our city and region is well positioned to usher in a new green economy in many unique ways.

- We live adjacent to a world-renowned research University with expertise in new energy technologies, biotech, and public health.
- We have strong collaborative relationships with other regional municipalities, our county government, and our local utility MGE.

- Our county landfill and bio-gas cleaning facility sits adjacent to a transnational natural gas pipeline. The bio-gas cleaning facility produces cheap, renewable natural gas fuel from landfill methane and also provides an economic opportunity for farmers who can now feasibly manage their methane from on-farm biodigesters and truck it to the bio-gas facility for a return on investment.
- Middleton has both the political and social capital to think boldly about how a green economy can meet needs more equitably.
- Middleton has the strongest performing TID in the state.
- Wisconsin and Dane County offer support in administering PACE financing.

Middleton will support and attract businesses that create jobs and distribute the benefits of a low carbon economy equitably. Retrofits to Naturally Occurring Affordable Housing create jobs, lower energy bills, and increase comfort to residents who typically don’t benefit from climate change solutions like solar installations. A portion of new solar power generation in commercial or utility scale installations could be used to offset high energy bills for low-income residents, freeing up money for efficiency upgrades that further bring down energy bills and decrease energy use.

The new green economy must have some ground rules, in order to work for everyone. The payoff of these tenets are high-quality jobs that pay wages that support families. The green economy should recognize the rights of workers to organize and unionize; ensure workers have the necessary tools, opportunities, and economic assistance to adapt successfully during the energy transition, particularly in communities with historically marginalized and underrepresented

populations; ensure all residents share the benefits of clean and renewable energy and are provided the opportunity to participate fully in the clean energy economy, with special attention paid to communities of color, indigenous people, and individuals with low incomes; ensure public health disparities such as COVID mortality are reduced in communities historically burdened by poor health outcomes.

**Actions:**

**A. Promote green building and renewable energy job training programs for recent school district graduates, Black, Indigenous, and people of color, individuals with low incomes, workers in fossil fuel industries, and released prisoners.**

Middleton will partner and acquire information and resources from Midwest Renewable Energy Association and City of Madison’s Engineering Division about forming a program like Madison’s Green Power program. The Green Power program taught trainees with little or no prior electrical skills to learn solar job installation skills as part of a crew working to install PV systems on City of Madison facilities.

**B. Partner with the Middleton Chamber of Commerce and the business community to chart a path forward for how the city can grow sustainably on both the supply and demand side.**

The city will prioritize regular outreach and engagement about coming environmental regulations, state policies, financing programs, and workforce challenges in order to help businesses remain nimble as our economy changes. It will be important to engage citizens, businesses, and other stakeholders in developing green growth policies and also to monitor these policies.

**C. Offer resources and support for residents and businesses to invest in local renewable energy markets and efficiency upgrades that will bring more green jobs to the city.**

Local communities can upgrade facilities and use Property Assessed Clean Energy (PACE) financing to fund energy efficiency, renewable energy, and water conservation projects — all without the need for taxpayer assistance. Wisconsin offers PACE financing for property owners to obtain low-cost, long-term loans for energy efficiency, renewable energy, and water conservation improvements. Projects financed using PACE can generate positive cash flow upon completion with no up-front, out-of-pocket cost to property owners—eliminating the financial barriers that typically prevent investment in revitalizing aging properties. The terms of a PACE Financing loan may extend up to the useful life of the improvement, which may be as high as 20 years or more and can result in cost savings that exceed the amount of the PACE Financing. The result is improved business profitability, property value, and enhanced sustainability. Eligible commercial properties include multifamily buildings of five units or more, as well as industrial, non-profit, agriculture, and hospitality properties.

For single family home dwellers, Middleton will communicate regularly about the State of Wisconsin's Focus on Energy Programs that offer many incentives and rebates for reducing energy and water consumption in the home, and for renewable energy projects.

The Middleton Sustainability Committee will also provide yearly information about current solar group buys, and help residents connect with organizations that are managing the solar group buys. Middleton will partner with organizations as much as possible, who would like to organize a city-wide solar group buy.

**D. Engage students at Middleton High School about opportunities in the green building and renewable energy sector.**

In a recent survey, graduating Middleton High School students were asked if they felt they were environmentally literate. 320 students out of 1200 answered yes. This disconnect of engagement or confidence with pressing environmental issues will only exacerbate climate change if young adults do not grasp the complexity of how environmental issues are also social issues and economic issues affecting great swaths of the world's population. Environmental literacy is necessary for this moment. We need young adults entering the job market who are prepared to take on the climate crisis and the transition from fossil fuels to renewable energy production.

The city will encourage continued volunteer student engagement at the Middleton Recycling Center, appointment of student representatives to serve on the city's sustainability committee and collaborate on ecological initiatives between Friends of Pheasant Branch and the school district. City sustainability staff will reach out about initiatives such as the bird building collision mortality to engage schools to act. The city will also support and encourage students who promote sustainability measures in the district that align with our 100% renewable energy resolution goals community wide. The Sustainability Committee will also partner with the newly formed Dane County Youth Environmental Committee whose mission is "to collaborate and create a united Dane County student front, to inspire each other, work with each other, and come back to our respective community with ideas and hope."

**Footnotes:**

1. 2017. Gross, T. NPR - A Forgotten History of How the U.S. Government Segregated America <https://www.npr.org/2017/05/03/526655831/a-forgotten-history-of-how-the-u-s-government-segregated-america>
2. 2020. McMorris, L. CNN - If you care about racial equality, this will disturb you <https://www.cnn.com/2020/08/21/opinions/redlining-greenlining-black-homeownership-mcmorris/index.html>
3. Biodiversity in the City: Fundamental Questions for Understanding the Ecology of Urban Green Spaces for Biodiversity Conservation Christopher A. Lepczyk, Myla F. J. Aronson, Karl L. Evans, Mark A. Goddard, Susannah B. Lerman, J. Scott MacIvor BioScience, Volume 67, Issue 9, September 2017, Pages 799–807, <https://academic.oup.com/bioscience/article/67/9/799/4056044>
4. Wisconsin Department of Natural Resources. 2002. Rock River Water Quality Management Plan, Lower Rock River Appendix. WT-668-2002. South Central Region, WDNR. Madison, WI
5. Wisconsin Wetlands Association. 2015. Wisconsin's Wetland Gems. Madison, WI
6. Larson J, Lehnhardt S.1998. Vegetation and Ecological Conditions of the Pheasant Branch and Belfontaine Conservancies. Applied Ecological Services, Inc. Brodhead, WI
7. 2016. Madison and Dane County Public Health – Hunger and Food Security in Wisconsin and Dane County <https://www.publichealthmdc.com/documents/foodSecurityFinal.pdf>
8. 2016. Middleton Outreach Ministry – Food Insecurity Affects 1 in 5 Wisconsin Children <https://momhelps.org/stories/in-the-news-food-insecurity-affects-1-in-5-wisconsin-children/>
9. UN Environment Programme: Green Economy <https://www.unenvironment.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy>

# GOVERNANCE AND PARTNERSHIPS

The City of Middleton will continually engage stakeholders, provide high quality and efficient services, and develop partnerships with other agencies and units of government to meet community needs.

Like any urban community, the City of Middleton is served by a wide range of public and private utilities and other service providers, many of which cross municipal boundaries. Middleton functions within a regional framework. Having high quality, reliable, accessible, and cost-effective services has a direct bearing on the quality of life enjoyed by all residents, workers, and visitors. Because most utilities and services cross municipal boundaries, this chapter emphasizes the importance of the City forging partnerships with surrounding municipalities, the school district, nonprofit organizations, and the private sector to maximize efficiency and accessibility for facilities and services.

This section satisfies the requirements of the Utilities and Community Facilities and Intergovernmental Cooperation section of the Wisconsin Comprehensive Planning Legislation.

## Strategies:

1. Continue to actively engage the community by enhancing open and accessible channels of communication between city staff, elected and appointed officials, and all residents and businesses.
2. Foster strong intergovernmental relationships and partnerships with surrounding municipalities and local, regional, and state

organizations.

3. Partner with Educational Institutions to ensure that city residents have lifelong learning opportunities.
4. Coordinate water and wastewater service with development and transportation projects to promote orderly maintenance and extension of services, with installation occurring in a manner that minimizes physical and negative aesthetic impact, while ensuring efficiency in service provision.
5. Provide services and programs to manage solid waste and promote recycling while encouraging residents and businesses to reduce waste output and increase their reuse of materials.
6. Work with providers to ensure the reliable supply and transmission of energy throughout the city while working toward achieving 100% renewable energy usage.
7. Support public/private partnerships to collocate communications facilities, utilize existing structures for site equipment as much as possible, and ensure that technological advances are accessible to all residents and businesses.
8. Improve storm water management

practices so that they adequately mitigate intense rain events, reduce runoff rates and volumes, reduce sediment and pollutant transport, and improve the quality of streams, ponds, and Lake Mendota.

9. Provide municipal facilities that are cost-effective, energy efficient, and constructed to a high standard of architectural quality, and municipal services that are available and accessible to all residents and businesses.



Photo: "Pizza and Possibilities" public input session for the Stone Horse Green design. Even the youngest participants had a chance to design possibilities for the green space.

**Strategy 1: Continue to actively engage the community by enhancing open and accessible channels of communication between city staff, elected and appointed officials, and all residents and businesses.**

Government functions best when there is strong communication and collaboration with the people it serves. Strong community engagement increases the understanding of issues and empowers residents to have an ability to shape their city's future. Community engagement builds trusting relationships between residents and their community.

**Actions:**

**A. Increase civic engagement that meets neighborhoods and individuals where they are, such as by holding a quarterly "open house" to provide a one-stop shop for accessing key services.**

A small percentage of residents attend City meetings and an even smaller percentage become engaged in their government. Only hearing from a handful of organized voices can hamstring the City's ability to make decisions that reflect the needs of the broader community. Successful public engagement means being intentional about directly engaging all residents, including traditionally underrepresented groups. The City should take an approach to meet neighborhoods and individuals where they are in order to increase participation in local government. One example of a successful program the City of Middleton Police Department offers is 'Coffee With a Cop', where Middleton officers meet one-on-one with residents for an informal conversation to break down barriers.

**B. Maintain enhanced public access to Common Council and committee meetings.**

The Covid-19 pandemic required businesses and

organizations across the country to quickly pivot to working remotely in order to help stop the spread of the virus. The City of Middleton adapted all its public meetings to videoconference meetings. For some meetings, including Common Council, the videoconference option has helped increase participation in the meetings. The City should continue to offer the videoconferencing option, as well as the YouTube livestream, and in person attendance for public meetings in order to enhance accessibility. The City should also consider options that can make attendance more convenient for people, including providing childcare so that parents of pre-school and school-aged children can be more involved in city government.

**C. Establish a Communications position.**

During times of erosion of trust of public institutions, it is more important than ever that the City's communications to stakeholders, the public, and the press, are coordinated, factual, and informative. Having a dedicated communications position can ensure that there is a single source of information. This becomes more important during times of crisis.

The communications position could handle emergency communications and dissemination of general information through news releases, the website, and social media.

**D. Establish a Diversity, Equity, and Inclusion (DEI) team.**

DEI teams have been successful in helping to shift mindsets, behaviors, and practices toward more equitable organizations. Diversity takes many forms, including race and gender, age, disability, sexual orientation, gender identity, language, culture, and more. The City should institutionalize diversity, equity, and inclusion (DEI) practices in the workplace by developing a DEI team.

