

RESILIENCE

OVERVIEW

Resilience is a resistance to shock and a quick bounce back from long term disruption. In the context of planning, this often refers to response to environmental events that have the potential to have a severe impact on a community. Examples include extreme weather, droughts, flooding, elevated temperatures, and other similar events. An increase in these events has the potential to overwhelm the city's existing systems for managing impacts, and to risk damage to the community.

A resilient community is one that is able to survive, adapt, and grow regardless of what kinds of chronic stresses and acute shocks it experiences. In order to analyze potential future shocks to the city, it is important to consider current and predicted natural trends. With an understanding of how the city may be affected by those natural shocks, it is possible to reduce the risks in the event that they materialize. It is also important that the City understand existing conditions and approach in order to determine where additional attention could be paid to ensure resilience to future disruptions. This chapter is informed by the the Minnesota Department of Natural Resources, the Metropolitan Council, and the City of Jordan. It provides an overview of opportunities to improve the City's resilience to natural shocks in the coming decades. For more information on water, stormwater, and sewer related improvements, see the Utilities chapter.

Why Plan for Resilience?

Planning for resilience is important to the long term health and vitality of the community. Potential benefits to Jordan include:

- More efficient and effective response to major disruptive events and emergencies
- Reduction of risk for property damage, environmental damage, and even loss of life as a result of a major event
- Lower costs in the long term for property maintenance and energy consumption due to investment in efficient technologies and materials
- Reduced burden on waste disposal systems (solid waste and wastewater) though more efficient systems and waste reduction
- Supporting the image of the community as a green and sustainable place is attractive to many residents

COMMUNITY BASELINE

This section describes the City's existing approach to planning for resilience, including current context, initiatives completed to date and resources available.

I. CONTEXT

The City of Jordan is an attractive, green community, with many natural amenities. However, the city is not immune to natural shocks. For instance, due to the city's location and topography, a large portion of the central portion of the city is located in a floodplain. This means it is vulnerable to flooding – something that it has experienced from time to time throughout the history of the city. Scott County records show measurable flood events (riverine and flash flooding) in Jordan and nearby areas in 1960, 1969, 1993, 1997, 1998, 2001, 2006, 2008, and 2014 – resulting in millions of dollars in property damage. While various flood control improvements have been made since the 1960s, such as the Sand Creek Levee, elevated levels of precipitation still can pose a threat to the community if they exceed the capacity these measures were designed to manage.

Jordan has recent experience with heavier-than-usual rain events and their impacts. In June, 2014, the city experienced record levels of rainfall when 12 inches of rain fell over the a two day period. This caused a landslide on the bluff behind Jordan's historic brewery building. In total, the restabilization of the bluff cost \$2 million, and almost cost the city an important business. The flood also caused damage in other areas of town, including residential neighborhoods.



Source: Shakopee Valley News (2014)

II. NATURAL CONSTRAINTS TO GROWTH

Jordan lies within the Minnesota River Valley Basin and is home to many beautiful natural elements. While these elements benefit the community, they also represent some barriers for both development and implementation.

The community features steep slopes that create difficulty in development. The steepest areas run in a north-south line parallel to Sand Creek's eastern bank. These slopes also provide protection to the city from floodwaters. There are a several other ranges of slopes and the city looks to protect these. The city has established ordinances that restrict development in these areas to protect them from irrevocable damage that would change the nature of the community.

The southeastern side of Jordan at the intersection of Highway 169 and Highway 282 is home to a large marsh that creates a barrier for development and is important for maintaining water quality and other natural functions.

Map 2-12 in the Land Use chapter shows areas of the city that are not developable due to topography or other natural features.

III. PROGRESS TO DATE

The City of Jordan currently has in place systems which preserve and enhance the surrounding environment. These include programs like required tree replacement, shoreland overlay zoning, a sustainable purchasing policy, public land open space dedications, and stormwater management systems.

Additionally, the City has engaged in the voluntary Minnesota GreenStep Cities program created by Minnesota's Clean Energy Resource Teams (CERTs) and the Minnesota Pollution Control Agency (MPCA). The program is designed to increase and achieve sustainability and quality-of-life goals. GreenStep Cities contains a series of steps, progressing from one to five, that indicate respective levels of community sustainability and resilience.



As of June 2017, The City of Jordan had achieved Step Three status in the GreenStep Cities program by completing a total of 36 actions. The actions fulfill requirements in any of five different categories: Buildings and Lighting, Land Use, Transportation, Environmental Management, and Economic and Community Development. Each category must have at least one best practice completed – many of which are a combination of policy and physical implementation – to advance to steps two and three. A list of completed actions can be found on page 7-15.

IV. STAFF AND FINANCIAL RESOURCES

The following groups play a key role in moving forward with an approach to a resilient community in Jordan. This includes everything from providing oversight to implementing improvements.

- Jordan's **City Council** provides leadership for the city as a whole on all areas related to resilient communities. This includes both enforcement of existing regulations and standards, and support for new initiatives and approaches.
- Jordan's **Planning Department** works on both the policy and implementation of a resiliency strategy for Jordan, particularly in relation to the city's growth and

development. Its responsibilities include reviewing permits to assess impervious surface, administering to development in the floodplain, and work with the Public Works department to develop green space across the City of Jordan. It also has been engaged on special projects, such as tracking GreenStep Cities progress, and working with solar energy initiatives. The **Planning Commission** provides leadership in these areas as well, making decisions and determinations related to the development of the community.

