

Adaptation Objectives and Actions

Key to Acronyms for Lead/Partner agency or organization

APCD – Air Pollution Control District
DAQ – Division for Air Quality (state)
DOT – Department of Transportation
EMA – Emergency Management Agency
EMS – Emergency Management Services
EPA – Environmental Protection Agency
FEMA – Federal Emergency Management Agency

GLI – Greater Louisville Inc. (Metro Chamber of Commerce)
JCPS – Jefferson County Public Schools
KDEP – Kentucky Department of Environmental Quality
KYEM – Kentucky Emergency Management
LG&E – Louisville Gas and Electric
LMG – Louisville Metro Government

LMPHW – Louisville Metro Public Health and Wellness
MSD – Metropolitan Sewer District
NGOs – Non-governmental organizations
PSC – Public Service Commission
TARC – Transit Authority of River City

Phase 1 Actions – Implementation to begin within 2 years = ✓

Risk – Risks are listed by number at the end of this table

Mitigation? – Reduces greenhouse gas emissions

Time frame – Near-term = within 5 years; Mid-term = 5-10 years or more

Equitable Neighborhoods

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
OBJECTIVE 1: Create Cooler Neighborhoods						
Priority Actions						
✓ Target tree canopy efforts (see Natural Capital section) in high-heat neighborhoods	3, 7, 8, 12, 14, 15, 19, 21, 22	Extreme heat	✓	LMG, NGOs, Universities	Near	High
✓ Organize and coordinate community communication systems for efficient response	7, 8, 15, 20, 21	Extreme heat		Health Dept., EMA, Neighborhoods, NGOs, Health care providers	Near	High
Provide shelter at public places such as bus stops, parks, etc.	7, 8, 14, 15, 18, 21	Extreme heat		LMG	Near	Medium
Reduce non-permeable and heat-absorbing surfaces (e.g., de-paving unneeded parking lots, brownfield sites, etc.)	7, 8, 12, 21	Extreme heat		LMG	Near	Medium
Increase availability and access of community cooling centers (e.g., public pools, spray grounds, etc.)	7, 8, 14, 15, 18, 21	Extreme heat		LMG, Community Orgs., Corporations	Mid	Medium
Install public drinking fountains in areas of high vulnerability	7, 8, 12, 15	Extreme heat		LMG	Mid	Medium
Create heat stress action plan that accounts for climate change projections	7, 8, 12, 15	Extreme heat		LMG	Mid	Medium
Explore cooling opportunities via Louisville's natural aquifer	7, 8, 18, 21	Extreme heat		LMG	Mid	Medium

Equitable Neighborhoods, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
Existing Efforts to Support and/or Expand						
Continue to support local non-profits dedicated to increasing tree canopy	3, 7, 8, 12, 14, 15, 19, 21, 22	Extreme heat	✓	LMG, NGOs, Universities	Near	High
Continue funding for existing Metro programs like “Cool Roofs” and the Division of Community Forestry	3, 7, 8, 12, 14, 15, 19, 21, 22	Extreme heat	✓	LMG	Near	High
Implement the recommendations identified in <i>Louisville Urban Heat Management Study</i> (2016)	3, 7, 8, 12, 14, 15, 19, 21, 22	Extreme heat	✓	LMG	Near	High

OBJECTIVE 2: Invest without Displacement

Priority Actions

✓ Partner with non-profit organizations to create a community land trust to provide permanent affordable housing and increase home ownership in historically disinvested neighborhoods	3, 9, 15, 19, 24	All		Metro Council, Planning Commission, NGOs	Near	High
Tax moratorium for long-term residents, targeted for lower-income neighborhoods	1, 2, 3, 9, 15, 19, 24	All		LMG, Metro Council	Near	Medium
Home efficiency loans for owners of rental properties with an agreement to not raise rents	1, 2, 3, 9, 15, 19, 24	All	✓	LMG, Office of Equity, Office of Advanced Planning & Sust.	Near	Medium

Existing Efforts to Support and/or Expand

Increase funding for Louisville Affordable Housing Trust Fund, ensuring that housing is developed sustainably, and equitably	1, 2, 3, 9, 15, 19, 24	All	✓	LMG	Near	High
Increase grant availability for home repair and upgrades in environmentally and economically vulnerable areas	2, 9, 15, 19, 24	Extreme heat, larger storms	✓	LMG, Industrial partners	Near	High
✓ LMG continues to advocate for low-income and sustainable housing	3, 9, 15, 19, 24	All		LMG	Near	Medium

