

Chapter 2

Sustainability

- 2.1 Profile 28
- 2.2 Priorities: Sustainability..... 40
- 2.3 Goals, Strategies & Action Steps: Sustainability 41
- 2.4 Implementation: Sustainability..... 45



Sustainability

2

JOHNSON COUNTY

Johnson County is committed to sustainable development practices and policies. The County has a full-time Sustainability Coordinator, a Soil and Water Conservation Coordinator, and a Local Foods Coordinator. All three positions were created to work internally with other departments, as well as externally with outside agencies, to integrate sustainability into the policies and work environment of Johnson County.

The Johnson County Comprehensive Plan follows the useful and common definition of “*sustainable development*” that was stated in the “Report of the World Commission on Environment and Development: Our Common Future” (p. 41, 1987). Often called the Brundtland Report, after the report’s chairperson, it provides the following definition:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

[section 2.1]

PROFILE

In 2015, the former Planning and Zoning Department was renamed the Planning, Development and Sustainability Department to reflect its commitment to integrating sustainable practices into county planning. That same year, Johnson County created the Sustainability Working Group of Johnson County to enable the county, cities, school districts, University of Iowa, and Kirkwood Community College to share ideas and collaborate on sustainability initiatives. Roadside Vegetation, part of the Secondary Roads Department, as well as the Johnson County Conservation Board, have programs and policies that also affect sustainability in the county.



An overview of County sustainability-related codes, policies, programs, and concerns are provided for the following categories:

Sustainability Policies and Programs (external facing)

- Sensitive Areas, Stormwater Management, and Soil Erosion Control
- Sustainable Land Use Techniques
- Watersheds and Flood Management
- Green Buildings and Renewable Energies
- Local Food Production
- Sustainability Grants Program for Nonprofit Organizations
- Public Parks and Environmentally Sensitive Areas (ESAs)

Special Environmental Concerns

- Flooding
- Drought
- Soil and Water Quality
- Invasive Species

Sustainability for County Operations and Facilities

- Green Buildings and Energy Efficiency
- Renewable Energy
- Stormwater Management
- Climate Change Response
- Resource Reduction, Reuse, and Recycling
- Employee Engagement and Education
- Transportation and Roads

SUSTAINABILITY POLICIES & PROGRAMS

Sensitive Areas Ordinance

Within the Johnson County Unified Development Ordinance (UDO), the Sensitive Areas Ordinance in effect at the time this comprehensive plan was published works to “...ensure that the development of land protects and preserves areas defined as ‘sensitive.’” The ordinance defines what areas are considered environmentally sensitive:

- Critical Wildlife Habitat
- Floodplain and Floodway
- Historic Properties
- Prairies and Prairie Remnants
- Savanna and Savanna Remnant
- Stream Corridors
- Unstable Landforms
- Wetlands
- Woodlands

Stormwater Management

Stormwater can pose a risk to Johnson County's water resources. Pollutants such as sediment, nitrates, and bacteria accumulate on impervious surfaces between rainfalls. Then rains wash these pollutants into streams, rivers, and lakes. These pollutants negatively impact water quality. Excessive stormwater can also adversely affect infrastructure, weakening bridges and damaging environmentally sensitive areas.



*LEFT: An example of permeable pavement, which helps reduce stormwater runoff.
RIGHT: Cover crops can help reduce soil erosion and contribute to soil health.*

Stormwater Management Ordinance

In 2011, the Johnson County Board of Supervisors adopted an updated Stormwater Ordinance to ensure more sustainable management standards and designs for stormwater runoff. All subdivisions, commercial and industrial development, conditional use permits on agriculturally zoned parcels, and manufactured housing park development are required to comply with the county's Stormwater Management regulations. Johnson County requires the management of water quality and quantity through practices that allow more rainfall to infiltrate into the ground or be stored for other purposes (e.g. water retention, irrigation). The County follows the unified sizing criteria as outlined in the Iowa Stormwater Management Manual.

Education and Resources

Residents can access stormwater resources online at www.johnson-county.com/stormwater. The site includes a link to Iowa Flood Center real-time flooding and water quality data for the area. There are also links to maps of the watersheds of Johnson County, an application for a soil test, and a request form for a rainwater audit from the Johnson County Soil and Water Conservation District.

Soil Erosion Control

Soil erosion and slope preservation are protected features in the Johnson County Unified Development Ordinance. Per the code relating to stormwater runoff, the stormwater system guidelines prohibit development-caused stormwater discharges that erode natural channels or steep slopes. Any design must be approved by a licensed engineer. Certain soils are also protected under the Sensitive Areas Ordinance.

The Johnson County Soil and Water Conservation District provides several rural and urban services. Landowners can request a site visit from a conservationist and receive help applying for state and federal cost-share and incentive programs. The district also works on several projects related to watershed planning and management.



Sustainable Land Use Techniques

To support sustainable development, Johnson County has several land use planning techniques and regulations within its Unified Development Ordinance.

Rural Conservation Zoning

The Rural Conservation Zoning District exists to “encourage the protection and conservation of open space, as well as agricultural, environmental, and historically significant features by grouping or clustering residential lots on land suited for development, and preserving a minimum 50% of the land to be subdivided for open space.” When used and cited appropriately, Rural Conservation zoning can accommodate growing demand for housing by encouraging clustered, higher density residential development, while preserving environmental features and agricultural land.

Density Bonuses

Density bonuses allow developers to build at a higher density than the legal maximum density in exchange for certain amenities or reduced regulations. This helps builders manage costs, and the county benefits because more land remains as perpetual open space. Johnson County allows for density bonuses if no less than fifty percent (50%) of the residential development is permanently designated as open space or limited use agriculture.

