

Esri News

for State & Local Government

Summer 2012

Sangamon County Maps Election Results in Real Time

Free Templates Make It Easy to Build GIS-Based Web and Mobile Applications

By Emily Meyertholen, Esri Writer

Sangamon County, Illinois, used Esri's Election Results Viewer template to create an interactive mapping application that provides a real-time, spatial view of election results from the web or a mobile device. Home to Illinois' capital city of Springfield and a total of nearly 200,000 residents, this midsize county is leading the way in leveraging its GIS resources to communicate with citizens.

In previous elections, as results came in, they were shared with the public on the county's website in a tabular format. This made the outcomes difficult to visualize, especially when numerous local, state, and

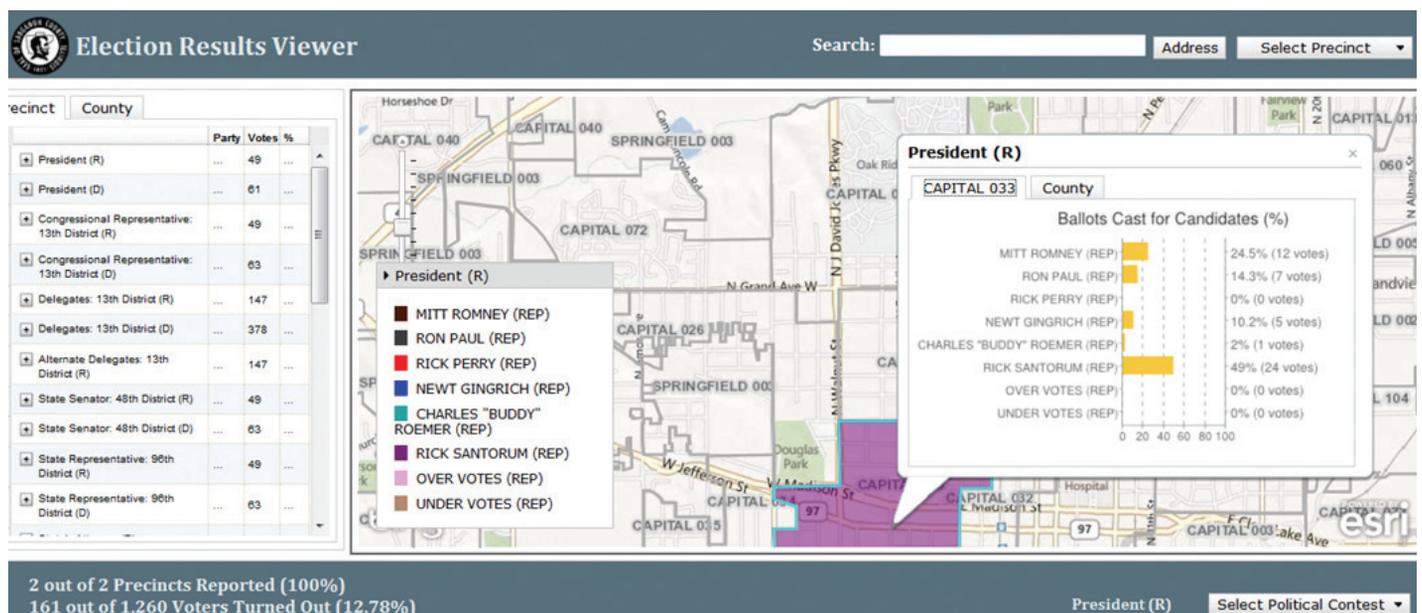
national races took place at the same time. With the county's new Election Results Viewer, the public can get a comprehensive, easy-to-understand view of incoming results on a dynamic map.

After testing out a prototype of the application, county officials suggested modifying it so users could view the results of all races in a selected precinct and then switch to a view of the overall county results for comparison. With help from Esri partner GISi, in less than two months the county customized the application so it could be tried out during Illinois' primary elections

before a public version was launched for the upcoming general election.

"This app will give the public a visual relationship with the results instead of just static tabular data," says Sangamon County clerk Joe Aiello.

The application also enables the county to share results faster than was possible with tabular lists. Using the previous method, it took about five minutes to post incoming elections data on each race from each precinct. With some modifications to the Election Results Viewer template, the county can now input the data extracted from →



↑ Users can select a precinct to quickly view the results of each race and then switch to the countywide results for comparison.

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→ hard-copy ballots directly into the mapping application within two minutes.

The application also gives citizens the first detailed look at new precinct boundaries, which were adjusted in the recent decennial redistricting process. Though the county offers a basic map of the new precincts online, the application provides a more user-friendly way to view the exact locations of new boundaries and the names of local candidates who are competing to represent each one.

