AIMS CONNECTION
Your Geographic Data and Service Provider for Johnson County, Kansas

SUMMER 2013 ISSUE NO. 17

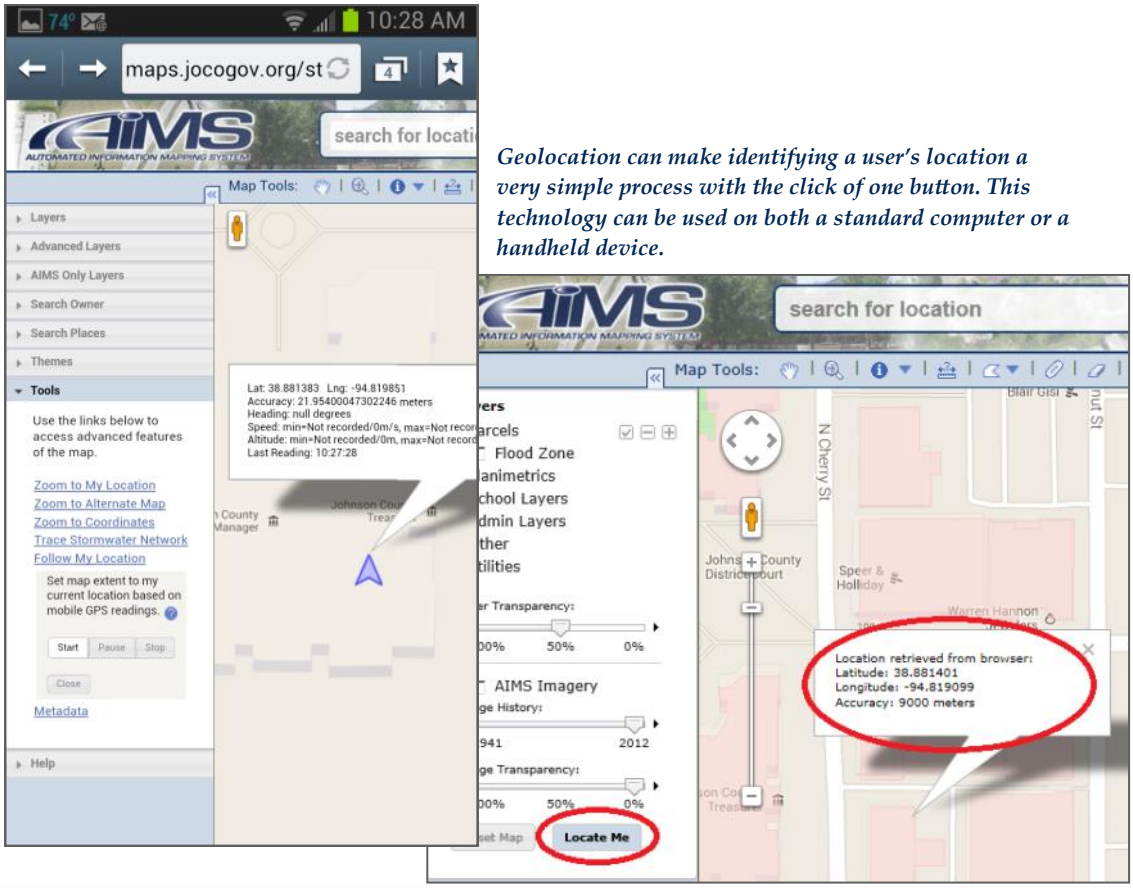
What is Geolocation and How is Johnson County Using it?

Geolocation is a technology and industry buzz word meaning to find the real-world location of an object (like a mobile phone, vehicle, person). With recent technical advances in smartphones and internet browsers, geolocation is now a very simple process accessible by a device's browser. Current internet browsers like FireFox, Internet Explorer Versions 9 and above, and Google Chrome are all able to take advantage of the geolocating abilities of today's computers and hand-held devices.

For example, in the Johnson County Online Mapping application, users can center the map at their current location with the click of a button, using the coordinates of the IP address on their computer or mobile device. This eliminates the need to pan and zoom the map or use traditional search functionality to find a current location on the map.

