Esri SMART COMMUNITIES

CASE STUDY SERIES
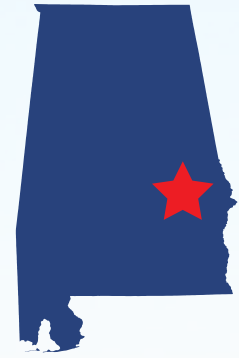
AUBURN

MAKING GIS A PART OF CITIZEN ENGAGEMENT

Auburn, AL

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COMMUNITY PROFILE:

Auburn, AL

Population Size: 62,000

GIS Program: Hybrid (centralized for data and services, decentralized for stewardship and layer maintenance)

Number of Departments Using GIS: 14 departments, incorporating 26 divisions

Total FTEs: 4

Core GIS Budget: $521,077

What Is a Smart Community?

Local governments are looking for ways to build safe, healthy, resilient communities for their constituents. Citizens are calling on governments to be more transparent, efficient, collaborative, and productive. A government that meets these challenges is a *Smart Community*. How will you strive to meet these needs?

Technology is the defining factor for a smart community. It is modern technology that enables departments to increase communication, effectiveness, and openness. Technology gives governments and their citizens access to powerful information that they can leverage to make more informed decisions.

Smart Communities promote efficiency. Time no longer has to be wasted in duplication of efforts by different staff. Departments can now share relevant and timely information throughout the organization, helping staff across all departments collaborate and deliver a higher level of service. With a common information system like GIS, staff have access to the tools they need to create, manage, and share authoritative information and applications.

It doesn't matter how big or small your community is, where you are located, or how unique your needs may be, *any* community can be a Smart Community.

MAKING GIS A PART OF CITIZEN ENGAGEMENT
Auburn, AL

"Communities set a goal of providing open data," observes Jim Buston, Auburn's assistant city manager and chief information officer. "But is enough attention being paid to the ability of citizens to interpret the data and engage with it in the right context?" In Auburn, a small but fast-growing city of 62,000 people, that question invites a vigorous response from city officials, and Buston's nine-member IT Department plays a pivotal role in presenting data in ways that city residents can easily digest.

"Government can sometimes be complicated and difficult for citizens to engage with," says City Manager Charles M. Duggan Jr., "but there are ways we can make it easier for people." GIS puts another tool in the toolbox, one that sets up productive discussions. "GIS is an excellent tool for going from a nebulous policy to a point in the real world we can talk about," he notes. Whether that "point in the real world" is an intersection, a park, a development corridor, or a backyard, GIS mapping helps Auburn's citizens imagine the effects of policy on their community. As Duggan describes it, "Citizens want to know: If I stand here, what will I be looking at?"

At the moment, growth and development are big concerns for residents. The city may be best known as the home of Auburn University, but the larger region, dubbed the "Southern Auto Corridor," has been attracting auto manufacturers such as Mercedes, Honda, Hyundai, and Kia as well as related suppliers. Auburn's convenient location along Interstate 85, easy access to Montgomery and Atlanta, and well-regarded public school system make it an appealing home base. The city's population grew 16 percent between 2010 and 2015, and that growth naturally generates a host of questions from citizens. What is being done about traffic? What will be the impact on schools and other city services? Are my taxes going up? While those specific questions are all important, GIS tools can help residents consider them in the broader context of Auburn's overall development plans.

Much of Auburn's recent growth has been along the fringes of the city, but a new downtown development plan aims to encourage enhancements in the downtown urban