"Most people are familiar with the old precincts, so the fact that this helps us inform

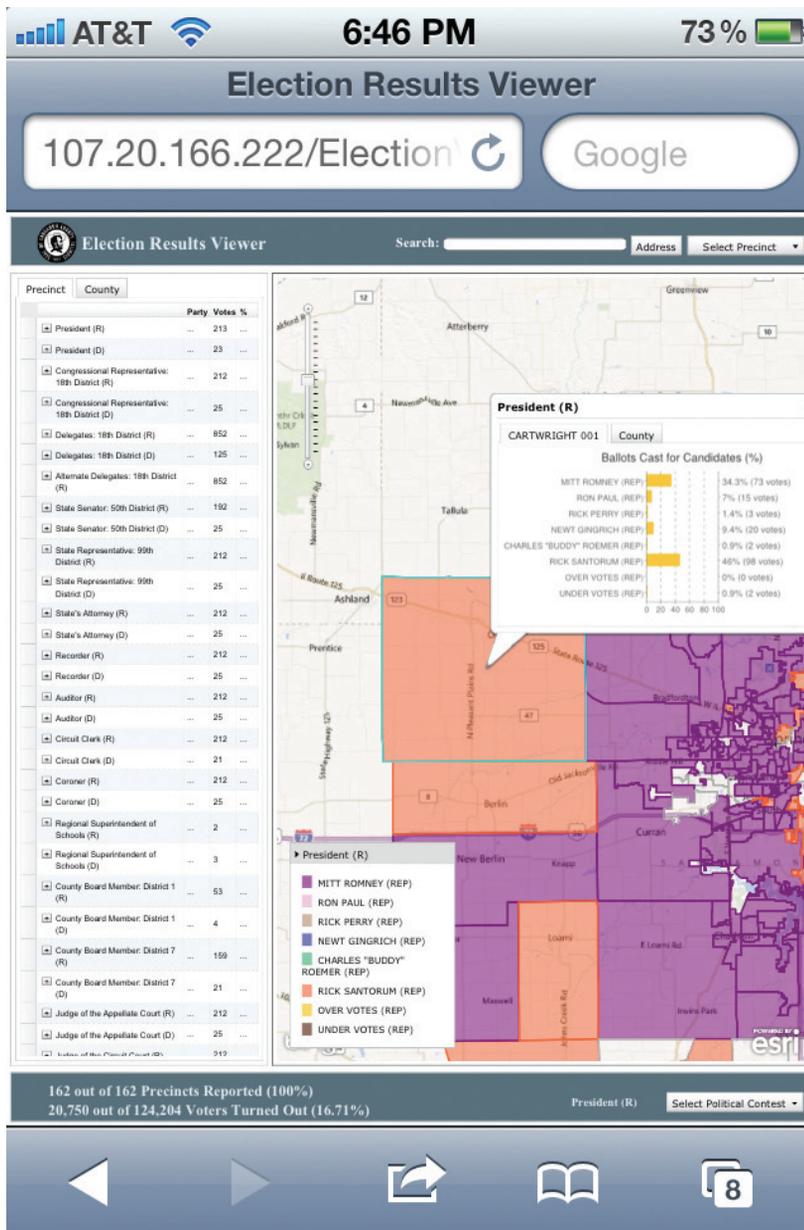
them of the new boundaries is an added benefit of the app," says Sangamon County GIS manager Tracy Garrison.

After seeing how easy it is to use Esri's web mapping application templates to extend the value of its GIS, the county is considering building additional applications, starting with a tax parcel viewer.

"Anyone, any county can do this," says Garrison.

To browse all free mapping application templates for local government, visit esri.com/arcgisforlocalgov.

For more information, contact Michael Healand, state and local government general manager, Geographic Information Services, Inc., at 205-941-0442, ext. 150, or mhealand@gisinc.com.



← Sangamon County's elections application may be viewed from a smartphone, allowing citizens to track incoming results from any location

"Anyone, any county can do this."

Tracy Garrison, GIS manager, Sangamon County

Voting: The Original Form of Citizen Engagement



Christopher Thomas,
Director, Government
Markets
Federal, State, and
Local

There's a considerable amount of discussion these days on improving citizen engagement. Hardly a day goes by that a person doesn't see or hear the word *transparency* or *accountability*. And it's great to know that GIS is playing an important role in improving the relationship between citizens and government. In fact, each day I am made aware of mapcentric applications designed to make life a little easier.

It strikes me funny, though, that we appear to have forgotten to focus on the ultimate form of civic engagement—voting. While GIS finds its way into the elections process in four-year cycles, it begs the question, Why is GIS not a continuous part of voter engagement? If you don't believe me, simply query your favorite search engine on GIS and elections and you'll see a spike in references that follow these four-year cycles.

These spikes definitely highlight the value of GIS support of the elections process. For the upcoming election, counties such as Vanderburgh County, Indiana, have successfully created lightweight smartphone applications to support voters. In Vanderburgh, the application helps people find newly consolidated voting centers, which will save the county \$80,000 per election. But why does this kind of GIS support come every four years, when elections happen year in and year out? Wouldn't a map viewer of historic data offer transparency into the actions of voters? I have my own suspicions as to why this cycle happens, but I'll leave that discussion for another day.