Equitable Neighborhoods, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
OBJECTIVE 3: Promote Environmental Justice						

Priority Actions

✓ Support an environmental justice working group to advise LMG on policies to increase EJ	2, 7, 8, 10, 11, 12, 15, 18, 19, 22	All		LMG, Develop Louisville	Near	High
Conduct meaningful outreach that ensures two-way dialog and empowerment to groups that have experienced discrimination and lack of investment	15	All		LMG, Health Dept., Develop Louisville, NGOs	Near	High
Implement air and water quality objectives (see Healthy Residents section) with focus on, and investment in, more polluted, high-heat and vulnerable neighborhoods	1, 2, 8, 10, 15, 19, 22	All		LMG, Health Dept.	Mid	High
Investigate establishing “green zones” in more polluted, economically burdened neighborhoods by addressing the overall environmental and economic health of the community.	1, 2, 3, 7, 8, 10, 12, 13, 15, 17, 18, 19, 21, 22	All		LMG, neighborhood assoc., EMA, Develop Louisville	Near	Medium

Existing Efforts to Support and/or Expand

Ensure that environmental codes and regulations are strictly enforced	1, 8, 10, 13, 15	All		LMG, Develop Louisville	Near	High
Partner with and provide resources to residents advocating for cleaner air, water, and soil	8, 10, 15	All		LMG, Develop Louisville	Near	High
Continue efforts to increase access to parks, nature and green spaces in underserved areas (e.g., the West Louisville Outdoor Recreation Initiative)	10, 15, 17, 18, 19, 20, 21, 22	All		LMG, Health Dept.	Near	High

OBJECTIVE 4: Cohesively address inequity, health, affordability, sustainability, and preparedness

Priority Actions

Create and establish funding mechanisms for Resilience Hubs where residents can access mitigation assistance, resources and support	1, 2, 3, 7, 8, 10, 12, 13, 15, 17, 18, 19, 20, 21, 22, 24	All		LMG, neighborhood assoc., EMA, Dev. Louisville	Near	Medium
Provide coordination among organizations serving those impacted by climate change and other environmental effects	1, 2, 3, 7, 8, 10, 12, 13, 15, 17, 18, 19, 20, 21, 22, 24	All		LMG, neighborhood assoc., EMA, Dev. Louisville	Near	Medium

Healthy Residents

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 5: Protect people from air pollution

Priority Actions

Increase renewable energy support and incentives for individual homes and businesses	3, 4, 7, 8, 15	Air quality	✓	LMG, PSC, property owners, developers	Near	High
Divest from fossil fuels and invest in renewable energy on both a utility and regional scale	3, 4, 7, 8, 15, 16	Air quality	✓	PSC, LMG, legislators	Near	High
✓ Expand bike, pedestrian and transit networks to reduce car travel (also see Resilient Infrastructure chapter for more transportation options)	6, 7, 8, 24	Air quality	✓	LMG, local/state/fed. govt., businesses	Near	High
✓ Increase real-time air quality monitoring and enforcement	8, 15	Air quality		APCD, DAQ	Near	High
Develop intervention programs to prevent, detect, and treat health conditions in populations most vulnerable to air quality	7, 8, 15, 20	Air quality		LMG, Health Dept. NGOs	Mid	High
Create a Solar Incentive Program for residents similar to LMG's Cool Roof Rebate program	3, 4, 7, 8, 15	Air quality	✓	LMG	Near	High
Support asthma-friendly schools and childcare facilities	7, 8, 15, 20	Air quality		JCPS	Mid	Medium
Start a Green Bank to ensure lower-income residents have access to financing for energy efficiency upgrades and investment in renewable energy	3, 4, 8, 9, 15, 24	Air quality	✓	LMG, non-profits, banks	Mid	Medium
Encourage passive solar and green building design practices	3, 4, 15, 19, 24	Air quality	✓	LMG	Near	Medium
Expand EPAD program to help finance commercial energy efficiency upgrades and investment in renewable energy	3, 4, 15, 19, 24	Air quality	✓	LMG	Near	Medium
Explore options for investment in community solar programs	3, 4, 7, 8, 15	Air quality	✓	LMG	Near	Medium

