

KEY STEPS TO ENVIRONMENTAL SUSTAINABILITY

FOR LOCAL GOVERNMENTS

THE FIVE STEP PROCESS OF SUSTAINABILITY

STEP
1

COMMIT TO ACTION

Committing to action starts the process of achieving sustainability, both in city operations and community-wide. Identify and empower a Sustainability Champion or committee to direct an overall sustainability program. Connect with local citizen-based initiatives. Consider modeling good practices in your own operations and facilities to serve as an example to the whole community.

STEP
2

ASSESS THE SITUATION

Determine which environmental indicators your community will track and establish a baseline. Consider undertaking a greenhouse gas inventory along with other evaluations. A greenhouse gas inventory has the advantage of tying many sustainable initiatives to a common metric. Other assessments can help focus priorities, such as open space assessments, transportation studies and others that are referenced in this Roadmap. This allows local governments to set measurable goals and track progress as implementation proceeds.

STEP
3

MAKE PLANS

Strong plans addressing the many different environmental indicators in the community integrate a number of different elements dynamically, and evolve over time to anticipate and respond to changing conditions. Informed long-range goals and practical, achievable interim goals are the key to long-term success for all sustainability programs.

STEP
4

IMPLEMENT

Along with a thorough planning process, careful implementation is essential to successful sustainability initiatives. Launch new initiatives quickly, so the community can get a big boost with “quick wins” – actions that can be implemented within a few months, have low capital costs, and promise benefits that will become apparent within a year.

STEP
5

MEASURE & CELEBRATE SUCCESS

Monitor performance to track success. Measurable success helps to achieve long-term goals and maintain momentum. It also makes it possible to refine policies and programs by learning what works and what does not. Continual measurement allows you to promote success while creating opportunities to highlight the cumulative impact of many actions. Celebrate success in the process of educating citizens on the importance of successful sustainability programs.

A PATH TOWARDS SUSTAINABILITY

Each topic area in the following sections contains recommendations and implementation strategies for local municipalities and counties to undertake. These five process steps serve as a common pathway to move forward in all areas and gain the maximum benefit across the issues above.

ORGANIZATION OF THIS ROADMAP

The sustainability research is organized into five topic areas, including:

- I. Transportation & Land Use
- II. Open Space
- III. Stormwater
- IV. Energy and Water
- V. Materials Procurement

In the Executive Summary and the Full Report, each topic is further organized by:*

- A. Summary
- B. Recommendations
- C. Implementation Strategies
- D. Best Practices
- E. Funding Opportunities

** see www.focus-stl.org for reports.*

The recommendations have been grouped into three categories:

1. Getting Started:

these are start-up activities and actions that communities can address fairly easily and quickly and that will yield early results to promote further action.

2. On the Way:

these are actions that will propel outcomes further into the community, take more effort and potentially require funding by the local government.

3. Sustaining:

these actions promote long-term results that will have impact over many generations.

TRANSPORTATION & LAND USE

Transportation and Land Use are key elements in planning for communities. Transportation decisions include the location and design of streets, sidewalks and parking, as well as the design of lanes, paths and parking facilities for bicycles. Land use refers to the types of buildings and uses that are associated with a particular parcel of land—such as residential, commercial or agricultural. Municipalities use zoning to influence the land use decisions of individuals and developers.

GETTING STARTED

- Assess the walk/bike friendliness of the community using readily available assessment tools. For example, a community can apply for a Bicycle Friendly Community designation from the League of American Bicyclists and learn through that process where improvements are needed.
- Review existing standards, design guidelines and land use policies in the community for conformity with Complete Streets principles.
- Enroll in Metro’s Partial Expense Reduction for Commuters (PERC) program to encourage city employees to use mass transit.
- Engage the police department in enforcing and educating the public about bicycle safety laws.
- Provide professional development for staff regarding best practices.
- Provide preferential parking for carpoolers, hybrid car users and those driving vehicles with better fuel efficiency.
- Provide free parking for employees who ride-share.
- Subsidize bus and light rail fees for city staff.
- Initiate a car/van-pool program.
- Encourage parking at remote Park and Ride Lots.
- Allow fleet vehicles to be used for employee carpools.
- Encourage enrollment in RideFinders and other regional carpooling programs.
- Encourage community-car options.
- Provide shower facilities and lockers at work for those who walk or bike to work in summer months.
- Create a monthly incentive program for bikers and walkers within a larger overall employee wellness program.
- Create awareness campaigns to highlight the availability of alternative transportation options – bus routes and times, availability of bike routes and bike racks, etc.
- Create additional bike trails and bike-only lanes on roads.