Another innovative use is the ability to track or follow a user's location as they move around in the real world. This process (now available in Johnson County Online Mapping for myAIMS users) continually reads a location from a user's smartphone, moving a marker on the map and re-centering the map as the user's location changes. This works much like your car's GPS or automated vehicle tracking system but without the need for additional equipment. The browser using the built-in GPS capabilities reads a new coordinate every few seconds, then uses that information to update the map display. In the real world, users can use the map to locate nearby features (e.g. utility poles, house numbers, etc.) as they walk or drive down a road, again alleviating the need to locate themselves on the map using traditional search, pan and zoom tools.

Inside this issue:



Geolocation can make identifying a user's location a very simple process with the click of one button. This technology can be used on both a standard computer or a handheld device.

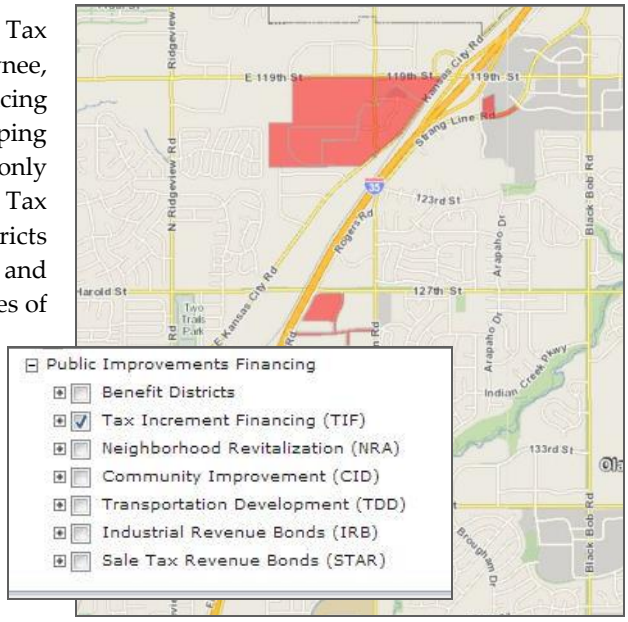
CURRENT PROJECTS

Presenting Benefit District and Tax Incentive Information in Online Mapping

In a joint effort between the AIMS department, the Records and Tax Administration Office, and the cities of Lenexa, Olathe and Shawnee, work is underway to make local public improvement financing information available on the Johnson County Online Mapping application. The types of data currently being considered include not only Benefit Districts, but Community Improvement Districts (CIDs), Tax Increment Financing areas (TIFs), Transportation Development Districts (TDDs) as well as the future inclusion of Industrial Revenue Bonds and STAR bonds (See the box below for more information about these types of public improvement financing).

These entities are currently working to capture the initial data including details on why the district was created, when it starts, how long it is to be collected, contact information for the city, and the resolution that created the benefit district. The data presented online will include active, pending, historic and any other status of the incentive area.

The benefits of putting this information on the internet and making it publicly available are many. One such benefit is to improve customer support when fielding calls regarding whether a property is in a particular benefit district. Another is the ability to help developers and potential businesses identify favorable areas to move to or build in, providing a potential economic development boost to Johnson County.



Residents as well as current and future businesses in Johnson County will soon be able to view Benefit District and other public improvement financing information on the Johnson County Online Mapping Application.

Future plans are to expand this project to include other cities within Johnson County and hopefully arrive at a complete county-wide data set. The goal is also to consider the addition of Industrial Revenue and STAR bonds. Once established, this data will be included in the Johnson County Online Mapping application as well as in the Location Maps and Information and Johnson County Land Records applications.

What are the Different Types of Public Improvement Financing Used by Cities in Johnson County?