Watershed Management & Flood Mitigation

Watershed Management

In 2016, the Board of Supervisors began to actively engage with the Clear Creek Watershed Coalition and participate in the Iowa Watershed Approach. This program includes eight other watersheds within Iowa. The coalition has received nearly \$4.5 million, including funds to construct ponds, wetlands, terraces, and other features that reduce water quantity and improve water quality. In 2017, the Board of Supervisors became members of the English River and Lower Cedar Watershed Management Authorities.

Floodplain Management

The floodplain management ordinance helps prevent property loss or damage for residents and enhances stream health. If a tract of land to be subdivided includes floodplain areas, they should be included within outlots or preserved as open space to utilize natural green infrastructure for flood control. See Environmental Concerns later in this chapter for more discussion on flooding.

Green Buildings & Renewable Energy

Green Building Certification Program

In addition to owning Leadership in Energy and Environmental Design (LEED) certified buildings, Johnson County offers a program for recognizing builders or developers who practice and integrate sustainable building and development techniques for single-family homes in the unincorporated areas. Program information is available online at www.johnson-county.com/greenbuild.



Small Wind Farm Innovation Zone

The Iowa Utilities Board has recognized the unincorporated areas of Johnson County as a Small Wind Farm Innovation Zone. This recognition allows unincorporated Johnson County property owners the ability to apply for renewable energy tax credits and take advantage of an expedited application process for connecting wind energy to the local electric utility grid.

Solar Permitting

From 2015 to 2017, the county improved the process for solar array permitting. Checklists and other guidance are now provided online. An ordinance amendment in 2017 ensured that solar is allowed as an accessory use in all zoning districts. In addition, Building Services streamlined the application process to three days for approval of a non-utility scale installation. They also streamlined the utility-scale inspection process. In 2017, Johnson County earned SolSmart Gold for its solar improvement efforts.



ABOVE: Farmers Electric Cooperative's utility-scale solar array located near the unincorporated village of Frytown. This solar farm is one of the largest in Iowa. (Photo credit: Farmers Electric Cooperative)



Local Food Production

Johnson County is dedicated to expanding the availability of local food across the county. The county believes the unique merging of rural and urban landscapes creates a perfect environment for a local food initiative to flourish. In 2015, Johnson County added a full-time staff person responsible for local food initiatives—the Local Foods Coordinator.

One major achievement of the Local Food Initiative in Johnson County was the passing of a poultry processing ordinance in 2016. The ordinance allows up to 999 birds to be raised, slaughtered, and processed annually on agriculturally zoned parcels, provided the birds are sold only to household consumers.

Food Policy Council

The Food Policy Council's mission is to “improve dialogue and discussion, provide necessary advice on food and agriculture issues to the county, municipalities, community boards, nongovernmental organizations, businesses, and other interested groups.” Each year, the Food Policy Council puts together a recommendation report for the county and hosts educational forums. Recommendations have included addressing production and sales obstacles, market strengthening, and increased County involvement.

Johnson County Historic Poor Farm

The Johnson County Historic Poor Farm is a 160-acre property located in west Iowa City. The county-owned property was originally a facility for people with disabilities.

In 2015, this National Register of Historic Places site began a master planning process to determine how best to utilize the Historic Poor Farm in the years to come. Two local nonprofit organizations, Grow Johnson County and Iowa Valley Global Food Project, started to farm a portion of the land in 2015 and 2017, respectively. Both organizations provide fresh food for hunger and relief agencies. Grow Johnson County produced 12,000 pounds of food in 2016 and 27,500 pounds in 2017.

Sustainability Grants Program for Nonprofits

The Sustainability Grants Program for Nonprofits helps certain local agencies make their buildings, operations, and other aspects of service provision more sustainable and reduces costs. Johnson County also provides technical guidance to assist organizations in realizing project goals and making sustainability an ongoing part of operational decisions.

In its first two years (2016-2017), the program distributed nearly \$43,000 for projects such as changing to LED bulbs, improving insulation, upgrading windows, and replacing inefficient air conditioning.

Public Parks & Public Environmentally Sensitive Areas

Residents and visitors can enjoy numerous parks, prairies, and river access areas including the Johnson County Conservation Education Center in F.W. Kent Park, staffed by several naturalists. The Johnson County Conservation Board helps acquire environmentally sensitive land. An in-depth discussion of the conservation board’s work is discussed in Chapter 4: Infrastructure & Amenities.



ENVIRONMENTAL CONCERNS

Within Johnson County, there are several environmental issues of ongoing concern: flooding, drought, soil and water quality issues, and invasive species. Many environmental concerns, such as flooding and drought, can be caused by individual or a series of extreme weather events—as of November 2017, there have been 21 Stafford Act Disaster Declarations made in Johnson County (among the most declarations in counties in Iowa).

While severe weather events can naturally occur, the changing climate contributes to increased frequency and severity of weather events and related impacts such as sea-level rise. *The Climate Science Special Report: Fourth Assessment Volume I* (2017) states that evidence strengthens “the conclusion that Earth’s climate is changing at a pace and in a pattern not explainable by natural influences.” The report, produced by the U.S. Global Change Research Program, draws on the findings of thousands of peer-reviewed scientific investigations.

Addressing environmental and climate concerns will help protect and restore ecosystem services. These are services that occur naturally and provide benefits such as flood mitigation, water purification, waste decomposition, and pollination. Protecting these services can help maintain and enhance the quality of life for future generations.

