ABSTRACT

Understanding address points and street ranges is critical for providing information quickly and accurately to emergency responders. This thesis investigates the process of updating address points and street ranges in a computer aided dispatch (CAD) environment to help improve response time for emergency services while developing a more reliable geocoder for CAD. In a geographic information system (GIS), addresses verify through a process called geocoding, a topic that is currently being studied and tested in many CAD environments. Geocoding is one of the most critical components in CAD because Dispatchers depend on it to accurately confirm the location and relay the information to first responders. Based on the applied work experience and lessons learned in supporting CAD, an exact match to the property, or calls-for-service locations, are critical and can potentially save lives. Using street ranges for address verification is not as accurate as address points because street ranges only provide an approximation of location, which can require additional efforts to locate the caller and increases response time. Ideally, Dispatchers require each call point be provided as an exact physical location. This investigation examines the City of Brea, California as a case study on GIS administration in the capacity of maintaining and updating GIS data for CAD use. Verifying emergency call requests is one of the most important functions, allowing Dispatchers to send appropriate aid expeditiously. Therefore, accurate and current address point and street range information are critical in the performance of CAD functions. The results of the research inform the fitness of use and accuracy of address points versus street ranges in a CAD environment for the City of Brea, California. Moreover, this research aims to promote greater data sharing and interagency cooperation among local, county,and state agencies in the United States.