With GIS mapping, Auburn citizens can better visualize the specific effects of a policy on their community.
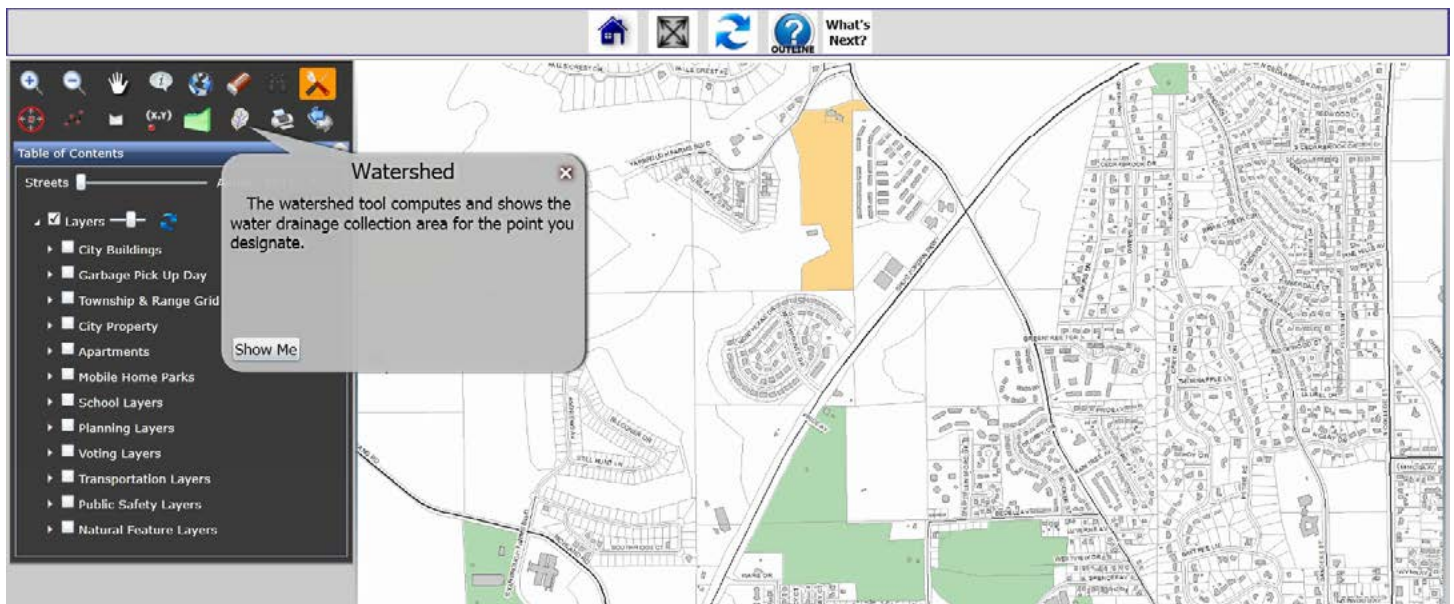
core while preserving some rural tracts along the city's perimeter. GIS applications have been used both in the development of the plan and, just as importantly, in the communication about the content. Tyler Caldwell, a planner in the Planning Department, finds that "people tend to get site-specific," and GIS maps provide the visual evidence to show residents that their individual properties are not being singled out for restrictions. Maps can also promote more thoughtful consideration of options for managing growth. For example, the GIS Division designed an interactive map allowing people to explore recommendations for the downtown development area, parcel by parcel.

Building Confidence in GIS

GIS tools can help people weigh the pros and cons of various policies, but before these tools can be used for outreach, staff within public agencies need to have confidence in both the data and the ways in which GIS applications build on them. Gaining that confidence has not come simply with the flip of the switch; rather, it has been a step-by-step process. One notable step in that process was when the Fire Division approached the GIS team about redrawing its fire response zones. Firefighters wanted to know if a data-driven study could help them do a better job at sending the right people and equipment to the site of an emergency. The GIS Division used its street model to estimate the drive time from each of Auburn's fire stations to every address within the city, and then each fire district conducted field tests in real driving conditions. The results were used to assign a three-digit code to each city zone, showing which station would respond first, second, and third to an emergency call. This enabled Auburn to improve its ISO fire

Auburn is home to Auburn University, and its convenient location on I-85 offers easy access to Montgomery and Atlanta.

Information on watershed management is readily available to residents, developers, engineers, and environmental groups.

Auburn's Fire Division and the GIS Division collaborated to redraw fire response zones, and their efforts helped deliver savings on homeowners' insurance policies.

response rating from 3 to 2—a notable achievement, as this rating enables property owners to get better pricing on their homeowners' insurance.

Similarly, after Auburn undertook a major effort to modernize its floodplain maps, some developers were able to qualify for lower interest rates on construction loans. That exercise was driven by FEMA requirements for communities participating in the National Flood Insurance Program. Auburn already had been investing in robust data sets on elevation and hydrology, and Christopher Graff, the city's GIS manager, says that these data sets "allowed GIS to go above and beyond minimum standards" and exceed the FEMA requirements. For Auburn, developing the new floodplain maps also became an exercise in citizen engagement. GIS staff created an interactive map for the public comment period, enabling citizens to see the same things that local government officials saw. Residents might be pleased to learn that their homes were not in a floodplain; conversely, they might be concerned to discover that their homes were in locations that were susceptible to flooding. But the precision of the data meant that relatively few people contested the new floodplain maps. Having these data also enabled officials to proactively contact every citizen whose status would change with the new map, and to work with each one, when possible, to mitigate the impact of that change.

