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**RAPTOR**  
**REAL-TIME ASSESSMENT AND PLANNING TOOL FOR OREGON**  
**SYMBOLOLOGY GUIDE**

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Version 1.0  
As of February 22, 2016



## VERSION HISTORY

Version #	Implemented By	Revision Date	Description
1.0	Daniel Stoelb	2/22/2016	Initial version of symbology guide

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## 1 BACKGROUND

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The Real-Time Assessment and Planning Tool for Oregon (RAPTOR) is the Oregon Office of Emergency Management's (OEM) situational awareness mapping tool.

In October of 2011, OEM and the Oregon Department of Administrative Services (DAS) created a situational awareness tool, entitled RAPTOR (Real-Time Assessment and Planning Tool for Oregon), that would display inter-related geospatial data on a common platform for use during emergency events to help users make informed decisions based upon the data presented.

The initial production of this system took commercial off-the-shelf (COTS) components and developed a proof of concept to demonstrate capabilities and functionality of the RAPTOR mapping application.

Key functionality of this system included the ability to view data from authoritative sources, but also allowing authenticated users to populate data relevant to an incident. Data population within RAPTOR utilizes the Edit Data Tools, which allow the user to first select a pre-defined template.

In an effort to standardize the symbology utilized within the Edit Data Tools, OEM adopted the NAPSG (National Alliance for Public Safety GIS) Symbology Standard on 1/9/2016.

For the last five years, The National Alliance for Public Safety GIS (NAPSG) has worked on creating a standard set of symbols related to incident response and recently released the latest iteration of their guidelines. To produce this, the NAPSG created a working team consisting of 30 different local/state/federal agencies to determine recommended symbols for use during incidents.

This group surveyed over 400 stakeholders in the emergency management and public safety arena to help determine recommended symbols for use during incidents. The goal has been to have "common language through common symbols." The NAPSG reviewed the following key symbols sets to produce this standard:

- ANSI 415 and the FGDC HSWG Symbol Set
- United Nations Office for the Coordination of Humanitarian Affairs Symbol Set
- Canadian Emergency Mapping Symbology
- Australasian All Hazards Map Symbology
- National Wildfire Coordinating Group Symbol Set
- Other Public Safety Symbol Offered by Esri
- Noun Project
- NFPA Standards
- DOT Hazardous Materials Placard Standards

The NAPSG standard also includes recommendations for how to place incident information and symbol recommendations to include where areas of risk reside. Here is a listing of symbols currently available from this standard:



Reference: <http://napsg-web.s3.amazonaws.com/symbology/index.html#/> and <http://www.napsgfoundation.org/all-resources/symbology-library/> (also includes symbol documentation).

For the purposes of the RAPTOR mapping application, a review of the symbols was conducted. This review narrowed down the results of the list to only those icons that would represent incident information for population within RAPTOR. Keep in mind that the use of the RAPTOR mapping application is to provide current situation data – related to current hazards and public notification. As such, many of the symbols are simply at a scale that is too narrowly focused for the purpose of this application.

Therefore, the symbols residing in the following NAPSG Categories were removed from consideration:

- Access Hazards
- Hazard
- Hazardous Materials
- NIMS Positions
- Preplan
- Resources

The chosen icons will focus primarily on life/safety issues and will allow for a subset to be shown as public facing icons (created as public alert icons representing ones shown above). This final list includes entries from the following NAPSG Categories:

- Human Caused Hazards (referred to in this guide as Manmade Hazards)
- Incident
- Infrastructure
- Natural Hazards
- Public Alert

Features created using this tool are automatically labeled based upon their type. Examples of this can be found at the end of this document.

