Developing symbology standards for emergency mapping

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Overview

The Department of Homeland Security contains many diverse organizations that produce or use maps in daily operation. Audiences for these maps range from geospatial analysts to the general public. While individual organizations have their own standards or conventions for map symbology, there is not a consistent set of symbols used across the entire Department.

To support increased information sharing across the Department, DHS S&T is sponsoring a project to document the current use of map symbols in different homeland security missions and to develop a repeatable process for expanding symbol sets to support new needs.
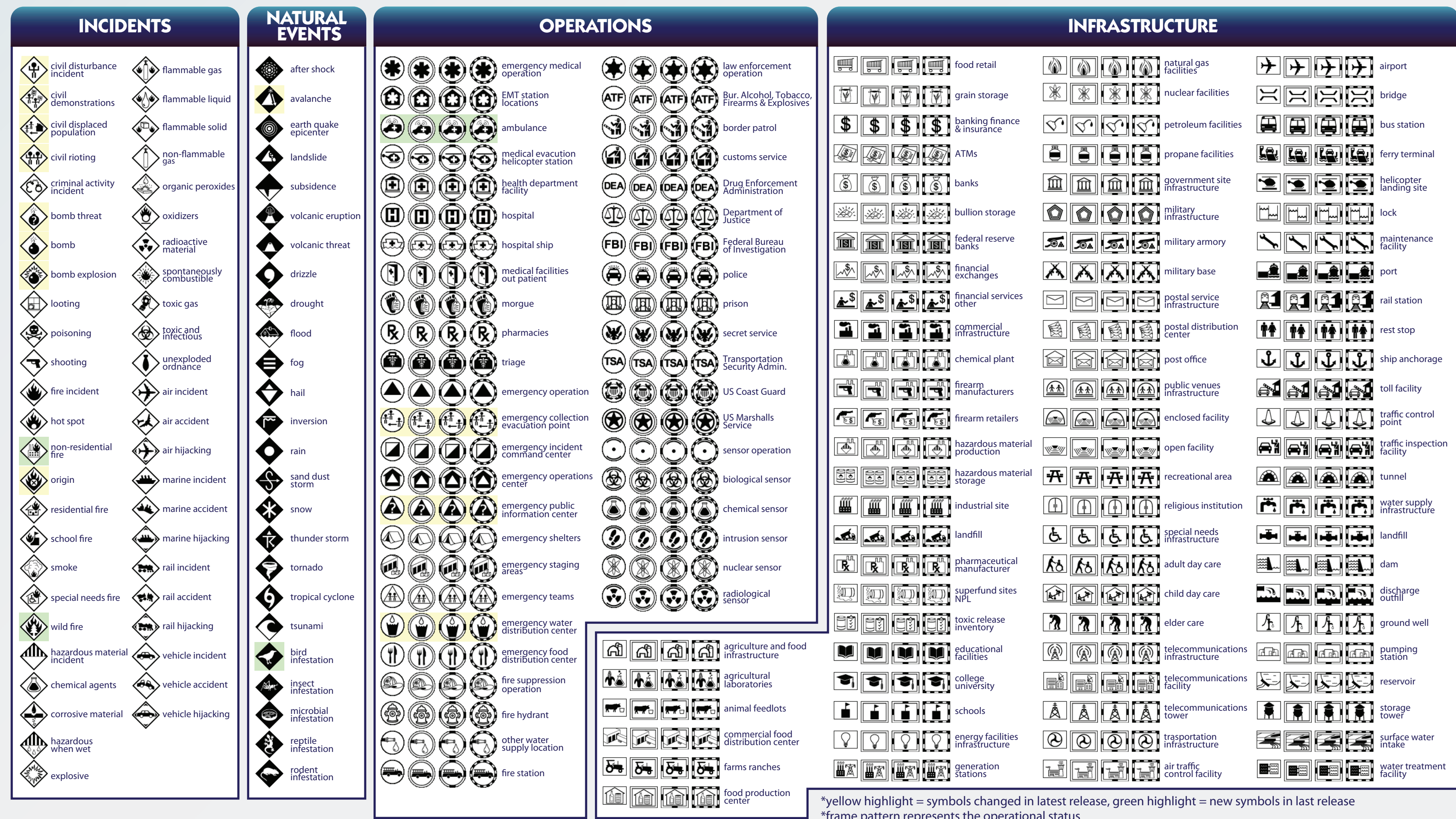

Figure 1: The ANSI INCITS 415 point symbology standard for emergency mapping developed by the Federal Geographic Data Committee Homeland Security Working Group (source: http://www.fgdc.gov/HSWG/)

Figure 2: An example map using the ANSI INCITS 415 point symbology standard (source: http://www.fgdc.gov/HSWG/)

Project Team

This project is sponsored by DHS S&T Directorate's Command, Control, and Interoperability (CCI) Division through the Information Sharing Capstone IPT. The Geospatial Management Office is the business representative for this project and is acting as advocate for the needs of the component organizations. The research project team includes two researchers from the Department of Geography at Penn State University and a staff member from the DHS S&T-sponsored National Visualization and Analytics Center (NVAC) at Pacific Northwest National Laboratory. The team is being advised by DHS S&T and subject matter experts from DHS' geospatial working group.

