



Sustain

LOUISVILLE



LOUISVILLE METRO SUSTAINABILITY PLAN

CREATED MARCH 2013



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OBJECTIVES:
PROTECT THE ENVIRONMENT
AND REDUCE LOUISVILLE'S
CARBON FOOTPRINT

ENSURE THE HEALTH,
WELLNESS AND PROSPERITY OF
ALL CITIZENS

CREATE A CULTURE
OF SUSTAINABILITY



GREG FISCHER, MAYOR

LETTER FROM THE MAYOR

Dear citizens:

My goal is for Louisville to be one of the nation's greenest and most environmentally friendly cities – and this document is the plan for getting us there.

Sustain Louisville is our city's first comprehensive sustainability plan — and it's designed to not only green Metro Government, but to advance sustainability issues across our city's roughly 400 square miles. Government can do its part to create a more sustainable city, but it takes everyone, all 750,000 residents, to ensure that we leave this Earth better than we found it.

This plan has six major focus areas — Energy, Environment, Transportation, Economy, Community and Engagement — with 19 broad goals and numerous programs and tactics to reach those goals. Sustain Louisville was a year in the planning and this document incorporates ideas and priorities we heard from citizens and community and business leaders.

It is my hope that, years from now, future generations will look back on this plan as the beginning of a major shift in Louisville to becoming a more sustainable city.



Greg Fischer

Greg Fischer

EXECUTIVE SUMMARY

Louisville Metro Government is pleased to present Sustain Louisville, the city's first sustainability plan. Sustain Louisville is a vital element for ensuring an environmentally sound, vibrant, and prosperous future for Louisville and its citizens. The plan was prepared by the Office of Sustainability with the input of city government employees and community stakeholders. Sustain Louisville is intended to be a living document that celebrates our strengths and identifies goals for future success. As the city makes progress toward meeting Sustain Louisville's goals, or as priorities change, the plan will evolve and remain fluid. Implementation of the initiatives and progress toward achieving Sustain Louisville's goals will be reported to the community on an annual basis.

Sustainability is traditionally defined as "meeting today's needs without compromising the ability of future generations to meet their own needs." This is often applied to environmental elements such as air and water; however, Sustain Louisville is using a "triple bottom line" approach which recognizes the interconnectivity of people, prosperity and the planet. Triple bottom line sustainability is an essential perspective for city sustainability planning because of the opportunity to drive success and connect mutually beneficial related efforts that achieve multiple objectives. In other words, sustainability is good for business, our citizens and our planet.

OBJECTIVES:

1. Protect the environment and reduce Louisville's carbon footprint.
2. Ensure the health, wellness and prosperity of all citizens.
3. Create a culture of sustainability.

Sustain Louisville is divided into six focus areas: energy, environment, transportation, economy, community and engagement. These focus areas were identified based on an evaluation of national benchmarks and local issues, and specifically because efforts need to be made or enhanced in these areas to drive sustainability in Louisville. In each section, goals and initiatives are detailed that include metrics for success and anticipated completion timelines.

Sustain Louisville's goals and initiatives are closely interconnected and success in one area will likely affect results in other areas.

THE ENERGY SECTION provides information regarding both citywide and city government energy use and identifies existing and proposed initiatives to achieve Sustain Louisville's goals and objectives. The goals and initiatives completion dates range from one year to the long-term alternative energy goals of 2025.

THE ENVIRONMENT SECTION provides goals and initiatives that promote clean air, clean water and reducing waste. Addressing the vital topics of climate adaptation and resilience is included in this section as well as water quality and waterway protection.

THE TRANSPORTATION SECTION identifies efforts that are planned or underway such as the city's Strategic Multimodal Transportation Plan and the state's Metropolitan Transportation Plan, and sets goals to include sustainability elements in each plan. As indicated, significant improvement and investment is needed to make transportation more sustainable in Louisville.

THE ECONOMY SECTION describes existing and proposed efforts to promote a clean economy and foster economic development. Prosperity in the community is a key element in developing a more sustainable city.

THE COMMUNITY SECTION includes health and equity as well as sustainable land management. Connecting the community with the natural environment helps promote healthy living, environmental awareness and improves the overall quality of life in Louisville. The section also highlights the value of trees in combating the urban heat island effect and as an element of green infrastructure. Wastewater management and green infrastructure goals and initiatives also are included in this section.

THE ENGAGEMENT SECTION discusses perhaps the most vital aspect of Sustain Louisville. An engaged and aware community is the most effective way to advance sustainability. The goal of this section is to educate the community and inspire everyone to do their part to achieve Sustain Louisville's goals.

In 2013, the Office of Sustainability will engage with the community to assess opportunities for launching a signature project. This project will be a big, bold effort that will unite Louisville's citizens around a large-scale sustainability project.

Sustain Louisville goals and initiatives are summarized on the next page.

GOALS

Sustain Louisville – Goals Summary

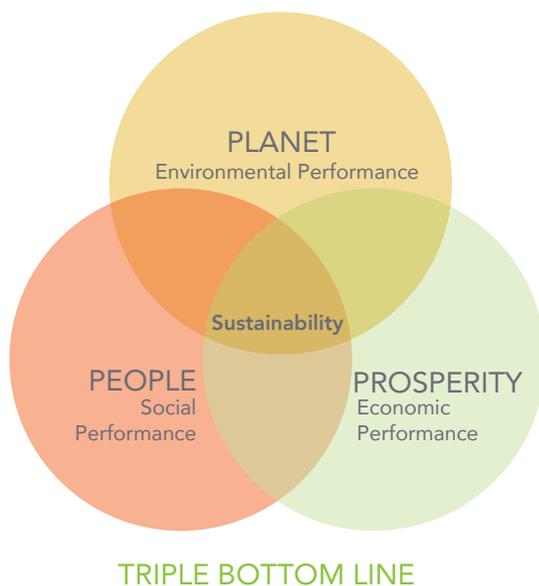
FOCUS AREA	GOALS	TARGET DATE
1.0 Energy	1. Decrease energy use citywide per capita by 25%	2025
	2. Decrease energy use in city-owned buildings by 30%	2018
2.0 Environment	3. Mitigate the risk of climate change impacts	2018
	4. Achieve and exceed National Ambient Air Quality Standards	Ongoing
	5. Improve waterway quality	2018
	6. Increase recycling citywide by 25%	2015
	7. Achieve 90% residential recycling participation	2025
	8. Divert 50% of solid waste away from the landfill by 2025 and 90% by 2042	2025
3.0 Transportation	9. Decrease transportation-related greenhouse gas emissions by 20%	2020
	10. Reduce vehicle miles traveled by 20%	2025
4.0 Economy	11. Provide opportunities for clean economy organizations and innovators, and develop a qualified workforce to support it	2015
	12. Expand the local food system by 20%	2018
5.0 Community	13. Increase access to healthy foods by 20%	2018
	14. Increase opportunities for active living	2015
	15. Incorporate sustainability into the Land Development Code and the Comprehensive Plan	2015
	16. Replace and reforest parks property and provide nature-based recreation	2018
	17. Expand green infrastructure incentives citywide	2018
	18. Establish a robust urban tree canopy and implement strategies to mitigate the urban heat island effect	2018
6.0 Engagement	19. Engage the community in sustainability practices and principles	Ongoing

INTRODUCTION

Sustain Louisville is Louisville’s first sustainability plan which heralds an exciting chapter in Louisville’s history and affirms Louisville Metro Government’s commitment to becoming one of the greenest cities in the country. Sustain Louisville will guide the city and its many partners in uniting multiple sustainability objectives and creating far-reaching impacts. Sustain Louisville is a foundational framework to shape citywide efforts, including public- and private-sector organizations and individuals, to promote a vibrant, prosperous and healthy community with a better quality of life for all Louisville citizens now and in the future.

Sustainability is traditionally defined as “Meeting today’s needs without compromising the ability of future generations to meet their own needs.” This often is applied primarily to environmental elements such as air and water. However, Sustain Louisville is using a “triple bottom line” approach which recognizes the interconnectivity of people, prosperity and the environment, and which can have an exponential effect on the community through multiple efforts.

Sustain Louisville’s key objectives are intended to represent and balance social equity and economic health with those of the environment that align with triple bottom line sustainability principles. For example, promoting energy efficiency will help improve Louisville’s air quality, and it also will help building occupants reduce energy costs. While Sustain Louisville is intended to be comprehensive in nature and is designed to set a course for long-term aspirations, it also imparts a sense of urgency toward achieving Louisville’s short-term goals.



PURPOSE OF THE OFFICE OF SUSTAINABILITY

Mayor Greg Fischer established the city’s first-ever Office of Sustainability in January 2012 to move Louisville toward becoming one of the greenest cities in the country. This cross-functional office also is tasked with strategic sustainability planning, development, and implementation of sustainability programs, policies and guidelines for both city government and the community. The Office is establishing public-private partnership opportunities toward achieving Louisville’s sustainability goals.



The mission of the Office of Sustainability is to embed sustainability into the culture of Louisville’s citizens. Creating a culture of sustainability will be achieved through broad-based education and awareness efforts as well as implementation of projects and initiatives to influence behavior change.



SUSTAINABILITY OBJECTIVES

Sustain Louisville is driving three objectives to successfully achieve the Office of Sustainability’s mission and vision.

- 1. Protect the environment** and reduce Louisville’s carbon footprint. In 2005, Louisville was ranked with the fifth-highest carbon footprint per capita among the 100 largest metropolitan areas (Brookings Institution, 2008). A carbon footprint is the measurement of total greenhouse gas emissions from a specific source such as a building, organization or person. Protecting the environment will help ensure that Louisville has clean air, clean water and thriving ecosystems which go hand in hand with reducing Louisville’s carbon footprint.
- 2. Ensure the health, wellness and prosperity of all citizens.** Providing access to healthy foods, transit options, green spaces, equitable housing and urban core development will foster a healthy, active, safe and livable community. These activities help support social justice and will provide economic vitality by supporting clean economy jobs and business development opportunities.
- 3. Create a culture of sustainability.** Louisville Metro Government will provide robust community engagement and education opportunities on sustainability practices and principles to support and ensure Louisville’s vibrant future.

INTRODUCTION

GOALS AND INITIATIVES

The goals and initiatives outlined in Sustain Louisville align with and support the objectives, and include bold ideas that advance energy efficiency, enhance and increase transportation options and create collaboration across sectors. Sustain Louisville is divided into the focus areas of energy, environment, transportation, economy, community and engagement. These focus areas were identified based on an evaluation of national benchmarks and local issues and specifically because efforts need to be made or enhanced in each area to drive sustainability in Louisville. Within the focus areas, initiatives and metrics are identified to achieve both the focus area goals and the overarching Plan objectives. It should be noted that implementation of the initiatives and progress toward meeting the goals is dependent upon the available resources.

The initiatives in Sustain Louisville are the starting point to move toward goal achievement within each focus area. The initiatives are listed in charts in each section and are identified as underway, planned or proposed. Initiatives identified as underway are being worked on now, initiatives identified as planned will be launched or completed within three years, and initiatives identified as proposed will be launched or completed in four years or longer. The Office of Sustainability continually evaluates and considers new initiatives and opportunities that could help achieve the Plan goals.

Sustain Louisville is a living and fluid document, and as resources and priorities change, the goals may evolve. The Plan goals and initiatives are not mutually exclusive of other possible opportunities and are not in any particular priority or ranking. Rather, they are interconnected, and success in one area will likely affect results in other areas.

Sustain Louisville will be updated annually and the progress toward meeting the goals and completing initiatives will be reported.

EARLY SUSTAINABILITY EFFORTS

Louisville Metro Government began its green initiatives in 2005 when former Mayor Jerry Abramson signed the U.S. Mayor's Climate Protection Agreement, which was endorsed by the U.S. Conference of Mayors. Mayor Fischer continued Louisville's commitment to climate protection by renewing this agreement on his first day in office, January 3, 2011.

In 2004, Louisville Metro Government was a founding member in the Partnership for a Green City (PGC),

go green louisvi!!e

an innovative environmental collaboration of city government, Jefferson County Public Schools and the University of Louisville, which are the largest public employers in the city and in the Commonwealth of Kentucky. The PGC was formed to focus on environmental management, environmental education and environmental health initiatives. A fourth public employer, Jefferson Community & Technical College, joined the partnership in 2011.

In 2008, the city launched Go Green Louisville, a precursor to the Office of Sustainability, which promoted a variety of sustainable practices, including the improvement of air quality, energy conservation, wise water use, land management and recycling practices.

In cooperation with the PGC, the Louisville Metro Air Pollution Control District (APCD) completed a comprehensive greenhouse gas (GHG) emissions inventory that was detailed in the PGC's Climate Action Report (CAR), released on April 22, 2009. The CAR included 175 recommendations to mitigate the community's GHG emissions and to prepare for local climate change impacts. Action has been taken, or is ongoing, to address 140 of those recommendations. Each partner organization is preparing plans to reduce its GHG emissions and is working on related initiatives including energy efficiency, transportation, education, recycling and green space management programs. GHG data from the CAR is referenced in this Plan and will be used as the baseline for carbon footprint-reduction goals.

The Office of Sustainability is establishing public-private partnership towards achieving Louisville's sustainability goals, such as the Louisville Sustainability Council. The Louisville Sustainability Council was formed in 2012, based on the work and recommendations of the Leadership Louisville Bingham Fellows Class of 2010, to promote sustainability in Louisville. The LSC Board of Directors represents the Bingham Fellows Class of 2010 and professionals from a cross-section of Louisville's business, public and nonprofit community. Now, more than ever, city government wants to partner and collaborate with citizens and organizations to both provide guidance and leverage expertise in the community as it becomes a more sustainable city.



VISION LOUISVILLE

The Phase 1 Research and Discovery efforts of Vision Louisville were completed in 2012. Vision Louisville is an aspirational plan for the future development of Louisville. Focused on the built environment and its development over the next 25 years, Vision Louisville will emphasize growth, authenticity, preservation, sustainability and quality of place. The Office of Sustainability is working in concert with the visioning effort because of the multitude of ways that Vision Louisville incorporates sustainable practices and elements.

SIGNATURE PROJECT

In 2013 the Office of Sustainability will engage with the community to assess opportunities for launching a signature project. This will be a big, bold effort that unites the city around a large scale sustainability project. Ideas could be leveraged from the Phase 1 Research and Discovery efforts of Vision Louisville such as create a carbon-neutral Fairgrounds, create a green jobs and solar power program, or establish a public transportation asset such as light rail or rapid transit buses.