ON THE WAY

- Adopt a Complete Streets ordinance encouraging city staff to consider the needs of pedestrians, bikers and the disabled in planning and engineering.
- Incorporate Complete Streets principles in comprehensive plan updates.
- Revise zoning ordinances to allow dense and mixed-use communities. Encourage parking lots in the rear of buildings or in concentrated parking garages.
- Consider the needs of pedestrians and cyclists in neighborhood, subarea and corridor plans.
- Update local street design guidelines and standards with a focus on encouraging non-motorized travel. Use traffic calming measures such as curb bump-outs and raised intersections.
- Adopt streetscape requirements, including landscaping and lighting, to create pleasant, human-scale environments.
- Consider alternatives to widening streets in order to deal with congestion.
- Encourage employers to provide bike parking, showers and lockers for non-motorized commuters.
- Develop an off-road network of greenways and trails, as well as an on-road network of bicycle facilities.
- Convert part of city car fleet to other modes (e.g., bikes and horses for the police department).

SUSTAINING

- Enforce commitment to walkable communities through permitting processes. Hold developers to local standards, with variances only in extenuating circumstances.
- Use redevelopment sites as opportunities for dense, walkable, and mixed-use communities.
- Target compact growth in existing centers and along existing corridors.
- Allocate transportation funds in a way that reflects the desired mode split.
- Initiate or enhance a public campaign to support transit.
- Work with regional, state and federal elected officials to create opportunities for transit oriented development.
- Work with neighboring cities, East West Gateway Council of Governments, and Great Rivers Greenway District to ensure a seamless, connected, and safe transportation network for bicycles and pedestrians.

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OPEN SPACE

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Open Space areas are found in urban, suburban, and rural locations. They can be designated areas of land or water or zoning districts (or overlays) where development is controlled to create undeveloped areas of land or water within a community or region. Open Space areas are commonly open to the public; however some can be owned by non-profit or private interests.

GETTING STARTED

- Switch to using organic, chemical-free compounds on open space.
- Begin a campaign to eradicate invasive and non-native plant species.
- Track costs of watering and fertilizing non-native plants.
- Review maintenance practices of parks and other public facilities for sustainable practices.
- Review zoning ordinances and building codes to determine if Open Space is addressed.
- Conduct a six-month review (and 12-month review) and report the results and progress to elected officials and the community.
- Begin public education and outreach activities on the importance of open space.

ON THE WAY

- Promote and organize a community Green Practices Committee to monitor invasive and non-native plant species. Other public participation programs are Adopt-a-Trail, Community Garden, Track Bird Migration, and stream/trail cleanup events.
- Conduct an Open Space assessment.
- Work with city planners, developers and biologists to develop mixed-used communities.
- Restore brownfields, creating greenspace for public use.
- Conduct project review(s) and report to community.
- Prioritize possible best practices for updating zoning and comprehensive plans to achieve quality Open Space.

SUSTAINING

- Create open networks throughout a community that serve a dual function, such as providing greenways for pedestrians with rain gardens for management of stormwater runoff.
- Customize assessment tool and update assessment on a regular basis to compare baseline over time.
- Review your mandate to assure protection and maintenance of trees on public property and rights-of-way.
- Plant additional trees to enhance the urban tree canopy.
- Identify and protect natural resource areas (e.g., forests, prairies) and critical habitat (e.g., conservation corridors, buffer zones, wildlife preserves) from future development.
- Identify and protect critical areas such as wetlands, floodplains, lakes, rivers, and streams with a mandatory no-development buffer.
- Identify and protect source water areas from current or potential sources of contamination.
- Identify and preserve trees on private property and require replacement when removed or damaged during development.
- Update zoning and comprehensive plans to achieve high quality Open Space.
- Leverage existing capital funds to plant more street trees and add multiple benefits to the public right-of-way.