Flooding

Johnson County has several large streams, rivers, and reservoirs located in its jurisdiction. However, the environmental, recreational, and aesthetic benefits of these water features must be balanced with protecting the public from the negative impacts of flooding, which is a significant issue in Johnson County.

Flood Hazard Areas

Many portions of Johnson County are within a designated floodplain as outlined by the Federal Emergency Management Agency (FEMA). FEMA’s Risk, Mapping, Assessment, and Planning program oversees the creation of official flood hazard information used in the National Flood Insurance Program (NFIP).

The Special Flood Hazard Area (i.e. 100-year Floodplain) includes areas with a 1% annual chance of flooding in any given year, which means the likelihood of a flood event over a 30-year home mortgage is 26%. The 500-year Floodplain covers areas with a 0.2% annual chance of flooding in any given year.

The Iowa River, the Cedar River, and many creeks pass through the county, creating large areas of 100-year and 500-year floodplains. Most of the tributaries of the Iowa River such as Old Man’s Creek, Snyder Creek, Ralston Creek, Clear Creek, among others, also have areas of floodplain surrounding them.

Drought

Drought can involve lack of precipitation, decline in surface and ground waters, lack of soil moisture, and/or water shortages that affect people. Johnson County experienced significant drought in 2003 and 2005 that resulted in nearly \$31 million in reported crop damage. Severe drought occurred in 2012 that caused even more damage than one of the worst droughts, which occurred in 1988. The Johnson County Multi-Jurisdictional Hazard Mitigation Plan (2014–2019) states that widespread drought could seriously damage 25–50% of property, primarily crops. Other impacts can include affected animals and other wildlife, fire suppression challenges, and the availability of drinking water or manufacturing water. Given its potential effects on agriculture, the economy, and public health and safety, the County endeavors to consider drought as it creates plans and policies.



Soil and Water Quality

Water quality is an important issue throughout Johnson County. The County builds valuable relationships with watershed stakeholders and collaborates with other public entities to enhance and protect water quality in an effort to ensure that residents have access to safe water for drinking, household use, and outdoor recreation.

Nonpoint Source Pollution

Nonpoint source (NPS) pollution is caused by rainfall or snow melt moving across and through the ground. As runoff occurs, it carries natural and human-made pollutants into creeks, rivers, lakes, and ground water. Nonpoint pollutants sources can include:

- Sediment and pathogens from agriculture, improperly managed construction sites, eroding stream banks, residential and urban areas, and forest lands;
- Fertilizer, herbicides, and insecticides from agricultural, residential, and urban areas;
- Oil, grease, and toxic chemicals from urban runoff and energy production;
- Bacteria and nutrients from livestock operations, pet waste, and faulty septic systems; and
- Atmospheric deposition, stream channelization, and habitat alteration.

As NPS pollution is dependent upon the land uses within a watershed, the effects of NPS pollution can vary. Despite that, these pollutants have harmful effects on drinking water supplies, recreation, fisheries, and wildlife. Johnson County will continue to build partnerships and create awareness of best management practices within our watersheds.

Given the presence of both urban areas and rural agriculture in Johnson County, it is important to understand the role that both urbanized areas and agriculture play in water quality issues. Urban areas create more impermeable surfaces from which stormwater can run off into streams and tributaries, picking up pollutants along the way. Improperly managed construction sites are also a large source of urban pollutants in streams. There are several best management practices (BMP) for site development that can help decrease urban contributions of nonpoint source pollution.

Farmers can use BMPs, such as those in the Iowa Nutrient Reduction Strategy (NRS), to reduce the introduction of nonpoint pollution into the water system. Some of the BMPs used by Iowa farmers include no-till, cover crops, diverse crop rotation, filter strips, wetlands, ponds, and terraces, to name a few. Despite these efforts, water quality and agriculture remain an important topic.

As previously noted, Johnson County has been proactive in addressing stormwater management issues throughout its 2011 Stormwater Management Ordinance and subsequent 2016 amendment requiring all development to provide a stormwater management plan, unless given an exemption by the Planning, Development and Sustainability Department.

Wastewater Management

More than one in five households in the United States depend on an individual on-site septic system or small community shared cluster system to treat their wastewater. These systems are used to treat and dispose of relatively small volumes of wastewater, usually from houses and businesses that are located relatively close together. Decentralized, private wastewater treatment, if properly implemented, can protect public health, preserve valuable water resources, and maintain economic vitality in a community. They are a cost-effective and long-term option for treating wastewater, particularly in less densely populated areas. Johnson County Public Health is responsible for



ensuring private sewage disposal systems comply with current state and local regulations. Johnson County Public Health has been proactive in addressing private wastewater system densities, protecting sensitive areas in the county through density requirements enacted by the Board of Health in 1968.

Invasive Species

Invasive species are plants, animals, or pathogens that are non-native to the ecosystem under consideration and whose introduction causes or is likely to cause harm (USDA National Agricultural Library). Introduced primarily through human intervention, invasive species can damage the environment, the economy, and human health. Invasive species can prey on or out-compete native species for food and habitat, cause or carry disease, such as West Nile Virus, and prevent native species from reproducing.