- **Benefit Districts**—general obligation bonds for construction of public improvements that assess the cost to properties that benefit. The bonds are then retired through payment of special assessments by these benefiting properties. Benefit Districts are used by the city to assist in development of arterial roadways, water lines and sanitary sewers.
- **Community Improvement District (CID)**— allows a commercial property owner to petition the City to levy special assessments or impose up to an additional 2% sales tax within a CID to fund eligible project costs. These costs may include infrastructure, design, engineering, and construction-related activities.
- **Tax Increment Financing (TIF)** - cities pay a portion of redevelopment costs for a new development which is located in the state Enterprise Zone, in a Blighted Area, or a Conservation Area. The redevelopment costs are paid from property and sales tax revenue generated by the new development.
- **Transportation Development District (TDD)** - 100% of the landowners in an area may petition for either the levy of special assessments or the imposition of a sales tax of up to 1% on goods and services sold within a given area. Upon creation of a TDD by a municipality, the revenue generated by TDD special assessments or sales tax under Kansas law may pay the costs of transportation infrastructure improvements in and around the new development.
- **Industrial Revenue Bonds**—Kansas law allows cities to provide qualified businesses an exemption of up to 100% of the new real property taxes for up to 10 years by the issuance of industrial revenue bonds. The issuance of industrial revenue bonds also allows cities to offer a sales tax exemption on the purchase of building materials in Kansas.
- **STAR Bonds**—Kansas municipalities can issue bonds to finance the development of major commercial entertainment and tourism areas and use City and State sales tax revenue generated by the development to pay off the bonds.

Editing Geographic Data on the Web

Keeping geospatial data, or any data for that matter, maintained and up-to-date can be a daunting task. It often requires significant amounts of staff time and reliance on outside sources. With the development of online editing functionality, this task can be managed with a much simpler process.

Benefits:

There are many benefits to be found by using online editing applications to maintain and update spatial data. First, it can be built with a user friendly interface that eliminates the need for users to own, or even understand how to operate, a more complex GIS software package to do editing. These users also don't need to have a computer with a lot of memory or power, as would be needed to run process intensive GIS software. They can use any computer that can be connected to the internet and run an internet browser. This also means that editing can be done almost anywhere. As long as the user has connectivity to the internet, they don't need to be tied down to a desktop computer in the office.

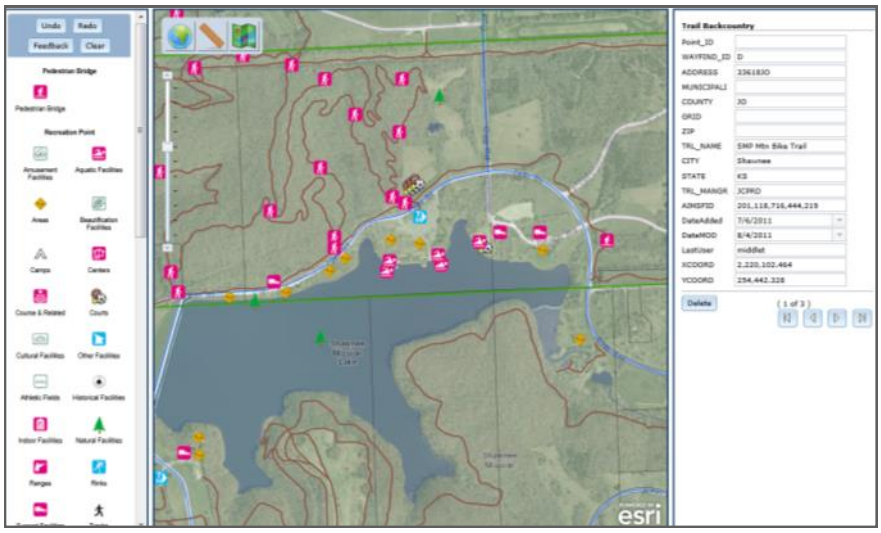
Some additional benefits include the creation of a more controlled editing environment. Building an online application can put restrictions on the types of data and determines what layers can and cannot be edited, eliminating the worry that other attributes or data will be mistakenly and erroneously modified. Any edits can also be stored and backed up at an alternate location (like the AIMS servers), so users don't need to worry about the need for expensive hardware and storage for their data.

Recent Examples of Using Web Editing:

AIMS has created a few online editing applications for use in and around Johnson County. One such example includes an application built for the Public Works department that allows them to edit driveway features to assist in planning for future snow removal operations. This same application also houses an editing service that is in the pilot phase for the Parks department, allowing them to edit park features (i.e. trails, shelters, etc.) that are points, lines or polygons.

