

ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: November 5, 2009

Action Agenda
Item No. 7-a

SUBJECT: Update on 911 Addressing Project

DEPARTMENT: Information Technologies and
Emergency Services

PUBLIC HEARING: (Y/N)

No

ATTACHMENT(S):
None

INFORMATION CONTACT:

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PURPOSE: To update the BOCC on the 911 Addressing Project.

BACKGROUND: Throughout the 1990's and early 2000's, Orange County Land Records maintained the County's addresses in a system called MOAD (Master Orange Address Database). MOAD was strictly a tabular database where addresses could be searched, but not displayed in GIS or used in mapping or in any visual sense. Since the 911 CAD (computer aided dispatch) system could not read address points but, instead, dispatched using address ranges on streets, Emergency Services (ES) was not a primary customer of the system. This also meant that MOAD was not reconciled with the addresses supplied by the phone companies, which are used to identify a caller during the 911 dispatch process. MOAD was used by many of the County departments, but not all. Several departments still maintained and used their own address databases, creating conflicts and discrepancies when displayed to the public. MOAD was also very slow to be updated from other addressing jurisdictions in Orange County, typically taking months to be updated.

In 2003, ES and the BOCC began to realize the need for a visual addressing system that would be reconciled with the telephone companies' addresses and used as the primary dispatch mechanism during the initial 911 dispatching process, as well as during the delivery of services. This new system would be more accurate and also fulfill the needs of every department that requires addressing information, displacing the discrepancies that previously existed. It was also critical that the new address points, to be stored and maintained in GIS, would need to be updated quickly and efficiently. Throughout 2003 and early 2004, the BOCC and staff from ES and Land Records worked to develop a plan to bring these goals to fruition.

On April 13, 2004, the BOCC awarded a contract to Geographic Technologies Group (GTG) to perform a field verification of all physical addresses and streets located in Orange County. In

September 2006, GTG completed its work and delivered the address and street centerline layers to Orange County Land Records staff.

GTG determined there were 65,745 addressable structures of which 294 needed addresses. More than 10,000 were unverified and 2,625 needed readdressing due to location, numerical sequence, or physical access. These discrepancies represented a potential public safety exposure for the persons occupying those structures. Staff has since worked with postal carriers, tax appraisers, and ES staff to reduce the unverified number to 1,745. At the conclusion of GTG's work, its primary recommendation was that Orange County adopt an addressing ordinance that would bring the 2,625 locations that need readdressing into conformance with the new address model and prevent addressing errors from occurring in the future. This action would result in a more reliable delivery of emergency services.

In May of 2008, ES contracted with its 911 CAD vendor, Logisys, to upgrade the existing CAD software so that it could incorporate the new address point data and improve the delivery of services. GIS staff worked closely with staff from several County departments, Chapel Hill, Carrboro, and the Logisys contractors throughout 2007 and 2008 to redesign the County's address and street centerline data model to 1) make it compatible with the Logisys CAD system, 2) meet the needs of all County and municipal staff who require the use of addresses and streets, and 3) meet the impending State and Federal requirements necessary for grant applications and soon-to-be mandated integration. GIS staff coordinated with all interested parties to leverage the technology of the recently implemented enterprise GIS system to integrate the address jurisdictions of Chapel Hill and Carrboro into the County's GIS.

Prior to this development, Chapel Hill and Carrboro would assign addresses, then weeks or months later, notify the County of new addresses through a manual process of passing paper maps or CD's of digital data. This caused significant time delays in the accuracy of the GIS database while not providing a comprehensive system across all County addresses. Since this milestone of GIS synchronization, Chapel Hill and Carrboro have replicas of the address and street database. When the towns assign new addresses or make updates to streets, those changes can be immediately synchronized with the County's primary production database, which is then synchronized with the data warehouse and Logisys CAD system nightly.

Address updates from Chapel Hill and Carrboro have gone from being a monthly process to a near real-time process. This allows emergency responders to respond quickly to calls at newly addressed building sites, which can often be dangerous places with a strong need for emergency services. It also aids in routing other County services to new customers (solid waste/recycling pickup, building inspectors, tax appraisers, etc.), as well as improving efficiencies in assessment and collection of personal and real property taxes.

This example of GIS integration is a major achievement for Orange County and its municipal partners. Orange County's work is the first and only example of this type of cross-jurisdictional cooperative effort utilizing the synchronization technology within the state of North Carolina. In February of 2009, Orange County's GIS Director was invited by NCCGIA (North Carolina Center for Geographic Information & Analysis) to give a presentation at the bi-annual NC GIS Conference in Raleigh in order to promote these types of inter-governmental relationships and data integration. This presentation was received very positively with other counties contacting County staff for detailed information on the processes and methodologies. The CAD vendor, Logisys, promotes the address data and integration architecture as a model to its other customers. Based on the positive feedback from both Chapel Hill and Carrboro, Hillsborough is working with the County to achieve a similar level of integration. The generous amount of

positive feedback received is encouraging and underscores that this address model will continue to serve the County for many years to come.

The next phase of the addressing project is already in progress. Information Technologies – GIS and ES staffs have worked closely with staff at all levels of the County and municipal fire stations to develop an address verification project. The aim of this project is to follow-up on the address verification project performed by GTG in 2006 as well as to collect more data about addresses and streets that will be beneficial to all users. Two fire departments are currently participating, with the rest to begin early next year. The benefits of this will be a continued reduction in unverified addresses as well as increased intelligence for the address data, making it suitable for more advanced land use and site assessment analysis.

The final phase of the addressing project will be to present a revised addressing ordinance to the Board. This ordinance is being developed by staff from Orange County, Chapel Hill, Carrboro, and Hillsborough. The goal will be to clarify ambiguities in the ordinance and provide for enforcement to assist first response agencies throughout the County in effectively delivering services. These procedures will provide a framework for address assignment in the future and provide a mechanism of accountability for property owners. Without this framework and accountability, public safety is limited in its ability to serve.

One such instance occurred recently when a house off Lavinia Lane caught fire. Neither the street sign nor address was visible from the road and emergency responders were initially unable to locate the home. Eventually responders saw the flames and were able to arrive in time to save the house. The current original damage estimate was \$475,000 to a home worth \$1.4 million. There are other examples where addressing ambiguities have resulted in significant property loss. While the new address model and GTG's address verification process have resulted in a tight set of unambiguous addresses, the County still must rely on property owners to identify their structures using these addresses. Fortunately there are no cases where loss of life has resulted from these ambiguities. However, without an enforceable ordinance, this possibility exists.

The development of a modern, dynamic address model that integrates all the addressing jurisdictions is a major step forward in improving support to 911 emergency response in Orange County, but it must be sustainable. Staff believes that the adoption of an addressing ordinance will help preserve the hard work completed over the past three years, as well as pave the way for improvements in emergency services and response in the future.

FINANCIAL IMPACT: There is no financial impact associated with receiving this report.

RECOMMENDATION(S): The Manager recommends the Board receive the report and support the continued development of the address ordinance.