



Greater Madison grows together

2050 REGIONAL
DEVELOPMENT
FRAMEWORK





The Capital Area Regional Planning Commission

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01

Introduction



One of our region's key challenges is growth.

With almost 200,000 more people projected to live in Dane County by the year 2050, our choices about how and where people live, work, and travel set the stage for future quality of life.



+200,000

POPULATION GROWTH



Overview

As the greater Madison region continues to grow, the choices we make today about how and where people live, work, and travel set the stage for our future quality of life. Agreeing on a direction now will ensure the region realizes its full potential.

The 2050 Regional Development Framework lays the necessary foundation to support continuing growth by pinpointing opportunities and mapping realistic planning concepts. This Framework is designed to serve as a guide for local communities and regional agencies as they plan for future growth and undertake development projects.

Land use history

Humans have settled along the shores of Waksixhomik, the Ho-Chunk language name for Lake Mendota, for the last 12,000 years. For most of this history, oak savannas and wetlands were the primary land cover. The Ho-Chunk people took a homeostatic approach to land use, settling in permanent villages, cultivating crops in large gardens, fishing rivers and lakes, and participating in communal bison hunts on prairies to the southwest. Teejop (the original Ho-Chunk language name for Madison, meaning Four Lakes) was also the center of mound building culture, with thousands of mounds constructed on bluffs and hills or near springs.

Since 1832, the demographics of the greater Teejop region have changed drastically from 99.9% Ho-Chunk to a 99% non-Native population due to the U.S. government's forcible removal

of Native peoples from their ancestral lands. As people of European descent began to occupy the region, they filled wetlands, converted large areas to agriculture, and introduced new species and impervious land covers. These new uses transformed the landscape to primarily agricultural with urban and rural settlements.

Planning context

Modern land use planning in Dane County began much more recently. CARPC's predecessor, the Dane County Regional Planning Commission, first laid out the concepts of focusing development in areas served by a full range of urban services and restricting development on environmentally sensitive areas in a 1973 Regional Land Use Plan.

Over time these concepts became embedded in federal and state environmental legislation, laying the foundation for a regional planning framework comprised of three key components: water quality, resource protection, and farmland preservation. The Clean Water Act established Urban Service Area planning in areas with significant water quality problems. Environmental legislation also protected sensitive natural resources such as floodplains, wetlands, and steep slopes from development.

The Wisconsin Farmland Preservation Program provided the third leg in the three-legged stool of Dane County's regional planning framework. While Urban Service Area planning focuses development in expanding urban areas and environmental corridors protect sensitive natural

resources, farmland preservation areas restrict development on land zoned exclusively for agriculture.

In the 1950s, the state legislature adopted a [regional planning statute](#) charging regional planning commissions with the responsibility of “preparing and adopting a master plan for the physical development of the region” that would be “solely advisory to local governments.” In Dane County, the [Vision 2020: Dane County Land Use and Transportation Plan](#) fulfilled this requirement from the late 1990s to 2020.

A new Framework for regional development

Since 2019, CARPC has been preparing an update to Vision 2020 known as the Regional Development Framework. The updated Framework draws on public priorities, local government input, and growth projections to establish goals, objectives, and strategies for accommodating future growth in the Dane County region.

The Framework is designed to serve as a guide for incorporating big picture goals into individual decisions about where and how to grow. The strategies outlined in the Framework will promote growth that:

- Reduces greenhouse gas emissions and fosters community resilience to climate change
- Increases access to jobs, housing, and services for all people
- Conserves farmland, water resources, natural areas, and fiscal resources

The updated Regional Development Framework builds on the three-legged stool approach established by previous planning efforts, while also incorporating smart growth principles and addressing current priorities like climate change and equity. It reflects recent approaches to planning and development such as focusing growth in centers and along corridors and

promoting infill development. The updated Framework also includes specific development practices to increase the tree canopy, manage stormwater runoff, and reduce urban surface temperatures.

About the Capital Area RPC

The Capital Area Regional Planning Commission (CARPC) is one of nine regional planning commissions (RPCs) in Wisconsin. Local communities establish RPCs to address issues that go beyond municipal boundaries. As an independent unit of government, CARPC develops and promotes regional plans, provides objective information, and supports local planning efforts. CARPC’s planning region includes the cities, towns, and villages in Dane County.

OUR MISSION

To strengthen the region by engaging communities through planning, collaboration, and assistance.

OUR VISION

A region where communities create exceptional quality of life for all by working together to solve regional challenges

OUR ACTIVITIES

- Bringing communities together to collaborate on land use and water quality plans
- Developing a long-range Regional Development Framework that looks ahead 20–30 years
- Administering a regional Water Quality Management Planning Program for the DNR
- Conducting watershed and future urban development planning
- Providing planning, mapping, and data assistance to local communities

Planning Process

A Framework shaped by you

The work to prepare this Framework started in 2018 with the [A Greater Madison Vision](#) (AGMV) initiative. This initiative, guided by leaders from business, government, and community organizations, engaged people across the region to share their priorities for possible futures.

A Greater Madison Vision culminated in a public survey that sought input on growth scenarios and asked participants their priorities for future growth. More than 9,000 people completed the survey.

The top priorities identified in the survey were:

- Reducing and becoming resilient to climate change
- Increasing access to opportunity for all people
- Expanding housing and transportation choices

Read more about AGMV survey results in [Appendix A](#).

CARPC's Regional Development Framework carries forward the AGMV message that "how we grow matters" and presents a vision for regional growth.

Defining a vision for the future

Drawing on the public priorities identified during the AGMV process, CARPC established draft goals and objectives for regional development. These goals and objectives were refined based

on alignment with CARPC's mission and vision and feedback from local government officials.

Identifying strategies

After establishing goals and objectives that capture the priorities of Madison region stakeholders, CARPC identified growth strategies that can best achieve them.

This step involved researching the approaches used in Dane County communities and other regions to achieve similar goals and objectives. CARPC examined and identified common themes from the regional plans of more than a dozen regions across the U.S. CARPC also reviewed comprehensive plans from most communities in the greater Madison region and consulted with 16 local community officials who



9,186
PARTICIPANTS



2,109
COMMENTS

served on the Technical Advisory Committee during the Regional Development Framework's development.

From this research, CARPC identified six strategies to guide regional development patterns:

- Focus growth in centers and along corridors
- Prioritize growth in already developed areas
- Plan areas for quality business growth
- Plan complete neighborhoods
- Preserve stewardship areas
- Preserve farming areas

In addition to these broad strategies, the Framework proposes the following strategies for specific development practices to further our climate-related goals and objectives:

- Encourage tree preservation and planting
- Encourage practices that reduce stormwater runoff
- Encourage practices that reduce surface temperatures

Mapping projected growth

After identifying development strategies, CARPC worked with local communities and the Greater Madison MPO to prepare population, household, and employment growth projections to 2035 and 2050 for Dane County and local municipalities. These projections were used to create a growth scenario that accommodates projected growth and achieves Framework goals. The scenario places enough residential, business, and civic buildings throughout the region to accommodate the new population and jobs projected over the next 30 years.

To create the 2050 scenario, CARPC worked with local community officials to locate building structures on a regional map according to the strategies listed above. CARPC partnered with the Greater Madison MPO and the City of

2050 FRAMEWORK Outreach & Engagement

The 2050 Regional Development Framework was shaped by extensive input from Dane County communities.

GOALS & OBJECTIVES

The Framework's draft goals and objectives came from public priorities identified by A Greater Madison Vision. They were refined based on input from local officials.



LOCAL CONSULTATION

Development strategies and future growth patterns were identified from community comprehensive plans, future land use maps, and consultations with local officials.



TECHNICAL ADVISORY COMMITTEE

Representatives from 16 Dane County communities provided valuable feedback throughout the planning process.



2050 GROWTH SCENARIO

A 2050 growth scenario was created based on local maps and plans. Municipal staff confirmed local accuracy of draft projections.



PRESENTATIONS

CARPC staff presented the draft Framework and growth scenario to 30+ community and stakeholder groups to get their feedback.



Average household transportation & utility costs

FROM 2020 – 2050
9% REDUCTION



Madison to use a land use modeling program called UrbanFootprint to create the map and scenario.

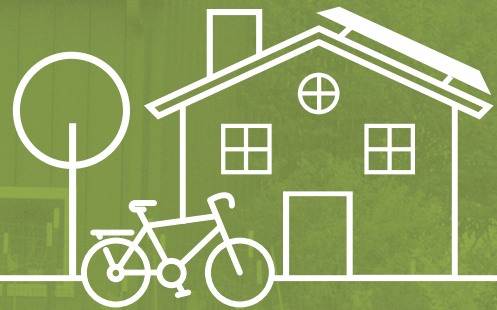
The mapping process mostly involved increasing the land use intensity of individual sites. For example, to prioritize growth in already developed areas and focus growth in centers and corridors, a single-story strip mall with a large parking lot might be changed to a multistory building with underground parking, businesses on the ground floor, and residences on the upper floors. While making such land use changes, CARPC sought to be both realistic, in the sense of being true to local comprehensive plans and the development market, and aspirational, by applying the strategies to the greatest extent feasible given these realities.

PERFORMANCE

Once complete, UrbanFootprint generated estimates of a range of outcomes such as acres of farmland and open space converted to development, average household costs for energy and transportation, and greenhouse

Average household greenhouse gas emission

FROM 2020 – 2050
7% REDUCTION



gas emissions. If future development follows the Framework's prescribed development patterns, UrbanFootprint estimates that household transportation and utility costs will decrease 9% on average, with a 7% reduction in average household greenhouse gas emissions from 2020 to 2050.

DATA & METHODOLOGY LIMITATIONS

As with any modeling endeavor, the Framework's 2050 growth scenario was shaped by the unique inputs and constraints selected during projection calculations. The Framework's projections were completed before 2020 Census data became available. In lieu of updated projections from the Wisconsin Department of Administration, CARPC and MPO staff attempted to mimic DOA's historically conservative estimates by adjusting Woods & Poole population projections using a conservative, linear trendline based on 1970–2010 Census data.

Local municipalities routinely develop their own population and housing growth projections that are likely to differ from those used in the

Framework due to data and methodology variations. Because the Framework's projections were generated through an intentionally conservative approach, they are likely to be lower than local projections. CARPC will update the Regional Development Framework every five years in order to accommodate updated data and information.

FUTURE LAND USE MAPS VS. 2050 GROWTH SCENARIO MAPS

The Framework's 2050 scenario maps differ from future land use maps found in local comprehensive plans. Future land use maps show areas designated for general categories of future development such as medium density residential or commercial. The development areas shown on future land use maps are designed to accommodate projected population growth plus a "flexibility factor" (typically 100% of projected growth) to account for uncertainties in the development process.

In contrast, the 2050 growth scenario used a land use modeling tool to apply specific land use types that accommodate only projected population and employment increases for each municipality, with no flexibility factor. Land use types were selected to reflect short- and long-term growth, as depicted in local plans and verified by municipal representatives, following the Regional Development Framework strategies. Model outputs were then generalized to show areas of concentrated urban development in hexagons. The resulting scenario maps illustrate one potential application of the Framework's regional development pattern scenarios.

See [Appendix B](#) for greater detail on the growth projection methods and UrbanFootprint modeling process.

Refining the Framework

CARPC received comments on a draft of the Framework report, including goals and objectives, strategies, and 2050 growth projections, over a period of 12 weeks in the spring of 2022. Municipal leaders and members of the general public submitted their feedback through email, the Regional Development Framework website, individual meetings, and a roundtable event hosted by the Dane County Cities' and Villages' Association.

CARPC staff reviewed each comment received, incorporated them into the final Framework revision process, and provided individual responses to the majority of non-anonymous comments. A summary of the comments received is available on the Framework website.

02

The Regional Development Framework

A GUIDE TO ADDRESS WHERE AND HOW
TO GROW AS A REGION.



The Framework is designed to address the region's top priorities.

01

Reduce greenhouse gas emissions and foster community climate resilience

02

Increase access to jobs, housing, and services for all people

03

Conserve farmland, water resources, natural areas, and fiscal resources



A Vision for the Future

CARPC based the Regional Development Framework's goals and objectives on future growth priorities established through [A Greater Madison Vision](#) (see [Planning Process](#)). After receiving strong support from local government officials for the Framework's draft goals and objectives, the Commission adopted them in 2020.

The three overarching goals that guide the Regional Development Framework are to promote regional development that:

1. Reduces greenhouse gas emissions and fosters community resilience to climate change
2. Increases access to jobs, housing and services for all people
3. Conserves farmland, water resources, natural areas, and fiscal resources

These goals identify the region's desired long-term priorities. Each **goal** is supported by **OBJECTIVES** for more specific outcomes to pursue in the shorter term.

Reduce greenhouse gas emissions and increase climate resilience














Reducing greenhouse gas emissions means reducing the release of gases that trap heat in the atmosphere and cause global warming. Burning fossil fuels for energy, transportation, and industry releases carbon dioxide, the primary contributor to global warming. Carbon dioxide and other gases such as methane and

nitrous oxide are also released from agriculture, waste management, and deforestation.

Land use patterns and development practices can have a significant impact on regional greenhouse gas emissions, particularly from the transportation and building sectors. The layout of a region affects how far and how frequently people travel in motor vehicles to reach destinations as well as the types of housing that people live in. Some land uses, such as industrial sites, act as **sources** of greenhouse gases, while others, such as high quality woodlands, act as **sinks**. Land use patterns and practices also determine whether other climate change strategies, like regional transit, are feasible. The Regional Development Framework promotes development patterns that reduce motor vehicle travel and increase housing choices, including compact options, and development practices that aim to increase the region's carbon sinks relative to its carbon sources.

No single land use strategy will eliminate greenhouse gas emissions altogether, but strategic regional development is a vital component of a comprehensive strategy to achieve net zero greenhouse gas emissions by 2050 or sooner. The [Dane County Climate Action Plan](#) recognizes the role of land use. It calls for similar strategies as the Regional Development Framework to reduce vehicle miles traveled as part of a broader transportation approach which also includes vehicle electrification.

Increasing our resilience to climate change is also necessary because we have already

Objectives	Goals		
	Climate	Opportunity	Conservation
Increase percent of development that is compact, mixed, walkable, and where feasible, transit supportive			
Increase the tree canopy			
Increase infiltration of precipitation and reduce stormwater runoff			
Decrease urban heat island effect			
Decrease racial disparities			
Generate housing supply to meet demand			
Grow business and jobs in targeted sectors			
Increase physical access of residents to jobs and services			
Enhance stewardship and natural resource areas			
Designate and protect regional farmland preservation areas			
Increase density and ensure good connectivity among developments			

committed to a certain degree of long-term warming based on past and current emissions. According to the [Wisconsin Initiative on Climate Change Impacts](#), this will mean warmer and wetter weather and more frequent extreme weather events for the greater Madison region. The reality of these impacts hit home in August 2018 with a major flooding event that resulted in loss of life and millions of dollars in damage. This event heightened regional awareness of the importance of increasing flood resilience and reducing future flood risk.

The Regional Development Framework promotes development and land uses that reduce flood risk by increasing infiltration of rainfall and snowmelt compared to conventional development, thereby reducing the volume of water that runs off the land into streams, rivers, and lakes. The Framework also seeks to reduce the urban heat island effect caused by

pavement, buildings, and other hard surfaces absorbing and retaining heat, exacerbating high temperatures and humidity.

INCREASE COMPACT, MIXED, WALKABLE, AND TRANSIT SUPPORTIVE DEVELOPMENT

This objective is key to meeting all three of the Regional Development Framework’s goals. First, this type of development helps reduce greenhouse gas emissions by reducing the amount of driving people need to do to reach desired destinations. When buildings are closer together, travel distances are reduced. Developments that mix housing, business, and civic uses in close proximity increase the number and variety of destinations accessible via short trips.

Grouping destinations in this way also increases the viability of more fuel-efficient travel options.



Compact, mixed-use developments, combined with street layouts and designs that make walking or biking feasible and enjoyable, enable people to travel by foot for many daily needs. Connecting these activity centers through corridors make transit fast and convenient enough to replace some automobile travel.

INCREASE THE TREE CANOPY

Achieving this objective reduces greenhouse gases in the atmosphere because trees absorb carbon dioxide. Trees in urban areas also reduce building energy consumption, and related greenhouse gas emissions, by cooling buildings with shade rather than air conditioning. Increasing the tree canopy also fosters resilience to climate change because trees take up significant volumes of water, thus reducing the amount of stormwater runoff with the potential to cause flooding.

INCREASE INFILTRATION OF PRECIPITATION AND REDUCE STORMWATER RUNOFF

Historically, municipalities managed stormwater with traditional **grey infrastructure** such as curb and gutter, storm sewer, and concrete drainageways. Grey infrastructure quickly moves

large amounts of stormwater runoff away from cities, towns, and places of development. Together with high levels of impervious surfaces in developed areas, this approach to stormwater management significantly inhibits stormwater infiltration and dramatically increases stormwater runoff and discharge to surface waters, often bringing pollutants with it.

Green infrastructure is an approach to stormwater management that protects, restores, and mimics the natural water cycle. Using plants and soils to store, infiltrate, and evapotranspire stormwater reduces runoff to surface waters and improves water quality.

In addition to tree plantings, green infrastructure in urban settings can include rain gardens, green roofs, permeable pavements, rainwater harvesting systems, and greenways. Rural green infrastructure practices include sediment basins, floodplains, prairie and wetland restorations, vegetated buffers, and native plant vegetation. When implemented on farmland, green infrastructure practices like prairie strips, cover cropping, and soil health improvements are commonly referred to as **regenerative agriculture practices**.

Managing stormwater using green infrastructure allows a much greater amount of precipitation

to infiltrate where it falls, reducing stormwater runoff and improving water quality in our lakes and rivers. These benefits are especially significant in areas originally developed with minimal stormwater management and in agricultural settings. By creating a built environment that more closely resembles nature, green infrastructure also reduces the potential for flooding and makes us more resilient to climate change.

DECREASE THE URBAN HEAT ISLAND EFFECT

The [Wisconsin Initiative on Climate Change Impacts](#) estimates that the frequency of 90°F days observed in the Madison region will double by 2055. Such high temperatures are exacerbated in urban areas where natural land cover has been replaced by streets, buildings, and other hard surfaces that absorb and retain heat. This effect, called the **urban heat island effect**, raises temperatures in cities and villages higher than surrounding areas, increasing energy demands and associated greenhouse gas emissions and putting vulnerable people at risk of injury or death.

Decreasing the urban heat island effect is important to making urban communities more resilient to climate change. In addition to tree planting and green infrastructure, land use and development practices that decrease the urban heat island effect include vegetated areas, awnings and other street shadings, water features, and white roofs and pavements that reflect rather than absorb sunlight.

Increase access to jobs, housing, and services for all people

Amenities such as quality jobs and career opportunities, housing choices, education, health care, services, culture and entertainment, shopping, and parks and recreation draw people to metro areas like greater Madison. The physical design and land use of a region

influence the extent to which such opportunities exist, where they are located, and how easy it is to access them.

Policies that govern a region's land use, housing, and transportation affect which communities and neighborhoods have access to its opportunities. Historically, these laws and policies were used to physically exclude non-white residents from areas with high concentrations of wealth and amenities. While such explicit discrimination became illegal about 50 years ago, current patterns of unequal investment, development, and settlement still reflect those historic practices.

The Regional Development Framework promotes development that increases physical access to opportunities by bringing people, housing, and opportunities closer together in vibrant centers and complete neighborhoods and along corridors that accommodate a range of travel options. It calls for a wide range of housing choices including affordable options with convenient access to jobs and services. The Framework also recommends applying an equity lens to each of the proposed development strategies to ensure the results expand access to opportunity for everyone.

INCREASE COMPACT, MIXED, WALKABLE, AND TRANSIT SUPPORTIVE DEVELOPMENT

Bringing people closer to a wider range of destinations can increase their access to jobs, housing, and services by reducing both the distance they have to cover and the need for private automobiles. In addition to convenience and affordability, this type of development also helps foster a greater sense of community.

DECREASE RACIAL DISPARITIES

A long history of oppression, segregation, and discrimination against Black people and other people of color has resulted in wide disparities in income, wealth, health, education, and

employment that persist to the present.

We often see that wealth and other forms of advantage are still concentrated in areas that historically excluded Black, indigenous, and other populations of color. Even today, exclusion persists in the form of unaffordable housing prices and a lack of affordable, convenient transportation in these localities.

Areas where people of color were historically 'permitted' to live have often endured decades of disinvestment and the impacts of failed public policy experiments. As a result, disparities rooted in historical land use practices continue to prevent people of color from accessing housing, jobs, education, goods, and services.

Physical development of a region can contribute to reducing racial disparities by building more opportunities such as businesses, jobs, housing, schools, stores, and parks in communities with higher concentrations of people of color. Another way development can reduce disparities is by ensuring more affordable housing in areas with many opportunities, and by increasing affordable and convenient transportation connections to areas of high opportunity. To ensure the objective of increasing access to opportunity for all people, such strategies need to be intentional about reducing racial disparities. The people at the table during the design and implementation of strategies should be representative of the region's demographic composition.

GENERATE HOUSING SUPPLY TO MEET DEMAND

Housing is currently a critical issue in every Dane County community. As the population of the region increases, more homes are needed. If housing supply does not keep up with growing demand, the price of housing increases faster than it would otherwise. In recent years, Dane County housing production has been falling short by about [1,000 units per year](#). As housing

becomes less affordable overall, fewer people can buy homes, rental housing becomes less attainable, and evictions and the number of people without housing increase. Maintaining a supply of rental housing units five percent higher than the number of households in a region – a five percent vacancy rate – is generally considered a healthy level of housing supply. A one or two percent vacancy rate for owner-occupied housing is considered healthy.

In addition to total number of housing units, a variety of housing types is needed to meet the range of housing demand. Income, wealth, age, household size and composition, and preferences are all factors influencing the types of housing people choose. For example, families with children and sufficient wealth and income may prefer a single-family detached home with a yard. A single person or a couple with limited means may seek an affordable apartment with reasonable access to their job or school.

As the demand for different types of housing has shifted in recent years, housing supply must also shift to meet the needs of the market. Read more about anticipated future housing demand in [Appendix C](#).

GROW BUSINESS AND JOBS IN TARGETED SECTORS

One of the main reasons the region's population continues to grow is the availability of good paying jobs. In fact, Dane County has more jobs than workers, drawing more than 50,000 commuters from outside the county each day.

Key industry sectors in the region are bioscience, health care, information and communications technology, advanced manufacturing, and agricultural processing. Jobs in these sectors have higher wages on average and are more concentrated in the Madison region than in the state or country overall. Businesses in these sectors sell nationally and globally, importing wealth to the region. These industries are joined



by other leading industry sectors including finance and insurance (with several corporate headquarters), government, higher education, utilities, and construction.

The Regional Development Framework recognizes the need to provide land, buildings, and infrastructure to facilitate this business growth in a way that also supports other Framework goals and objectives. This involves planning to identify suitable sites based on transportation, workforce, infrastructure, and environmental criteria, as well as standards to ensure attractive and well-designed business districts.

INCREASE PHYSICAL ACCESS OF RESIDENTS TO JOBS AND SERVICES

Physical development of a region determines the distribution of homes, businesses, civic buildings, and the transportation networks that connect them. Different regional development patterns result in different levels of access to jobs and services. Generally speaking, regions that

are more spread out and where land uses are more separated from each other require longer travel distances and place higher transportation and infrastructure cost burdens on households and taxpayers compared to regions with more compact urban areas and a greater mix of uses.

The Regional Development Framework promotes the latter growth option. It calls for a greater share of development to occur in vibrant activity centers and along corridors that accommodate multiple modes of travel. As discussed above, this approach to growth brings people, jobs, and services closer together and connects them via corridors that provide travel choices. This arrangement can reduce the time and/or cost required to access jobs and services.

Conserve important natural, agricultural, and fiscal resources

A region's natural, agricultural, and fiscal resources are important assets that sustain communities. **Natural resources** come from the interconnected environmental systems of water,

air, soil, land, plants, and animals. **Agricultural resources** come from human management of those natural systems to produce food and other products. The term **fiscal resources** refers to the tax revenue that supports community needs not met by the marketplace such as infrastructure, schools, public safety, and social services.

To ensure that these resources remain healthy and can sustain the region over time, people and communities must act as wise stewards. Stewardship is a particular challenge when carrying out physical development of the region to meet the housing, business, energy, transportation, commerce, education, recreation, and civic needs of a growing population. The Regional Development Framework promotes development strategies and practices that protect and enhance natural resources, preserve farmland, and use infrastructure efficiently.

INCREASE COMPACT, MIXED, WALKABLE, AND TRANSIT SUPPORTIVE DEVELOPMENT

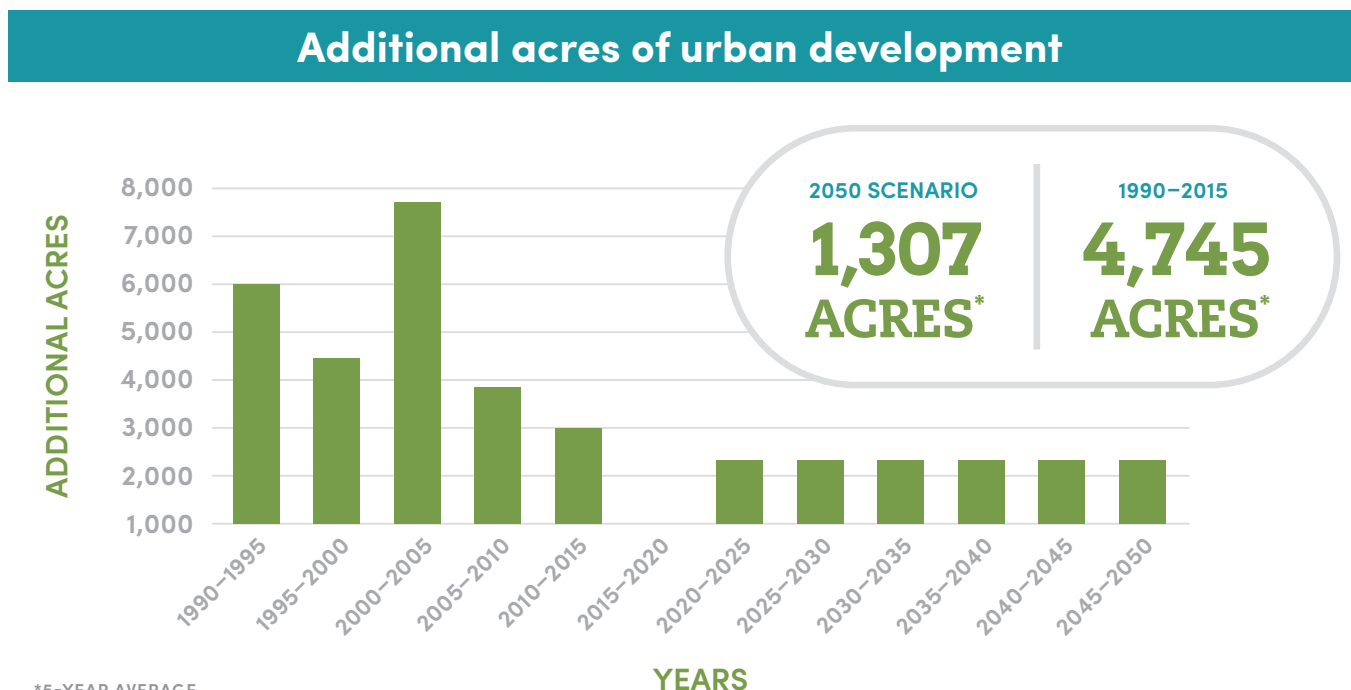
Because more compact development requires less open space, farmland, and infrastructure,

this objective supports the conservation goal by easing development pressure in agricultural and natural resource areas.

ENHANCE STEWARDSHIP AND NATURAL RESOURCE AREAS

Some natural resources such as bodies of water and floodplains are legally protected from development. In the region's [Urban Service Areas](#) (areas served by sewer, water, and other urban services), these resources are designated as [environmental corridors](#) through the Dane County Water Quality Plan adopted by the Wisconsin Department of Natural Resources.

