

Johnson County Goes Mobile with Maps and Data

The use of mobile devices has exploded in recent years and the demand for applications and websites that are easily accessed from these devices has seen a dramatic increase. Those doing business, living in, or simply traveling to Johnson County now have a mobile-friendly option when accessing property information in the county.

A website for Location Maps and Information that is optimized for viewing on mobile and handheld devices has recently been released. The site can be viewed by accessing the "Location Maps & Info" widget in the upper right of the County's homepage at <http://www.jocogov.org> using a mobile device (e.g. iPad, iPhone, Android phone, etc.) or by going directly to the website at <http://ims.jocogov.org/locationservices> using a mobile device.

The page is better designed to display on smaller handheld devices, optimized to load

faster, and takes advantage of the ability to geolocate using the GPS built into the device and wireless locating services. This makes finding specific property information about a users precise location possible on the fly, without needing an exact address.

This additional support adds to the functionality of the existing 'Location Maps and Information' site built for traditional web browsers that receives thousands of hits weekly. This site offers a one-stop location for over 60 pieces of property specific information. Users have access to property ownership information, links to land records, utility providers, elected officials, schools, interactive maps, and property photos. Both the traditional website and the mobile-friendly site can be searched using an address, parcel ID, Kansas Uniform Pin Number (KUPN) or owner name.

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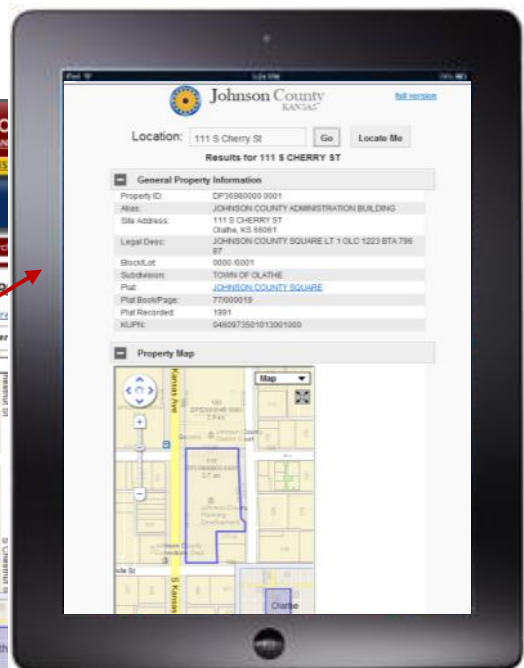
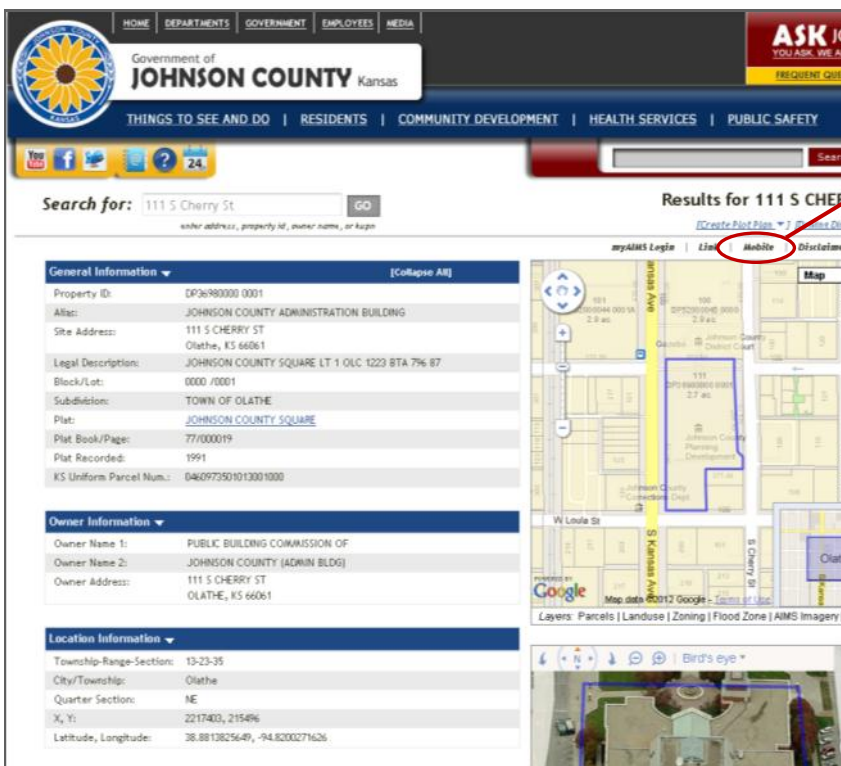
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Location Maps and Information, now available as a mobile-friendly webpage, offers detailed property information, interactive maps, property photos and more. The webpage can be accessed directly at <http://ims.jocogov.org/locationservices>.