## 2 SYMBOLOGY OVERVIEW

The following is a listing of icons and descriptions from the narrowed down NAPSG Categories from the NAPSG Symbology Standard:

### 2.1 INCIDENT



Air Ops, Helibase



Air Ops, Helispot



Air Ops, MediVac



Airstrip or Airport



Area Command Post



Barrier Traffic Check Point



Barrier, Emergency Access Only



Barrier, No Access

-  Barrier, Security Check Point
-  Base
-  Bomb, Containment
-  Bomb, Detonate
-  Camp
-  Civilian, Animal Reunification
-  Civilian, Bus or Transportation Staging
-  Civilian, Family Reunification
-  Civilian, Vol Staging
-  Comm- IR Downlink
-  Comm- Mobile Weather Unit
-  Comm- Repeater
-  Comm- Telephone
-  Containment, Absorbent
-  Containment, Dam
-  Containment, Dike

- 
Containment, Diversion
- 
Containment, Foam
- 
Decon, Ambulatory
- 
Decon, Gross
- 
Decon, Non Ambulatory
- 
EMS Transport, ALS
- 
EMS Transport, BLS
- 
EMS Transport, Critical Care
- 
EMS Transport, ILS
- 
Emergency Operations Center
- 
First Aid
- 
Incident Command Post
- 
Joint Operations Center
- 
Marine Dock
- 
Marine LZ
- 
Marine Launch

 Multiple Agency Coordination Center

 Pub Info General Public

 Pub Info Media

 SWAT, Hostage Negotiator

 SWAT, K9

 SWAT, Rally Point

 SWAT, Rehearsal

 SWAT, Sniper

 SWAT, Standoff

 SWAT, Tactical EMS

 Staging, Air

 Staging, All

 Staging, EMS

 Staging, Equipment

 Staging, Faith Counseling

 Staging, Fire

-  Staging, Forward
-  Staging, Grief Counseling
-  Staging, HazMat
-  Staging, Law
-  Staging, Rehab
-  Staging, Secondary
-  Water Point-General
-  Water Point-Helicopter
-  Water Point-Hydrant
-  Water Point-Retardant or Mud Pit
-  Water Point-Retardant or Mud Pit PU
-  Water Point-Vehicle

## 2.2 INFRASTRUCTURE

-  Airport
-  Bridge
-  Bus Terminal



EMS



Ferry Terminal



Firehouse



Hospital



Police



Rail Station



Stadium



Transport Hub



Tunnel

### 2.3 MANMADE HAZARDS



Child Emergency



Explosion



HazMat Release



Other Manmade Hazard



Radiological Event



Structural Collapse

**2.4 NATURAL HAZARDS**



Avalanche



Earthquake



Fire



Flood



Landslide



Snow Event



Tornado



Volcano



Wind Storm

**2.5 PUBLIC ALERT**



Avalanche



Blizzard Warning



Child Abduction



Civil Emergency: a warning meant to warn of an in-progress or imminent significant threat(s) to public safety and/or property. For example, the CEM could be used to describe an alert issued by the National Terrorism Advisory System.



Dust Storm

-  Fire
-  Flood
-  Hurricane
-  Law Enforcement
-  Nuclear Power Plant
-  Presidential Alert
-  Radiological
-  Shelter in Place
-  Tornado

### 3 LINE FEATURES

Line features will utilize the icon as well as line type to indicate incident related information.

Line features will be solid in nature to indicate that the feature is active. Line features that are dashed in nature indicate that the feature is planned or temporary in nature.

The selections for creating lines can be found below:

-  Emergency Routes
  -  Actual Evacuation Routes
  -  Planned Evacuation Routes
-  Full Road Closure
-  Partial Road Closure

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## 4 POLYGON FEATURES

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Areas affected by a hazard will be utilizing the following representative boundaries. The boundary will enclose the area affected. All polygon features are based on the public alerts and as such, are referred to as “Public Alert Areas”.

-  Avalanche
-  Blizzard Warning
-  Child Abduction
-  Civil Emergency
-  Dust Storm
-  Earthquake
-  Fire Evacuation Area
-  Flood
-  Hurricane
-  Law Enforcement
-  Nuclear Power Plant
-  Presidential Alert
-  Radiological
-  Shelter In Place
-  Tornado

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## 5 INCIDENT DATA PLACEMENT

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In order to plot data incident data within RAPTOR, users will need to utilize the Edit Data Tools, as described in the RAPTOR User Guide. Keep in mind that this functionality can only be found on the secured versions of RAPTOR.

Icons shall be placed at the location of the incident. If the incident is located within a structure, the icon shall then be placed on the center of such structure as shown in the example below:



For boundaries, the icon shall be placed within the boundary drawn to associate said boundary with incident information. An example showing flooding with the area affected is depicted below:

