

Research Plan: Community Resilience to Natural Catastrophes and Extreme Weather

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Purpose

To research the current status of community resilience plans to natural catastrophes and extreme weather events in Tennessee.

Background

According to the US Geological Survey, in the winter of 1811 and 1812, the New Madrid seismic zone generated a series of earthquakes that lasted for several months and included three very large earthquakes estimated to be between magnitude 7 and 8. The three largest earthquakes destroyed several settlements along the Mississippi River and were felt as far away as Hartford, Connecticut, Charleston, South Carolina, and New Orleans, Louisiana. If such an earthquake event were to take place today, the potential loss of life and damage to property and infrastructure would be significant.

Additionally, the US Environmental Protection Agency concluded that over the last 20 years in Tennessee the average annual rainfall has increased and that rain events have increased in intensity, contributing to a higher likelihood of flooding. These heavy rain events have been followed by drought, like the drought of 2007, which affects the operations of Tennessee Valley Authority hydroelectric plants, navigation of waterways, forest resources, agriculture, and water availability. These examples, and others like the 2016 wildfires in the Great Smoky Mountains, highlight the importance of examining the status of current resiliency plans and necessity of determining best practices to protect the lives and property of Tennesseans.

In 2017, the city of Nashville created the Mayor's Office of Resilience and appointed its first Chief Resilience Officer. The office was established to prepare for and deal with

natural catastrophes, as well as other issues relevant to the community. An agenda-setting workshop was convened—consisting of 120 community stakeholders. This initiative to prepare for catastrophic weather events drew the interest of Representative Bob Freeman, who was interested in establishing something similar at the state level. He sought to bring representatives from across state government together to assess the historical, present, and projected occurrence of severe weather in the state. Senate Bill 1114 by Senator Yarbro and House Bill 1120 by Representative Freeman would have created a state government task force on community resilience—the ability to prepare and plan for, absorb, recover from, and more successfully adapt to disasters, chronic stresses, and acute shocks, including any hurricane, tornado, storm, high water, recurrent flooding, wind-driven water, earthquake, fire, landslide, mudslide, snowstorm, or drought. The proposed 24 member task force would have largely been comprised of representatives of government agencies that are in some way related to community resilience. As amended, the bill would have required the proposed task force to submit a report of its finding and recommendations to the Tennessee General Assembly by July 1, 2020. However, the legislation was referred to TACIR for study.

The sponsors request that staff

- identify different natural catastrophes and extreme weather risks across the state,
- document the current status of community resilience planning in Tennessee at the state and local level,
- identify best practices for community resiliency planning, and
- determine the cost of action and inaction related to community resiliency.

Step 1. Define the Problem

How resilient are communities in Tennessee to natural catastrophes and extreme weather and what, if any, changes should be made to prepare for future natural catastrophes and extreme weather events?

Step 2. Assemble Some Evidence

- Review referred legislation and committee hearings on the legislation.
- Interview stakeholders, including but not limited to
 - Tennessee Department of Military—Tennessee Emergency Management Agency,
 - Tennessee Department of Safety and Homeland Security,

- Tennessee Department of Transportation,
 - Tennessee Department of Environment and Conservation,
 - Tennessee Department of Finance and Administration,
 - Tennessee Department of Human Services,
 - Tennessee Department of Commerce and Insurance,
 - Tennessee Department of Health,
 - Tennessee Department of Agriculture,
 - Tennessee Department of Tourist Development,
 - Tennessee Department of Economic and Community Development,
 - Tennessee Department of Education,
 - Tennessee Housing Development Agency,
 - US Army Corps of Engineers,
 - Tennessee Valley Authority,
 - Climatologists,
 - Meteorologists, and
 - Experts in extreme weather vulnerability assessments.
- Review any reports published by the state on community resilience to natural catastrophe and extreme weather and related topics.
 - Review the current process of how state agencies are addressing community resilience to natural catastrophes and extreme weather events.
 - Review related statutes and regulations.
 - Interview local and state stakeholders to determine any existing issues.
 - Review similar policies and laws in other states.
 - Review relevant literature and data sets.

Step 3. Construct Alternatives

Alternatives will be based on

- current policy,
- previous recommendations from state agencies for changes to the current policy,

- policy in place in other states, and
- any additional alternatives drawn from the research and analysis in Step 2.

Each alternative will be described specifically enough to project outcomes in Step 5.

Step 4. Select Criteria

- Cost, direct and indirect, to
 - state government
 - local governments
 - private citizens
 - businesses
- Effectiveness at improving community resiliency
- Receptiveness
 - state government
 - local governments
 - private citizens
 - businesses

Step 5. Project Outcomes

- Estimate cost.
- Estimate effect on the economy.
- Estimate acceptability to stakeholders.

Step 6. Confront Trade-offs

- How will the differences between the current policy and the other alternatives affect the public?
- What are the pros and cons of the potential solutions?

Step 7. Decide which alternatives to present to the Commission

Based on the results of Step 6, choose the alternatives that most practically and realistically resolve the problem.

Step 8. Produce the Draft Report

Develop and present a draft for review and comment to the Commission.

Revisit Steps 5 through 8.

- Respond to feedback from Commission regarding outcome projections, trade-offs, and selection of alternatives.
- Revise and edit the draft to reflect comments of the Commission.
- Submit final report to the Commission for approval.