Responding to the Community

"Our philosophy is to build upon strengths," Buston says, and for the GIS team, those strengths include investments in reliable data sets and a willingness to work alongside people in public-facing roles. "GIS plays a role in how we inform the public about water management and changes to the landscape," says Daniel Ballard, the Watershed Division manager in the Water Resource Management Department. For example, Auburn requires a tiered buffer alongside all streams in the community. The GIS Division created a solution that shows all the city waterways and automatically delineates the required buffer zone. That's useful for developers, engineers, and environmental groups, as a few clicks on the map on the Auburn website can tell them what size and shape the buffer needs to be. "That information still needs to be verified by city staff," Ballard explains, "but it saves time and brings a higher level of accuracy into the process at early stages."

Tyler Caldwell and his colleagues in the Planning Department also see the results of partnering with the GIS Division. "On a day-to-day basis," Caldwell says, "GIS has significantly altered communication between my department and the community." In the past, realtors, builders, and developers needed to call the Planning Department to get details about a specific parcel of land. Now they can turn to a digital map, click the binoculars on a particular address, and find zoning ordinances, future land regu-

lations, school districts, and other relevant information. "Making data public-facing alleviates stress on our department," Caldwell says, as customers can often get the answers they need directly from the GIS application. That helps Auburn reap savings as it reduces the need to hire additional staff.

Ideas Build upon Each Other

"Once you get confidence in the data, that creates ideas about how to use it," Buston says. With layers of data for traffic, sidewalks, streetlights, parking, sewer lines, and dozens of other city functions, maps can be created to answer hundreds of citizen questions. Tyler Kreps is a mapping specialist in the Public Works Department, and in addition to preparing maps for city council meetings, for the City Manager's Office, and for environmental services, she creates maps from her computer when citizens approach her window with questions. "Sometimes people don't know what exactly they want," she notes, but available GIS applications let her draw upon a "kitchen sink" of informational layers and compose a map that helps people connect a general question to specific points of data and, ultimately, points them to answers and solutions.

Auburn has made significant investments in data sets, conducting flyovers of the city every three years to gather aerial imagery, monitoring hydraulics, determining the ratio between pervious and impervious surfaces, and looking at the footprints of buildings throughout the city. It also is a city with a story to tell about its past and present, and the GIS staff think those data sets can help officials and citizens craft a narrative for the city's future. "Right


GIS maps help government officials share information with residents and set up productive discussions on development and other issues.

now, we are working on a story map about the development of downtown," Graff says. "Our more traditional applications provide data to audiences, but the story map is a change, a way to provide both a narrative and visualization." With the story map, GIS applications show the renderings of every proposed development for the downtown area and help synthesize a web of complex information into the specific questions on people's minds. The story map's appeal is immediately apparent: even before this first edition gets off the ground, another eight to ten projects have been brought to the GIS team for story maps to be developed. Story maps can be created by virtually anyone. GIS expertise is not necessary to create one.