Other natural resources, however, do not have legal protection from development or disturbance, yet still provide important benefits to the region. For example, former wetlands with the potential to be restored could reduce the risk of flooding and increase climate resiliency. High quality woodlands increase carbon sequestration and enhance quality of life. Protecting areas outside of regulatory floodplains that face increasing risk of flooding



*5-YEAR AVERAGE

SOURCE: Dane County Land Use Inventory NOTE: The 2020 Land Use Inventory was not yet completed at time of publication.

due to climate change decreases flood vulnerability and creates recreational amenities.

The Regional Development Framework identifies such resources as **stewardship areas** because preserving their benefits requires stewardship among landowners and communities. Protective actions could include adding stewardship areas to Environmental Corridors as the Dane County Water Quality Plan is amended. Stewardship areas could also be designated as recreational amenities, which enhances nearby property values. Private landowners also play an important role in enhancing stewardship areas.

Stewardship and natural resource areas also provide important benefits as wildlife corridors and habitat, contributing to biodiversity and regional ecosystem resilience. Interconnected networks of corridors increase and enhance habitats by accommodating a wider variety of species and allowing movement across the landscape. Wildlife corridors can be strengthened by identifying potential “habitat stepping stones” that can best connect isolated patches of resource areas to the broader network of corridors.

DESIGNATE AND PROTECT REGIONAL FARMLAND PRESERVATION AREAS

Despite being Wisconsin’s fastest-growing county, both in numbers and by percent, Dane County remains one of the state’s most productive agricultural counties. The County had 482,998 acres of farmland and other open lands in 2015, out of a total of about three quarter million acres.

Most of the rural area of the county is zoned exclusively for agriculture, which limits the number of times that parcels can be split into new parcels. This zoning along with adopted farmland preservation plans enable farm owners to reduce taxes through use-value taxation and farmland preservation tax credits.

Nevertheless, farming areas continue to decline in size as urban areas expand and scattered development occurs in rural areas. In the 25 years from 1990 to 2015, developed areas of the county increased by 47,800 acres.

The Regional Development Framework promotes development that reduces urban expansion pressure on farmlands by focusing growth in already developed areas and in more compact centers and neighborhoods. It allocates a greater portion of growth toward more compact urban areas versus low-density rural areas that require more land for each home. It also encourages cooperative planning and boundary agreements among urban and rural communities to achieve orderly and planned expansion of urban areas and designation of long-term farmland preservation areas.

Preserving high quality farmland, particularly when combined with regenerative agriculture practices, will also improve our resiliency to climate change as hotter and wetter weather puts additional strain on current farming operations.

INCREASE DENSITY AND ENSURE GOOD CONNECTIVITY AMONG DEVELOPMENTS

This objective, along with the other development-related objectives described above, is listed under the conservation goal because compact growth helps conserve fiscal, or taxpayer, resources. Density and connectivity make more efficient use of roads and sewer, water, gas, electric, and other utilities infrastructure. More efficient use means that a given amount of infrastructure, like miles of roads, supports a greater number of households and businesses, thus reducing per household costs. Local governments can then spend less on infrastructure, making more funding available for other needs and/or reducing tax burdens.

How We Grow

A resilient future starts with the decisions we make today. The Regional Development Framework lays the necessary foundation to support continuing growth while still achieving our shared goals. The Framework advocates for development that reduces climate change and promotes climate resilience, connects all residents to housing, jobs, and services, and conserves resources and farmland.

To achieve these goals and strike a balance between development and preservation, the Framework lays out six strategies to guide broad regional **development patterns** and three strategies to guide local **development practices**. These strategies are designed to be incorporated into the plans and policies of local governments, community organizations, and private businesses.

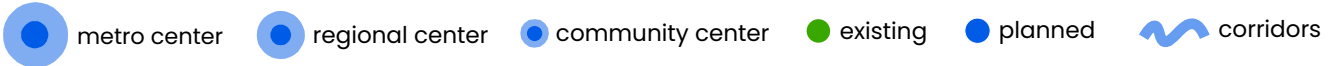
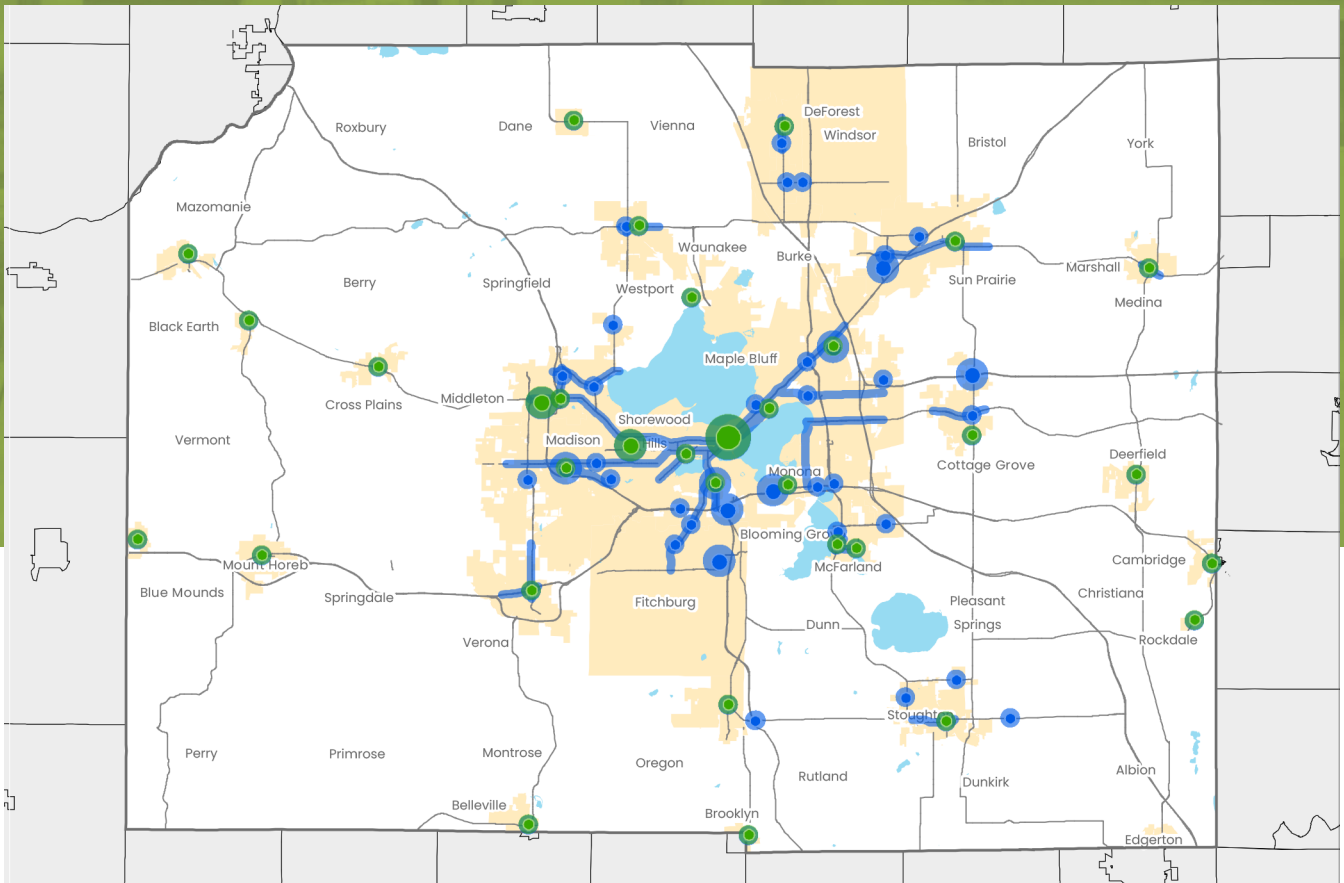
The Framework also proposes an **equity lens** to help assess the socioeconomic impacts of development decisions. Centering equity in these decisions is essential to achieving our goal of increasing access to jobs, housing, and services for all people.

The Framework's strategies are designed to complement each other and generate amplified benefits when implemented together. They are intended to be applied to the region as a whole, with the goal of fostering intergovernmental cooperation. Not all strategies will make sense in all communities. Communities should apply the strategies that best align with local needs and priorities, ideally in collaboration with neighboring jurisdictions.



DEVELOPMENT PATTERNS

Focus growth in centers and corridors



The Framework recommends locating about 40% of all future growth within centers and along corridors. **Centers** are vibrant places where people can live, work, shop, be entertained, and meet and connect with others. **Corridors** connect centers. They provide a variety of ways to travel including walking, biking, and, where possible, transit. Along many stretches, they also offer similar combinations of activities found in centers.

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Concentrating growth in this way makes it easier to access jobs, resources, and personal needs while reducing car travel and associated greenhouse gas emissions. Centers connected by transit corridors can reduce car travel even further. Mixing housing types within centers and along corridors improves housing choice, reduces energy consumption, and can reduce people's transportation and utility costs.

Downtown Madison serves as a **metro center**, acting as the government, business, and cultural hub for the entire region. **Regional centers** like Greenway Station draw people from multiple communities within the region. **Community centers** draw people from one community.

By 2050, we anticipate new centers developing in places like Cottage Grove, Fitchburg and Verona. Existing community centers on South Park Street and at East and West Towne Malls are expected to become regional centers.

Focusing growth in centers and corridors will help us achieve the goals of reducing emissions, increasing climate resilience, and increasing access to opportunity. Specifically, this strategy addresses the following objectives:

- Increase percent of development that is compact, mixed, walkable, and transit supportive
- Increase physical access of residents to jobs and services
- Increase density and ensure good connectivity among developments

CITY OF MIDDLETON University Avenue

As a major thoroughfare into and out of Madison, University Avenue in Middleton has the potential to be a vibrant regional corridor. Middleton's Comprehensive Plan identifies the opportunity to address current challenges like traffic congestion by improving walkability, adding housing, and expanding transit.

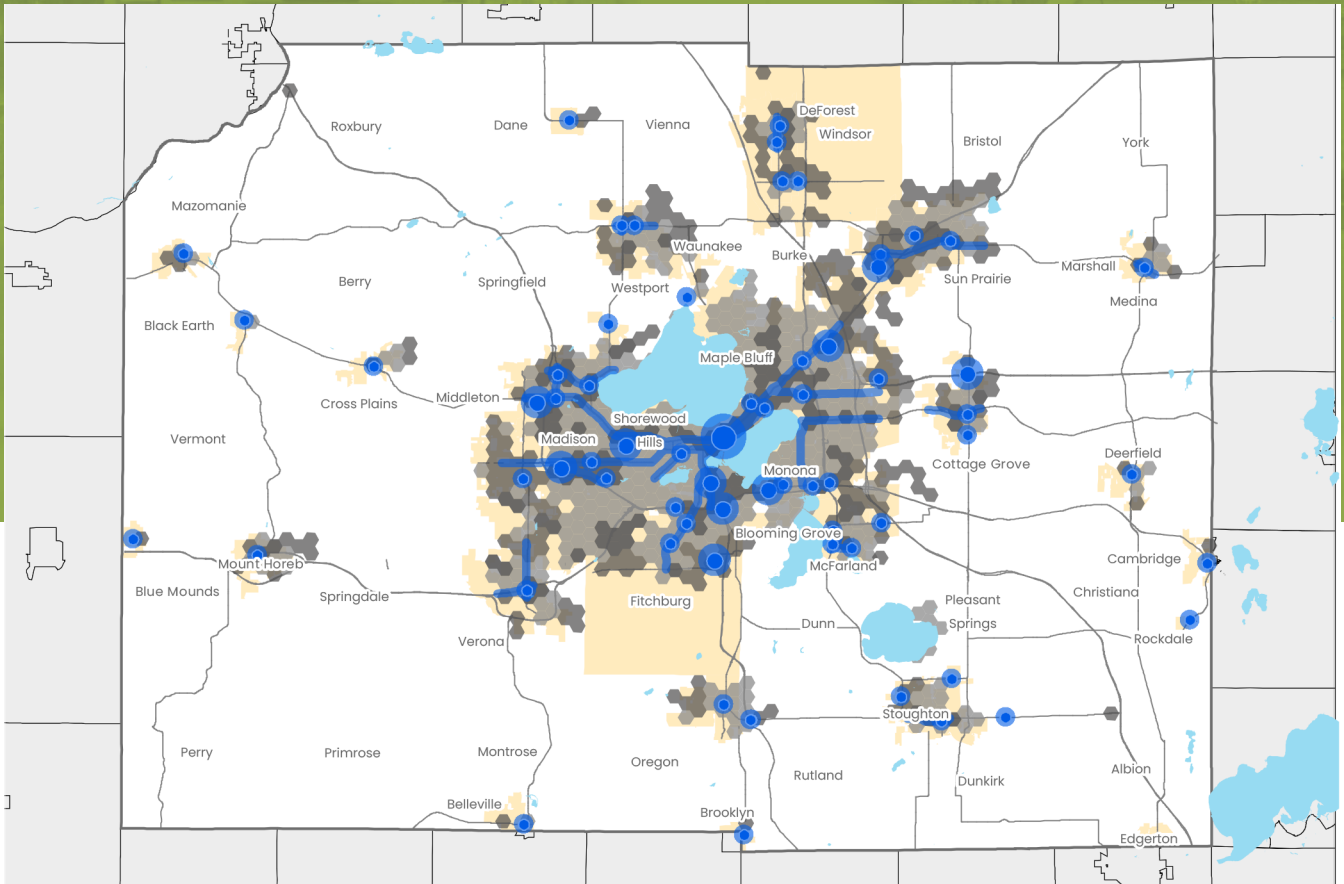
In 2021, Middleton launched a planning process to identify challenges and recommend long-term improvements for the corridor. The plan's recommendations address four vision areas identified via public input and an Ad Hoc Committee.

The resulting plan defines a future vision for University Ave, including bike and pedestrian safety, redevelopment opportunities, design guidelines, and regional transit connections.



DEVELOPMENT PATTERNS

Prioritize growth in already developed areas



The Framework forecasts that one of every four new jobs and four out of ten new households will be located in already developed areas. An example of this strategy commonly seen around the region is when shuttered industrial properties in downtown areas are replaced with multistory buildings containing housing and businesses.

Directing growth toward already developed areas helps conserve taxpayer funds by making better use of existing infrastructure like roads.

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This strategy generates many of the same benefits as developing in centers and corridors, including reduced pressure to develop in farming and natural areas.

The map for this strategy shows the current extent of urban development in light grey. Medium grey illustrates new development projected in the 2050 growth scenario, with areas of infill/redevelopment in dark grey.

Madison's Capitol East District corridor (East Washington Avenue from Blair Street to the Yahara River) is one of the region's best-known examples of infill development. While this scale of development works for central Madison, other communities across the region are adding development in a wide range of sizes and scales to downtown and village center areas. For example, the Village of Waunakee and the City of Sun Prairie have both completed significant downtown redevelopment projects.

Prioritizing growth in already developed areas will help increase access to opportunity by advancing the following objectives:

- Increase the percent of development that is compact, mixed, walkable, and transit supportive
- Increase physical access of residents to jobs and services
- Increase density and ensure good connectivity among developments

This strategy will also help achieve the Framework's climate and conservation goals by reducing vehicle miles traveled, supporting the conservation of stewardship and natural resource areas, and reducing development pressure on farmland.

CITY OF MADISON Capitol East District

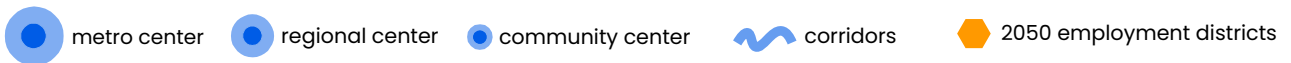
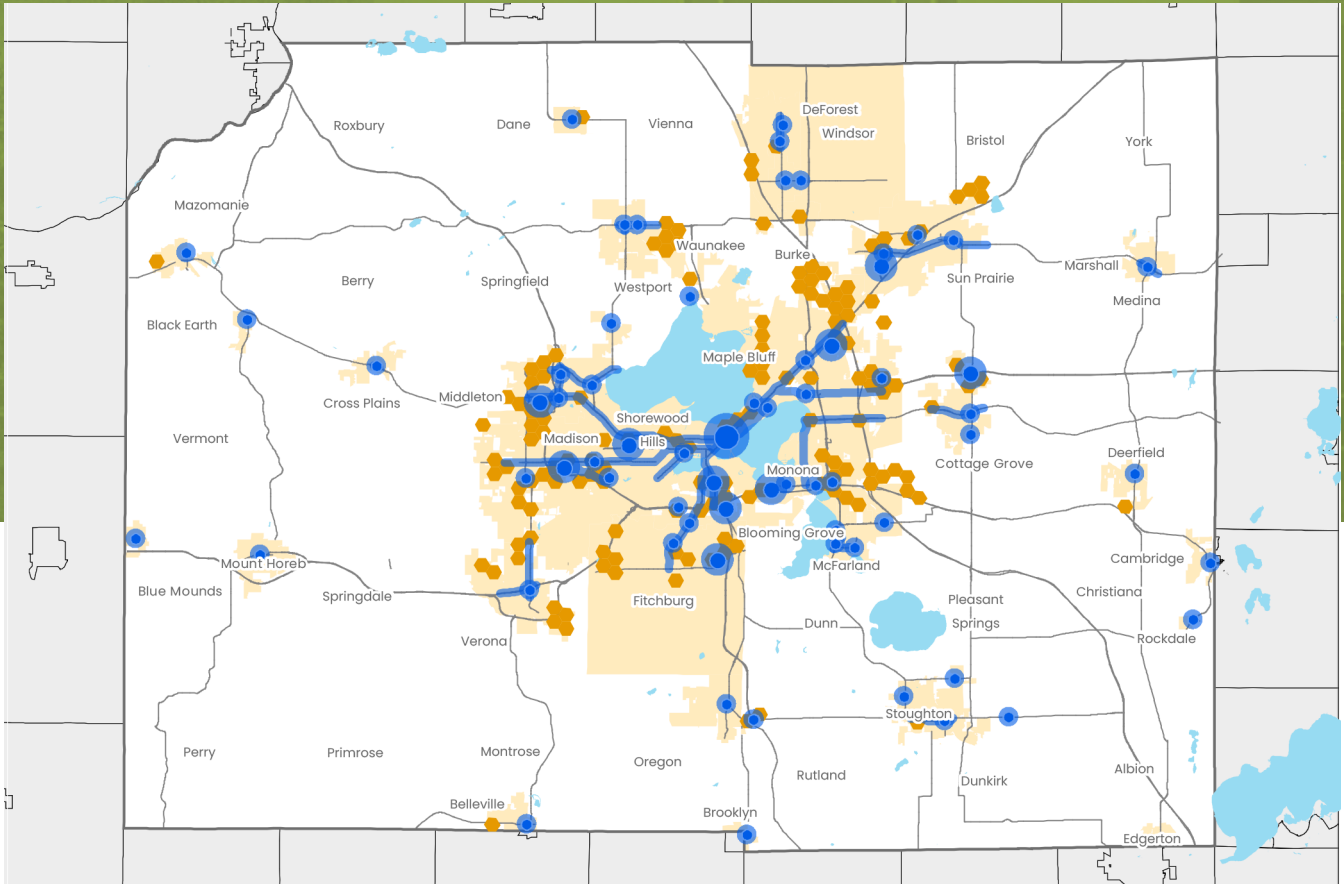
Since 2013, several major redevelopment projects have transformed Madison's Capitol East District. Following the blueprint laid by the 2007 Capitol Gateway Corridor Plan, the 11-block long corridor has added 2,127 new apartments and 1.1 million square feet of commercial space, along with a 2,500-capacity concert venue, renovated soccer field, and 144-room hotel.

Once the site of an auto dealership, the 14-floor mixed-use Galaxie building now contains a major grocery store and 248 apartments. The five-floor mixed-use Marling building replaced a lumber yard of the same name with 228 apartments and 26,500 square feet of commercial space. Constructed along the Yahara River, residents of the building have easy access to nearby bicycle trails and greenspace.



DEVELOPMENT PATTERNS

Plan areas for quality business growth



As the population grows, more good jobs and wealth-generating businesses will be needed, along with suitable sites to accommodate them. The Framework's third strategy is to plan areas for this business growth to occur.

Certain industries concentrated in the greater Madison region offer higher wages and stronger career pathways in addition to importing dollars from outside the region that support other industries. Examples include information

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and communications technology, health care, advanced manufacturing, and biotechnology. The 2050 scenario includes new and expanding employment districts suitable for these and other industries. Development of these districts to quality site and building standards will enhance communities and the region.

Projected areas of concentrated growth in office, industrial, and medical jobs are shown in orange on the map for this strategy.

Planning business growth areas in this way furthers our goal of Increasing access to jobs, housing, and services for all people. The objectives addressed by this strategy are:

- Grow business and jobs in targeted sectors
- Increase physical access of residents to jobs and services
- Increase density and ensure good connectivity among developments

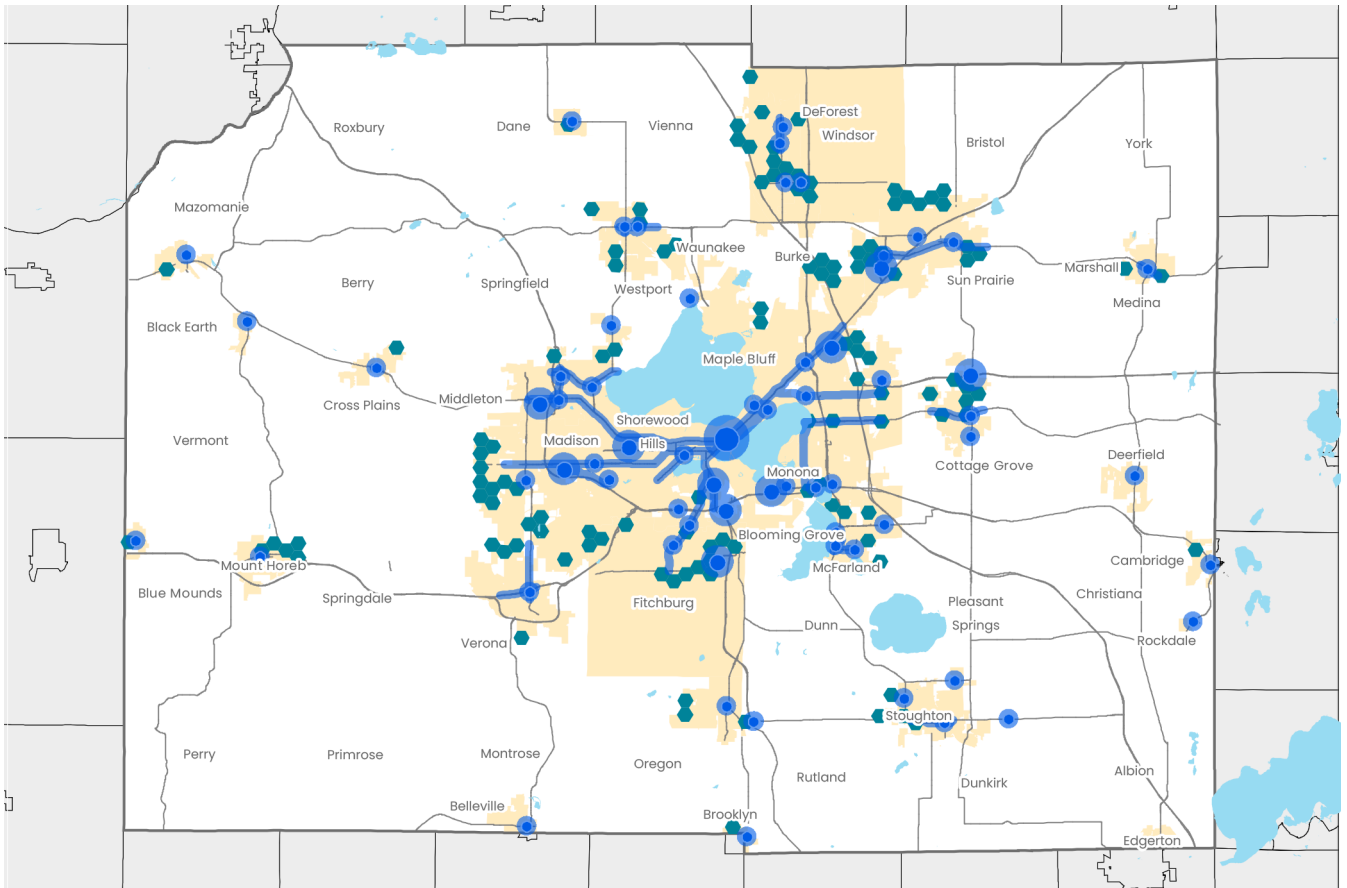
VILLAGE OF COTTAGE GROVE Commerce Park

Cottage Grove's Commerce Park effectively combines all six of the Framework's broad development strategies to create a vibrant, mixed-use center that meets residential, economic, and transportation needs for both the Village and the region.

Its occupants include the Summit Credit Union headquarters and Johnson Health Tech, along with restaurants, fitness studios, and a hotel. The development is served by both regional and local routes, including the interstate, a park and ride, and a bike path.

Nearby formerly-vacant parcels are now home to new apartments, condos, and affordable housing. A recently created TIF district north of I-94 will soon be home to additional light industrial employers including a large Amazon distribution center.





metro center
 regional center
 community center
 corridors
 potential complete neighborhood



The fourth strategy is to plan new residential areas that include a mix of housing types, walkable streets, parks and civic spaces, and shopping and services.

These types of neighborhoods provide a wider range of housing options, along with walking and biking options and transit where feasible. They are more compact than conventional subdivisions and thus reduce pressure to

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develop farmland and natural areas. In addition, walkable streets and neighborhood parks create the opportunity for face-to-face interactions, which can foster a sense of community.

The City of Madison’s comprehensive plan defines **complete neighborhoods** as “neighborhoods where residents have safe and convenient access to the goods and services needed in daily life.” With attention to planning and design, future developments can achieve this designation by incorporating a range of housing types, a well-connected street network, amenities like stores, schools, and places of worship, and access to bike, pedestrian, and transit systems.

This strategy aims to increase access to jobs, housing, and services for all people. Objectives addressed by planning complete neighborhoods include:

- Increase the percent of development that is compact, mixed, walkable, and transit supportive
- Housing supply meets demand
- Increase physical access of residents to jobs and services
- Increase density and ensure good connectivity among developments

VILLAGE OF WAUNAKEE

Heritage Hills Neighborhood

The Village of Waunakee’s new Heritage Hills neighborhood offers a mix of home prices and types with the ability to walk, bike, or drive to a variety of destinations.