Existing Efforts to Support and/or Expand

Expand weatherization programs	2, 3, 4, 7, 8, 15, 19, 24	Air quality, Extreme heat	✓	LMG, Banks	Near	High
Replace gas powered tools and mowers with electric (govt. and residential)	4, 8	Air quality	✓	LMG	Near	Medium
Encourage passive solar and green building design practices	3, 4, 15, 19, 24	Air quality	✓	LMG	Near	Medium

Healthy Residents, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 6: Reduce pollutants and contaminants in waterways

Priority Actions

✓ Notification of accidental emissions in real time, with follow up information and guidance on actions	1, 2, 7, 8, 10, 15, 22	Larger storms		KDEP, KYEM, MSD, LMG	Near	High
Work with largest industrial plants to increase the magnitude of events for which they prepare, in order to prevent accidental emissions	1, 2, 4, 7, 8, 10, 15, 25	Larger storms		KDEP, KYEM, MSD, LMG, LG&E	Mid	Medium

Existing Efforts to Support and/or Expand

Identify and reduce sources of bacteria in waterways	1, 2, 10, 11, 15, 19, 22	Extreme heat, larger storms, warmer temperature		MSD, Develop Louisville	Near	High
Require effective technology that reduces fugitive emissions and spills	7, 8, 10, 15	Larger storms		APCD, MSD, EMA	Near	High
Increase efforts to address and reduce brownfield site migration of contamination	1, 2, 10, 15	Larger storms		LMG	Near	High
Fully implement MSD's <i>Critical Repair and Reinvestment Plan</i>	1, 2, 10, 15, 20	Larger storms		MSD	Near	High
Increase efforts to promote use of safer chemicals in industrial production	1, 2, 8, 10, 15	Larger storms, Air quality		LMG	Mid	Medium

OBJECTIVE 7: Improve availability of healthy food

Priority Actions

✓ Promote locally-grown food, community gardens, and urban gardens	13, 14, 15, 19, 24	Larger storms, more pests & disease, warmer temperature	✓	WIC, KY Ag Comm., Health Dept., KY Dept. of Tourism, local businesses, LM Council, Planning Comm., NGOs	Near	High
✓ Connect food delivery services to farmer's markets, fresh produce, and lower income neighborhoods	14, 15	Same as above		LMG, NGOs	Near	High
✓ Reduce commercial food waste through redistribution and other strategies	14, 15	Same as above		NGOs, grocers, farmers, etc.	Near	High

Healthy Residents, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
✓ Provide tax benefits and other incentives for establishing grocery stores in areas with limited access to affordable and nutritious food	14, 15, 16, 19	Same as above	✓	NGOs, grocers, farmers, LM Council, Planning Comm.	Near	High
Transform vacant lots into edible gardens	13, 14, 19, 24	Same as above	✓	LMG, Planning Comm., NGOs	Mid	High

Existing Efforts to Support and/or Expand

Support and expand existing efforts and partnerships highlighted in <i>Ending Food Insecurity: It Will Take Us All</i> report	14, 15	Same as above		LMG, Planning Comm., NGOs	Near	High
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OBJECTIVE 8: Monitor and reduce pests and disease

Priority Actions

✓ Reduce standing water for mosquitoes and other vectors, especially near homes (e.g., installing pervious surfaces, removing debris, fixing drainage issues)	5	Warmer temperature, Larger storms		LMG, property owners, NGOs, neighborhood groups	Near	High
✓ Require nature-based methods for reducing standing water (such as restoring riparian vegetation) into the planning stage for new development	5, 10, 12, 13, 17, 22	Warmer temperature, Larger storms		LMG, property owners, NGOs, neighborhood groups	Near	High
✓ Maintain and expand disease surveillance to detect emergence of new vectors and diseases	5	Warmer temperature, Larger storms		Health Dept., LMG	Near	High