CITY SUSTAINABILITY RANKINGS

Louisville Metro Government is committed to working towards measurable and achievable goals in our efforts to become a national green leader. One way to do this is to

participate in a national benchmarking ranking program. One such ranking system is STAR Communities, which was piloted in 2012. This nonprofit effort from ICLEI – Local Governments for Sustainability, endeavors to advance a national framework, rating system and best practice sharing for achieving city sustainability.

NEXT STEPS

Louisville has numerous strengths to build upon and celebrate, and assets that can be leveraged to advance sustainability. Sustainability efforts in the community already are supported by philanthropic organizations, corporations, nonprofit groups, civic leaders and grassroots efforts that are made up of passionate individuals who know that by doing their part the community becomes a better place. With its many partners, city government will leverage mutually beneficial opportunities that promote its commitment toward becoming a more sustainable community.

Achieving the sustainability goals set out in Sustain Louisville will require the efforts of not only city government, but also the many partnerships and concerted efforts of 750,000 citizens who have a role in helping Louisville become a truly sustainable city.

1.0 ENERGY

As a city located in one of the top coal-producing states, Louisville's electricity is primarily generated by coal-fueled power plants. This carbon-intense energy source creates unique challenges and opportunities as it relates to Sustain Louisville's objective of reducing Louisville's carbon footprint. Louisville Gas and Electric (LG&E), the utility serving Louisville and much of the surrounding communities, produced approximately 97% of its net kilowatt energy using coal-fired generating units in 2010.

Louisville's energy rates are among the lowest in the United States and research shows that low utility costs result in less consumer conservation than in areas with high utility costs. In 2009, Kentucky consumed 435 million BTUs per person compared to a national average of 308 million, which is likely due to its low energy costs. In 2010, Kentucky had the fourth-lowest electric rates in the country. Even with low energy costs, city government is encouraging the community to pursue energy efficiency, energy conservation and renewable energy options. These efforts help improve Louisville's air quality and provide cost savings for the user.

In 2008, the Louisville Metro Air Pollution Control District (APCD) completed a comprehensive GHG emissions inventory using data from 1990 and 2006. GHG emissions, measured in tons of carbon dioxide equivalent (CO₂e), were calculated for the energy used in the residential, commercial and industrial sectors, as well as for transportation, public transit and waste disposal. The GHG emissions inventory findings were presented in the Climate Action Report (CAR) in 2009. The CAR indicated that the largest sources of GHG emissions were from the transportation and residential sectors, respectively, which contributed more than half of the inventoried emissions. These emissions are a result of indirect emissions from electricity usage and direct emissions from natural gas usage in residential buildings, as well as direct emissions from fuel usage in vehicles. Measured GHG emissions increased by 5.7% between 1990 and 2006. The inventory shows that the GHG emissions per capita within the Louisville Metro area are among the highest in the nation for large municipalities.



1.1 Energy Conservation

EXISTING EFFORTS

In an effort to reduce its energy consumption, promote energy efficiency and be more environmentally responsible, city government began an energy savings performance contract (ESPC) in 2010. Energy efficiency upgrades were implemented in 24 city-owned buildings with a guarantee of 23% savings on energy costs, or \$693,000 annually. The project had a 13-year return on investment and an estimated reduction of 7,500 metric tons of greenhouse gas emissions annually. This is the equivalent of planting 185,100 trees or removing 1,430 vehicles from the road. The Office of Sustainability will share the ESPC results as the measurement and verification activities are quantified in 2013. Another example of energy efficiency in city government is the Department of Technology Services server virtualization program. The city server farm is slightly more than 50% virtualized and virtual servers are the default purchase for new or replacement systems, saving about 1.5 megawatt hours of electricity per year, the equivalent of the necessary energy to run one household for a month.

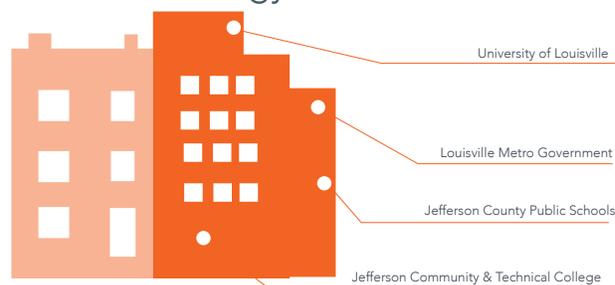


The Office of Sustainability created an energy strategy workgroup, which is comprised of city employees from multiple agencies who are working together to better understand our energy consumption and actively manage the associated energy usage of their respective functional areas. This workgroup is developing an Energy Management Policy which will guide facility managers and occupants on the expectations around energy usage such as thermostat setbacks and controls. The policy also will include behavior change management initiatives such as providing prompts for turning off lights when not in use.

Other factors to improve energy efficiency in city government buildings include improved preventative maintenance and equipment upkeep practices. Routine preventative maintenance helps keep equipment functioning properly and more efficiently and thereby using less energy. In addition, the PGC Green Building Team is monitoring the ESPC's at Louisville Metro, JCPS, JCTC and UofL that have resulted in a combined savings of nearly 30 million kilowatt hours and \$3.6 million in annual energy costs.

Partnership for a Green City Energy Savings

Savings of nearly **30 million** kilowatt hours and **\$3.6 million** in annual energy costs



LOUISVILLE GAS AND ELECTRIC COMPANY

offers its residential and commercial customers a variety of energy efficiency programs that help them save energy and money. Customers can apply for rebates for making energy upgrades, perform an online home energy analysis or schedule an on-site analysis, receive summer energy bill credits by enrolling in a program that helps the utility better manage peak energy demand, and arrange to have their air conditioners tested and tuned up, to name a few of the available opportunities.

Green and Cool Roofs

Louisville Metro Government currently has green (vegetated) roofs on the Metro Development Center and the 645 Industry Building A, and has Energy Star white roofs on the 645 Industry Building B, the Firearms Training Center and the Alexander Building. Green roofs are an excellent way to increase energy efficiency, decrease rainwater runoff and help mitigate urban heat island (UHI) issues. Cool roofs (roofs with a high solar reflective index –SRI – value, which are made with highly reflective or white material) reflect sunlight, retain less heat, are more energy efficient and help reduce UHI impacts. A growing number of green roofs are located across Louisville including at the America Life building, the Green Building, the Louisville Zoo, University of Louisville's Equine Center, the Louisville Metro Housing Authority administrative building and at Brown-Forman's main campus.



Energy Star

In an effort to manage city government's energy usage and the associated costs, energy usage for all city-managed facilities is tracked in the EPA Energy Star Portfolio Manager software. Portfolio Manager is a free database that uses a rating scale of 1 to 100 to benchmark buildings based on building age, square footage and occupancy levels, among other things. Portfolio Manager also normalizes for regional weather factors. Buildings that achieve a rating of at least 75 are eligible to become Energy Star certified. The Louisville Metro Old Jail Building is Energy Star certified and is one of 44 Energy Star certified buildings located in the city.

One effort to increase the use of Portfolio Manager and encourage buildings to get Energy Star certified is the Louisville Energy Alliance's Kilowatt Crackdown competition. A product of Louisville's participation as a Partner City in the Energy Star program, the Kilowatt Crackdown challenges commercial and institutional building owners and operators to improve their facilities' energy efficiency and recognizes those that make the greatest strides. The Louisville Energy Alliance is a public-private partnership among Louisville Metro Government, the Kentucky Department for Energy Development and Independence and local chapters of several commercial real estate associations.

ENERGY

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

Louisville Metro Government owns one building, the Newburg Library that is Silver certified by the U.S. Green Building Council for Leadership in Energy and Environmental Design (LEED). LEED buildings generally have 10% lower operating costs and are up to 10% more energy efficient per square foot than conventional buildings.

The city anticipates achieving LEED certification for two additional buildings, including the new Southwest Library, which will begin construction in 2013, and also is committed to develop future city-owned buildings to LEED certified standards. The Office of Sustainability will identify and incorporate sustainability goals for city capital projects, including environmental, social and economic factors.

There are 25 buildings in Louisville that are certified by the U.S. Green Building Council for LEED. These certified buildings run the gamut from a 115-year-old



multiuse LEED Platinum building to new construction warehouses and offices. In addition, there are 31 buildings registered for LEED certification, which means that they are working on the certification process.

In 2012, the East Market Street District received an Affordable Green Neighborhoods Grant. This **\$25,000 grant** is funded by the US Green Building Council and Bank of America, and will support the application for LEED Neighborhood Development (ND) in the 200-acre project area. This project is scheduled to launch in 2013.



PROPOSED INITIATIVES

To reduce Louisville's carbon footprint from the fifth-worst in the country, the city's goal is to decrease the energy use citywide per capita by 25% by 2025 relative to the 2006 baseline (Partnership for a Green City's CAR). Achievement of this goal will require broad participation from Louisville's citizens to implement energy conservation and efficiency measures. As indicated in the CAR, the residential sector is a large contributor to Louisville's carbon footprint and as such, community education initiatives will be needed,

particularly with respect to energy efficiency and conservation practices. In addition, the vast majority of homes in Louisville were constructed before the building code required insulation. Rehabilitation and weatherization of older housing stock would reduce energy use, save the occupants money and help improve Louisville's air quality. The Office of Sustainability will develop a community engagement program to educate and encourage the community to adopt energy efficiency and conservation practices.

To contribute to the citywide energy use reduction goal of 25%, Louisville Metro Government’s goal is to reduce energy use in its buildings by 30% by 2018. This goal will be achieved through a variety of programs that include both mechanical improvements and behavior-change initiatives, such as implementation of the Energy Management Policy being devised by the energy strategy group and development of a preventative maintenance program as outlined above. In addition, city government launched its second energy savings performance effort at the beginning of 2013.



The Metropolitan Sewer District (MSD) offers a stipend for green roof construction projects that are located within the combined sewer overflow area. The stipend is calculated based on the square footage of green roofs and its value for decreasing the rainwater runoff flowing into the sewer system. In an effort to increase green roofs in the city, the Office of Sustainability will collaborate with MSD to investigate opportunities to expand and broaden its green roof incentive program for buildings located outside the

combined sewer overflow area. This could include rebating a portion of the green roof installation cost through a property tax deduction, for example. In addition, the Office of Sustainability will establish goals for increasing green and cool roofs citywide and develop a best practices guide that provides design and cost information.

Through continued partnership with the Louisville Energy Alliance, the Office of Sustainability will develop an Energy Star Certification program in an effort to get the city on the top 25 ranking list for cities with the most Energy Star certified buildings by 2018, and into the top 10 by 2025. This program will encourage building owners to use Portfolio Manager for benchmarking purposes as well as offer assistance with achieving Energy Star certification. Encouraging participation in this program also will help meet the citywide goals for decreased energy usage.

In support of inspiring green building practices in Louisville, a green building construction, renovation and demolition incentive program will be developed. An element of the program will include an expedited building permit process for projects that include green elements. In addition, the city will require an Energy Star building benchmark disclosure for commercial buildings that will have building owners track the buildings’ energy performance in Portfolio Manager and disclose the buildings’ energy star rating. The Office of Sustainability will convene a work group to help identify best practices and establish a program that includes these initiatives as well as realistic, achievable goals and guidelines.

Goals and Initiatives

ENERGY	
1. Decrease energy use citywide per capita by 25%	2025
INITIATIVES	
Launch an EPA Energy Star building certification program	Underway
Launch a Cool and Green Roof program	Planned
Launch an education program to promote energy efficiency and energy conservation	Planned
Launch a green building incentive program	Planned
Require an Energy Star building benchmark disclosure for commercial buildings	Planned
2. Decrease energy use in city-owned buildings by 30%	2018
INITIATIVES	
Launch the second energy savings performance contract for city-owned buildings	Underway
Implement an Energy Management Policy for city-owned buildings	Underway
Identify sustainability goals for city government capital projects	Planned

ENERGY



1.2 Renewable Energy

EXISTING EFFORTS

A further demonstration of city government’s commitment to sustainability is the solar photovoltaic panels on three building rooftops, including the Metro Development Center, Ashland Firehouse, and the Newburg Library. The Metro Development Center also has solar thermal panels which provide enough hot water to meet the needs of the building’s 550 occupants. The panels have provided more than 32,700 kilowatt hours of solar power for the three city facilities in the last year. APCD also has a solar panel array at the Cannons Lane air monitoring station that provides approximately 30% of the power needs for the station. In addition, three firehouses have geothermal heating and cooling systems which significantly decrease operating costs.

PROPOSED INITIATIVES

To draw on the success of these projects, the city will investigate opportunities and develop a program to increase the use of renewable energy technologies by 50% by 2025, on both existing and new buildings. In addition, the city will develop a renewable energy demonstration project such as solar carports or a solar roadway. The project will serve as a living laboratory that will give the community a hands-on way to learn about renewable energy as well as create the linkage to innovative solutions and experimentation around the rapidly evolving field of renewable energy.

City government hopes to foster a viable atmosphere for renewable energy options in the community by leveraging public-private partnerships, pilot projects and grant

opportunities. To this end, Sustain Louisville will introduce citywide renewable energy goals, and review potential incentive or legislative options to help facilitate this process such as:

- **Property Assessed Clean Energy (PACE)** – PACE is a financing mechanism for energy efficiency and renewable energy infrastructure (e.g. solar photovoltaic panels). PACE funding allows commercial property owners to receive financing from a third party lender, which is repaid through an incremental property tax increase as determined by the project cost, for a term of up to 20 years. The repayment obligation remains with the property regardless of a transfer of ownership. The owner realizes immediate cost savings through decreased energy consumption which offsets and often exceeds the property tax payments. PACE programs have bi-partisan support at federal, state and local levels, and are offered through legislation by 28 states and the District of Columbia. Current Kentucky legislation does not support PACE programs.
- **Power Purchase Agreement (PPA)** – PPA is a legal contract between an electricity generator and a power purchaser. During the contract term, the power purchaser buys energy from the electricity generator. With distributed generation where the generator is located on a building site and energy is sold to the occupant, commercial PPAs enable businesses, schools and governments to purchase electricity directly from the generator rather than a utility.
- **Renewable Portfolio Standards (RPS)** – RPS is a regulation that requires the increased energy production from renewable sources such as wind, solar, biomass or geothermal. The RPS generally requires electric companies to produce a specified fraction of their electricity from renewable energy sources. Certified renewable energy generators earn certificates for every unit of electricity they produce, and can sell these along with their electricity.