**E. Demonstrate that appointments to local advisory boards and the city's workforce reflect the gender, racial, and ethnic diversity of the City.**

Most of the City's committees and commissions are advisory to the Common Council. Much of the work of City government takes place in these bodies, where programs are conceptualized, policies are drafted, and budgets are proposed. These recommendations should be reflective of the voices of the residents we serve.

**F. Annually survey residents to assess trust and engagement with local government.**

Quality of life in a community is influenced by residents' feeling of trust and engagement with local government. The City should annually survey residents, report results, and aim to improve these indicators over time.



Photo taken during a City Council meeting where the Middleton High School girls basketball team attended to receive their virtual state championship award after the championship was cancelled due to the coronavirus

# Middleton/Town of Westport Joint Planning



## The Community of Bishop's Bay Regulating Plan - Neighborhood Map

Strategy 2: Foster strong intergovernmental relationships and partnerships with surrounding municipalities and local, regional, and state organizations to strengthen community connections, improve efficiencies, and create great places.

The City establishes partnerships with surrounding municipalities, area nonprofits, and the private sector to efficiently operate facilities and services. Cooperation and communication with other partners can help avoid costly and unnecessary duplication of services. The City should continue to foster these strong relationships and learn from other best practices at all levels of government.

### Actions:

A. Continue to implement existing intergovernmental agreements with surrounding communities and work collaboratively on future municipal boundary changes, sewer service areas, extraterritorial decisions, and planning.

Joint planning has the mutual benefit of building trust, reducing conflicts, promoting orderly development, and reducing costs for each municipality. The City will actively monitor and adhere to implement existing intergovernmental agreements. The City will proactively coordinate on potential future municipal boundary changes, sewer service area amendments, extraterritorial land divisions and zoning.

The City has intergovernmental agreements (IGAs) with four municipalities, as summarized on this page and the next one.

The full IGAs can be found as appendices.

For over two decades, the two communities have enjoyed a collegial relationship that stands out as a model for intergovernmental collaboration. Not many Wisconsin cities or villages have established extraterritorial zoning arrangements with a neighboring town. The Joint Zoning Committee (JZC) deals with rezonings, land divisions, and building design reviews pertaining to lots in the joint planning area, but its major focus has been planning for the multi-neighborhood Community of Bishop's Bay development. Establishment of the JZC has prevented landowners and developers from working with one community separately from the other and resulted in greater predictability and clearer expectations with the development process.

**BISHOPS BAY**  
WHERE THE GOOD LIFE BEGINS

**B. Coordinate with State agencies and regional governing bodies on sustainability, resiliency, and transportation planning.**

It’s not enough to collaborate with adjoining communities on matters such as the flow of storm water, the cost of housing, transportation routes, and utility services. Ultimately, Middleton must work with governmental agencies at the regional, state, and at times national level to address the issues facing the community. See the [Economic Development Chapter](#) for economic development collaboration.

The following is non-inclusive list of essential services that directly affect the quality of life of Middleton residents and visitors:

Agency	Significance To Middleton
<b>Dane County</b>	<p>Nearly every department affects Middleton in some way. A non-inclusive list of examples:</p> <ul style="list-style-type: none"> <li>• Clerk of Courts (Circuit Court / judicial branch)</li> <li>• Emergency Management (supplements local and “mutual aid” emergency responses)</li> <li>• Highway &amp; Transportation (Highways M and Q)</li> <li>• Human Services (services for children and seniors in particular; mental health services)</li> <li>• Land &amp; Water Resources (erosion control review and monitoring; park and conservancy management)</li> <li>• Public Health (pandemic response, food safety)</li> <li>• Register of Deeds (land records)</li> <li>• Waste &amp; Renewables (landfill and recycling)</li> </ul> <p>A full list is here: <a href="https://www.countyofdane.com/">https://www.countyofdane.com/</a></p>
<b>Greater Madison Metropolitan Planning Organization</b>	<p>The Federally-designated organization for transportation planning and funding within the Madison urbanized area (formerly Madison Area Transportation Planning Board).</p>
<b>Capital Area Regional Planning Commission</b>	<p>Water quality planning (including approval of urban service areas amendments affecting sewer extensions), Sustainable Communities Regional Planning Grant, regional housing strategy, economic development, clearinghouse for reviewing federal grant applications, data and mapping services</p>
<b>Madison Metropolitan Sewerage District</b>	<p>Sewer service areas and cost allocation for those services (treats all sewage generated in Middleton).</p>
<b>Wisconsin River Rail Transit Commission</b>	<p>Management of the State-owned rail corridor extending through Middleton</p>
<b>Wisconsin State Government</b>	<p>Many state agencies and offices affect Middleton in some way, particularly with respect to economic development and environmental protection. A comprehensive list is available here: <a href="https://www.wisconsin.gov/Pages/AllAgencies.aspx">https://www.wisconsin.gov/Pages/AllAgencies.aspx</a></p>

# MIDDLETON INTER- GOVERNMENTAL AGREEMENTS

## CITY OF MADISON

City of Madison and City of Middleton entered into an IGA in 1994:

- Identified Blackhawk Road as the long-term growth boundary between the two Cities.

## TOWN OF WESTPORT

City of Middleton and Town of Westport entered into an IGA in 1998:

- Established a 6-member Joint Planning Committee (now referred to as the Middleton/Westport Joint Zoning Committee) that is entrusted to review and approve certain land use decisions within a designated Joint Planning Area.

## TOWN OF SPRINGFIELD

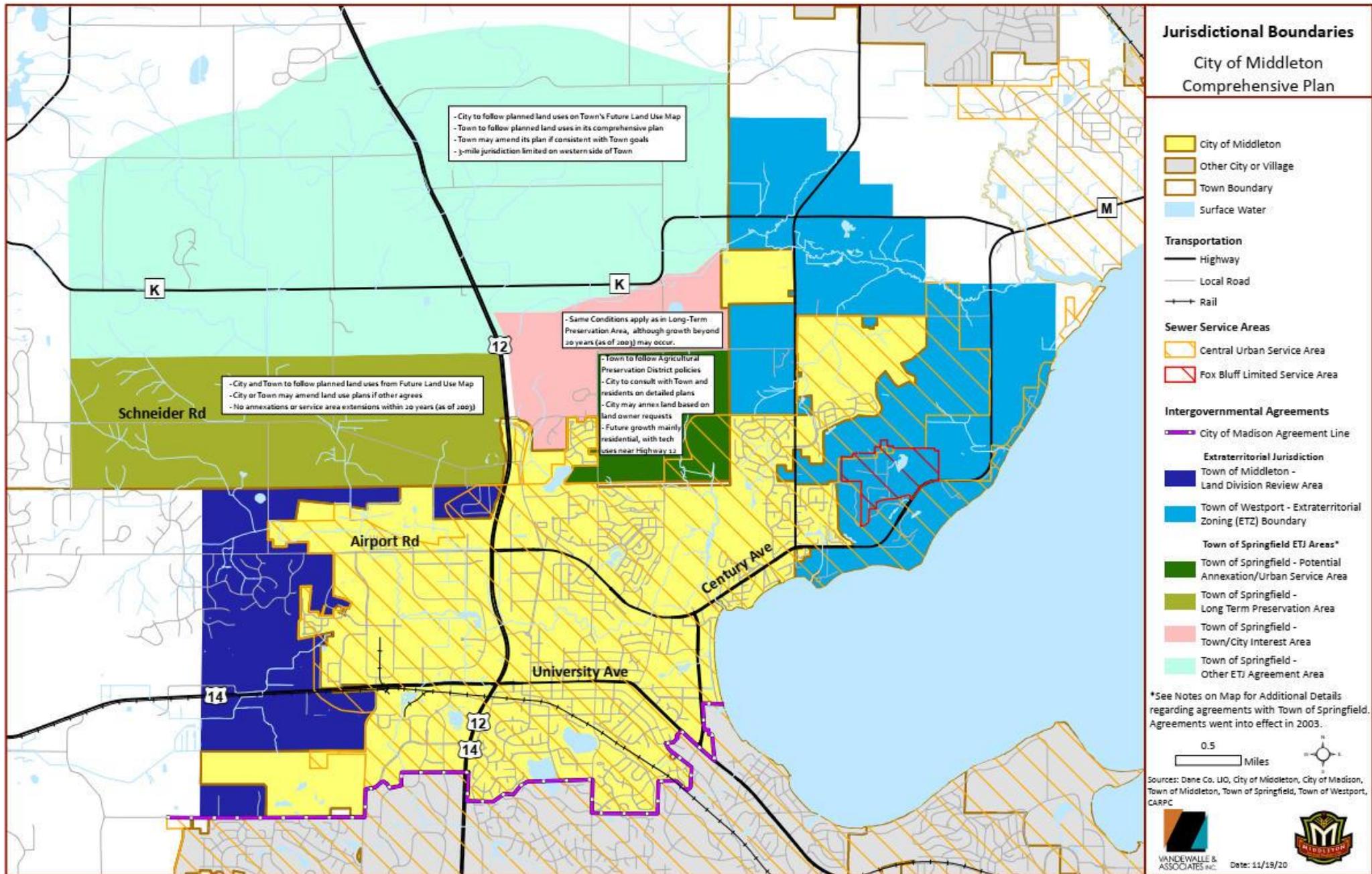
City of Middleton and Town of Springfield entered into an IGA in 2004:

- Designating 'Area A' the primary growth area of the City in the Town for the terms of the agreement.
- Designating 'Area B' a long-term community buffer area which shall be developed only in accord with strict requirements.
- Designating 'Area C' a Town/City interest area in which full urban development may occur when other requirements are met.
- City and Town of Springfield IGA renewed in 2004 for an additional 5 years beyond the initial life to 2029.

## TOWN OF MIDDLETON

City and Town of Middleton entered into an IGA in 1994 (later modified in 2001):

- The City agreed not to exercise extraterritorial jurisdiction west of an agreed upon boundary line (see Jurisdictional Boundaries map).
- The Town agreed not to oppose annexation of the Quisling property, nor any future annexations, provided that the City agrees to zone as single-family residential the land immediately east of Evergreen Road to an extent of no less than one lot deep.
- The Town agreed to withdraw from bidding for the purchase of Pleasant View Golf Course, and instead supported the City's purchase of the land.
- IGA automatically renewed in 2014 for an additional 10 years to 2024.



**Strategy 3: Partner with Educational Institutions to ensure that city residents have lifelong learning opportunities.**

Lifelong learning can enhance our understanding of the world around us, provide us with more and better opportunities, and improve our quality of life. Middleton is fortunate in its location near the University of Wisconsin-Madison. Proximity to this prolific research institution affords Middleton residents cultural opportunities and diversity, internship and career opportunities, and all the other benefits that come with proximity to a college campus. Edgewood College and Madison College also provide rich educational opportunities to our community. The City should partner with these, and other educational institutions, to provide lifelong learning opportunities for our residents.