Existing Efforts to Support and/or Expand

Continue to implement and expand Integrated Pest Management principles	5, 10, 12, 13, 17, 22	Warmer temperature, Larger storms		LMG, property owners, NGOs, neighborhood groups	Near	High
Increase awareness of tick and mosquito prevention strategies	5, 11	Warmer temperature, Larger storms		LMG, property owners, NGOs, neighborhood groups	Near	High
Strengthen and maintain vector control response planning and implementation for emergency events	5, 11,	Warmer temperature, Larger storms		LMG, MSD, other?	Near	High

Healthy Residents, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
OBJECTIVE 9: Increase access to health care						
Priority Actions						
✓ Track admissions and health impacts related to extreme events	7, 8, 11, 15, 18, 20	All		LM, NGOs	Near	Medium
Enhance mobile health clinics in underserved areas	7, 8, 11, 15, 18, 20	All		LM, NGOs	Mid	Medium
Improve cultural competency and mental health awareness in primary care	7, 8, 11, 15, 18, 20, 21	All		LM, NGOs	Mid	Medium
Increase number of mental health providers	7, 8, 11, 15, 18, 20, 21	All		LM, NGOs	Mid	Medium
Build capacity for medical interpreters to meet demand	7, 8, 11, 15, 18, 20, 21	All		LM, NGOs	Mid	Medium
Increase access to neighborhood clinics and other healthcare options	7, 8, 11, 15, 18, 20, 21	All		LM, NGOs	Mid	Medium

Natural Capital

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 10: Increase tree canopy cover

Priority Actions

✓ Promote and support tree planting on public lands and through school programs	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	Metro Council, LMG, Dev. Louisville, NGOs, resident groups	Near	High
✓ Discourage Land Development Code waivers that allow tree removal without replacement	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	Metro Council, Planning Comm.	Near	High

Existing Efforts to Support and/or Expand

Increase the Louisville Metro Government Tree Assistance Fund	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	Metro Council, Planning Comm.	Near	High
Implement recommendations in <i>Urban Tree Canopy Assessment</i> and <i>Louisville Urban Heat Management Study</i>	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	LMG	Near	High
Continue to strengthen Land Development Code for preservation and enhancement of tree canopy	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	Metro Council, LMG, Dev. Louisville, NGOs, resident groups	Near	High
Promote participation as a Tree City USA member	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	LMG	Mid	High
Update Urban Tree Canopy Study, as needed	3, 4, 7, 8, 12, 15, 19, 20, 21, 22	Extreme heat	✓	LMG	Mid	High

OBJECTIVE 11: Increase natural vegetation, habitats, and diversity

Priority Actions

✓ Land Development Code to encourage more green/natural spaces	10, 12, 13, 15, 17, 18, 19, 22	All		LM Land Dev. Council	Near	High
✓ Support pollinators through plantings, education, and management practices	17, 22	All		LMG	Near	High
Use vacant lots for trees, habitat, and pollinator gardens	17, 22	All		LMG	Near	High
Replace lawns with naturalized vegetation, native species, and habitats	10, 13, 17, 22, 24	All		LMG	Near	High
Discourage the use of chemical pesticides, herbicides, and fertilizers by promoting more organic alternatives and practices	5, 7, 10, 13, 17	All		LMG	Mid	High

Natural Capital, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
Connect existing parks, green spaces and waterways to create cooling corridors throughout the Metro region	3, 7, 8, 10, 12, 13, 15	Extreme heat, Larger storms	✓	LMG	Mid	High
Prohibit the sale of invasive species	5, 10, 13, 17	All		LMG	Near	Medium
Research and promote a greater diversity of plants species that are resistant to disease, pests, and climatic change	5, 10, 14, 17, 18, 19, 22	All		LMG	Mid	Medium
Facilitate urban conservation corps	10, 12, 13, 15, 17, 18, 19, 22	All		LMG	Mid	Medium