Goal and Initiatives

ENERGY

1. Decrease energy use citywide per capita by 25%	2025
INITIATIVES	
Establish citywide renewable energy goals and strategies	Planned
Assess renewable energy incentive programs and legislative options	Planned
Install a living laboratory solar demonstration project	Planned
Increase the use of renewable energy technologies in city-owned buildings by 50% by 2025	Proposed

2.0 ENVIRONMENT



CLEAN AIR, CLEAN WATER, CLIMATE CHANGE AND WASTE MANAGEMENT ARE VITAL ENVIRONMENTAL SUSTAINABILITY ELEMENTS THAT CONTRIBUTE TO LOUISVILLE'S OVERALL SUSTAINABILITY PERFORMANCE. THE GOALS AND INITIATIVES IDENTIFIED IN THIS SECTION SUPPORT SUSTAIN LOUISVILLE'S THREE OBJECTIVES TO PROTECT THE ENVIRONMENT; ENSURE THE HEALTH, WELLNESS AND PROSPERITY OF ALL CITIZENS; AND CREATE A CULTURE OF SUSTAINABILITY. THIS SECTION ALSO DETAILS THE IMPROVED QUALITY OF LIFE RECOGNIZED AS A RESULT OF THESE EFFORTS.

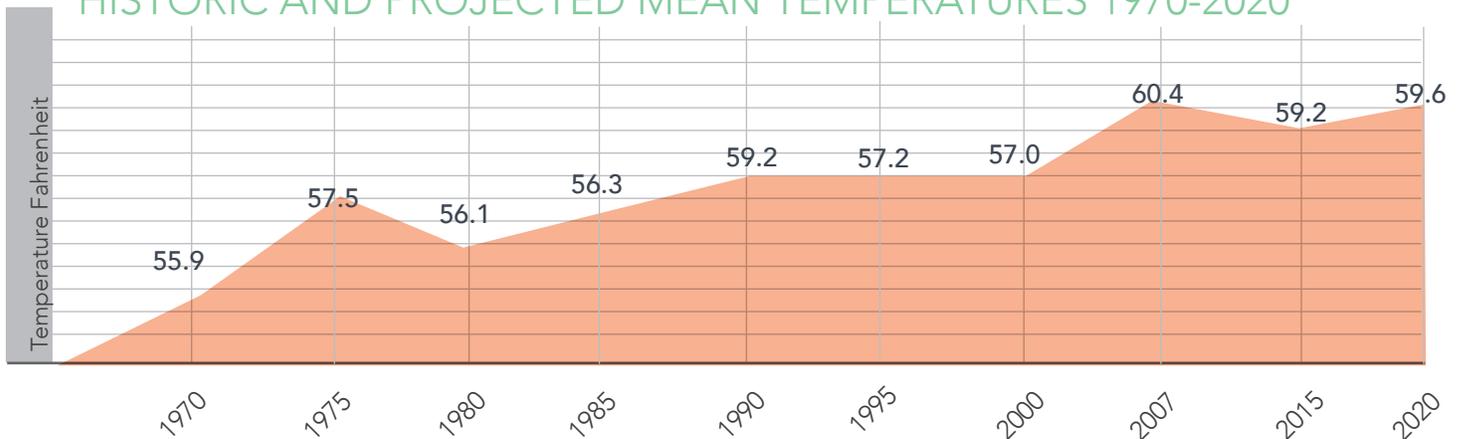
2.1 Climate Adaptation

Developing an understanding of the risks that climate change poses to the Louisville area is an important first step in making the city more resilient. Regional reports indicate that climate hazards such as increased heat, precipitation and drought will become more frequent and intense in the coming years. Louisville's temperature and precipitation data has been collected by the National Oceanic Atmospheric Agency (NOAA) since 1948. From the 60-year data set (1948 to 2007) the mean, maximum and minimum air temperatures have increased systematically since 1970. The greatest rate of change in these measurements is the pronounced rise in minimum temperatures particularly since 1970. Projections for 2020, using the collected data and assuming that GHG emissions stay the same, indicate that the mean temperature will increase between two and four degrees. Annual precipitation totals have remained

steady; however the annual precipitation levels in the form of snowfall have declined since 1960 and are projected to continue to decline based on this model.

Louisville has experienced an average of thirty-two days above 90 degrees over the past thirty years. The record amount of days over 90 degrees in a year is 81, which happened in 1954 and the least amount is three days in 1974. By late this century under the high emissions scenario, the Union of Concerned Scientists projects that Louisville will face more than 80 days above 90 degrees and nearly 25 days above 100 degrees. Prolonged excessive heat poses particular health risks for all vulnerable populations and may adversely affect the city's infrastructure and operations. Potential effects on infrastructure include power outages, weathering of vehicles, pavement buckling and damage to roads and bridges, all of which can potentially disrupt important city services.

HISTORIC AND PROJECTED MEAN TEMPERATURES 1970-2020



Source: National Oceanic and Atmospheric Administration



FLOODING

Louisville is located along the Ohio River, where up to 75 billion gallons of water flow by the city every day. The Ohio River Basin includes 204,000 square miles across 14 states, therefore extreme weather events both locally and upstream can cause flooding in the Louisville area. To protect Louisville from Ohio River flooding, a 30-mile floodwall and levee system was constructed. The system is three feet higher than the 1937 flood stage (52.2 feet), which is Louisville’s highest recorded flood level, and is more than ten feet higher than any other recorded flood. Additionally, there are 16 flood pump station facilities designed to remove internal flood waters and displace those waters to the river. As such, a greater likelihood of flooding impacts in Louisville is from our internal urban waterways.

The changes in climate patterns are creating more erratic weather events, including the intensity of storm events and storm cycles, the incidence of extreme weather and the length and intensity of periods of drought and precipitation. Changes in the distribution of rainfall throughout the year will likely produce conditions such as broader flood plains, increased flooding during storm events, heightened effects of stormwater runoff, and water scarcity and increased demands for area water from other parts of the state or nation.

Increased flooding and drought in Louisville could decrease water quality and increase water treatment costs. Currently, most water companies manage elevated contaminants during flooding events and prolonged droughts. However, changes in the frequency and timing of these events may pose economic, environmental and health risks.

CITY IMPACTS

The impacts of climate change pose social, economic and environmental risks in Louisville. The U.S. Government Accountability Office reports that 88% of all property losses paid by insurers between 1980 and 2005 were weather related. According to NOAA, in 2011, ten separate weather events in the U.S. each resulted in more than \$1 billion in damage.

Adapting for climate resilience requires the acceptance that climate change is already happening and that we need to prepare for weather trends outside of our control. We need to integrate climate change risks and adaptation into our planning and development goals, including protection of distribution systems such as roads and highways.

City government is entrusted to guide physical development to manage risks from natural hazards, including long-term risks associated with climate change. Increased susceptibility to flooding, intense weather events and higher temperatures require the city to consider appropriate adaptive measures such as cooling centers and disaster relief services. Enhancing the resilience of key services and infrastructure in advance of potential climate impacts is essential as city departments maintain, operate, and build infrastructure that will support and strengthen Louisville’s growing economy. The city has a Multi-Hazard Mitigation Plan which includes preparedness measures for the effects of unanticipated natural disasters.

PROPOSED INITIATIVES

The Office of Sustainability will convene a work group to study the Multi-Hazard Mitigation Plan, and develop and integrate strategies and goals for increasing resilience to the impacts of climate change.

Goal and Initiatives

ENVIRONMENT	
3. Mitigate the risk of climate change impacts	2018
INITIATIVES	
Identify and implement climate change adaptation and resilience goals and best practices	Planned

2.2 Air

The Air Pollution Control District has worked to improve Louisville's air quality for 67 years and is authorized to implement the federal Clean Air Act. Under the direction of the Air Pollution Control Board, APCD collects air monitoring and emissions data, administers rules and regulations, issues and enforces permits, provides education and assists the community by addressing air quality challenges.

EXISTING EFFORTS

Section 108 of the Clean Air Act requires all areas in the United States to meet the National Ambient Air Quality Standards (NAAQS). The NAAQS include criteria air pollutants whose emissions may reasonably be anticipated to endanger public health or welfare. The EPA reviews the NAAQS guidance every five years and revises the standards as necessary. While Louisville's air quality continues to improve, meeting more stringent NAAQS requirements is a challenge. Of the six NAAQS pollutants (particulate matter, ground-level ozone, carbon monoxide, sulfur dioxide, nitrogen oxides and lead), the three which cause the most widespread health threats in Louisville are ozone, fine particulate matter (PM_{2.5}) and sulfur dioxide (SO₂). Based on a number of variables, Louisville's air quality and the associated NAAQS attainment fluctuates.

EPA has designated Louisville as meeting the ozone standard (i.e., "in attainment") but because of 2012 weather patterns, the area (Clark and Floyd Counties in Indiana and Bullitt, Jefferson and Oldham Counties in Kentucky) is violating the NAAQS. As a result, the area will submit a plan to the EPA in 2013 that identifies control strategies and an implementation timeline to improve air quality.

The Louisville area is designated as nonattainment for PM_{2.5}, but because recent monitoring data indicates that the area has met the standard, APCD requested redesignation to attainment from the EPA. In 2010, EPA strengthened the SO₂ standard and APCD anticipates that a portion of Louisville will be designated as nonattainment in 2013. In anticipation of this timeline and because approximately 95% of Louisville's SO₂ emissions are generated by LG&E at its Mill Creek and Cane Run electric generating stations, APCD is working with LG&E to revise its air permits to reduce emissions.

In an effort to improve air emissions from its energy plants, LG&E is building four new pollution scrubbers at the Mill Creek power plant. The scrubbers will better control fine particulate emissions, remove more than 98% of sulfur dioxide emissions, which is an improvement from about

90% now, and a filter baghouse will hold back more than 90% of the toxic mercury, an improvement from about 50% now. In addition, the Cane Run plant will begin conversion to natural gas in 2013 which will greatly improve air emissions from the plant.

APCD's Strategic Toxic Air Reduction (STAR) Program, implemented in 2005, regulates harmful pollutants from large industrial emitters. A long-term air monitoring effort being conducted by the University of Louisville confirms the STAR program's effectiveness in lowering toxic emissions and improving air quality especially in the western portion of Louisville.

AIR QUALITY AWARENESS

Many emission sources in the community are not subject to APCD's regulatory authority, notably mobile sources such as cars, trains, trucks and airplanes. Mobile air pollution sources also include lawn and landscaping equipment. APCD's EPA award-winning Lawn Care for Cleaner Air program offers a financial incentive to encourage residents to switch from gas-powered to manual or electric-powered equipment. APCD is developing a commercial version of this program for high-powered equipment which will be launched in 2013. The Grow More Mow Less program seeks to reduce lawn-related air pollution by encouraging low-mow landscaping.

KAIRE
www.helptheair.org

KENTUCKIANA AIR EDUCATION, MOST COMMONLY KNOWN AS KAIRE, IS APCD'S COMMUNITY OUTREACH AND EDUCATION PROGRAM. KAIRE'S PRIMARY GOAL IS TO INCREASE PUBLIC AWARENESS OF THE IMPACT THAT INDIVIDUAL CHOICES CAN HAVE ON LOCAL AIR QUALITY. EDUCATING PEOPLE ON THE BENEFITS OF REDUCED VEHICLE IDLING IS THE SUBJECT OF A FOCUSED OUTREACH CAMPAIGN CALLED IDLE FREE LOUISVILLE WHICH IS HELPING TO BUILD MOMENTUM TOWARD ENSURING WIDESPREAD IDLING REDUCTION IN LOUISVILLE. THE IDLE FREE PROGRAM PROMOTES "THE 10 SECOND RULE" – IF YOU STOP YOUR VEHICLE FOR MORE THAN 10 SECONDS, TURN THE ENGINE OFF – IT SAVES GAS, REDUCES WEAR AND TEAR ON YOUR VEHICLE AND MINIMIZES HARMFUL POLLUTION EMISSIONS. IDLE FREE LOUISVILLE ALSO HAS PROGRAMS FOR SCHOOLS AND BUSINESSES, WHICH ENCOURAGE ELIMINATING UNNECESSARY ENGINE IDLING.



ENVIRONMENT

VEHICLE EMISSIONS

According to the GHG data reported in the Partnership for a Green City's CAR, the transportation sector accounts for approximately 30% of Louisville's carbon footprint. A significant portion of these transportation emissions results from single-occupancy vehicles. Reducing single-occupancy vehicle miles traveled (VMT) requires development and transportation planning that supports multi-modal activity and mass transit. Cities like Austin, Denver, Madison and Chicago have programs underway that integrate economic development, transportation and land use strategies to reduce vehicle miles traveled. (Information regarding Louisville's transportation planning is located in section 3.0 Transportation.)

TRAFFIC LIGHT COORDINATION

In 2009 Louisville received \$1.5 million from the US Department of Energy (DOE) under the American Recovery and Reinvestment Act of 2009 (ARRA) for traffic signal coordination. The project consisted of software and hardware upgrades of the Advanced Traffic Management System software, retiming of 133 signals on 10 arterials, and development of a communication design plan. The annual savings for the timing project include more than 500,000 vehicle hours due to reduced congestion, \$1 million in fuel costs from improved traffic flow and reduced greenhouse gas emissions ranging from 2% to 29% among the 10 arterial locations. The city will continue efforts to expand light coordination efforts with the goal of integrating all traffic signals citywide.

GREEN FLEET INITIATIVES

To help reduce diesel emissions, Louisville received \$1.2 million from the EPA Diesel Emissions Reduction Act (DERA) fund to retrofit 70 pieces of non-road diesel equipment with EPA-verified technologies to reduce pollutants, primarily particulate matter (PM). In addition to the environmental concerns, diesel exhaust has been found to cause adverse health effects. Reducing diesel emissions improves air quality and reduces the potential to negatively affect workers using diesel-powered equipment.

In addition to this non-road equipment retrofit project, the city retrofitted 18 Department of Solid Waste trucks with diesel particulate filters (DPF), using funds awarded by the Kentucky Division for Air Quality through its Kentucky Clean Diesel Grant Program. The trucks that were retrofitted include solid waste, and recycling packer and dump trucks. In addition to DPFs, these trucks were equipped with closed crankcase ventilation systems that improve air quality in the passenger cabin.

APCD works with Louisville Metro Fleet Services to implement projects that reduce emissions from the city's fleet vehicles and equipment. Louisville's Fleet Services Division is the primary fleet support operation for city-owned vehicles, operating a diverse fleet with about 2,600 on-road vehicles. Fleet Services makes every effort to reduce emissions from its traditionally-fueled vehicles through right-sizing, alternative vehicle technology and user education. The city's vehicle replacement strategy replaces aged vehicles which have V-8 engines with new vehicles that have V-6 engines. The vehicles with smaller engines often cost less, use less fuel and emit fewer harmful pollutants. In addition, the city's vehicle policy includes anti-idling guidelines.

