American Association of State Highway and Transportation Officials

AASHTO

Fundamental Capabilities of Effective

All-Hazards Infrastructure Protection, Resilience, and Emergency Management

for State Departments of Transportation

September 2015

Foreword

In the days, months, and years following the events of September 11, AASHTO and its partners united through the Transportation Research Board to improve and enhance the skills of the transportation community to prepare for and respond to events of terrorism that threaten the transportation system. One of many products produced was a *Guide to Understanding the Fundamentals of Effective Security Management.* In the intervening years it has become clear that the learning achieved not only applied to security threats but to all forms of threats to the transportation system.

Today we understand that:

- **Customers today have higher expectations for system performance and reliability and lower tolerance for delays.** Even small events pose threats of great consequences since the impact of any incident is magnified.
- **Hazards continue to evolve. Extreme weather, cyber incidents, and other additional hazards need to be addressed.** In addition, the risk of natural and man-made events is growing more common due to many pressures, including an aging infrastructure.
- **Today's transportation systems are integrated cyber and physical systems.** There has been, and continues to be, significant deployment of new technologies to support DOT activities.

This newly updated Fundamentals Guide synthesizes the most recent federal and state guidance and research efforts from a state DOT perspective and lays out a set of capabilities for state DOTs that addresses all-hazards infrastructure protection, resilience, and emergency management and reflects National Preparedness Goals. The goal of the Guide is to provide a resource for state DOTs that supports the integration of infrastructure protection and resilience into all of their operations and infrastructure programs.

To ensure the security and resilience of our nation's transportation systems, AASHTO member DOTs, along with local, state, and federal emergency response agencies have become strong security and emergency response partners. This Fundamentals Guide provides you the best and latest thinking on how to remain the best at what we do and how we can remain that way moving further into the 21st Century. This Guide and our partnerships will help to keep the nation's transportation system strong and well protected no matter what the event that may threaten it.

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Preface

This guide is an update to the *2007 Fundamentals of Effective All Hazards Security Management for State DOTs*. The original guide was intended to provide DOT managers with an overview of an effective all-hazards security management program. It outlined the fundamental responsibilities of a state department of transportation (DOT):

1. Prevent incidents within their control and responsibility;
2. Protect transportation users, agency personnel, and critical infrastructure;
3. Support regional/state/local emergency responders with resources including facilities, equipment, and personnel;
4. Recover swiftly from incidents;
5. Evaluate response(s) and continually improve plans, training, skills, and protocols.

Since the time of that publication, the fundamental responsibilities of DOTs have not significantly changed but the capabilities necessary to perform those responsibilities have evolved. AASHTO has recognized five "fundamentals" documents, most published since 2009, that provide comprehensive guidance on the major elements of a state DOT all-hazards transportation security and emergency management program:

1. ***Security 101: A Physical Security Primer for Transportation Agencies*** (2009; update anticipated 2017)
2. ***A Guide to Emergency Response Planning at State Transportation Agencies*** (2010; update anticipated 2016)
3. ***Blast Resistant Highway Bridges: Design and Detailing Guidelines*** (2010)
4. ***Costing Asset Protection: An All Hazards Guide for Transportation Agencies*** (2009; update anticipated 2016)
5. ***Continuity of Operations Planning (COOP) Guidelines for Transportation Agencies*** (2005)

Since 2010, four significant national-level directives and executive orders have been issued:

- **Presidential Policy Directive 8: National Preparedness** (2011) strengthens security and resilience through five preparedness mission areas: prevention, protection, mitigation, response, and recovery.
- **Presidential Policy Directive 21: Critical Infrastructure Security and Resilience** (2013) focuses on the need for secure critical infrastructure that is able to withstand and rapidly recover from all hazards (resilient).
- **National Infrastructure Potection Plan 2013: Partnering for Critical Infrastructure Security and Resilience** emphasizes the importance of resilience, and the need to reduce all-hazards vulnerabilities and mitigate potential consequences of incidents or events that do occur.
- **Executive Order 13636: Improving Critical Infrastructure Cybersecurity** (2013) provides a technology-neutral cybersecurity framework and means to promote the adoption of cybersecurity practices.

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