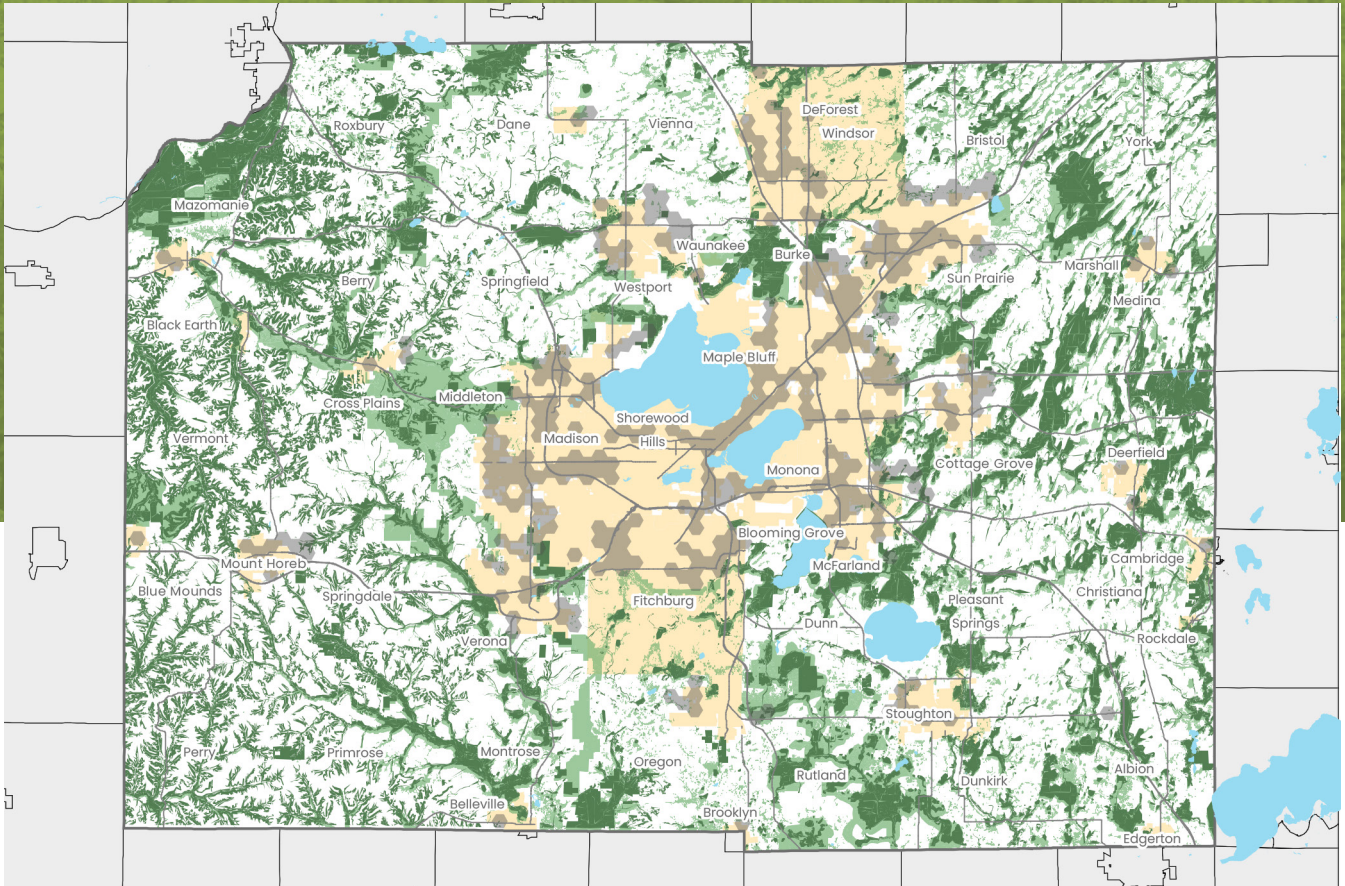
Land uses include single and two-family housing along with mixed-use and park/open space areas. Residents can walk or bike to shops, restaurants, and a library. Schools, a business park, and the Waunakee Village Center are all within a roughly one-mile radius.

This approach to development supports Waunakee’s goals of fostering social interaction, providing bike and pedestrian access, providing parks and recreation facilities, and locating housing in areas that are readily accessible to schools, parks, and neighborhood business districts.



DEVELOPMENT PATTERNS

Preserve stewardship areas



resource protection areas
 resource stewardship areas
 cities and villages
 2050 urban growth



The Framework steers development away from protected natural areas and advocates for enhancing resource stewardship areas. **Protection areas** include:

- Bodies of water and wetlands
- 1.0% annual chance/100-year floodplains
- Shoreland and riparian buffer strips
- Park land and savannahs
- Stormwater management facilities

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In already urbanized areas, these are known as Environmental Corridors. Current regulations prohibit development in these areas.

Stewardship areas are not legally protected from development but include natural resources that provide important benefits to the region. Preserving these benefits requires the stewardship of both landowners and communities. These areas include:

- Potentially restorable wetlands and hydric soils
- High quality woodlands
- Areas with a 0.2% annual risk of flooding, also known as the 500-year floodplain
- Trail corridors
- Internally drained areas

GIS data for both protection and stewardship areas is available for download by any interested community via CARPC's [Open Data Portal](#).

The concept of stewardship areas was first introduced by the 2012 North Yahara Future Urban Development Area (FUDA) Study. This study mapped stewardship areas as buffers adjacent to Environmental Corridors and suggested special conditions that could be implemented to protect the critical habitat and ecological services of these areas. The Village of DeForest included FUDA study recommendations for stewardship areas in its 2015 Comprehensive Plan.

Where the FUDA study suggested following low impact standards in stewardship areas, the Framework recommends that stewardship areas be considered for placement in Environmental Corridors, where development is prohibited.

Placing stewardship areas into Environmental Corridors works toward the goal of conserving important natural resources and the objective of enhancing stewardship and natural resource areas.

CAPITAL AREA RPC Environmental Corridors Report

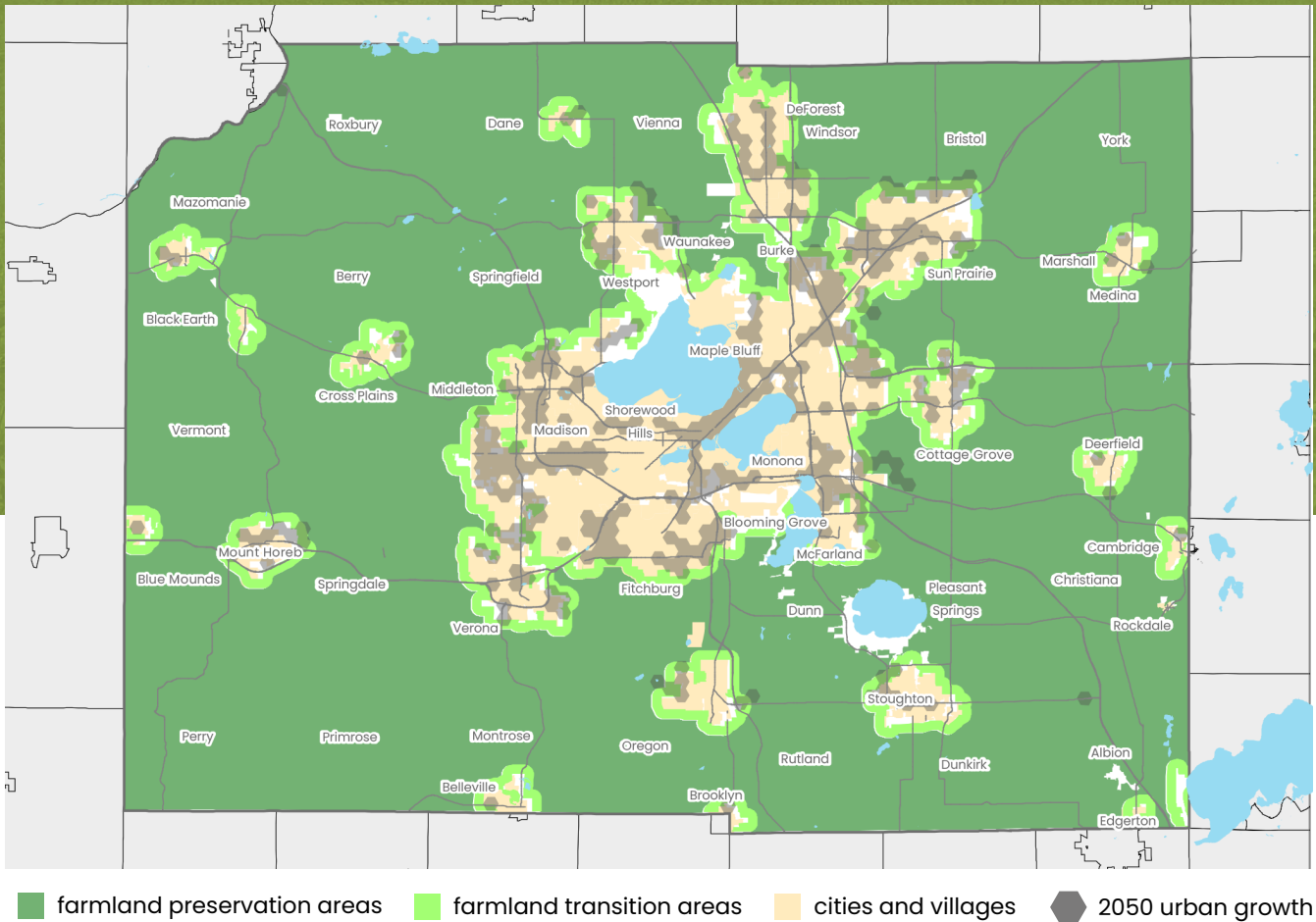
CARPC is currently updating the Environmental Corridors Report that has been guiding natural resources management for the region since 1996. The update process will consist of reviewing and updating existing sections, such as wetlands and 1% annual chance floodplains, as well as adding new information on recommended stewardship areas, such as potentially restorable wetlands and 0.2% annual chance floodplains.

CARPC works with local units of government to delineate Environmental Corridors during the sewer service area planning and amendment process. Once the report is updated, this process can also include discussions of potential stewardship areas.



DEVELOPMENT PATTERNS

Preserve farming areas



The final development pattern strategy is to minimize development in long-term farmland preservation areas and to coordinate development within farmland transition areas at the local level.

Farmland preservation areas are designated in Town and County Farmland Preservation Plans. They may include Agricultural Enterprise Areas and are typically characterized by large tracts of contiguous farmland and/or high-quality

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soils. These areas are generally outside of the agricultural transition areas that have been identified for long term urban expansion.

Preserving agricultural areas is critical to supporting a key sector of our regional economy. The map for this strategy shows **farmland preservation areas** in dark green and **farmland transition areas** in lighter green. The buffer distance for farmland transition areas is identical for each municipality. As the region grows, we can protect farmland by minimizing development in long-term farmland preservation areas and coordinating development within farmland transition areas at the local level.

Preserving farming areas furthers the goal of conserving important agricultural resources and the objective of designating and protecting regional farmland preservation areas. Farmland preservation also presents an opportunity for expanding sustainable agricultural practices that reduce greenhouse gas emissions and increase climate resilience.

As highlighted in the [Dane County Climate Action Plan](#), the benefits of adopting **regenerative agricultural practices** include increased carbon sequestration, reduced carbon dioxide, methane, and nitrous oxide emissions, improved water quality, increased biodiversity, and expanded ecosystem services. Practices like composting, cover cropping, and no/reduced till cropping also enrich topsoil, increase crop yields, and make crops more resilient to climate change impacts.

TOWN OF DUNN Farmland Preservation

The Town of Dunn holds the monumental title of implementing the first **Purchase of Development Rights (PDR)** transaction in the State of Wisconsin. This voluntary program is used as a technique to preserve agricultural land and open space throughout the Town.

Since the Town's first PDR purchase in 1997, Dunn has permanently protected almost 4,000 acres of land through the implementation of 39 conservation easements.

The Town's focus on protecting farmland and supporting farmers has turned it into a hub for the local food movement. Protecting land in Dunn and other Dane County towns strengthens the regional food system.



DEVELOPMENT PRACTICES

Reduce stormwater runoff



In addition to the strategies to guide overall development patterns, the Framework includes three strategies to increase climate resilience through more specific land use and development practices.

The first development practice strategy aims to achieve the Framework objective of increasing infiltration of precipitation and reducing stormwater runoff.

Human activities change how rainfall and snowmelt move across the landscape. Much of the precipitation falling on natural landscapes like oak savannahs, prairies, and wetlands soaks into the ground where it replenishes aquifers and travels underground to emerge as springs that feed lakes and rivers. Beginning with European settlement, the conversion of natural areas into agriculture and urban development has reduced the natural hydrological system's capacity for absorbing precipitation. Practices to reduce stormwater runoff seek to restore or recreate the natural systems that absorb precipitation.

By restoring and mimicking the natural hydrologic system through the use of green infrastructure, we can also improve water quality, reduce flooding potential, increase our resiliency to climate change, conserve fiscal resources, and even improve quality of life.

Communities and property owners can reduce stormwater runoff by implementing practices such as:

- Wetland and prairie restoration and preservation
- Rain barrels, rain gardens, bioswales, and green roofs
- Permeable hardscaping for parking lots, streets, sidewalks, and patios
- Native landscaping
- Regenerative agricultural practices such as cover cropping, building soil health, or planting vegetative buffers

DANE COUNTY Tree Canopy Inventory

In 2021, the Dane County Office of Energy and Climate Change convened a Tree Canopy Working Group with members from the Capital Area RPC, the City of Madison, the Urban Tree Alliance, the Dane County Tree Board, UW-Madison's Kucharik Agroecology Lab, and others.

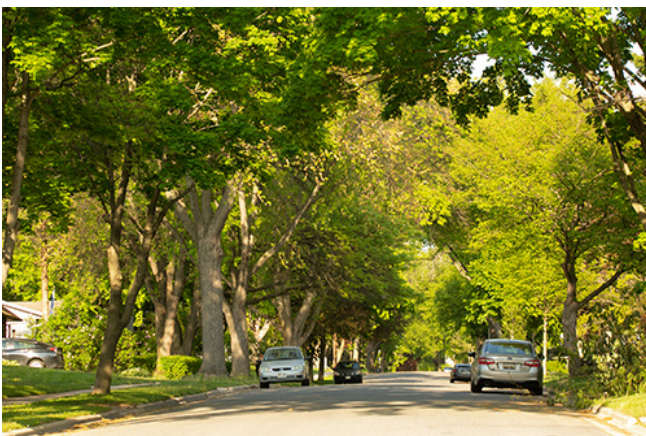
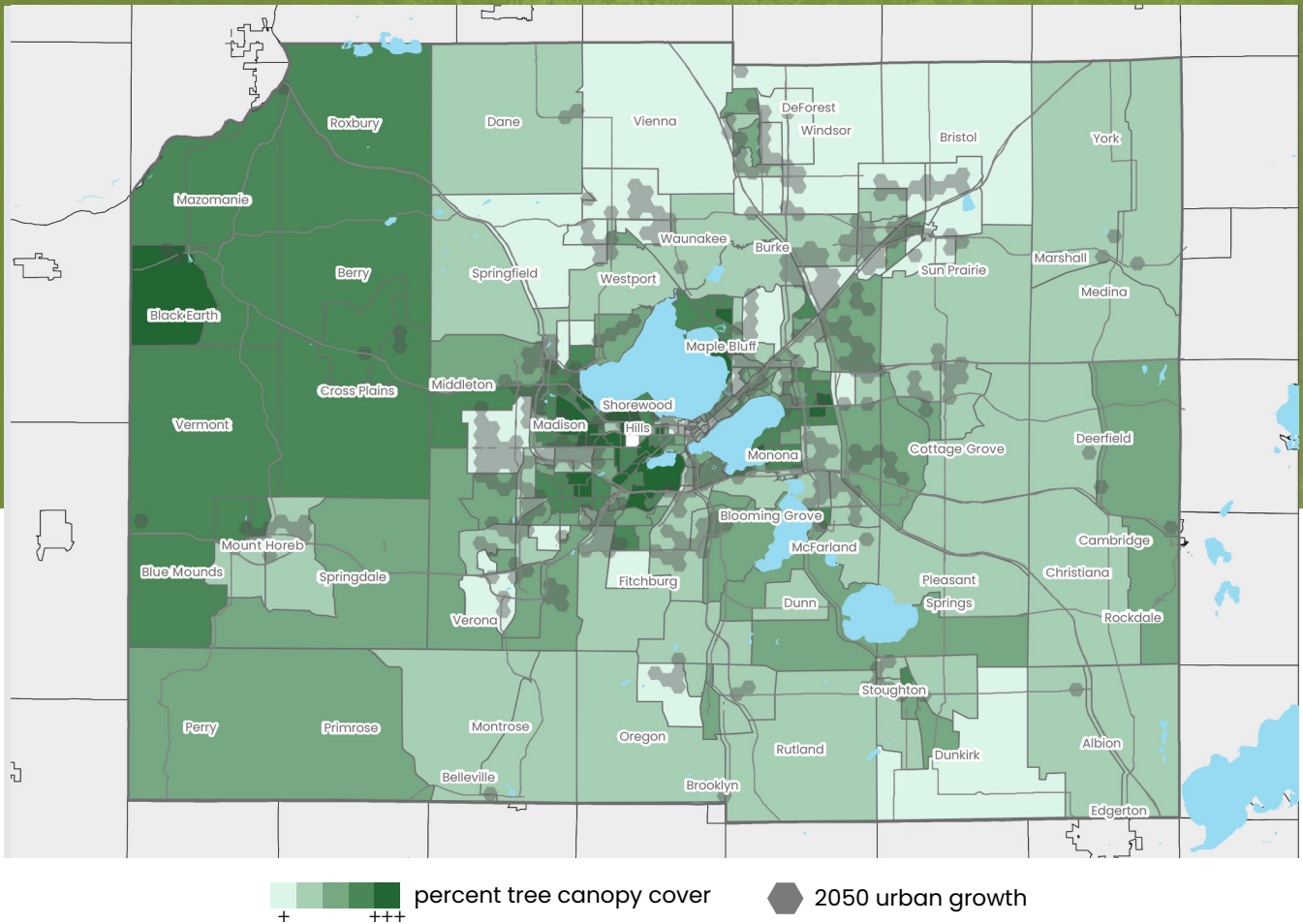
This collaborative effort seeks to address the Dane County Climate Action Plan's forestry priorities such as characterizing the county's tree canopy, assessing carbon storage, and identifying areas for public investment.

Using factors like percent impervious area and the CDC's Social Vulnerability Index, the group will identify priority sites to guide future project and grant opportunities. Coordinating site-specific practices in this way makes it possible to achieve a regional impact.



DEVELOPMENT PRACTICES

Increase the tree canopy

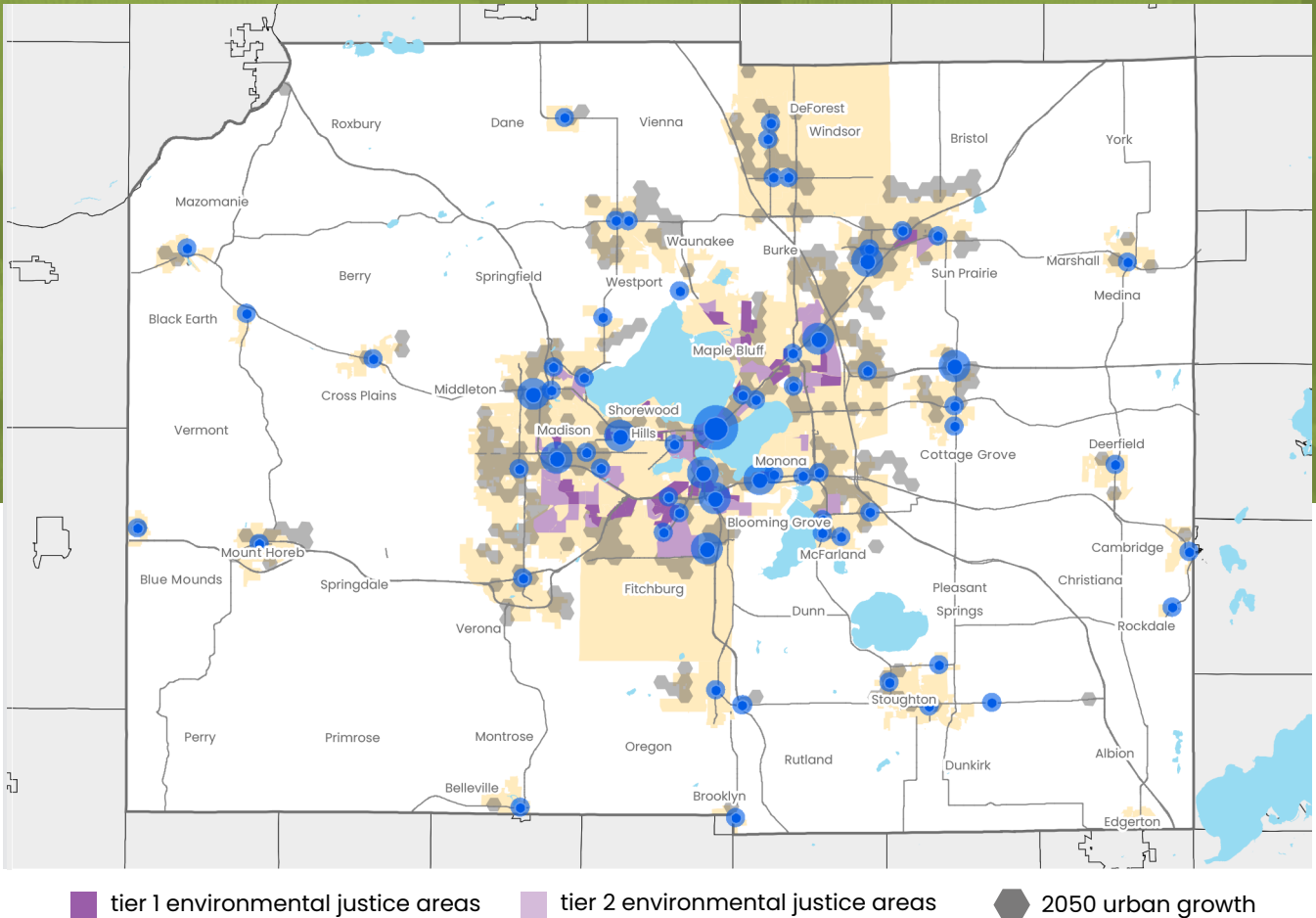


Increasing the tree canopy contributes to carbon sequestration, climate resilience, and in urban areas, decreasing the urban heat island effect. Communities and land owners can increase the tree canopy by preserving and protecting existing trees and planting new ones in parks, along streets, and on private developments. To promote resilient ecosystems, tree species should be selected for their ability to establish quality woodlands, increase biodiversity, and provide needed habitats for wildlife.

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BEYOND LAND USE

Apply an Equity Lens



The Framework’s development strategies will put us on the path to achieving our shared goals, but they can only get us so far. The reality is that major racial and socioeconomic disparities currently exist in our region, and without intervention, they will most likely continue into the future.

Equitable implementation of the Regional Development Framework will require actions beyond land use and development. Applying an equity lens can help us identify and assess the

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potential impacts of Framework strategies on residents experiencing housing and/or financial insecurity, especially people of color who have been impacted by historic discrimination.

The equity map shows Tier 1 and Tier 2 environmental justice (EJ) areas, as defined by the Greater Madison MPO. These areas indicate high and moderate concentrations of minority residents and people below 150% of the poverty level. [Appendix D](#) offers a detailed discussion of EJ areas and equitable strategy implementation.

What is an Equity Lens?

An equity lens is a set of questions to ask while developing plans and policies that help us center equity in our processes and outcomes. Viewing the Framework's strategies through an equity lens allows us to evaluate which populations are most and least likely to benefit from their implementation. With this knowledge, we can then prioritize meaningful engagement to create policies and investments that truly promote access to jobs, housing, and services for all.

Questions to Consider

- Which groups of people are likely to participate in influencing the outcome of the new development, plan, or policy? Which groups are less likely?
- Who will be most affected by the development, plan, or policy? Are they at the table? If not, how can they be included?
- What specific new opportunities will the development, plan, or policy create? Which groups of people are likely to benefit from these new opportunities? Which groups are unlikely to benefit? Consider economic, cultural, and historic factors.
- Does this development, plan, or policy ignore or worsen existing disparities? Does it produce other unintended consequences?
- How will potential negative impacts of this decision be mitigated?

CITY OF SUN PRAIRIE Integrating Equity

The City of Sun Prairie actively prioritizes diversity, equity, and inclusion in its internal and external operations. Since 2015, the City has adopted three anti-discrimination ordinances, conducted employee trainings, offered internships and job trainings, reviewed its personnel policy, created a diversity-focused steering committee and staff position, held community events and programs, and partnered with other municipal entities.

Most recently, the City began an Organizational Equity Audit. The audit will include an internal organizational review along with an examination of equity in city services. The final report will focus on building a more diverse and inclusive organization, identifying blind spots and processes that perpetuate systemic injustice, and defining next steps for making concrete improvements.



03

Implementation



Making It Happen

The Regional Development Framework provides a road map for accommodating projected growth while still meeting our climate, access, and conservation goals. To achieve this shared vision, many stakeholders will need to enact the Framework's development strategies in a coordinated effort. Local communities, private sector partners, regional entities, and others working together are the ones that can make the Framework happen.

The actions outlined in this section are intentionally broad. Rather than making specific, prescriptive recommendations, CARPC will focus on information sharing, highlighting successes, and supporting communities as they tailor the Framework's strategies to meet local needs and priorities. More detailed activities and recommendations will emerge as communities report on and share their efforts, successes, and challenges.

CARPC

CARPC will implement the Framework through planning, assistance, education, and performance tracking.

One of CARPC's key implementation pathways is contributing to collaborative planning efforts that advance the Regional Development Framework's goals and objectives. A current example is the [Black Earth Creek Watershed Green Infrastructure Plan](#). Using groundwater and hydrologic modeling, this plan identifies specific projects and practices that provide a quantifiable level of flood protection to

communities, water quality benefits to Black Earth Creek and its tributaries, and recreational, economic, and ecological benefits to the watershed as a whole. Led by CARPC, the plan was developed through intensive collaboration between watershed municipalities, local organizations, private consultants, academic partners, members of the public, and county, state, and federal agencies.

CARPC currently offers a range of technical services to support local planning efforts. To support Regional Development Framework implementation, CARPC staff will be available to review local plans and ordinances for alignment with the Framework and identify opportunities to integrate local and regional goals, objectives, and strategies. CARPC will also work with communities to incorporate a regional perspective when providing contracted planning, data, and mapping services.

In 2022, CARPC established a Proactive Planning Committee comprised of local government officials and CARPC commissioners to explore ways that CARPC and local governments can best collaborate on implementing the Framework strategies to achieve our shared goals. The committee process will include conversations with local officials, review of consistencies between local comprehensive plans and the Framework, and research of past and best planning practices. The committee will produce recommendations for an ideal, proactive approach to implementation of the

Framework.

Another way CARPC can advance the Framework is through Future Urban Development Area (FUDA) planning. FUDA planning brings adjacent communities together to cooperatively plan future development areas. Such cooperative planning can better coordinate planned growth areas with natural resource and farmland preservation.

At the regional level, CARPC will conduct a planning effort to encourage placement of stewardship areas into Environmental Corridors. Starting in 2022, staff will update the Environmental Corridors section of the [Dane County Water Quality Plan](#), which CARPC manages for the Wisconsin Department of Natural Resources. The update will expand the concept of environmental corridors to include stewardship areas. It will also define and map stewardship areas and identify options and recommendations for enhancing them.

In addition to planning and plan assistance, CARPC will provide information about Framework implementation to communities and other entities. For example, CARPC plans to conduct an inventory of local comprehensive plans and zoning ordinances to identify ways they advance or hinder Framework goals. CARPC will also facilitate information sharing across communities.

Finally, CARPC will track data for key performance indicators to measure and report on progress towards goals and objectives. Annual performance reports will provide feedback on where progress is being made and where additional or alternative strategies and actions should be considered.

As an advisory guide, the Framework will not be used to regulate land use in Dane County communities. The Framework will not have any bearing on the Urban Service Area amendment process. Urban Service Area amendment recommendations will continue to be based

solely on water quality standards.

Other Regional Entities

As in virtually all of CARPC's other activities, regional partnerships will be integral to Framework implementation.

THE GREATER MADISON MPO

CARPC and the MPO collaborate to integrate regional transportation and land use planning. Both agencies adopt similar regional goals. They use the same regional population, household, and employment projections. The MPO incorporated the 2050 growth scenario into their travel demand model used for updating the Regional Transportation Plan. The agencies also share some performance indicators. To implement the plans, CARPC and the MPO will conduct joint outreach and education.

MADISON REGIONAL ECONOMIC PARTNERSHIP

MadREP prepares and implements Advance Now 2.0, the region's Comprehensive Economic Development Strategy. CARPC and MadREP coordinate efforts to integrate the Regional Development Framework and Advance Now 2.0. Framework strategies are key to enhancing the region's economic strength, and Advance Now 2.0 actions support the Framework goals.

DANE COUNTY

CARPC partners with several Dane County agencies including Planning and Development, Parks, Land and Water Resources, Emergency Management, and the Office of Energy and Climate Change.