**Actions:**

**A. Collaborate with the Middleton and Waunakee school districts to ensure that new school facilities or building expansions are planned to serve Middleton’s northern growth area in a timely fashion and scaled appropriately to help achieve more compact, pedestrian-oriented development patterns in new neighborhoods.**

The Middleton-Cross Plains Area School District (MCPASD) is expected to grow by 650 students by the 2030-2031 school year. The Waunakee School District, which serves a smaller part of Middleton, also continues to grow. MCPASD and Waunakee are top performing school districts in the State and will continue to be a draw to Middleton and other jurisdictions within their boundaries. The City must continue to work with the Districts to plan for future facilities and building expansions.<sup>1</sup>

**B. Ensure that Childcare / Preschool facilities can operate in all neighborhoods and business parks to maximize access and convenience.**

The zoning ordinance should continue to allow facilities as permitted uses up to 8 children, and conditional uses for centers over 8 children.

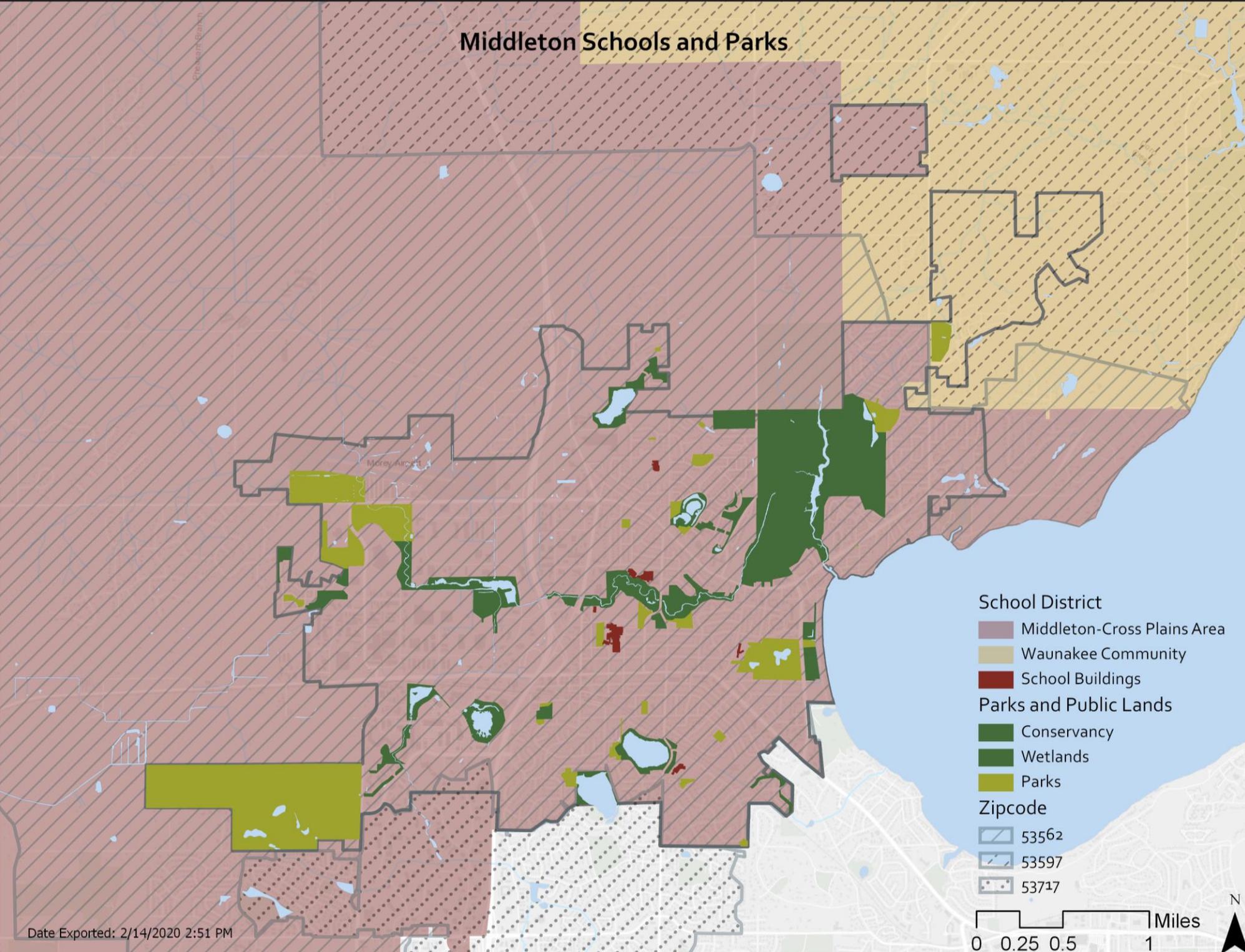
**C. Encourage post-secondary institutions such as Madison College and Edgewood College to offer courses or even a satellite campus in Middleton to promote lifelong learning.**

The City should continue to encourage area colleges to offer credit and non-credit courses in Middleton in order to make these courses readily available to our residents. If an opportunity for a satellite campus arises, the City of Middleton should pursue a location in Middleton.

**D. Continue to work with the Middleton-Cross Plains Area School District on the high school and other future facility expansion projects to ensure that they remain walkable and embedded in neighborhoods while minimizing negative impacts on surrounding residential neighborhoods.**

The City should continue to work collaboratively with the School District on facility improvements and expansions. Schools should be located so that students can safely walk and bike to school. Residents living near schools enjoy many benefits, including access to activities and facilities. The City should work with the School District to minimize any negative impacts on neighborhoods surrounding schools, including traffic and stormwater runoff.

# Middleton Schools and Parks



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**Strategy 4: Coordinate water and wastewater service with development and transportation projects to promote orderly maintenance and extension of services, with installation occurring in a manner that minimizes physical and negative aesthetic impact, while ensuring efficiency in service provision.**

The City of Middleton Water and Sewer Utility is responsible for maintaining approximately 160 miles of water and sewer mains. The City has eight water pumping stations with a combined pumping capacity of over eight million gallons per day and nine sewer pumping stations that pump to the Madison Metropolitan Sewerage District. Middleton serves about 6,000 metered customers with an average daily use of 2.3 million gallons per day. The City also maintain over 900 hydrants and 1,500 valves.

The Water Utility has two water towers with a combined capacity of 1,250,000 gallons and two ground reservoirs that hold 1,100,000 gallons. The Water and Sewer Utility are a self-supporting enterprise with 100% of the expenses paid by the utility customers through quarterly bills.

The City will continue to coordinate water and sewer improvements with needed transportation projects to promote orderly maintenance and extension of services in order to provide the customer with the most cost-effective service improvements. The City will prioritize conservation in water and wastewater service planning and improvements.

**Actions:**

**A. Continually monitor the City's Wellhead Protection Plan to identify and address possible contamination of drinking water.**

Residents in the City of Middleton depend exclusively on groundwater for a safe drinking water supply. The City draws its water from six

sandstone wells, ranging in depth from 330 feet to 856 feet. Because certain land use practices and activities can seriously threaten or degrade groundwater quality, the City adopted a Wellhead Protection Plan and Ordinance in 2008 to protect the City's drinking water and well fields. The map shows the wellhead protection areas whereby additional land use zoning restrictions are in place to protect Middleton's drinking water. Middleton should continue to monitor the wellhead plan, and ensure future land uses within the protected areas meet the established criteria.

**B. Require all development within the Urban Service Area (USA) to utilize public sewer and water systems and to meet current urban service standards.**

Middleton is part of the Central Urban Service Area (CUSA), which includes Madison and nearby communities. Lands within the CUSA are suitable for development with a full range of urban services. The Capital Area Regional Planning Commission and the Wisconsin Department of Natural Resources approve sewer extensions and sewage treatment facilities based on USA boundaries. USAs are also included in area plans so that local, regional, and state agency decisions can be coordinated, consistent and capable of achieving desired growth and development patterns. All development within the City of Middleton should be required to be within the USA and utilize public sewer and water systems.

**C. Continue to require that developers plan and pay for the extension of sewer and water mains to serve their developments.**

As new developments require the extension of sewer and water, those improvements are made at the cost of the developer. Due to the extraordinary costs of the Community of Bishops Bay (CBB) improvements, the City created the Middleton Utility District in 2016 so

that the improvements could be constructed and financed by the City and repaid by developers. The current plan is for this to take place in 2021, although uncertainty remains regarding the timing of this work. The CBB improvements include a new pumping station to serve portions of the CBB development.

The City should continue to work with developers to plan for the Oncken Road Pumping Station and the extension of a force main along Highway Q to connect the station with MMSD's West Point sanitary sewer interceptor, and for development of a water main along Pheasant Branch Rd. and Balzer Roads to provide a redundant loop to enhance service reliability for the far northeast side of the city. As development occurs, a portion of these improvements will be assessed to the developers.

**D. Prioritize maintenance of the wastewater system and act on the recommendations in the Utility Master Plan Update.**

The City Sewer Utility maintains and operates local trunk and intercepting sewers and nine wastewater pumping stations that collect and transmit wastewater to the Madison Metropolitan Sewer District (MMSD) treatment plant in the City of Madison. In general, the rated capacities of the pumping stations exceeded the existing and projected future average and peak flow rates. The calculated capacity of all intercepting sewers exceeded the projected peak flow rates, and no additional capacity is required. The UMP recommends continued flow metering at key locations to accommodate planned development areas, monitoring and evaluating pumping station runtimes for the High Point Road and Esser Pond Pumping Stations, and replacement of the Middleton Beach Road Pumping Station as part of a future road reconstruction project given that it is approximately 75 years old.

**Legend**

- ZONE A - 5 YEAR TOT
- ZONE B - 1,200 FOOT RADIUS



***Well Head Protection  
Areas***

Source: Well Head Protection Plan for the City of Middleton by Strand Associates

**E. Focus on maintenance improvements on existing wells, storage facilities, and water mains while planning to add water system capacity in about 25 years.**

The City Water Utility maintains and operates six active wells, two booster stations, two elevated tanks, and two ground-level reservoirs that supply water through approximately 93 miles of water main ranging from 4 inches to 16 inches in diameter. According to the Utility Master Plan (UMP) Update completed in 2019, only one additional groundwater well is needed to meet future growth water demands by 2070. It is anticipated that a well facility will be constructed for Well No. 7, which is currently inactive, and will be used to meet future water demands, which is estimated to be around 2047. Prior to 2070, the UMP anticipates that three additional wells will need to be constructed to replace decommissioned wells, with elevated tank (water tower) #1 replaced with a new, 500,000-gallon tank around 2060. The UMP also recommends prioritizing the replacement of mains constructed of cast iron and that are older than 50 years, ideally in conjunction with street reconstruction projects.

**F. Encourage and incentivize water conservation practices and review the City's water rate structure at regular intervals to determine how the City can structure rates to increase water conservation.**

The Middleton Sustainable City Plan includes as a goal to "review the City's water rate structure, and eliminate incentives to use large volumes of water, while balancing the needs of business." In early 2011, the Middleton Water Utility, working with the Public Service Commission, modified the residential water rate from a declining block rate structure (where the per gallon cost decreases as water consumption increases to higher blocks) to a uniform rate structure (where the per gallon cost remains the same regardless of water consumption).

The City of Middleton conducted a yearlong Water Conservation Challenge in 2013. One hundred and forty-eight households participated in the challenge, collectively reducing their water usage by 2,202,300 gallons of water or 26% of their baseline 2012 usage. (Please note that 2012 was a heavy water usage year due to the drought).

As part of the challenge, participants competed for an innovation prize that presented the most innovative methods of reducing water usage as judged by three experts outside of Middleton. The innovation idea that won was "Discounts are given to those who purchase in large volumes as in bulk buying. This is an accepted business practice, but it is not a good practice when goods need to be conserved (water and electricity). A way to encourage water conservation is to stop giving discounts to those who use really large amounts of water."