There have also been several editing applications built for specific uses by Public Safety and Emergency Management. One such example is an editing application for multi-building complex data (e.g. apartments) that is then used to create map books for EMS and fire responders in the case that their mobile units are inoperable. Another example is an application that allows employees at the Emergency Communications Center to edit the locations of knox boxes (key storage for commercial buildings) and hose connection locations for use by fire responders.

The possibilities are endless for the uses of online editing. As new opportunities arise to take advantage of this technology, AIMS will continue to explore it's uses.



The editing application that is currently in the pilot stage for the Parks Department allows users to select various park features and edit the attributes and information associated with those features without the need for sophisticated GIS software.

Training/Classes

IMS 101: A Hands-On Approach to Using the Johnson County Online Mapping Application

This class covers services and functionality available in the Johnson County Online Mapping Application, including website navigation, layer descriptions, search capabilities and how to work with the various mapping tools. It is open to the public.

July. 17, 2013: 1:30am - 3:30pm
Sept. 18, 2013: 8:30pm - 10:30am

myAIMS 101: Introducing the myAIMS Web Applications.

This class covers how to access the system, general navigation, and a brief overview of the services available within myAIMS. The class is open to county, city, and utility company employees that are AIMS licensees as well as AIMS Subscribers.

Aug. 14, 2013: 8:30 - 10:30am

All classes are free to attend. Please pre-register at:

http://aims.jocogov.org/ProductsAndServices/AIMSClasses.aspx

... Prairie Village Budget Simulator

"The City of Prairie Village is very interested in what our residents have to say. The Budget Simulator gave us a venue to put the issues to the public and get their feedback."

Lisa Santa Maria,
Finance Director,
City of Prairie Village

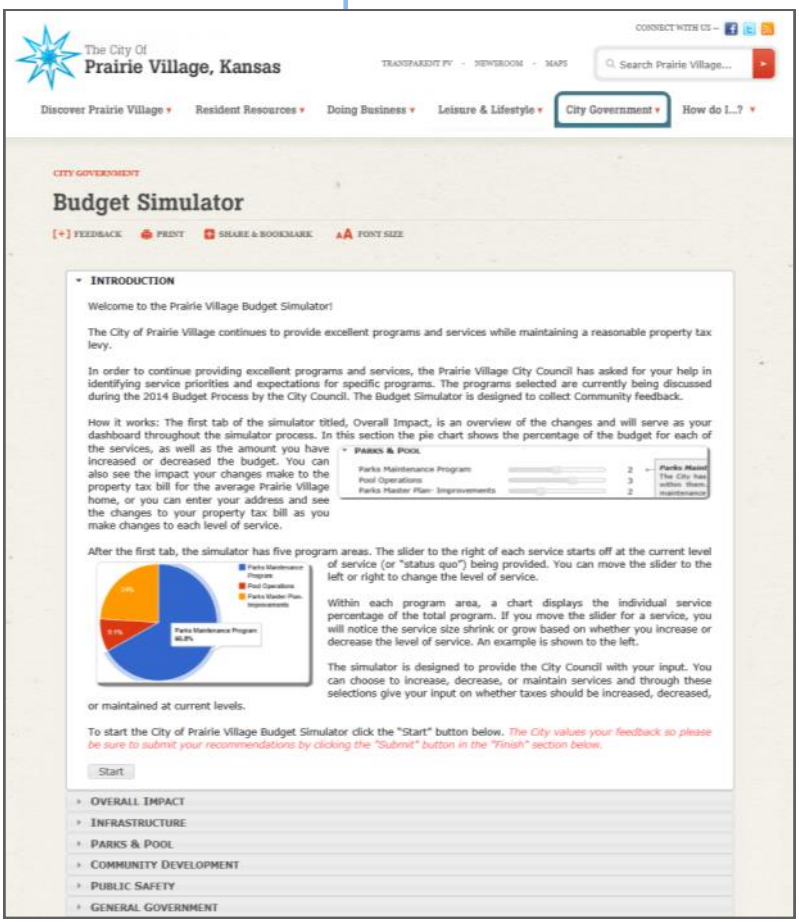
The City of Prairie Village recently came to AIMS for assistance in building a budget simulator for their website as a way to reach more of their residents and get feedback on important budget issues. Johnson County previously had a budget simulator available online for the 2012 budget cycle that the City hoped to emulate. By using the existing application to collect data at the city level, AIMS was able to quickly and efficiently get a new survey site completed for Prairie Village in a very short amount of time using internal resources.