Louisville Metro Government's fleet vehicles used approximately 2.6 million gallons of unleaded fuel, 435,000 gallons of diesel fuel and 349,000 gallons of B5-biodiesel fuel in 2011. Fleet Services is exploring opportunities to expand the use of alternative fuels in the city's fleet. Alternative fuels, which EPA defines as those derived from sources other than petroleum, often produce less air pollution than gasoline or diesel. The city operates 39 hybrid electric vehicles and is exploring opportunities for additional hybrid or clean emission vehicles. The Parking Authority of River City is evaluating the feasibility of installing charging stations in its garages and the University of Louisville already has an electric vehicle charging station.



TARC

- In 2013, TARC will begin operating five all electric "buses of the future" on downtown streets replacing the oldest trolleys in operation. Estimated carbon emissions associated with electric buses are 65 percent lower than emissions from diesel buses.
- TARC's fleet includes 21 hybrid buses and 11 more will be delivered in 2013. Collectively, those hybrids will use about 65,000 fewer gallons of diesel fuel each year than standard diesel buses.
- TARC is upgrading its fleet of door-to-door paratransit service vehicles for people with disabilities. The new purpose-built vehicles will use 50% less fuel than the existing paratransit vehicles.



JEFFERSON COUNTY PUBLIC SCHOOLS

JCPS IS THE 28TH LARGEST SCHOOL DISTRICT IN THE COUNTRY WITH 101,000 STUDENTS AND 155 SCHOOLS. THE DISTRICT OWNS 1,200 BUSES THAT RUN 962 ROUTES, TRANSPORTING APPROXIMATELY 70,000 STUDENTS TO SCHOOL, DRIVING APPROXIMATELY 100,000 MILES A DAY. OF THE BUS FLEET, 50 BUSES ARE HYBRID-ELECTRIC, THE LARGEST HYBRID-ELECTRIC FLEET IN THE NATION. A TYPICAL SCHOOL BUS AVERAGES 6.5 MILES PER GALLON WHILE THE NEW HYBRID ELECTRIC FLEET AVERAGES 9.5 MILES PER GALLON. THE ENTIRE BUS FLEET IS HIGHLY EFFICIENT WITH DPFs AND OTHER POLLUTION CONTROL DEVICES ADDED TO THE OLDER BUSES, WHICH ARE WELL-MAINTAINED FOR MAXIMUM BENEFICIAL USE UNTIL THEY ARE RETIRED. THE EXHAUST RETROFITS, ANTI-IDLING PROCEDURES AND TRAFFIC CONGESTION REDUCTION IS THE EQUIVALENT OF REMOVING ABOUT 28,000 CARS FROM LOUISVILLE ROADS IN THE MORNING AND AFTERNOON. JCPS USES MORE THAN 3.2 MILLION GALLONS OF BIODIESEL A YEAR OF B2-B5 FUEL BLEND IN ITS BUSES ALONG WITH 125,000 GALLONS OF 10% ETHANOL-CONTAINING FUEL IN THE REMAINDER OF THE DISTRICT FLEET.

UNIVERSITY OF LOUISVILLE

The University of Louisville has committed to purchase fuel-efficient vehicles as university fleet vehicles are replaced. It also will require that new vehicles have fuel efficiencies at least 15% better than their predecessors. By 2020 the university will increase the efficiency of 60% of its fleet by 15 percent. By 2025 the entire fleet will be at least 15% more fuel efficient, which will mean an annual reduction of 13,907 gallons of gasoline and 1,209 gallons of diesel. This translates to an annual reduction of 136.3 metric tons of carbon dioxide equivalents.

PROPOSED INITIATIVES

The proposed initiatives in this section are identified in support of achieving and exceeding the National Ambient Air Quality Standards. Louisville Metro Government is exploring opportunities to fund converting its heavy-duty truck fleet to compressed natural gas (CNG) and to use propane in its landscaping equipment vehicles. The city is evaluating opportunities and initiatives to further reduce its fleet vehicle emissions such as using a higher blend of biodiesel fuels and purchasing alternative fuel and advanced technology vehicles. In support of reducing vehicle emissions in the community, the Office of Sustainability will work with community stakeholders to evaluate opportunities and develop a strategy to advance the use of alternative fuel and advanced technology vehicles.

The city will assess opportunities to implement and expand the traffic light coordination program. Expanding this program will help the city reduce traffic congestion and the associated greenhouse gas emissions from vehicle idling, which will go toward the goal of reducing transportation-related greenhouse gas emissions.

Goal and Initiatives

ENVIRONMENT

4. Achieve and Exceed National Ambient Air Quality Standards

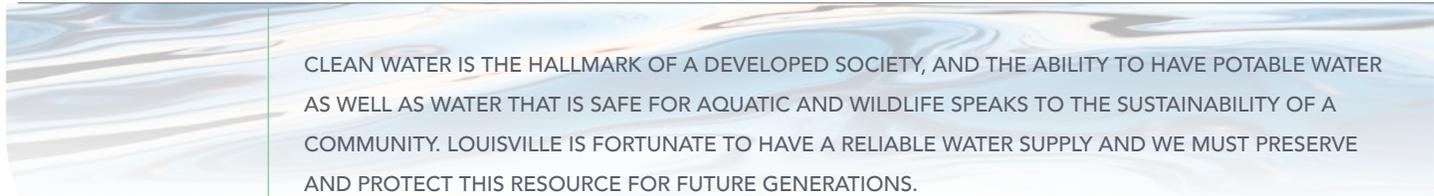
Ongoing

INITIATIVES

- Form a partnership to implement an alternative fuel and advanced technology vehicle strategy
- Explore opportunities to fund conversion of city heavy-duty fleet vehicles to compressed natural gas
- Increase city fleet vehicle biodiesel fuel blend to B10 or greater
- Implement an alternative fuel vehicle replacement strategy for the city fleet
- Expand traffic light coordination program

- Planned
- Proposed
- Proposed
- Planned
- Planned

ENVIRONMENT



CLEAN WATER IS THE HALLMARK OF A DEVELOPED SOCIETY, AND THE ABILITY TO HAVE POTABLE WATER AS WELL AS WATER THAT IS SAFE FOR AQUATIC AND WILDLIFE SPEAKS TO THE SUSTAINABILITY OF A COMMUNITY. LOUISVILLE IS FORTUNATE TO HAVE A RELIABLE WATER SUPPLY AND WE MUST PRESERVE AND PROTECT THIS RESOURCE FOR FUTURE GENERATIONS.

2.3 Water

EXISTING EFFORTS

The Louisville Water Company has produced drinking water since 1860 and produces an average of 124 million gallons of drinking water daily for Louisville Metro and surrounding counties. Louisville Water has been cited by industry peers and government regulators as one of the premier systems in the country. In 1996, Louisville Water began a branded program known as Louisville pure tap® which was the first branded “tap water” in the nation. As Louisville pure tap® turned fifteen, the Louisville Water Company revived its primary message that customers can “bottle your own” Louisville pure tap® using any cup, glass, or bottle. In support of its environmental stewardship goals, the plastic “branded” water bottle program was retired, and instead, LWC offers sustainable options such as reusable bottles, bio-compostable cups, pitchers, coolers and mobile units. In addition, pumping and treating drinking water is energy intensive, so wise water use will help reduce Louisville Water’s carbon impact. (Green infrastructure strategies and solutions are detailed in Section 5.4.)

In addition to being on the Ohio River, Louisville also has approximately 400 miles of mapped streams within its boundaries. Over the course of Louisville’s history, its water resources have provided reliable drinking water and recreational venues for visitors and residents. Louisville is fortunate to have plentiful water resources and the community must preserve and protect this resource for future generations.



One of the greatest challenges to Louisville’s waterways is the need to reduce the amount of impervious surfaces in urban watersheds, as well as point and non-point sources of pollution so that streams meet water quality and aquatic life standards. Reducing

the amount of impervious services will require changes in how the city manages existing areas, new property developments and infrastructure retrofits throughout Louisville.

An additional challenge is maintaining riparian vegetation, which does more to protect streams than almost any other effort. Louisville must protect and reclaim the intermittent tributaries to the creeks and streams system which play a critical role in pollutant filtration and hydrology, and serve as an important aquatic habitat.

PROPOSED INITIATIVES

The Office of Sustainability will assess the development of a “depave” program to reduce impervious surface area which reduces stormwater runoff and increases the amount of land available for habitat restoration, urban farming and trees. This will include initiatives to minimize or reduce the amount of impervious pavement in construction projects and promote the responsible and creative reuse and recycling of concrete and asphalt. The city will research and develop a pilot project to restore ten miles of riparian vegetation along a local waterway, the results of which will be shared in a best practices guide so that the learnings can be replicated across the city.

Goals and Initiatives

ENVIRONMENT

5. Improve waterway quality		2018
INITIATIVES		
Launch a program to decrease the amount of impervious surfaces that impact watershed systems		Planned
Develop a pilot project to restore ten miles of riparian vegetation		Planned



MANAGING LOUISVILLE'S WASTE STREAMS IS A SUSTAINABILITY ISSUE THAT IMPACTS EVERY LOUISVILLE CITIZEN. FOR SOLID WASTE MATERIALS, LOUISVILLE HAS TWO SANITATION SERVICE DISTRICTS AND MANY INCORPORATED SMALL CITIES. FOLLOWING THE CITY-COUNTY GOVERNMENT MERGER IN 2003, RESIDENTS IN THE OLD CITY BOUNDARY (URBAN SERVICES DISTRICT) HAVE WASTE COLLECTION AND DISPOSAL SERVICES INCLUDED IN THEIR PROPERTY TAXES WHILE RESIDENTS IN THE OLD COUNTY BOUNDARY (SUBURBAN AREAS) AND INCORPORATED SMALL CITIES ARE RESPONSIBLE TO CONTRACT WITH PRIVATE WASTE HAULERS THAT PROVIDE RESIDENTIAL WASTE REMOVAL SERVICES.

2.4 Waste

EXISTING EFFORTS

The Louisville Metro Solid Waste division provides waste services inside the Urban Services District including curbside garbage, yard waste, recycling, and junk collection. The Louisville Metro/Jefferson County Waste Management District, a state entity, regulates all waste material disposal and waste haulers in the county. In 2012, the Waste Management District adopted a detailed Five Year Solid Waste Management Plan as required by Kentucky Revised Statutes 224.43, which is viewed as a new beginning to the city's approach to solid waste management. Where solid waste was traditionally landfilled, the state is shifting to a new focus on resource recovery where the majority is recycled, composted, or used as fuel in lieu of virgin materials.

Louisville Metro Government is eager to increase recycling practices in the city. Recycling not only conserves landfill space, it reduces the demand for raw materials and helps conserve natural resources. To increase awareness and educate the public about the importance of recycling, Louisville launched an expanded recycling program in July 2012. This program is partly driven by one of the Mayor's five Innovation Delivery Teams whose projects are funded through a \$5 million Bloomberg Philanthropies Grant that Louisville received in 2011. The program aims to reinforce and champion the reduce-reuse-recycle message and to build Louisville's reputation for thinking and acting green. The recycling program initiatives range from residential, commercial and city office recycling pilot programs to a food waste compost pilot program for area schools.

The city expanded its recycling program by adopting a single stream recycling program in city buildings. This program is unique because the employees are allowed to put only recyclable materials in their desk-side containers. Housekeeping staff pick up the recyclable materials and the employees are responsible for taking their true trash to the central container in their work area. Since the program began, **city buildings have increased recycling by over 56% and more importantly, diverted 112 tons of waste away from the landfill.**

CITYWIDE RECYCLING INITIATIVES LAUNCHED IN 2012 INCLUDE:

- Expanded business recycling in the Central Business District to weekly service.
- The first public street-level recycling opportunity, with the installation of solar-powered recycling and garbage compactors throughout downtown.
- A residential pilot program in two neighborhoods where residents were provided with 95-gallon wheeled recycling carts with lids. The program is studying whether having a large container with a lid would encourage residents to recycle more. Data collection is underway to assess the program's success.
- Option for residents in the Urban Services District to purchase 95-gallon wheeled recycling carts.

ENVIRONMENT



A UNIQUE RECYCLING PILOT PROJECT WAS LAUNCHED IN THE 9TH DISTRICT BY COUNCILWOMAN TINA WARD-PUGH IN 2010. THE PROJECT PROVIDED CURBSIDE RECYCLING COLLECTION AND WAS THE FIRST BUSINESS RECYCLING PROGRAM OUTSIDE OF THE CENTRAL BUSINESS DISTRICT. PROJECT PARTICIPANTS PURCHASED 95-GALLON WHEELED CARTS AND RECEIVED FREE CURBSIDE SERVICE. THE SUCCESSFUL PROJECT WAS REPLICATED IN OTHER DISTRICTS AND WAS LATER EXPANDED TO ALLOW RESIDENCES IN THE 9TH DISTRICT TO PURCHASE THE LARGE CARTS.

PROPOSED INITIATIVES

Many initiatives in the recycling chapter of the District's management plan align with Louisville's sustainability efforts. For example, the District is investigating options to implement a plastic bag ban for residential yard waste. Plastic bag bans for yard waste are common in other areas of the country and it would go a long way toward keeping compostable materials out of the landfill.

In 2013, plans are underway to study options to manage food waste and keep it out of the landfill. Research shows that food waste can occupy up to 40% of the waste stream so having alternatives to putting it in landfills is a necessary step toward increased landfill diversion rates. Activities such as backyard composting and co-mingling food waste with yard waste are solutions under evaluation that are commonly used in other cities. The city also will launch pilot projects to develop composting programs in school cafeterias.

The short-term goal of these recycling initiatives is to increase recycling by **25%** citywide by 2015. A mid-term goal is to have **90%** residential recycling participation and **50%** landfill diversion by 2025. The long-term goal is to divert **90%** of citywide solid waste away from the landfill by **2042** through increased reduce-reuse-recycle and enhanced materials management practices. A key effort to achieve these goals will be development and implementation of a robust education campaign to inform the public on the value and need to recycle. The city also will launch pilot projects to enhance recycling practices in commercial buildings, restaurants, retail stores and multi-tenant apartments. Lastly, the city will investigate the potential for, and viability of, alternatives to traditional landfill practices such as waste-to-energy and wet/dry segregated disposal.