Keeping Up with Citizen Expectations

In my days as a GIS administrator, I was made aware of the opportunity for GIS to support the voting process. I was shocked to learn that hundreds of citizens would call the county clerk's office and the library to find out the location of their polling place. I am dating myself here, but my first ArcView 1.0 application for citizen support was an application that provided phone support for such inquiries. Fast forward to 2012, and the need to connect citizens to the voting process still exists.

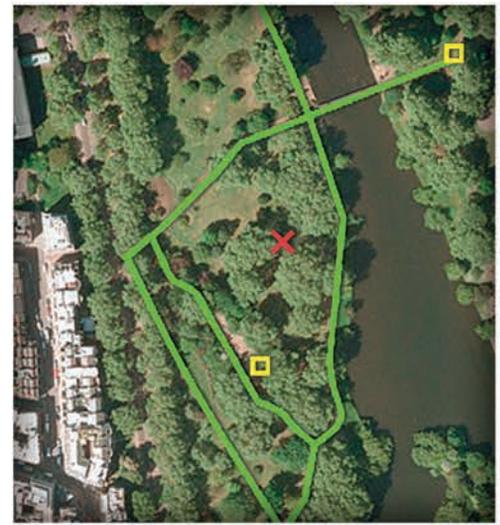
Over the past year, I have performed exhaustive research as to how governments have progressed in supporting the voter. Admittedly, I was a bit shocked to find that in this age of smart devices and web applications, the voter is often limited to PDF maps of polling places, clunky polling place locators with no driving directions, cryptic voting result information, and downloadable historic voter turnout data.

The results of this research showed that governments and the GIS profession have not kept pace with the emerging trends of applications for the mobile citizen or paid significant attention to the most important form of civic engagement. Before I receive calls and e-mails, I fully recognize there are a handful of states, cities, and counties that have stepped up to this engagement. However, we've definitely not reached Angry Birds popularity in meeting the demands of voters. And let's not forget that these voters care more about civic engagement than the average citizen.

Finding the Right Resources

In addition to supporting elections on the front end, GIS can support many business processes of elections management including address validation, polling place siting and optimization, routing of elections volunteers and personnel, mapping of voter turnout for planning and decision support, development of precinct maps, redistricting, and generation of real-time election results.

Esri and our developer partners recognize that using GIS for elections is a critical component of citizen engagement. Together we are working hard to deliver applications that will help modernize the voting process. A way to jump-start this modernization of civic engagement is to take advantage of the Esri ArcGIS for Local Government initiative. You'll find free application templates that you can customize or simply use with some geographic localization. Check out the application templates on Esri's election page at esri.com/elections. If you need a little help getting started, Esri can also provide consulting through a network of experts who can get your project off to a good start.



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Identify and Reach Senior Voters

Marketing Tools and Segmentation Data Reveal the Answers for Elected Officials

Target Your Message to Senior Voters

Like it or not, we're all aging. In 2000, the US median age was 35.3 years. By 2010, this number had increased to 37.1 years. Today, seniors represent 25.2 percent of the total US population, a proportion expected to increase to almost 27.6 percent by 2016. More people are reaching their seventies, eighties, and beyond, and the jump in median age is also due to aging baby boomers. Approximately 78 million baby boomers were born between 1946 and 1964, constituting one of the largest US demographic cohorts. According to the US Census Bureau, another American turns 65 every 13 seconds; approximately 10,000 baby boomers retire every day. The interests, social influences, goals, and preferences of boomers and other seniors vary within the cohort and differ from those of previous generations.

Seniors Stay Informed, Donate, Volunteer—and Vote

Seniors are truly a force to be reckoned with, both in terms of their numbers and also for their interest in politics and current events; they stay informed, donate, raise funds, volunteer, and, most important, vote. Seniors also have unique concerns during elections, such as retirement and Medicare.

Because being senior no longer means spending days rocking on the front porch, how can campaigns identify, understand, and reach the different groups of senior voters with the right messaging? Segmentation can help campaigns resolve this challenge.

Segmentation systems operate on the theory that people with similar tastes, lifestyles, and behaviors seek and live near others with the same tastes. When seniors are segmented by affluence, education, employment, and lifestyle, differences in their preferences become more apparent. Their behaviors, including product, leisure, and media preferences, can be measured, predicted, and targeted.

Using proven segmentation methodology introduced more than 30 years ago, Esri's Tapestry Segmentation system classifies US neighborhoods into 65 unique segments based on their socioeconomic and demographic composition. Tapestry combines the *who* of lifestyle demography with the *where* of local geography to create detailed neighborhood lifestyle segments with distinct consumer behaviors. Tapestry adds valuable lifestyle information to basic demographics such as identifying people who are likely to work on a political campaign, donate to a campaign, or vote in an election, and attitudinal data such as people who consider themselves somewhat liberal or somewhat conservative.