CURRENT PROJECTS

Population Modeling

An accurate estimate of current residential population in a given area (e.g., a subdivision, a city, a certain radius around an intersection) is crucial information for private businesses locating retail outlets, local governments situating fire and ambulance stations, and emergency preparedness staff planning an evacuation. Projecting future population can be even more valuable than reporting current population.

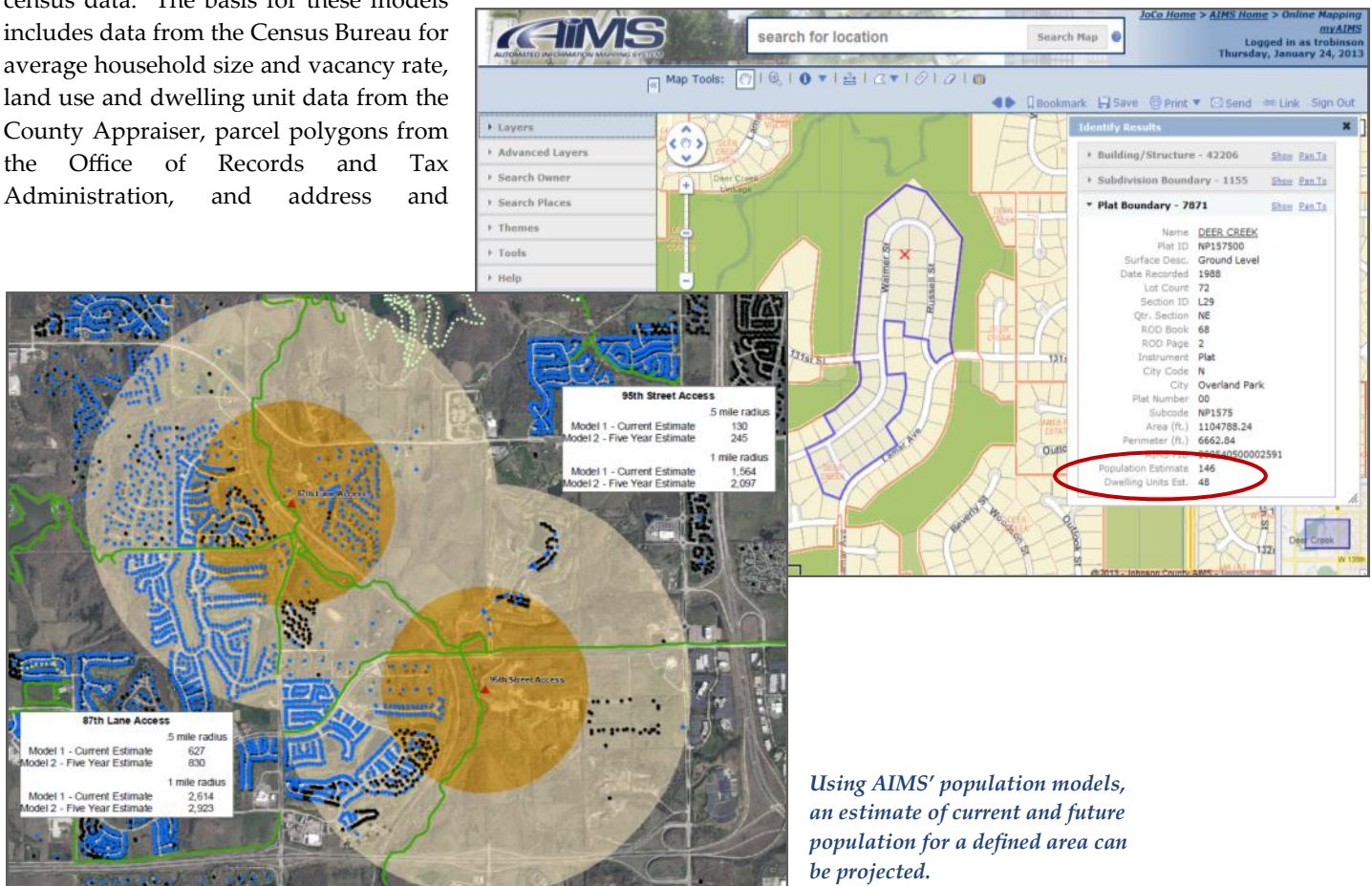
The U.S. Census Bureau can be a tremendous resource for current estimates and future projections, but their estimates are limited to standard, Census Bureau geographical areas (e.g., blocks, block groups, zip codes, cities) and their future projections are limited to state and regional forecasts. For those looking to estimate population for non-standard geographical areas (e.g., an area within a 10 minute drive of a store or an area affected by storm damage) these estimates and projections are of minimal use.