In 2014, the Sustainability Committee brought forward five recommendations for improving the City's water rate structure in favor of water conservation. Of those, three were approved. The City should continue to pursue the other two recommendations:

1. That the Middleton Water Utility bill monthly rather than quarterly.

The Wisconsin Public Service Commission recommends that monthly billing be implemented in conjunction with conservation rate structures so that people can see usage closer to real time in a way that can affect behavioral changes. Monthly billing will help bring Middleton in line with other communities (Madison, Sun Prairie) and ensure that the utility is investing in technology that will serve residents in the future more effectively. As water rates increase, it could be helpful to consumers to spread the costs over 12 months.

The Sustainability Committee recognizes that there are mailing, printing, and labor costs associated with monthly billing and recommends that the City undertake an aggressive public relations push to encourage electronic payments to reduce the workload burden and consider the use of a "lock box" system whereby payments made by utility customers are directed to a special post office box, rather than coming to the City. The payments would then be processed by the bank directly.

2. Recommend that the Water Utility go to an inclining (conservation) block rate structure for residential.

The Sustainability Committee recommends the City request an inclining block rate structure for single-family residential water usage to encourage conservation.

Water conservation is not only beneficial so as not to deplete our groundwater resources, but it also will reduce the City's carbon footprint and electric bill. The utility may also avoid additional infrastructure expansion costs by reducing per person usage.

With a well-designed block rate structure, households that are conserving may save money, even with rate increases. The Public Service Commission should be directed to design the rate structure so that households with a large number of people are not penalized (e.g. the block cohorts be set up in a way that a large household with efficient fixtures and little outdoor watering will not be bumped into the highest cohort).

In addition to modifications of the City's water rate structures and billing, the City should continue to incentivize water conservation in private developments as well as continuing to upgrade our own facilities to ensure best practices for water conservation.

**Strategy 5: Provide services and programs to manage solid waste and promote recycling while encouraging residents and businesses to reduce waste output and increase their reuse of materials.**

The City will seek to reduce waste and increase recycling opportunities, by moving to a 'resource recovery' mentality. Resource recovery uses waste as an input to create valuable products as outputs. The goal is to reduce the amount of waste generated which reduces the need for landfill space. Resource recovery also optimizes the values created from waste. Middleton should continue to provide public information regarding management of solid waste and recycling from with that goal in mind.

**Actions:**

**A. Favor waste hauling contractors that use CNG vehicles and that proactively identify alternatives to landfilling.**

Dane County has been a leader in addressing climate change by embracing compressed natural gas (CNG) as a cheaper, cleaner, fuel. Dane County has converted many heavy fleet vehicles to operate with CNG and have expanded CNG availability throughout the County. In order for the City to reduce our total carbon footprint, the City should favor contractors that are embracing environmentally-friendly fuel sources.

**B. Enhance operation of the Middleton Recycling Center and implement programs that expand and/or improve opportunities for the recycling and reuse of materials.**

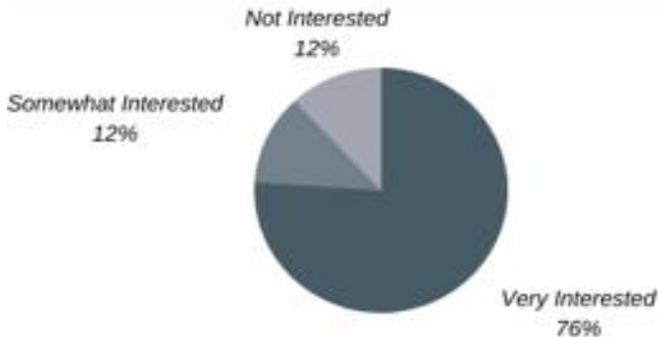
The City, under the policy guidance of the Sustainability Committee, has continued to enhance reuse and recycling opportunities in Middleton. The City should continue to update

the information contained in the City's [Trash & Recycling Guide](#), available on the City's website, and continue public education and awareness of recycling opportunities for all items. The City should also continue to survey customers of the Middleton Recycling Center and expand recycling opportunities to meet the needs of our residents.

**C. Encourage food waste composting where possible.**

The U.S. Environmental Protection Agency (EPA) reports that food makes up the largest category (22%) of municipal solid waste that is landfilled.<sup>2</sup> Organic waste in landfills generates methane, a potent greenhouse gas. By composting wasted food and other organics, methane emissions are significantly reduced. Another benefit of composting is the material that is created can reduce, and in some cases, eliminate the need for chemical fertilizers.

Many residents have asked the City to start a curbside composting program. Both the City of Madison and the City of Fitchburg have initiated pilot curbside composting programs. The biggest barriers to creating a program in Middleton are finding a facility that can accept a large quantity of food waste and ensuring that households in the program are composting the correct materials. The City should continue to encourage composting by city residents and businesses and provide public education information regarding the benefits of composting. The City should also continue to work towards implementation curbside food compost collection services.



**SURVEY STATISTICS**

1.7K Visitors

443 Participants

77% Female 22% Male



Source: City of Middleton 2016 Resident Survey

**Strategy 6: Work with providers to ensure the reliable supply and transmission of energy throughout the city while working toward achieving 100% renewable energy usage.**

Energy reliability is critical to the well-being of our City. The City recently adopted a community wide goal to address global warming through clean energy. The City approved a goal of transitioning to 100% renewable electricity for all municipal energy needs by 2030 and 100% renewable electricity for the entire community by 2050. There has been a lot of change and technological advancement in the area of renewable energy in recent years. Solar and wind energy are able to compete financially with non-renewable sources such as coal and natural gas. The City, utilities, and the community must continue to evaluate and address climate change impacts by reducing greenhouse gas emissions through the expanded use of renewable energy and promotion of energy efficiency measures. As a locally-generated electricity source, renewable energy can help to increase resiliency in times of outages.

**Actions:**

**A. Forge partnerships that employ energy conservation practices and enable residents and businesses to purchase power from renewable energy sources.**

In order to reach the ambitious community wide energy reduction goals and the community wide renewable energy goals, the City must prioritize creative partnerships that can extend energy conservation and renewable energy opportunities to all residents in our community.

**B. Utilize microgrid and battery storage technology to ensure uninterrupted energy to key functions and services within the city.**

A microgrid is a small network of electricity users with a local source of supply that is usually

attached to a centralized national grid but is able to function independently. Battery storage for microgrids is critical infrastructure to allow them to function independently. The City should continue to plan for areas that would benefit from microgrid technology, for example a new business park could benefit from high energy reliability.

**C. Promote solar installations on additional municipal buildings or land and encourage the private sector to do likewise.**

In order to reach the City's ambitious 100% renewable energy goals, we will need to maximize the capacity of public buildings and land while encouraging the same from the private sector. The City should continue to monitor implementation of the Community Solar projects at the Middleton Operations Center and Middleton Municipal Airport and plan similar large-scale solar installations. The City should continue encouraging solar development on commercial, industrial, and residential properties. It is important that these climate solutions must be available to all Middleton residents, regardless of race, income levels, or any other differences.



Photo above: MGE CEO Jeff Keebler, Middleton Mayor Gurdip Brar, MCPASD Superintendent Dana Monogue, MGE VP of Energy Technology Don Peterson, at the Middleton Municipal Airport solar groundbreaking

Madison Gas and Electric's (MGE's) 5-megawatt solar array at the Middleton Municipal Airport is fully operational and delivering locally generated, sustainable, carbon-free energy to the electric grid. This project is MGE's second array in the Shared Solar program. The first array is located on the rooftop of the Middleton Operations Center. This project is the result of years of planning, and a partnership between MGE, the City of Middleton and the Middleton-Cross Plains Area School District (MCPASD). Of the 5-megawatts generated at this project, MCPASD is being served by 1 megawatt, and the City of Middleton is being served by .5 megawatt. In addition to generating clean energy, the array is helping the School District and the City save an estimated \$1,500,000 in electricity costs over the next 25 years.

**D. Allow wind energy systems in all zoning districts but utilize the conditional use permit process to ensure that the scale, placement, and appearance is compatible with the area.**

Wind turbines can generate electricity by capturing the wind's kinetic energy and rotating, turning it into mechanical energy. Wind energy is a renewable resource and should be allowed at appropriate scales in the City of Middleton. MGE has one example of an "urban turbine" located in Fitchburg.



**E. Continue to support public/private partnerships to collocate and bury electrical and telecommunication distribution lines in both new developments and areas where they still exist above ground.**

Continue to bury existing facilities, where feasible, as redevelopment and street reconstruction occurs. Emphasis should be placed on the community's "gateway" corridors, including parts of Century and University Avenues where redevelopment is desired. Burying lines can make these facilities more resilient by protecting them during heavy ice and windstorms.

**F. Update ordinances and policies to promote electrification and alternative-fuel usage for vehicles and expand the supply of electric vehicle charging stations in the city.**

As properties develop and redevelop, they should include electric vehicle (EV) infrastructure in order to avoid costly retrofits later. The City should develop a database of existing charging infrastructure and develop a plan to serve areas that are lacking EV infrastructure.

**G. Update the City's Outdoor Lighting Code (Chapter 33) as necessary to reflect evolving changes in technology and best practices.**

The purpose of the City's Lighting Code is to enhance the attractiveness and livability of the community without compromising the safety, security, and wellbeing of persons engaged in outdoor nighttime activities. The intent of the Code to define practical and effective measures by which the obtrusive aspects of excessive and careless outdoor light usage can be minimized. This Code is designed to curtail the degradation of the nighttime visual environment by requiring lighting practices that direct appropriate amounts of light where and when it is needed,