Small-City Considerations

How can a city of Auburn's size, with an annual budget of about $80 million, ensure that its investments
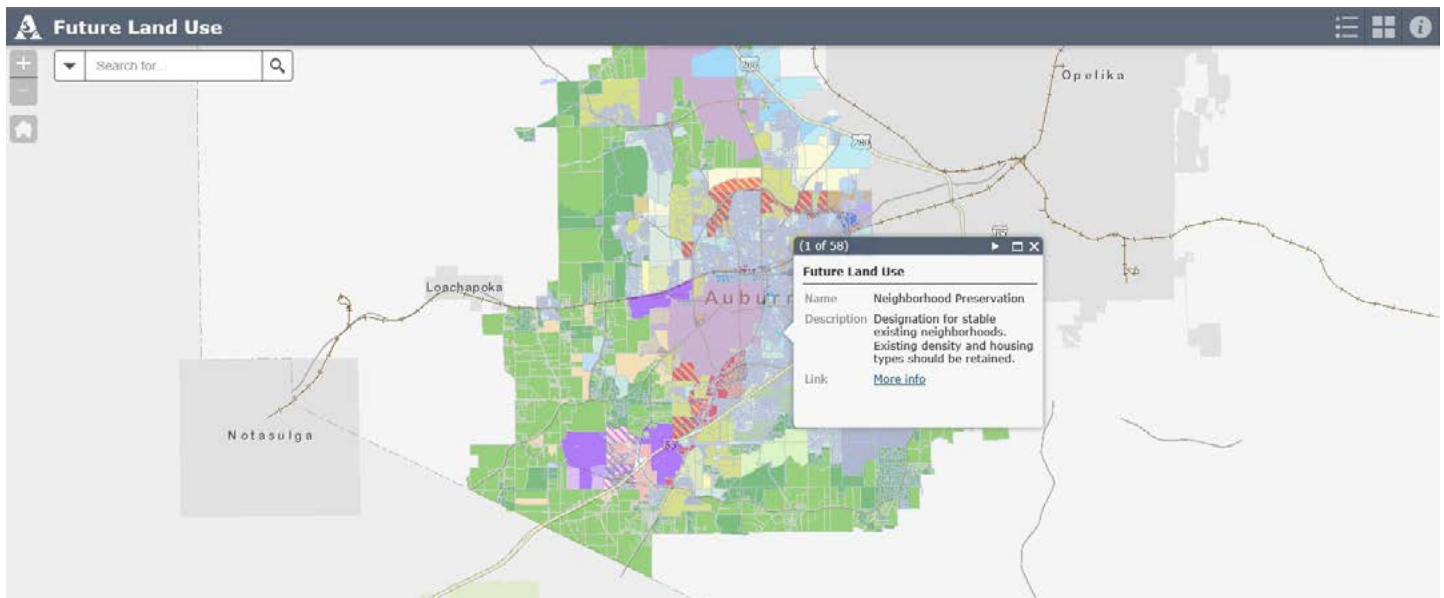
With a click on a map, residents and developers can find zoning ordinances, future land use regulations, school districts, and other relevant information.

> ## "Once you get confidence in the data, that creates ideas about how to use it."
>
> — *Jim Buston*

A new development plan aims to encourage growth in Auburn's downtown area.

in GIS technology and data sets are delivering benefits to citizens? Auburn can point to the savings in fire and flood insurance that homeowners enjoy. It can estimate the number of hours of labor its GIS applications save, as residents can go online to find the information they need about traffic patterns, school and voting districts, or permits issued, rather than calling city departments. It can demonstrate that less than 50 percent of its annual budget is spent on personnel costs; in comparable communities, that figure might be as much as 70 percent. It can highlight the results of its annual citizen survey, in which 86 percent of respondents say they are satisfied or very satisfied with the overall quality of city services, and 76 percent say they are satisfied or very satisfied with the overall value received for city taxes or fees.

Early on, Auburn moved its GIS out of a single department and made it an enterprise system within the city's IT Department, where it could serve all departments. That has contributed to Auburn's success with GIS, City Manager Duggan believes. Small cities considering GIS options should also make human resources a part of their planning, as a responsive GIS division relies on well-trained professionals. "Their knowledge will make your job easier," says Caldwell. At the same time, he adds, it's important for GIS staff to be willing to reach out to various departments: "Make sure they are not stuck in a dark room writing code, but out learning with various departments." That commitment to teamwork has been a hallmark of Auburn's system, and Buston sees the dividends it has paid. "We have put together a system of engineers, planners, and public safety specialists—and they all can rely upon GIS and believe in it."

GIS applications allow city officials to sketch a path from idea to policy proposal to implementation. "Getting a policy on a map means that citizens can digest it on their own time," Caldwell says. "They can explore the policy at their leisure—not just at the 5:00 p.m. public meeting."

In that sense, Auburn's investments in GIS ensure that officials' efforts to engage citizens in a dialogue about the best future for their city continue around the clock.

Methodology

The author conducted individual interviews with personnel from Auburn, AL. A standardized set of interview questions guided the discussions. The author used a conversational interviewing technique to more fully explore the participants' experiences and perceptions of the GIS program. The author sought written permission prior to attributing quotes to the individuals interviewed. The author wishes to thank the City of Auburn for taking the time to discuss its GIS program. Its contribution to the study was invaluable.

Study Participants

Charles M. Duggan Jr., City Manager

James Buston, Assistant City Manager/Chief
     Information Officer

Christopher Graff, GIS Manager

Daniel Ballard, Watershed Division Manager,
     Water Resource Management Department

Tyler Caldwell, Senior Planner, Planning Department

David Dorton, Director of Public Affairs

Tyler Kreps, Mapping Specialist, Public Works
     Department

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