Every year the city faces issues, and ultimately decisions have to be made regarding the budget for the upcoming year. The Budget Simulator for Prairie Village allows citizens to choose the level of service they desire for each service area listed. The service areas are divided into five program areas: Infrastructure, General Government, Public Safety, Community Development and Parks & Pool. The Budget Simulator is not a comprehensive overview of the entire budget, but rather focuses on significant, individual budget items.

The Budget Simulator allows citizens to see the impact changes make to the property tax bill for the average Prairie Village home, or they can enter their own address and see the changes to their individual property tax bill as changes are made to each level of service.

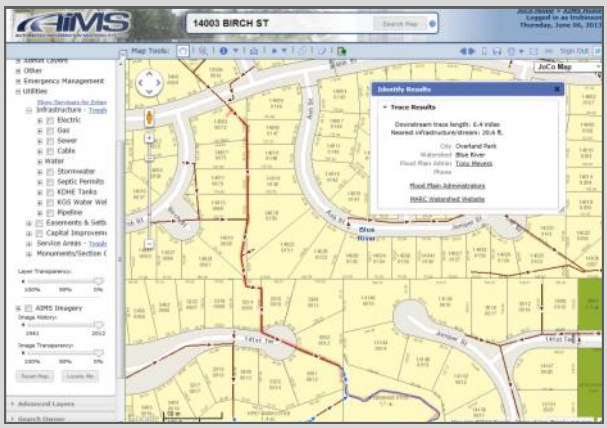
The simulator uses the Google Charts API which enables developers to embed high quality charts into their web applications. The charts can be generated dynamically or interactively and use client or server-side data sources. The ability to use diverse data sources, the ease with which the charts are implemented and the extensive gallery of options coupled with being freely available, all add to the appeal of using the Google Chart API at the local government level.

While the city wasn't able to take full advantage of the simulator for the 2014 budget cycle, they plan to use it again during the 2015 budgeting process and hope citizens will take advantage of the opportunity to express their opinions. The budget simulator can be found on the city's website at: http://pvkansas.com/index.aspx?page=553.



Getting citizen input on important issues is helpful for those making decisions about upcoming municipal budgets. The City of Prairie Village recently released a budget simulator to get more feedback from their residents and will use it for the 2015 budget cycle.

Johnson County Stormwater Network Put to Great Use Rescuing Lost Dog



During a recent heavy rainfall, a manhole cover was washed off a manhole in the yard of an Overland Park family. Their beloved dog, Buddy, went out into the yard and never returned. When the owners sought out the dog, they noticed the misplaced manhole cover and realized the dog must have slipped into the storm drain and gotten washed away with the flooding rainwaters. The owner contacted Johnson County Public Works and was directed to the recently released Stormwater Network Trace tool in the Johnson County Online Mapping System. This tool allowed the owner to follow the network from the manhole in their yard through the system, checking each manhole for their lost dog. After several hours, good news was received and Buddy was found alive and rescued!

News coverage of this story can be seen here: http://www.kshb.com/dpp/lifestyle/pets/buddy-the-lab-rescued-from-manhole-in-overland-park.

AIMS Communication through Social Media

Want to know the latest news about AIMS products and services? Follow us on Twitter or subscribe to our RSS feed to get the most recent news and information regarding changes to Online Mapping, new data and services, and upcoming training classes or events. Simply click the RSS or Twitter icon in the bottom left of our homepage. A link to AIMS' YouTube page has also been added, which provides step-by-step instructions for a variety of tasks within our various applications.

Twitter: @AIMSMapper

YouTube Channel: http://www.youtube.com/AIMSMapper

Recent Awards and Recognition

Johnson County strives to provide its citizens with outstanding services and to be on the leading edge of technology and innovation in delivering those services. The county was recently recognized for outstanding achievement and received two significant awards.