- Jordan's **Public Works Department** manages initiatives that relate to the City's public infrastructure, systems, and places. This includes parks management, wastewater treatment, facilitating water metering, and maintenance of public facilities.
- **Community partners** play important roles with regards to specific topics and areas. These include, but are not limited to:
 - **Scott Watershed Management Organization** provides a range of services and resources to support water quality improvement, monitoring, and management.
 - **Neighboring townships** – including St. Lawrence and Sand Creek – provide oversight and governance for areas outside the Jordan city limits.
 - **Business associations** – including the Jordan Commercial Club – provide opportunities to partner on projects and initiatives that involve and/or benefit the city's business districts.
 - **Residents of Jordan** – since a number of initiatives require some participation of residents for implementation, involvement and support from the public is important.
 - **Minnesota GreenStep Cities** – as part of its role, this organization provides free technical assistance and access to information on a range of topics related to resilience and sustainability.
 - **Minnesota Department of Natural Resources (MnDNR)** – The MnDNR is a partner of the City of Jordan for support in administration of the City's floodplain ordinance, implementation of the Community Rating System (CRS), and implementation of flood control improvements.
 - **Scott Soil and Water Conservation District (SWCD)** – With offices located near Jordan, the SWCD is charged with helping Scott County citizens protect and preserve land and water resources.
 - **Utility companies** – companies that serve Jordan, including Minnesota Valley Electric, Xcel Energy, and Centerpoint Energy, are charged with finding ways to support improved energy conservation, efficiency, and diversification of energy sources in their service areas.

EXISTING CONDITIONS

This section outlines information about several topics related to resilience in Jordan. It should be noted that this does not duplicate topics that are covered in more detail in other chapters. These include:

- Utilities – water, sewer, and wastewater infrastructure
- Parks – protected open space area

- Land Use – existing natural resource areas and planned development patterns
- Transportation – walking and bicycling infrastructure

I. ENERGY USE AND CONSERVATION

Energy Use

Businesses and residents in Jordan are served by Minnesota Valley Electric Coop (MVEC) and Xcel Energy for electricity and CenterPoint Energy for natural gas.

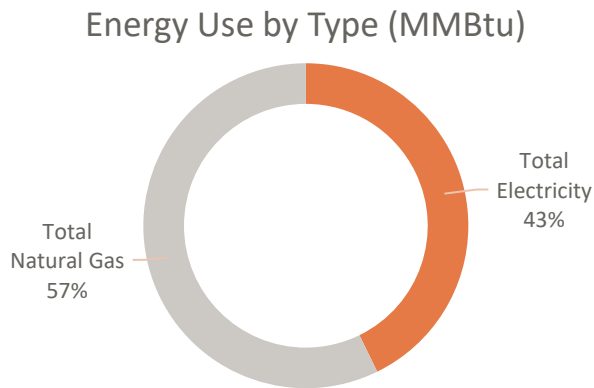


Figure 7-1 Data Source: Xcel Energy Community Energy Reports, and the U.S. Department of Energy

Figure 1 demonstrates that consumers use more natural gas than electricity, with 57% of the energy consumed in buildings coming from natural gas. Natural gas is primarily used for space and water heating, cooking, and various industrial processes. Electricity is used for appliances, water and space heating, space cooling, lighting, commercial and industrial processes, as well as other electronic devices. Residential consumers and commercial consumers each account for 50% of energy use in Jordan.

Greenhouse gases (GHG) are emitted from burning conventional fuels like coal and natural gas, which are both inputs in the production of electricity. GHGs are also emitted from burning natural gas, propane, or fuel oil for space and water heating, as well as cooking and other uses. Figure 2 indicates that a greater share of GHG emissions from all buildings (commercial and residential) in Jordan come from consumption of electricity (60%) as compared to natural gas (40%), despite natural gas being a greater share of the community's energy consumption.

Transportation energy is almost exclusively attributable to car and truck travel within the city boundaries. It is estimated by the vehicle miles traveled (VMT) regardless of through traffic or with an origin or destination in the city. Regional Indicators Initiative data shows that approximately 25,963,075 vehicle miles were traveled within Jordan in 2014. The greenhouse gas emissions associated with this travel is approximately 214,426 tonnes of CO₂e, or about 39% of the city's total GHG emissions.

Greenhouse Gas Emissions by Energy Type

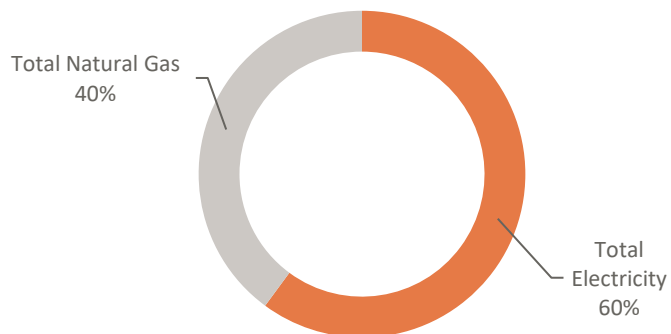


Figure 7-2 Data Source: Xcel Energy Community Energy Reports, and the U.S. Department of Energy natural gas consumption model estimates

The energy use data gathered for building energy consumption and transportation illustrate a clear picture of the major sources of GHG emissions in the community, as seen in **Figure 7-3**. The largest share of emissions come from residential and commercial (buildings) energy consumption, making up 69% of total emissions. Broken down by sector, residential energy use accounts for 34% of emissions, while the commercial sector accounts for 35% of all emissions. Transportation makes up 31% of total emissions.