Goal and Initiatives

ENVIRONMENT

- | | |
|--|-------------|
| 6. Increase recycling city-wide by 25% | 2015 |
| 7. Achieve 90% residential recycling participation | 2025 |
| 8. Divert 50% of solid waste away from the landfill by 2025 and 90% by 2042 | 2025 |

INITIATIVES	
Pilot expanded recycling for commercial buildings, restaurants, retail stores, and multi-tenant apartments	Underway
Establish partnerships to champion sustainability education and awareness campaigns	Planned
Launch a plastic bag ban for residential yard waste	Planned
Launch a food waste compost pilot project in school cafeterias	Planned
Launch a residential food waste compost pilot program	Planned
Promote food waste composting at all city sponsored events	Planned
Offer composting, yard waste reduction and recycling awareness workshops	Planned
Expand participation in food waste composting to institutional cafeterias citywide	Proposed
Investigate alternatives to landfill waste disposal practices	Proposed

3.0 TRANSPORTATION

TRANSPORTATION IS A KEY COMPONENT OF DECREASING LOUISVILLE'S CARBON FOOTPRINT, MANAGING LAND USE, ENSURING HEALTH AND WELLNESS, FOSTERING ECONOMIC GROWTH AND ENHANCING THE OVERALL QUALITY OF LIFE. AS WITH MANY U.S. CITIES, PASSENGER AND LOCAL COMMUTING IN LOUISVILLE IS BASED PRIMARILY ON AUTOMOBILES AND THE PUBLIC BUS SYSTEM, WITH THE GREATEST PERCENTAGE OF VEHICLE MILES TRAVELED BEING SINGLE-OCCUPANCY CAR TRIPS. TRANSPORTATION SUSTAINABILITY GOALS ARE TO DECREASE TRANSPORTATION-RELATED GREENHOUSE GAS EMISSIONS 20% BY 2020 AND REDUCE VEHICLE MILES TRAVELED 20% BY 2025.



3.1 Transportation Planning

The Metropolitan Transportation Plan, Horizon 2030, is the planning document that reflects all surface transportation investments through the year 2030 in the Louisville Metropolitan Planning Area (MPA). Each transportation project that is regionally significant and/or utilizes federal transportation funds must be identified in the Metropolitan Transportation Plan, providing a vision of how our transportation network will function and appear in the future. Louisville sees the need to develop a transportation plan that looks at all types of modes of transportation, studying how all networks are connected and provide mobility.

EXISTING EFFORTS

In 2008, Louisville Metro adopted a Complete Streets Policy ensuring that "Louisville Metro's transportation system shall accommodate and balance a broad range of factors within all transportation and development projects..." The goal of this policy is to develop a multi-modal network that manages the demand for travel and improves the efficiency of the community's transportation system as envisioned in Cornerstone 2020, the city's comprehensive plan adopted in 2000. To implement the Complete Streets Policy and the vision of Cornerstone 2020, Louisville is developing a transportation plan that looks at moving people rather than moving cars and studies how all networks are connected and provide mobility within Louisville.

This newly developed plan, called the Strategic Multimodal Transportation Plan (SMMTP), funded in part through a federal grant, will serve as a unique and innovative approach to identify future system needs and community values, and will provide a method to incorporate them into future transportation decisions and solutions. The SMMTP will be a baseline study and should be flexible enough to evolve as community goals are updated. The SMMTP also will help establish criteria to ensure interagency coordination in new project prioritization, availability of matching funds, timeline adjustments, and project withdraws.

More than 60% of Kentucky's transportation funding comes from the state gasoline tax which can be used only for state highway and road projects, not transit. Therefore Louisville is challenged with funding availability for the projects it can implement. However, through completion of these transportation and vision-planning efforts, and integration with triple bottom line sustainability principles, Louisville is poised to implement a comprehensive and sustainable transportation framework.

PROPOSED INITIATIVES

The city will begin preparing the SMMTP in 2013, with an estimated completion date of 2014. Sustainability will be a critical element of this effort and the goals and performance measures that result from the Plan will align with Sustain Louisville. The SMMTP will set specific transportation targets and a full set of sustainability metrics and performance timelines, through rigorous analysis and evaluation.

The Kentuckiana Regional Planning & Development Agency (KIPDA) has initiated a new Metropolitan Transportation Plan called Connecting Kentuckiana. The city and KIPDA will coordinate efforts on both plans to ensure resulting recommendations of each effort are consistent and strategic. City transportation planners will consistently advocate for system-wide sustainability goals, and will continue to research and plan multiple modes of transportation, coordinate land use plans and economic development goals that will facilitate the affordable, efficient, accessible, safe and healthy transport of people and goods. This includes promoting transit-oriented development as a way of planning for more livable, sustainable communities through the integration of transit and development at the community, corridor and neighborhood levels. This coordinated process also will allow for planning of additional transit modes such as light rail.



Goal and Initiatives

TRANSPORTATION

9. Decrease transportation-related greenhouse gas emissions by 20%	2020
INITIATIVES	
Identify sustainability goals for the Strategic Multimodal Transportation Plan and the Metropolitan Transportation Plan that promote transit-oriented development	Underway

3.2 Public Transportation

EXISTING EFFORTS

The availability and use of public transportation is linked to Louisville’s sustainability initiatives in all social, economic and environmental aspects. The availability and use of public transportation also is inextricably linked to the region’s development patterns. In fact, Louisville’s public transit system, TARC, seeks “to explore and implement transportation opportunities that enhance the social, economic and environmental well-being of the Greater Louisville community.”

TARC is the only transportation option for many members of our community including people with disabilities. According to KIPDA (2001), 10% of occupied housing in Jefferson County is without access to a motor vehicle. Some census tract areas have greater percentages of households without a vehicle and have limited mobility options. Economically, TARC is critical for getting people to work and school, which accounts for 70% of the 50,000 trips each weekday. Environmentally, when more people take TARC instead of driving cars, congestion is reduced, resulting in improved air quality and fuel consumption savings.

TARC currently has 224 buses and 89 paratransit vehicles in its fleet. “Frequent service” routes, which schedule buses to arrive in 10- to 20-minute intervals, have demonstrated the popularity of convenient public transportation. TARC began frequent service in February 2011 on two major routes, and ridership on those routes increased 20%. Ridership on a third major route increased more than 8% in September 2012, the first full month of improved frequent service, compared to the same month in 2011. Of course, initiatives that increase the availability and convenience of transit are dependent on additional resources.



Improved infrastructure and transit facilities also help bolster ridership. TARC is working with Metro Public Works, the Louisville Metro Council and the Federal Transit Administration to provide miles of new or restored sidewalks, as well as benches and shelters at bus stops. This program is making it safer and easier to access public transportation especially for people with disabilities.

TARC has a number of public transportation programs to connect people to jobs and educational opportunity, resulting in positive social, economic and environmental benefits. Nearly 14 million TARC trips have been provided under TARC partnerships with Humana, Louisville Metro Government, the University of Louisville and UPS Metropolitan College and School to Work programs. Under these pre-paid programs, affiliates of companies or the university ride fare-free with their company or school I.D. cards. In addition, more than 30 companies take advantage of employer ticket purchasing and/or payroll deduction programs to encourage the use of public transportation.



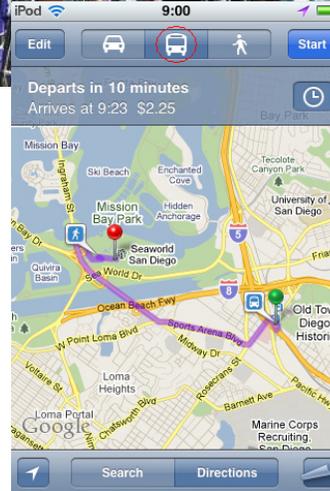
BICYCLING

Louisville has 45 miles of on-street bike lanes and has received national attention for its initiatives to promote both utilitarian and recreational bicycling. Bicycle Magazine ranked Louisville as the 21st most bike-friendly city out of the 50 cities surveyed. More walking and cycling, and consequently less dependence on the car, is good for the environment. One of the main contributing factors to climate change is heavy reliance on the car, even for short journeys. Research shows that nearly half of all car trips could be replaced by walking, cycling or public transport. Making more trips on foot or by cycling is a lifestyle change that would help reduce Louisville’s carbon footprint. Getting more people walking and cycling requires behavioral change, which also is dependent on making the city’s transportation system more environmentally, economically and socially sustainable.

PROPOSED INITIATIVES

TARC has established an ambitious goal of increasing public transportation availability and ridership by 25% by 2018. A 25% increase in ridership would equal 62,500 boardings per weekday, compared to 50,000 currently. To increase ridership, TARC will continue to expand frequent service routes and is evaluating a feeder system concept for potential implementation in Louisville. A feeder system would connect frequent-service buses to job centers and neighborhoods by developing systems with vehicles such as vans and taxis to connect riders in remote areas to major bus lines with high-frequency service.

Louisville Metro Government is evaluating options for a car sharing program, which is a rental model where cars are rented for short periods of time, often hourly. Car sharing is beneficial in many ways, most notably in that vehicle miles traveled per driver decrease almost 50% when car owners



TARC IS CONTINUALLY MAKING SERVICE IMPROVEMENTS AND WILL REPLACE THE EXISTING FARE BOXES WITH A NEW AND MODERN FARE COLLECTION SYSTEM IN 2013. THE NEW FARE COLLECTION SYSTEM WILL IMPROVE OPERATING EFFICIENCY AND DATA COLLECTION ABOUT RIDERSHIP PATTERNS WHICH

WILL LEAD TO BETTER PLANNING AND MORE EFFICIENT OPERATIONS. TO MAKE ITS RIDERS’ SCHEDULE EVEN MORE CONVENIENT, TARC JOINED GOOGLE TRANSIT FOR ONLINE TRIP PLANNING AND PLANS TO HAVE REAL-TIME BUS ARRIVAL INFORMATION AVAILABLE ONLINE IN 2013. WITH CONTINUED IMPROVEMENTS, TARC RIDERSHIP WILL CONTINUE TO GROW, RESULTING IN LASTING SOCIAL, ECONOMIC AND ENVIRONMENTAL BENEFITS FOR THE COMMUNITY.

switch to car sharing. In addition, car share programs help increase city livability and can reduce harmful air emissions.

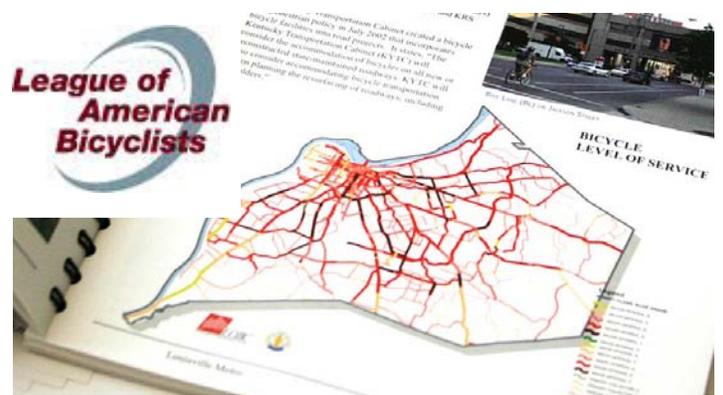
Ride sharing is another option that is being evaluated as a way to reduce single-occupancy vehicle trips. Mobile device applications make coordinating ride sharing easier than ever. For example, Avego’s free iPhone or Android app enables private cars to become part of the transport network by providing a marketplace for drivers to offer their unused seats to other people in real time. The app matches private car routes with anyone searching for a ride along the same route and also provides fully automated payment transaction management, driver/riders safety features, and commute reporting for more flexible and verifiable ride sharing.



TICKET TO RIDE – TARC AND KIPDA OVERSEE A VANPOOL SERVICE FOR AREA COMMUTERS. TARC OWNS AND MAINTAINS THE VANS AND KIPDA COORDINATES THE RIDE SHARING AMONG PARTICIPANTS. THIS WIDELY SUCCESSFUL PROGRAM HAS MORE THAN 625 PARTICIPANTS IN 80 VAN-POOLS AND FREQUENTLY HAS A WAITING LIST.

Louisville Metro Government has completed a Bike Master Plan and a Pedestrian Master Plan, which call for expanding the bicycle road and trail system to more than 550 miles, and the pedestrian system to more than 600 miles. To encourage and enable more bicycling as a transportation mode, Louisville is evaluating options for a bike sharing program. Bike sharing is a popular way to address “first/last mile” predicaments often associated with the use of public transportation. Users have access to bikes from multiple bike stations and then have the flexibility to return the bike to any station in the network. Bike share programs typically increase not only bicycling, but also use of public transportation, while simultaneously reducing the amount of cars and resulting air emissions.

Other bicycling initiatives include achieving Gold Level Bicycle Friendly Community Status with the League of American Bicyclists, increasing bicycle facilities by 40 lane miles within three miles of the Central Business District and increasing bicycle ridership by 100% from 2012 levels.



Goal and Initiatives

TRANSPORTATION

10. Reduce vehicle miles traveled by 20%

2025

INITIATIVES	2025
Launch a bike share program	Underway
Investigate feasibility of car share and ride share programs	Planned
Increase TARC ridership by 25%	Planned
Achieve Gold Level Bicycle Friendly Community Status with the League of American Bicyclists	Planned
Increase bicycle facilities by 40 lane miles within 3 miles of the Central Business District	Planned
Increase bicycle ridership by 100% from 2012 levels	Planned

4.0 ECONOMY

FOR LOUISVILLE TO BE SUSTAINABLE, IT ALSO MUST BE A PLACE WHERE BUSINESSES WANT TO BE – EITHER TO EXPAND OR TO LOCATE NEW OPERATIONS. BY PROVIDING A SKILLED AND READY WORKFORCE AND A WELCOMING ATMOSPHERE FOR INNOVATORS AND ENTREPRENEURS, LOUISVILLE WILL ATTRACT MORE EMPLOYERS AND WORKERS WHO WANT TO LIVE HERE, THEREBY MAKING LOUISVILLE A VIBRANT CITY.



4.1 Economic Development

EXISTING EFFORTS

Louisville Metro Government received federal funding that has helped further sustainability activities, and has initiated projects to assess where Louisville is now and how government can continue to improve. The city was awarded \$7 million by the U.S. Department of Energy (DOE) under the American Recovery and Reinvestment Act of 2009 (ARRA) Energy Efficiency & Conservation Block Grant (EECBG), to create different projects or programs that helped foster sustainable behaviors or products for area businesses.

One of the programs is a \$1.4 million revolving loan fund, named the Go Green loan program, which offers low-interest loans through the existing Metropolitan Business Development Corporation (METCO) program, to Louisville businesses that create new green products, services or processes. To date, the city has made more than \$1.6 million in loans and uses repayment money from the initial loan to continue funding new projects as funds become available.

Other programs funded with stimulus money include energy audits for non-profit organizations, which identified where improvements could be made in their facilities, and an energy efficiency improvement grant, also available to only non-profits, enabling them to implement the improvements outlined in their audits.