The **Planning and Development Department** is currently facilitating a process among area communities and stakeholders to develop a [Regional Housing Strategy](#). The Regional Development Framework establishes the land use context for such a strategy, and CARPC staff

Shared Goals, Growth Forecasts & 2050 Growth Scenario

Vision for the Future

- Connected, mixed-use communities
- Compact, pedestrian friendly, transit supportive development patterns
- Safe, modern transportation system
- Equitable access to jobs, housing, and services

Integrated Performance Measures

- Vehicle miles traveled
- New development built in centers and along corridors
- New development built in already developed areas
- Low stress bicycle network
- Job access by transit

Planning Together

Regional Development Framework

Regional Transportation Plan

will participate in its development.

The **Parks** and **Land and Water Resources** departments play important roles in advancing the Framework strategy to enhance natural resource stewardship areas.

CARPC participates with **Dane County Emergency Management's** updates of the Natural Hazard Mitigation Plan that addresses climate resiliency.

The Framework's climate goal, objectives, strategies, and performance indicators reflect the [Dane County Climate Action Plan](#) prepared by the **Office of Energy and Climate Change**. CARPC and OECC staff participate on the Dane County Tree Canopy Working Group and partner on outreach and education programming.

WATER QUALITY PARTNERS

CARPC has long-standing partnerships with many of the key organizations working toward

improved water quality in the region. Although water quality is not an explicit focus of the Regional Development Framework, many actions that reduce phosphorus also reduce greenhouse gas emissions, increase infiltration of precipitation, reduce stormwater runoff volume, decrease the urban heat island effect, and contribute to natural resource conservation. CARPC will work to incorporate and enhance Framework-supportive co-benefits of water quality initiatives in its continued collaboration with fellow water quality partners:

- Madison Metropolitan Sewerage District
- Clean Lakes Alliance
- Madison Area Municipal Stormwater Partnership
- Green Tier Clear Waters Initiative
- WI Salt Wise Partnership
- Friends of Starkweather Creek

- Wisconsin Section of the American Water Resources

Local Communities

Local governments – cities, villages, and towns – play a key role in the physical development of their communities and therefore the region. While local communities do not directly develop properties (except for civic spaces), they determine which areas can be developed and how. Communities adopt plans that identify areas for urban intensification and expansion and establish policies and recommendations for the intended types of development. They adopt zoning and subdivision ordinances which determine allowed uses of land parcels, what landscaping and stormwater management practices are permitted, and how the organization of streets and lots can occur in newly developed areas. Communities establish processes that landowners and developers must follow to obtain the right to demolish, construct, and modify buildings and sites.

Local communities can implement the Regional Development Framework by incorporating its goals, objectives, strategies, and performance indicators into their plans, policies, and ordinances. For example, communities can incorporate those Framework components when they update their comprehensive plans. Following adoption of the updated plan, they can revise their zoning and subdivision ordinances as appropriate to reflect the Framework provisions within their plan.

Many communities are already taking actions to implement Framework goals. For example, many recently-updated local comprehensive plans include planned mixed-use and neighborhood areas which reflect Framework strategies. Many communities also promote and incentivize development along transportation corridors and in their downtowns or other centers. Communities across the region have welcomed or accepted a greater range of housing types,

including workforce and affordable housing to increase access to opportunities.

Competing interests among neighboring communities can hinder the coordinated planning needed to achieve shared regional goals. It is important that communities find ways to communicate effectively, share differences, and find common ground to work together towards shared goals.

Private Entities

The private sector is also key to implementing the Regional Development Framework. Developers, builders, lenders, realtors and others plan, finance, develop, build, and sell most new development. Development must be viable in the marketplace, or it can't contribute to regional goals.

Private sector development partners can put together development concepts and proposals that reflect Framework strategies. They can be open to local requests to modify their development concepts to better reflect the strategies.

Tracking Progress with Performance Indicators

After a region establishes shared goals and objectives and identifies related strategies and associated actions, an important next step is to monitor progress and adjust course when necessary. The Regional Development Framework identifies **performance indicators**, or measurements that indicate progress towards goals.

Each performance indicator, or indicator for short, is associated with a Framework strategy, which in turn seeks to achieve objectives and ultimately accomplish a Framework goal. For example, vehicle miles traveled is an indicator used to measure progress towards the strategies of focusing growth in centers and corridors and prioritizing growth in already developed areas. Those strategies seek to achieve the objective of increasing compact, mixed-use, walkable and transit supportive development, ultimately accomplishing the goal of reducing greenhouse gas emissions.

The following tables identify indicators that will measure progress towards Framework strategies, objectives and goals. In addition to indicators, the tables list specific metrics the Framework will use to measure progress.



Reduce greenhouse gas emissions and increase climate resilience

Increase percent of development that is compact, mixed, walkable, and transit supportive

Strategies	Indicator	Metric
Focus growth in centers and along corridors	Vehicle miles traveled	Total vehicle miles traveled
Prioritize growth in already developed areas		
Plan complete neighborhoods		

Increase tree canopy

Strategies	Indicator	Metric
Encourage tree preservation and planting	Tree canopy cover	Percent of area under tree canopy

Increase infiltration of precipitation and reduce stormwater runoff

Strategies	Indicator	Metric
Encourage practices that reduce stormwater runoff	Stormwater runoff infiltration/ volume control standard compared to predevelopment conditions	Acres of development at various levels of stormwater runoff volume control
Reduce stormwater runoff	Cover crop usage (a regenerative agriculture practice)	Acres of farmland using cover crop (when not in production) out of total acres of farmland

Decrease urban heat island effect

Strategies	Indicator	Metric
Encourage practices that reduce surface temperatures	Urban surface temperature	Pending

Increase access to opportunity for all

Increase percent of development that is compact, mixed, walkable, and transit supportive

Strategies	Indicator	Metric
Focus growth in centers and along corridors	New development built in centers and along transportation corridors	Percent of new units and commercial square feet in centers and corridors
Prioritize growth in already developed areas	New development built in already developed areas	Percent of new units and commercial square feet in already developed areas
Plan complete neighborhoods	New complete neighborhoods	Pending

Increase physical access of residents to jobs and services

Strategies	Indicator	Metric
Focus growth in centers and along corridors	Jobs accessed by transit commute	Number/percent of jobs accessed by 30 and 45-minute transit commute
Prioritize growth in already developed areas	Low stress bicycle network	Miles of low stress bicycle routes in regional bicycle network
Plan complete neighborhoods		

Generate housing supply to meet demand

Strategies	Indicator	Metric
Focus growth in centers and along corridors	Housing vacancy rates	Percent of rental and owner units that are vacant
Prioritize growth in already developed areas	Housing options	Percent of housing units by type of structure
Plan complete neighborhoods		

Decrease racial disparities

Strategies	Indicator	Metric
Apply an equity lens to: <ul style="list-style-type: none"> • Focus growth in centers and along corridors • Prioritize growth in already developed areas • Plan complete neighborhoods 	Affordable housing supply gap	Difference between number of households earning 30% and 50% of the area median income, and the number of housing units that are affordable at those income levels
	Homeownership	Percent of households that own their home by race and ethnicity

Grow business and jobs in targeted sectors

Strategies	Indicator	Metric
Plan areas for quality business growth	Target industry sector growth	Change in jobs and businesses in target industries

Conserve natural, agricultural, and fiscal resources

Enhance stewardship and natural resource areas

Strategies	Indicator	Metric
Encourage placement of stewardship areas into environmental corridors	Stewardship areas placed in environmental corridors	Percent of stewardship areas included in environmental corridors out of total possible stewardship acres within areas added to Urban Service Areas per year

Designate and protect regional farmland preservation areas

Strategies	Indicator	Metric
Preserve farming areas	Long-term farmland preservation areas	Acres of land designated long-term farmland preservation area
	Permanently protected farmland	Acres of farmland under conservation easements

Increase density and ensure good connectivity among developments

Strategies	Indicator	Metric
<p>Focus growth in centers and along corridors</p> <p>Prioritize growth in already developed areas</p> <p>Plan complete neighborhoods</p>	Residential density	Number of new (post 2020) housing units per new residential and mixed-use acres

Appendix A

A GREATER MADISON VISION SURVEY RESULTS



A Greater Madison Vision

how we grow matters



SURVEY RESULTS

Summary Report

May 2019



Produced by the Capital Area Regional Planning Commission

INTRODUCTION



WHAT IS A GREATER MADISON VISION?

A Greater Madison Vision is an initiative guided by a Steering Committee of leaders from business, government and community organizations. The Capital Area Regional Planning Commission (CARPC) leads the project and provides support to the initiative.

The Greater Madison region is growing quickly. Over the next 25 years the region's population is expected to grow by over 150,000 people – the equivalent of two Camp Randall stadiums full of football fans.

How we grow matters. The mission of A Greater Madison Vision is to develop a shared vision and plan to guide public and private decisions about how the region grows to foster exceptional quality of life, economic opportunity, and a healthy environment for all. When people, businesses, and government coordinate our vision and plan for the future, we build a stronger region.

EXPLORING POSSIBLE FUTURES

We face an uncertain future, driven by technological, environmental, economic, societal and political forces. Preparing and planning for future growth means exploring how those forces will affect the Greater Madison region. What forces will likely impact us, and in what ways? How can we best prepare and respond?

To explore driving forces of change, A Greater Madison Vision analyzed recent development trends and conducted "driving forces" focus groups and workshops. Drawing on this and other information, Greater Madison Vision prepared four alternative futures. Each future was a "what if" scenario: what if communities

in the region focused resources on one big area of change? Those changes were population, environment, technology, and society/government. These scenarios were presented to people in the region in the form of an online survey.

SCENARIO SURVEY

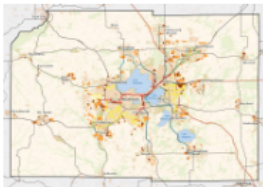
A vision and plan for how the region grows will guide decision-making if leaders and the public participate in the planning process. After Steering Committee members and stakeholders helped create alternative scenarios, public input was the next important step.

People in Dane and surrounding counties were asked to explore the alternative scenarios, rank by importance the strategies in the scenarios, select a preferred growth option, make optional comments, and provide demographic and geographic information.

PART 4. YOUR PREFERRED GROWTH OPTION

Choose the growth alternative below that you think is best for the region.

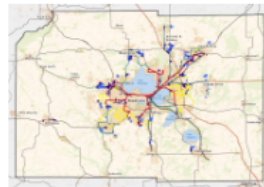
COMMUNITY



- Cost/Household: -\$327
- Miles Driven/Household: -481
- Road, Fire, EMS Costs: \$1.3 billion
- Ag Land Developed: 11k

Select

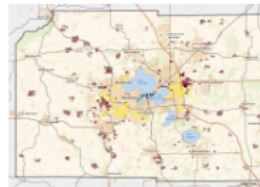
INNOVATION



- Cost/Household: -\$1,277
- Miles Driven/Household: -1208
- Road, Fire, EMS Costs: \$911 million
- Ag Land Developed: 5.6k

Select

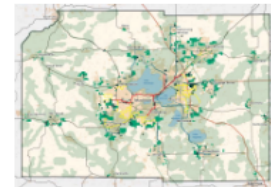
SELF-RELIANCE



- Cost/Household: \$964
- Miles Driven/Household: 652
- Road, Fire, EMS Costs: \$1.7 billion
- Ag Land Developed: 19.3k

Select

CONSERVATION



- Cost/Household: \$170
- Miles Driven/Household: 37
- Road, Fire, EMS Costs: \$1.2 billion
- Ag Land Developed: 16k

Select

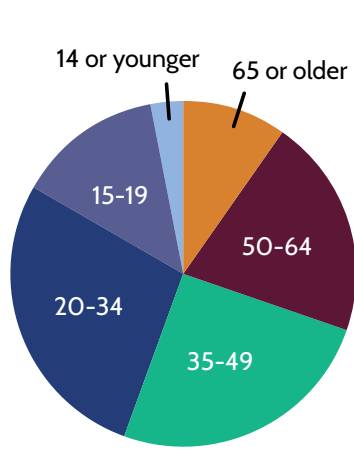
PART 5. YOUR COMMENTS

Use the section below to tell us more about your preferred future and to make additional comments or express concerns about future growth in the Greater Madison Area.

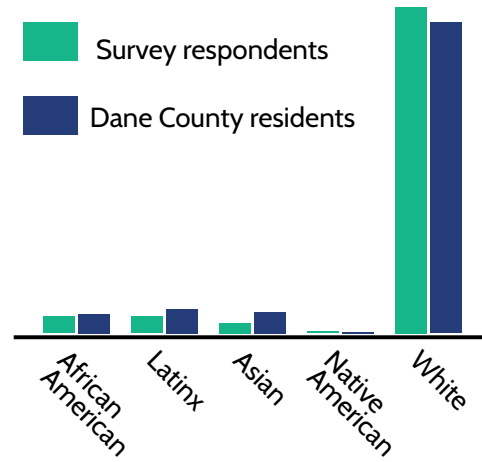
Survey Comments:

WHO TOOK THE SURVEY

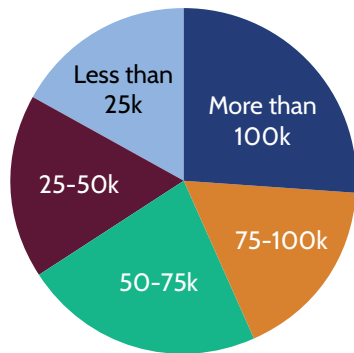
The scenario survey launched on September 12, 2018 with eight “launch day events” around the region. Over the course of the next two to three months, Steering Committee members, staff, and other leaders and stakeholders promoted the survey through email, media, presentations and events. They targeted outreach to those traditionally under-represented in such surveys: persons of color, low-income and rural communities. By the survey close, almost 9,200 people completed the survey.



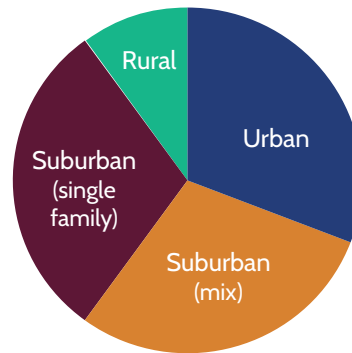
Age
(in years)



Race
(in percentage of total)



Income
(in dollars per year)



Geography

“As our region is expected to increase by over 150,000 people in the next 25 years, it is vital to create a vision for our future that is grounded in an exceptional quality of life, economic opportunity, and a healthy environment for all. A Greater Madison Vision’s survey results give us insight into the values and needs of people who live, work, and play in this growing region.”

- Sharon Corrigan, Chair
Dane County Board of Supervisors

SUMMARY OF KEY FINDINGS

- 1 Environmental challenges, including climate change and increased risk of flooding, are a top priority for the region.
- 2 Issues of access to opportunity continue to be a high priority for most people and groups across the region.
- 3 Expanding transit and housing options are high priorities, depending on location and demographic groups.
- 4 Preservation of farming areas is a high priority for people in rural communities and outside of Dane County.
- 5 Conservation priorities in growth are most important to people who weighed the four different scenarios, maps and costs of an expanding population.
- 6 Integrated approaches to interconnected challenges were major themes in respondents' comments.
- 7 Local energy production and locally grown food were high priorities for youth.
- 8 People of all demographics and locations expressed the desire for more social connections.

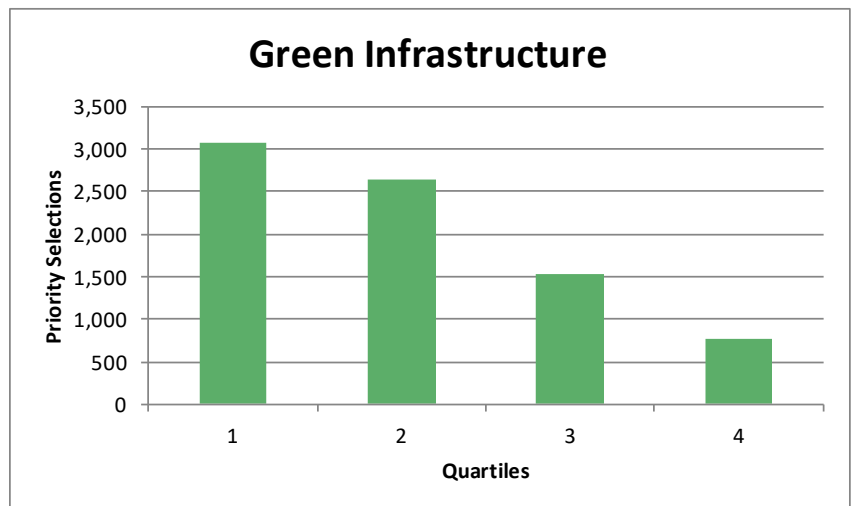
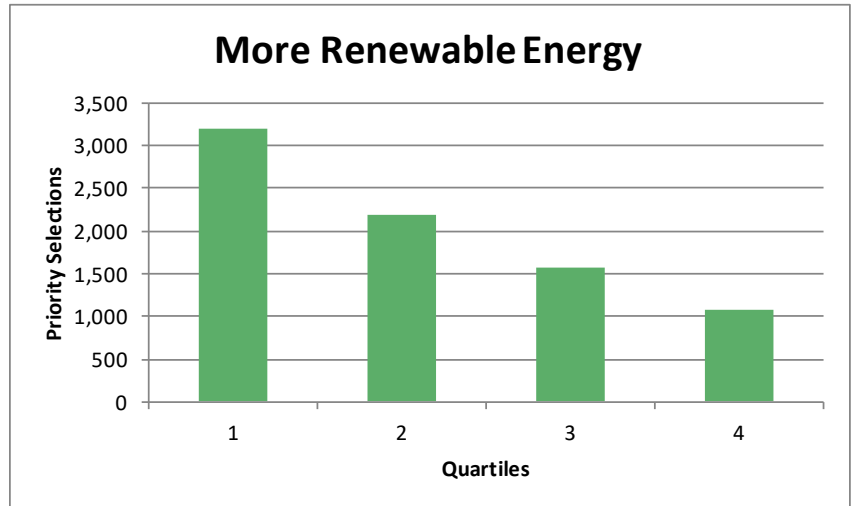
1



ENVIRONMENTAL CHALLENGES, INCLUDING CLIMATE CHANGE AND INCREASED RISK OF FLOODING, ARE A TOP PRIORITY FOR THE REGION.

More renewable energy and green infrastructure is at the heart of the preferred growth strategies for respondents. Using more electric cars and buses powered by wind and solar is one strategy to reduce greenhouse gas emissions and support renewable energy. A regional approach is necessary to create the green infrastructure needed to manage and filter rainfall and melting snow.

Environmental issues were the subject of the second largest number of total comments, 548, or 26%. Prioritizing, expanding or improving conservation, environmental preservation, and/or resource protection was the second most discussed subtopic overall. Climate change ranked 12th among 101 comment subcategories. Water quality also received frequent mentions within the Environmental category; this subtopic of comments was ranked 14th overall.



Charts show number of priority rankings for Renewable Energy and Green Infrastructure by quartile (e.g. first quartile = priorities 1-4).

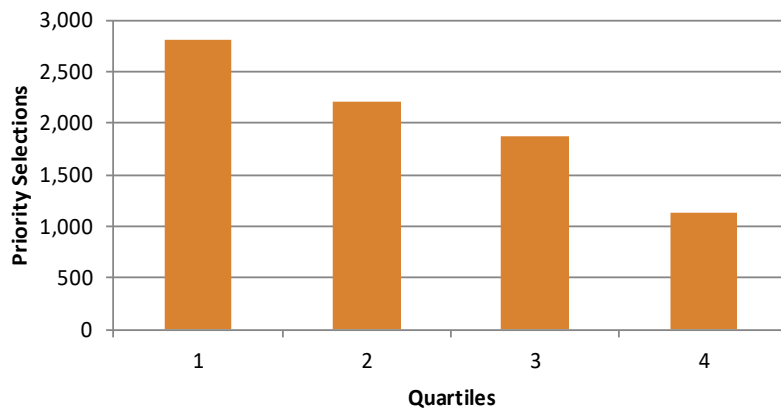
“Climate change is the biggest challenge humanity is going to face over the coming decades, and we need to be doing everything we can to pursue greener energy alternatives, as well as building the infrastructure we need to cope with the realities of a hotter planet. In addition, we ought to work on conserving and protecting our environment, both the land and the creatures inhabiting it.”

2



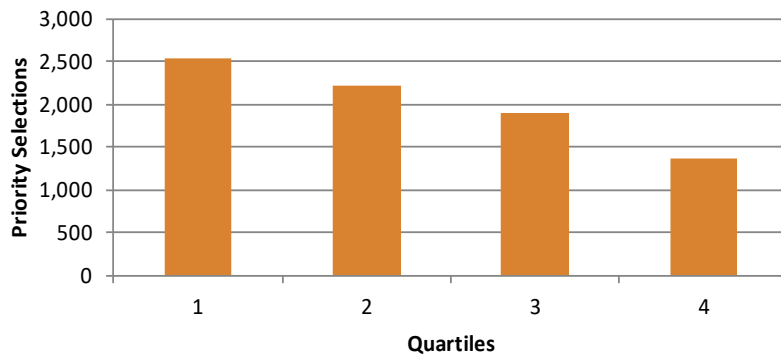
ISSUES OF ACCESS TO OPPORTUNITY CONTINUE TO BE A HIGH PRIORITY FOR MOST PEOPLE AND GROUPS ACROSS THE REGION.

More Community-Based Resources



More community-based resources like education, job training and health services through community and senior centers, nonprofits and health providers ranked second among top priorities. Groups more likely to experience economic hardship (including respondents who are seniors, have a lower income, live in rural areas, and people of color) ranked these as a top priority.

Better Connected Education and Work



The subcategory “Increasing support for low-income residents and marginalized communities” ranked 15th overall. Improving education access and opportunities ranked 20th among all subcategories. Ensuring equal access to services and opportunities ranked 21st overall.

Charts show the number of priority rankings for more community based resources and better connected education and work by quartile (e.g. first quartile = priorities 1-4).

“I want more social and economic equity - in wages, in health care, in kinds and locations of housing, in education and a wide range of social services. I worry that the community building options propmote segregation and competition, not building a more inclusive humanatarian regional community.”

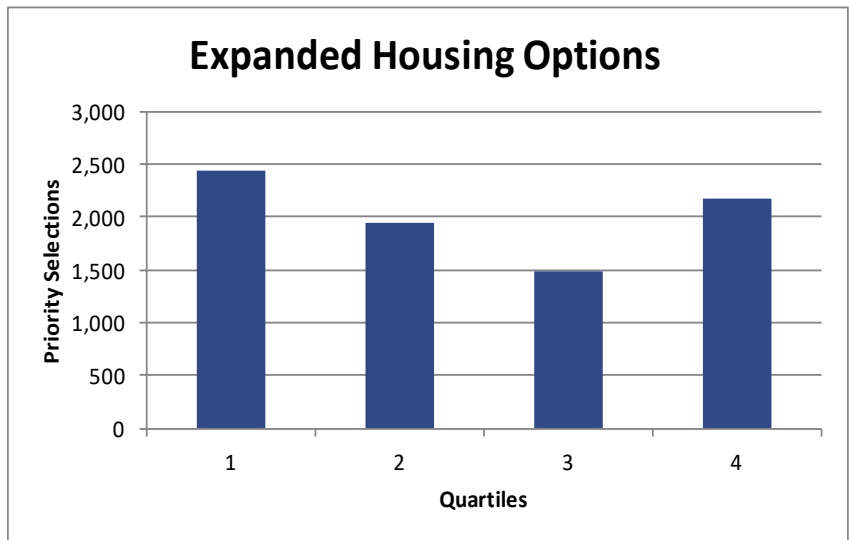
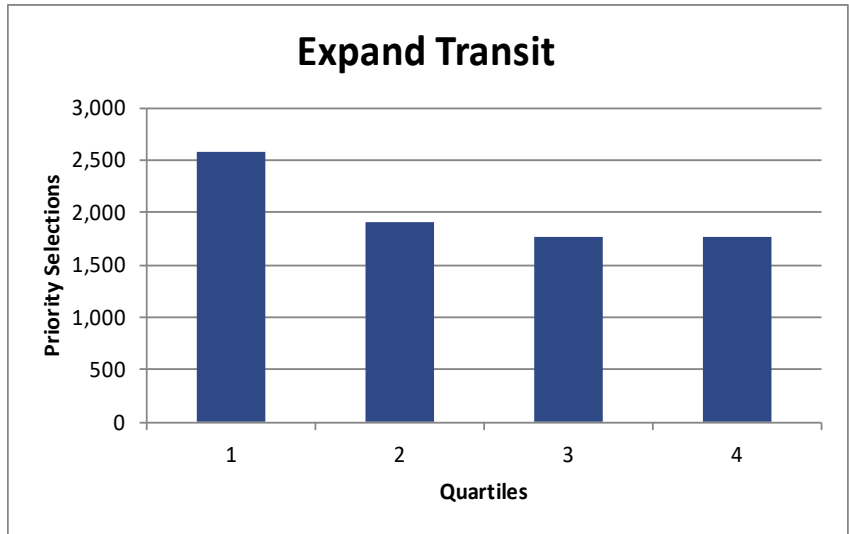
3



EXPANDING TRANSIT AND HOUSING OPTIONS ARE HIGH PRIORITIES, DEPENDING ON LOCATION AND DEMOGRAPHIC GROUPS.

Prioritization for Expand Transit was higher among people in Madison, Fitchburg, and Monona, as well as people with higher incomes and years of formal education and respondents between the ages of 20- 49. Expanded Housing Options was more often ranked among the top choices for people of color, people with lower incomes, people with fewer years of formal education, people age 50-64, and urban residents.

Comments in the Infrastructure category overwhelmingly focused on expanding, improving, or prioritizing local and regional transit. Comments in the Housing category most frequently discussed expanding housing types, affordability, and access. Affordable housing was ranked fifth among all subcategories.



The charts show the number of priority rankings for Expanding Transit and Expanded Housing Options by quartile (e.g. first quartile = priorities 1-4).

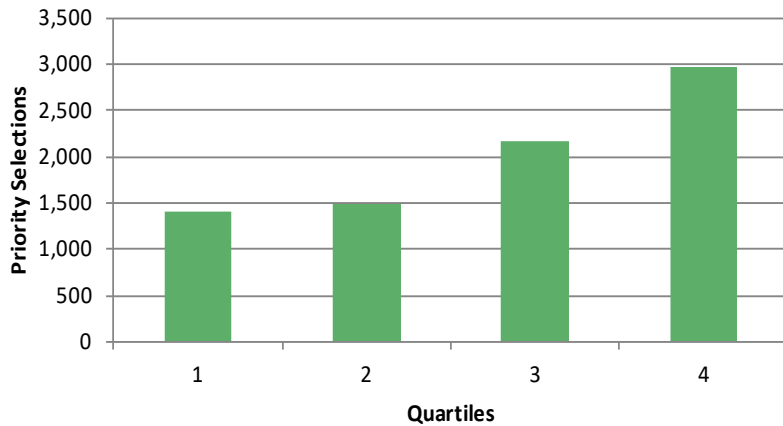
“Addressing housing costs is essential. Create more housing that is affordable to single people and those who are neither rich nor poor. Allowing people to work and live in the city fosters community engagement and involvement.”

4



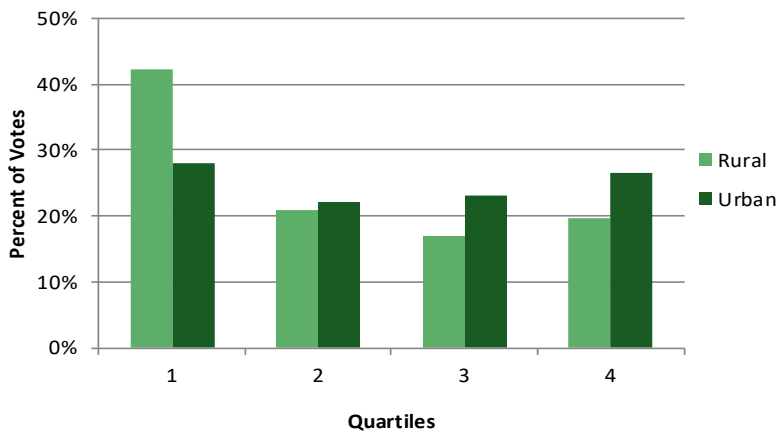
PRESERVATION OF FARMING AREAS IS A HIGH PRIORITY FOR PEOPLE IN RURAL COMMUNITIES OF DANE COUNTY.