GHG Breakdown (Tons of CO2)

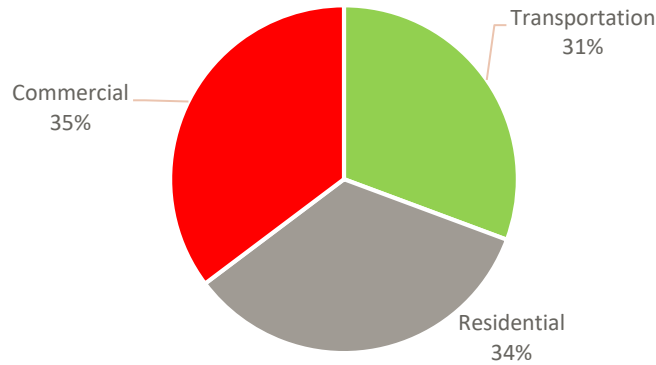


Figure 7-3 Data Source: 2013 Regional Indicators Initiative Report

Conservation

GHGs emitted from building energy use in Jordan are evenly split between residential and commercial sectors. Since the commercial sector has fewer buildings than the residential sector (shown in **Figure 7-4**), but nearly as much energy consumption, focusing on commercial and industrial building energy use is a potentially high-impact strategy for reducing the city's total GHG emissions. A single successful efficiency investment in the commercial sector could reap the efficiency benefits similar to dozens of residential successes.

Building Stock Summary

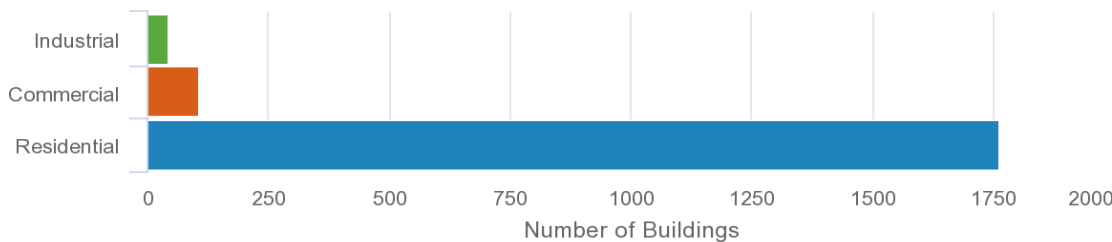


Figure 7-4 Data Source: <https://apps1.eere.energy.gov/sled/#/>

Residential efficiency opportunities tend to be more standardized than commercial opportunities. Examples of efficiency opportunities are in building envelopes, heating and

cooling equipment, lighting, appliances, and plug loads. These solutions can reduce typical residential household energy use by 20-25%.

Xcel Energy offers incentives to both residential and business customers to help increase energy efficiency action. Participation rates in 2016 are shown in **Table 7-1**. Since not all customers in Jordan utilize Xcel Energy, the table does not provide a complete picture of the city.

**TABLE 7-1
PARTICIPANTS IN XCEL ENERGY'S REBATE PROGRAM**

Sector	Rebates Given	Electricity Savings (kWh)
Business	11	656,499
Residential	22	9,907

Using carbon free (wind and solar) or carbon-neutral (biomass) energy sources and investing in energy efficiency can significantly reduce the amount of greenhouse gases that are attributable to building energy use. Jordan's electric energy supply will increasingly become cleaner as utilities add more clean energy each year. Developing local clean energy capacity for homes and businesses, or through mechanisms such as community shared solar systems, is an alternative to a supply-side effort.

Transportation efficiency is another significant resource, as travel comprises 31% of the city's GHG emissions. GHG emissions can be reduced with three distinct strategies:

- 1) fuel switching to a low-carbon or carbon-free fuel;
- 2) improved efficiency (miles per gallon) or right-sizing vehicles to the vehicle use;
- 3) mode shifting, or increased use of non-motorized or transit options.

Electric vehicle markets are poised for rapid expansion over the next decade, and the city has opportunities to accelerate market transformation and reduce GHG emissions associated with transportation fuels and vehicle use. For example, including EVs in city fleets, investing in public charging stations, and promoting EV benefits can help drive consumers to choose electric vehicles. Improved efficiency in vehicles will also occur via increased use of hybrid models. Further, land use changes that improve connectivity for bike and pedestrian traffic within the city and to regional trails can help to reduce the local VMT while improving the physical health of residents and visitors.

II. SOLAR ENERGY

The University of Minnesota developed a high-resolution solar resource map that allows cities statewide to calculate how much electricity they could potentially receive from locally installed solar energy systems. These data (see **Map 7-1**) were used to calculate the city's solar resource or "solar reserves". Solar reserves are the amount solar energy that is reasonably economically available for development, similar to how oil or gas reserves are measured. The solar map shows good sites for solar installations and helps identify where there may be land use conflicts with solar development.