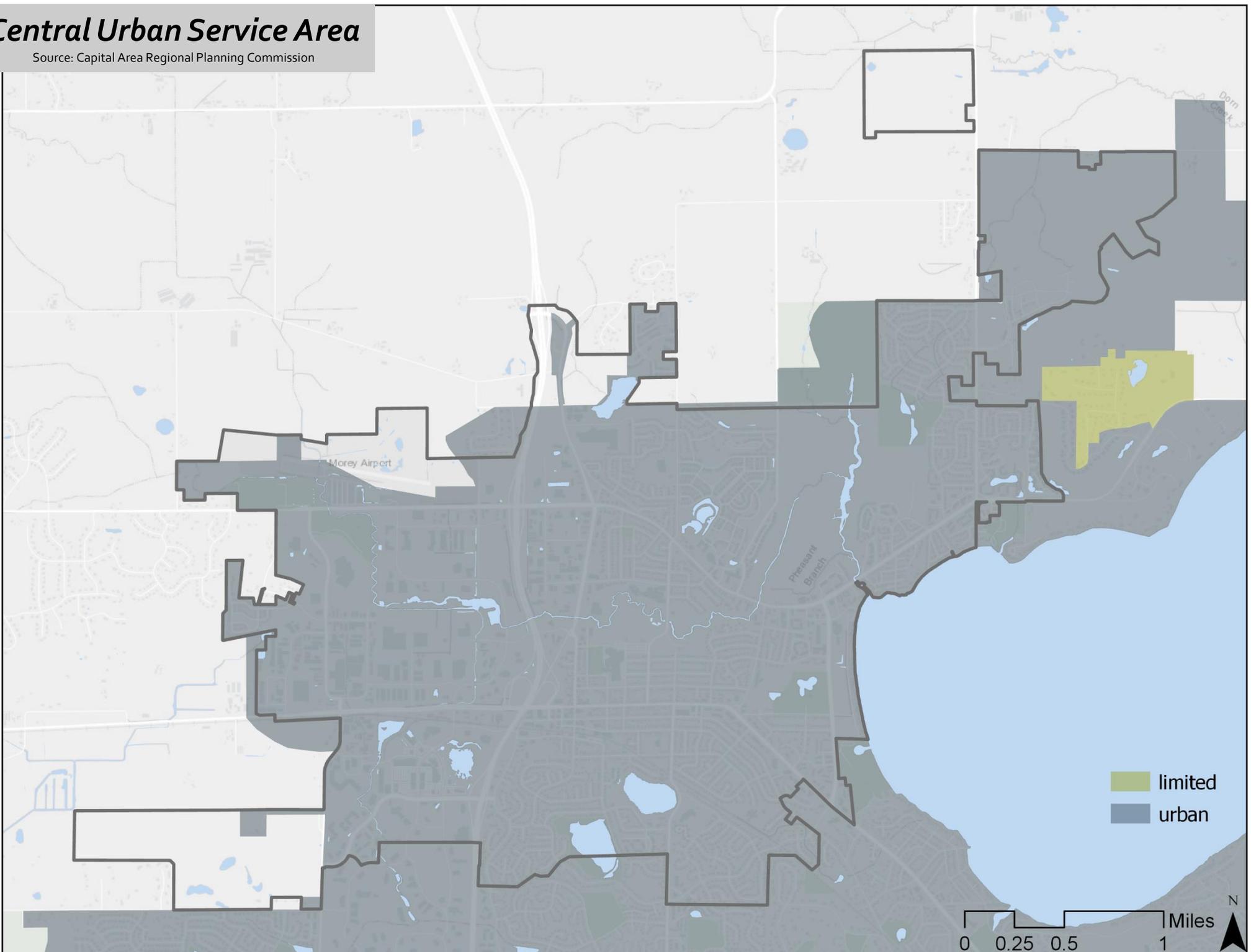
increasing the use of energy-efficient sources, and decreasing the wastage of light, sky glow, and glare resulting from over-lighting and poorly shielded or inappropriately directed lighting fixtures. The Code was approved in 2012, and a lot has changing in the lighting industry since then, most importantly the widespread adoption of LED (light emitting diode) technology. The City should update the Code to reflect the changes in technology.



Photos: The Parmenter Street Reconstruction buried power lines and greatly improved the aesthetics of the street

# Central Urban Service Area

Source: Capital Area Regional Planning Commission



**Strategy 7: Support public/private partnerships to co-locate communications facilities, utilize existing structures for site equipment as much as possible, and ensure that technological advances are accessible to all residents and businesses.**

The City should work with private utilities, including telecommunication providers, to co-locate facilities as much as possible to make the system as efficient as possible while minimizing potential negative impacts.

**Actions:**

**A. Develop a community area fiber network where practical to improve internet access, economic development, public safety, education, and community support programs.**

Fiber optic technology offer improved speed, security, and bandwidth over the copper systems it is replacing. It serves as the communications backbone that compliments wireless network technology, which carry only about 11% of internet traffic. The quality and reliability of the developing 5G wireless network depends on a robust wired network that does not succumb as easily to weather and other environmental factors.

For the past decade, the City of Middleton has been part of a collaborative metro fiber-optic network that serves various education, health, government, and non-profit organizations in the Madison area. In 2015, the City installed its own fiber conduit as part of the Parmenter Street reconstruction project so as to connect downtown municipal buildings with EMS, police and municipal court functions, as well as the high school campus.

Further fiber conduit installation could enhance city and county traffic signal operations (thereby facilitating emergency response and other traffic control), improve independence from private utility providers and ensure a better-connected society. The school district currently rents fiber connections but would welcome the opportunity to further collaborate with the City to enhance state-of-the-art broadband access for all students and families.

The City should assess the merits of installing fiber conduit as part of each future street reconstruction project, particularly major corridors like Century Avenue along which after-the-fact utility installation becomes more disruptive and costly. Because not all residents can afford to pay for internet access, the City should also maintain free, secure Internet wi-fi “hot spots” in various public buildings and gathering places around the community.

**B. Continue to cooperate with telecommunications companies who request to install equipment in public road rights-of-way while imposing reasonable controls on their design, location, and installation to ensure safety and avoid creating an eyesore.**

If a private utility locates a facility (such as a fiber optic line) within the right-of-way and a subsequent City project requires that facility to be relocated, that work is not compensable. If the utility’s facility is within an easement, then any required relocation is compensable. The City should continue to work with private utilities to ensure safe and aesthetically-pleasing facilities without future expenses to the City for public utilities.

**C. Review City regulations pertaining to the installation of private antennae, towers, dish systems, re-transmitters, and related structures so that they are consistent with State law while mitigating (as authorized by State law) potential negative impacts on adjoining residents.**

State law has recently changed regarding the placement of private utility infrastructure. Some structures may be reclassified as accessory uses and/or conditional uses depending on the nature of the facility. The City should update its regulations pertaining to these structures to ensure consistency with best practices.

**Strategy 8: Improve storm water management practices so that they adequately mitigate intense rain events, reduce runoff rates and volumes, reduce sediment and pollutant transport, and improve the quality of streams, ponds, wetlands, and Lake Mendota; and lessen the potential impact that increased flood peaks are likely to have on public safety, infrastructure, and the Pheasant Branch Conservancy.**

Storm water runoff results from that portion of rainfall or snow melt that does not get taken up by plants, soak into the ground, or evaporate. It is of primary concern to residents for several reasons. It replenishes flows in wetlands, rivers and streams and maintains lake levels. It can also have negative impacts because storm water carries pollutants such as nutrients, salt, heavy metals, and sediments to lakes and streams, and erodes the ground surface and stream banks. Lastly, as a result of urban development, excess storm water runoff can cause flooding, which can damage property and result in injury or even loss of life.”

“The City’s Water Resources Management Commission develops, guides, interprets and administers policies, technical standards and ordinances to protect, manage and enhance, the water resources in the City of Middleton for the benefit of its citizens and other communities. In recognition of the environmental, aesthetic and recreational value of water resources, the membership of the Commission includes expert scientists and engineers who work with other experts to:

- Perform studies, develop plans and implement projects and best management practices to mitigate storm water flooding and improve surface and ground water quality to the highest current technical standards.
- Recommend policies and procedures for consideration by the Common Council to better manage storm water and protect the receiving waters.
- Inform and educate the public regarding developments in water resources management in the City.
- Develop and recommend plans and other actions to keep the City in compliance with its Municipal Separate Storm Sewer System (MS4) Permit and other applicable state and federal standards.

The City should continue to be a regional leader in managing storm water sustainably.

#### **Actions:**

#### **A. Support the Storm Water Utility, and the Storm Water Utility Board, which manages the Utility.**

In 2014, the City established a Storm Water Utility to create a dedicated, fair, and equitable funding mechanism for the maintenance of the City’s storm water management infrastructure. The Utility is, directed by a Storm Water Utility Board. The Storm Water Utility Board is responsible to prioritize and allocate funding for the maintenance needs of storm water infrastructure. Final approval of the recommended projects rests with the City Council. The City storm water infrastructure includes publicly owned and operated storm sewers, detention basins, infiltration basins, water courses, retaining walls, ponds, streets, roads, ditches and other facilities relating to conveyance, treatment and management of storm water. In the Spring of 2019, the City asked voters to consider increasing their storm water utility fees to help cover costs associated with the devastating flood of August 2018. With over 5,000 votes cast, the referendum passed with 76% voting yes and 24% voting no, showing the strong support in the community for storm water management.

#### **B. Implement the most effective flood control alternative(s) to mitigate future flood hazards.**

The City, through contracted consultants, has developed computer models to simulate rainfall

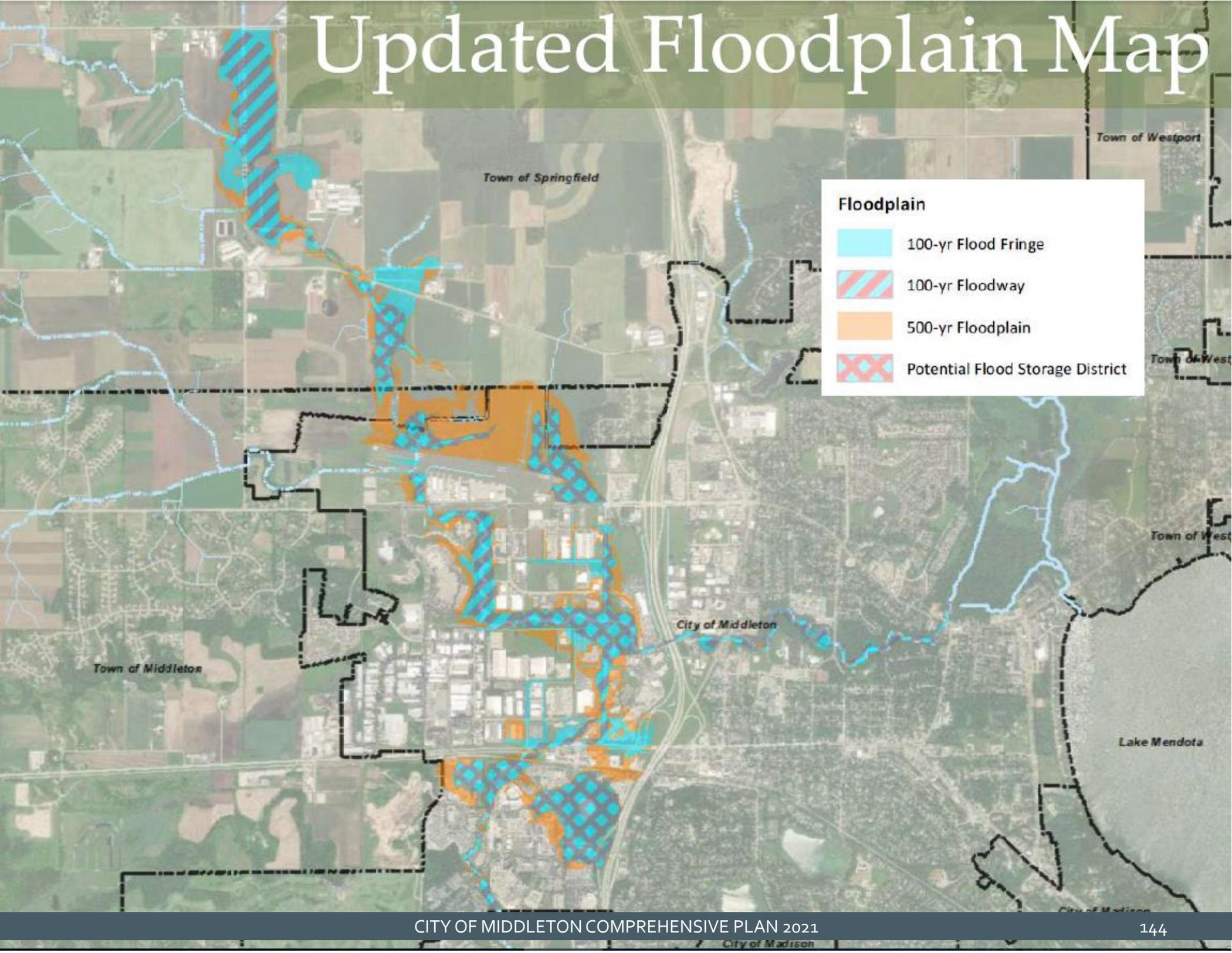
runoff and flooding to allow for the analysis of various options to implementing flood control improvements in the Pheasant Branch watershed. The flood model results on the following page show a site screening analysis of eight potential key management sites (four outside the City and four within). Using the computer model, each site and various combinations of sites are analyzed to determine the optimal combination of practices for flood control benefits. The results of the analysis will guide the City’s funding decisions to mitigate future flooding in Pheasant Branch Creek and its tributaries.

