Montclair High School: A Multi-dimensional GIS Approach to Tactical Emergency Response

Background
Emergency responders are presented with the tremendous challenge of responding to a potential crisis such as a: terrorist attack, hostage situation, school shooting, bomb threat, and a natural disaster. During any one of these potential contingencies, emergency responders need easy access to site information to help them effectively and safely do their job.

Project Overview
The overview for this project includes the development of a customized, easy-to-use GIS application incorporating ESRI™ ArcGIS and Google Earth to present critical facility information for the Montclair High School in both a multi-dimensional perspective. This application will be designed to be a fully interactive user interface accessible by the operator or user in the field.

Data
Data for this project includes an air photo, CAD drawings, parcel data for the surrounding area, school reference maps, and ground photos. All of which were acquired through different sources such as the client, school officials, or through field collection. All of the data components have been organized into a geodatabase in ArcCatalog.

Summary
The purpose of this project was to design an easy-to-use, customized, multi-dimensional application, using GIS software components, that would support emergency responders successfully prepare, plan, and react to a potential emergency situation at Montclair High School, Montclair, California.

Using Google Earth for 3D Visualization
The user can select the Google Earth button on the customized toolbar to activate the 3D model of the Montclair High School in a Google Earth viewer. Thus giving the user a unique perspective of the school’s buildings.

Additional Layer Information
This application provides the user the option to activate the computer-aided design (CAD) layer to reveal detailed drawings for the buildings.

This application provides the user the option to activate the Air Photo to reveal a high resolution aerial photograph for the campus and surrounding neighborhood.

Perimeter Road View: Provides user with view of roads bordering campus.

Exterior Point of Entry (Gate): Provides user with location and photo view of exterior gates on to campus.

Exterior Point of Entry (Doorway): Provides user with location and photo view of exterior doorways to interior facilities.

Exterior 360 View: Provides user with 360° photo view of select exterior point.

Exterior Utilities View: Provides user with location and photo view of exterior utility point (i.e. electric, water, gas).

Exterior 360 View: Provides user with 360° photo view of exterior facility.

Interior Hallway 360 View: Provides user with location and photo view of stairways.