City of Auburn
Home of Auburn University

TO: Alliance for Innovation – Havlick and Muehlenbeck Award Committee

FROM: James C. Buston, Assistant City Manager/ CIO

DATE: January 12, 2012

SUBJECT: 2012 J. Robert Havlick and Thomas H. Muehlenbeck Award

Using GIS to Enhance Public Engagement

The City of Auburn, Alabama, respectfully submits "Using GIS to Enhance Public Engagement" for consideration in the 2012 J. Robert Havlick and Thomas H. Muehlenbeck Award.

The City of Auburn has developed an international reputation for excellence and innovation in Geographic Information Systems (GIS) for local government. Internal business processes have greatly benefited from high quality geographic data combined with a robust set of analytic decision-making tools. In the development of an enterprise GIS the City recognized that its citizens could realize similar benefits using the same data and toolsets. The City's Information Technology Department, GIS Division has since developed cutting edge solutions to engage its citizenry. A significant outcome of this effort has been the implementation of a series of highly interactive web-based mapping applications which offer increasingly engaged user experiences. From these mapping applications the City has realized an increase in government transparency and greater citizen participation, both of which have led to better and more efficient delivery of services.

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Using GIS to Enhance Public Engagement

The City of Auburn, home of Auburn University, is a thriving community of approximately 54,000 residents. The unique character of the City is the result of a combination of influences afforded by the diversity of its citizenry. A key contributor to this diversity is Auburn University, which brings all the educational and cultural opportunities associated with a world class university, as well as a youthful presence and a national recognition. The City of Auburn has, through a long-term strategy of managed growth, maintained its small town charm and "loveliest village on the plains" identity while undergoing the inevitable expansion (24.2% between 2000 and 2010; the second fastest growing community in Alabama) of a city with Auburn's reputation for outstanding public schools, a diversified economy and varied community offerings.

The Federal Emergency Management Agency's (FEMA) multi-year initiative to update base flood elevations nationwide and to modernize flood maps for the digital age required more than 20,000 communities participating in the National Flood Insurance Program to review, modify and pass a Flood Damage Prevention Ordinance for their respective communities. FEMA required every community to issue a preliminary report and map, provide public notification and hold community meetings to afford affected property owners the opportunity to appeal the new flood plain maps as proposed. The City of Auburn's Public Works department spearheaded this project for Auburn and worked closely with FEMA to make sure that all requirements were fulfilled.

A key element in the successful completion of this project was to engage citizens during the map modernization process. Auburn officials wanted to utilize every tool at their disposal to reach out to as many citizens as possible. In addition to the traditional community meetings and the paper-based notifications, the City of Auburn's Information Technology Department, Geographic Information Services (GIS) Division created an interactive, web-based mapping solution to allow the public to browse both the current and proposed flood plain maps and to see proposed changes, as they happened, throughout the process.

To accomplish this, the new and evolving flood map data was integrated with the City's live, enterprise GIS data system. A City of Auburn partnership with the Alabama Office of Water Resources and FEMA was established to acquire higher quality data through detailed studies beyond the scope of the federal grant requirements. The resulting data allowed residents to use proposed flood plain layers on the map to visualize the changes to their property, and to view the data in relation to other GIS layers including parcel lines and aerial photography. This interactive map was deployed on the City's existing website, allowing for easy access and a sense of continuity and familiarity for users. Map navigation was made intuitive by adopting common trends in web-based map navigation.

By using industry standard controls, such as one-click navigation and autocompleting searches, users spent less time learning how to use the map and more time studying proposed changes.

This approach allowed the public additional ways (outside of paper-based static maps, traditional public meetings and visits to staff offices) to digest the information on their own time, and wherever they had internet access (including City provided computer terminals at the Public Library and free wireless Internet access in all public buildings). Email addresses for City staff working on this project were provided and citizens could comment via email without having to meet with staff directly. Initially, the interactive map was meant to be a temporary tool for use during the public comment period of the map modernization project. However, once the map became available on-line, it was being used more extensively than expected. Even when the flood map project was complete, citizens continued, in large numbers, to access the data over the web. Because of this, the original flood plain map application has remained online and the completed data integrated into the City's enterprise GIS system. This allows the exact same data to be accessed not only by City personnel on various internal platforms but by the public through permanent online resources such as the City's general interactive maps (http://www.auburnalabama.org/maps). Using this combined resource, the public can go online not only to see flood plain boundaries as they relate to parcel lines and structures, but to voting wards, school zones and more.

The level of use of the FEMA interactive map by Auburn's citizens proved the value of community engagement through such interaction. The FEMA flood map project's success spurred the City's continued use of GIS to increase interaction with citizens, engaging them in the governing process. Within the City of Auburn, interactive maps have become the norm when collaborating with the public on spatial, map-based data. The GIS Division used its existing Public Service interactive map to communicate to the public large scale changes in routes for trash and recycling pickup. In this application users input an address or owner name and the system returns a wealth of community information about that location. At the click of a button users can see who their City Council person is, find directions to voting locations, identify which school zone they belong to, as well as pinpoint the new trash and recycling routes.