Amendment No. 1 to HB1120

Keisling
Signature of Sponsor

AMEND Senate Bill No. 1114

House Bill No. 1120*

by deleting all language after the enacting clause and substituting instead the following:

SECTION 1. Tennessee Code Annotated, Title 4, Chapter 1, Part 4, is amended by adding the following language as a new section:

(a) There is created the state government advisory task force on extreme weather, natural catastrophes, and community resilience.

(b) The task force shall consist of twenty-four (24) members as follows:

(1) One (1) member appointed by the speaker of the house of representatives;

(2) One (1) member appointed by the speaker of the senate;

(3) One (1) representative from the department of agriculture appointed by the commissioner of agriculture;

(4) One (1) representative from the department of health appointed by the commissioner of health;

(5) One (1) representative from the department of environment and conservation appointed by the commissioner of environment and conservation;

(6) One (1) representative from the department of commerce and insurance appointed by the commissioner of commerce and insurance;

(7) One (1) representative from the department of finance and administration appointed by the commissioner of finance and administration;

(8) One (1) representative from the department of human services appointed by the commissioner of human services;

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(9) One (1) representative from the department of safety and homeland security appointed by the commissioner of safety and homeland security;

(10) One (1) representative from the department of tourist development appointed by the commissioner of tourist development;

(11) One (1) representative from the department of transportation appointed by the commissioner of transportation;

(12) One (1) representative from the department of economic and community development appointed by the commissioner of economic and community development;

(13) One (1) representative from the department of education appointed by the commissioner of education;

(14) The executive director of the Tennessee housing development agency;

(15) The director of the Tennessee emergency management agency or alternate designee appointed by the adjutant general to act as a representative of the department of military;

(16) One (1) researcher involved in the scientific program of an institute of higher learning in this state who specializes in the area of meteorology or climatology, to be appointed by the speaker of the house of representatives;

(17) One (1) researcher involved in the program of an institute of higher learning in this state who specializes in the area of extreme weather vulnerability assessment, to be appointed by the speaker of the senate;

(18) One (1) county mayor appointed by the speaker of the senate;

(19) One (1) city mayor appointed by the speaker of the house of representatives;

(20) One (1) Tennessee business representative appointed by the speaker of the senate;

(21) One (1) public member appointed by the speaker of the house of representatives;

(22) One (1) representative from the U.S. Army Corps of Engineers;

(23) One (1) representative from the Tennessee Valley Authority; and

(24) One (1) director of a development district selected by the commissioner of environment and conservation.

(c)

(1) The task force shall:

(A) Assess the historical, present, and projected occurrence of natural catastrophes and extreme weather events affecting this state, which include, but are not limited to, floods, wildfires, extreme temperatures, heat waves, severe storms, blizzards, and drought;

(B) Examine present and projected losses associated with the occurrence of extreme weather events and other natural catastrophes affecting this state, and land management practices that potentiate extreme weather events and other natural catastrophes, resulting in increased flooding, wildfires, and drought conditions;

(C) Develop recommendations to address vulnerabilities and adverse impacts in this state associated with the occurrence of extreme weather events and other natural catastrophes, including, but not limited to, adverse impacts in this state associated with any projections related to the occurrence of extreme weather events and other natural catastrophes, and any barriers to the state's provision of services and resources and economic prosperity due to the occurrence of such events; and

(D) Develop recommendations to increase the state's resilience to extreme weather events and other natural catastrophes in this state.

(2) The task force shall include an examination of the following in its assessment and recommendations:

(A) The economic impact to the state of any projections related to the occurrence of extreme weather events and other natural catastrophes, including, but not limited to, the impact on forestry, agriculture, water and other natural resources, food systems, zoning, wildlife, hunting, infrastructure, transportation, economic productivity and security, education, and public health;

(B) Proposals to prepare for and reduce the adverse impacts associated with extreme weather events and other natural catastrophes that result in loss of life, property, or otherwise impact the economy of the state; and to increase the state's resiliency to future occurrence of such events in this state;

(C) Legislative remedies for consideration by the general assembly;

(D) Necessary state policies or responses, including directions for the provision of clear and coordinated services and support to reduce the impact of natural catastrophes and extreme weather events and increase resiliency in this state; and

(E) Potential financial resources available for increasing resiliency throughout the state.

(d)

(1) Members of the task force shall serve without compensation or reimbursement for any expenses incurred while participating in the business of the task force.

(2) Vacancies among the members of the task force must be filled in the same manner as in the original selection of members.

(e) The selection of members of the task force should be inclusive and reflect the racial, gender, geographic, urban, rural, and economic diversity of the state.

(f) The task force shall be co-chaired by the representative of the department of environment and conservation and the director of the Tennessee emergency management agency. The task force shall meet quarterly and the co-chairs shall call the first meeting of the task force.

(g) The task force must agree upon its findings and recommendations by a majority vote of its total membership. A majority of the members constitutes a quorum.

(h) The task force is administratively attached to the department of environment and conservation, which shall provide necessary project management and administrative support at the request of the task force. The co-chairs of the task force may call on appropriate state agencies for reasonable assistance in the work of the task force.

(i) The task force shall hold public meetings and utilize technological means, such as webcasts, to gather feedback on the recommendations from the general public

and from persons and families affected by extreme weather and other natural catastrophes in this state.

(j) The creation of this task force does not alter or inhibit the Tennessee emergency management agency's functions as authorized under title 58.

(k)

(1) The taskforce shall submit a report of its findings and recommendations to the general assembly no later than July 1, 2020.

(2) This section is repealed on July 1, 2020.

SECTION 2. This act shall take effect upon becoming a law, the public welfare requiring it.