Public Technology Institute (PTI) 2012/2013 Technology Solutions Award

Johnson County was recently awarded a PTI Technology Solutions Award for the myResource Connection (myRC) application that was created by the Human Services Coalition and the AIMS department. The Technology Solutions Awards recognize city and county governments that can demonstrate how they have applied technology to improve the delivery of services to constituents, reduce costs or generate new revenues.

Esri Special Achievement in GIS (SAG) Award

AIMS has also recently been awarded a SAG award from Esri for 2013. These awards recognize organizations who embrace geographic technologies and use GIS to improve the GIS community. The recipients of these awards are submitted by Esri staff and personally selected by Jack Dangermond, founder of Esri. These awards are presented at the annual Esri User Conference in San Diego.

Creating a Tree Canopy Dataset for Johnson County

The Johnson County Public Works department recently made some changes to their yard waste collection program. The department was looking for a more accurate way to identify the property owners in the northeast sections of the county with older residential properties that were likely to have larger trees and be most impacted by changes to the collection program. As part of this project, Public Works sought out the assistance of AIMS in creating a more comprehensive and accurate tree canopy dataset for Johnson County.

How the Data was Created:

The data was created by AIMS staff using the most recent LiDAR data, along with a combination of tools from various software programs (i.e. ArcMAP and FME). This process allowed for the creation of a much more refined dataset that actually resembles what a real tree canopy should look like. This new dataset replaces the original vegetation dataset that was captured in 1998.

Cost Efficiency of In-house Creation:

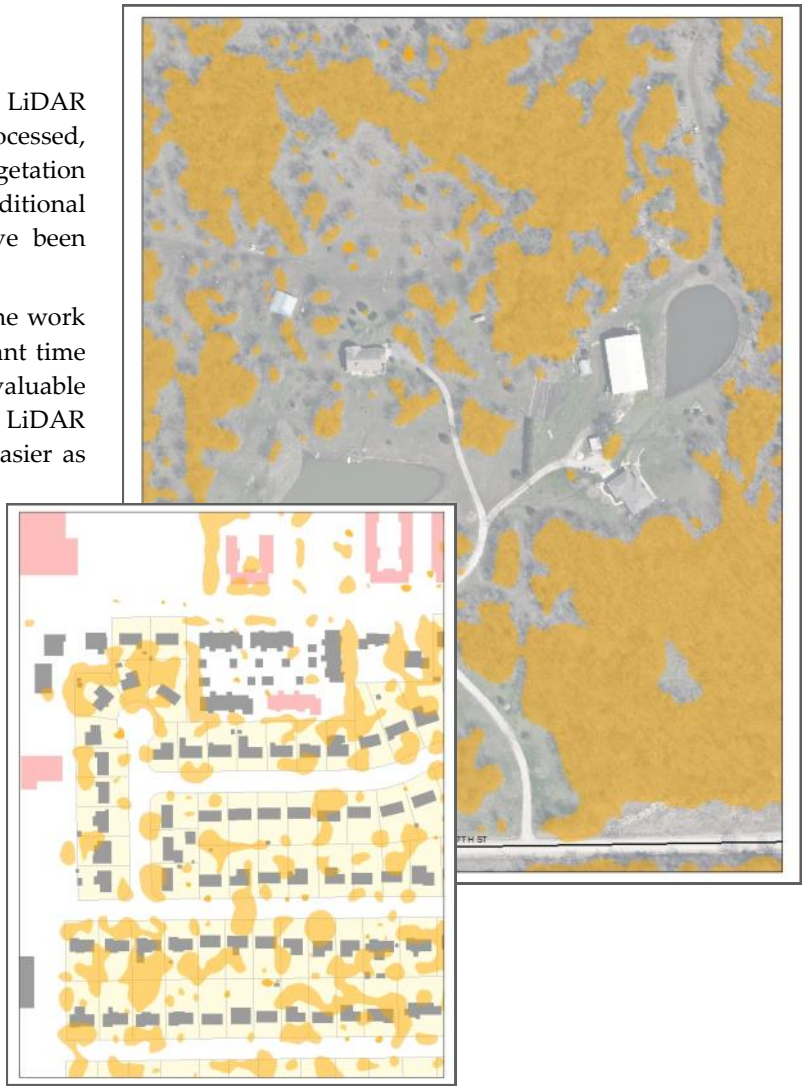
When Johnson County originally acquired the 2011 LiDAR data, it was broken down into five classifications: processed, bare-earth, noise, water, and ignored ground. No vegetation classes were obtained and the cost to acquire this additional classification for a project of this sort would have been costly.