Another example of engaging citizen interaction through the use of GIS was the Future Land Use map which supported elements of the Planning Department's recent CompPlan 2030 project. A proposed future land use plan was created by the Planning Department staff, which needed a means of soliciting public feedback. The future land use data was very detailed. Published as a traditional paper map, it was simply too complicated for the average citizen to understand. To solve the problem, GIS staff created a Future Land Use interactive map. This map drew on lessons and skills learned through other such interactive community engagements. It pushed the envelope in its interaction by allowing the public to have a dialog with City Planners directly from within the Future Land Use map. Users could select any property's proposed future land use to get expanded information about the City's vision for that area. The user could access a fillable form to leave comments or concerns. The form was electronically delivered to the City Planners for review and consideration.

Providing information to citizens through GIS, using standardized web and GIS technologies, is not only adaptable to other organizations, but lends itself to cooperative efforts between governments. The City of Auburn works closely with local organizations including Auburn University, the City of Opelika and Lee County, sharing GIS data freely. This year, all four entities formed a partnership as a cost-saving initiative to contract for County-wide aerial photography, LIDAR, contours, street center lines, building

footprints, water features and a host of other planimetric features. The City of Auburn has integrated these products as a series of layers, available to the public online, including aerials from previous years for a historic perspective.

The City's response in exceeding the Federal Government's mandate with the FEMA flood maps project is an example of how GIS technologies can be used to provide information to citizens and how technology provides citizens with tools for providing input to their government. As technology continues to advance, these tools can only help government be more transparent, open and responsive.

Photo: Interactive Flood Plain Map—the original map allowed the user to view the current and proposed flood plains simultaneously.

