

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

The Tarrant County 9-1-1 District has implemented GIS technology to the E9-1-1 System at the 9-1-1 Public Safety Answering Points (PSAPs), while preparing for the Next Generation 9-1-1 (NG9-1-1) technology. GIS, a visual map display associated with powerful relational database information, has the capability to pinpoint the location of 9-1-1 emergency calls for the emergency call-taker from both wireline and wireless devices. As a result, the appropriate emergency personnel can respond quickly to assist and save lives in critical situations. Additionally, the District has developed several GIS data layers available for emergency management planning. Staffers have also assisted public safety personnel in smaller member cities by generating various types of maps, including “working” and wall maps, if they have no map production capabilities of their own.

The 9-1-1 map display is dependent on the availability of high quality GIS data, which includes accuracy, completeness and currentness. The street and address spatial data are the most important data for Public Safety since other data layers are built upon the street data. Both spatial and database accuracy of the GIS data are critical to 9-1-1 operations. Digital ortho-photography (6-inch accuracy) and Pictometry’s products are used as a backdrop for reference, visual analysis and heads-up digitizing to ensure spatial accuracy for the data. Also, Global Positioning System (GPS) technology allows us to collect new data and locate and/or verify concealed, obstructed, or otherwise hard to view areas in the field. To validate database accuracy, the GIS database, Master Street Address Guide (MSAG) database and the telephone company’s Automatic Location Information (ALI) records are compared for consistency in use of street names and addresses. This comparison is used to synchronize these three databases so that the location of an address with a correct Emergency Service Number (ESN), which translates to a specific set of police, fire and EMS responders, can be displayed correctly for the dispatcher at the PSAPs. The comparative process is repeated to ensure a consistently high match ratio. The GIS database maintenance is an on-going process that must be continually updated, modified and verified.

As a final note, the District’s GIS data is also shared on a regular basis with other organizations, entities and member cities within our District.

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