Table 7-2 shows the amount of solar energy reasonably available for development in Jordan. The gross potential includes the total available resource, regardless of location; rooftop capacity and generation include only the resource available on the rooftops of commercial buildings located in the city.

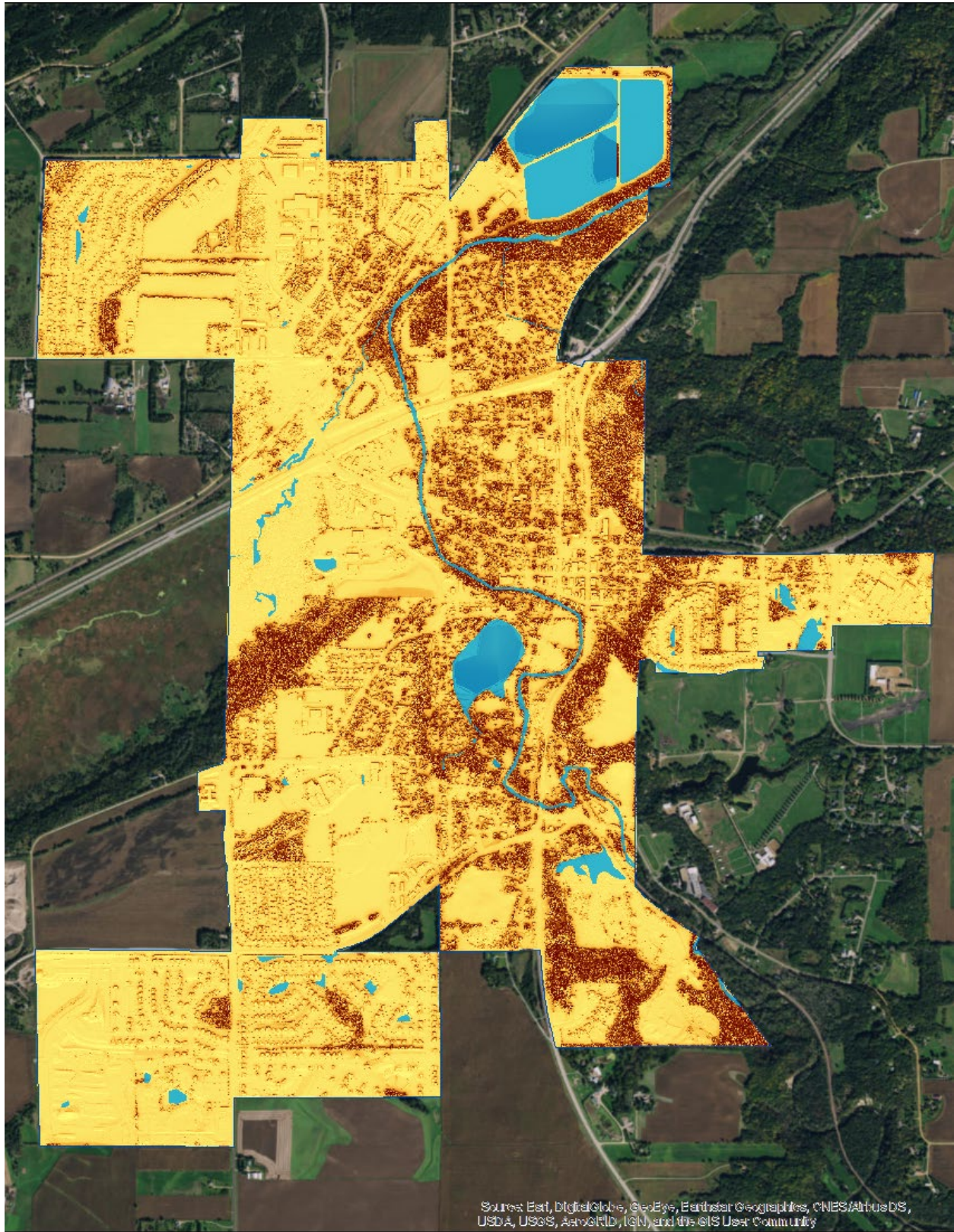
**TABLE 7-2
JORDAN ROOFTOP SOLAR RESOURCE**

Gross Generation Potential	Rooftop Generation Potential	Rooftop Capacity	Top 10 Rooftop Potential
481,640 MWh/year	30,243 MWh/year	23 MW	5,758 MWh/year

Source: Metropolitan Council

Another source of information on solar resource potential is Google's Project Sunroof application <https://www.google.com/get/sunroof>. This application provides both areawide estimates of solar potential and site-specific recommendations for solar energy options. According to Project Sunroof, there are approximately 1,500 rooftops with solar potential located in the City of Jordan. The application's estimate of rooftop generation potential is comparable to the University of Minnesota's estimates, though it also provides more site-specific details and information on environmental impacts.

MAP 7-1: SOLAR RESOURCE MAP



The total capacity of the economic rooftop solar resource in Jordan is 23 MW, equal to approximately 81% of all the electricity consumed in the city. This means that if the city wanted to maximize its entire commercial rooftop solar resource, it could set a solar generation goal of up to 81% on-site solar generation (note: this is an upper limit, and does not consider individual site limitations due to roof structure, ownership, or local regulations that might limit solar installations). If buildings undergo high levels of energy efficiency investment, the solar resource could meet a higher percentage of electric needs. The efficiency and solar resources are, in this analysis, calculated independently of each other.