By using the process noted above and completing the work in-house, Johnson County was able to save significant time and money in the creation of a much needed and valuable dataset. The additional tools employed, along with LiDAR data made the process of clean up and QC much easier as well. That meant that not only was a much more accurate and comprehensive dataset obtained, but the total amount of time and money invested was significantly less than initially anticipated. The final dataset created includes nearly 650,000 features and covers nearly 83.5 square miles.

Another Imminent Use of the Dataset:

Along with Public Works use of the data, Johnson County Wastewater (JCW) is currently working on a project to assess all of their large sewer pipes. Using GIS data and information from their asset management software they are fine tuning their Business Risk Exposure (BRE) model by scoring each of their pipes in order to more accurately determine those at highest risk of failure. One additional step of this project requires the determination of root intrusion that could pose a risk to their infrastructure. AIMS will be assisting JCW by using their existing pipe data along with the new tree canopy data to determine areas where tree roots could impact the overall score of each pipe.

The data has recently been published and is available for viewing on the Johnson County Online Mapping application .



AIMS has recently completed and published a newly updated dataset depicting tree canopy for all of Johnson County. Using the most recent LiDAR data available for the county, the data represents a much more comprehensive and refined dataset.

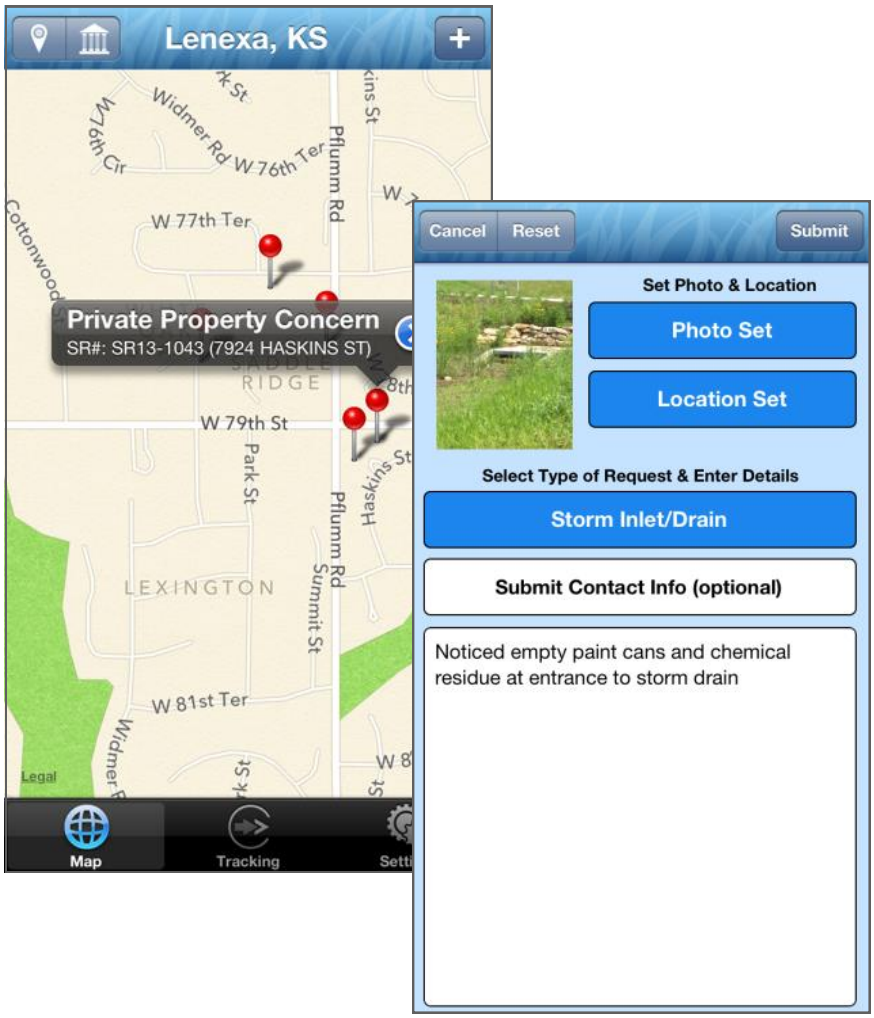
Citizen Interaction Goes Mobile at the City of Lenexa