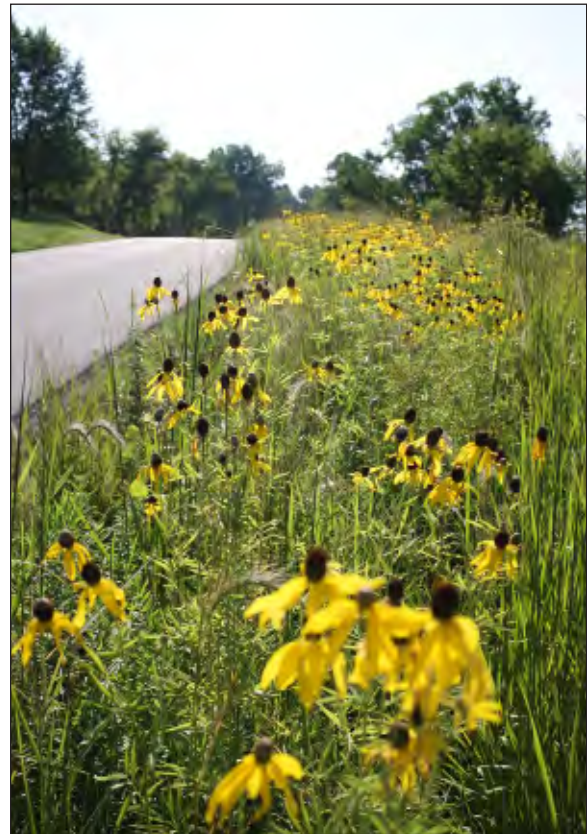
Invasive Weeds

The prevalence of invasive noxious plant/weed species is of great concern in the county. Preventing the spread of invasive noxious weeds will help protect the biodiversity of Johnson County. Johnson County has a County Weed Commissioner, who enforces the Iowa Noxious Weed law and educates the public about native versus invasive plants and weeds.

Roadside Vegetation, a program within the Secondary Roads Department, actively plants long-lived perennials to out compete weeds, control soil erosion, and reduce stormwater runoff along county right-of-way. By summer 2017, an estimated 400 acres of county roadside had been planted with a sustainable prairie planting mix of 37 plants grasses, sedges, and wildflowers including three types of milkweed. The plantings help provide habitat for wildlife and food for pollinators.

Emerald Ash Borer

Johnson County is one of thirty counties in Iowa now affected by the emerald ash borer, which has been found in almost all of eastern Iowa. The green beetle, which kills virtually all ash trees it infects, was imported to the U.S. from Asia around 2002 and detected in Iowa City in 2016. The easily transportable pest is on the radar of County preservation efforts. In addition to the loss of ash trees, affected communities must deal with the disposal of infected tree debris.



ROADSIDE VEGETATION: By 2017, an estimated 400 acres of Johnson County's roadsides had been planted in a sustainable prairie planting mix.



SUSTAINABILITY FOR COUNTY OPERATIONS & FACILITIES

Green Buildings & Energy Efficiency

Johnson County ensures green buildings and energy conservation and efficiency for its facilities through strategic planning by the Board of Supervisors and action by the Planning, Development and Sustainability Department in conjunction with Physical Plant.

In 2011, MidAmerican Energy conducted energy audits of seven Johnson County buildings and installed several energy-saving devices. Since then, County facility energy projects and new construction regularly participate in MidAmerican energy efficiency and rebate programs.

The 2014–2016 County Strategic Plan included five energy-related goals with the following results:

1. Complete energy-efficiency and renewable energy projects.
 - Major heating, ventilation, air conditioning, and lighting projects completed, garnering just over \$500,000 in rebates as of November 2017. Energy tracked through the Iowa B3 Benchmarking Program.
2. Set Sustainable Capital Project Standards.
 - Adopted in 2014 to require county projects greater than 2,000 conditioned square feet to pursue LEED certification or similar standards.
3. Create an internal fund for energy efficiency and renewable energy projects.
 - Established in 2014 and used to complete projects such as LED lighting, water bottle filler stations, soil quality restoration, and support for hybrid vehicles.
4. Reduce energy load of office and other equipment.
 - A review led to guidance on best practices for energy conservation.
5. Prepare feasibility reports on and start renewable energy projects.
 - The county was able to forgo such a study and began installing solar arrays in 2014; by 2016 a total of 330 kW had been installed at three sites, and more were planned.

Johnson County renewed its commitment to energy efficiency and other sustainability practices in its 2017–2018 Strategic Plan with these goals:

- Continue to reduce paper use.
- Increase energy coming from renewables.
- Reduce energy use.
- Follow adopted policies pertaining to sustainability.
- Create a stormwater management plan for each County facility.
- Monitor efficiency of fleet vehicles.



Renewable Energy

In 2014, the County issued its first request for proposals for a solar photovoltaic project and since then has greatly expanded the use of solar for County facilities. The County also has been a leader in providing guidance to other counties, cities, and agencies looking to add solar to their facilities.

Solar energy use by the County includes a total of 330 kW in arrays at the Secondary Roads and SEATS campus, the Administration Building, and the Health and Human Services Building. At the time of plan adoption, an additional 67 kW was being added to the Ambulance Service and Medical Examiner Facility, which will bring the total onsite solar PV energy used by County buildings to nearly 400 kW. In addition, in 2016, the County paid for 20 modules at the Farmers Electric Cooperative Solar Garden, which generates power, adds it to the electrical grid, and gives the county a monthly credit for two County sheds.

Stormwater Management for County Facilities

In 2013, the County created and adopted the Johnson County Property Stormwater Plan to address current infrastructure and make recommendations for future site designs on County property. The report incorporates Best Management Practices (BMPs) and guides the Johnson County Soil and Water Conservation Coordinator in creating specific stormwater management plans for County-owned property. Building-specific stormwater plans are being developed for each County building. A rejuvenated bioretention cell near the Administration Building helps remove pollutants in stormwater from parking lot runoff.



The addition of a solar array in 2016 to serve the Administration Building included a soil quality improvement project: deep-tine aeration with a layer of compost added and then seeding for a low-grow grass. Now, the soil can better capture stormwater with less mowing and reduced greenhouse gas emissions.