New and Noteworthy

Ride Amigos is a new Esri partner that specializes in helping people find more productive ways to commute, given their personal lifestyle choices. In Century City, California, its commuter map is used to find car pools or vanpools or determine times and routes for biking and public transportation. Ride Amigos leverages live traffic data; locations of facilities such as bike racks, charging stations, and bus stops; and the time, money, and CO₂ saved by taking various modes of alternative transportation. Individuals compete for prizes and provide valuable data to cities by logging their trips and earning points for themselves, their companies, and their cities. Visit <http://rideamigoscorp.com> for more information. To see the Century City application, visit www.Commute90067.com.



↑ Ride Amigos technology helps commuters in Century City find the best way to travel.

Tapestry recognizes the demographic and lifestyle differences among seniors and classifies them into nine distinct lifestyle segments:

- **Prosperous Empty Nesters:** Active, affluent married couples with no children at home are transitioning from child rearing into retirement. They will help with fund-raising, write to a newspaper editor or radio station, and volunteer.
- **Silver and Gold:** These wealthy, educated seniors have retired from professional occupations. They participate in local civic issues and write to newspaper and magazine editors.
- **Rustbelt Retirees:** Singles or married couples with no children are staying put in Rustbelt industrial cities. These settled, hardworking, politically conservative folks help with fund-raising, visit elected officials, and work for political parties or candidates.
- **Retirement Communities:** Older, educated singles who live alone in multiunit buildings or assisted-living facilities. They are politically active, are "joiners," and belong to civic clubs and charitable organizations.
- **The Elders:** Informed, independent, and involved, these retirees live in senior communities. They're members of veterans' clubs and fraternal orders.
- **Senior Sun Seekers:** In fast-growing southern and western areas, these retired or soon-to-retire residents join veterans' clubs and fraternal orders and perform charity work with these organizations.
- **Heartland Communities:** Part of life in small-town midwestern and southern neighborhoods with a country lifestyle, some residents join fraternal orders or religious clubs, and some become involved with local politics.
- **Simple Living:** Life for these seniors is restricted by low incomes. Community activities are very important; they join fraternal orders and veterans' clubs. Cable television is a must for information and entertainment; they're big fans of daytime TV.
- **Social Security Set:** Seniors with very low fixed incomes live in cheap high-rise apartments in large cities. They read two or more newspapers to keep up with the news.

Strengthen Outreach Efforts

Campaigns can take advantage of valuable segmentation information by adding Tapestry codes to voter address records—they are a gold mine of information. Campaigns can then identify their best opportunities to target volunteers, donations, fund-raising, and other activities. Messages about concerns and issues can be tailored to resonate with each audience and be conveyed by preferred media for maximum reach.

Tapestry Segmentation data is available in 2010 geography as a database in multiple formats and geographic levels. The data is also available in reports and maps on Esri Business Analyst Online (esri.com/ba) and Community Analyst (esri.com/ca). Business Analyst Desktop and Business Analyst Server users can access and integrate the data and reports instantly via the Business Analyst Online APIs. To learn more, visit esri.com/demographicdata or call 1-800-447-9778.

For more information about Tapestry Segmentation, visit esri.com/tapestry.

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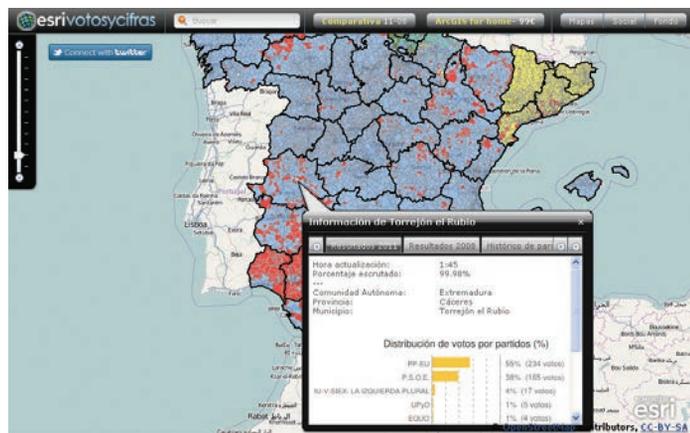
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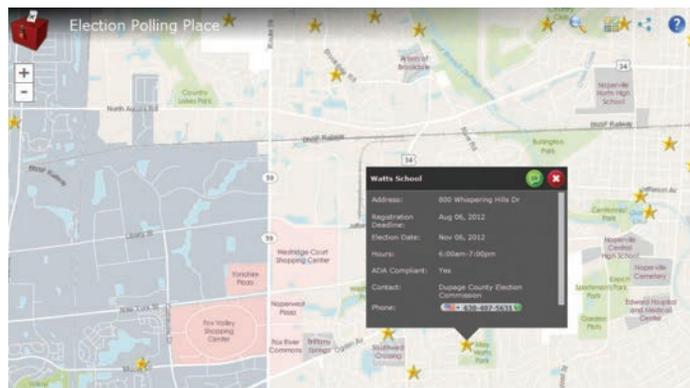
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Solutions for Elections

GIS supports mobile polling place locators and interactive maps of election results to improve the voting experience. Create your own helpful apps with Esri's Election Polling Places app template and the Esri Election Results application template. Visit esri.com/engagingcitizens to download the templates.