OBJECTIVE 12: Enhance ecosystem services

Priority Actions

✓ Reduce flooding and improve water quality by creating riparian buffers, restoring wetlands, planting riparian vegetation, installing bioswales, and promoting other nature-based flood abatement actions	1, 2, 7, 8, 10, 11, 13, 15, 19, 20, 22, 24	Extreme heat, larger storms		MSD, Develop Louisville	Near	High
✓ Prioritize preservation and restoration of ecosystem services in neighborhoods most affected by impaired air, water, and soil quality	1, 2, 7, 8, 10, 11, 13, 15, 17, 19, 20, 22, 24	Extreme heat, larger storms		MSD, Develop Louisville	Near	High
Calculate economic values of green infrastructure and other ecosystem services to increase investment	1, 2, 3, 7, 8, 10, 12, 13, 15, 17, 18, 19, 21, 22, 24	Extreme heat, larger storms, loss of nature		MSD, Develop Louisville	Near	High
Install green roofs to provide cooling services, storm water mitigation, energy savings and bio-diversity	3, 7, 8, 24	All				
Plant riparian species on flood risk properties	1, 2, 10, 13, 17, 22	Extreme heat, larger storms		MSD, Develop Louisville	Near	High
Protect and restore natural waterways and wetland through mitigation and restoration of the natural ecosystem	1, 2, 10, 13, 17, 20, 22	Extreme heat, larger storms		MSD, Develop Louisville	Near	High

Sustainable Business

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 13: Increase business sustainability

Priority Actions

✓ Provide capital, tax breaks and other incentives for corporate or institutional sustainability projects	1, 2, 3, 4, 6, 9, 13, 15, 19, 24	All	✓	LMG, banks, State/Fed. Govt.	Near	High
✓ Promote and incentivize alternative transportation and remote work options for employees	6, 8, 15, 19	Air quality	✓	LMG	Near	High
Investigate prohibiting single use plastics (e.g., plastic bags, drinking bottles, etc.)	16, 24	All	✓	LM Council, LMG	Near	Medium
Design inclining block rates that reward energy, water, and resource conservation (e.g. higher prices for higher usage)	3, 15, 24, 25	All	✓	LMG	Near	Medium
Create and support a central hub for businesses seeking sustainability services	16, 24, 25	All	✓	LMG, NGOs, GLI	Near	Medium
Promote Public Benefit Corporations (PBC) and create incentives for those that certify their impact with a third-party organization	3, 4, 6, 16, 24, 25	All	✓	LMG, LM Council, GLI	Near	Medium
Work with local industry to increase climate change and emergency preparedness	1, 2, 4, 7, 8, 10, 15, 25	Extreme heat, Larger storms		KDEP, KYEM, MSD	Mid	Medium

Existing Efforts to Support and/or Expand

Increase marketing of Louisville's Energy Project Assessment District (EPAD) program	3, 8, 16, 19, 24, 25	All	✓	LMG, LM Council, GLI	Near	High
Increase funding available for METCO Go Green Loans	3, 8, 16, 19, 24, 25	All	✓	LMG, LM Council, GLI	Near	High
Support Louisville Sustainability Council in convening corporate partners to share environmental best practices	3, 8, 16, 24, 25	All		LMG, LM Council, GLI	Near	Medium

OBJECTIVE 14: Ensure green jobs and living wages

Priority Actions

✓ Create green jobs and training with potential funding and cooperation through industrial partnerships	15, 24, 25	All		LMG, industry, business groups, NGOs	Near	Medium
Increase exposure of JCPs students to green career paths	15, 24, 25	All		LMG, industry, business groups, NGOs	Near	Medium
Encourage discussion of a living wage for all residents	15, 16, 19	All		LMG, industry, business groups, NGOs	Mid	Medium

Resilient Infrastructure

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 15: Scale up stormwater management

Priority Actions

✓ Assess ability to carry out proactive repairs of sewer system	1, 2, 10, 13	Larger storms		MSD	Near	High
✓ Encourage “green” building practices that increase infiltration and protect water quality	1, 2, 7, 8, 10, 13, 15, 19, 20, 22, 24	Extreme heat, larger storms		MSD, Develop Louisville	Near	High
Update standards for stormwater conveyance and erosion control	2, 7, 8, 10, 11, 20	Larger storms		MSD	Near	High
Reduce impervious surfaces upstream	1, 2, 10, 13	Larger storms		MSD, Develop Louisville	Near	High
Upsize flood pump stations	1, 2, 10, 13	Larger storms		MSD, Corps of Engineers	Near	High
Reduce fertilizer and chemical runoff	2, 10, 13, 15	Extreme heat, larger storms		MSD, Develop Louisville	Near	High
Advocate for progressive wastewater rates	1, 2, 10, 13, 22, 24	Larger storms		LM Council	Mid	Medium
Create or expand regional retention basins	1, 2, 10, 13	Larger storms		LMG, MSD, Corps of Engineers	Mid	Medium

