Plan Goals and Mitigation Actions

The goals for the St. Louis Regional Hazard Mitigation Plan are as follows:

1. Prepare communities in advance of a natural disaster to prevent loss of life, minimize injury, and illness;
2. Preserve and maintain property, including public and private infrastructure, businesses, and individual homes, and improve community vitality; and
3. Encourage regional, county, and local planning and development that reduces future risk from natural disaster and is consistent with the hazard mitigation plan.

Natural Hazards

▪ Tornadoes	▪ Winter Storms	▪ Flooding
▪ Earthquakes	▪ Severe Thunderstorm	▪ Dam / Levee Failure
▪ Extreme Heat	▪ Sinkhole / Ground Failure	▪ Drought
▪ Wildfire		

St. Louis Regional HMP goals are based on grant fundable measures. Although not all mitigation strategies listed below are fundable, most listed below meet those criteria.

4.1 Mitigation Needed to Prepare for Tornadoes

1. Build safe rooms for schools, community centers, mobile home communities, critical municipal and infrastructure operations and require construction of safe rooms within new public buildings.
2. Develop and maintain early warning systems to target public and specific, vulnerable communities.
3. Retrofit one- and two-family residences and infrastructure and essential buildings.
4. Adopt current building codes and adopt ordinances to exceed minimum construction standards for high winds and develop ordinance to require underground utility lines in new developments.
5. Require anchoring of manufactured homes and exterior attachments and incorporate local inspections.
6. Create and improve early warning systems for tornado events including sirens, and targeted response such as Reverse 911, Code Red, Everbridge, Nixle, etc. and integrate communications systems to provide rapid communication and response.
7. Conduct risk assessments for tornado events.
8. Acquire necessary equipment, including generators, tree trimming equipment, and pumps, to secure lives and property.
9. Develop a plan for tornado mitigation.

4.2 Mitigation Needed to Prepare for Winter Storms

1. Create and support neighborhood initiatives for at risk populations, including, but not limited to elderly, unhoused, and those unable to afford their utility bills and establish relief centers and encourage the public and pets to use the centers.
2. Build new or retrofit existing structures for warming centers.
3. Ensure all-weather capabilities for emergency equipment.

4. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
5. Develop a plan for winter storm mitigation.

4.3 Mitigation Needed to Prepare for Extreme Heat

1. Create and support neighborhood initiatives for at risk populations, including, but not limited to elderly, unhoused, and those unable to afford their utility bills and establish relief centers and encourage the public and pets to use the centers.
2. Build new or retrofit existing structures for cooling centers.
3. Increase tree planting and enhance shade availability to mitigate heat impacts.
4. Enforce burn ordinances and audit water loss and incentivize water reuse.
5. Repair, retrofit, and maintain water supply systems to minimize water loss.
6. Provide soil and water conservation practices education for farmers.
7. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
8. Develop a plan for extreme heat mitigation.

4.4 Mitigation Needed to Prepare for Severe Thunderstorms

1. Regularly inspect and maintain storm drains and storm drainage systems to remove debris and blockages impeding stormwater flows.
2. Review and update building codes to reduce building damage.
3. Improve early warning systems and maintain integrated communications systems for rapid response.
4. Promote student, individual, and household preparation.
5. Create and/or improve early warning systems for severe thunderstorms, including sirens, and targeted response such as Reverse 911, Code Red, Everbridge, Nixle, etc.
6. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
7. Develop a plan for severe thunderstorm mitigation.

4.5 Mitigation Needed to Prepare for Floods

1. Protect stream buffers from development and create setback requirements along streams and encourage and/or engage in wetland restoration.
2. Join or maintain participating status in National Flood Insurance Program (NFIP) and adopt Floodplain Management Plans.
3. Reduce or eliminate development in floodplain and use green Infrastructure best management practices to manage stormwater where it falls in rain gardens, swales, detention ponds, and similar structures.
4. Buy out repetitive loss properties, retrofit or reconstruct infrastructure, and utilize structure elevation to reduce flooding impacts.
5. Removal of public structures from flood zones, use dry flood proofing for historic buildings, and dry flood proofing non-residential structures to reduce flood damage.
6. Use localized and non-localized flood risk reduction and soil stabilization for increased flood resiliency.
7. Use post-disaster code enforcement and implement NFIP Substantial improvement/substantial damage provisions.

8. Update floodplain and flash flood-prone area mapping and maintain list of flood prone structures.
9. Install backflow valves and sump pumps in critical facilities and perform storm drainage system maintenance.
10. Replace inadequate or non-performing culverts and maintain, replace, or improve other stormwater infrastructure, including storm drains.
11. Install and maintain pumping stations in levee systems.
12. Develop ordinances to require best management practices stormwater infrastructure design and construction, with long term maintenance provisions.
13. Create and improve early warning systems for floods, including sirens, and targeted response such as Reverse 911, Code Red, Everbridge, Nixle, etc., and integrate communications systems to provide rapid communication and response.
14. Conduct risk assessments for floods.
15. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
16. Develop a plan for flood mitigation.

4.6 Mitigation Needed to Address Risk of Failure in Dams and Levees

1. Encourage annual inspection of dams and levees.
2. Improve structural integrity of dams, using incentives where feasible.
3. Educate dam and levee owners about responsibilities and liabilities and develop and maintain emergency contact lists for levees.
4. Develop and implement dam/levee failure emergency action plans.
5. Create and improve early warning systems for dam / levee failures, including sirens, and targeted response such as Reverse 911, Code Red, Everbridge, Nixle, etc.
6. Conduct risk assessments for dam / levee failures.
7. Develop a plan for dam / levee failure mitigation.

4.7 Mitigation Needed to Prepare for Earthquakes

1. Improve early warning systems.
2. Review and update building codes.
3. Maintain integrated communications systems for rapid response.
4. Promote student, individual, and household preparation.
5. Use infrastructure retrofit and structural and non-structural retrofit of existing buildings.
6. Adopt Seismic Construction Ordinance.
7. Create and improve early warning systems for earthquakes, including sirens, and targeted response such as Reverse 911, Code Red, Everbridge, Nixle, etc.
8. Integrate communications systems to provide rapid communication and response.
9. Conduct risk assessments for earthquakes.
10. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
11. Develop a plan for earthquake mitigation.

4.8 Mitigation Needed to Prepare for Sinkhole / Ground Failure

1. Review new construction permit applications and reduce or eliminate construction in areas with undermined land or above highly soluble bedrock.
2. Map and assess vulnerable areas and stabilize when feasible.

3. Develop specially engineered resilient pipelines in areas subject to ground failures.
4. Conduct risk assessments for ground failures.
5. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
6. Develop a plan for sinkhole / ground failure mitigation Conduct risk assessments for ground failures.

4.9 Mitigation Needed to Prepare for Drought

1. Audit water loss and incentivize water reuse.
2. Repair, retrofit, and maintain water supply systems to minimize water loss.
3. Provide soil and water conservation practices education for farmers and/or public.
4. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
5. Develop a plan for drought mitigation.

4.10 Mitigation Needed to Prepare for Wildfire

1. Enforce open burn restrictions and burn ordinances.
2. Use vegetation management to reduce fuel loads.
3. Fire-resistant building retrofit.
4. Acquire necessary equipment, including generators, and pumps, to secure lives and property.
5. Develop a plan for Wildfire mitigation.