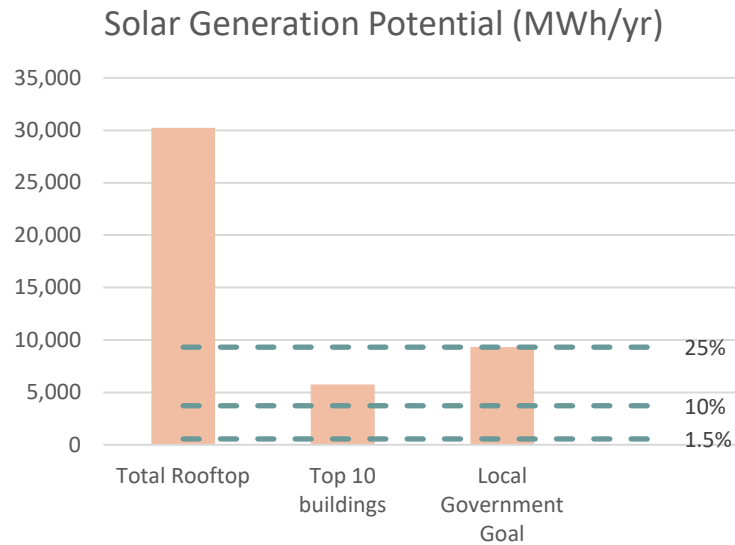


Figure 6 Example of Solar Potential and Community Goal

Solar installations are not limited to rooftop applications; this analysis does not include ground-mount systems. The City will want to develop criteria for where they would and would not allow solar installations. For instance, commercial parking lots or public right of ways may make good solar resources, while areas planned for future development or park space may not. These criteria can be used to recalculate potential solar generation and redefine future solar goals for local development.

In 2017, the City of Jordan entered an agreement to offset 120% of its electricity usage through a community solar garden subscription, saving about \$3,000,000 over the 25-year contract.

The City of Jordan will ensure protection of the ability to install solar where appropriate by ensuring access is available according to the Zoning Ordinance. The City supports the development and utilization of other forms of renewable energy as well. Wind and Ground Source Heat Pumps are also allowed in zoning code § 154.390.

The City of Jordan is currently pursuing Bronze designation through the SolSmart program. SolSmart is a national designation program that recognizes local jurisdictions that help to develop established markets for solar energy.

SolSmart's criteria for Bronze designation include:

1. Public statement of solar goals via a Commitment Letter and tracking of key metrics such as number of systems and installed capacity. These goals should include the communities intended areas of focus for the SolSmart Designation, and a commitment of staff resources.
2. Solar permit checklist posted online detailing the steps of the permitting process for solar.
3. Review of zoning requirements and identification of restrictions intentionally or unintentionally prohibiting solar photovoltaic (PV) development. Compile findings in a memo, and commit to reducing barriers to PV during next zoning review. Examples include height restrictions, setback requirements, allowing solar "by-right" in residential and commercial zones without requiring a conditional use permit.
4. The community achieves at least 20 points in the Permitting, and at least 20 points in the Planning, Zoning, and Development Regulations categories.
5. The community achieves 20 points across the remaining categories.



INSPECTION

Protect public health and safety while ensuring compliance with state and local codes.



CONSTRUCTION CODES

Adopt applicable codes and standards that provide clear guidance on solar installation requirements and solar-ready construction.



SOLAR RIGHTS

Protect the right to sunlight for current and future solar consumers through solar access ordinances or easements.



UTILITY ENGAGEMENT

Discuss and implement your community's goals for solar energy, community solar, net metering, and interconnection with local utility.



COMMUNITY ENGAGEMENT

Support local solar energy development through public education and engagement efforts, group purchase programs, and participation in state-level solar conversations.



MARKET DEVELOPMENT & FINANCE

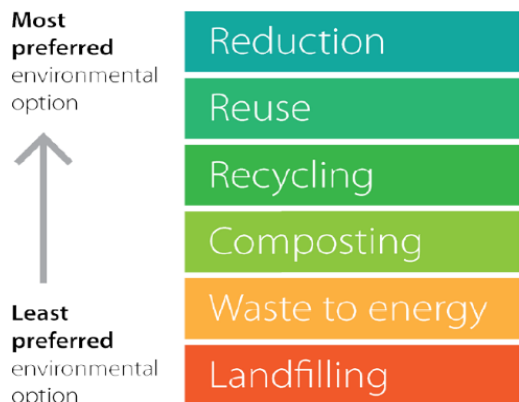
Lead the way with solar installations on public facilities and grow the local solar market by providing information on, or expanding, local financing options and incentives

III. RECYCLING AND WASTE REDUCTION

Excess waste is not consistent with a resilient vision for the community. Landfills (the primary method of waste disposal) consume land, and can cause environmental contamination. Items in landfills are also lost to the system in terms of potential economic value – such as metals and glass.

According to Minn. Stat. § 115A.55, "It is a goal of the state and counties to reduce the generation of municipal solid waste." Since the 1980's, state legislation has set county-level recycling goals, in terms of a percentage of total solid waste generation. Under the current law, the seven metropolitan counties (including Scott County) have a 50% by weight goal. This will increase to 75% by 2030.