Preserve More Farming Areas



Although people in rural areas ranked this strategy high, their low population numbers could not offset low priority ranking from the more numerous central urban and first ring community residents.

Preserve More Farming Areas - Urban vs Rural



The majority of commenters in this subtopic favored preserving farmland; specifically smaller farms with diverse products, as opposed to encouraging expansion of larger factory farms/CAFOs. Comments in support of developing farmlands suggested using agricultural lands to increase the region's housing supply or expand conservation areas.

Charts shows number or percentage of priority rankings for Preserve More Farming Areas by quartile and by urban/rural classification (e.g. first quartile = priorities 1-4).

"I see Madison expanding outward and A1 farmland being developed into housing. All of this creates more roads, more congestion, more hardscapes leading to flooding, and loss of local community, less land for local food growth, and less habitat for wildlife. All of this leads to a lower quality of life for everyone."

5



CONSERVATION PRIORITIES IN GROWTH ARE MOST IMPORTANT TO PEOPLE WHO WEIGHED THE FOUR DIFFERENT SCENARIOS, MAPS AND COSTS OF AN EXPANDING POPULATION.

Conservation priorities were reflected in votes for growth maps. People want more efficient and better-connected growth that minimizes transportation, energy and infrastructure costs while protecting natural resources.

See Future Growth Scenarios: Survey Results on page 13 for more.

“I’d like to see a ring of vibrant small cities around Madison, each with its own compact downtown and surrounding green space in which development and sprawl is limited, all linked by transit.”

6



INTEGRATED APPROACHES TO INTERCONNECTED CHALLENGES WERE MAJOR THEMES IN RESPONDENTS’ COMMENTS.

“All of these things are important, I would love a focused balance between innovation and conservation as the top two priorities. Innovation will help us faster and sooner, conservation should help more long-term. There needs to be a balanced approach with all four realistically though. Many of these things go well together and could have a multiplier effect.”

A number of survey takers found the requirement to select one growth option difficult, and expressed a desire to combine elements of the different strategies and pursue integrated approaches were needed. Respondents see connections between the issues facing the region in the future, and want to see A Greater Madison Vision approach the issues in an interconnected way.

7



LOCAL ENERGY PRODUCTION AND LOCALLY GROWN FOOD WERE HIGH PRIORITIES FOR YOUTH.

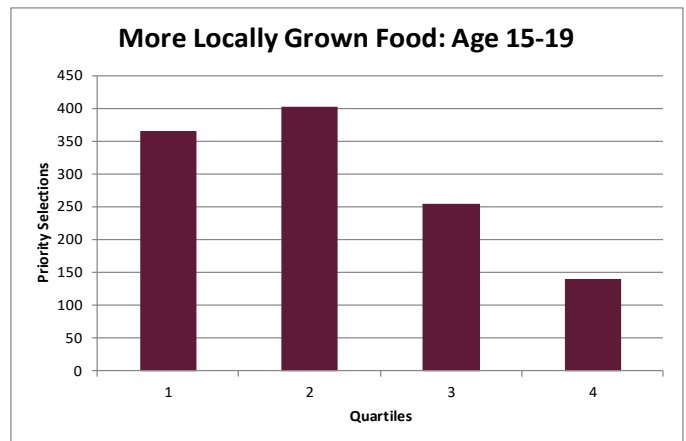
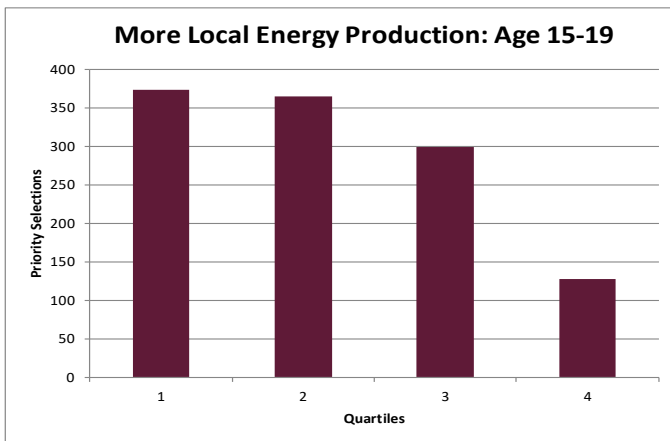
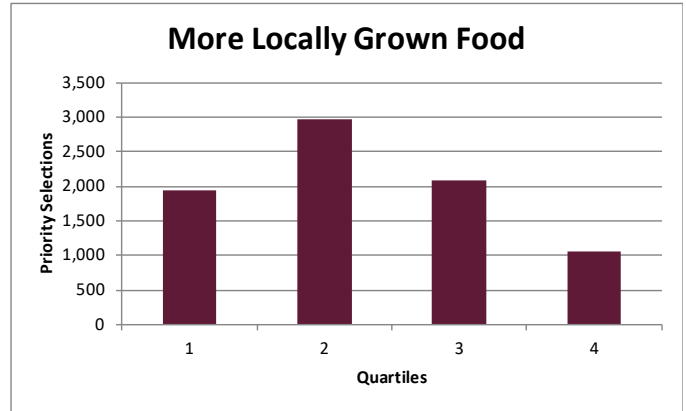
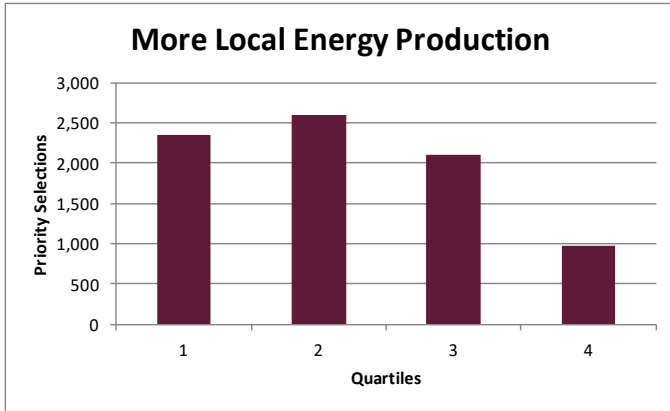


Chart shows number of priority rankings for More Local Energy Production and More Locally Grown Food by quartile for all respondents and respondents age 15-19 (e.g. first quartile = priorities 1-4).

Youth age 19 and younger (generally high school students) ranked “More Locally Grown Food” fourth while all respondents ranked it eighth. Youth ranked “More Local Energy Production” fourth compared to all respondents who ranked it seventh.

A large number of comments voiced support for increasing local and renewable energy production.

“I think we need to re-localize our economy as much as possible since that means a greater multiplier effect and more local employment...The same goes for our energy demand - why spend money on imported coal or hydro from Montana or Canada when we can produce our own renewable energy (wind/solar) here?”

8



PEOPLE OF ALL DEMOGRAPHICS AND LOCATIONS EXPRESSED THE DESIRE FOR MORE SOCIAL CONNECTIONS

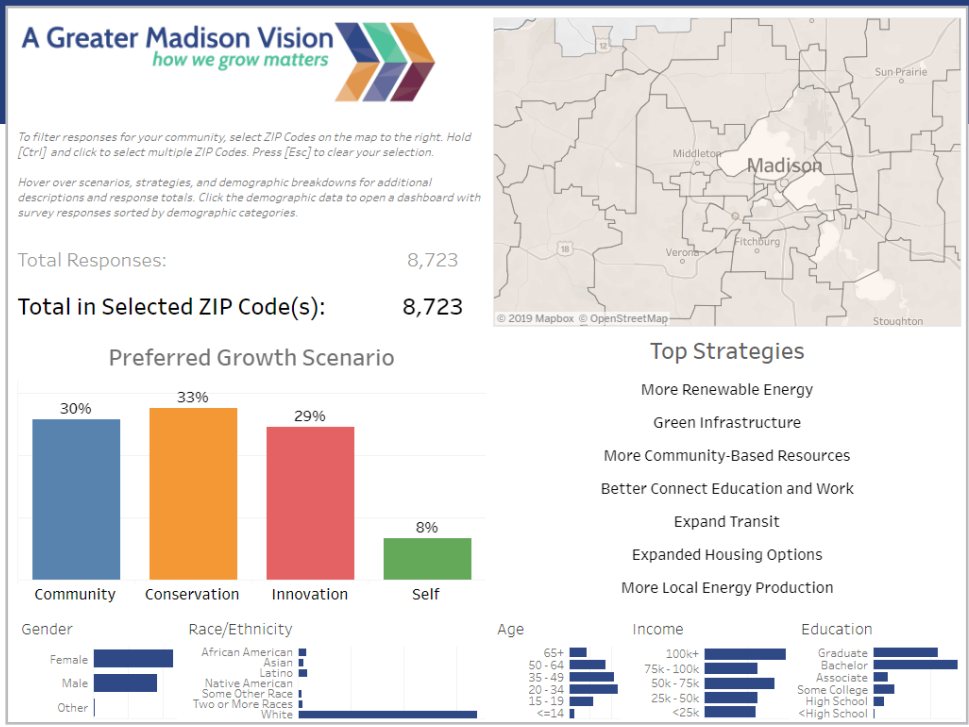
By large numbers people did not choose the self-reliance future where individual communities look after themselves and rely more on technology to work and communicate remotely.

Survey respondents contributed many comments regarding social connection. These comments highlighted the their value of tight-knit communities and increased social cohesion throughout the region.

“I believe that the greatest contribution the Madison area can have is to become closer knit. I feel this would encourage private businesses and promote socially healthy communities.”

FOR MORE INFORMATION...

Including detailed breakdowns of preferred growth scenarios and top strategies by zip code, gender, race, age, education, and income visit GREATERMADISONVISION.COM



FUTURE GROWTH SCENARIOS

SURVEY RESULTS

INNOVATION

COMMUNITY

CONSERVATION

SELF-RELIANCE

Survey
Votes

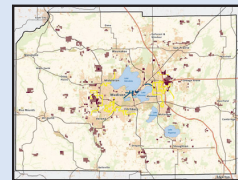
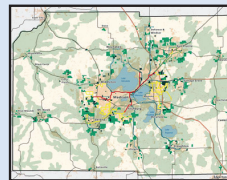
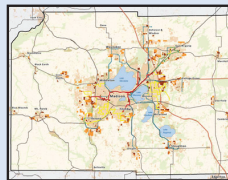
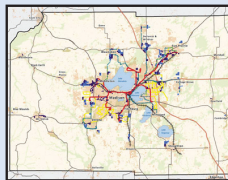
2,177

2,261

2,517

594

Map



About

A network of connected activity centers, featuring a vibrant mixture of activities and buildings, linked by and expanded regional transit system.

Investments in existing communities and businesses add housing and offices, while focusing on more compact outward expansion served by an expanded transportation system.

Large areas of farmland are preserved as growth is directed away from natural and agricultural areas. Communities continue to develop both in their downtowns and at their edges.

A greater expansion of roads is used to serve more spread out and uniform development in rural areas, focusing less on existing cities and villages.

Cost/
Household
*



-\$1,277



-\$327



\$170



\$964

Miles Driven/
Household



-1208



-481



37



652

Road, Fire,
EMS Costs



\$911 million



\$1.3 billion



\$1.2 billion



\$1.7 billion

Ag Land
Developed



5.6k acres



11k acres



16k acres



19.3k acres

CO² Emissions/
Household



15 metric tons



16 metric tons



14 metric tons



17 metric tons

Transit to
Jobs
**



20%



18.4%



18.2%



17%

* Change in annual household energy and transportation costs, from 2015

** Percent of residents able to reach 10+ percent of jobs within 30 minutes via transit

SCENARIO AND STRATEGY DESCRIPTIONS

COMMUNITY



In the **Community Future**, communities across the region focus on the challenges of growing, changing populations. Leaders decide it is time to come together to make sure all members can access opportunity and fulfill their potential. They foster welcoming communities where all members can get the resources they need to succeed. They encourage active, healthy communities with access to outdoor activities, and places where people walk and bike more.

More community-based resources

More education, job training and health services are available locally. Schools, health providers, and non-profit groups bring resources to community centers, libraries, senior centers, or schools.

More access to outdoors

Communities include more trails and parks that connect people to nature.

Expanded housing options

More housing choices allow a broader range of families to live in a community. Seniors live with and among children and grandchildren.

Walkable communities

Streets and paths help people reach destinations and recreation by walking and biking, and help keep people healthy

CONSERVATION



In the **Conservation Future**, communities focus on environmental challenges. Water pollution continues to challenge the region. Climate change generates more frequent and intensive severe weather events, including floods. Communities respond by expanding important natural areas, protecting farms, reducing water pollution, and increasing renewable energy.

Bigger and more connected natural areas

Communities expand the environmental corridors and natural areas to protect wildlife and increase opportunities for hunting, fishing, and outdoor recreation.

More renewable energy

Transportation produces much of the pollution that drives climate change. Communities reduce such pollution by using more electric cars that are powered by renewable energy.

Preserve more farming areas

To keep a healthy farm economy, communities work together to protect large areas of farmland.

Green infrastructure

Communities design streets, parking lots, yards and terraces to soak up water from rain and snow, instead of allowing the polluted water run off into lakes and rivers. By soaking up more water into the land, communities reduce the risk of flooding, and make healthier rivers and lakes.

INNOVATION



In the **Innovation Future**, communities focus on the challenges of rapid technology changes. Communities promote more technology and related jobs to grow the greater Madison region as a national center for innovation and investment. They also make places attractive to tech workers and employers with conveniences like coffee shops, dining, and entertainment that are accessible by walking, biking, and transit, as well as by car.

Expand transit

Expand transit to connect Madison with surrounding communities. Adopt rules for driverless cars that reduce congestion and improve transit.

More vibrant centers

Communities develop more vibrant and walkable centers with jobs, shopping, homes, and public spaces. Smaller stores allow people to browse and order products, even as e-commerce thrives.

Promote tech job growth

Universities and others encourage technology job growth by turning research into businesses, increasing availability of capital, and promoting business networks.

Better connect education and work

Schools work more closely with technology companies to meet their job needs and foster a vibrant culture of tech entrepreneurs. K-12 education prepares the highly diverse student body to succeed in a technological society.

SELF-RELIANCE



In the **Self-Reliance Future**, communities focus on the challenge of declining state and federal resources. Communities respond by becoming more self-reliant and autonomous. Local businesses, non-profits and governments assume a greater role in meeting local needs. Driverless cars make travel easier over longer distances. Technology changes make it easier to meet basic needs.

More online communication and remote living

People have less need to interact face-to-face because they can work, learn and shop from their homes. People use driverless cars to easily travel longer distances.

More local energy production

Smart energy grids allow people to generate more power at their homes and to purchase power from local companies.

More locally grown food

Compared to current times, people purchase more food from local growers, and by ordering online. They also grow more food in community gardens and private yards.

More close-knit communities

With less outside help, people depend more on each other, which creates more close-knit communities.

AGMV STEERING COMMITTEE

March 2019

*Asterisks Indicate Executive Committee Members

Godwin Amegashie* <i>Consultant</i>	Ezra Meyer <i>Clean Wisconsin</i>
Ruben Anthony <i>Urban League Greater Madison</i>	Deb Nemeth <i>1000 Friends of Wisconsin</i>
Juli Aulik <i>University of Wisconsin Hospitals and Clinics Authority</i>	Kwasi Obeng <i>City of Madison Common Council</i>
Zach Brandon <i>Greater Madison Chamber of Commerce</i>	Leslie Orrantia <i>Wisconsin Collaborative Education Research Network</i>
Dave Branson <i>Building and Construction Trades Council of SC WI</i>	Mark Opitz <i>Madison Area Transportation Planning Board</i>
Gurdip Brar <i>Mayor, City of Middleton</i>	Kevin Oppermann <i>Highland Spring Farm</i>
Dan Brown <i>Ho-Chunk Gaming</i>	Larry Palm* <i>CARPC</i>
Frank Byrne* <i>St. Mary's Hospital</i>	Harold Rayford <i>African American Council of Churches</i>
Justice Castañeda* <i>Common Wealth Development</i>	Keith Reopelle <i>Dane County Office of Energy and Climate Change</i>
Sharon Corrigan* <i>Dane County Board of Supervisors</i>	Carl Ruedebusch <i>Ruedebusch Development & Construction, Inc.</i>
Drake Daily <i>City of Sun Prairie</i>	Sue Springman <i>Village of Waunakee and The Mullins Group</i>
Jack Daniels <i>Madison College</i>	David Stark <i>Stark Company Realtors</i>
Joe Daguanno <i>Adams Outdoor Advertising</i>	Steve Staton* <i>Village of Oregon</i>
Chris Ehlers <i>Veridian Homes</i>	Andrew Statz <i>Madison Metropolitan School District</i>
Paul Esser <i>Mayor, City of Sun Prairie</i>	Nia Trammell <i>Urban League of Greater Madison</i>
Cheryl Fahrner <i>Columbia County Economic Development Commission</i>	James Tye <i>Clean Lakes Alliance</i>
Paulette Glunn <i>Northwest Dane Senior Services, Inc.</i>	Lyle Updike <i>Town of Sun Prairie</i>
Kari Grasee* <i>American Family Insurance</i>	Donna Walker* <i>Alliant Energy</i>
James Hegenbarth <i>Park Bank</i>	William White* <i>WhiteFish Partners</i>
John Imes <i>Wisconsin Environmental Initiative</i>	Dan White <i>Filament Games</i>
Paul Jadin* <i>MadREP</i>	Tom Wilson <i>Town of Westport and Madison Metro Sewerage District</i>
Sharyl Kato* <i>The Rainbow Project</i>	Gary Wolter* <i>Madison Gas & Electric</i>
Jenni Le <i>gBETA</i>	Phillip Yang <i>Wisconsin Hmong Association</i>
Sabrina Madison* <i>Heymiss Progress</i>	Alex Ysquierdo <i>Associated Bank</i>
Mariam Maldonado <i>Luna's Grocery</i>	
Sarita Mannigel* <i>Latino Chamber of Commerce</i>	

WE THANK OUR SPONSORS



Appendix B

2020 INTERIM POPULATION AND HOUSEHOLD PROJECTION METHODOLOGY



County projection totals use Woods & Poole projections for Dane County and its adjacent seven counties (Columbia, Dodge, Green, Iowa, Jefferson, Rock, and Sauk) as a control total. Woods & Poole and Moodys are among a small number of nationally recognized firms that provide forecasts.

In addition to neighboring county projections, the W&P projections include age cohort information and industry-specific employment projections. These projections were selected to save staff the time required to create projections for all eight counties and use age cohort progressions to estimate labor pool size for economic calculations.

W&P industry employment projections were also used to allocated CARPC-generated employment totals into broad industry groups based on trip generation for use by the MPO. (Note: MPO trip generation calculations include specific rates for the following categories: retail, office, and all other employment types).

Calculation Steps

1. Project county population. As validation of the W&P numbers, staff used data from the 1970 Census, 1973–2019 DOA “Population Estimates,” and Decennial Census counts from 1980–2010 to generate a trendline for Dane County for the sake of comparison. A handful of different trendlines were applied to these data. DOA estimates for Dane County have historically been conservative, falling below the growth rate between the officially recognized Census enumerations. Most DOA projection vintages have likewise been somewhat conservative with population growth slowing down in the later years of the projection. So as not to overshoot forthcoming DOA projections and be a position requiring planners to “take back” growth and development, a linear trendline based off the 1970–2010 Censuses was selected. W&P projections were within

around 25,000 of this projection. See Table 1 and Chart 1.

- a. W&P data validated with the use of a conservative, linear trendline based on Census data.
- b. Adjusted projected values to account for any discrepancy between the DOA estimated population in 2019 and the predicted value for 2019 calculated by the formula. This ensured that there was not a sudden increase or decrease in population between 2019 and 2020.
- c. The CARPC-generated Dane County total was very close to the W&P total. Net increase in population between 2020 and 2050 differed by roughly 25,000.

2. Allocate Population to individual communities.

- a. Establish population best-fit trend lines (linear, polynomial, logarithmic, etc.) for all communities using DOA and Census data.
- b. Project 2020–2050 populations.
- c. Correct for 2019 to 2020 inconsistencies as above.
- d. Control community values to the county total generated in Step 1.

3. Project County Households.

See Table 2 and Chart 2.

- a. The projection uses data from the 1970 – 2010 Decennial Census.
- b. Apply linear fit line to data points and use the resulting formula to find values for 2020–2050 in five-year increments.
 - i. Adjust projected values to account for any discrepancy between the DOA estimated households in 2019 and the

predicted value for 2019 calculated by the formula.

4. Allocate households to individual communities.

- a. Establish household best-fit trend lines (linear, polynomial, logarithmic, etc.) for all communities.
- b. Project 2020–2050 households for each community.
- c. Correct for 2019 to 2020 inconsistencies as above.
- d. Control community values to the county total generated in Step 3.

5. Adjust population and household totals to reflect planned annexation and dissolution of Town lands and development timing in Cities and Villages. 2035 and 2050 totals of town population and households are added to receiving Cities and Villages. See Tables 3 and 4.

6. Model planned 2050 land uses in UrbanFootprint modeling software to reflect local plans and input from conversations with local planners about the population and household projections. Growth and development was modeled for each community up to the population projection value for 2050. Resulting household and housing unit numbers were recorded and compared with 2050 household projections. Persons per household and dwelling units per structure for the custom place and building types used in the UrbanFootprint model were based on examples throughout from Dane County. As such, the household totals calculated in the model represent a more accurate view of the shifting population distribution in the various types of households in the county than the linear trendline projection calculated in the steps above. The 2050 household projection in Step 4 above

serve as a good ballpark figure for expected housing units and the UrbanFootprint values are checked against them. However, since projected households do not reflect declining household sizes, shifting housing preference for multi-family, or the housing mixture planned for the future, values generated in the UrbanFootprint model are suspected to reflect future conditions better than the initial household projections and are used in their place.

7. Consider modification to projections due to the release of 2020 Census. Addition of 2020 data to the trendline from 1970–2010 did not alter the 2050 linear county population projection and municipal projections enough to warrant the time required to update projections. The result from including in the 2020 enumeration in the data is that net increase to the 2050 projection is slightly lower.

See Tables 5 and 6 for Final Population and Household Values.

Table 1: PRELIMINARY County Population Projections - CARPC vs. W&P

Year	Dane (CARPC)	Dane (W&P)	Difference
2019	537,328	-	
2020	542,597	555,586	12,989
2025	568,941	587,640	18,700
2030	595,284	620,400	25,116
2035	621,628	652,159	30,532
2040	647,971	682,294	34,323
2045	674,315	711,174	36,860
2050	700,658	739,413	38,755
Growth 2020 to 2050	158,061	183,827	25,766

Table 2: PRELIMINARY Dane County Household Projections

Year	Dane (CARPC)	Dane (W&P)
2020	246,812	239,086
2025	262,639	252,734
2030	278,467	264,520
2035	294,294	274,702
2040	310,122	285,154
2045	325,949	298,594
2050	341,777	313,775
Growth 2020 to 2050	94,965	74,689

Chart 1: PRELIMINARY Dane County Population Projection

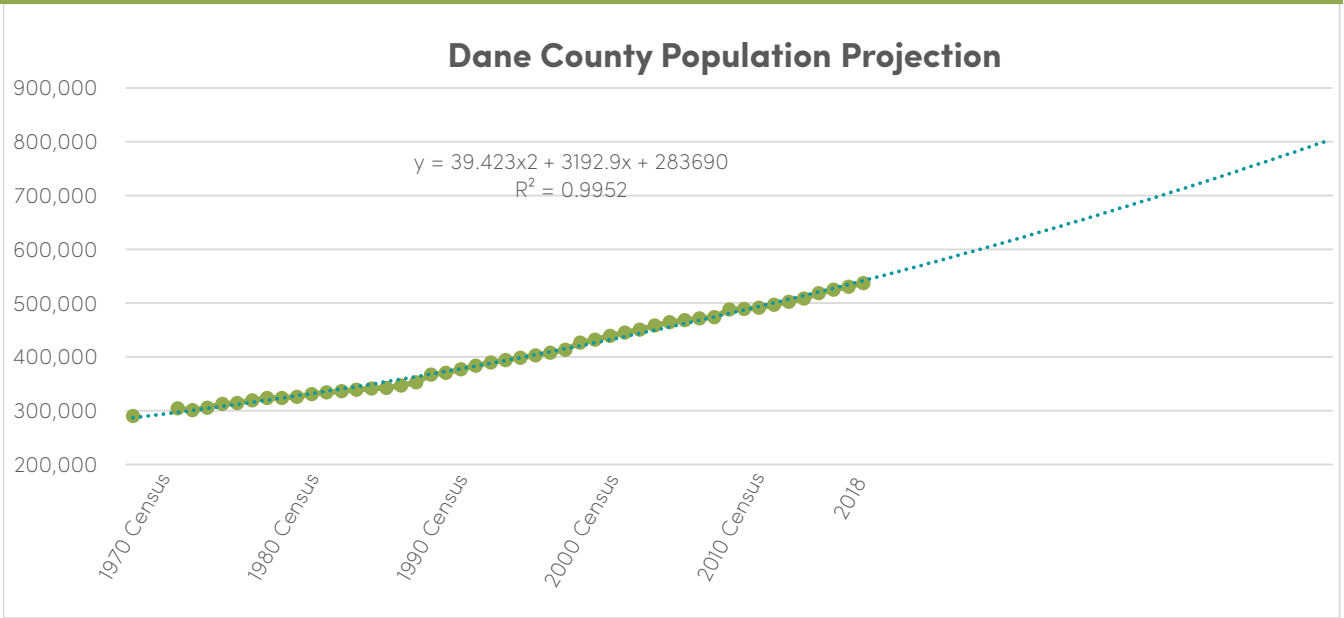


Chart 2: PRELIMINARY Household Trends & Projections

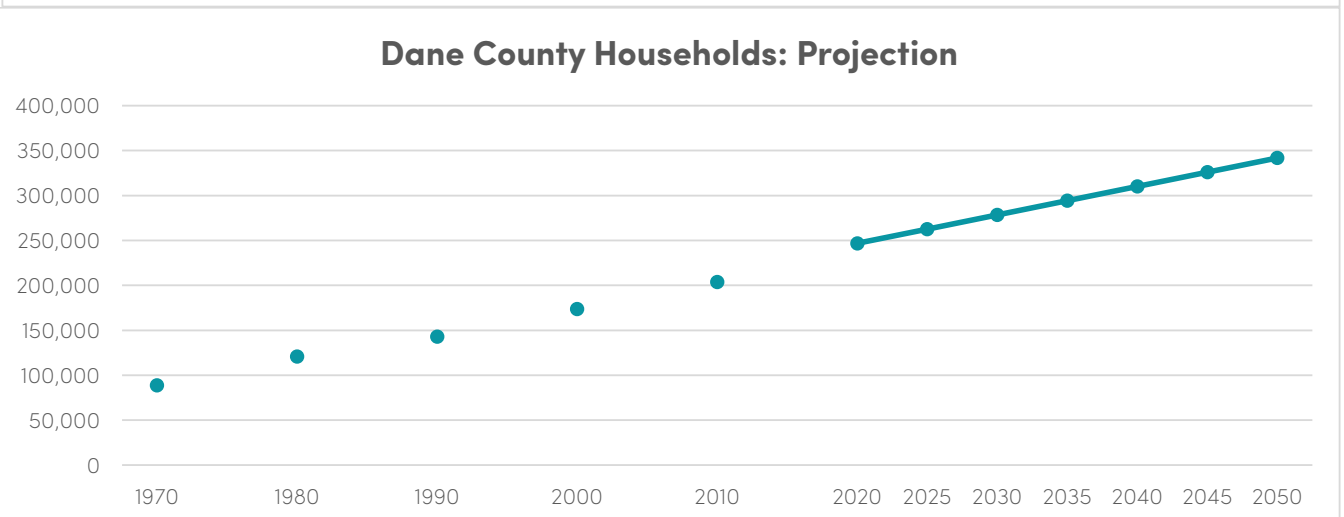
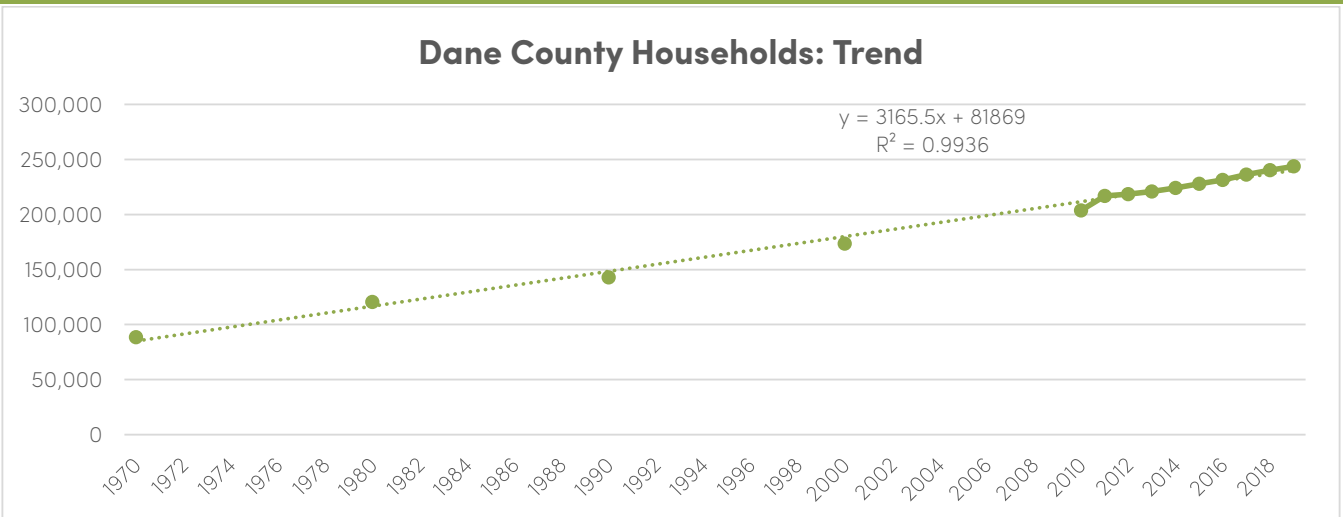


