

# Improvised Explosive Devices (IEDs) - Prevention, Mitigation, & Effects Modeling

## BACKGROUND

Improvised explosive devices (IEDs) were once thought to be an overseas problem. Incidents such as the Oklahoma City Murrah Building and Boston Marathon bombings make it all too evident that the United States is not immune to the use of IEDs. In April 2013, the government revealed that there were 172 IED incidences reported in the United States in the previous six months. A warning to government agencies stated "Expect IED attacks by Homegrown Violent Extremists (HVEs) and individuals to continue throughout the United States." A White House report released in February 2013 states "IEDs remain one of the most accessible weapons available to terrorists and criminals to damage critical infrastructure and inflict casualties." The Protective Design Center (PDC) has been providing physical security and antiterrorism/force protection support for nearly three decades. Deterrence measures, mitigation measures, and effects modeling are critical features of this support. PDC support will result in recommendations that greatly improve security posture relative to IEDs.

## CONSIDERATIONS & CONCERNS

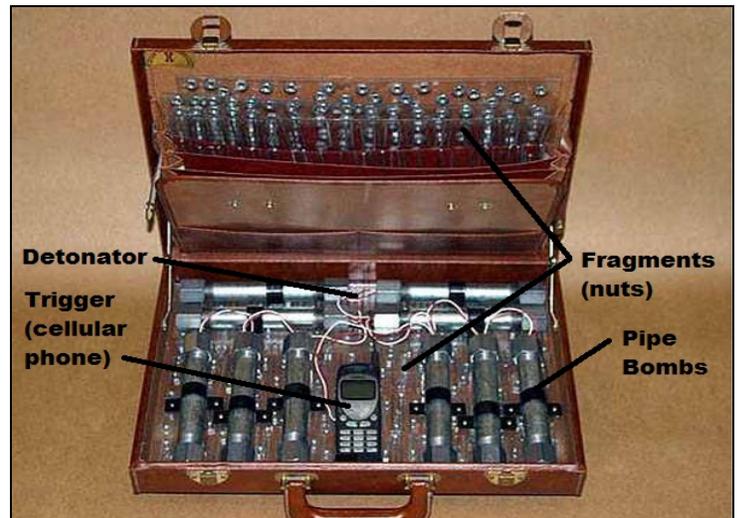
Current considerations and concerns include:

- Is there a proper clear zone that prevents IED concealment?
- Do lighting and other security measures deter aggressors?
- Does building access provide deterrence and reduce the likelihood of an IED being brought into to the building?
- Is building exterior, including doors and windows, designed to resist IED blast effects?
- Do mail rooms and loading docks meet regulations?
- Are personnel provided with IED awareness training?
- Are there established safe haven locations and is there the capability to notify personnel to take shelter?
- Are there multiple egress routes and do personnel know their locations?

## PDC SUPPORT

Protective Design Center support can be tailored to specific goals of the customer. This support can range from on-site assessments to design to effects/impact modeling.

- Establishing a proper clear zone
- Determining adequacy of lighting & other security systems
- Identifying building access control enhancements
- Performing blast modeling to determine if the building exterior, incl. windows & doors, will resist IED blast effects
- Performing human casualty and injury prediction modeling
- Determining if mail rooms/loading docks meet regulations
- Determining locations for safe havens and routes for safe passage and evacuation
- Design of safe haven construction and development of equipment requirements
- Developing/determining adequacy of response plans
- Developing/determining adequacy of contingency plans



## PRESENTATION and REPORT OPTIONS

Intermediate and final products can be tailored to customer needs/requirements:

- In-brief prior to on-site assessment
- Out-brief presenting preliminary findings following on-site assessment
- Letter report focusing on deficiencies, vulnerabilities, and mitigating measures
- Detailed report documenting existing conditions and plans; threat analysis; vulnerabilities associated with the existing conditions and plans; recommended measures (procedures, construction, and equipment) to enhance protection; and cost estimate for recommended measures
- IED Deterrence/Protection Plans, Blast Effects/Impact Models, Human Casualty and Injury Prediction Modeling, Mitigation Design, Contingency Plans, & Response Plans
- For Official Use Only (FOUO), classified, or FOUO with a classified annex

## POINTS OF CONTACT

U.S. Army Corps of Engineers  
Protective Design Center

Telephone:

Mr. Curt Betts, Chief, PDC	402-995-2376
Mr. Steve Carter, Chief, Security Engineering	402-995-2359
Mr. Kelvin Chan, Structural Engineer	402-995-2378
Mr. Bill Seipel, Structural Engineer	402-995-2375

Email:

[curt.p.betts@usace.army.mil](mailto:curt.p.betts@usace.army.mil)  
[steven.d.carter@usace.army.mil](mailto:steven.d.carter@usace.army.mil)  
[kelvin.t.chan@usace.army.mil](mailto:kelvin.t.chan@usace.army.mil)  
[william.f.seipel@usace.army.mil](mailto:william.f.seipel@usace.army.mil)

Web Page:

<https://pdc.usace.army.mil>



U.S. Army  
Corps of Engineers  
Protective Design Center

This flier is approved for public release; distribution is unlimited.