

GNSI DECISION BRIEF

Cracks in Our Foundation: How Neglected Bridges Threaten National Security

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Introduction

The poor condition of U.S. infrastructure merits wider discussion, as its implications go beyond public safety and economic operations. The Department of Homeland Security (DHS) identified four critical infrastructure areas—energy and water, facilities, information and communication technology, and transportation—as lifeline systems essential for ensuring public safety, economic security, and national security.ⁱ

The U.S. interstate highway system, created by the 1956 National Interstate and Defense Highways Act under President Dwight D. Eisenhower, has been vital for national security.ⁱⁱ It facilitates troop movements and aids in the evacuation of large cities during emergencies. Additionally, Military Power Projection Platforms (PPP) rely on roads and bridges for movement to their designated sea or aerial ports of embarkation.ⁱⁱⁱ Yet, despite their recognized importance in national security, the U.S. has allowed

Vulnerable Bridges and Infrastructure as Targets

Bridges are potential strategic targets in armed conflict. Damage to, or the destruction of, bridges can negatively impact the logistical capabilities of the military. Shortly after the occupation of the Crimean Peninsula by the Russian Federation in 2014, Russian President Vladimir Putin ordered the construction of a bridge connecting mainland Russia to Crimea. In 2018, Russia completed the construction of the Kerch Bridge. Russian forces relied upon the Kerch Bridge to transport supplies from Russia into Crimea for distribution to troops within Southern Ukraine. In July 2023, Ukrainian forces used sea drones to transport and detonate explosives underneath a section of the Kerch Bridge.^{xiii} Damage to the bridge caused it to be shut down until repairs were made the following day, allowing only one lane to reopen for use. The Kerch Bridge attack disrupted the transport of critical supplies to Russian soldiers on the frontlines and diverted resources to repairing and securing the bridge after the attack.

As Western support for Ukraine in the Russo-Ukrainian conflict continues, Russia seeks opportunities to retaliate without escalating to armed conflict with Western countries. Russian security services have examined social media accounts of persons in Western countries who may be open to collaborating with Russia by performing reconnaissance or committing sabotage against strategic targets.^{xiii} So far, such operations have targeted a military installation in Germany tied to training Ukrainian troops, a warehouse in London housing Ukrainian aid supplies, and a shopping mall in Poland.^{xiv} While bridges have not been targeted yet, they could become a target for Russian sabotage.

Likewise, bridges are a potential target for terrorists. The International Centre for Counter-Terrorism (ICCT) found that informants and undercover agents fortunately thwarted plots and terrorist attacks against American bridges and tunnels. Research suggests four reasons terrorists often avoid bridges and tunnels: counter-terrorist measures, the

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Decision Points

1. **Given the threat to bridge infrastructure resulting from underfunded budgets and deferred maintenance, what safety measures and funding are being implemented to protect the nation’s bridges from intentional targeting?**
2. **What immediate steps should be taken to enhance the security and resiliency of U.S. bridge infrastructure ensuring the protection of critical transportation routes?**
3. **In what ways can the U.S. leverage international best practices with higher resilience standards to improve its own infrastructure?**
4. **What strategies should be developed to protect roads and bridges from being targeted by adversaries during international conflicts or sabotage?**
5. **In light of the recent incident where the containership Dali struck the Frances Scott Key Bridge highlighting vulnerable port systems, what strategic measures should the U.S. implement to mitigate the risks associated with critical infrastructure failures?**
6. **What proactive steps can be taken to ensure rapid recovery and continuity of military and civilian logistics when vital bridges fail?**

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Disclaimer:

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ⁱ “DHS Resilience Framework: Providing a roadmap for the Department in Operational Resilience and Readiness,” U.S. Department of Homeland Security, July 2018, https://www.dhs.gov/sites/default/files/publications/dhs_resilience_framework_july_2018_508.pdf

ⁱⁱ “National Interstate and Defense Highways Act (1956),” National Archives, Accessed on August 5, 2024, <https://www.archives.gov/milestone-documents/national-interstate-and-defense-highways-act>

ⁱⁱⁱ “Coordinating Military Deployments on Roads and Highways: A Guide for State and Local Agencies,” U.S. Department of Transportation Federal Highway Administration, Accessed August 5, 2024, https://ops.fhwa.dot.gov/publications/fhwahop05029/appendix_a.htm

^{iv} “2023 Bridge Report,” American Road & Transportation Builders Association, Accessed July 18, 2024, <https://artbridgereport.org/reports/2023-ARTBA-Bridge-Report.pdf>

^v “ASCE’s Infrastructure Report Card Gives U.S. ‘C-’ Grade, Says Investment Gap Trillion, Bold Action Needed,” American Society of Civil Engineers, March 3, 2021, <https://www.asce.org/publications-and-news/civil-engineering-source/society-news/article/2021/03/03/asc-es-infra-structure-report-card-gives-us-c>

^{vi} “Disaster Resilience: A National Imperative,” Washington, DC: The National Academies Press, November 29, 2012

^{vii} “Maryland At A Glance,” Maryland Manual On-Line: A guide To Maryland & It’s Government, Accessed August 3, 2024, <https://msa.maryland.gov/msa/mdmanu-al/01glance/html/port.html>

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