

Congress of the United States

Washington, DC 20515

November 21, 2024

Dr. Laurie Locascio
Director
National Institute of Standards and Technology
100 Bureau Drive, Mail Stop 8970
Gaithersburg, MD 20899-8970

Dear Director Locascio:

Thank you for the continued investments by the National Institute of Standards and Technology (NIST) in community resilience. The need to prepare communities for natural hazards has never been more apparent, following the tragic loss of life and destruction caused by Hurricanes Helene and Milton in the Southeastern United States. Severe weather events are only predicted to grow stronger and more frequent as a result of climate change.¹ Meanwhile, earthquakes continue to pose enormous risks, with recent models showing that nearly 75% of the American population is vulnerable to damaging earthquakes.²

NIST programs have been crucial to developing resilience to natural hazards such as earthquakes, floods, and wildfires. For example, NIST leads the National Earthquake Hazards Reduction Program and National Windstorm Impact Reduction Program, coordinating risk reduction efforts across federal agencies to enhance national preparedness. In addition, NIST's Community Resilience Center of Excellence helps local governments prioritize investments in hazard reduction. These efforts have focused on the restoration of building function following natural hazard events.

However, natural hazards can also disable power, water, communications, liquid fuel and gas, and transportation services – referred to collectively as lifeline infrastructure. The loss of lifelines harms local economies, threatens human health, and compounds the challenges faced by communities as they recover.³ For example, following disasters, mortality often increases beyond the immediate aftermath of the event due to a lack of hospital services, access to prescription drugs, and clean water. Retail businesses and restaurants may also be forced to close, and hourly workers lose wages. Extended downtime for lifelines can result in potentially catastrophic physical, social, and economic consequences. During Hurricane Helene, roads and bridges were

¹ “*Fifth National Climate Assessment*.” Crimmins, A.R. et al. (Eds). U.S. Global Change Research Program, 2023.

² Petersen, Mark D., et al. “*The 2023 US 50-state national seismic hazard model: Overview and implications*.” *Earthquake Spectra* 40.1 (2024): 5-88.

³ Applied Technology Council. “*Critical assessment of lifeline system performance: Understanding societal needs in disaster recovery*.” US Department of Commerce, NIST, 2016.

destroyed, over 4 million customers were left without power, and many also lost cell and internet service and access to clean water.^{4,5}

Currently, there are no national guidelines for lifeline system performance, and those developed at the state and local levels often do not account for resilience or the interdependency between systems. This impedes efforts by communities and first responders to accurately predict and plan for lifeline service loss. Given this reality, **we urge NIST to develop national, cross-sector, multi-hazard design guidelines for lifeline infrastructure, which would include model codes, resilience metrics, and performance goals.** As noted in a January 2021 NIST report, these guidelines should be consensus-based⁶ and developed through close partnership with public and private-sector stakeholders, such as those on the advisory board of the Lifeline Infrastructure Hub⁷ at the National Institute of Building Sciences. By developing guidelines for the functional recovery of lifelines, we can (1) ensure that these systems are designed to meet societal needs in a post-disaster environment, and (2) streamline operations and set expectations for recovery. Ultimately, this effort would help make our communities safer and better prepared for various types of catastrophic hazards.

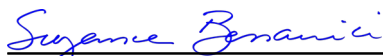
Proactive investments in mitigation are estimated to save communities \$6 per every \$1 spent.⁸ That is why we must act now and prioritize resilience in the face of increasingly extreme weather and widespread earthquake risk. Thank you again for your continued commitment to community resilience. We look forward to hearing from you on this matter.

Sincerely,

Sincerely,



Kevin Mullin
Member of Congress



Suzanne Bonamici
Member of Congress



Ed Case
Member of Congress

⁴ “Millions without power after Hurricane Helene rocks Southeast.” Utility Dive, 27 Sep. 2024.

⁵ “How Asheville residents survive without running water, weeks after Helene.” Washington Post, 16 Oct. 2024.

⁶ “Recommended Options for Improving the Built Environment for Post-Earthquake Reoccupancy and Functional Recovery Time.” FEMA P-2090/ NIST SP-1254 (Page 22), 2016.

⁷ NIBS Lifeline Infrastructure Hub. 2024, www.nibs.org/lifelinehub#leadership.

⁸ “Natural Hazard Mitigation Saves Interim Report Fact Sheet.” FEMA Federal Insurance and Mitigation Administration. 2018.



André Carson
Member of Congress



Mike Thompson
Member of Congress