WILDFIRE DAMAGE ASSESSMENT MOBILE APP

OVERVIEW:

The County created a mobile application to collect damage assessment information during wildfire disasters for structures and vehicles to support the rapid fire recovery process.

CHALLENGE:

Traditional damage assessment data collection in a wildfire disaster event is a time-consuming, manual process that requires field teams to locate sites with GPS devices and document their findings on paper and digital cameras. Office staff then must wait for the paper forms to be returned from the field to process them by hand, which requires additional hours and data entry. Research for each property is then manually compiled and additional data entry is completed. The process to research and collate records and pictures is inefficient, laborious and subject to delays due to data corrections, clarifications and handoffs. The new mobile application solves this problem by capturing, aggregating and analyzing damage assessment reports in real-time, creating faster and more comprehensive assessments, and eliminating critical delays in collecting and reporting information. This faster process allows us to better serve communities damaged by fires, to provide resources and information to displaced people while aiding a quicker recovery process for survivors.

SOLUTION:

A mobile application was developed to let damage assessment teams collect information and file reports from the field—without having to drive them back into County offices—by using tablets and smartphones. The reports automatically upload to a database that feeds a web-based GIS application and information dashboard for real-time viewing and analysis. The mobile app's features include ease of use, speedy and standardized documentation, automatic GPS coordinates and map to locate the specific property. Additionally, the mobile app uses the device camera to attach photos to each individual assessment report which allows for reference by office staff. These features allow a single user to create damage assessment reports faster and more reliably. The web-based GIS map offers a view of all incoming assessments submitted by field teams for office staff to analyze. Recovery staff can quickly see where reports have been received, the progress of field teams and which areas have sustained the most damage. An informational dashboard automatically aggregates information for quick situational awareness by emergency management officials and damage assessment team leads. Using GIS scripting, the County automated the manual research process for each assessment submitted by matching property information with existing, pre-event databases, to supplement field-collected data.

INNOVATION:

This program reimagines the way Counties typically do damage assessment in disasters, by leveraging technology and advanced programming to allow rapid, real-time assessments. Wildfires in California are a significant issue and the need to gather information and respond quickly to assist with recovery is of utmost importance. This innovative program creatively brings together a number of elements, including real-time reporting, automatic data processing and reporting tools that improve our ability to reduce the amount of time required to collect and analyze information and to more efficiently use already limited resources in an emergency disaster event.

RESULTS:

The most valuable benefit and successful outcome of this program is how quickly staff collect, receive and process information during a wildfire, when time is critical. This program improves the administration of the process internally by allowing the County to see and react in real-time because data is immediately transmitted to emergency management officials in the Recovery Operations Center. The program has demonstrated measureable improvements through time and cost savings for the County. Prior to the mobile application, each assessment took a team of three field staff an hour on average to complete—to collect and document the data on paper, take pictures with a digital camera, and identify the site location with a GPS device. The process is now streamlined and can be completed three times as fast, in 20 minutes, by just one staff member. There is also time savings for office staff since the new program automates research and eliminates manual entry and pairing of information, accounting for staff time savings of 30 minutes per assessment.

REPLICABILITY:

This program improves the administration and management of damage assessments in a disaster and can be replicated by other agencies to achieve similar results for wildfires and other types of disasters. California Counties that use a similar program can empower emergency management officials to make better policy decisions by providing them with critical damage assessment information faster and more accurately. In addition, the program supports timely and more efficient coordination with other agencies such as CAL FIRE and FEMA, allowing us to improve intergovernmental cooperation to address shared concerns of damage assessment and property identification for disaster survivors.

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