In 2016, the Administration Building solar array and soil quality improvement project earned the 1000 Friends of Iowa Innovative Leadership award.

Resource Reduction, Reuse, and Recycling

Johnson County has several policies and programs in place to achieve resource reduction, reuse and recycling for its own facilities:

- Recycling, including of batteries and printer cartridges
- Composting at special events since 2014 and routinely in select buildings since 2017
- Green office supply purchasing and online surplus store to share items



Climate Change Response

The County adopted a Greenhouse Gas (GHG) Reduction Plan in 2009. With changes in GHG protocols, the County has not conducted an inventory since 2010 but aims to complete one by 2019. As previously noted, sustainability goals for County operations are part of strategic planning.

In June 2017, the Board of Supervisors passed a resolution to support the Paris Climate Agreement, which aims to prevent global temperatures from rising and raised awareness through social media campaigns: @County4Climate and #Counties4Climate.



RENEWABLE ENERGY: By November 2016, Johnson County had added 330 kW of solar photovoltaic arrays to several of its facilities, including the Administration Building and the Health and Human Services Building (both pictured above), and Secondary Roads and SEATS campus.

Employee Engagement & Education

The Green Team meets monthly to discuss sustainability ideas for the county. The team helps host educational events during Earth Week and Bike Month and regular programming on topics such as electric vehicles. Employees receive a Green Guide on sustainability practices for operations. In addition, the Johnson County Employee Handbook reflects a commitment to sustainability.

Transportation & Roads

Johnson County SEATS is adding hybrid vehicles to its fleet, and its drivers are trained on how to reduce gas use and vehicle wear-and-tear. The County also is adding hybrid and electric vehicles to its general fleet.

Two shared bicycles are available for employees to use for meetings. In 2017, the League of American Bicyclists awarded the county downtown campus a Gold Bicycle Friendly Business Award. To encourage the use of mass transit, employees may purchase bus passes at a discounted rate. Information on bicycle commuting as well as trails is provided in the Infrastructure section of this plan.

The Secondary Roads Department regularly repurposes materials. In 2017 they reused three railroad flatcars to make a strong bridge for the Lower West Branch Road, keeping an estimated 100,000 pounds of steel out of the scrap yard. The department uses tons of recycled materials to repave roads, such as Wapsi Avenue, garnering a Green Product Usage Award.



[section 2.2]

PRIORITIES: SUSTAINABILITY

Priorities were determined based on public input, feedback from the Board of Supervisors, and input from the Comprehensive Plan Committee (CPC). A full summary of input is included in Appendix B contained in Volume 2 of this plan.

PRIORITIES

It is clear sustainability is very important to the public and elected officials of Johnson County. The County has made it a point to adhere to sustainability principles through its internal operations, as well as the policies and programs enacted over the years. These efforts help Johnson County continue to be an attractive place to live, work, and recreate. The following key themes were used to draft the goals and strategies for Johnson County's future:

Preserve Natural Resources

A theme throughout many conversations was the need to preserve Johnson County's environmentally sensitive areas and farmland from sprawl or unwanted residential growth in the rural areas of Johnson County. Key strategies to accomplish this goal are to look within the incorporated cities and unincorporated villages to identify development areas that minimize or, in some cases, eliminate opportunities for sprawl elsewhere. Redevelopment on infill lots within cities can also accomplish this goal; however, the County has no jurisdiction over development in the cities.

Environmental Disaster Resiliency

Over the years, Johnson County has experienced flooding, drought, and other environmental hazards that have impacted lives of many residents. Putting appropriate planning and zoning policies in place can reduce the impact of these events on structures and people. To that end, Johnson County has implemented many policies; however, they must be updated on a regular basis in response to new information and the changing environment.

Leader in Green Practices

Johnson County provides soil and water conservation services to homeowners and businesses, and guidance on solar installations. A sustainability grants program provides funding and technical assistance for nonprofit groups to compile energy efficiencies and other projects. However, there is opportunity to increase public awareness and education about sustainability as the County models best management practices. Creating new partnerships and seeking out new ways to share the benefits of these programs is one way to accomplish this goal.



[section 2.3]

GOALS, STRATEGIES & ACTION STEPS: SUSTAINABILITY

All goals, strategies, and action steps were developed based on the priorities discussed above and the information collected through the public input process, input from the Comprehensive Plan Committee (CPC), and feedback from the Board of Supervisors. To see a summary of input (including survey results) regarding Sustainability, please see Appendix B in Volume 2 of this plan.

DEFINITION: Below are definitions of each term and how they will be used in the Implementation Plan section of the comprehensive plan.

- **Goal:** A desired outcome based on the values of the public and elected officials.
- **Strategy:** The approach you take to achieve a goal.
- **Action:** The specific steps you take to achieve a strategy.

FORMAT: Each goal (e.g. SUST 1) is presented with corresponding strategies (e.g. Strategy 1, Strategy 2) and action steps (e.g. Action 1, Action 2).

SUSTAINABILITY 1 – This is an example of a Goal’s formatting.

Strategy 1 – This is an example of a Strategy’s formatting.

Action 1 – This is an example of an Action Step’s formatting.

Action 2 – This is an example of an Action Step’s formatting.

Action 3 – This is an example of an Action Step’s formatting.

SUSTAINABILITY 1 – Support and implement sustainability strategies that preserve natural resources.

Strategy 1 – Revise building permit procedures to improve on-site resource protection.

Action 1 – Create top soil preservation rules.

Action 2 – Update soil erosion control regulations to require erosion control on certain building permits for new structures.

Action 3 – Create an inspection procedure for sensitive areas, stormwater, topsoil preservation, and soil erosion control for all development sites.