#### **C. Determine the appropriate application for the recently completed Floodplain Study and associated floodplain maps.**

In 2019, the City commissioned a study to update the Pheasant Branch Creek watershed floodplain maps. The update was necessary due to changes in the watershed (more urbanization), changes in rainfall patterns (heavier rains), and better information and predictive tools. The study included a simulation of the August 2018 flooding, as well as updates to the 100-year flood fringe area, 100-year floodway, 500-year floodplain, and a potential flood storage district. The City should continue to review the study and determine the best application for the maps. The three options are:

1. Apply for state and federal regulatory approval of the new floodplain maps pending outcome of any design improvements to storm water facilities.
2. Do not submit for formal state and federal regulatory approval but use the new floodplain maps as an advisory tool for City land use planning and storm water management.
3. Continue to use the existing regulatory floodplain maps.

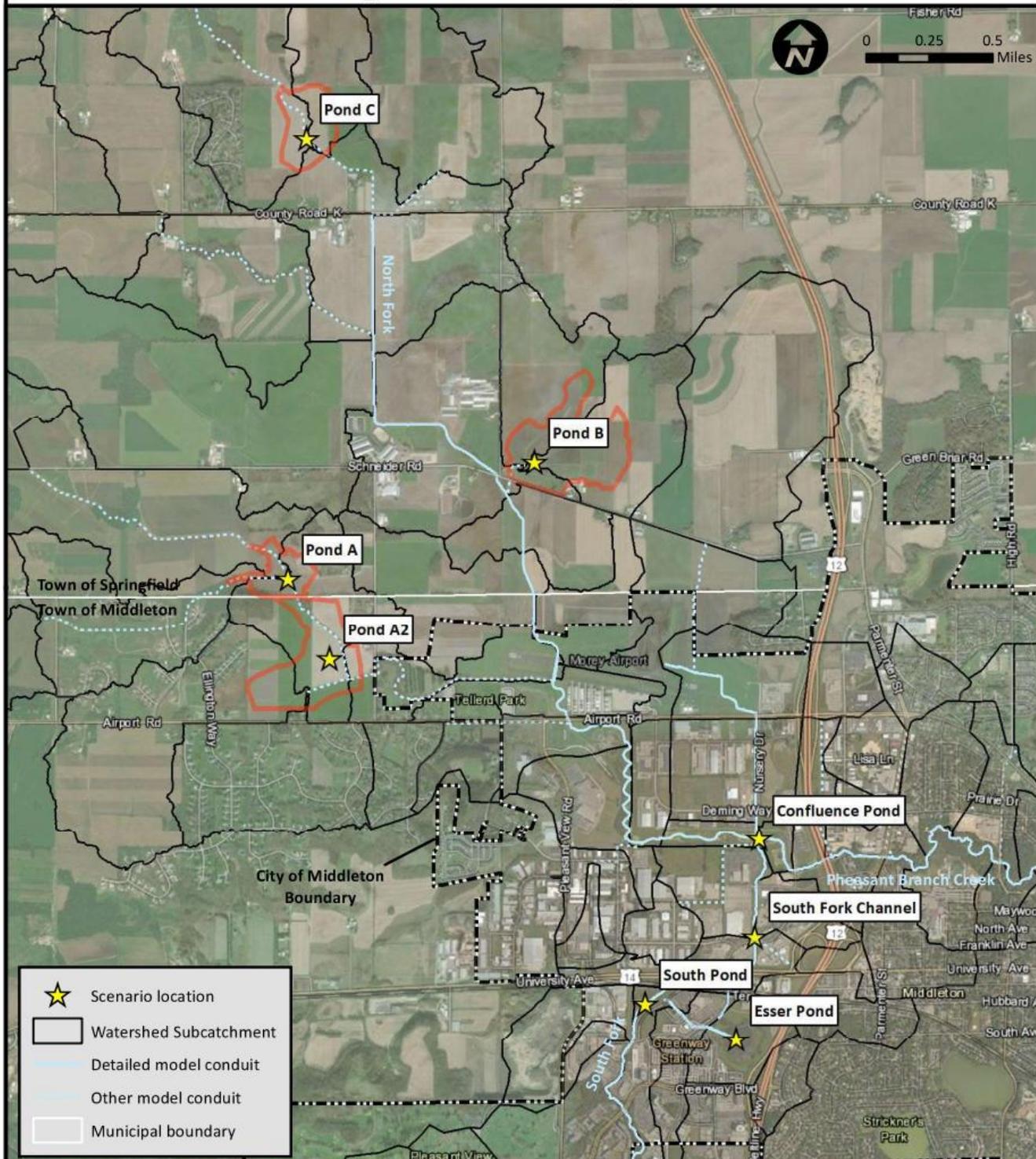
# Updated Floodplain Map



**Floodplain**

- 100-yr Flood Fringe
- 100-yr Floodway
- 500-yr Floodplain
- Potential Flood Storage District

Figure A1: Site Screening Locations



D. Consider updating the City’s Storm Water Runoff Control and Erosion Control ordinances to maintain the highest feasible water quality and quantity control standards that factor in updated rainfall data and best available technology.

The City has two ordinances directly relating to storm water runoff quality and quantity: Storm Water Runoff Control (Chapter 26) and Erosion Control (Chapter 28). The City’s MS4 Storm Water Permit (issued by the Wisconsin DNR) requires certain standards for the water quality components of the two ordinances. The City’s ordinances fully comply with those standards.

The Storm Water Runoff Control ordinance (Chapter 26) is also designed to mitigate the flooding aspects of storm water runoff from new land development and re-development activities. This component of the ordinance is focused on managing runoff rates (peak flow) from larger storm events – specifically the 10-, 25-, and 100-year rain events (for redevelopment, only the 10-year event is regulated).

Because of clear evidence of changing rainfall patterns, and heavier, more intense rain events over the past 10 to 20 years, some municipalities are considering updating the rainfall amounts and/or rain recurrence events that should be managed by the ordinance for flood control. For example, the rain depth specified in Chapter 26 for the 100-year, 24-hour event is 6.66 inches. The City should evaluate whether this rain depth is still appropriate to use given recent data, or if the value should be increased.

The City aspires to continue its strong commitment to improving storm water quality for the benefit of not just city stakeholders but also to protect the health of the Rock River and Wisconsin River watersheds.

**Strategy 9: Provide municipal facilities that are cost-effective, energy efficient, and constructed to a high standard of architectural quality, and municipal services that are available and accessible to all residents and businesses.**

Most of the City's facilities are concentrated in Downtown Middleton. The City should strive to make these facilities accessible to all residents in the community. As the City proceeds with planning for the 'Community Campus', accessibility, as well as sustainability, should be prioritized.

**Actions:**

**A. Design and construct Net Zero energy/carbon buildings that emphasize conservation of energy.**

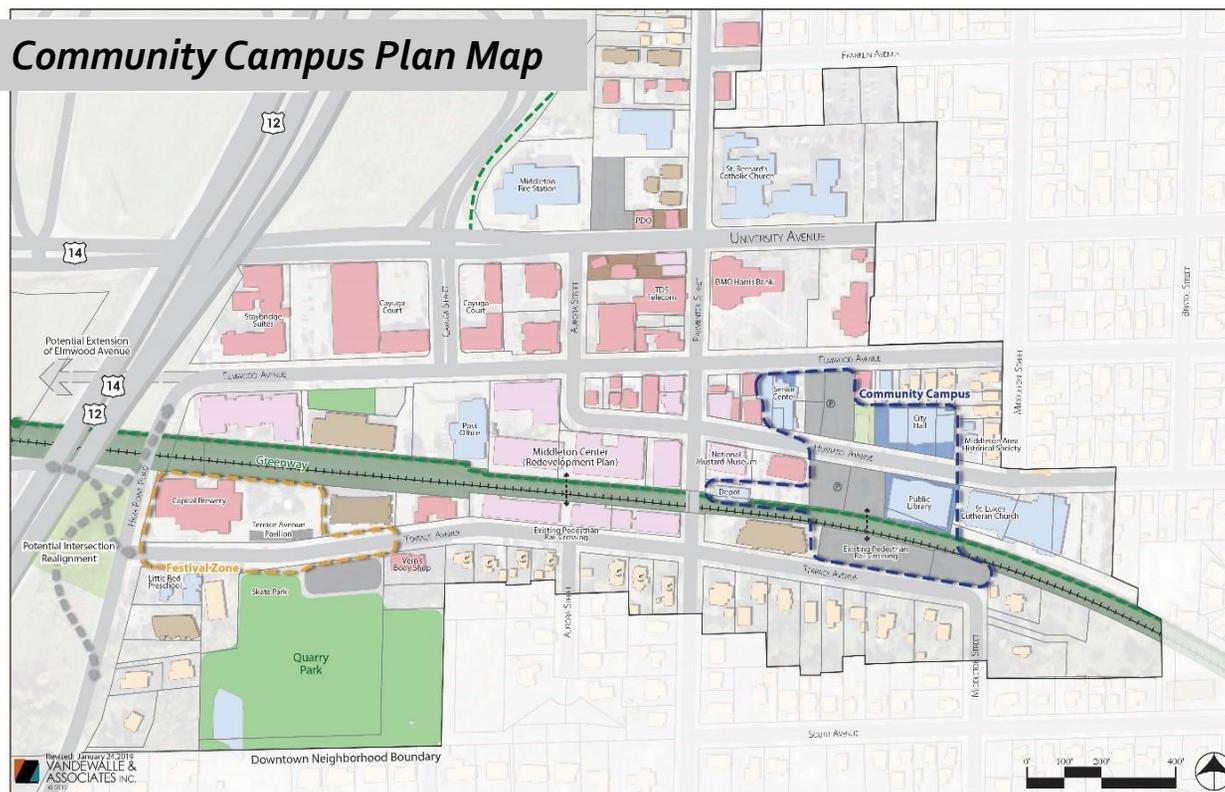
Net zero energy buildings are buildings where the total energy used by the building on an annual basis is equal to the amount of renewable energy generated on site. In order to achieve the City's clean energy goals, municipal buildings should be built to net zero standards where possible. See [Green City section](#) for details about Net Zero buildings.

**B. Complete the Community Campus Planning project.**

The Middleton Common Council approved funding beginning in 2019 for a Community Campus Plan for downtown Middleton. The planning area encompasses downtown Middleton City and Community Development Authority (CDA)-owned properties. The plan will consider the larger context of the entire downtown area, and the City as a whole.