Table 3: Dane County Population Projections

	2000 Population	2010 Population	2020 Population	2035 Population	2050 Population	Numeric Change 2020 to 2050	Percent Change 2020 to 2050
Dane County	426,526	488,073	542,182	640,814	739,413	197,231	36%
C-Madison	208,054	233,209	257,586	306,521	345,675	88,089	34%
Rural Areas	65,868	68,587	71,133	68,756	76,140	5,007	7%
C-Sun Prairie	20,369	29,364	35,428	44,450	53,472	18,044	51%
C-Fitchburg	20,501	25,260	29,622	37,570	45,517	15,895	54%
C-Middleton	15,770	17,442	20,918	24,799	28,679	7,761	37%
V-Waunakee	8,995	12,097	14,111	18,597	23,082	8,971	64%
C-Stoughton	12,354	12,611	13,066	15,924	18,782	5,716	44%
C-Verona	7,052	10,619	12,671	16,691	20,711	8,040	63%
V-DeForest	7,368	8,936	10,344	13,510	16,675	6,331	61%
V-Oregon	7,514	9,231	10,338	13,319	16,300	5,962	58%
V-McFarland	6,416	7,808	8,829	11,149	13,469	4,640	53%
V-Windsor	5,286	6,345	8,193	9,955	11,716	3,523	43%
C-Monona	8,018	7,533	7,871	8,105	8,338	467	6%
V-Mount Horeb	5,860	7,009	7,425	9,577	11,729	4,304	58%
V-Cottage Grove	4,059	6,192	6,851	9,139	11,426	4,575	67%
T-Westport	3,586	3,950	4,076	4,819	5,562	1,486	36%
V-Cross Plains	3,084	3,538	4,035	4,911	5,787	1,752	43%
V-Marshall	3,432	3,862	3,782	4,577	5,372	1,590	42%
V-Deerfield	1,971	2,319	2,514	3,058	3,602	1,088	43%
V-Shorewood Hills	1,732	1,565	2,202	2,268	2,333	131	6%
V-Belleville*	1,795	1,848	1,917	2,316	2,715	798	42%
V-Mazomanie	1,485	1,652	1,690	1,893	2,095	405	24%
V-Cambridge*	1,014	1,348	1,452	1,744	2,036	584	40%
V-Black Earth	1,320	1,338	1,407	1,523	1,639	232	16%
V-Maple Bluff	1,358	1,313	1,271	1,309	1,346	75	6%
V-Dane	799	995	1,115	1,361	1,606	491	44%
V-Brooklyn*	502	936	998	1,314	1,630	632	63%
V-Blue Mounds	708	855	984	1,253	1,522	538	55%
V-Rockdale	214	214	221	260	298	77	35%
C-Edgerton*	42	97	132	146	159	27	20%

*Dane County portion only

† The Town of Westport is considered an urbanized town.

Table 4: Dane County Household Projections

	2000 Households	2010 Households	2020 Households	2035 Households	2050 Households	Numeric Change 2020 to 2050	Percent Change 2020 to 2050
Dane County	173,484	203,750	225,143	269,733	313,775	88,632	39%
C-Madison	89,019	102,516	110,854	134,081	155,212	44,359	40%
Rural Areas	24,457	26,336	28,541	29,058	32,837	4,296	15%
C-Sun Prairie	7,881	11,636	13,694	17,214	20,735	7,041	51%
C-Fitchburg	8,262	9,955	12,497	16,680	19,149	6,652	53%
C-Middleton	7,095	8,037	8,920	10,836	12,752	3,832	43%
C-Stoughton	4,734	5,133	5,591	6,749	7,907	2,316	41%
C-Verona	2,591	4,223	5,268	6,638	8,007	2,739	52%
V-Waunakee	3,203	4,344	5,146	6,533	7,919	2,773	54%
V-Oregon	2,796	3,589	4,027	5,059	6,090	2,063	51%
C-Monona	3,768	3,777	3,892	4,131	4,371	479	12%
V-DeForest	2,675	3,400	3,798	4,943	6,088	2,290	60%
V-McFarland	2,434	3,079	3,541	4,415	5,290	1,749	49%
V-Mount Horeb	2,228	2,696	2,850	3,517	4,183	1,333	47%
V-Windsor	1,880	2,432	2,688	3,311	3,933	1,245	46%
V-Cottage Grove	1,427	2,210	2,328	2,984	3,640	1,312	56%
T-Westport	1,546	1,782	1,907	2,349	2,792	885	46%
V-Cross Plains	1,199	1,386	1,688	2,084	2,480	792	47%
V-Marshall	1,266	1,437	1,354	1,492	1,630	276	20%
V-Deerfield	726	884	1,006	1,218	1,430	424	42%
V-Shorewood Hills	640	620	876	930	984	108	12%
V-Belleville*	725	767	813	978	1,144	331	41%
V-Mazomanie	594	689	762	896	1,029	267	35%
V-Black Earth	514	559	628	709	790	162	26%
V-Maple Bluff	541	547	596	625	654	58	10%
V-Cambridge*	433	572	581	703	825	244	42%
V-Dane	279	363	438	535	632	194	44%
V-Blue Mounds	289	336	383	476	569	186	48%
V-Brooklyn*	179	324	332	419	506	174	52%
V-Rockdale	89	89	98	111	124	26	26%
C-Edgerton*	14	32	45	59	73	28	62%

*Dane County portion only

† The Town of Westport is considered an urbanized town.

Table 5: Dane County Population - UrbanFootprint Model

	2000 Population	2010 Population	2020 Population	2035 Population	2050 Population	Numeric Change 2020 to 2050	Percent Change 2020 to 2050
Dane County	426,526	488,073	542,182	640,814	739,413	197,231	36%
C-Madison	208,054	233,209	257,586	306,521	345,675	88,089	34%
Rural Areas	65,868	68,587	71,133	68,756	76,140	5,007	7%
C-Sun Prairie	20,369	29,364	35,428	44,450	53,472	18,044	51%
C-Fitchburg	20,501	25,260	29,622	37,570	45,517	15,895	54%
C-Middleton	15,770	17,442	20,918	24,799	28,679	7,761	37%
V-Waunakee	8,995	12,097	14,111	18,597	23,082	8,971	64%
C-Stoughton	12,354	12,611	13,066	15,924	18,782	5,716	44%
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V-DeForest	7,368	8,936	10,344	13,510	16,675	6,331	61%
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V-McFarland	6,416	7,808	8,829	11,149	13,469	4,640	53%
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V-Mount Horeb	5,860	7,009	7,425	9,577	11,729	4,304	58%
V-Cottage Grove	4,059	6,192	6,851	9,139	11,426	4,575	67%
T-Westport	3,586	3,950	4,076	4,819	5,562	1,486	36%
V-Cross Plains	3,084	3,538	4,035	4,911	5,787	1,752	43%
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V-Deerfield	1,971	2,319	2,514	3,058	3,602	1,088	43%
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V-Maple Bluff	1,358	1,313	1,271	1,309	1,346	75	6%
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V-Brooklyn*	502	936	998	1,314	1,630	632	63%
V-Blue Mounds	708	855	984	1,253	1,522	538	55%
V-Rockdale	214	214	221	260	298	77	35%
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Table 6: Dane County Households - UrbanFootprint Model

	2000 Households	2010 Households	2020 Households	2035 Households	2050 Households	Numeric Change 2020 to 2050	Percent Change 2020 to 2050
Dane County	173,484	203,750	225,143	269,733	313,775	88,632	39%
C-Madison	89,019	102,516	110,854	134,081	155,212	44,359	40%
Rural	24,457	26,336	28,541	29,058	32,837	4,296	15%
C-Sun Prairie	7,881	11,636	13,694	17,214	20,735	7,041	51%
C-Fitchburg	8,262	9,955	12,497	16,680	19,149	6,652	53%
C-Middleton	7,095	8,037	8,920	10,836	12,752	3,832	43%
C-Stoughton	4,734	5,133	5,591	6,749	7,907	2,316	41%
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V-DeForest	2,675	3,400	3,798	4,943	6,088	2,290	60%
V-McFarland	2,434	3,079	3,541	4,415	5,290	1,749	49%
V-Mount Horeb	2,228	2,696	2,850	3,517	4,183	1,333	47%
V-Windsor	1,880	2,432	2,688	3,311	3,933	1,245	46%
V-Cottage Grove	1,427	2,210	2,328	2,984	3,640	1,312	56%
T-Westport	1,546	1,782	1,907	2,349	2,792	885	46%
V-Cross Plains	1,199	1,386	1,688	2,084	2,480	792	47%
V-Marshall	1,266	1,437	1,354	1,492	1,630	276	20%
V-Deerfield	726	884	1,006	1,218	1,430	424	42%
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V-Black Earth	514	559	628	709	790	162	26%
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V-Rockdale	89	89	98	111	124	26	26%
C-Edgerton*	14	32	45	59	73	28	62% ^{C-}

*Dane County portion only

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Appendix C

ESTIMATING FUTURE HOUSING DEMAND IN DANE COUNTY





Introduction

The Regional Development Framework is a guide for the physical development of the region in coming decades. To prepare the guide, CARPC staff, working with partner agencies and municipalities, estimated population, household, and employment growth from 2020 to 2050. The next step was to allocate that growth – in the form of residential and business buildings – across the region to reflect Framework goals and objectives and local comprehensive plans.

To allocate households within residential buildings it was also necessary to reflect realistic estimates of the types of housing units likely to be built. Demand for different types and locations of housing will drive construction. Thus, staff analyzed the factors that may influence future demand for different types of housing and drew observations based on that analysis. This report presents that analysis and those observations.

This report considers the likely mix of housing types that will be developed in coming decades by examining housing, demographic, and economic trends, population and household

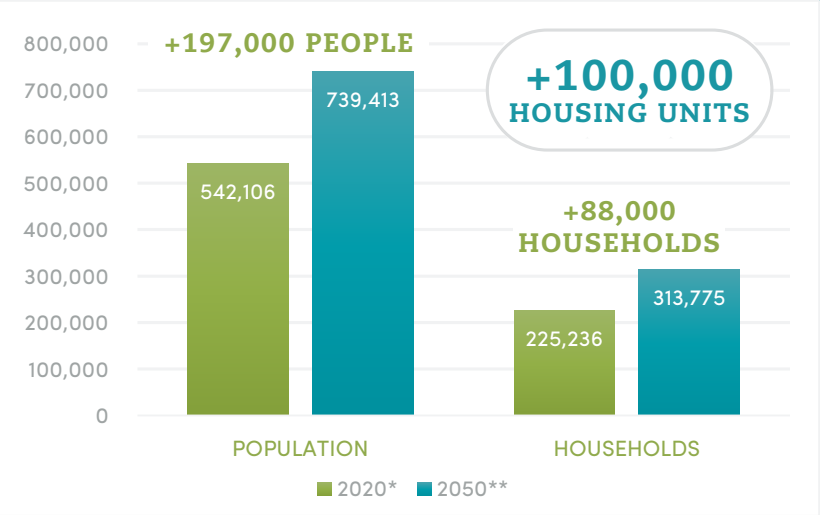
projections, and national housing and community preference surveys. It focuses on the percent of single-family detached housing that will be built because this type of housing has distinctly different land use outcomes than attached and multi-family housing, and because more data is available related to single-family housing and homeownership.

This report first estimates the total number of housing units needed to accommodate population growth. Then it looks at trends in housing construction and characteristics of households including age, composition, and incomes. It also reviews national housing studies and surveys that shed light on consumer preferences. The report then presents observations.

Housing Units Needed 2020 to 2050

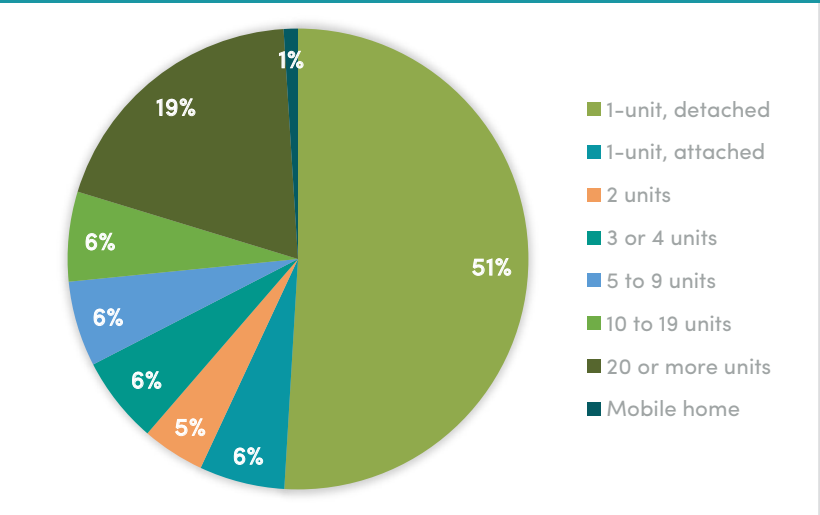
The first step in estimating demand for different types of housing is to project the total number of housing units needed to accommodate projected population growth.

CHART 1 | Dane County, WI Projections



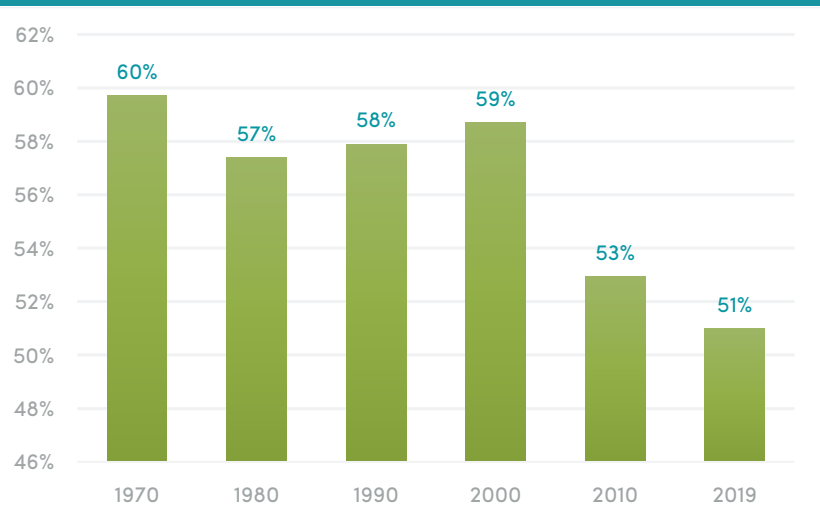
SOURCE: *CARPC, **Woods & Poole

CHART 2 | Dane County Housing Units by Type (2019)



SOURCE: ACS 1-Year Estimates (Table CP04)

CHART 3 | Dane County Single-Family Detached Units



SOURCE: CARPC Data Book and ACS 1-Year Estimates (Table CP04)

CARPC projects the 2050 population of Dane County to be 739,400, an increase of 197,300 from 2020. CARPC also projects the county to have 313,800 households by 2050, an increase of 88,500.

To accommodate those 2050 households with an average vacancy rate of 3% (blend of 5% rental and 1.5% owner vacancy), the county will need 323,200 housing units.

Regions experience a loss of housing units over time due to factors such as demolitions and fires. Dane County's average annual housing loss is estimated at 0.19%. Applying this rate to the most recent count of housing units in the county yields a loss of 14,100 units by 2050.

The total number of additional units needed to accommodate population and housing growth, then, is:

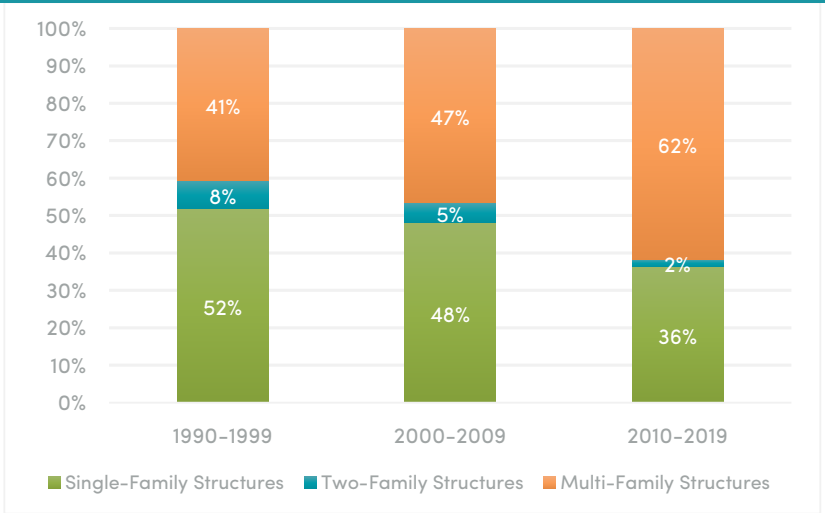
Total Units Needed in 2050:	323,200
<i>Minus</i> 2019 Units (census):	236,900
<i>Plus</i> 2019 to 2050 unit loss:	14,100
<i>Equals</i> Total Units Needed:	100,400

Housing Construction Trends

Recent housing construction trends tell us the directions that housing demand is moving in. While past trends do not determine the future, they are useful indicators of potential future demand.

As shown in **Chart 2**, in 2019, 51% of all housing units in Dane County were single-family detached buildings. Multi-family (3 units and larger) comprised 39% of units, mostly larger buildings with 10 or more units.

CHART 4 | Dane County Housing Units by Structure



SOURCE: HUD SOCDs Building Permit Data

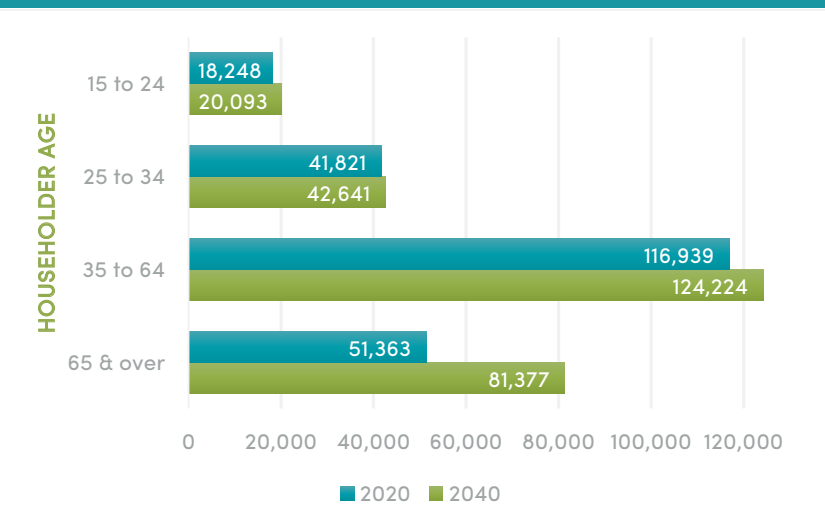
The percent of all units in the county that are single-family detached hovered between 60% in 1970 to 59% in 2000. By 2019 it fell to 51%.

Chart 4 shows that recent housing construction is trending towards higher percentages of units in multi-family buildings.

During the 1990s, 52% of units were built as single-family buildings. This declined to 36% of units built from 2010 to 2019. For the entire period of 1990 to 2019, 46% of units were single-family structures. In addition, from 2010 to 2019 the portion of units in buildings with 10 or more units increased from 20% to 26%.

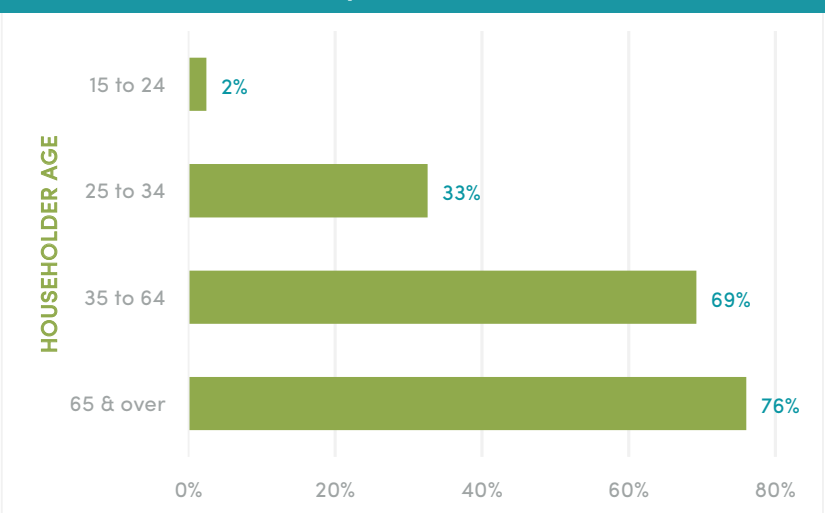
If these home construction trends continue, the percent of single-family homes would decline 6% per decade, resulting in about 25% of homes built from 2020 to 2050 being single-family detached. However, as noted above, past trends do not dictate future demand and construction. Other factors also play significant roles, as discussed below.

CHART 5 | Dane County Householders by Age



SOURCE: Wisconsin DOA, [State & County Household Projections 2010-2040](#)

CHART 6 | Dane County Percent Owner (2019)



SOURCE: ACS 1-Year Estimates (B25007)

Life Cycle Housing Demand

A key determinant of the type of housing people choose is their age. From the time people move out of their parents' house and become a separate household to when they live out their retirement years, the type of building they choose to live in typically changes. Examining trends and forecasts of households as they move through their life cycles sheds light on future housing demand.

Examining life cycle housing involves dividing households into age groups generally consistent with their housing

needs and preferences. These breakdowns use U.S Census data on age of “householders,” which it defines as the “person (or one of the people) in whose name the housing unit is owned or rented (maintained); if no person qualifies, any adult resident of a housing unit is considered a householder.” The life cycle breakdown that reflects housing needs and preferences is:

- **First-time householders, age 15 to 24**, form their first households after leaving home or school and are likely to rent and live in buildings with multiple units.
- **Young householders, age 25 to 34**, are forming families and long-term relationships, perhaps with young children at home, and are starting to purchase housing and live in single-family detached homes.
- **Middle-age and empty nester householders, age 35 to 64**, are typically in their prime earning years, are more likely to live with partners and have more children at home and live in owner-occupied single-family detached homes.
- **Older adults, age 65 and older**, are becoming empty nesters and retirees, most of whom seek to age in place while some choose to downsize, as owner-occupants, until they choose to or need to move to a more supportive living arrangement, perhaps with family members, or perhaps in separate multi-unit buildings.

Chart 5 shows projected changes from 2020 to 2040 for householders of the different age groups discussed above.¹ It tells us that older adults, age 65 and over, will comprise most of the growth of householders over the next couple decades, increasing 58% in number.² Middle-aged adults and empty

¹The cut-offs of the different age groups are those in Wisconsin Dept. of Administration projections.

²This section draws from household projections from the Wisconsin Department of Administration (DOA). These projections only go out to 2040. For the purposes of this paper, we can infer that changes from 2020 to 2040 will likely continue to 2050.

nester householders, age 35 to 64, are the largest group of householders and will add approximately 7,300 householders, a 6% increase. Young householders, age 25 to 34, will remain essentially unchanged in number. And first-time householders, age 15 to 24, will grow by 10% but, due to their small numbers, add only 1,800 households. The next sections discuss the potential future demand for different housing types by these age groups.

Changing housing preferences by age can be seen in the differences in homeownership by age groups. As shown in the chart below, about four out of five older adult householders owned their home. About two thirds of householders who are middle-age and empty nesters own homes. Homeownership drops significantly for the younger groups with a third of young householders and almost no first-time householders.

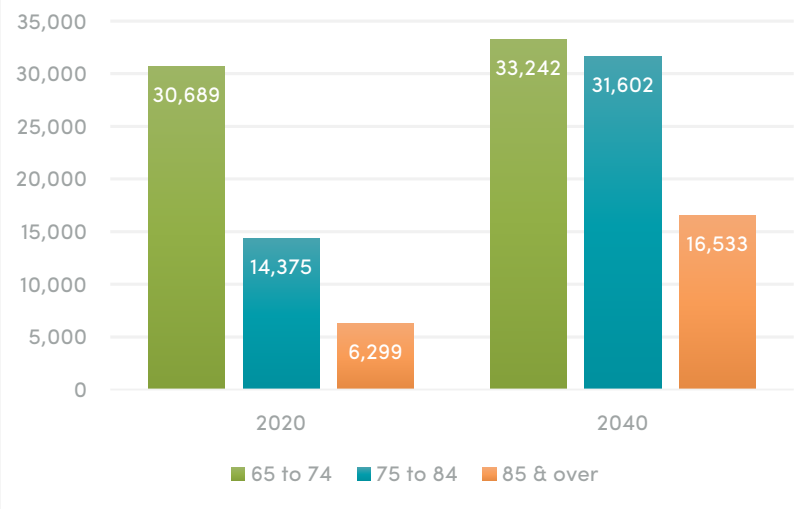
Homeownership is a strong indicator of the type of housing people live in. In Dane County, as of 2019, 82% of homeowners lived in single-family detached homes, versus 13% of renters.³

OLDER ADULTS

In addition to comprising most new households over the next couple decades, older adults have the highest homeownership rate, as shown above. Most older adults do want to stay in their homes or age in place. In a [2021 Home and Community Preference Survey](#), AARP found that three out of four adults age 50 and over want to stay in their homes and communities as they age, yet many do not see that happening for them. While 76% of Americans age 50 and older say they prefer to remain in their current residence and 77% would like to live in their community as long as possible, 54% anticipate moving to either a different home still within their community (13%) or outside their community (41%).