Strategy 2 – Foster the development of watershed and water quality plans.

Action 1 – Continue to participate in Watershed Management Authorities and collaborate with local experts.

Action 2 – Incorporate best management practices into stormwater management.

Strategy 3 – Support and encourage a sustainable agricultural system by working with partners.

Action 1 – Encourage in-field and edge-of-field best management practices on lands used for row crop production.



SUSTAINABILITY 2 – Develop and/or coordinate with local and regional hazard mitigation, resiliency, and climate change planning.

Strategy 1 – Review and help update the Johnson County Multi-Jurisdictional Hazard Mitigation Plan 2014–2019.

- Action 1 – Consider how the plan’s requirements affect other county goals.
- Action 2 – Promote greater coordination between the county, city governments, and other organizations.
- Action 3 – Contribute to and comply with future plans as they are created.
- Action 4 – Integrate future hazard mitigation plan findings and policies into plans and projects related to land use, transportation, climate change, sustainability, natural and cultural resource protection, watershed management, and economic development.

The *Johnson County Multi-Jurisdictional Hazard Mitigation Plan 2014–2019 (HMP)* is intended to (1) identify how a community can minimize death, injury, property damage, and community disruption caused by natural, human caused, or combination hazards, (2) use a proactive rather than reactive approach to reduce the negative impacts of potential hazards, and (3) maintain eligibility to apply for Hazard Mitigation Grant Program funding, which is available after a federal disaster declaration is issued in Iowa. The plan covers all areas of Johnson County including both rural areas and incorporated cities. Below is a list of hazards both natural and human caused/combination covered in the Johnson County Multi-Jurisdictional HMP:

NATURAL DISASTERS

- Tornadoes
- Windstorms
- Extreme Heat
- Hailstorms
- River Flooding
- Sink Holes
- Grass or Wild Land Fire
- Severe Winter Storms

- Drought
- Earthquakes
- Landslide
- Expansive Soils
- Levee Failure
- Dam Failure
- Thunderstorm & Lightning

HUMAN CAUSED/ COMBINATION

- Human Disease
- Hazardous Materials
- Transportation Incident
- Infrastructure Failure
- Terrorism
- Radiological
- Animal/Plant/Crop Disease

Strategy 2 – Discourage development in flood-prone areas.

- Action 1 – Use, and educate the public about, Federal Emergency Management Agency (FEMA) digital Flood Hazard Maps and local floodplain regulations.
- Action 2 – Consider updates to the Floodplain Development Regulations to improve protection from flood damage.
- Action 3 – Adopt the Iowa Department of Natural Resources (IDNR) latest model floodplain ordinance with considerations specific to Johnson County.
- Action 4 – Establish best management practices.
- Action 5 – Secure membership in the National Flood Insurance Program (NFIP) Community Rating System (CRS) or equivalent program.



WHAT IS THE COMMUNITY RATING SYSTEM (CRS) PROGRAM? This program recognizes and encourages community floodplain management activities that exceed the minimum National Flood Insurance Program (NFIP) standards. Depending upon the level of participation, flood insurance premium rates for policyholders can be reduced up to 45%. Besides the benefit of reduced insurance rates, CRS floodplain management activities enhance public safety, reduce damage to property and public infrastructure, help minimize economic disruption and losses, reduce human suffering, and protect the environment in the event of a flood. Participating in the CRS provides an incentive to a community to maintain and improve their floodplain management program. Iowa City and Coralville are two communities in Johnson County that were CRS rated at the time that this plan was adopted. In addition, Linn County had a CRS rating.

Strategy 3 – Create a climate action and resiliency plan.

- Action 1 – Coordinate efforts with existing plans and efforts of incorporated areas.
- Action 2 – Identify key stakeholders and partners for plan development and implementation.
- Action 3 – Coordinate as appropriate with state, national, and international plans and initiatives.

SUSTAINABILITY 3 – Support affordable and equitable access to quality housing.

Strategy 1 – Promote a variety of housing options.

- Action 1 – Encourage, where appropriate, higher density and multifamily housing by using incentives such as density bonuses.
- Action 2 – Support efforts to develop affordable rental and owner-occupied housing.
- Action 3 – Participate in and/or conduct regional housing studies to identify housing needs.
- Action 4 – Consider how housing options relate to coordinated land use goals and transportation in this comprehensive plan.
- Action 5 – Adopt and/or develop regulations that accommodate a wider variety of housing types.

Strategy 2 – Consider establishing a rental housing inspection and licensing program for unincorporated areas.

- Action 1 – Review best management practices.
- Action 2 – Dedicate financial resources to fund, if adopted.

SUSTAINABILITY 4 – Support and advance energy efficiency, resource conservation, and renewable energy programs.

Strategy 1 – Continue partnerships with nonprofit organizations to improve their operations.

Strategy 2 – Continue to be a resource to the community on sustainable practices.

- Action 1 – Complete website enhancements to better promote available services.
- Action 2 – Provide educational events.
- Action 3 – Establish other programs through partnerships with cities, the University of Iowa, community school districts, and other organizations.



SUSTAINABILITY 5 – Prioritize green building and sustainable development practices for existing and future residential, commercial, and industrial development.

Strategy 1 – Require the most up-to-date building code standards.

Action 1 – Adopt the most current International Building Code (IBC).

Strategy 2 – Ensure new development conforms to adopted sustainable development standards.

Action 1 – Create and use a Sustainable Subdivision Design Ordinance to make development decisions.

Action 2 – Revise other standards to reflect sustainable practices.