NOTES & FUTURE ACTIONS

STORMWATER

Stormwater runoff is generated when precipitation from rain and snowmelt flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the paved streets, parking lots, and building rooftops it accumulates debris, chemicals, sediment or other pollutants. This adversely affects water quality if the runoff is left untreated and subsequently discharged

into the sewer system. Increased stormwater also carves away stream banks and incised stream channels and damages roads, bridges, homes, and yards. As urban development with impervious areas and concrete culverts increases, polluted stormwater runs into urban streams and decreases the diversity and quality of aquatic life.

GETTING STARTED

- Incorporate stormwater plan comments and review into the early stages of development review or site plan review and approval, preferably at pre-application meetings with developers.
- Provide signage for creeks on all major roadways indicating that the creek is used to manage stormwater.
- Conduct a stormwater event in which people learn where the stormwater from their roof goes and the extent and variety of pollutants it picks up along the way.
- Establish demonstration projects for rain gardens and use of rain barrels.
- Develop public education and outreach campaigns, such as bill inserts, public service announcements and local web sites.
- Educate the community about sources that contribute to stormwater pollution: using excessive fertilizer and pesticides, improper disposal of pet waste, and placing yard waste in streams and stormwater inlets.
- Control construction site runoff.
- Control post-construction runoff.
- Prevent pollution and conduct good housekeeping in municipal operations.

NOTES & FUTURE ACTIONS

ON THE WAY

- Develop vegetated swale(s) in appropriate locations.
- Plan and implement effective riparian buffers.
- Protect undeveloped riparian zones from construction.
- Remediate damage to creek banks.
- Reduce requirements for parking and encourage or require commercial parking lots to be permeable.
- Revise development regulations to require on-site management of all stormwater.

SUSTAINING

- Replace conventional roofs with green roofs, providing better stormwater management and reduced energy consumption of buildings in dense urban environments or with large roof expanses.
- Acquire intelligent pump control software to manage unpredictable stormwater flows, reducing overflows and the negative impacts of combined sewers on wastewater treatment plants.
- Include narrow streets or minimum possible roadway requirements in ordinances, providing safe passage for pedestrians, cyclists, strollers, and wheelchairs.
- Eliminate possible Combined Sewer Overflows (CSO) and Sanitary System Overflows (SSO).
- Protect natural resources and open space.
- Detect and eliminate illicit discharges.
- Design complete, smart streets that reduce imperviousness.
- Promote efficient, compact developments and infill.

ENERGY & WATER

Energy and water are essential natural resources on which modern life depends. Most municipalities will want to make conserving them core sustainability practices. Although the use of these natural resources is deeply woven into the fabric of modern life, standard practice has historically been very wasteful of both, and thus, significant opportunities for improvement exist.

Any sustainability plan must incorporate methods to save energy and money by reducing usage in and around buildings. Research has shown that better lighting and proper heating and cooling design results in greater comfort and higher productivity of occupants. Missouri and Illinois are in Climate Zone 4 of the United States Department of Agriculture (USDA) climate map, featuring mixed and humid variable weather. This climatic challenge requires energy and water cost reduction solutions specific to this energy-intensive region.

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GETTING STARTED

- Work with a consultant to do an energy and water use audit. You may even be able to arrange financing based on your energy and water.
- Develop energy and water saving procedures to share with city employees (via employee newsletters, intranet, etc.) and residents (via inserts in tax bills, etc.).
- Implement simple steps towards saving money and energy on lighting, such as adopting a "lights out" policy in unoccupied rooms and replacing inefficient lamps and bulbs with more efficient ones. Don't forget to address out-of-the way lighting in city parks, parking lots and parking garages.
- Purchase energy efficient electronics and appliances, including vending machines and water heaters. Look for the ENERGY STAR label.
- Provide regular maintenance and tune ups to building systems (e.g., water heating, HVAC) to identify energy and water waste issues (e.g., leaky faucets or dirty air filters).
- Install programmable thermostats and motion sensors to reduce HVAC and lighting to buildings and rooms when they are unused.
- Encourage weatherization projects, which can be as simple as re-caulking windows and doors, tightening up or sealing ductwork, and insulation upgrades.
- Replace inefficient water fixtures, faucets and landscaping.