↑ Spain's *El Mundo* newspaper maps election results across the country.



↑ Polling Place Locations in the City of Naperville, Illinois (Credit: City of Naperville, Illinois).

Esri Online

Keep Up with Esri UC News

As the annual Esri International User Conference (Esri UC) approaches, stay up-to-date on the latest conference information. The Esri UC blog (esri.com/ucnews) features all of the news and highlights you need, such as restaurant recommendations, details on area attractions, special events, and more. You can also get updates on Facebook (facebook.com/esriuc) and Twitter (twitter.com/esriuc).



← Join GIS colleagues from around the world at the Esri UC.

Find Dev Meet Ups

Esri is hosting Dev Meet Ups across the United States. These events give you an opportunity to demonstrate applications, present interesting concepts or ideas, and connect with other developers. To find one in your area, check out esri.com/devmeetups or #devmeetup on Twitter.

Use GIS When You're Off the Clock

Esri's ArcGIS for Home Use Program supports ArcGIS users who want to use GIS technology for things like non-work-related research or volunteering projects. A \$100 annual fee provides a 12-month license. Learn more about the program at esri.com/arcgis-for-home.

The City of Salem, Oregon, Broadens the Reach of GIS

“[ArcGIS Online] brings together everything that we’ve been hoping to do in terms of distributing the value of GIS.”

Susan Blohm, IT Supervisor

With more than 178,000 users and almost 300,000 public and private items, ArcGIS Online has grown quickly over the past two years. GIS professionals around the world use the freely available Software as a Service platform for discovering, creating, and sharing maps, data, and applications. ArcGIS Online has now been expanded into a subscription-based service that is completing beta testing. More than 700 organizations have participated in the beta program to get a first look at how ArcGIS Online for organizations can make their maps and data more accessible and extend the reach of their GIS.

One such organization is the City of Salem, Oregon, which Esri invited to participate in the beta program. Located 47 miles south of Portland, Salem is Oregon’s capital and the second-largest city in the state. The city has about 1,200 employees and 11 departments, with GIS users in nearly every department and GIS staff distributed throughout 3 departments. The enterprise GIS is managed from within the Department of Information Technology, and citywide GIS activities are coordinated by the GIS Advisory and Planning team. A primary objective of Salem GIS is to provide services to GIS users within the city, both power and casual users; maintain and manage the GIS resources; and develop more efficient ways to provide GIS-based services to the public.

Doing more with less is the common mantra for local governments of all sizes across the United States. When city employees Susan Blohm, IT supervisor, and Daniel Brown, senior GIS programmer/analyst, attended Esri’s Extend the Reach of Your GIS seminar several months ago, they were introduced to ArcGIS Online for organizations and were very impressed with what they saw. “It brings together everything that we’ve been hoping to do in terms of distributing the value of GIS,” notes Blohm. “Extend Your Reach is a perfect title for the seminar because that’s exactly what ArcGIS Online does.” Participating in the beta program gave them the opportunity to try it out for themselves. For years, Blohm and Brown have been talking about how to get more value from their city’s GIS by distributing it across the enterprise. The capabilities of

ArcGIS Online for organizations can help them do exactly that.

The City of Salem’s long-standing GIS goes back almost 20 years. Managing legacy systems and keeping up with the latest technology while still maintaining the best service possible has proved very challenging. ArcGIS Online is seen as a great product that can make it easy to migrate from a legacy GIS desktop viewer system by providing Software as a Service that is easily accessible to all in-house GIS users with minimal training. With ArcGIS Online, managing and sharing the city’s GIS information becomes a lot easier, and that aspect alone has had a positive impact on overcoming internal concerns. ArcGIS Online allows all users to create and share web maps and take advantage of the products created by ArcGIS for Desktop power users, who share them through ArcGIS Online with others in the organization.

Reducing the amount of resources spent on maintaining legacy systems is not the only advantage ArcGIS Online can provide to the city. One city goal has been to improve how GIS information is delivered to the public. Most of the resources at the city have been focused on building internal maps and applications that are accessible only within the city’s firewall. Budgetary and resource constraints have made it very difficult to stand up services outside the firewall that would have to include a database, web software, and a map viewer. With the introduction of ArcGIS Online, these are no longer restrictions. ArcGIS Online is hosted by Esri, and all the City of Salem maps and items created reside in Esri’s secure cloud infrastructure. In addition, ArcGIS Online includes a built-in map viewer. Users start with a basemap gallery to which they can quickly add data files and web services to create their own maps. This is an ideal solution for the City of Salem to better serve the public and provide more self-serve options. The city has downloaded the freely available public Map Gallery template and created a group on ArcGIS Online where all the maps that can be viewed through the public gallery are shared. Residents can browse the gallery and interact with maps that provide convenient

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SalemGIS Online

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City of Salem, Oregon Geographic Information Systems

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Create a map that can be viewed in a browser, desktop or mobile device. Share it on a blog, via email, or embed it in a website.