*A **Sustainable Subdivision Design Ordinance** established by the Board of Supervisors would help ensure that future development is designed efficiently and minimizes impact to the environment. An ordinance could include criteria such as (1) interconnectedness of road networks, (2) density standards, (3) infrastructure provision (current roads), (4) preservation of sensitive areas, (5) provision of sidewalks, trails, and amenities, (6) preservation of open space, (7) shared septic systems, and (8) existing zoning.*

Strategy 3 – Provide incentives for green development.

Action 1 – Encourage voluntary practices such as open space preservation, renewable energy, and affordable housing through best practices such as density bonuses.

Strategy 4 – Revise ordinances to strongly encourage on-site protection and discourage off-site mitigation of sensitive areas.

SUSTAINABILITY 6 – Remain a leader in green facilities, operations, and infrastructure.

Strategy 1 – Continue to reduce the environmental impact of Johnson County facilities and operational practices.

Action 1 – Enact management policies to introduce and advance practices.

Action 2 – Continue to coordinate with the capital improvement plans and follow the Sustainability Capital Standards Process or subsequent policies.

Action 3 – Initiate and maintain energy and resource conservation and efficiency practices.

Action 4 – Adopt sustainable infrastructure practices on county road and parking projects.

Action 5 – Continue to utilize solar power and consider other renewables for county facilities.

Action 6 – Promote non-single occupancy vehicle use such as mass transit, carpooling, bicycling, etc.

Strategy 2 – Coordinate efforts with local organizations, institutions, and agencies.

Action 1 – Continue to work with groups such as the Sustainability Working Group of Johnson County.

Action 2 – Provide employee and public education events such as Earth Week and Bike Month.



IMPLEMENTATION: SUSTAINABILITY

IMPLEMENTATION TABLE

The implementation table presents the strategies and action steps developed for each of the plan elements: Sustainability, Local Economy, Infrastructure and Amenities, and Land Use. There are three components in each table: Strategy/Action Step, Timeframe, and Collaborating Partners.

Goals, Strategies & Action Steps

The goals, strategies, and action steps presented are the same as those presented earlier in this chapter under “Priorities and Goals.”

Timeframe

An approximate timeframe to complete each action step was determined by staff evaluation. This evaluation considered existing or future funding capacity, expertise and technical capacity of existing staff, and the potential for acquiring additional expertise or technical capacity. The assigned timeframes are estimates; it may take less or more time for any given action step to be completed. Here are the four timeframes:

- Ongoing: Existing strategies that are on a regular cycle or will continue
- Short-term: < 2 years
- Mid-term: 2 to 5 years
- Long-term: > 5 years

Collaborating Partners

Implementation of the plan strategies involves the actions and decisions of entities other than county government. The success of the comprehensive plan’s vision is dependent on the County’s ability to identify these partners, reach out, and maintain ongoing communication and coordination. The implementation tables identify suggested collaborating partners; additional organizations may be identified over time, and partners that are not listed are not excluded from future collaboration. For policy and ordinance development, there will be ample opportunity for input through public hearings and meetings.

The following key works for all implementation tables; some abbreviations may not appear in every chapter:

- **BOS:** Johnson County Board of Supervisors
- **CSD:** Community School Districts
- **CVB:** Iowa City/Coralville Convention & Visitors Bureau
- **ECICOG:** East Central Iowa Council of Governments
- **EMA:** Johnson County Emergency Management Agency
- **FEMA:** Federal Emergency Management Agency
- **FSA:** Farm Service Agency
- **ICAD:** Iowa City Area Development Group
- **IDNR:** Iowa Department of Natural Resources
- **I-DOT:** Iowa Department of Transportation
- **IT:** Johnson County Information Technology
- **MPOJC:** Metropolitan Planning Organization of Johnson County
- **NRCS:** Natural Resources Conservation Service
- **PDS:** Johnson County Planning, Development & Sustainability
- **SEATS:** Johnson County SEATS Paratransit
- **SWCD:** Johnson County Soil & Water Conservation District
- **WMA:** Watershed Management Authorities



SUST 1 – Support and implement sustainability strategies that preserve natural resources.		
STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Strategy 1 – Revise building permit procedures to improve on-site resource protection.		
Action 1 – Create top soil preservation rules.	Short-term	PDS, NRCS, SWCD
Action 2 – Update soil erosion control regulations to require erosion control on certain building permits for new structures.	Mid-term	PDS, NRCS, SWCD
Action 3 – Create an inspection procedure for sensitive areas, stormwater, topsoil preservation, and soil erosion control for all development sites.	Short-term	PDS, NRCS, SWCD
Strategy 2 – Foster the development of watershed and water quality plans.		
Action 1 – Continue to participate in Watershed Management Authorities and collaborate with local experts.	Ongoing	BOS, Various WMAs, Iowa Flood Center
Action 2 – Incorporate best management practices into stormwater management.	Short-term	PDS, NRCS, SWCD
Strategy 3 – Support and encourage a sustainable agricultural system by working with partners.		
Action 1 – Encourage in-field and edge-of-field best management practices on lands used for row crop production.	Ongoing	PDS, NRCS, SWCD
SUST 2 – Develop and/or coordinate with local and regional hazard mitigation, resiliency, and climate change planning.		
STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Strategy 1 – Review and help update the Johnson County Multi-Jurisdictional Hazard Mitigation Plan 2014–2019.		
Action 1 – Consider how the plan’s requirements affect other county goals.	Short-term	BOS, PDS, EMA
Action 2 – Promote greater coordination between the county, city governments, and other organizations.	Ongoing	BOS, PDS, EMA, cities, ECICOG, CSD
Action 3 – Contribute to and comply with future plans as they are created.	Ongoing	BOS, PDS, EMA, ECICOG
Action 4 – Integrate future hazard mitigation plan findings and policies into plans and projects related to land use, transportation, climate change, sustainability, natural and cultural resource protection, watershed management, and economic development.	Mid-term	BOS, PDS, EMA, Secondary Roads, Conservation
Strategy 2 – Discourage development in flood-prone areas.		
Action 1 – Use, and educate the public about, Federal Emergency Management Agency (FEMA) digital Flood Hazard Maps and local floodplain regulations.	Ongoing	PDS, IDNR, EMA, FEMA



STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Action 2 – Consider updates to the Floodplain Development Regulations to improve protection from flood damage.	Mid-term	PDS, IDNR, EMA
Action 3 – Adopt the Iowa Department of Natural Resources (IDNR) latest model floodplain ordinance with considerations specific to Johnson County.	Short-term	PDS, IDNR, EMA
Action 4 – Establish best management practices.	Mid-term	PDS, IDNR, EMA
Action 5 – Secure membership in the National Flood Insurance Program (NFIP) Community Rating System (CRS) or equivalent program.	Mid-term	PDS, IDNR, EMA
Strategy 3 – Create a climate action and resiliency plan.		
Action 1 – Coordinate efforts with existing plans and efforts of incorporated areas.	Mid-term	BOS, PDS, cities, EMA
Action 2 – Identify key stakeholders and partners for plan development and implementation.	Mid-term	BOS, PDS, cities, EMA
Action 3 – Coordinate as appropriate with state, national, and international plans and initiatives.	Mid-term	BOS, PDS, cities, EMA
SUST 3 – Support affordable and equitable access to quality housing.		
STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Strategy 1 – Promote a variety of housing options.		
Action 1 – Encourage, where appropriate, higher density and multifamily housing by using incentives such as density bonuses.	Short-term	PDS, Livable Communities Advisory Committee, Housing Trust Fund
Action 2 – Support efforts to develop affordable rental and owner-occupied housing.	Ongoing	BOS, PDS, local housing experts
Action 3 – Participate in and/or conduct regional housing studies to identify housing needs.	Mid-Term/ Ongoing	BOS, PDS, local housing experts, MPOJC
Action 4 – Consider how housing options relate to coordinated land use goals and transportation in this comprehensive plan.	Ongoing	BOS, PDS, local housing experts, MPOJC
Action 5 – Adopt and/or develop regulations that accommodate a wider variety of housing types.	Short-term/ Ongoing	BOS, PDS, local housing experts
Strategy 2 – Consider establishing a rental housing inspection and licensing program for unincorporated areas.		
Action 1 – Review best management practices.	Mid-term	PDS, cities, rural landlords
Action 2 – Dedicate financial resources to fund, if adopted.	Ongoing	BOS, rural landlords



SUST 4 – Support and advance energy efficiency, resource conservation, and renewable energy programs.

STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Strategy 1 – Continue partnerships with nonprofit organizations to improve their operations.		
Strategy 2 – Continue to be a resource to the community on sustainable practices.		
Action 1 – Complete website enhancements to better promote available services.	Ongoing	PDS, IT
Action 2 – Provide educational events.	Ongoing	Multiple
Action 3 – Establish other programs through partnerships with cities, the University of Iowa, community school districts, and other organizations.	Ongoing	Multiple

SUST 5 – Prioritize green building and sustainable development practices for existing and future residential, commercial, and industrial development.

STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Strategy 1 – Require the most up-to-date building code standards.		
Action 1 – Adopt the most current International Building Code (IBC).	Ongoing	PDS
Strategy 2 – Ensure new development conforms to adopted sustainable development standards.		
Action 1 – Create and use a Sustainable Subdivision Design Ordinance to make development decisions.	Short-term	PDS
Action 2 – Revise other standards to reflect sustainable practices.	Short-term	PDS
Strategy 3 – Provide incentives for green development.		
Action 1 – Encourage voluntary practices such as open space preservation, renewable energy, and affordable housing through best practices such as density bonuses.	Ongoing	PDS
Strategy 4 – Revise ordinances to strongly encourage on-site protection and discourage off-site mitigation of sensitive areas.		

SUST 6 – Remain a leader in green facilities, operations, and infrastructure.

STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Strategy 1 – Continue to reduce the environmental impact of Johnson County facilities and operational practices.		
Action 1 – Enact management policies to introduce and advance practices.	Mid-term	BOS, PDS, Facilities
Action 2 – Continue to coordinate with the capital improvement plans and follow the Sustainability Capital Standards Process or subsequent policies.	Ongoing	BOS, PDS, Facilities



STRATEGY/ACTION STEP	TIMEFRAME	COLLABORATING PARTNERS
Action 3 – Initiate and maintain energy and resource conservation and efficiency practices.	Ongoing	BOS, PDS, Facilities
Action 4 – Adopt sustainable infrastructure practices on county road and parking projects.	Ongoing/ Mid-term	BOS, PDS, Secondary Roads, Facilities
Action 5 – Continue to utilize solar power and consider other renewables for county facilities.	Ongoing	BOS, PDS, Facilities
Action 6 – Promote non-single occupancy vehicle use such as mass transit, carpooling, bicycling, etc.	Ongoing	BOS, SEATS, Green Team
Strategy 2 – Coordinate efforts with local organizations, institutions, and agencies.		
Action 1 – Continue to work with groups such as the Sustainability Working Group of Johnson County.	Ongoing	BOS, PDS, Green Team
Action 2 – Provide employee and public education events such as Earth Week and Bike Month.	Ongoing	BOS, PDS, Green Team



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