Minnesota's waste hierarchy



Source: Minnesota Pollution Control Agency

In a report entitled *Report on 2015 SCORE Programs: A summary of recycling and waste management in Minnesota (2017)*, Minnesota Pollution Control Agency (MPCA) indicated that around 68% of waste in Minnesota counties currently is diverted from landfills. Statewide studies have shown there is potential to do more – an estimated 70% of what is currently disposed of could be recycled.

The biggest source of diversion from landfills has been recycling. In Minnesota, this includes recycling of paper, glass, metal, plastic, and (more recently) organics. The City of Jordan is already committed to encouraging expanded recycling efforts. Curbside recycling is available citywide on the same day as garbage collection. Organics recycling is available on a subscription basis – similar to yard waste pickup. The cost of organics recycling is currently being subsidized by Scott County to support the expansion of this practice. This has been a trend countywide: organics recycling is the fastest growing category in terms of type of recyclable material collected.

Much of the opportunity for improvement will center around ensuring that recycling is simple and convenient, and that the public is educated about the benefits of waste reduction.

IV. TREE CANOPY

Jordan has a significant tree canopy, both in developed and undeveloped areas. According to Earth Define, a geospatial information company, 28.3% of Jordan is covered by a trees. The tree canopy in a community serves a number of important functions, including:

- Air quality – produce oxygen, capture CO₂, and collect airborne particulate matter
- Energy conservation – serve as natural air conditioners and wind breaks
- Water quality – support filtration and retention of water, and minimize stormwater runoff
- Aesthetics – add natural beauty and character to a community
- Wildlife habitat – provide homes for various birds, insects, and other animals
- Property values – studies have shown that the presence of trees has a positive impact on property values and occupancy rates

The Scott County Soil and Water Conservation district has had a program for decades that encourages Scott County landowners to plant trees on their property.

The City of Jordan's Subdivision Ordinance states that "subdivision shall be planned in such a manner that the optimum number of significant trees shall be preserved" (§ 153.11) – and includes the requirement that a tree preservation plan be submitted when appropriate. The ordinance also specifies criteria for replacement trees.

The City could consider pursuing Tree City USA status. Tree City USA is a voluntary program administered by the National Arbor Day Foundation since the 1970's, to encourage cities to manage and expand tree coverage in their community. To qualify, the City would need to meet four established standards: designating a tree board or department, establishing a tree care ordinance, maintaining a community forestry program with a budget of at least \$2/capita annually, and having an Arbor Day observance and proclamation.



V. HAZARD MANAGEMENT AND MITIGATION

With the likelihood of major incidents impacting the community at some time, it is important to have a plan in place for hazard management and mitigation. This should include not just

incident management, but a sense of how the community can recover over time. The initial assessment work should include an assessment of the most vulnerable populations and locations in the city, so that there can be a prioritization of how assistance is provided.

Scott County maintains a multi-jurisdictional hazard mitigation plan that covers the county. The City of Jordan is a participating jurisdiction in this plan and its implementation, which includes developing specific mitigation actions for the city.

GOALS AND POLICIES

I. VISION

The City of Jordan is located in the Minnesota River Valley Basin and surrounded by beautiful bluff lines. By preserving the natural beauty around Jordan, the city will not only provide an area for recreation, but bolster the economy by creating a destination for potential citizens and corporations to visit and take root in.

Increasing the resiliency of the city will allow a more stable quality of life for residents into the future. In a future where increasing amounts of rain fall with increasing frequency, and prolonged droughts and heatwaves become more prevalent, it is important to consider how the City will respond and adapt.

II. GOALS AND POLICIES

Resilience Goal #1: Sustainability in all Policies. The City will attempt to coordinate resilience efforts through the all departments throughout the city. Along with this, the City will reach out to utility providers and other partners to try to coordinate systems that will lead to a more efficient and sustainable city. There is an opportunity for all of Jordan's employees to adhere to principles of sustainability which will allow the city to lighten its footprint and save expenses to taxpayers.

Policies:

- Public Works
 - Continue to enforce standard around wastewater and stormwater management, and water quality
 - Change snow plowing practices to reduce salt use
 - Use a dewatering bag to treat wastewater
- Planning
 - Enforce green space and tree preservation and planting requirements to lessen the urban heat island effect
 - Regulate development on bluffs and near water resources
 - Track progress towards goals related to resilience, and participate as appropriate in programs such as Regional Indicators Initiative
- Finance/Administrative
 - Adhere to sustainable purchasing policies
 - Educate residents on water usage and help them save resources
 - Educate public on importance of recycling and waste reduction

Resilience Goal #2: Energy. The City of Jordan will ensure protection of solar access – and access to other renewables – where appropriate by ensuring the Zoning Ordinance is efficient and represents the best available practices. The City will also encourage energy conservation and efficiency.

Policies:

- Solar Energy
 - Continue to ensure and protect access to direct sunlight for the use of solar energy systems through code §154.394 of the Zoning Ordinance.
 - Facilitate the development of community solar gardens in appropriate locations to diversify the energy supply
 - Pursue the Bronze designation of the City of Jordan through the SolSmart program
- Other Renewables
 - Encourage the development and usage of other renewable sources of energy where appropriate.
- Energy Conservation
 - Support educational efforts to encourage more energy efficient practices in building construction and maintenance

Resilience Goal #3: GreenStep Cities. The City has already achieved Step 3 in the GreenStep Cities program by completing a number of best practices. Those best practices help to reduce the impact that Jordan has on the environment, and also save the city noticeable amounts of money.