³CARPC adjustment of Census ACS Tenure by Units in Structure, Dane County WI (C25032).

CHART 7 | Dane County Householders Age 65 & Over



SOURCE: Wisconsin DOA, [State & County Household Projections 2010-2040](#)



As the survey suggests, many older adults, as they age, expect to move out of their homes (most single-family detached based on homeownership rates) into other arrangements such as condominiums or apartments, living with relatives, or some form of assisted living. In the next couple decades, a growing number of older adult householders in Dane County will be facing this situation.

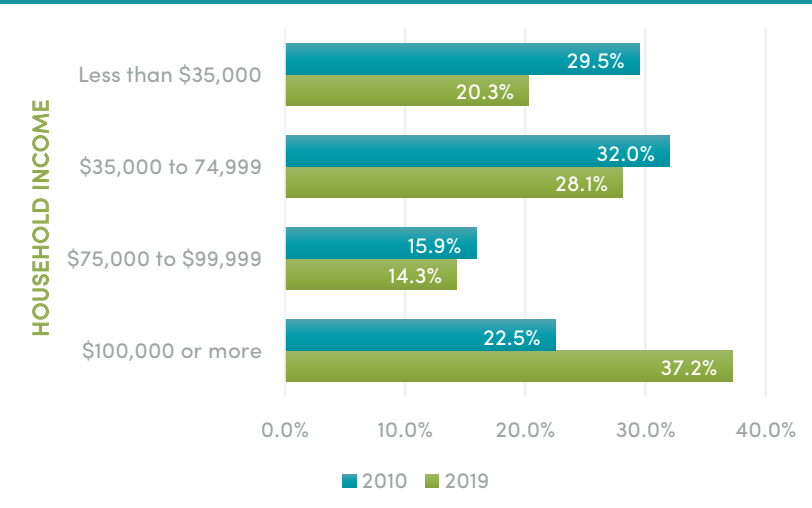
As **Chart 7** shows, in 2020, most elderly people are estimated to be 65 to 74 years old. By 2040 the majority will be age 75 and older, and one in five elderlies will be over 85. These are the ages during which older adults are more likely to move out of single-family homes they own.

Thus, it seems unlikely that their homeownership rate will remain at 79%, and that the same percent of older adults will live in single-family detached homes. Older adults will predominantly be home sellers instead of home buyers.

MIDDLE-AGE AND EMPTY NESTERS AND YOUNG ADULT HOUSEHOLDS

This section discusses the future demand for single-family detached housing among middle-age and empty nesters and young adult householders. It explores three potential influences on their future demand: their housing and community preferences as expressed in national surveys; their financial capacity to purchase single-family detached homes; and the composition of their households.

CHART 8 | Dane County Household Income



SOURCE: American Community Survey 1-Year Data

National housing and community preference surveys

Four organizations have conducted surveys of housing and community preferences: the [National Association of Realtors](#) (2017), [RCRLO](#) (2019), the [National Association of Home Builders](#) (2019 and [2021](#)), and [American Association of Retired Persons](#) (2021). This section highlights key findings relevant to demand for different housing types.

While most homebuyers prefer single-family homes (54% - 63% across age groups), they strongly prefer areas with mixes of houses, shops, offices and businesses (RCLCO). Most homebuyers are willing to accept smaller houses on smaller lots to achieve affordability (NAHB 2017). Seven-in-ten residents say walkability is an important factor when choosing where to live, and a majority of people would choose an apartment or townhouse with an easy walk to shops and restaurants and a shorter commute over a detached single-family house that requires driving to those same destinations and a longer commute (NAR, 2017). Two-thirds of all adults – and 79% of those 50-plus – want to stay in their current communities. Adults primarily value communities that foster good health, promote street safety, and provide good opportunities for community engagement and social interaction (AARP 2021).

The NAHB 2021 survey provides information on how the pandemic impacts housing preferences. A quarter of respondents acknowledge the health crisis has had an impact on their housing preferences, with households with teleworkers and/or virtual students most likely to be affected. Those most affected by the pandemic are also more likely to want larger homes (35% compared to 21% of all respondents). Compared to pre-pandemic, more minorities prefer to buy their next home in an outlying suburb (preference increase of 9% for Asian buyers, 7% for African-American buyers, 6% for Hispanic buyers, and only 1% for Caucasian buyers).

Taken together, the surveys tell us that most homebuyers continue to prefer single-family homes but also highly value walkable communities with nearby access to amenities and jobs and are willing to live in an apartment or townhouse to live in such places. They value access to safe streets and parks that foster interactions with neighbors. They are also concerned about affordability and would accept smaller houses on smaller lots to achieve it. As a result of the pandemic, households with teleworkers and/or virtual students show stronger preferences for larger homes, and more minority households want to buy their next home in outlying suburbs than before the pandemic.

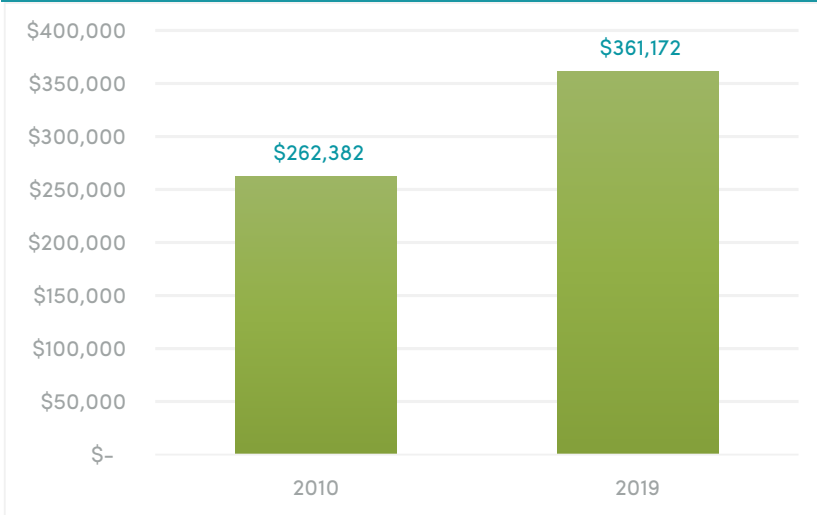
FINANCIAL CAPACITY TO PURCHASE SINGLE-FAMILY DETACHED HOMES

Household income in Dane County increased overall during the last decade. As **Chart 8** shows, the portion of households earning less than \$35,000 decreased; the portion making from \$35,000 to \$74,999 decreased; the portion making \$75,000 to \$99,999 decreased slightly; and the portion making \$100,000 or more increased significantly. Some of this trend towards higher incomes was due to inflation as measured by the Consumer Price Index nationally, which [increased by 17.2% during this period](#). But most of the upward trend can be attributed to the strong economy during this period.

At the same time, prices for new single-family homes have escalated faster. Building permits issued in Dane County show the average value of new homes in 2010 was \$262,382.⁴ Approximately 37% of households in 2010 could afford to purchase a house at this price, using a home price to income ratio of 3.36 to determine

⁴ MTD Marketing Services, LLC, Single Family and Duplex Permits Issued, Dane County Municipality Report, 8/6/2020. It should be noted that portion of homes had prices below the average, and the statistic of a third being able to afford the average should be taken as a general indicator of housing affordability.

CHART 9 | Dane County Average New Home Value



SOURCE: Dane County Building Permits



affordability.⁵ The average value of new homes permitted in 2019 increased 73% to \$361,172. About a third of households (34%), in the county could afford to purchase a home at that price, a decline from 2010. By 2021, the price further increased to \$452,959, which even fewer households could afford.

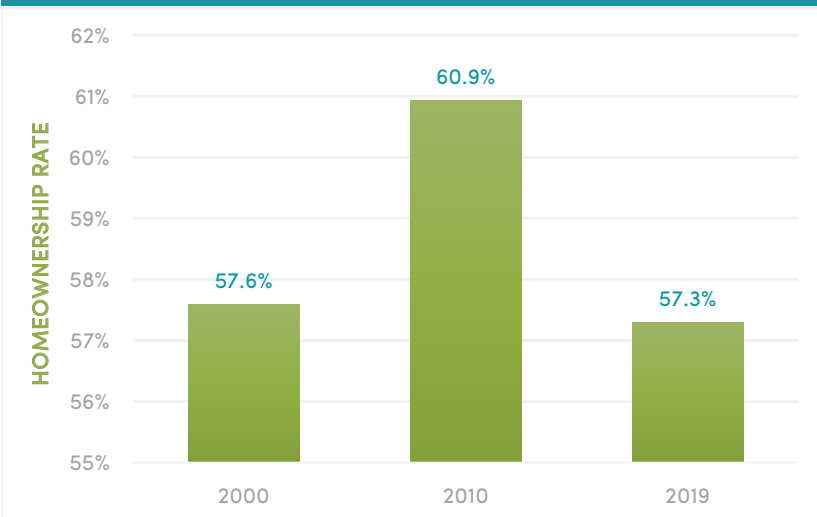
When existing homes are included, the average price was more affordable. The average sales price of single-family homes on the [Multiple Listing Service](#) as of December 2018 was \$318,510, and the median price was \$284,236. In 2019, approximately 40% and 46% of households could afford those home prices respectively. Condo listings are more affordable still, with an average price of \$267,374 and a median price of \$215,500 in December 2018.

Of course, by definition there are homes on the market below the average price. The [Zillow Home Value Index](#) estimates home values, including condos and coops, in the 5th to 35th percentile. As of December 31, 2018, the ZHVI for this percentile range was \$212,873. About 60% of households could afford to purchase a home at that price in 2019. However, the data does not tell us how many homes were for sale at this price, or the quality or size of the homes.

In sum, the income and housing cost data tells us that the share of households that can afford the average value of homes in Dane

⁵ Kurt Paulsen, PhD, AICP, Dept. of Planning and Landscape Architecture, UW-Madison, "Complying with the New Housing Report Requirements," materials provided for Local Government Center presentation on February 13, 2019.

CHART 10 | Dane County Homeownership Rate



SOURCE: Census and ACS

County is less than the share of households that prefer to purchase single-family detached homes, according to national surveys. If income and housing cost trends continue, the portion of households able to afford new construction homes will continue to decline.

Homebuyers unable to or unwilling to purchase newly constructed single-family homes will look to purchase existing homes. This will increase competition for existing homes and put upward pressure on those prices. And since most households cannot afford existing homes, there will be a portion of households that would prefer to buy who end up renting, which will also push rents up. One factor that could alleviate such reductions in home affordability is the number of older adults who sell their homes in coming decades as discussed above. This could add single-family detached homes to the market, potentially increasing affordable options.⁶

Another option to satisfy demand for single-family homes is for the market to provide more homes on small lots and attached homes such as duplexes and townhomes. These housing options have historically comprised a very small percent of home construction. Recently however, home builders have been seeking to build more such units, and municipalities have been more open to approving them, although regulatory barriers remain.

Affordability constraints also likely account for the recent decline in Dane County's homeownership rate.

As **Chart 10** shows, the rate increased during the 2000s as the economy recovered from the previous recession and the housing market heated up. Unfortunately, the housing market turned out to be a bubble that crashed in 2008, leading to foreclosures, loss of equity and income, and stricter borrowing terms. These

⁶ However, there may be a mismatch between the size and characteristics of houses that older adults sell versus the preferences of home buyers.

factors helped drive the homeownership rate back down to 2000-levels. The information above indicates that housing affordability constraints may be a long-term trend that keeps the homeownership rate lower unless the market and regulatory structure adapt to provide less conventional ownership options.

RACIAL BARRIERS TO HOMEOWNERSHIP

Declining homeownership rates can also be explained by increasing racial diversity in the region.

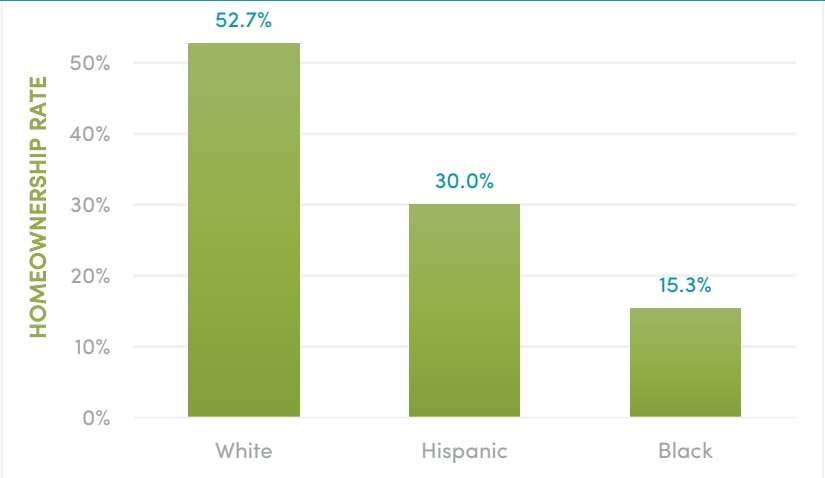
As described in [Appendix D, Equity Analysis](#), Black people and other people of color have been subjected to long periods of housing discrimination. They were barred from federal programs that propelled white people into homeownership including federally insured home loans and Veterans Administration home loans. Further, they were relegated to less desirable neighborhoods through racial covenants (stating that only white people could live in a home) and highways whose construction demolished predominantly Black neighborhoods to connect white-only suburbs to central city business districts.

The outcome of this discrimination is extreme racial disparities in homeownership rates and wealth. In 2019, [15% of Black households in Madison](#) and 30% of Hispanic households owned their homes, compared to 53% of white households.

Since homeownership is the primary means of generating wealth for most Americans, the racial homeownership gap contributes, along with other factors including income inequality, to equally stark racial wealth gaps. In 2016, [the average wealth of white families in the U.S. was \\$919,000](#) compared to \$140,000 for Black and \$192,000 for Hispanic families.

Unfortunately, these gaps are widening. In Wisconsin, the homeownership rate for Black households declined by 7% from 2010 to 2019.

CHART 11 | City of Madison Homeownership Rates by Race/Ethnicity

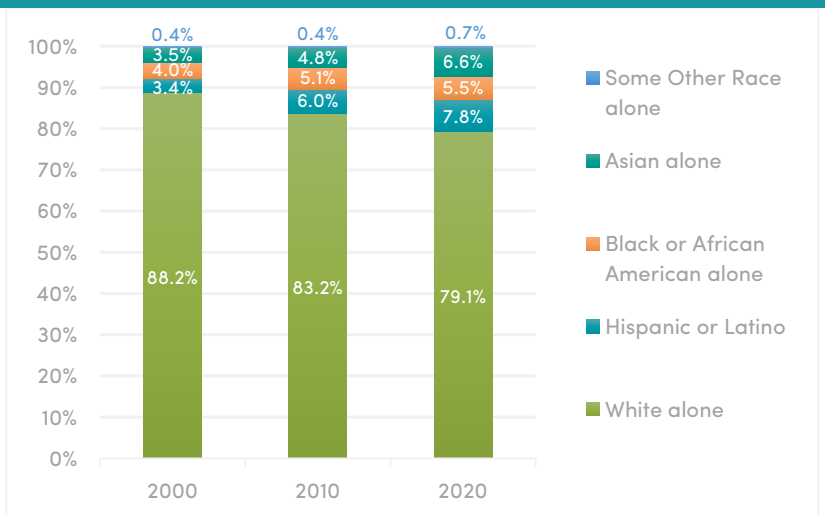


SOURCE: [Wisconsin Policy Forum](#)

Hispanic homeownership rates dropped 3% and white rates dropped 1% during that period. Nationally, in 1963 the gap between white and Black family wealth was \$121,000. By 2016 it grew to over \$700,000.

At the same time these gaps are widening, Dane County is becoming increasingly racially diverse. As **Chart 12** shows, white non-Hispanic people comprised 88% of the county population in 2000 and 79% by 2020. During this period, people of color comprised 54% of population growth.

CHART 12 | Dane County Population by Race/Ethnicity



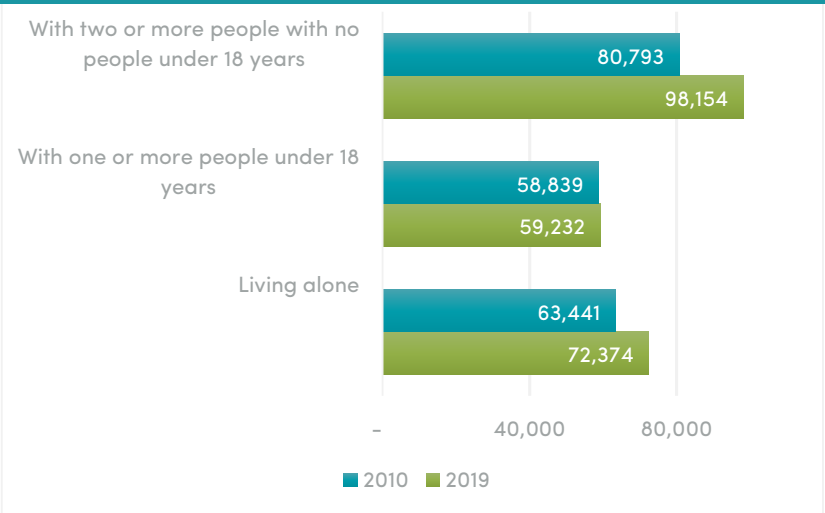
SOURCE: US Census

Widening gaps in homeownership and wealth, combined with increasing diversity, points to overall diminishing demand for purchasing homes.

HOUSEHOLD COMPOSITION

Household composition influences preferences for housing types. Households with children are more likely to prefer single-family detached housing for the living and outdoor space. People living alone need less space and generally have less income than two or more adults living together. Two or more people living together – often as married couples – could have various preferences for housing.

CHART 13 | Dane County Households



SOURCE: ACS 1-Year Estimates (Table DP02)

Chart 13 shows the three categories of households mentioned above. Households with two or more people and no children are the largest group and increased the most from 2010 to 2019. They represented 43% of all households in the county in 2019, up from 40% in 2010. Households with children grew slightly but declined as a percent of all households, from

29% to 26%. ⁷People living alone also increased somewhat in number and percent, from 31% to 32%.

The shift from households with children to households without children – either living alone or together with other adults – is a long-term trend in the U.S. A report from the Population Reference Bureau states that, “In 1960, 85% of all households contained families, but by 2017, this share had dropped to 65%. Conversely, the share of nonfamily households [more than doubled](#) from 15% to 35% during this period.” It shows the share of people living alone increasing from 13% in 1960 to 28% in 2020.

What a continuation of these trends in household composition might mean for future housing demand is explored below.

- From households with children, stagnant or declining demand for single-family detached homes is anticipated because their numbers are slowly increasing, but their share of total households is declining. Trends indicate that this group will comprise between a fifth to a fourth of all households. In addition, the cost of, and lost income associated with, caring for children reduces the ability of these households to afford to purchase homes. But since homeownership is a priority for them, they may be more likely to travel farther to find an affordable home. They are also likely influenced by perceptions of school district quality.
- People living alone will comprise a third or more of households, and older adults will comprise about a third of this group. As we have seen, most older adults will seek to remain in their homes but over time will

⁷ Families make up 94% of households with one or more people under 18 years. The Census defines families as “a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together.” For the purposes of identifying housing type preferences, this report assumes that the presence of children have the same influence in both families and non-families.

likely need to move. For younger people, affordability and preference may lead to living in multi-family buildings, and perhaps prefer more urban settings.

- Two or more adults living together without children will make up about half of households. They will have mixed preferences for housing. Factors driving them towards single-family detached homes are higher purchasing power due to multiple incomes without child rearing expenses, and the fact that most of them (64%) are married couples who are usually committed to long-term relationships. Factors pushing them away from single-family detached homes are that 36% of them are not married couples and likely unrelated adults living together who may not be in long-term relationships, as well as preferences for walkable communities with amenities, and the time and income to enjoy urban lifestyles. Even if this group prefers single-family homes, the lack of children will likely mean preferences for smaller houses, town homes, and condos.

In sum, declining portions of households with children combined with a slowly increasing portion of single-person households point to reduced demand for single-family detached homes. An increasing portion of two or more people with no children could partially offset that decline in demand depending on their preferences, which may tend towards smaller homes.

Summary of Factors Influencing Future Housing Demand

The information above points to a continuation of housing construction trends over the last couple decades when multifamily housing comprised the majority of new homes. Factors favoring a continuation of mostly multi-family homes, as discussed above, are:

- The growing number of older adults who will be over 75 years of age, a time of life when people increasingly move from the single-

CHART 14 | Regional Development Framework Growth Scenario: Projected Housing Units

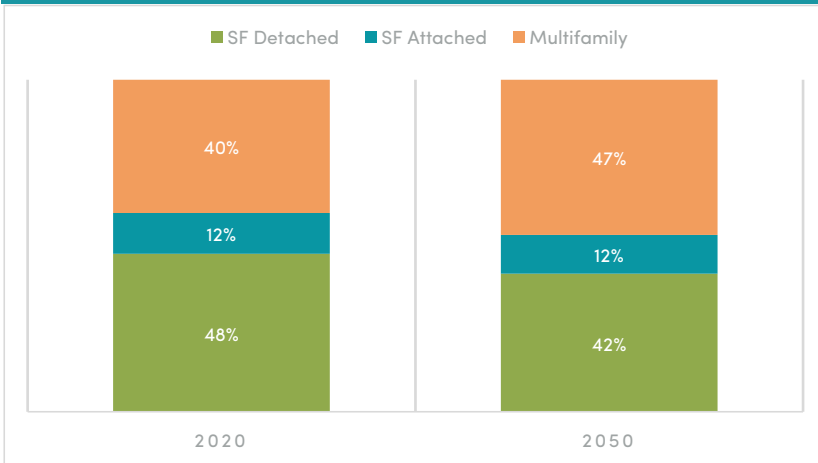


CHART 15 | Regional Development Framework Growth Scenario: Single-Family Detached Units



family home that they own to other living arrangements including living with their children, condos, and independent and assisted living arrangements.

- Despite strong preferences for single-family homes, which have been enhanced by the pandemic due to needs of teleworking and remote schooling, the growing gap between rapidly escalating home prices and incomes reduces the portion of households that can afford new or even existing homes.
- The racial homeownership and wealth gap
 - a product of historic discrimination
 - will further reduce homebuying capacity as people of color continue to account for most population growth.
- Families with children, who are typical purchasers of single-family detached homes, will likely continue to comprise small and perhaps decreasing portions of all households. The shares of people living alone and two or more adults living together, who are less likely to buy single-family homes, are increasing.

Housing in the Regional Development Framework Growth Scenario

As described in the Regional Development Framework report, CARPC created a 2050 growth scenario that placed homes, businesses, and civic buildings in the region to accommodate projected increases in population and employment from 2020 to 2050. The scenario incorporated growth

strategies to achieve Framework goals and objectives.

Some of the strategies employed to create the growth scenario reflect the housing demand trends and factors discussed above. These strategies in particular reflect continued trends towards mostly multi-family housing construction:

- Focus growth in centers and along corridors (42% of homes added to the scenario)
- Prioritize growth in already developed areas (40% of homes added to the scenario)
- Plan complete neighborhoods (which have a wider range of housing types including multi-family)

The result of these strategies was a decline in single-family detached homes and an increase in multi-family homes, as shown in **Chart 14**. Multi-family homes make up 61% of the new units added over the 30-year period. Single-family and attached homes comprise the balance.

The growth scenario further divided single family detached homes into those on large lots and small lots. As **Chart 15** shows, homes on small lots (7,000 square feet and smaller) comprise the minority (31%) of all single-family homes but likely a larger portion than is currently being developed. The scenario anticipates that developments will increasingly build homes on smaller lots in order to keep prices within reach of more families. The Complete Neighborhood strategy includes higher portions of homes on smaller lots.

Appendix D

EQUITY ANALYSIS



The strategies outlined in the 2050 Regional Development Framework will put us on the path to achieving our shared goals, but they can only get us so far. The reality is that major racial and socioeconomic disparities currently exist in our region, and without intervention, they will most likely continue into the future.

In fact, many of these present-day disparities originated with racist, exclusionary, or short-sighted development practices of the past. If we don't take this reality into consideration while carrying out the Framework's strategies, we will fall short of our goal of increasing access to jobs, housing, and services for all people.

Equitable implementation of the Regional Development Framework will require actions beyond land use and development. Applying an equity lens throughout the planning and development process presents an opportunity to create meaningful change.

What is an Equity Lens?

An equity lens is a set of questions to ask while developing plans and policies that help us center equity in our processes and outcomes. Viewing the Framework's strategies through an equity lens allows us to evaluate which populations are most and least likely to benefit from their implementation. With this knowledge, we can then prioritize meaningful engagement and policies and investments that truly promote access to jobs, housing, and services for all.

Why Assess Equity?

The Regional Development Framework provides strategies for the physical development of the region designed to achieve goals and objectives shared across communities. Physical development can increase access to housing, jobs, and services through strategies such as promoting a wide range of housing and transportation choices and bringing housing and jobs closer together. But physical development

alone cannot increase access to opportunities for all. Other considerations beyond the physical must be considered.

Physical development alone is unlikely to significantly increase access to opportunities for people who struggle to get by financially. About one of five, or 122,000 people in Dane County fit this description, as measured by those living at 200 percent of the [federal poverty level](#).

The number of people living in precarious economic situations, however, does not tell the whole story. While most people at 200% of poverty are White, people of color – Black, Latino, Asian, Indigenous, and mixed-race – experience housing and financial instability at far greater rates. In 2019, 43 percent of people living in Dane County had incomes below 200 percent of poverty. Fifty one percent of Black and Latino people had incomes at that level.

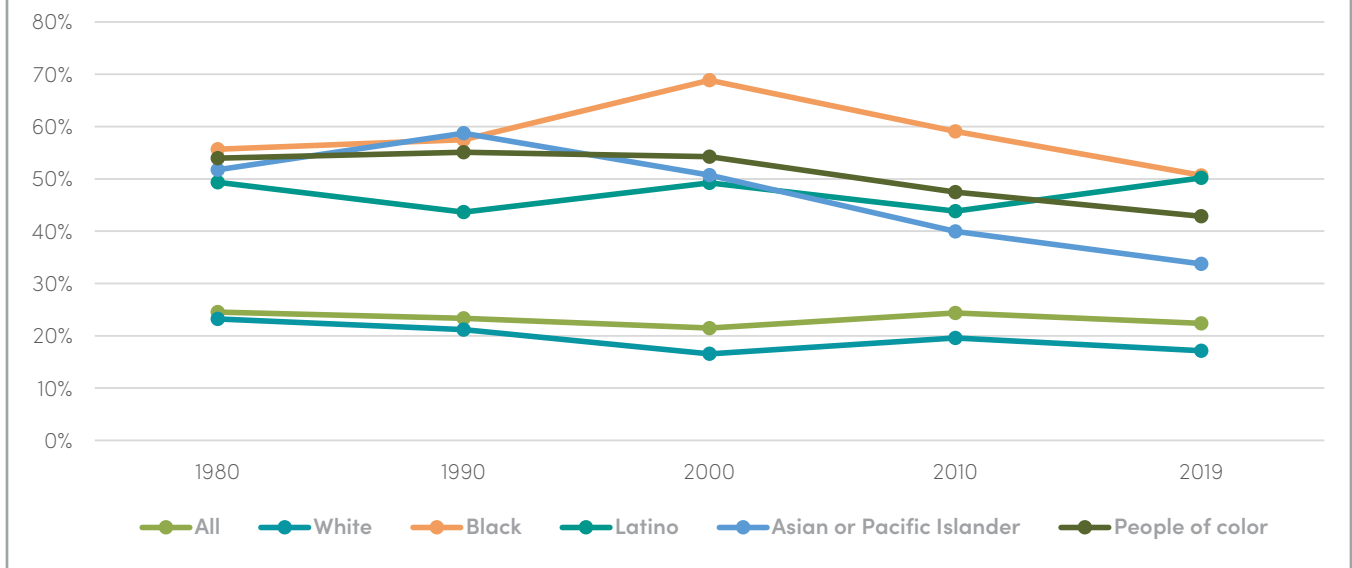
Such economic disparities are largely the result of historic land use, housing, and transportation policies that physically excluded non-white residents from areas with high concentrations of wealth and amenities. While such explicit discrimination became illegal about 50 years ago, current patterns of unequal investment, development, and settlement still reflect those historic practices.