The six primary goals for the Community Campus Plan are as follows:

1. Identify opportunities to modernize and/or replace the City's current public facilities in Downtown Middleton where needed and appropriate.
2. Identify opportunities for more efficient utilization of land through opportunities for combined facilities, flexible spaces that can serve more than one purpose, and underground and/or shared parking opportunities.
3. Ensure that municipal facility space needs are met and can accommodate future growth of the City.
4. Identify opportunities for private development or public-private partnerships. Mixed-use development is encouraged.
5. Enhance downtown Middleton by creating concepts for buildings that will be visually-appealing, inviting, customer-friendly, and functional.
6. Align with the City's ambitious goals related to environmental sustainability by identifying opportunities for compact urban form, renewable energy generation, energy-efficient design, water-efficient design, and sustainable storm water management and landscaping designs.



Additional for the Community Campus Plan include:

1. Ensure that the plan adequately serves the City in the long-term (50+ years), and that the plan document retains its relevance for at least 10 years.
2. Support downtown revitalization and redevelopment efforts, providing concept design alternatives that can support downtown Middleton for many decades.
3. Encourage a fresh perspective where creative alternatives can be considered and evaluated, and no outcomes are predetermined.
4. Protect the historic nature of downtown Middleton.
5. Consider visual and transportation impacts to nearby businesses and residents and ensure that the design is compatible with surrounding land uses.
6. Recommend appropriate design standards and building materials for the concept design alternatives.
7. Enhance the streetscape along Hubbard Avenue, Elmwood Avenue, and Terrace Avenue, and consider opportunities for public art locations as part of the concepts.
8. Encourage pedestrian-oriented building and site design.
9. Strengthen the City's identity and cohesive branding through its civic buildings.
10. Determine the available or likely building footprints and total square footages that can be accommodated in the concept design alternatives.

11. Assess parking needs for the involved land uses. Contemplate new technologies' impact on parking demand.
12. Enhance multi-modal connections between existing and future land uses (accommodate pedestrians, bicyclists, busses, and private motor vehicles).
13. Consider on and off-site traffic circulation in the concept design alternatives.

Due to the COVID-19 pandemic, and the need for enhanced (ideally in-person) public participation for this project, the timeline for completion was extended one year. The City expects to complete the Community Campus Plan by the end of 2021.



Photo: A public meeting held in September 2019 to discuss the Community Campus Plan options.

**C. Ensure that City planning documents and Capital Improvement Plans are updated regularly.**

The City maintains an extensive list of planning documents, which are regularly updated to reflect best practices and the community's priorities. It is important for the City to continue to maintain these plans in order to ensure orderly development, growth, and management, and to maintain grant eligibility.

**D. Continue and strengthen the programs offered by the Youth Center to support a diverse group of 5th-8th grade students in the Middleton community.**

The Middleton Youth Center is a free after school program for 5th-8th grade youth in our community. Youth Center programs include 1:1 mentoring, extended learning programs, tutoring, volunteer opportunities, recreational opportunities, and leadership development. The City partners with the Middleton-Cross Plains Area School District to fund and operate the Youth Center.



Photo: Youth Center participants engaging in a team building exercise where they had to build a tower by cooperatively raising up each cup with string

Department	Plan	Planning Horizon	Update Schedule	Latest Version
Administration	TID 3 & TID 5 Project Plans	Up to 27 Years	As needed	2020 / 2009
Finance	Capital Improvement Plan (C.I.P.)	5 Years	1 Year	2020
Finance	Debt Management Plan	20 Years	1 Year	2019
Finance	Long Range Financial Plan	5 Years	1 Year	2019
Library	Strategic Road Map	5 Years	5 Years	2020
Planning & Community Development	Comprehensive Plan	20 Years	10 Years	2020
Planning & Community Development	Bicycle & Pedestrian Plan	10 Years	10 Years	2009
Planning & Community Development	Sustainable City Plan	10 Years	3 Years	2010
Planning & Community Development	Master Plan for Public Art & Design	20 Years	10 Years	2009
Police	WILEAG Accreditation Report	3 Years	3 Years	2016
Public Lands	Conservancy Lands Plan	5 Years	5 Years	2018
Public Lands	Comprehensive Park & Open Space Plan	5 Years	5 Years	2020
Public Lands	Marketing Plan	1 Year	1 Year	2017
Public Lands	Recreation Programming Plan	5 Years	5 Years	2018
Public Lands	Strategic Plan	5 Years	5 Years	2018
Public Works	Five-Year Street Improvement Plan	5 Years	1 Year	2020
Senior Center	National Accreditation	5 Years	5 Years	2015
Tourism	Strategic Plan	3 Years	3 Years	2019
Utility	Utility Master Plan	50 Years	20 Years	2019

**E. Support the Senior Center’s efforts to provide a multi-purpose, safe, and accessible facility that offers a broad range of services for all older adults, providing activities that address spiritual, physical, emotional, artistic, creative and intellectual needs.**

The Senior Center is an age-friendly community that enriches the lives of older adults. The Senior Center environment is inclusive, appealing, safe and accessible for all participants. The Senior Center will continue to be a critical service as our residents age. The Middleton Senior Center has trained 100% of its employees, as well as 125 additional volunteers on “Dementia Friendly” practices. This training consists of how to serve people with dementia while raising awareness of the issues that people with dementia encounter.

**F. Prioritize high quality public safety for the betterment of the community.**

The City should ensure that police, fire, and EMS personnel have access to the staff, equipment, training, and facilities necessary to protect the health, safety, and equitable treatment of all City residents and visitors, and ensure that transportation facilities and new buildings are designed and maintained in a way that does not encumber emergency response times. The City should anticipate future public safety needs, including the replacement of rapid response equipment in northeastern Middleton to address the growing needs of the Fire District, as well as a potential second EMS station.

The City’s public services are exhibiting excellence in community engagement with the services they provide. The City should continue to prioritize funding for these programs, such as Citizens Academy, Volunteers in Police Service (VIPs), Family Safety Day, and National Night Out. Public safety is critical in maintaining the high quality of our community. Before the other

quality of life factors can be considered; a resident must first feel safe.

**G. Provide all city residents with access to health and recreation services as well as opportunities to promote active lifestyles and physical and mental health.**

The pandemic has illustrated just how much people value getting outdoors to exercise, meditate, and socialize. With a quarter of Middleton set aside as parks or conservancy lands, there are safe and attractive places within a few blocks of most residents. The City should continue to prioritize these high-quality public health offerings in our community.

**H. Support the Tourism Commission’s efforts to drive economic impact in Middleton through overnight stays, facilitate relationships with travel industry partners through effective communication, education and support services; and responsibly and strategically use room tax and other resources.**

The pandemic has affected the hospitality, restaurant, and retail industry more so than any others. The Tourism Commission’s immediate focus is to work to restore economic impact. The long-term focus of the Commission is to promote and encourage tourism for the City.



Photo: Recreation program participants enjoy a socially-distanced program called "Messy Art" for 4- and 5-year-olds.

## Footnotes:

1. Middleton Cross Plains Area School District (MCPASD) - K-12 Student Enrollment & Projections Spring 2017: Facilities Planning Edition  
<https://mcpasd.k12.wi.us/sites/mcpasd.k12.wi.us/files/content/facilities-planning/Spring2017FacilitiesPlanningNewsletter.pdf>
2. Environmental Protection Agency (EPA) - National Overview: Facts and Figures on Materials, Wastes and Recycling <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials>



Photo: Middleton Police Department members participating in the Move Over campaign to highlight the importance of moving over or slowing down for stopped emergency vehicles in order to ensure safety.

# IMPLEMENTATION

The City of Middleton Comprehensive Plan 2020 is a visioning document and not a regulatory document. None of the actions presented in this document will be implemented without action first from the Mayor and City Council. The Plan should be responsive to continuous change in our community, and its usefulness should be monitored to ensure that it is a consistent statement of City policy.

The City expects to take to carry out the goals, strategies, and actions of the Comprehensive Plan with the five following steps:

1. **Prioritize Actions** – Work on the schedule of short, medium, and long-term actions as a targeted work program to guide the ongoing implementation of the plan.
2. **Annual Report** – Prepare an annual report describing how the plan has been used and what changes have occurred that may affect the relevance of the document.
3. **Periodic Amendments** - Propose periodic amendments to the plan as conditions warrant.
4. **Regular Reviews** - Conduct a formal review of the plan at least once every five years.
5. **Consistency** – Ensure the City’s actions are consistent with the policies of the Comprehensive Plan. These actions include:
  - Review of development applications
  - Corridor and district plans
  - Official maps\*
  - The zoning ordinance and zoning map\*
  - The subdivision ordinance\*

\*Wisconsin law requires that these actions be consistent with the adopted comprehensive plan.



## **Definitions**

**Accessibility-** The “ability to access” and benefit from some system or entity. The concept often focuses on people with disabilities or special needs and their right of access, enabling the use of assistive technology.

**Accessory Dwelling Unit (ADU)-** A secondary house or apartment that shares the building lot of a larger, primary house.

**Adaptation-** The process of adjustment to global warming (also known as climate change) and its effects.

**Affordable Housing Extension-** A opportunity to extend the life of a Tax Increment District (TID) by up to one year if the municipality uses the final year's increment to benefit affordable housing.

**Autonomous Vehicle-** A vehicle that is capable of sensing its environment and moving safely with little or no human input.

**Barrier-Free Access-** Design for those with physical or other disabilities, involving the provision of alternative means of access to steps (e.g. ramps and lifts (elevators) for those with mobility problems). It is also called universal or barrier-free design.

**Bike Boulevard-** A neighborhood bikeway composed of a low-speed street which has been "optimized" for bicycle traffic.

**Bike Corrals-** An on-street bicycle parking facility that can accommodate up to 16 bicycles in the same area as a single vehicle parking space. When placed near street corners, a corral also increases visibility and creates an additional buffer between people walking and people driving.

**Biodigester-** A device or structure in which the digestion of organic waste matter by bacteria takes place with the production of a burnable biogas and a nutrient-rich slurry.

**Biodiversity-** The variety of life in the world or in a particular habitat or ecosystem.

**Bioswale-** A long, channeled depression or trench that receives rainwater runoff (as from a parking lot) and has vegetation (such as grasses, flowering herbs, and shrubs) and organic matter (such as mulch) to slow water infiltration and filter out pollutants.

**Bollard-** A sturdy, short, vertical post installed to control road traffic.

**Blue Roof-** A roof of a building that is designed explicitly to provide initial temporary water storage and then gradual release of stored water, typically rainfall.

**Building Suitability-** A soil survey that evaluates soil types based on their ability to support buildings with basements. Areas identified as "Very Limited" are challenging for development given sloping, steepness, wetness or other limitations. "Somewhat Limited" areas are better suited for development if certain precautions or mitigation techniques are used.

**Bus Rapid Transit (BRT)-** A high-quality bus-based transit system that delivers fast, comfortable, and cost-effective service with a high-level of capacity. This is done through the use of specialized lanes, dedicated boarding stations, off-board fare collection, and fast and frequent operations.

**Business Recovery Center-** A business recovery center is a one-stop shop set up to provide local, state and federal resources and services for businesses after a catastrophic event.

**Carbon Emissions-** The release of carbon into the atmosphere. Also known as greenhouse gas emissions; the main contributors to climate change.

**Carbon Sequestration-** The long-term removal, capture or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO<sub>2</sub> pollution and to mitigate or reverse global warming.

**Circular City-** A community that eliminates waste, keeps goods and their ingredients in use, and regenerates natural systems. This can involve more distributed ways of managing resources, including exchanging or renting goods instead of buying them.

**Climate Change-** The change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

**Compact Development / Compact Growth-** Compact design means making more efficient use of land. Encouraging development to grow up, rather than out, is one way to do this.