ON THE WAY

- Hire an energy and water manager to track energy and water usage and implement savings, or assign this to a sustainability coordinator/manager.
- Pass an ordinance requiring that city owned and funded new construction achieve certification of LEED Silver level or better.
- Pass and enforce an ordinance requiring new residences and retrofits to meet the current International Energy Conservation Code, supported by the U.S. Department of Energy. (IECC 2009).
- Pass and enforce an ordinance requiring new commercial buildings and retrofits to meet the current ASHRAE Standard 90.1 or better. (ASHRAE Standard 90.1-2007).
- Replace all traffic lights and exit signs with LEDs (light-emitting diodes).
- Remove barriers to green building, energy efficiency and water efficiency in existing building codes (e.g., allow private development to use waterless urinals if they choose).
- Undertake a comprehensive lighting study and implement actions from the study, such as installing motion detectors in rooms and replacing inefficient street lamps and bulbs with more efficient technology.
- Install reflective roofing or green roofs on city buildings.
- Include regulations for saving energy and water in the job description of all new hires. Require new hires to be familiar with energy and water saving strategies relevant to the position for which they are hired.
- Purchase renewable energy credits to support cost-effective renewable energy projects.
- Develop and run an education campaign about water and energy efficiency for residents, businesses and institutions.
- Reduce water used in grounds maintenance by installing efficient sprinkler systems (drip irrigation), choosing native plant species and sighting vegetation appropriately.
- Install low flush and low flow fixtures when replacing plumbing.

SUSTAINING

- Strive for carbon-neutral or net-zero energy buildings by 2030.
- Amend Zoning and Subdivision ordinances to increase the reflectivity of sidewalks and pavements in order to reduce urban heat island effect.
- Generate energy on-site from renewable sources (e.g., geothermal, photovoltaic solar panels, solar water heating, wind, methane recovery, or biomass).
- Encourage energy and water efficient strategies in new and existing commercial and residential buildings through laws and incentives.
- Collect rain to water gardens and lawns.
- Reuse graywater for non-potable water needs.
- Provide on-site wastewater treatment and infiltration.

NOTES & FUTURE ACTIONS

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MATERIALS PROCUREMENT

“Reduce, Reuse, Recycle” the 3-R motto of sustainability, is at the heart of sustainable materials procurement. Does a material need to be used? Can it be reused? Can it be recycled? All of these questions should be asked up front. But there is more to it than this. Energy to produce, transport, and dispose of materials, the effect of the materials themselves on the environment, and the effect on human health while in use and when discarded, are at the very core

of this sustainability analysis. Moreover, it is one of the easiest topics to address by local governments because of the availability of ever-advancing information and wide-spread main street support. The issue is readily understandable to local government officials and citizens, and it is one area in which local government has exclusive control.

GETTING STARTED

- Form an Environmentally Preferable Purchasing (EPP) committee comprising representatives from the city departments that procure materials.
- Evaluate and assess what materials are being used by the local government and its various departments.
- Establish an EPP program based on these findings.
- Educate city employees about the EPP program.
- Encourage the 3Rs—Reduce, Reuse and Recycle.

ON THE ROAD

- Audit, assess and create a complete listing of materials used by all departments.
- Develop a formal EPP policy.
- Research possible Green Purchasing Organizations to assist the Committee in performing an analysis of products used or under consideration for use.
- Consult with similar municipalities for information that may already have been analyzed.

SUSTAINING

- Continue to educate city employees about the EPP policy.
- Update EPP policy as necessary.
- Continue to implement the EPP policy in all government operations.
- Update resources as technology advances.

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