Existing Efforts to Support and/or Expand

Implement MSD’s Critical Repair and Reinvestment Plan						High
Enforce existing erosion control ordinance	10, 13, 22, 24	Extreme heat, larger storms		MSD, Develop Louisville	Near	Medium

OBJECTIVE 16: Create streamlined transportation for all

Priority Actions

✓ Increase rideshare options, including more Park-n-Ride areas	6, 8, 13, 15, 19, 24	Air quality	✓	LMG	Near	High
Identify funding for free or subsidized public transportation	6, 8, 13, 15, 19, 24	Air quality	✓	LMG, EPA/DOT, GLI, LG&E, local businesses	Near	High
Increase ridership of public transportation by increasing frequency and efficiency	6, 8, 13, 15, 19, 24	Air quality	✓	LMG	Near	High
Increase frequency and efficiency of public transit to increase ridership	6, 8, 13, 15, 19, 24	Air quality	✓	LMG, TARC, Council, Fed. Transit Admin.	Near	High

Resilient Infrastructure, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
Develop network of HOV, bus only, and “green lanes” throughout Jefferson County	6, 8, 13, 15, 19, 24	Air quality	✓	LMG, EPA/DOT, GLI, LG&E, local businesses	Near	Medium
Improve accessibility of sidewalk infrastructure and multi-modal transportation options for better access to transit	15, 24	Extreme heat, Air quality	✓	LMG	Near	Medium

Existing Efforts to Support and/or Expand

Implement <i>Move Louisville</i> multi-modal transportation plan	6, 13, 15, 16, 23, 24, 25	Air quality	✓	LMG	Near	High
Expand paratransit programs	15, 24	Extreme heat, Air quality		LMG, TARC	Near	High
Continue to improve the existing bike infrastructure and networks especially in areas with low car ownership	6, 8, 13, 15, 19, 24		✓	LMG	Near	Medium

OBJECTIVE 17: Update zoning for sustainability

Priority Actions

Develop and implement <i>Healthy By Design</i> program to build resilience and improved health into urban design	3, 6, 9, 13, 15, 19, 24	All		Metro Council, Planning Comm., NGOs	Mid	High
Support increases in density by encouraging equitable multi-family and mixed-use zoning districts	3, 6, 9, 13, 15, 19, 24	All		Metro Council, Planning Commission, NGOs	Mid	High
Create condensed urban areas with easy access to green space, pervious surfaces, walkability, and transportation network access	3, 6, 9, 10, 12, 13, 15, 17, 19, 22, 24	All		Metro Council, Planning Commission, NGOs	Mid	High
Encourage new infill development and adaptive reuse in areas served by transit and other services	3, 6, 9, 10, 12, 13, 15, 17, 19, 22, 24	All		Metro Council, Planning Commission, NGOs	Mid	High
Update lot size minimums for denser and more affordable housing	3, 6, 9, 13, 15, 19, 24	All		Metro Council, Planning Commission, NGOs	Mid	High
Promote transit-oriented development	3, 6, 9, 10, 12, 13, 15, 17, 19, 22, 24	All		Metro Council, Planning Commission, NGOs	Mid	High

Resilient Infrastructure, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
OBJECTIVE 18: Protect homes and businesses						
Priority Actions						
✓ Lobby at the state level for code updates that account for future climate impacts	1, 2, 10, 11, 13, 15, 20, 22	All		LM Council	Near	Medium
Tighten restrictions on development in flood prone areas	1, 2, 10, 11, 13, 15, 20, 22	Larger storms		LMG, MSD, Corps of Engineers	Near	Medium
Identify and undertake prioritized retrofit program to reduce future flood impacts	1, 2, 10, 11, 13, 15, 20, 22	Larger storms		LMG, MSD, Corps of Engineers	Near	Medium
Expand buy-outs of development in flood-prone areas, especially with proximity to hazardous materials	1, 2, 10, 11, 13, 15, 20, 22	Larger storms		LMG, MSD, Corps of Engineers	Mid	Medium
Existing Efforts to Support and/or Expand						
Support and expand the work of Project Warm to provide energy efficiency services to low-income households	3, 8, 9, 15, 24	Higher temperatures		LMG	Near	High