**Complete Neighborhoods-** Neighborhoods where residents can access all their daily needs within a safe walking distance.

**Community Land Trust-** A nonprofit corporation that holds land on behalf of a place-based community, while serving as the long-term steward for affordable housing, community gardens, civic buildings, commercial spaces and other community assets on behalf of a community.

**Complete Streets-** A policy that requires that the design and operations of the entire right-of-way balance the safety and convenience of all road users regardless of age, ability, or mode of transportation.

**Connectivity-** the directness of links and the density of connections in a transport network. A highly permeable network has many short links, numerous intersections, and minimal dead-ends. As connectivity increases, travel distances decrease and route options increase, allowing more direct travel between destinations, creating a more accessible and resilient transportation system.

**Curb Extension-** A traffic calming measure which widens the sidewalk for a short distance. This reduces the crossing distance and allowing pedestrians and drivers to see each other better when parked vehicles would otherwise restrict visibility.

**Delivery Economy-** The transformation of retail, driven by customer demands for the highest possible level of service, especially around the delivery experience.

**Deep Tillage-** Performing tillage operations below the normal tillage depth to modify the physical or chemical properties of a soil.

**Down Payment Assistance Loan Program-** A program that helps homebuyers with low-interest loans that reduce the amount they need to save for a down payment to buy a home.

**Ecosystem Services-** The direct and indirect contributions of ecosystems to human well-being. They support directly or indirectly our survival and quality of life.

Ecosystem services can be categorized in four main types:

- **Provisioning services** are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources and medicines.
- **Regulating services** are defined as the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control.
- **Habitat services** highlight the importance of ecosystems to provide habitat for migratory species and to maintain the viability of gene-pools.
- **Cultural services** include non-material benefits that people obtain from ecosystems such as spiritual enrichment, intellectual development, recreation and aesthetic values.

**Energy Reliability-** The ability of an energy system or component to function under stated conditions for a specified period of time.

**Equity (Social Equity)-** Just and fair inclusion into a society in which all can participate, prosper, and reach their full potential. Unlike equality, which connotes sameness, equity is responsive to difference. Equitable policies actively mitigate the disproportionate harm faced by certain communities.

**Evapotranspiration-** The process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.

**First Time Homebuyer-** Per the U.S. Department of Housing and Urban Development (HUD), an individual who has had no ownership in a principal residence during the 3-year period ending on the date of purchase of the property. This includes a spouse (if either meets the above test, they are considered first-time homebuyers).

**Floodplain-** Land which has been or may be covered by flood water during a regional flood. It includes the floodway and the flood-fringe, and it may include other designated floodplain areas for regulatory purposes.

**Global Warming -** A gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect caused by increased levels of carbon dioxide, chlorofluorocarbons, and other pollutants.

**Green Building-** A building that, in its design, construction or operation, reduces or eliminates negative impacts. Such a building can create positive impacts on our climate and natural environment.

**Green Economy-** An economic idea that represents the confluence of economic development, workforce development, and environmental stewardship. Green economic practices are unique in that they encourage economic and workforce development departments in local government to account for the environmental impacts of their decision-making, while environmental departments are encouraged to account for the ways their policies influence economic growth and job creation. The concept is predicated on the idea that economic prosperity and environmentalism should be mutually beneficial.

**Green Infrastructure-** A planned network of natural and semi-natural areas in urban areas strategically designed to solve problems with storm water management, heat stress, air quality and biodiversity, to name just a few examples. Urban trees, green roofs and facades and constructed wetlands are some common examples.

**Green Roof-** An extension of the existing roof which involves, at a minimum, high quality water-proofing, root repellent system, drainage system, filter cloth, a lightweight growing medium, and plants.

**Grey water system-** A greywater system filters water coming out of bathtubs and washing machines from the home for use again. This water is recycled rather than flowing directly into a sewer or a septic system.

**Health in All Policies-** A collaborative approach that integrates and articulates health considerations into policymaking across sectors to improve the health of all communities and people.

**Housing Gap-** The difference between the number of lower-income households in the community and the number of units whose rent would be affordable to those households.

**Hydric Soil-** A soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

**Impervious Surface-** A hard area that doesn't allow water to seep into the ground.

**Income-Restricted-** Housing units that are eligible for reduced or subsidized payments with income caps that determine eligibility, helping low-income households find affordable housing.

**Infill Development-** The process of developing vacant or under-used parcels within existing urban areas.

**Infiltration-** The process by which water on the ground surface enters the soil. It is commonly used in both hydrology and soil sciences. The infiltration capacity is defined as the maximum rate of infiltration.

**Just Resilience-** Nonviolent Resilience is the Kingian nonviolent philosophy of building the Beloved Community where practitioners lead with nonviolence. We collectively build just ecosystems, where every individual in a community has equitable access to resources to be sustainable and resilient. It's a green economy where progress isn't gained at the expense of others. – Dr. Bernice A. King

**LEED Certification-** LEED (Leadership in Energy and Environmental Design) is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across a variety of metrics, including: energy savings, water efficiency, CO<sub>2</sub> emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

**Low-Income Housing Tax Credit (LIHTC)-** A tax incentive to construct or rehabilitate affordable rental housing for low-income households. The Low-Income Housing Tax Credit (LIHTC) subsidizes the acquisition, construction, and rehabilitation of affordable rental housing for low- and moderate-income tenants.

**Microgrid-** A local energy grid with control capability, which means it can disconnect from the traditional grid and operate autonomously.

**Micromobility-** Various small, lightweight devices that are designed to carry individuals relatively short distances at speeds generally below 16 mph. The term is used to describe electric bicycles, e-scooters, Segways, and similar device; traditional examples include manual bicycles, scooters, and skateboards.

**Missing Middle Housing-** A range of house-scale buildings with multiple units—compatible in scale and form with detached single-family homes—located in a walkable neighborhood.

**Mixed-Use-** Development that is characterized as pedestrian-friendly and that blends two or more residential, commercial, cultural, institutional, and/or industrial uses.

**Multi-Modal Transportation-** Planning that considers various modes (walking, cycling, automobile, public transit, etc.) and connections among modes.

**On-Bill Financing-** A financing program for home upgrades whereby utility customers repay their energy efficiency loan through monthly repayments on their energy bill using the savings the energy savings they have accrued.

**Parklet-** A public seating platform in a parking spot that is flush with the sidewalk level and incorporates seating and greenery, which in turn increases foot traffic and revenues for the adjoining, sponsoring business.

**Placemaking-** A multi-faceted approach to the planning, design and management of public spaces. Placemaking capitalizes on a local community's assets, inspiration, and potential, with the intention of creating public spaces that promote people's health, happiness, and well-being.

**Planned Development District (PDD)-** The Planned Development District provides a regulatory framework to encourage improved environmental design by allowing flexibility in the development of land while insuring compliance with the basic intent of the Zoning Ordinance and with the Comprehensive Plan. The Planned Development District has no "set" standards and specifications. Developers can propose uses or combination of uses and configurations of intensity and density of development. PDDs require a process of Plan Commission review, public hearing and Common Council review and approval. The details of a PDD agreement constitute the zoning controls of the property.

**Property Assessed Clean Energy (PACE) Financing-** An innovative program that enables property owners to obtain low-cost, long-term loans for energy efficiency, renewable energy, and water conservation improvements.

**Public Art-** Art in any media whose form, function and meaning are created for the general public through a public process.

**Public/Private Partnerships-** A collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centers.

**Public Realm-** The publicly owned places and spaces that belong to and are accessible by everyone. These can include municipal streets, lanes, squares, plazas, sidewalks, trails, parks, open spaces, waterfronts, public transit systems, conservation areas, and civic buildings and institutions.

**Rain Garden-** A garden that lies below the level of its surroundings, designed to absorb rainwater that runs off of a surface such as a patio or roof.

**Rectangular Rapid Flashing Beacon (RRFB)-** Rectangular shaped, high-intensity signal heads which flash in a rapid flickering pattern to alert motorists that a pedestrian is crossing a roadway.

**Shared Streets-** An urban planning approach that minimizes the segregation between modes of road user.

**Sharrow-** A road marking in the form of two inverted V-shapes above a bicycle. The symbol is used to indicate a shared bicycle/vehicle lane, particularly along important bicycle routes where there is not enough room for a dedicated bicycle lane.

**Short-Term Rental-** A furnished, self-contained dwelling unit that is rented for short periods of time, usually by the month, week, or day, as opposed to annual rentals. Short-term rentals are seen as an alternative to hotels.

**Signal Sensor Markings-** A place in the roadway where a bicyclist aligns their bike to trigger the traffic signal to change.

**Social Cohesion-** The extent of connectedness and solidarity among groups in society.

**Social Justice-** The view that everyone deserves equal economic, political, and social rights and opportunities.

**Storm Water Runoff-** The flow of water occurring on the ground surface when excess rainwater, stormwater, meltwater, or water from other sources can no longer sufficiently rapidly infiltrate in the soil.

**Streetscaping-** The visual elements of a street, including the road, adjoining buildings, street furniture, trees and open spaces, and more that combine to form the street's character.

**Structural Racism-** A form of racism that is embedded as normal practice within society or an organization. It can lead to such issues as discrimination in criminal justice, employment, housing, health care, political power, and education, among other issues.

**Superblock-** A type of city block that is much larger than a traditional city block.

**Sustainability-** well-being for all, now and in the future.

**Sustainable Business-** A sustainable business has no negative impact, but instead a potentially a positive impact, on the global or local environment.

**Tactical Urbanism-** The use of various measures that can help identify in an interim, low-cost way whether a reconstructed street would benefit from curb extensions, pavement treatments, street furniture, public art, landscaping, or other design techniques.

**Tax Increment Financing (TIF)-** A financing tool where cities can use the increased property tax revenue from new development or redevelopment in an area (called a TIF District or TID) in order to pay for public infrastructure projects or economic development projects in the TID. TIF works by temporarily capturing a portion of property tax revenues collected in the TID to pay for eligible project costs. TIF is the main economic development tool available to Wisconsin cities.

**Transit Oriented Development (TOD)-** the creation of mixed-use commercial, residential, office, and entertainment districts centered around or located near a transit station.

**TRUE Rating System-** TRUE, or Total Resource Use and Efficiency, is a zero-waste certification program is used by facilities to define, pursue and achieve their zero waste goals, cutting their carbon footprint and supporting public health.

**Underutilized Site-** A property or building which is not used to its fullest economic potential. In some cases the sites are vacant; others are partially vacant.

**Urban Heat Island-** Urbanized areas that experience higher temperatures than outlying areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies.

**Urban Service Area (USA)-** Areas in and around existing communities that have the capacity to provide a full range of urban services, making them most suitable for development. USA boundaries represent the outer limits of planned urban growth over a long-term planning period. Amendments to the original areas expand services as communities grow.

**“Vision Zero”-** An urban planning approach that identifies crashes involving motor vehicles as a preventable public health crisis and that the only acceptable number of fatal crashes should be zero.

**Walkability-** A measure of how friendly an area is to walking. Factors influencing walkability include the presence or absence and quality of sidewalks, or other pedestrian paths, traffic and road conditions, land use patterns, building accessibility, and safety, among others. Walkability has health, environmental, and economic benefits.

**Watershed-** An area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel.

**Wetland-** An area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

**Zoning-** A division of land into areas called zones, each of which has a set of regulations for new development that differs from other zones.



# MIDDLETON CITY HALL