In addition to the Go Green loan and the non-profit energy efficiency grants, the city also has instituted four energy-efficiency technology demonstration projects with stimulus funding, to increase energy efficiency and cost savings in city-owned buildings. Louisville is tracking the results of renewable energy technologies on and at government-owned buildings and facilities. As described in Section 1.2, the projects include solar energy and green and cool roofs. Performance data from these efforts will be shared in an effort to identify effective

practices and provide a model for the community that promotes environmental sustainability and environmentally beneficial initiatives.



BROWNFIELD REDEVELOPMENT

As in most cities around the nation, where Louisville's urban manufacturing and employment center was once booming with jobs and commerce, many of these companies have shut down, or moved to suburban business parks. This leaves underutilized properties, sometimes contaminated, that are eyesores for the surrounding neighborhoods and which often lead to further deterioration. The city continues to mitigate these issues in neighborhoods through actively pursuing grants and brownfield redevelopment opportunities by working with state and federal agencies and private developers.

By promoting economic growth, job creation and community vitality, the city hopes to attract new employers to these underutilized areas. The west side of Louisville has almost one-fifth of the city's unused land; however, much of this unused land contains abandoned or degraded structures and is, or is perceived to be, contaminated. Louisville is using EPA brownfield community-wide assessment grants as well as contaminant remediation funds to help brownfield redevelopment become a tool for economic revitalization of socio-economically disadvantaged areas that are disproportionately exposed

ECONOMY

to environmental degradation, unemployment and low educational attainment.

PROPOSED INITIATIVES

A skilled green workforce will be needed to implement the energy efficiency, alternative energy and alternative fuel and advanced technology vehicle initiatives set forth in this plan. In order to prepare for and take advantage of these and other opportunities, a Green Workforce Advisory Team will be formed to assess how to best support green job training and placement in skilled professional and technical positions for the 21st century. The Advisory Team will identify best practices in defining and tracking “green” job creation. Education and training in energy efficiency and alternative energy options such as solar, geothermal, biomass and advanced technology vehicles and fuels will be promoted.

The Advisory Team will evaluate development of a Green Youth Corps that would support clean technology training through secondary and technical schools such as Jefferson Community & Technical College. This Youth Corps would consist of training and job placement including energy

auditors, energy managers, retrofitters, solar panel installers, green roof installers and advanced vehicle and alternative fuel technicians.

Similarly, the Office of Sustainability will research and evaluate opportunities to develop an incentive program for businesses that promote reuse, reduce landfill-bound waste or make sustainable products. One potential mechanism for this initiative is to launch a business plan contest that is geared to encourage entrepreneurs in the creation, startup and early implementation stages of clean economy businesses in Louisville. The contest would focus on identifying opportunities that could help achieve the goals in Sustain Louisville as well as provide economic development and job creation.

Establishing a Green District learning model is a way to leverage existing clean-tech efforts in the community to help attract research, development and technology opportunities. The University of Louisville’s Conn Center for Renewable Energy Research, the Ford CNG plant and UPS Worldport are examples of local green technology hotspots where the Office of Sustainability could begin to leverage efforts immediately.

Goals and Initiatives

ECONOMY

11. Provide business opportunities for clean economy organizations and innovators and develop a qualified workforce to support it

2015

INITIATIVES	
Establish a Green Workforce Advisory Team	Planned
Research best practices for green business incentive programs	Planned
Establish Green Districts to promote and leverage existing green technology efforts	Planned
Launch a clean economy business plan contest	Planned

12. Expand the local food system by 20%

2018

INITIATIVES	
Incorporate urban agriculture guidance in 2013 Land Development Code amendments	Underway
Develop a step-by-step guide for citizen engagement in urban agriculture	Planned
Assess opportunities for community and market gardens on vacant and abandoned properties	Planned
Support and expand the Louisville Farm to Table Program	Underway

4.2 Local Food Economy

Louisville began studying the importance of local food in 2007 by researching the economic potential of locally grown food. The study concluded that the economic vitality of our city could be enhanced by supporting local agricultural markets, and making better connections between consumers and farmers. Actions taken as a result of this study have included support of Community Supported Agriculture (CSA), community gardens and farmers markets. A robust local food program is a key component to ensuring the health, wellness and prosperity of Louisville's citizens.



EXISTING EFFORTS

The Louisville Farm to Table program, launched in 2009, is helping build relationships between Kentucky farmers, consumers and commercial buyers. Louisville Farm to Table's efforts have resulted in approximately \$1.2 million in farmers' sales and have raised awareness

and interest in local food. Farm to Table hosts workshops for farmers and food buyers, and has worked with the food procurement offices of large institutions such as JCPS, UofL and Jewish Hospital/St. Mary's Hospital System to encourage local food purchasing.



Since 2009, Louisville farmers' markets have expanded from 21 to 27

Louisville Farm to Table also is working with processors to develop and increase local food-processing capacity to serve the institutional and consumer markets. The lack of fresh-cut, minimally-processed and locally-raised fruits and vegetables in Louisville, as well as inadequate meat-processing capacity for locally-raised animals, are impediments to the local food economy.

The Local Food Initiatives Division of Louisville Metro Government works with the Jefferson County Extension Office to promote gardening and manage 10 gardens across Louisville. There are currently more than 70 community and market gardens throughout Louisville, managed either by the Extension Office, neighborhood groups or private citizens. Plans are underway to extend the availability of community gardens through the winter so that gardeners

interested in using cold frames or low tunnels can do so. Efforts are being made to amend the Land Development Code to provide guidance for developing community gardens for consumer and commercial agricultural activities. There is an interest in the community to use vacant or abandoned properties for community gardens and this option is under review by city government stakeholders.

Since 2009, Louisville farmers markets have expanded from 21 to 27. These markets are primarily located in East Louisville, with fewer markets in the west and southwest areas of the community. Efforts were made to develop two markets in West Louisville; however the markets were unsuccessful and closed due to low patronage.

City government is promoting economic development in the local food arena through the Louisville Agribusiness Loan Program, which awards loans for value-added processing of Kentucky-raised food for businesses that relocate to the city's Portland neighborhood. Starting in 2013, the program will award at least five loans with a maximum loan of \$100,000, and is administered jointly through METCO and the Kentucky Agricultural Finance Corporation.

In 2012, the Local Food Initiatives Division in partnership with Seed Capital, KY and Karp Resources, conducted a local food demand study for Louisville. The study

involved surveying local food demand among consumer and commercial buyers, recording qualitative information about buying habits and experiences with local food, and investigating barriers to increased purchases. The findings of the study are being compiled and will provide information for farmers on the local food market potential for their products, entrepreneurs' interest in local food, and guidance for the Local Food Initiatives Division to improve the local food system.

PROPOSED INITIATIVES

Once the Land Development Code guidance for community gardens has been issued, a step-by-step guide will be developed to engage and educate citizens on urban agriculture practices and requirements. In addition, use of select vacant or abandoned properties as community gardens is being considered.

5.0 COMMUNITY

ENSURING THE HEALTH, WELLNESS AND PROSPERITY OF LOUISVILLE'S CITIZENS BY PROVIDING ECONOMIC STABILITY, ACCESS TO HEALTHY FOODS AND PLENTIFUL GREEN SPACE WILL TRANSFORM THE COMMUNITY. IMPROVING A COMMUNITY'S SUSTAINABILITY PRACTICES WILL, BY DEFINITION, INCREASE A COMMUNITY'S OVERALL QUALITY OF LIFE. COMMUNITY ACTIONS AND RELATIONSHIPS IN LOUISVILLE WILL ULTIMATELY UNITE THE GOALS OF THE "TRIPLE BOTTOM LINE," FOCUSING ON PEOPLE, PROSPERITY AND PLANET.



Housing and transportation costs often are higher in urban areas relative to suburban areas, and the cost of working around existing infrastructure represents challenges for sustainable transportation and development planning. Providing affordable and accessible public transportation in Louisville which ensures all people can access jobs, health services, and the city's full array of amenities, is a continued challenge. Lastly, the prevalence of underutilized and brownfield properties in the low-income areas of the city is an environmental burden on the area residents. (Transportation and development planning is detailed in Section 3.0 Transportation, and brownfields are addressed in Section 4.1 Economic Development.)

5.1 Health and Equity

The health and wellness objective of Sustain Louisville increases awareness about everything from healthy food systems, to physical activity, to mitigation of climate change factors such as excessive heat and flooding, to outdoor recreation. Efforts by Louisville Metro's Department of Public Health and Wellness (LMPHW) continue to create a healthier community by identifying and solving community health problems, developing policies and plans that support community health efforts, and evaluating the effectiveness and accessibility of community health services.

Advancing health, health equity and sustainable neighborhoods by linking people to the necessary services, and developing community partnerships, will significantly enhance health outcomes in Louisville. Environmental justice issues ranging from transportation to food access, health hazards and the fair distribution of environmental benefits and burdens are a vital concern in Louisville. With respect to energy, areas of the city with older housing stock which is less energy efficient are frequently where low income persons live, and consequently where a disproportionate amount of occupants income is spent on utility bills. Similarly, Louisville's floodplain maps, when compared to poverty maps, have significant overlap. (Energy efficiency and climate adaptation strategies and goals are described in Section 1.0 Energy.)

EXISTING EFFORTS

The city recognizes that active lifestyles contribute to long-term health and well-being, and supports many programs to this end. The Mayor's Healthy Hometown Movement endorses community actions that educate and encourage healthy lifestyles for all ages and ability levels. LMPHW offers low-cost, fun fitness classes at numerous places across the city and also offers education series on topics such as diabetes, wellness and weight control. More than six in 10 people in Louisville are considered seriously overweight, in a state that ranks seventh in the nation for obesity. The rates continue to rise, while the percentage of the population reporting any physical activity outside of work has remained nearly the same despite public campaigns advocating more walking and biking. Physical activity can reduce the risk of heart disease, stroke and type II diabetes, and also can have a positive impact on general health and psychological well-being.

TRANSIT ACCESS

TARC, the public bus system, is a transit option that helps ensure that every individual has access to medical, social, employment, religious or other needs, which are crucial to maintaining good health and a positive quality of life. Developing accessible transportation services of all modes and for people of all abilities requires active partnerships and collaborations with agencies, organizations and community leaders.

TARC and KIPDA, through its Division of Social Services, have worked together since 2005 to improve access to transportation for elderly and disabled citizens. This partnership resulted in the development of the Regional Mobility Council (RMC), whose vision is “a regional coordinated transportation system that provides accessible, affordable, universal and diverse transportation options. This system meets community transportation needs and serves every person, especially people with disabilities and older adults.” The RMC also seeks to identify safe and accessible travel for all users of the road and to ensure that the streets are friendly to all modes of transportation in a context-sensitive manner.

Toward this goal, TARC is continually making safety improvements to streets and sidewalks that ensure safe access to the TARC bus system. TARC’s public engagement efforts also advocate for transportation options such as walking and bicycling.

FOOD ACCESS

Healthy eating plays a significant role in public health. To improve access to healthy foods for Louisville residents, Louisville’s Local Food Initiatives Division supports a number of efforts across the community. One example is The People’s Garden, a community and market garden that was developed with funds from a federal Communities Putting Prevention to Work grant awarded to LMPHW. It includes two high tunnels, a market garden and 16 community



garden plots. Produce from The People’s Garden’s first growing season was sold at local stores and restaurants, including the Healthy in a Hurry corner stores throughout West Louisville.

City government also promotes farmers markets, and supports the use of electronic benefit transfer (EBT) at those markets as a form of payment. Mobile EBT readers are available at select farmers markets so that Supplemental Nutrition Assistance Program (SNAP) dollars can be accepted at the market, allowing low- to moderate-income individuals to have better access to fresh produce. Providing additional EBT readers could further promote access to healthy foods.

In Louisville’s west end and east downtown areas, there is one grocery store for every 25,000 residents, while the rest of the city has one store per 12,500 residents. Such “food deserts” are areas over-served by fast food restaurants and convenience stores, yet underserved by supermarkets and fresh food vendors. The Center for Health Equity, a division of LMPHW, has taken an active role in addressing this inequity by working with partner organizations represented on the Mayor’s Healthy Hometown Movement’s Healthy Eating Committee. The Center supports farmers markets, community gardens, local food entrepreneurs and policy and economic development strategies that help increase access to healthy food.



COMMUNITY

The Center for Health Equity partnered with the local YMCA to address the lack of fresh produce and vegetables in low income areas of our community. The resulting initiative, named “Healthy in a Hurry,” provided the infrastructure and expertise for six corner stores to sell fresh fruits and vegetables – some of which are locally grown – in an effort to turn a food desert into a food oasis. The Healthy in a Hurry Corner Store initiative makes it possible for residents in food desert neighborhoods to purchase fresh produce and other healthy foods that might otherwise not be available, based on the philosophy that everyone deserves access to fresh, affordable produce. The end goal is to pursue economic development by focusing on full-scale grocery stores in underserved areas, based on the success of the new full-service grocery, First Choice Market, in the Park DuValle neighborhood.

PROPOSED INITIATIVES

Efforts that support physical activity include advancing changes in the community by installing ten Mayor’s Miles locations, particularly in neighborhoods with connections to the Louisville Loop and areas that connect businesses to destinations downtown. In addition, LMPHW will continue to offer programs and opportunities that promote healthy and active living.

Efforts will be pursued to increase healthy food access by involving youth in urban agriculture entrepreneurship and by increasing the number of community gardens designated as market gardens. The Office of Sustainability also will support the acquisition and expanded use of electronic benefit transfer mobile readers at farmers markets to foster the use of supplemental nutrition assistance program dollars.



Goals and Initiatives

COMMUNITY

13. Increase access to healthy foods by 20%

2018

INITIATIVES	
Identify strategies to incentivize grocers to offer healthy food	Planned
Expand the use of electronic benefit transfer mobile readers to three farmers markets	Planned
Open three new farmers markets in underserved areas of the community	Proposed

14. Increase opportunities for active living

2015

INITIATIVES	
Install 10 Mayor’s Miles locations	Planned

5.2 Sustainable Land Management

AMONG OTHER THINGS, LOUISVILLE’S LAND DEVELOPMENT CODE (LDC) IS INTENDED TO PRESERVE THE NATURAL ENVIRONMENT; PRESERVE THE VALUE OF LAND, BUILDINGS AND STRUCTURES; AND FACILITATE THE ADEQUATE PROVISION FOR TRAFFIC, TRANSPORTATION, WATER, SEWERAGE, SCHOOLS, PARKS AND OTHER PUBLIC REQUIREMENTS. LOUISVILLE’S LDC IS BEING UPDATED AND EFFORTS ARE UNDERWAY TO INCLUDE MORE AGGRESSIVE SUSTAINABILITY GUIDANCE AND STANDARDS.