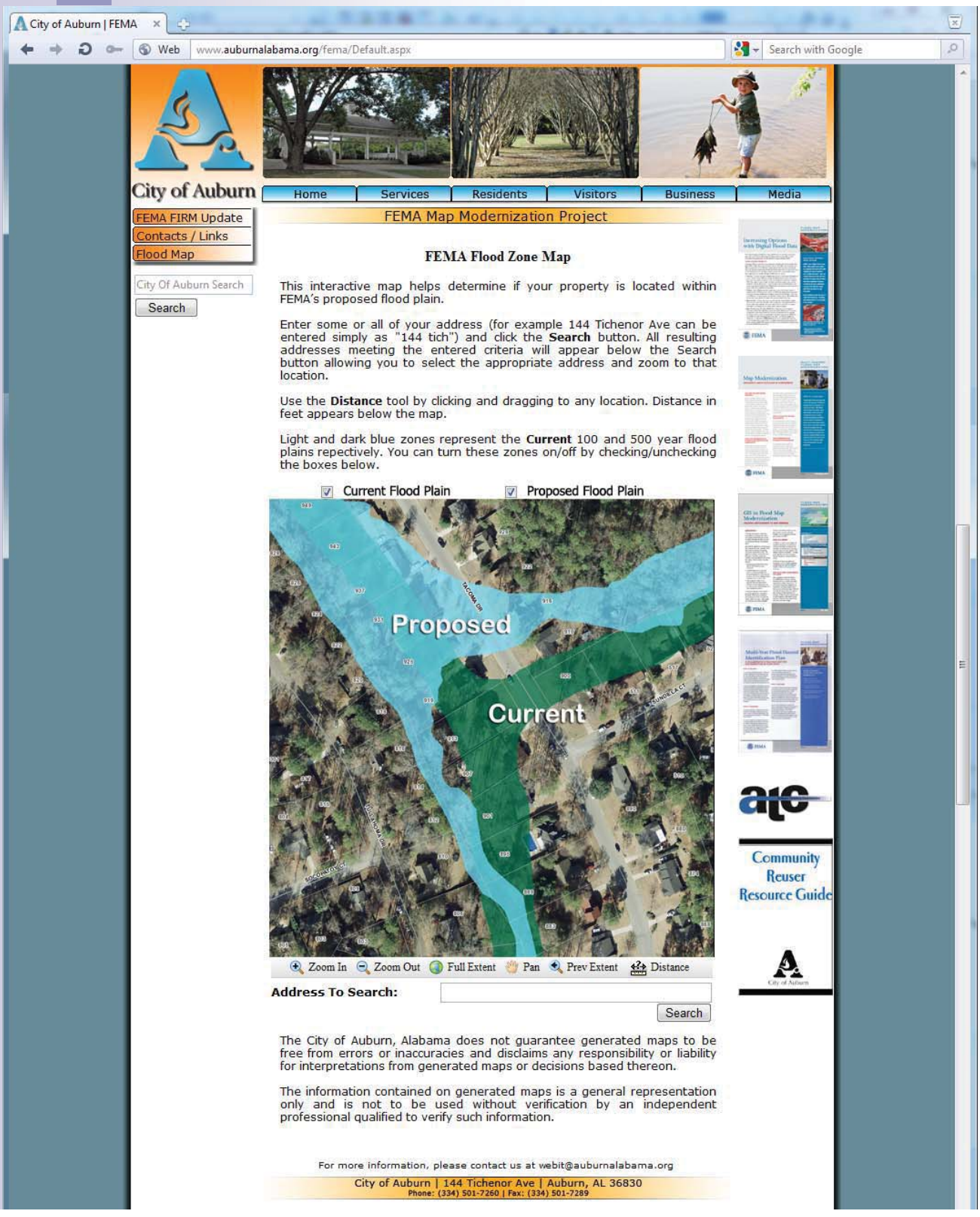

Photo: Public Service Map—after entering an address or name users can view detailed information on any number of City services.

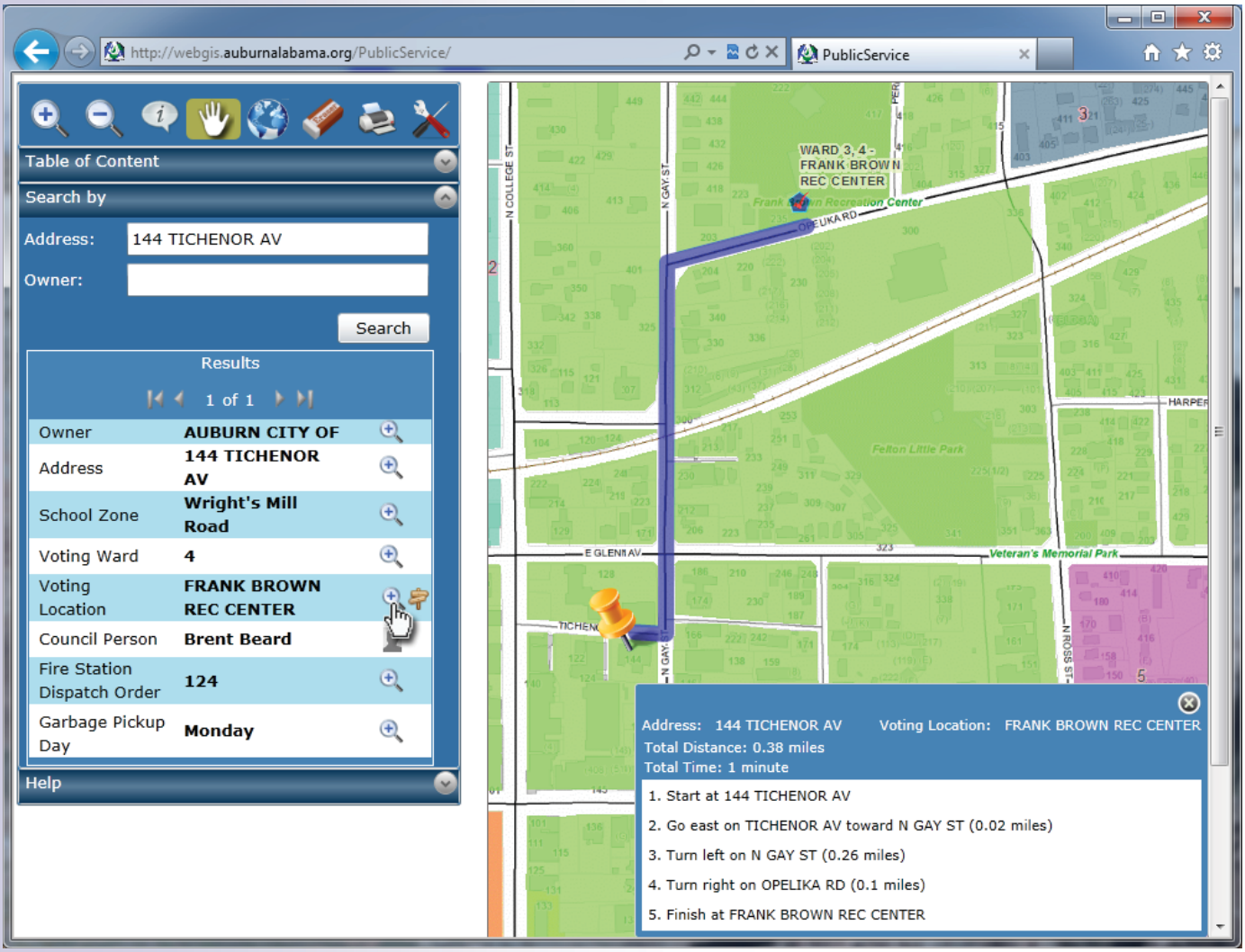

Photo: Future Land Use Plan Map—user can identify the proposed land use for any parcel, see detailed info, and leave comments directly to City planners.