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← The City of Salem's GIS users have a central location for accessing city maps and other GIS resources.

information about zoning, recreation, transportation, and more. They no longer need to call the city for all this information.

The advantage that ArcGIS Online delivers is seen in the efficiency it provides for seamlessly disseminating information created by the city's internal GIS professionals using ArcGIS for Desktop. These power users can now share their information and products with non-power users who still need GIS as part of their day-to-day work by uploading maps and data to ArcGIS Online through a simple, wizard-driven interface. This means that the city now has a way to expose feature services as hosted services, and these can be provided to the public in addition to the map services.

To get the most out of testing ArcGIS Online for organizations beta, the City of Salem has created a small, cross-departmental test group. This group collects and provides feedback by going through all the major processes in ArcGIS Online: publishing maps and hosted services; creating groups; and sharing maps through private, organizational, and public groups. To give more meaning to the ArcGIS Online beta project, each member of the beta testing group has committed to create some type of product that can be shared at the end. This includes employment and economic

development maps, mobile code enforcement, mobile graffiti mapping, and mapping out public works projects, among others. The city has also taken advantage of being able to customize the ArcGIS Online for organizations home page. It added the Salem GIS logo and designed the look and feel of the map icons to reinforce the city's brand. The Map Gallery and Featured Maps sections display city maps, and users can choose from the city's own basemaps. "With ArcGIS Online, what we have now is a better catalog of our maps, data, and apps," says Brown. "It's a nice gateway that the city was missing and a destination for both our internal users and the public that will help us improve customer service."

ArcGIS Online for organizations will be available in the summer of 2012. Organizations will be able to purchase a subscription that includes flexible data storage capabilities and administrative controls for managing user accounts and access.

For more information, contact Daniel Brown, City of Salem, Oregon, IT Department (e-mail: dbrown@cityofsalem.net), or visit esri.com/agol.

Southfield, Michigan, Brings GIS to the Public via a Cloud-Based Application Portal

Thanks to the cloud and Esri's ArcGIS for Local Government templates, the City of Southfield, Michigan, is making its GIS resources available to citizens through practical, easy-to-use web mapping applications. The city worked with Esri partner GISi to create and quickly launch its Destination Southfield web map portal. Hosting it in the cloud eliminated the need for additional hardware investments.

The portal features a growing collection of public applications created with Esri templates, including a parks and recreation finder; a polling place locator; and a campus place finder that helps citizens navigate licensing offices, courts, and other facilities commonly used for city business. The site also offers a customized city viewer that includes data on tax parcels, zoning, recycling centers, school districts, and more than a dozen other factors. Each of these applications enables citizens to search for locations and view details on an item of interest, such as polling place hours or park offerings like hiking trails and picnic areas.

"We already had the benefit of our ArcGIS infrastructure in the cloud, so that made it easier to push it out to the public via mapping apps," says Sally Price, GIS coordinator for the City of Southfield. "The cloud was really the best route for us. It was the least expensive option and didn't require any extra hardware. When Esri released the new maps and apps for local government, that seemed like the best way to get this information out to the public. It also ensures compatibility with future ArcGIS software releases."

The polling place locator was one of the first applications the city offered, and it has become one of the most beneficial resources for citizens. Besides providing polling place information, the application displays details about state elected officials.

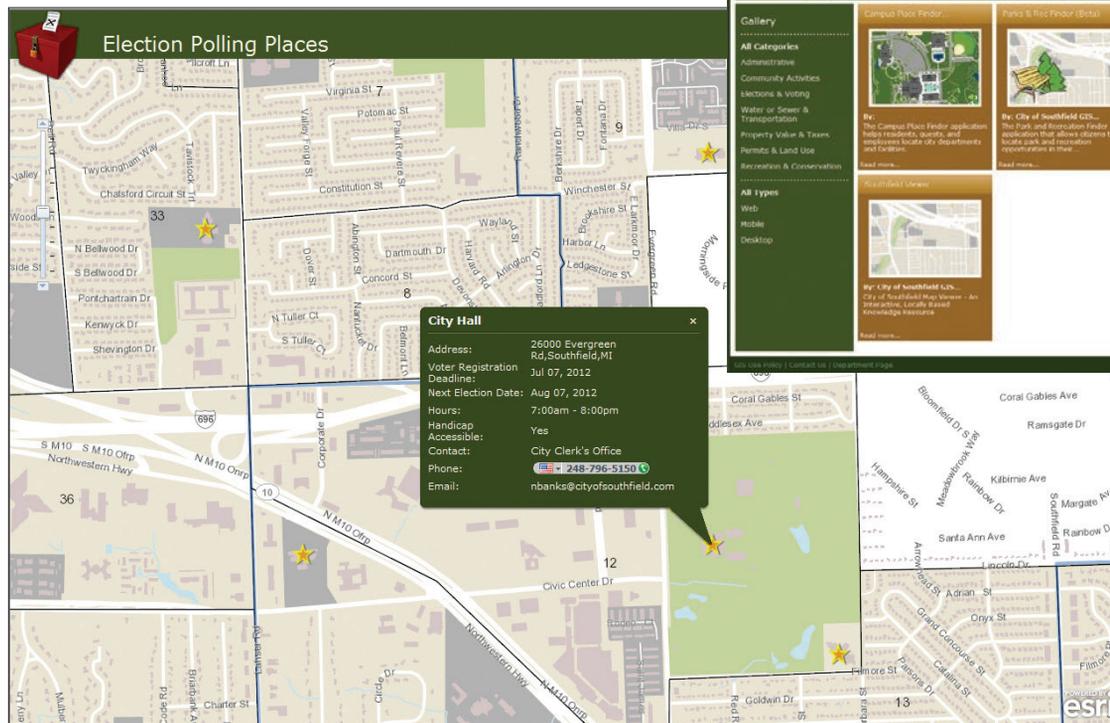
"That's the benefit of using the app templates—we didn't have to do the programming ourselves. We just added our own data," says Price.