EXISTING EFFORTS

Current sustainability provisions in the LDC include the Green Building and Site Design Incentives that allow for additional building height and parking reduction for builders and developers who choose to incorporate various design elements, such as proximity to transit corridors, use of paving and roofing materials with high solar reflective index, dedicated open space, parking in shaded areas, use of a vegetative roof and reuse of existing building stock. The Code also includes a subdivision development option called a Conservation Subdivision, which allows greater open space conservation while potentially increasing dwelling unit densities on the most suitable portions of a site.

PROPOSED INITIATIVES

The revised LDC will include sustainability policies, regulations and incentives that facilitate infill development, effective use of existing infrastructure and clean-up, and reuse and rehabilitation of already-developed sites. Land reuse efforts should be a priority and when there is expansion into undeveloped areas, bonuses and incentives should be provided to encourage density for residential

use. This not only preserves green space, but density also creates economic vitality by encouraging nearby amenities, reduces car use and increases public transit use. Standardized sustainability elements will be identified for inclusion in all small area, corridor and neighborhood planning projects. In addition, a green pilot project from the SoBro (South of Broadway) Neighborhood Plan will be implemented to showcase sustainable neighborhood planning.

Louisville’s Comprehensive Plan, Cornerstone 2020, lacks a dedicated sustainability component and should be amended to include sustainability in order to make overarching changes. The Comprehensive Plan will be updated in 2013 to reflect the latest census information. A major Comprehensive Plan update, which will include a sustainability component, is anticipated to start in 2014 after Phase 2 of Louisville’s 25-year Vision is complete. The Office of Sustainability will work with the Department of Planning and Design Services to review these documents and develop a plan to incorporate specific sustainability guidelines.

Goals and Initiatives

COMMUNITY

15. Incorporate sustainability into the Land Development Code and the Comprehensive Plan 2015

INITIATIVES	2015
Establish priority sustainability components to include in the Land Development Code and Comprehensive Plan	Underway
Identify standard sustainability elements to include in all small area, corridor and neighborhood plans	Planned
Implement a green pilot project from the SoBro Neighborhood Plan	Planned

5.3 Parks and Green Space

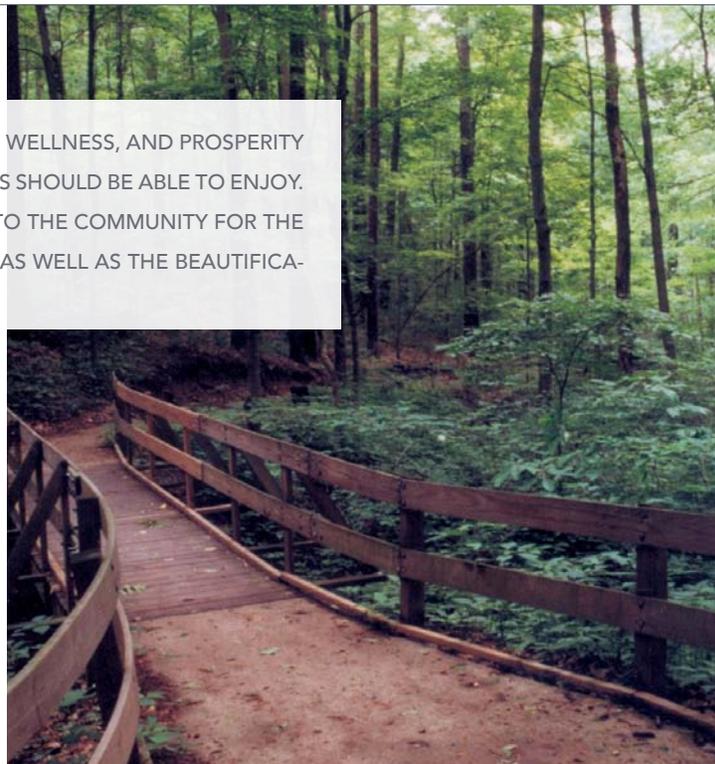
PARKS AND GREEN SPACES ARE VITAL TO ENSURING THE HEALTH, WELLNESS, AND PROSPERITY OF OUR CITIZENS, AND ARE BASIC AMENITIES THAT ALL RESIDENTS SHOULD BE ABLE TO ENJOY. MAINTAINING OUR EXISTING PARKS AND GREEN SPACE IS VITAL TO THE COMMUNITY FOR THE ENVIRONMENTAL BENEFITS SUCH AS CARBON SEQUESTRATION, AS WELL AS THE BEAUTIFICATION AND HEALTHY LIFESTYLE AMENITIES OUR PARKS PROVIDE.

Green space conservation and park creation are investments that can produce significant sustainability and economic benefits for Louisville’s visitors and residents. Parks attract non-resident visitors who put new dollars into local economies. Proximity to parks and open space enhances the value of residential properties. Green space captures precipitation, reduces stormwater management costs and protects underground water sources, which can reduce the cost of drinking water up to tenfold. Trees and shrubs enhance air quality and protect animal habitats.

EXISTING EFFORTS

Louisville has more than 12,500 acres of public parks, which are a significant asset to our community. Metro Parks provides and facilitates equitable access to nature-based outdoor recreation and education by connecting all citizens to the environment regardless of their geographic, ethnic and socioeconomic status. As a social equity concern, minorities are generally underrepresented in participation in nature-based outdoor recreational pursuits. The Metro Parks system, including Jefferson Memorial Forest and Natural Areas Division, provides hundreds of opportunities for outdoor recreational activities such as hiking, biking, camping and environmental education programs. Metro Parks also oversees and provides a multitude of services and programs including recreational sporting leagues, community center activities, and aquatics. The Natural Areas Division provides students with nature-based recreation, stewardship and education through its Engaging Children Outdoors (ECHO) program at the Jefferson Memorial Forest.

The Metro Parks Planning, Design and Construction Division develops and implements the Parks and Open Space Master Plan through strategic land acquisition, grant writing, planning, designing and building improvements throughout the Metro Parks system. These efforts improve human and ecosystem health, increase access to parks and trails, expand bike and pedestrian transportation connectivity, and offer opportunities for ecological and cultural tourism.



Metro Parks’ Forestry and Landscape Division manages approximately 14,000 trees in the parks and along parkways. The Metro Parks Natural Areas Division has a goal of restoring degraded park natural areas by removing invasive plants and replanting 1,500 native trees and shrubs on approximately five acres per year. These land management activities are vital to the health of the parks’ natural areas.

Metro Parks also works to develop and implement the City of Parks Master Plan and partners with organizations like Olmsted Conservancy, 21st Century Parks, the Louisville Metro Parks Foundation and the Louisville/Jefferson County Environmental Trust to protect green space and complete projects like the Parklands of Floyds Fork and the Louisville Loop.

Great parks are part of Louisville’s nature, partly due to the work of world-renowned landscape architect Frederick Law Olmsted, who, in 1891, designed Louisville’s first park system, which included three large signature parks — Iroquois, Shawnee and Cherokee — all connected by tree-lined boulevards. The Olmsted Parks Conservancy operates to restore, enhance and preserve the Frederick Law Olmsted Parks and Parkways, and works in partnership with Metro Parks on large projects where the Olmsted Parks are located within the Metro Parks system.



THE 21ST CENTURY PARKS' PARKLANDS OF FLOYDS FORK PROJECT IS SCHEDULED TO OPEN IN 2015. THE PARKLANDS PROJECT WILL BE A WORLD-CLASS ADDITION TO LOUISVILLE'S PARKS SYSTEM, AND INCLUDES FOUR MAJOR PARKS LINKED BY A PARK DRIVE, A WORLD-CLASS URBAN TRAIL SYSTEM, AND A REMARKABLE WATER TRAIL, ALL TRACING FLOYDS FORK, A CLASSIC KENTUCKY STREAM. THE UNIQUE PUBLIC/PRIVATE PROJECT ENCOMPASSES NEARLY 4,000 ACRES OF PRESERVED LANDS IN THE LAST UNDEVELOPED CORRIDOR OF THE COMMUNITY. OVER THE ENTIRE DEVELOPMENT OF THE 4,000-ACRE PARKLANDS PROJECT, 21ST CENTURY PARKS PLANS TO PLANT 250,000 TREES.

The Louisville Loop is an estimated 100-mile loop shared-use path system that will leverage the impact of the original Olmsted Parks and Parkway system and help shape the future experience of our community. It will form a network of shared-use paths, soft surface trails, on-road bike lanes, stream corridors, parkways, greenways, and connections to existing bicycle, pedestrian and transit routes. The Loop will be managed and maintained through development of the Louisville Loop Master Plan, which outlines targets for the Loop, including the development of 60 miles in the next five years, and completion of the 100-mile Loop by 2020. Metro Parks partnered with external agencies such as MSD and the U.S. Army Corps of Engineers to

integrate green infrastructure, flood protection and stream and bank protection in the Loop design.

PROPOSED INITIATIVES

To maintain the high caliber of parks in Louisville, Metro Parks Forestry and Landscape Division will implement the City of Parks Master Plan, including land acquisition, planting trees and providing tree care and maintenance designed to expand the urban tree canopy. In addition, the Natural Areas Division will increase the acreage of land that is managed for habitat, outdoor recreation and environmental education. The Natural Areas Division also seeks to engage minority children and their families in nature-based recreation, stewardship and education by expanding ECHO to include an out-of-school time program.



Goals and Initiatives
COMMUNITY

16. Replace and reforest parks property and provide nature-based recreation

2018

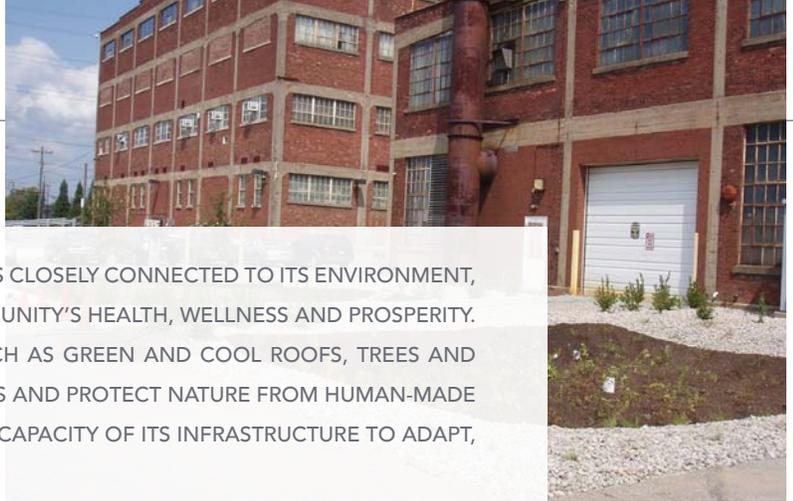
INITIATIVES

- Provide out-of-school time nature-based recreation for six schools
- Increase the acreage of natural areas land under active management by 25%
- Acquire 4,000 acres of park land and conservation easements

Underway
Planned
Proposed

5.4 Green Infrastructure

A CITY'S INFRASTRUCTURE – ROADS, SEWERS, UTILITIES, ETC. – IS CLOSELY CONNECTED TO ITS ENVIRONMENT, WITH BOTH POSITIVE AND NEGATIVE INFLUENCES ON A COMMUNITY'S HEALTH, WELLNESS AND PROSPERITY. HOLISTIC AND INTEGRATED INFRASTRUCTURE ELEMENTS, SUCH AS GREEN AND COOL ROOFS, TREES AND BIOSWALES, CAN PROVIDE SOLUTIONS TO URBAN CHALLENGES AND PROTECT NATURE FROM HUMAN-MADE HAZARDS. A CITY'S RESILIENCE IS OFTEN DEPENDENT ON THE CAPACITY OF ITS INFRASTRUCTURE TO ADAPT, EVOLVE AND IMPROVE TO REFLECT ITS CITIZENS' NEEDS.



EXISTING EFFORTS

Green infrastructure solutions are being pursued by Metropolitan Sewer District (MSD) to help reduce combined sewer overflow (CSO) issues in the city. In 2005, MSD, the U.S. EPA, the U.S. Department of Justice and the Kentucky Department of Environmental Protection (KDEP) entered into a Consent Decree to eliminate sanitary sewer overflows and reduce the volume and frequency of CSOs. This agreement was amended in 2009 and, in response, MSD prepared a plan for reduction and elimination of overflows with approximately \$850 million of improvements dedicated primarily to construct storage basins, treatment facilities and increased conveyance piping. The plan includes adaptive management techniques that would allow MSD to utilize green infrastructure, or natural solutions such as vegetated roofs, in-ground storage, rain gardens and pervious pavement, to accomplish the same level of control for sewer overflow reduction. The intent of MSD's Green Infrastructure program is to reduce the amount of stormwater overflow through natural solutions, thus reducing gray project sizes and costs, and signaling a new era in stormwater management in Louisville. Gray projects are the traditional systems of building storage capacity in tanks or other holding structures that simply hold the rainwater during a rain event and thereby reduce the overflow volumes. MSD also completed 19 green demonstration projects, which are being used as testing grounds for monitoring and modeling. The long-term performance of green infrastructure will be documented, including the amount of stormwater runoff

captured, maintenance cycles, stormwater infiltration rates and ultimately CSO volumes.

In 2011, MSD launched a Green Incentives and Savings Program, which established financial incentives for commercial and industrial private property owners to help offset green infrastructure construction costs, as well as provide an opportunity for credits on stormwater fees for a period of time. The incentives are based upon a business case where the value of removing impervious surface area from the combined sewer system was calculated and quantified by accounting for reduced gray project sizes, and the cost to treat stormwater.

PROPOSED INITIATIVES

To promote green infrastructure practices citywide, the Office of Sustainability will investigate opportunities to collaborate with MSD to expand its incentive program. The program will encourage use of green infrastructure in both redevelopment and new development areas which may be outside of MSD's priority incentive area. For example, establishing best practices and cost-neutral options to build green infrastructure elements will help all developers better handle stormwater runoff. In addition, the city will use green infrastructure elements in all future projects when feasible and based on the project resources.

IN 2010 A COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT BETWEEN EPA'S OFFICE OF RESEARCH AND DEVELOPMENT, UNIVERSITY OF LOUISVILLE AND MSD WAS SIGNED TO EVALUATE GREEN INFRASTRUCTURE ON THE MACRO AND MICRO LEVEL. THIS AGREEMENT WILL PROVIDE DATA ON THE PERFORMANCE OF GREEN INFRASTRUCTURE TECHNIQUES, MAINTENANCE CYCLES, AND MODELING OF OVERFLOW REDUCTION THROUGH THE WIDESPREAD AND TARGETED APPLICATION OF GREEN PRACTICES IN DIVERSE WATERSHEDS. A NUMBER OF PROJECTS ARE BEING MODELED, EVALUATED OR ARE IN DESIGN.