Community Readiness

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
OBJECTIVE 19: Expand emergency response planning						
Priority Actions						
✓ Map hazardous materials (HazMat) risk by flood elevation to determine risk	2, 7, 8, 10, 11, 13, 15, 20	Larger storms, extreme heat		EMA, Lojic	Near	High
✓ Increase coordination among Emergency Response Plans	2, 7, 8, 10, 11, 13, 15, 18, 20	Larger storms, extreme heat		EMA/EMS, Fire, LMPD, Public Works, LMPHW, FEMA	Near	High
Develop and disseminate neighborhood disaster and evacuation plans, with translations where needed	1, 2, 7, 8, 10, 11, 13, 15, 18, 20	Larger storms, extreme heat		EMA/EMS, Fire, LMPD, Public Works, LMPHW, FEMA, neighborhood organizations	Near	High
Increase battery backup energy storage, especially linked to renewable energy	4, 7	Extreme heat, larger storms	✓	LMG, LG&E, EMA	Mid	High
Encourage industry to have emergency plans in place for all climate change impacts	1, 2, 15, 25	All		LMG, EMA, EMA	Mid	High
Conduct climate change risk assessment of critical infrastructure	1, 2, 4, 7, 8, 10, 11, 12, 13, 15, 16, 19, 20, 21, 23, 25	Larger storms, extreme heat		EMA/EMS, Fire, LMPD, Public Works, LMPHW, FEMA	Near	Medium
Utility maintenance and coordination to prevent disruption during extreme events	4, 6, 9, 13, 15	Extreme heat, larger storms		LMG, LG&E	Mid	Medium
Existing Efforts to Support and/or Expand						
Update the Hazard Mitigation Plan with climate change projections and impacts	1, 2, 6, 7, 13, 15, 18, 20	All		MSD, EMA	Near	High

Community Readiness, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 20: Identify and protect those most at risk from climate change

Priority Actions

✓ Identify vulnerable individuals and groups (homebound individuals, people with disabilities, older adults, non-English speakers, etc.) for prioritizing and/or personalizing preparedness strategies	1, 2, 3, 7, 8, 14, 15, 18, 20, 23	All		LMG, EMA, NGOs	Near	High
Ensure that people with disabilities, medical conditions, and non-English languages have support during emergency evacuations and recovery	1, 2, 3, 7, 8, 14, 15, 18, 20, 23	All		LMG, Office of Equity, Office of Advanced Planning & Sust.	Near	High
Provide localized emergency information hubs with information in different languages	4, 7, 15, 18, 20	Extreme heat, larger storms		LMG, EMA, NGOs	Near	High

OBJECTIVE 21: Improve technology and tools

Priority Actions

Expand tools like Waze or Lens Alert for travel during emergencies	6, 13, 20	Extreme heat, larger storms		LMG, KYPD	Near	Medium
Expand intelligent transportation systems (like TriMarc)	6, 13, 19, 20, 25	Extreme heat, larger storms		LMG, KYTC	Near	Medium
Utilize emerging technologies to streamline traffic flow during extreme events	6, 13, 19, 20, 25	Extreme heat, larger storms		LMG, KYTC	Near	Medium
Host a Hackathon to develop better tools for emergency alerts	7, 15, 20	Extreme heat, larger storms		LMG, EMA, KYPD	Near	Medium
Coordinate with the Environmental Justice working group to ensure equitable distribution of the benefits of preparedness technology and new tools	6, 13, 15, 16, 20					

Louisville Leads

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
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OBJECTIVE 22: Lead the state in reducing emissions

Priority Actions

✓ Change policies to make renewable energy cost effective	3, 4, 8, 16	Air pollution	✓	State govt., LMG, KY Public Service Commission	Near	High
✓ Lobby at the state level to make renewable energy more feasible and cost effective	3, 8, 16	All	✓	LMG and LM Council	Near	High
Invest in energy efficiency and renewable energy	3, 4, 8, 16	All	✓	LMG	Near	High
Renegotiate energy contracts to reduce emissions	3, 4, 16, 25	Air pollution	✓	LMG	Near	Medium
Encourage usage of electric vehicles and alternative fuel vehicles and increase public and private electric vehicle charging stations	3, 4, 8, 16	Air pollution	✓	LMG	Near	Medium