Policies:

- Move forward with the GreenStep program, by launching a self evaluation in order to achieve Step 4 and establish a baseline. This will include evaluation of existing best practices, and measurement of current levels of resource usage.

Resilience Goal #4: Resilience Leaders. The City will establish a staff and City Council resilience lead to ensure continued growth and development of the resilience and efficiency of the city. These resilience leaders will be primarily responsible for researching, developing, and implementing the ordinances that will achieve the goals listed above.

Policies:

- Send planners/city councilors/public works employees to conferences to educate them on latest best practices, environmental trends, and science.
- Modify Planning Commission's mission to also include environmental preservation and consideration
- Start an environmental commission or board to provide oversight and guidance for city actions

IMPLEMENTATION

I. OVERALL COORDINATION

The City will establish a staff and City Council resilience lead to ensure continued growth and development of the resilience and efficiency of the city. These resilience leaders will be

primarily responsible for researching, developing, and implementing the ordinances that will achieve the goals listed above.

The City will attempt to coordinate resilience efforts through all departments. Along with this, the City will reach out to utility providers to try to coordinate systems that will lead to a more energy efficient city. The City will also reach out to nearby communities to attempt to create multi-jurisdictional and private organization partnerships. These entities include neighboring townships, Scott County, schools, the Jordan Commercial Club, and the Jordan Economic Development Authority.

The City will engage the public through various forms of media to connect the cities goals to the aims of residents. In doing this, the City will establish a clear path for which to develop sustainable and efficient programs that will fit both the view of the city and the view of citizens.

II. PUBLIC AND POLITICAL ENGAGEMENT

The City will engage the public through the city newsletter, social media, City Council, the Planning Commission, and Jordan's website. This will allow the City to connect its goals with the desires of residents. In doing this, the City will establish a clear path to sustainable programs that fit the view of the city and that of residents.

The Jordan Planning Commission is responsible for many land use conversations and is also the entity that hears feedback on Jordan's progress in Minnesota GreenStep Cities. Responsible planning and land use can prevent costly and dangerous situations in the future, and create economic and social opportunities now.

Jordan's City Council also plays a role in public engagement. Their support of policies that have co-benefits of financial savings and environmental sustainability have broad implications for the city's footprint. Additionally, large projects – specifically those involving infrastructure – that last for multiple decades should include considerations of resilience to future impacts from the climate.

III. EVALUATION

Step 4 of the GreenStep Cities program includes a self-evaluation of sustainability metrics. The City must evaluate six core areas, which include:

- City Buildings and Lighting
- Transportation Modes and Miles
- Open Space, Parks, Trees
- Stormwater
- Wastewater
- Renewable Energy

This framework can be used to further evaluate the City's effectiveness at meeting its goals. Self evaluation will have to be paired with outreach to residents. Community engagement will be key to understanding if residents feel confident that the City is responsive or capable of responding to sudden challenges. **Table 7-3** shows best practices completed to date.

**TABLE 7-3
BEST PRACTICES COMPLETED BY JORDAN**

Section	Best Practice	Action	Stars
Buildings and Lighting	1. Efficient Existing Public Buildings	Action 1: Enter building information into the Minnesota B3 Benchmarking database and routinely enter monthly energy, water use data for all city-owned buildings.	2
		Action 2: Make no/low cost indoor lighting and operational changes in city-owned/school buildings to reduce energy costs.	3
	3. New Green Buildings	Action 5: Adopt environmentally preferable covenant guidelines for new common interest communities addressing issues such as stormwater, greywater, native vegetation, growing food, clothes lines and renewable energy.	1
Land Use	6. Comprehensive Plans	Action 1: Adopt a comprehensive plan or (for Category B & C cities) adopt a land use plan that was adopted by the county or a regional entity.	1
		Action 2: Demonstrate that regulatory ordinances comply with the comprehensive plan including but not limited to having the zoning ordinance explicitly reference the comprehensive plan as the foundational document for decision making.	1
		Action 3: Include requirements in comprehensive and/or other plans for intergovernmental coordination addressing land use and watershed / wellhead impacts, infrastructure, economic development and city/regional services.	1
		Action 4: Include ecologic provisions in the comprehensive plan that explicitly aim to minimize open space fragmentation and/or establish a growth area with expansion criteria.	1
	7. Resilient City Growth	Action 2: Encourage higher density housing through at least two of the following strategies: a. Incorporate a flexible lot size/frontage requirement for infill development. b. Use density and floor area ratio (FAR) bonuses in selected residential zoning districts. c. Tie a regulatory standard to comprehensive plan language defining compact city expansion zones that limit low-density development. d. Allowing accessory dwelling units or co-housing or tiny houses / apartments by right in selected zoning districts.	1