Goals and Initiatives

COMMUNITY

17. Expand green infrastructure incentives citywide

2018

INITIATIVES	
Identify green infrastructure best practices and launch an incentive program	Planned

5.5 Tree Canopy and Urban Heat Island

TREES PROVIDE MANY BENEFITS TO THE COMMUNITY IN ADDITION TO BEAUTIFICATION. TREES PROVIDE ECOSYSTEM SERVICES, SUCH AS FILTERING AIR POLLUTANTS, PROVIDING SHELTER AND SHADE AND REDUCING STORMWATER RUNOFF. TREES ARE AN ESSENTIAL ELEMENT TO COMBAT URBAN HEAT ISLAND (UHI) EFFECTS, WHICH HELP ENSURE THE HEALTH, WELLNESS AND PROSPERITY OF OUR CITIZENS. UHI DESCRIBES THE PHENOMENON WHERE CITIES ARE HOTTER THAN THE SURROUNDING SUBURBAN AREAS. THE MAIN CONTRIBUTORS TO THE UHI EFFECT ARE LOW AMOUNTS OF VEGETATION, HIGH COVERAGE BY IMPERVIOUS SURFACES AND LOW COVERAGE BY UNPAVED SOIL, WHICH WOULD OTHERWISE HOLD COOLING MOISTURE BETWEEN RAIN EVENTS. BUILDINGS AND ROADS CONTRIBUTE GREATLY TO THE HEAT ISLAND BECAUSE THEY TYPICALLY ABSORB A HIGH PERCENTAGE OF INCIDENT SOLAR ENERGY AND HAVE A HIGH HEAT STORAGE CAPACITY.

A robust urban tree canopy conveys tremendous advantages to many environmental challenges as well as improving the quality of place and economic value of the places where people live and work. Benefits of urban forests also include energy efficiency, carbon sequestration and stormwater runoff mitigation. The right tree properly placed can help reduce energy usage for heating and cooling homes and buildings. A single tree can store almost 100 gallons of stormwater, which is significant for green infrastructure and stormwater mitigation efforts, particularly in urban settings. As mentioned in Section 5.2, Land Development Code revisions are underway which will update the tree canopy regulations to better support the rebuilding of Louisville's declining tree canopy.

Hot cities are uncomfortable. Excess heat strains infrastructure, raises energy costs, exacerbates chronic illnesses and contributes to premature death. According to recent studies by Kalkstein L., Greene S., Mills D., Samenow S. and Dr. Brian Stone with Georgia Institute of Technology, Louisville's UHI problem is escalating faster than most urban areas around the country. Addressing UHI and related health issues with a comprehensive, strategic approach is a priority for Louisville.

The science behind UHI mitigation is fairly straightforward. Materials with low reflectivity and low emissivity get hot in the sun and stay hot longer. In contrast, temperatures can be significantly cut through the use of reflective roofs, green roofs, green walls, emissive building and infrastructure materials, cool infrastructure, and notably, shade trees.

EXISTING EFFORTS

In 2012, Mayor Fischer signed an Executive Order that created the Louisville Metro Tree Advisory Commission to advise city officials on the development of policies to better care for, preserve, expand and improve Louisville's existing tree canopy and to plant new trees. The Tree Commission is actively seeking partnerships and contributions, including in-kind donations, to undertake projects that will help grow Louisville's tree canopy.



COMMUNITY

The Commission is working on tree planting projects with non-profits, schools and MSD, ensuring that all donated trees are properly cared for and maintained. In 2012, the Commission received a generous tree donation from Ecotech LLC of 100 trees per year for 10 years. The Commission will continue efforts to partner with the community, organizations and developers to increase, improve and care for the city's tree canopy.

PROPOSED INITIATIVES

The Tree Advisory Commission will facilitate preparation of an urban tree canopy analysis and develop a plan to support the Mayor's goal of planting 10,000 trees by 2015. Tree-planting efforts will focus on areas of greatest need and will target areas where co-benefits can be realized, such as planting trees in locations that provide green infrastructure and stormwater mitigation while also providing shade and energy efficiency benefits for adjacent buildings.

Part of a plan to address UHI will include implementing new approaches to infrastructure construction and maintenance practices that incorporate cool elements. The Office of Sustainability will research programs and best practices and prepare a guidebook on how to implement cool infrastructure practices. (Green and cool roof initiatives are described in Section 1.0 Energy.)

Because reducing the local impact of the UHI effect can slow down ozone formation in Louisville, a critical piece of improving air quality, a partnership will be formed to establish mitigation goals with key stakeholders who will help identify the data needs, coordinate community resources and engage individuals and businesses to help improve Louisville's UHI issues.

Goals and Initiatives

COMMUNITY

18. Establish a robust urban tree canopy and implement strategies to mitigate the urban heat island effect

2018

INITIATIVES	
Update the Land Development Code to better support the growth and protection of Louisville's tree canopy	Underway
Complete an urban tree canopy analysis and establish tree planting goals	Planned
Complete planting of 10,000 trees	Underway
Establish community partnerships and implement strategies to mitigate the UHI effect	Underway

6.0 ENGAGEMENT



ONE OF MAYOR FISCHER'S TOP GOALS IS TO MAKE LOUISVILLE A HEALTHIER CITY – PHYSICALLY, ENVIRONMENTALLY, SOCIALLY AND FINANCIALLY. CREATING A CULTURE OF SUSTAINABILITY BY ENGAGING AND EDUCATING CITIZENS ON THE NECESSITY OF SUSTAINABILITY PRACTICES WILL HELP MAKE LOUISVILLE A MUCH HEALTHIER CITY. COMMUNITY AWARENESS, UNDERSTANDING AND ACTION ARE KEY ASPECTS OF LOUISVILLE'S FUTURE, AND THE OFFICE OF SUSTAINABILITY SEEKS TO ENGAGE CITIZENS AND STAKEHOLDERS TO BROADEN THE UNDERSTANDING OF THE NEED FOR SUSTAINABILITY PLANNING AND ACTION.

EXISTING EFFORTS

Since it was formed in January 2012, the Office of Sustainability has engaged hundreds of citizens to discuss Louisville's sustainability programs and goals. Engaging the community in sustainability is perhaps the most vital aspect of Sustain Louisville because in order to become a truly sustainable city, every citizen must understand the principles as well as participate in efforts to achieve Sustain Louisville's goal. Examples of community engagement activities, organizations and initiatives are described below.



BRIGHTSIDE

SINCE 1985, BRIGHTSIDE HAS BEEN KEEPING LOUISVILLE CLEAN AND GREEN, AND HAS BEEN UNITING PEOPLE WITH ACTIVITIES TO BEAUTIFY THE CITY AND FOSTER COMMUNITY PRIDE. BRIGHTSIDE IS UNIQUE BECAUSE IT FUNCTIONS AS A

PUBLIC/PRIVATE PARTNERSHIP, MERGING THE RESOURCES OF CITY GOVERNMENT WITH THOSE OF PRIVATE CITIZENS. IN ADDITION TO COMMUNITY-WIDE CLEANUPS THAT INVOLVE THOUSANDS OF VOLUNTEERS, BRIGHTSIDE ALSO OFFERS NATURESCAPE BEAUTIFICATION PROJECT GRANTS, COMMUNITY GARDEN PROGRAMS AND WILDFLOWER AND TREE-PLANTING EFFORTS.

CYCLOUVIA

In October 2012, Louisville held its first-ever open street event, called CycLOUvia. A three-mile stretch of one of Louisville's most bustling urban corridors was closed to vehicles, and citizens were encouraged to walk, cycle, skateboard or dance along Bardstown Road and Baxter Avenue. With the aspiration of making it a semi-annual or annual event, CycLOUvia raises the awareness of transportation alternatives and helps to make Louisville a more active, healthy and livable city.



GREEN TEAM

The Office of Sustainability launched a cross-functional, city employee Green Team to help create a culture of sustainability in city government. Green Team volunteers represent more than 20 city departments and agencies, and are working to raise awareness of sustainable practices at work, and developing and implementing programs and policies toward this end. In 2012, the Green Team grants committee submitted two grant applications and will continue applying for additional grant opportunities as they arise. In addition, the education committee is partnering with the Office of Sustainability on several ongoing projects, including the city's expanded recycling program and the community sustainability education pilot program described below.

CENTER FOR NEIGHBORHOODS GREEN INSTITUTE

THE GREEN INSTITUTE IS AN ENVIRONMENTAL LEADERSHIP/EDUCATION PROGRAM ESTABLISHED IN 2012 BY THE CENTER FOR NEIGHBORHOODS, A NON-PROFIT CIVIC ORGANIZATION. THE GREEN INSTITUTE EQUIPS NEIGHBORHOOD LEADERS WITH THE SKILLS AND RESOURCES NEEDED TO IMPROVE THE ENVIRONMENTAL, SOCIAL AND ECONOMIC SELF-DIRECTED NEIGHBORHOOD SUSTAINABILITY PROJECTS BASED ON ACTIONABLE COMMUNITY INITIATIVES THAT IMPROVE THE VITALITY AND LONG-TERM SUSTAINABILITY OF THE PARTICIPANTS' COMMUNITIES.

ENGAGEMENT



MAYOR'S HIKE, BIKE & PADDLE

Recognizing that providing active lifestyle options will create healthy options and opportunities for citizens of Louisville and Kentucky, the Mayor's Healthy Hometown Initiative's signature event, the Hike, Bike & Paddle series, takes place three times a year on Memorial Day, Labor Day

and a weekend in October. Mayor Fischer re-energized the series in 2011 by adding a paddling component as well as Tai Chi and Yoga programs. All activities are free and open to all community members and visitors, encouraging citizens to make healthy lifestyle choices. Nearly 20,000 people participate in the three activities each year.



PROJECT WARM

SINCE 1982, PROJECT WARM HAS PROVIDED FREE WEATHERIZATION SERVICES TO PEOPLE WITH LOW INCOMES, AS WELL AS ENERGY CONSERVATION EDUCATION AND TRAINING THROUGH WORKSHOPS AND SPECIAL PROGRAMS. PROJECT WARM'S GOAL IS TO RAISE AWARENESS ABOUT REDUCING ENERGY CONSUMPTION AND PRACTICING CONSERVATION, WHICH LEADS TO SAVING MONEY AND PROTECTING THE ENVIRONMENT. VOLUNTEERS ARE TRAINED TO PERFORM ENERGY AUDITS AND INSTALL WEATHERIZATION MATERIALS IN HOMES, WHILE EARNING FREE MATERIALS FOR THEIR EFFORTS. PROJECT WARM IS A NON-PROFIT ORGANIZATION FUNDED IN PART BY LG&E AND THE CITY.

SUSTAINABILITY EDUCATION

The Office of Sustainability launched a pilot program to engage organizations in sustainability planning, setting goals, and promoting a consistent message about the value and need for sustainable practices citywide. The program was launched as part of a summer intern's project with the Partnership for a Green City, and was introduced to a small group of organizations to share best practices and resources and to offer guidance for developing their sustainability goals. This program can be replicated and scaled up to reach many organizations and help engage the business community to implement sustainable practices and contribute to achieving Sustain Louisville's goals.

PROPOSED INITIATIVES

The Office of Sustainability will engage with the community to assess and develop concepts for launching a signature project. This project will be a big, bold effort that will unite Louisville's citizens around a large-scale sustainability project. Ideas could be leveraged from the Phase 1 Research

and Discovery efforts of Vision Louisville, such as making the Fairgrounds carbon neutral, creating a solar power program, or establishing a public transportation asset such as light rail or rapid bus transit. All ideas are welcome, with a particular emphasis on those that are specific, measurable, attainable, realistic and time-framed.

Other city departments and non- and for-profit organizations will be brought together to expand existing sustainability efforts, identify champions and develop a broad-based education and awareness program for the community.

Much as the Louisville Energy Alliance is partnering with the city on the Energy Star challenge, organizations will be invited to create similar public-private partnerships toward achieving the Sustain Louisville goals. These collaborations would help establish out-of-school programs for children that promote interactions with the natural environment as well as education and outreach initiatives for businesses and the community through workshops and robust internet and social media campaigns.

The Office of Sustainability will work with the Partnership for a Green City to develop a program to better integrate sustainability components at local schools, from elementary to secondary programs. Environmental literacy helps individuals recognize the components of healthy natural- and human-made systems, and the actions necessary to maintain, restore and improve them. The Partnership for a Green City is leveraging the skills of its member institutions to develop a sustainability education pipeline. JCPS students have Environmental Magnet options at Cane Run and Portland Elementary Schools as well as Valley Traditional, Moore Traditional, and Waggener Traditional High Schools. JCTC and the Kentucky Community & Technical College System are developing a “2+2” Sustainability degree program that would allow two-year associate or technical sustainability degrees to transition to a four-year sustainability degree program at the University of Louisville

or other universities. These curricula additions will create a seamless transition that meets the needs of students and provides them opportunities to continue their sustainability education.

The Office of Sustainability will leverage existing research activities at UofL and other universities to establish a sustainability education and behavioral program that will implement and evaluate change. This program will focus not only on educating the public on best practices but also will identify mechanisms to influence true behavior change. The program could have broad impacts on Louisville’s citizens, community groups and businesses as behavior change initiatives generate success and gain momentum.

Goals and Initiatives

ENGAGEMENT

19. Engage the community in sustainability practices and principles

Ongoing

INITIATIVES	
Launch a community engagement process to develop a signature sustainability project	Planned
Establish partnerships to provide sustainability education programs for the community, children and organizations	Planned
Offer sustainability-based community education programs and workshops	Proposed
Coordinate with academic institutions to support sustainability education and awareness programs	Proposed

7.0 CONCLUSION

Work toward achieving the Plan's goals has already begun. As a dynamic plan, Sustain Louisville will continually improve and evolve to meet the community's needs, and new objectives, goals and initiatives will be developed as necessary.

Realizing the goals identified in Sustain Louisville into fruition will require the community's involvement. Individuals, organizations, and businesses can make a large collective impact in their individual efforts to achieve Sustain Louisville's goals by modeling Louisville Metro Government's

existing efforts, proposed initiatives and programs, or by partnering with the Office of Sustainability to implement citywide sustainability programs and initiatives.

Participation and support are welcome as the city unites multiple sustainability objectives that together will ensure a vibrant, prosperous and healthy community with a better quality of life for all Louisville citizens now and in the future.



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