

TOWSON UNIVERSITY
Integrated Homeland Security Management
Graduate Program Project Proposal

Aging and Deteriorating Critical Infrastructure

Expected Outcome: Provide policy recommendations on critical infrastructure protection as it relates to collapse and/or failure due to old age and deterioration

- Describe the issues that aging and deteriorating infrastructure present to the homeland security enterprise (specifically the emergency management and critical infrastructure protection community)
- Provide warnings and actionable recommendations to address the issue of deteriorating and degrading critical infrastructure across the nation (focusing on federal and state governments, and private sector critical infrastructure owners)
- Propose the development of a critical infrastructure rebuilding system, focusing on continuously preventing and mitigating the consequences of critical infrastructure collapse, while also incorporating resilience, across the whole community concept (public and private sectors)

Project Description: Increase awareness of risks associated with poor infrastructure upkeep to improve resource allocation; provide recommendations to create an integrated critical infrastructure restoration system that prevents infrastructure failure/collapse

A major gap in national preparedness is the poor preservation and maintenance of critical infrastructure in the U.S. Critical infrastructure collapse poses a principal threat to life, property, public safety, and security. The lack of attention that our nation's aging and deteriorating critical infrastructure receives has resulted in inadequate prioritization and allocation resources needed to maintain, restore, or rebuild critical infrastructure. Without sufficient awareness of the issue of aging infrastructure and abundant resources committed to restoring deteriorating infrastructure, the risk of infrastructure failure increases.

The management and upkeep of aging infrastructure has become a challenge because no procedure exists to drive or fund the rebuilding of critical infrastructure forward. There is a need for an integrated critical infrastructure rebuilding system, based

on public-private partnership. The federal and state governments, as well as private sector critical infrastructure owners must comprehend the risks of infrastructure failure in order to take action to preserve aging and deteriorating infrastructure.

The purpose of this project is to explore the issues that aging and deteriorating critical infrastructure present to the homeland security enterprise, warn against the risk of critical infrastructure collapse, and propose actionable solutions and recommendations to federal and state governments, as well as critical infrastructure owners and operators, for an integrated system to allocated resources to rebuild infrastructure while incorporating resilience.

Reading List:

Lytton, D. (2014, Feb. 26). The National Infrastructure Bank: A Cure-All for America's Infrastructure Woes? Georgetown Public Policy Review. Retrieved from: <http://gppreview.com/2014/02/26/the-national-infrastructure-bank-a-cure-all-for-americas-infrastructure-woes/>

U.S. Department of Homeland Security. (2013). National Infrastructure Protection Plan. Retrieved from: http://www.dhs.gov/sites/default/files/publications/NIPP%202013_Partnering%20for%20Critical%20Infrastructure%20Security%20and%20Resilience_508_0.pdf

U.S. Department of Homeland Security. (2011, Sept.). National Preparedness Goal. Retrieved from: http://www.fema.gov/media-library-data/20130726-1828-25045-9470/national_preparedness_goal_2011.pdf

U.S. Department of Homeland Security. (2014, July). National Protection Framework. Retrieved from: http://www.fema.gov/media-library-data/1406717583765-996837bf788e20e977eb5079f4174240/FINAL_National_Protection_Framework_2014_0729.pdf

U.S. Department of Homeland Security. (2011, March 30) Presidential Policy Directive – National Preparedness. Retrieved from: <http://www.dhs.gov/presidential-policy-directive-8-national-preparedness>

U.S. Department of Homeland Security. (2012, August). Office of Infrastructure Protection

Strategic Plan 2012-2016. Retrieved from:

<http://www.dhs.gov/sites/default/files/publications/IP%20Strategic%20Plan%20FINAL.pdf>

U.S. Federal Emergency Management Agency. (2011, June). Strategic Foresight Initiative "Getting Urgent about the Future: Critical Infrastructure" Critical Infrastructure Long-term Trends and Implications for Emergency Management. Retrieved from:

http://www.fema.gov/pdf/about/programs/oppa/critical_infrastructure_paper.pdf

U.S. Federal Emergency Management Agency. (2013, May). Toward More Resilient Futures Putting Foresight into Practice. Retrieved from: http://www.fema.gov/media-library-data/20130726-1915-25045-6775/508c_fema_sfi_resilientfutures_may2013.pdf

U.S. White House. (2013, Feb. 12). Presidential Policy Directive – Critical Infrastructure Security and Resilience. Retrieved from: <https://www.whitehouse.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil>

U.S. White House. (2014, July 17). FACT SHEET: Building a 21st Century Infrastructure: Increasing Public and Private Collaboration with the Build America Investment Initiative. Retrieved from: <https://www.whitehouse.gov/the-press-office/2014/07/17/fact-sheet-building-21st-century-infrastructure-increasing-public-and-pr>

Timetable:

- Research aging infrastructure and the potential effect of critical infrastructure failure or collapse. Due: Week 4
- Locate opportunities to rebuild/restore infrastructure through existing government and private sector programs. Due: Week 8
- Analyze existing gaps and barriers to prevent and protect against aging and deteriorating critical infrastructure for opportunities to expose the issue and propose further actions. Due: Week 10
- Provide recommendations to compose an integrated system capable of continuously rebuilding and restoring critical infrastructure in order to prevent collapse and/or widespread failure. Due: Week 12
- Provide a clear, concise research report. Due: Week 16