The City of Lenexa has taken the concept of interacting with residents to a new level. The city's Enterprise Systems & Technology Department introduced the "Lenexa 311" app last fall. The app allows residents to report everything from damaged road signs to pot-holes, improper signal timing and codes requests—all on a mobile platform.

Developed by internal Lenexa staff, the application allows service requests from citizens to be directly transferred into an internal database. This enables citizens to view the status of their request in real time as it is being worked on by city staff.. Along with reporting and tracking their own requests, residents can also view and track requests submitted by others. This enables citizens to determine if the city is already aware of a particular issue.

While residents can still call the city or use the Lenexa website at www.lenexa.com to report a problem, the app makes that process easier and more efficient. Residents can take a photo of the problem, set their location and include details about the problem. Once they have chosen a request type and pressed the "submit" button, the correct staff at Lenexa is notified.

The application has been available through the Apple iTunes App Store since last fall and was just recently made available on the Google Play Store for Android users.



Citizens of Lenexa can now easily report issues directly to the city, and track the progress of those issues, using the newly released Lenexa 311 application. The application is available online and has apps built for both Apple and Android mobile devices.

AIMS Coordinators Group

The AIMS Coordinator's Group is open to anyone interested in the applied uses of GIS within Johnson County. Group meetings are the 2nd Thursday of the month. Meetings are held from 9:00 a.m. to 11:00 a.m. For more information please go to:

http://aims.jocogov.org/OtherResources/Coordinator.aspx

Upcoming Meeting Locations:

08/08/13—AIMS (Admin Building)

09/12/13—AIMS (Admin Building)

10/10/13—TBA

Need More Information?

If you would like more information about any of the topics included in this issue, please contact AIMS at (913)715-1600 or mapper@jocogov.org.

Contact AIMS through the
Mapper of the Day at:
Phone: 913-715-1600
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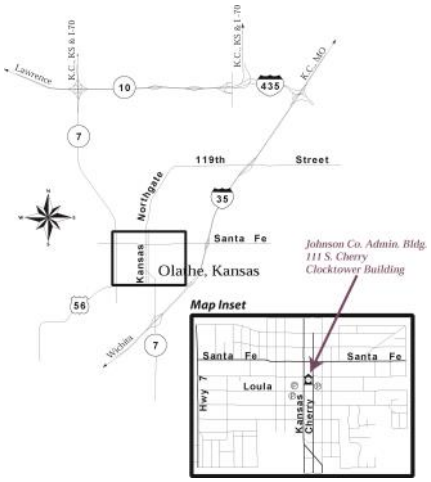

Your geographic data and service provider for Johnson County, Kansas

AIMS (Automated Information Mapping System) is a highly integrated support service within Johnson County, Kansas. AIMS provides GIS services, including spatial data development, map production, and enterprise-level application development, to both public agencies and private businesses.

A GIS is a computerized system for managing and analyzing large amounts of data that is both related to a geographical location and tied to a database. Nearly 90% of all requests that governments receive have a spatial component—such as an address, street or x,y coordinate—making the services AIMS provides vital to Johnson County departments and businesses.

AIMS staff is devoted to advancing the use of GIS in the daily operations of both public agencies and private businesses. To accomplish this mission, AIMS applies sound GIS principles with quality spatial data and effective distribution technologies to put AIMS services at the disposal of our customers.

Your geographic data and service provider for Johnson County Kansas

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