The Regional Development Framework includes the objective to decrease racial disparities to address the present-day outcomes of historic racial discrimination. Two such outcomes directly tied to historic discrimination are racial disparities in homeownership and wealth.

In 2010, 64 percent of white non-Hispanic households in Dane County owned their home compared to 19 percent of African American, 36 percent of Asian non-Hispanic, and 32 percent of Hispanic or Latino households. This disparity is directly related to federal programs that excluded people of color including federally insured home loans, Veterans Administration home loans, racial covenants, and investments in

Dane County Population Below Poverty by Race, 1990 - 2019

Poverty level: 200% | National Equity Atlas



highways serving suburbs that excluded non-white people. These policies and investments propelled millions of white families into the middle class while excluding non-white families.

The racial homeownership gap plays a primary role in the [racial wealth gap](#). In 1963, the average wealth of white families in the U.S. was \$121,000 higher than the average wealth of nonwhite families. By 2016, the average wealth of white families (\$919,000) was over \$700,000 higher than the average wealth of Black families (\$140,000) and of Hispanic families (\$192,000).

It is important to apply an “equity” lens to ensure that Framework strategies benefit people least likely to access new opportunities. This includes those living in housing and financial insecurity, especially people of color who suffered long periods of historic discrimination.

Applying an Equity Lens

Applying an equity lens means identifying and assessing the potential impacts of Framework strategies on those who struggle financially to get by and especially those who are people of color. It means engaging people living in housing and financial instability in strategy design

and implementation. And it means prioritizing approaches and resource allocation to ensure that those with fewer resources and people of color can access new opportunities being created.

Consider the strategy, focus growth in centers and along corridors. This strategy seeks to expand and enhance centers as vibrant places where people can live, work, shop, be entertained and meet and connect with others. It intends to connect centers with corridors that provide a range of travel choices and similar features as the centers.

If successfully implemented, the centers and corridors strategy will create new opportunities for housing, jobs, services, and community. The Framework’s 2050 scenario places 40 percent of new housing and jobs over the next 30 years in centers and along corridors. Those with greater resources will be able to access the new opportunities relatively easily while those struggling to get by will likely find it very difficult.

For example, new housing in growing centers will generally be priced by the market. Applying an equity lens would identify that market rates for new housing is out of reach for those struggling

to get by. For those families, moving to growing centers where new housing, jobs, and services are emerging will be out of reach if only market rate housing is provided. An equity lens would also identify that people currently living in areas designated for new or expanding centers may see their housing and living costs increase because of new investment, which can drive up property values and rents. Residents barely able to afford current rents may be forced to relocate and miss out on the growing opportunities in their neighborhood.

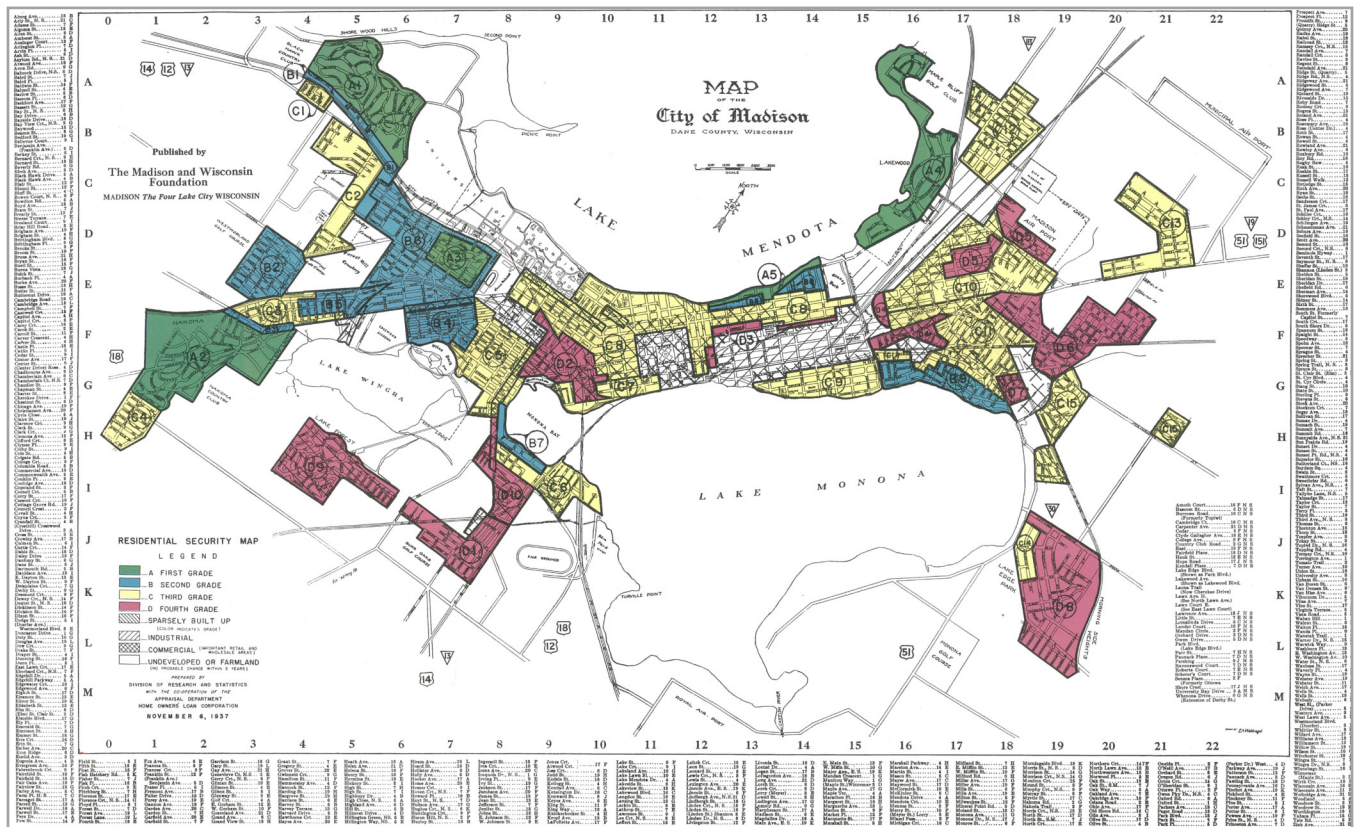
Continuing this example, applying equity lens would entail engaging people unable to access the opportunities within expanding and new centers in the design and implementation of the centers and corridor strategy. This could mean prioritizing investments in workforce and

affordable housing within centers, building wealth for lower-income households through affordable home and business loans, and prioritizing transit service from lower-income areas to new centers.

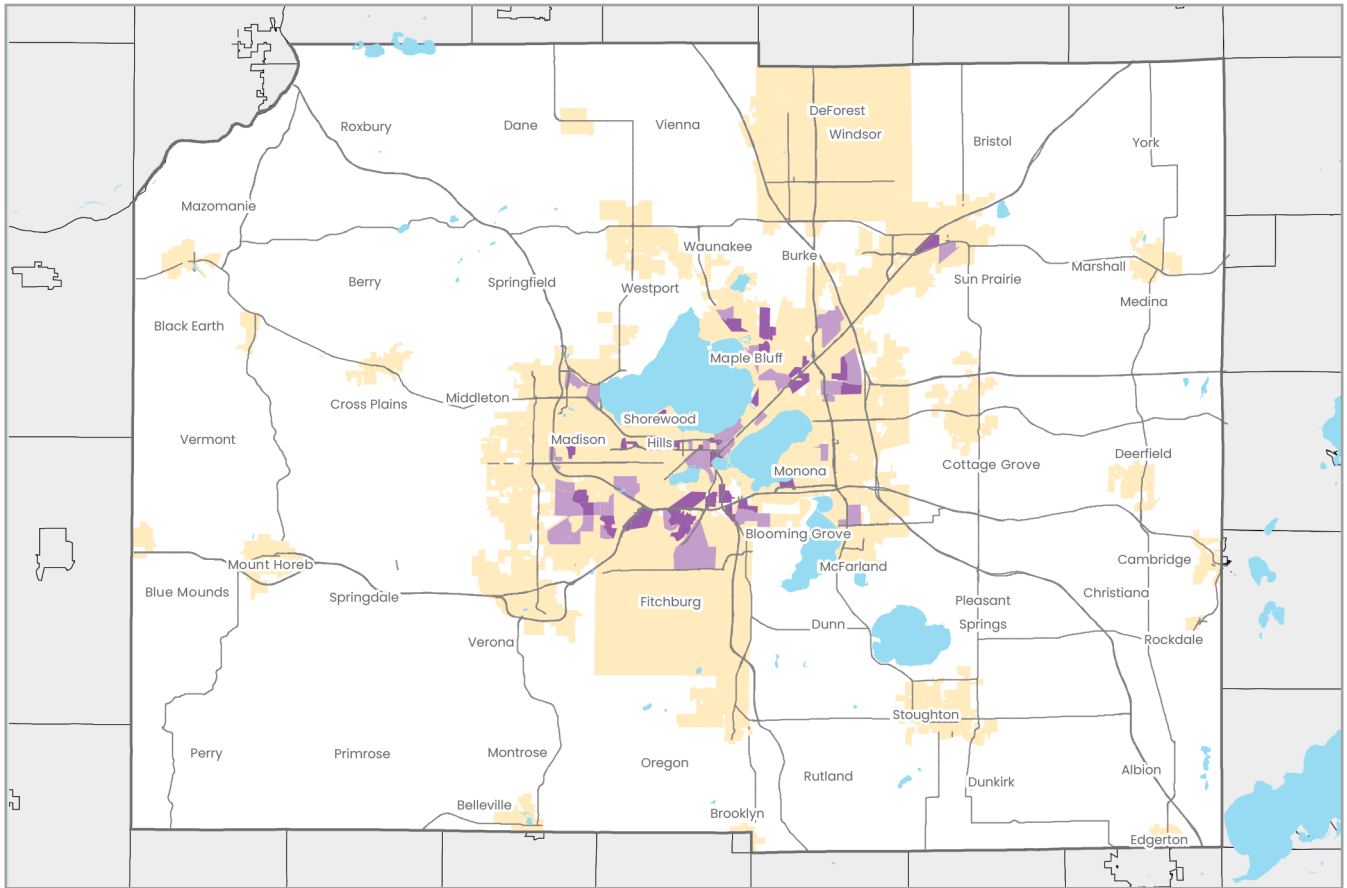
Map Views of an Equity Lens

The above example illustrates how an equity lens might be applied. To see how this approach might be applied regionally, it is useful to look at maps. Maps can show the relationship between where concentrations of people live who struggle financially to get by and where the Regional Development Framework allocates growth according to its strategies.

A caution to this approach is that by focusing on areas with concentrations of economically



“Residential Security Map” created by the Home Owners’ Loan Corporation in 1937 that color coded areas to indicate investment risk. Areas with higher concentrations of minority and low-income residents were shaded red and deemed high risk. Green areas were deemed the lowest risk. These maps reflect the widespread and legal practice of denying home and business loans in minority, and particularly African American neighborhoods, while excluding African Americans and other persons of color from living in areas considered “white-only” such as the green and blue areas above, for example through use of restrictive covenants in property deeds that explicitly stated only white people may occupy the property.



tier 1 environmental justice areas
 tier 2 environmental justice areas
 cities and villages

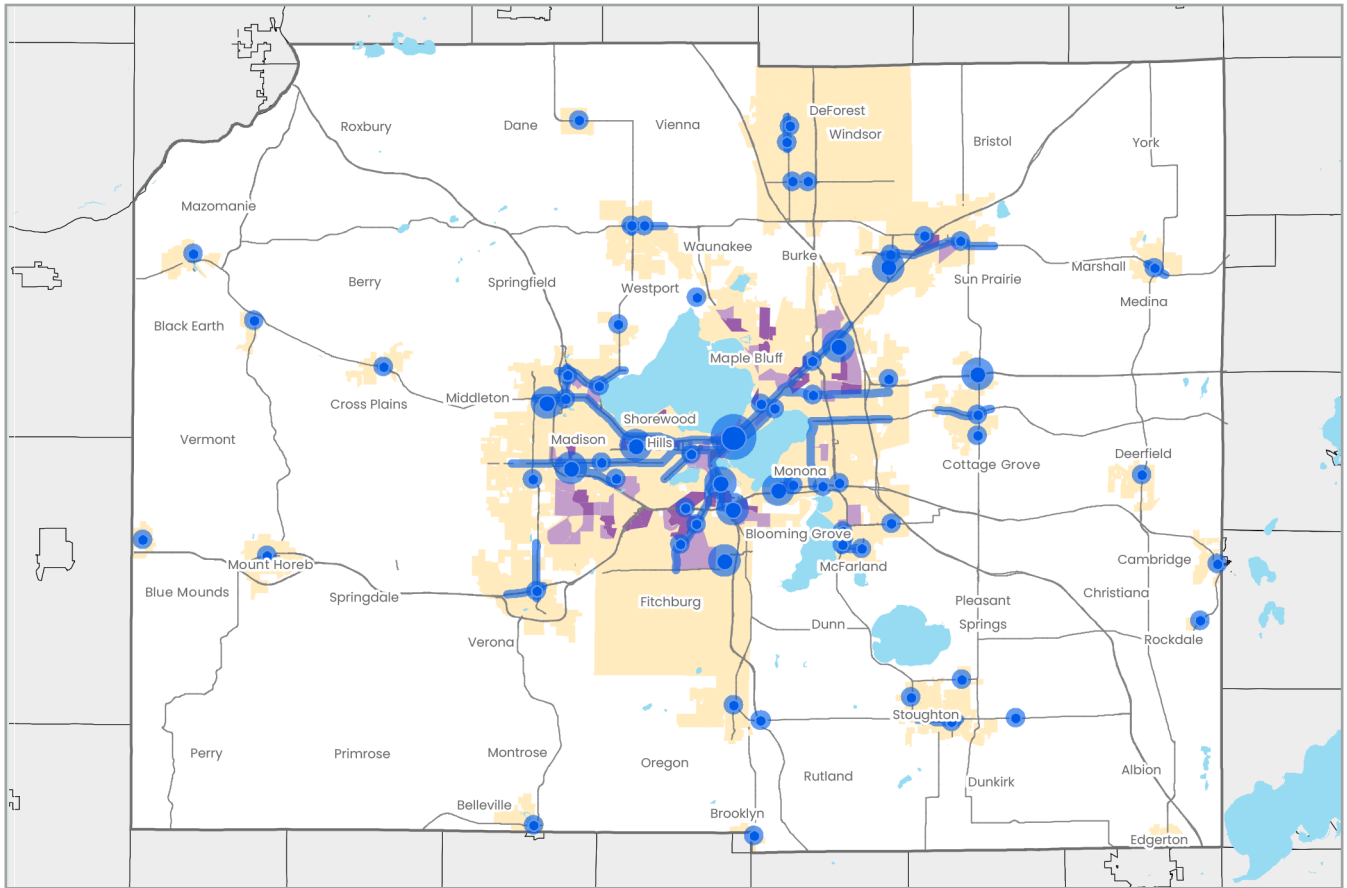
vulnerable and persons of color, one can overlook people struggling financially in other parts of the region. So, while it is useful to compare areas with relatively large numbers of people who are economically vulnerable to areas identified for housing and job investments, it is also important to consider the thoughts and needs of everyone.

To identify where people who struggle financially to get by tend to live, this assessment uses the Greater Madison MPO’s Environmental Justice Analysis (Appendix D of the [2022-2026 Transportation Improvement Program](#)). To comply with requirements under Title VI of the 1964 Civil Rights Act and related Executive Orders, the MPO analyzes the impacts of transportation plans and investments on minority and low-income people. As part of their analysis, they identify and show on maps Environmental Justice (EJ) populations.

The MPO identifies Tier 1 areas with highest concentrations, and Tier 2 areas with moderate concentrations of minority and low-income people (below 150% of poverty level). Their analysis revealed that there is a high correlation between the minority and low-income populations and other EJ indicators including limited English proficiency and zero-car households.

The Tier 1 and Tier 2 areas are shown on the map below. EJ areas are concentrated along the South Beltline Highway, in central Madison, in north and northeast Madison, and in Sun Prairie, Fitchburg, and Middleton.

The next map shows where EJ areas are in relation to the **metro, regional, and community centers** in the Framework’s 2050 scenario. Some EJ areas are located within or adjacent to centers or along corridors in the 2050 scenario. This overlap occurs in central and south Madison,



tier 1 environmental justice areas
 tier 2 environmental justice areas
 center
 corridor

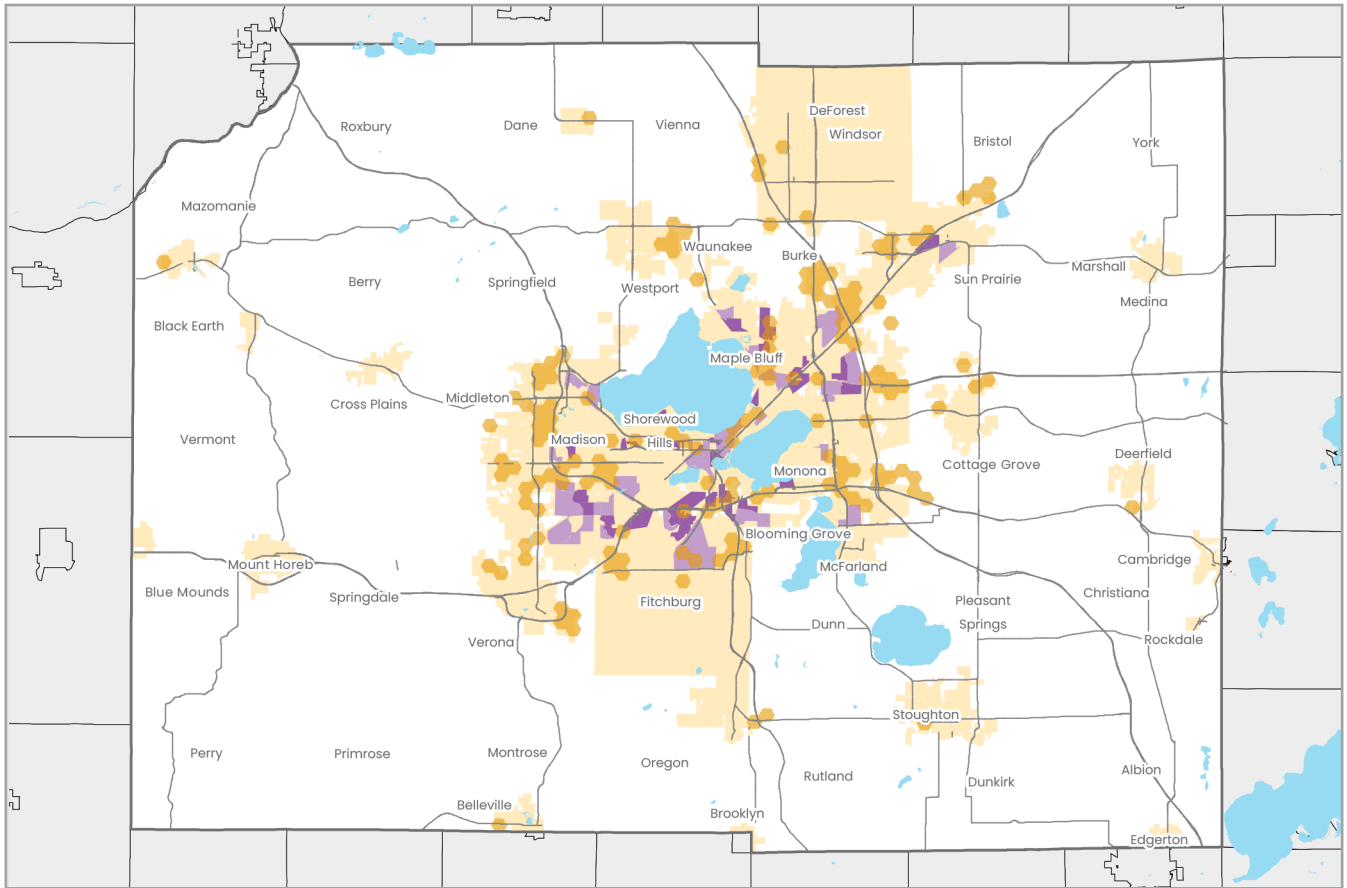
west Madison along the Beltline, northeast Madison, Sun Prairie, Fitchburg, and Middleton. Applying an equity lens to development of those centers will mean engaging area residents and designing and implementing growth strategies such that area residents can continue to afford to live there and access new opportunities.

An example of applying such an equity lens is the 2019 [Equitable Development in Madison](#) report prepared by City of Madison Planning Division. The report provides a more detailed analysis of where people are most vulnerable live and where property values are rising to prioritize and recommend investments.

Other EJ areas are not near planned centers or corridors. This is particularly true for southwest and north Madison, as well as some EJ areas in the far east/northeast area of Madison and smaller EJ areas near Monona and far southeast area of Madison. To access opportunities in new

centers, people in these areas would need to move to or near the centers or have access to affordable and convenient transportation to the centers. An equity lens would examine ways that centers can be developed, and transportation options provided, to ensure access by racially diverse people across the income spectrum.

The following map shows EJ areas in relation to concentrated areas of **job growth** in the 2050 scenario. Overall, the map shows a fair amount of overlap between EJ areas and mapped job growth. This is particularly true in central, south, west and north Madison, as well as in Fitchburg, Middleton, and Sun Prairie. Some of this overlap is the same as within centers, that also include concentrations of employment. In these areas, economic development efforts should engage and benefit people in EJ areas, as well as people struggling to get by throughout the region to consider ways to increase their access to good



tier 1 environmental justice areas
 tier 2 environmental justice areas
 2050 employment districts

jobs being created. Southeast and far east Madison stand out, as well as portions of north Madison, as areas not near job growth areas, where transportation access will be critical.

The map below shows EJ areas in relation to **complete neighborhoods** in the 2050 scenario. The Framework describes complete neighborhoods as new residential areas that include a mix of housing types, walkable streets, parks and civic spaces, and shopping and services. They provide a wider range of housing options, along with walking and biking options and transit where feasible. The brown areas on the map are planned residential growth areas that could, with sufficient attention to planning and development, include complete neighborhood characteristics.

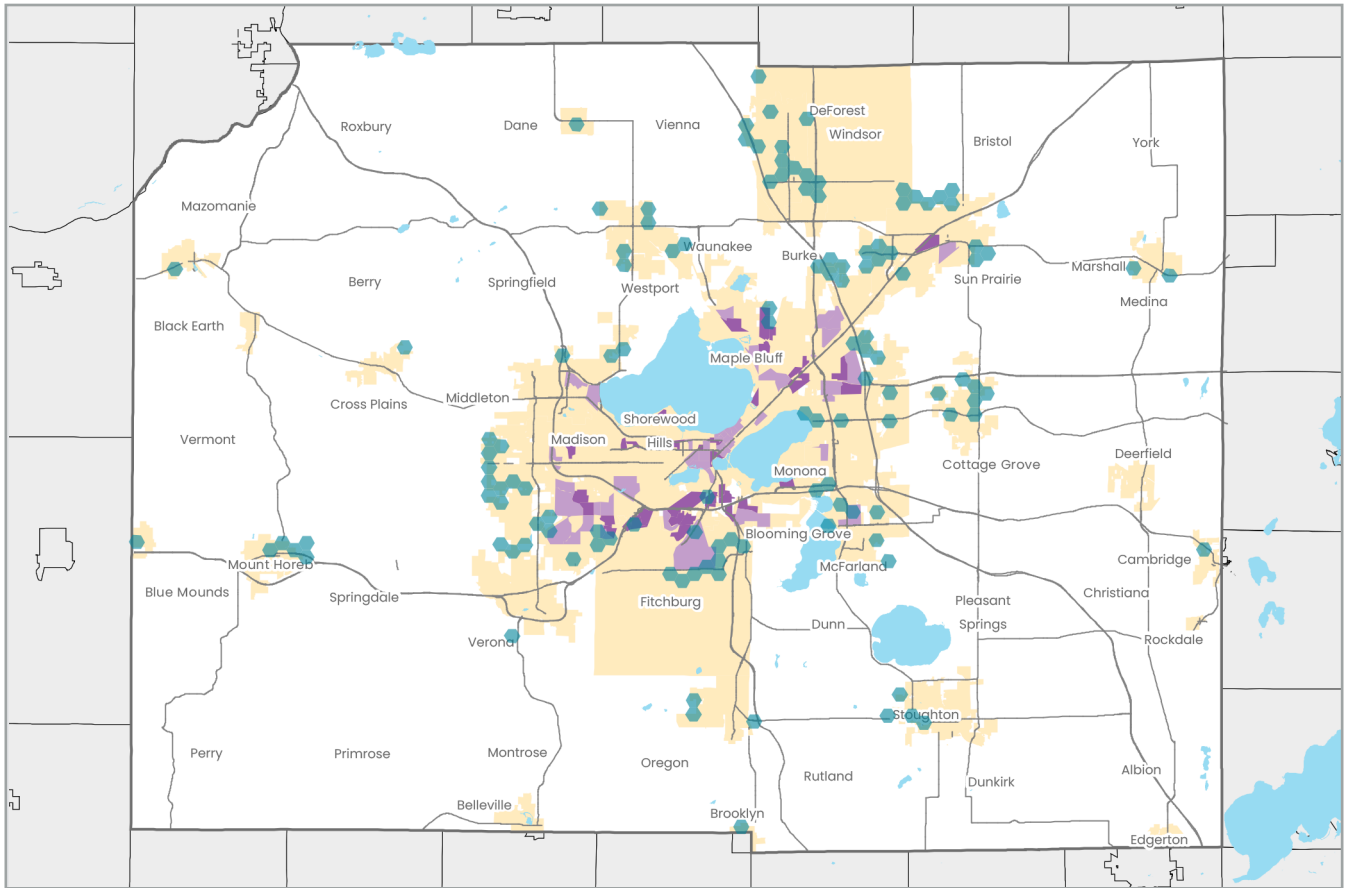
By their nature as new residential areas, the complete neighborhoods in the Framework scenario do not overlap with existing EJ areas.

Nevertheless, complete neighborhoods could be places available to everyone in the region, including those who struggle financially.

Applying an equity lens to complete neighborhood development would mean considering how portions of the housing could be affordable to those who are economically vulnerable and by promoting the neighborhoods as welcoming places for all. This approach, if applied regionally, could open many such opportunities because potential complete neighborhoods are identified for all communities in the region.

Conclusion

In summary, the Framework goal of increasing access to jobs, housing, and services for all cannot be achieved by physical development alone. People who struggle to get by financially, and those with fewer access to resources due to



tier 1 environmental justice areas
 tier 2 environmental justice areas
 potential complete neighborhood

historic racist housing and land use policies, are unlikely to benefit from physical development strategies and may even be harmed by them. An equity lens is needed to evaluate who is likely and not likely to benefit from Framework strategies, to engage those unlikely to benefit in strategy design and implementation, and to prioritize policies and investments that ensure increase to jobs, housing, and services for all.

A geographic analysis that shows where growth in the 2050 Framework scenario occurs, compared to where a lot of people live who struggle to get by, can inform application of an equity lens. At the same time, it is important to recognize the limits of such mapping exercises and consider additional ways to apply and equity lens.

Questions to Consider

- Which groups of people are likely to participate in influencing the outcome of the new development, plan, or policy? Which groups are less likely?
- Who will be most affected by the development, plan, or policy? Are they at the table? If not, how can they be included?
- What specific new opportunities will the development, plan, or policy create? Which groups of people are likely to benefit from these new opportunities? Which groups are unlikely to benefit? Consider economic, cultural, and historic factors.
- Does this development, plan, or policy ignore or worsen existing disparities? Does it produce other unintended consequences?
- How will potential negative impacts of this decision be mitigated?



CAPITAL AREA
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