

EXPLOSIVE BLAST MODELING

The Explosive Blast Modeling Program uses software and other tools to provide a physicsbased, 3D model for anti-terrorism and force protection against Improvised Explosive Device (IED) attacks. Personalized assessments can be provided on both hard and soft targets based on a variety of customizable IED threats.



Stakeholders

Private Sector:

- Facility Security Managers
- Event Security Managers
- Corporate Risk Advisors •

Federal/State/Local:

- **Event Coordinators**
- **Emergency Managers and Planners**
- **Public Safety Officials**

Value

- Provides stakeholders with an easy-to-understand product with visualized IED effects
- Increases vulnerability awareness of IED threats to meet security preparedness goals •
- Estimates bomb threat standoff needs through visualizing effects, allowing planners to • determine mitigation strategies
- Visualizes catastrophic building damage or human injury by simulating an IED attack with customizable variables
- Assesses criticality of major building systems such as generators, transformers, and HVAC equipment



Structural Blast Analysis

- Analyzes the structural impacts of an IED attack on a facility including beams, columns, utilities, and equipment
- Simulates fragmentation blast effects inside buildings
- Provides overpressure effects on structures and people around an IED threat
- Estimates bomb threat standoff distances for the facility and provide physical security recommendations based on the analysis

Soft Target Outdoor Blast Analysis

- Simulates an IED attack for soft-targets and crowded spaces
- Produces reports and visualization based on population density, IED size, fragmentation, and IED delivery method
- Visualizes potential crowd effects for each customized scenario

Structural Models Peak overpressure 0 Shock-impulse

- Glazing damage potential 0
- Glazing hazard levels 0
- 0 Structural damage
- Equipment damage 0
- Fragmentation ricochet 0

Human Injury Reports

- Eardrum rupture 0 0
- Lung collapse Skull fractures 0
- 0
- Fragmentation injuries 0 Human injury potential



Contact Us

To request an Explosive Blast Modeling Assessment of your facility or to request more information, email us at EBM@cisa.dhs.gov