When city officials suggested adding details about the attorney general, secretary of state, and local officials, GISi was able to customize the application to make that possible.

The city plans to further leverage Esri application templates to create tools for internal city use, such as a land-use public notification viewer and a tool for coordinating city projects with its engineering and public works departments. Though password protected for use only by city employees, the internal applications would be part of the Destination Southfield portal to take advantage of the cost savings of the cloud platform.

To view the Destination Southfield portal, visit <http://maps.cityofsouthfield.com/destinationsouthfield>. For more information, contact Michael Healander, state and local government general manager, Geographic Information Services, Inc., at 205-941-0442, ext. 150, or mhealander@gisinc.com.

↓ The Destination Southfield website gives citizens easy access to a variety of web mapping tools.



↑ Southfield's polling place locator enables the public to find voting locations, hours, accessibility, and upcoming registration deadlines and election dates.



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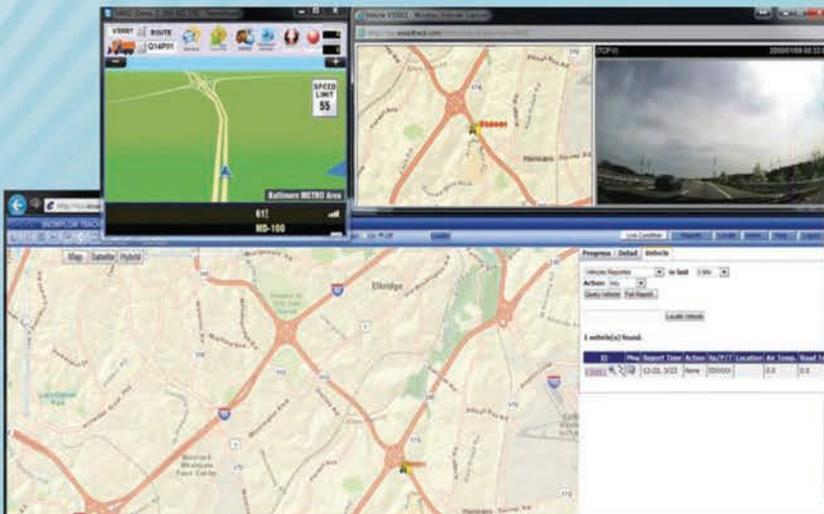
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- Remote work order assignment
- Treatment progress map
- Custom hydraulic sensor option
- Supports most spreader controllers
- Remote OBD II & CAN Bus Interface
- Real time camera