Project Goals and Outcomes

An ANSI standard (ANSI INCITS 415-2006) was developed to address point symbology needs for some elements of the emergency management community, but it is unknown how widely it has been adopted and what barriers to adoption may exist. In addition, there are many map symbol needs not currently addressed by the standard.

The purpose of the current DHS S&T project is three-fold:

- **Survey use of existing map symbols and symbol palettes and use of the existing standard to understand what needs exist**
- **Develop a repeatable process for adaption and expansion of the existing symbol standard to support domains and applications that it does not currently support**
- **Test the process on a selected domain or application**

The end goal of this project is to develop a process and framework for development of new symbology. This process will help promote collaboration and information sharing at DHS.

You Can Participate!

Do you have interest and expertise in emergency mapping? Have you worked with the ANSI INCITS 415-2006 standard? Do you have your own standard symbology for making or using emergency maps?

We are currently soliciting input from professionals who make or use maps related to homeland security. If you are interested in participating, or know others in your organization who would like to be involved, please contact Dr. Anthony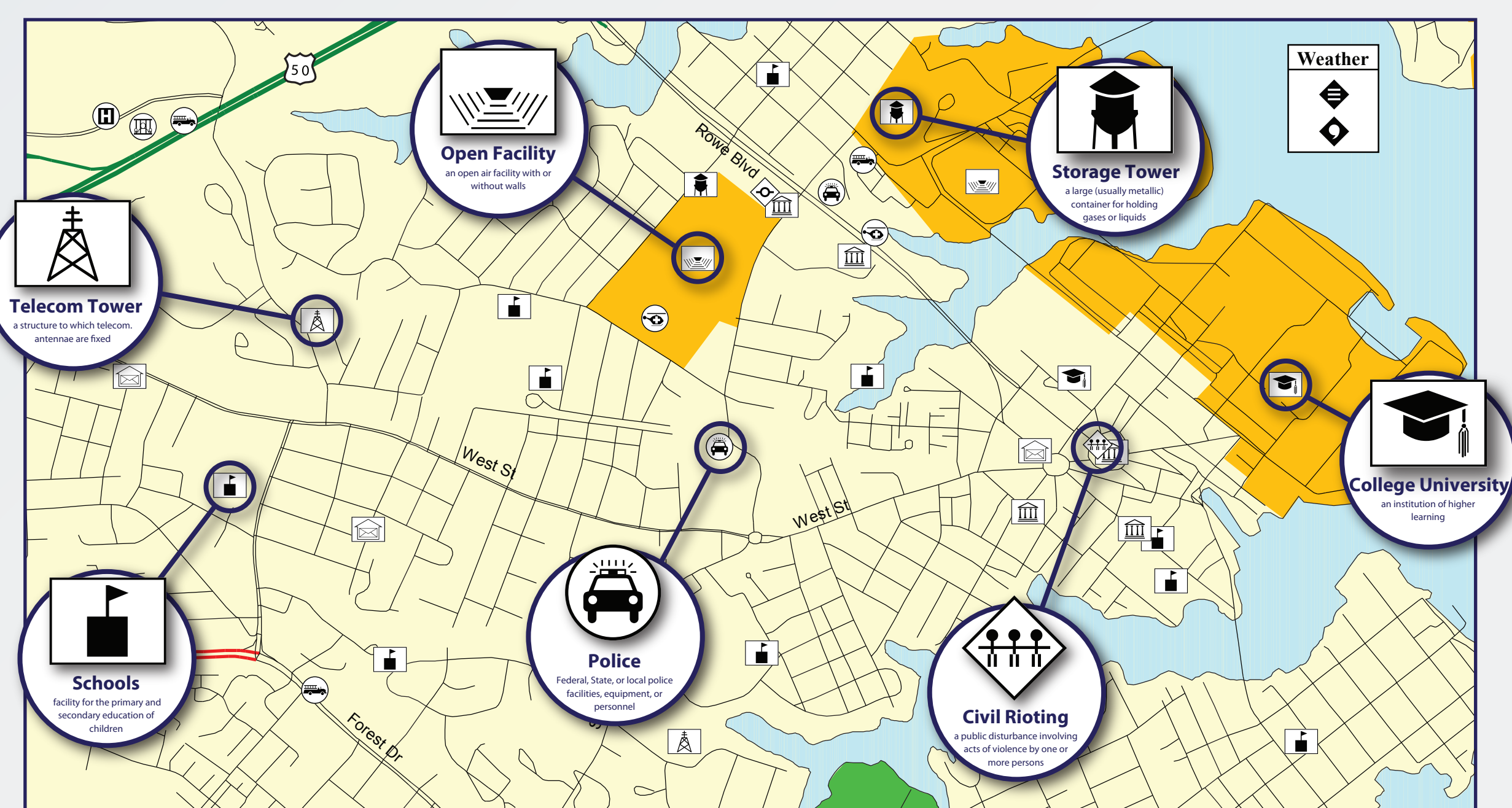 Robinson at arobinson@psu.edu.