Existing Efforts to Support and/or Expand

Set renewable energy targets at the utility scale	3, 8, 16	Air pollution, All	✓	LMG, LG&E	Near	High
Prioritize strategies in the Louisville Greenhouse Gas Emissions Reduction Plan (ERP)	3, 8, 16, All	Air pollution, All	✓	LMG	Near	High
Advocate for and partner on academic and institutional research on green energy development	3, 4, 16	Air pollution	✓	LMG	Near	Medium

OBJECTIVE 23: Lead by example

Priority Actions

✓ Demonstrate sustainability in LMG's day-to-day operations, with durable goods, tracking emissions of purchased goods, installing solar panels, prioritizing permeable materials, nature-based solutions to flooding and other high-profile actions	16, 24	All	✓	LMG	Near	High
Create demonstration projects to motivate local residents and businesses	16, 24	All	✓	LMG	Near	High
✓ Highlight sustainable businesses and organizations	3, 16, 17, 25	All		LMG	Near	Medium
Make all city meetings and events zero waste and carbon neutral	16, 14	All	✓	LMG	Near	Medium

Existing Efforts to Support and/or Expand

Louisville Leads, continued

Objectives/Actions	Risks Addressed	Climate Hazard	Mitigation?	Lead/Partner Agency or Organization	Time Frame	Priority
Increase strength of LMG Division of Community Forestry	3, 12, 17, 22	All		LMG	Near	Medium

OBJECTIVE 24: Update policy

Priority Actions

✓ Create LMG policy to prioritize tree planting in vulnerable areas	3, 12, 17, 22	Extreme heat	✓	LM Council	Near	High
✓ Prioritize climate action in LMG's budget	16	All	✓	LMG and LM Council	Near	High
Adopt an LMG environmental justice policy	9, 15, 16	All		LMG and LM Council	Near	High
Incorporate consideration of climate change science, targets, goals, actions, and vulnerabilities into all new policy and decision making	16	All	✓	LMG and LM Council	Near	High
Advocate to remove barriers to voter registration and provide support for voting (time off work, transportation, more voting locations, etc.)	15, 16	All		LMG	Near	High
Prioritize sustainability in purchasing and contracting	16, 24	All	✓	LMG	Near	High

Existing Efforts to Support and/or Expand

Continue efforts to strengthen regulatory requirements for tree canopy and growth	3, 12, 17, 22	Extreme heat	✓	LM Council	Near	High
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OBJECTIVE 25: Education and outreach

For land and home owners						
For business owners						
For both						
For all residents						

Climate Risks identified in the Louisville Region

Near Term (Current to 2030s)

1. Aging infrastructure failure (i.e. sewer systems) and hazardous materials exposure from larger extreme events
2. Damage to homes and businesses from larger extreme events
3. Increasing cost of energy exacerbated by more extremes
4. Increasing potential for energy outages
5. Spread of pests and disease affecting people, animals, and nature
6. Transportation disruption and congestion from extreme events
7. Increasing likelihood of health events related to extreme conditions
8. Worsening air quality associated with heat and ozone formation
9. Increasing housing prices from sustainability upgrades and disaster impacts
10. Degradation of aquatic ecosystems, habitat, and function
11. Emerging public health risks from vector- and water-borne disease
12. Impacts to urban trees and tree canopy from heat, insects, disease, and storms
13. Exacerbation of current poor land use practices causing flooding, traffic congestion, social isolation, etc.
14. Declining food availability from crop failures and other factors
15. Exacerbation of existing inequality, injustice, gentrification, racism, and community tension
16. Potential loss of leadership on climate as immediate stressors take precedence

Mid Term (2040s to 2060s)

17. Declining populations of native species of plants and animals due to changes in timing and phenology mismatch
18. Deteriorating mental health from isolation and lack of outdoor access
19. Diminishing overall quality of life
20. Overburdening of health care and emergency response systems
21. Increasing violence and crime related to heat and extreme events
22. Declining ecosystems and loss of opportunity for outdoor experience
23. Climate refugees moving from other areas such as coastal regions
24. Lack of sustainability behaviors and lifestyles lower resilience
25. Increasing cost of doing business as insurance rates, energy prices, and distribution costs increase