Mobile Application Directs Voters to Shortest Lines on Election Day

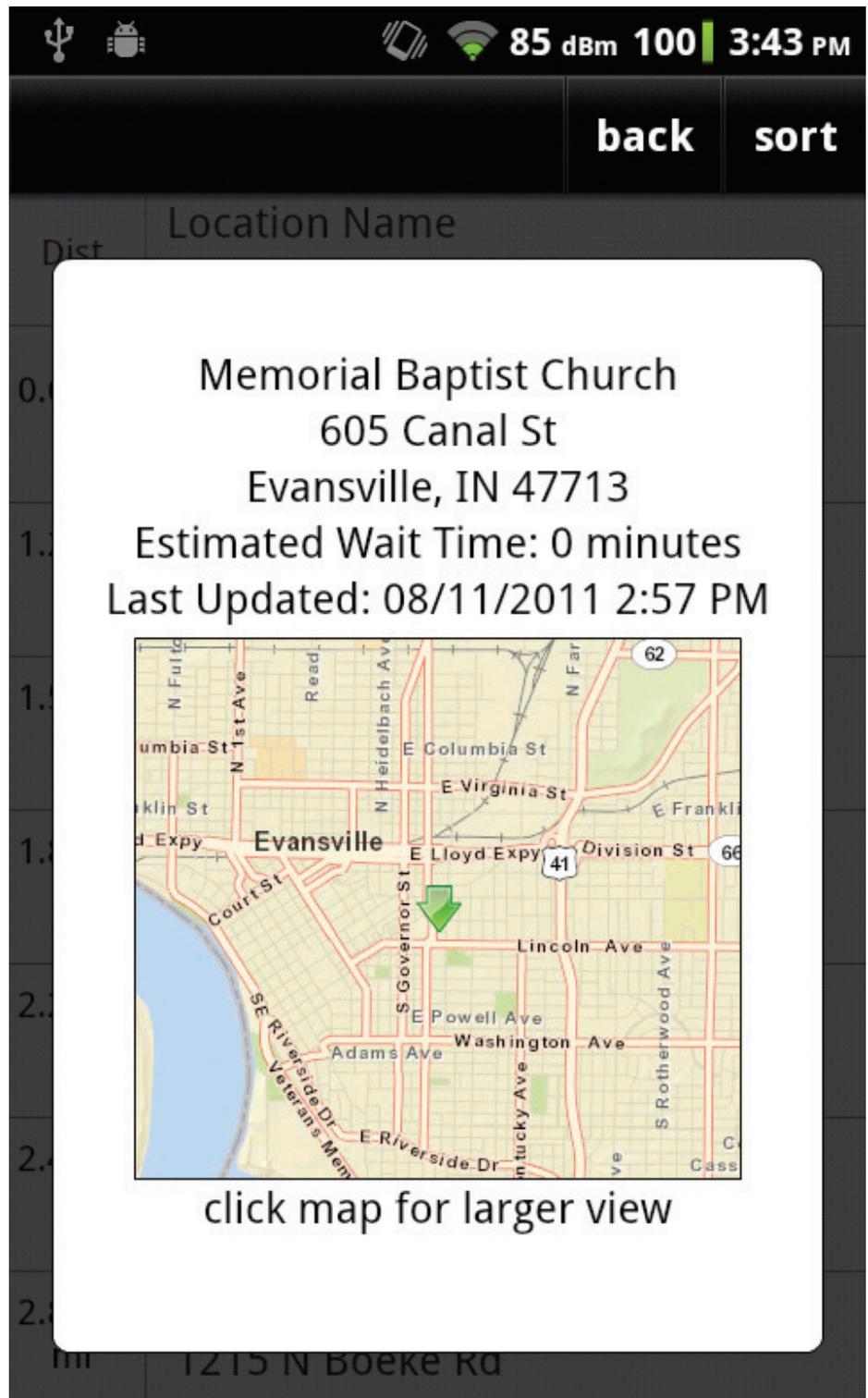
By moving from traditional polling places to vote centers, Vanderburgh County, Indiana, saves \$85,000 each year. Vote centers allow citizens to cast their votes at the most convenient locations instead of only in their designated precincts. To make voting even easier, the county offers a free mobile application that provides immediate details on the nearest vote centers, including poll hours, wait times, and directions. Over 300 citizens have downloaded the application on their iPhones or Android phones, and the county expects use to grow significantly as the word spreads and major elections approach.

The county leveraged its existing geographic information system, which is based on Esri technology, to create a map service that shows all vote centers. A custom mobile application was then built using Esri's ArcGIS API for Flex to support deployment on both the iPhone and Android platforms.

To promote public use of the application, the county works with local media and offers free downloads from Apple's App Store and Android Market. Visit vanderburghvotecenters.com to access the application or view the vote centers map online.

Mobile mapping applications based on Esri technology help local governments worldwide improve operations and services to citizens. Esri technology provides a common platform for data sharing to enhance workflows, improve decision making, and facilitate communication.

"It's simple, it's easy, and it does what we need. This app is going to become more and more useful and popular as we ramp up for a busy election season," says Susan Kirk, Vanderburgh County clerk.



↑ A free mobile application directs voters to the nearest vote center.

Solar Mapping Enabling Sustainable Cities

Drive Solar Adoption

Raise awareness of technology, economics and assistance programs
Reduce installer costs

Engage Citizenry

Educate citizens with visual, personalized information for their home or business
Promote city goals and initiatives with interactive web portals

Enable Green Industry

Support installers with localized tools
Publish citywide solar potential
Develop informed consumers



Drive. Engage. Enable.
critigen.com/solarmaps

123 MAIN ST, SOLAR CITY CA

Property Summary

Total Roof Area: 7,771 Sq. Ft.
Electric Utility: Green Energy

Solar Electric

Area Suitable for Solar:
4,500 Sq. Ft.

Solar PV Potential:
Up to 62.3 kW

Electric Savings:
Up to \$10,211 /Year

Electricity Produced:
92,827 kWh/Year

Carbon Savings:
6,721 lbs/Year

Solar Hot Water

Solar Water Heating Potential:
13,500 Therms/Year

Gas Savings:
\$10,732 /Year

Carbon Savings:
181,521 lbs CO2/Year

Cost Estimates & Reports

[Download a PDF Report for this Parcel](#)

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