Section	Best Practice	Action	Stars
		Action 3: Encourage a higher intensity of commercial land uses through at least one of the following strategies: <ul style="list-style-type: none"> a. Include in the city zoning ordinance and zoning map a commercial district with reduced lot sizes and zero-lot-line setbacks, or a FAR minimum of 1. b. Set targets for the minimum number of employees/acre in different commercial zones. 	1
	8. Mixed Uses	Action 1: Organize or participate in a community planning/design process for the city/a mixed use district.	1
		Action 2: Locate or lease a school, city building or other government facility that has at least two of these attributes: <ul style="list-style-type: none"> a. Adjacent to an existing employment or residential center. b. Designed to facilitate and encourage access by walking and biking. c. Accessible by regular transit service. 	1
		Action 5: Have a downtown zoning district that allows residential and compatible commercial development.	1
	9. Efficient Highway and Auto Oriented Development	Action 1: Establish design goals for at least one highway/auto-oriented corridor/cluster.	1
		Action 2: Participate in regional economic development planning with representatives from surrounding townships, cities, the county and business interests to: <ul style="list-style-type: none"> a. Estimate commercial/industrial needs among all jurisdictions. b. Jointly implement recommendations to stage highway/auto-oriented commercial development in order to avoid overbuilding and expensive low-density development. 	2
	10. Natural Resource Conservation Design	Action 2: For cities outside or on the fringe of metropolitan areas, conduct a build-out analysis, fiscal impact study, or adopt an urban growth boundary and a consistent capital improvement plan that provides long-term protection of natural resources and natural systems, and agricultural practices outside the boundary.	1
		Action 3: For cities within metropolitan areas, incorporate woodland best management practices addressing protection of wooded areas into zoning or development review.	1

Section	Best Practice	Action	Stars
Transportation	12. Mobility Options	<p>Action 1: Promote walking, biking and transit use by one or more of the following means:</p> <ul style="list-style-type: none"> a. Produce/distribute route maps, signage or a web site. b. Document increased bike facilities, such as racks, bike stations or showers. c. Add bus infrastructure, such as signage, benches, shelters, park and ride lots, and real-time arrival data-streaming. d. Increase the number of employers promoting multiple commuting options, including offering qualified transportation fringe benefits instead of only a tax-free parking fringe benefit. e. Be recognized as a Walk Friendly or Bicycle Friendly Community. 	1
		<p>Action 2: Launch an Active Living Campaign such as a Safe Routes to School program.</p>	1
Environmental Management	15. Sustainable Purchasing	<p>Action 1: Adopt a sustainable purchasing policy or administrative guidelines/practices directing that the city purchase at least:</p> <ul style="list-style-type: none"> a. EnergyStar certified equipment and appliances and b. Paper containing at least 30% post-consumer recycled content 	1
		<p>Action 2: Purchase energy used by city government with a higher renewable percentage than required by Minnesota law.</p>	3
	16. Urban Forests	<p>Action 4: Maximize tree planting along your main downtown street or throughout the city.</p>	2
	18. Parks and Trails	<p>Action 1: Make improvements within your city's system of parks, offroad trails and open spaces.</p>	2
		<p>Action 2: Plan and budget for a network of parks, green spaces, water features and trails for areas where new development is planned.</p>	3
		<p>Action 3: Achieve minimum levels of city green space and maximize the percent within a ten-minute walk of community members.</p>	1
	19. Surface Water Quality	<p>Action 4: Adopt a shoreland ordinance for all river and lake shoreland areas.</p>	1
	22. Solid Waste Reduction	<p>Action 5: Arrange for a residential or business/institutional source separated organics collection/management program.</p>	2
23. Local Air Quality	<p>Action 2: Regulate outdoor residential wood burning, using ordinance language, performance standards and bans as appropriate, for at least one of the following:</p> <ul style="list-style-type: none"> a. Recreational burning. b. Outdoor residential wood boilers. 	1	

Section	Best Practice	Action	Stars
Economic and Community Development	24. Benchmarks & Community Engagement	Action 1: Use a committee to lead, coordinate and report to community members on implementation of GreenStep best practices.	2
		Action 3: Measure and report progress on sustainability indicators .	2
	25. Green Business Development	Action 3: Actively promote sustainable tourism in your city, and green tourism resources to tourism and hospitality businesses in/around the city.	1
		Action 7: Conduct or participate in a buy local campaign for community members and local businesses.	3
	26. Renewable Energy	Action 1: Adopt solar energy standards or a wind energy ordinance that allows or encourages appropriate renewable energy installations.	1
		Action 6: Enable a new or demonstrate prior city collaboration for installed private sector renewable energy / energy efficient generation capacity with at least one of the following attributes: a. Fueled by flowing water, sun, wind, or biogas. b. Fueled in part or whole by manure or woody biomass, optimized for minimal air and other environmental impacts and for energy efficiency and water conservation. c. Distributing heating/cooling services in a district energy system. d. Producing combined heat and power; using a microgrid.	3
		Action 4: Measurably increase institutional buying, and sales through groceries and restaurants. a. Purchasing of local/organic/humane/equitable foods by schools, hospitals, nursing homes and event centers. b. Sales of local/organic/humane/equitable food in markets, retail food co-ops, rural grocery stores, urban convenience stores, hotels and restaurants.	1
		Action 1: Prepare to maintain public health and safety during extreme weather and climate-change-related events, while also taking a preventive approach to reduce risk for community members	2
	29. Climate Adaptation and Community Resilience	Action 6: Reduce the urban heat impacts of public buildings, sites, and infrastructure and provide resiliency co-benefits.	2
Totals:	19 Best Management Practices	36 Actions	