To enable estimating/projecting population for more granular, non-standard geographical areas, AIMS has four distinct, point-based, "population models". These models have recently been reengineered to take advantage of 2010 census data. The basis for these models includes data from the Census Bureau for average household size and vacancy rate, land use and dwelling unit data from the County Appraiser, parcel polygons from the Office of Records and Tax Administration, and address and

building data from municipalities in Johnson County.

Each model contains distinct logic and properties that make it better suited to specific types of estimation/projection. Model One is based on residential parcel polygons, each attributed with the number of dwelling units on the parcel and provides a guarded, but very reliable, estimate of current population. The logic in Model Two is based on individual address points and is best used for determining a 3-5 year population projection. If the user already has a base estimate for a particular area, Model Three simply adds residential building permit data to arrive at a current estimate of growth since the last census count. Finally, Model Four provides an estimate of Johnson County population that would be seen if the county were fully developed and populated.

These models will be reviewed on a regular basis and adjusted, as needed, for accuracy. AIMS has recently implemented population information into the Online Mapping application, allowing users to get estimates of population for specific features (e.g. plats, subdivisions) and user defined areas.



Using AIMS' population models, an estimate of current and future population for a defined area can be projected.

Countywide Stormwater Network and Trace Functionality

The Stormwater Management Council (SMAC) recently funded the collection of a countywide stormwater network. In collaboration with the County's Stormwater department and the municipalities of Johnson County, AIMS worked to collect and join the necessary data and completed the network last year. The completed dataset combines both stormwater infrastructure and natural features (e.g. streams, lakes, watersheds) into a single system.

Tracking Water Through the Network

An additional component of this project was the creation of an internet-based application that would allow users to examine the entire system, from one jurisdiction to another, and across watershed boundaries. This functionality has recently been integrated into the Online Mapping Application and is available for public consumption. Users can select either an up or downstream trace to track the flow of water through the system. An upstream trace will follow the flow through the network from your

selected location against the current, back towards the source while a downstream trace will follow the current from your location with the flow of water until it exits the network. Upon completion of a trace, the system will provide the user with information regarding the nearest infrastructure, the name of the watershed and the total trace length from the point selected on the map.

Benefits of the System

Having the countywide network and the trace functionality provides a valuable resource. The tools can be used to identify potential areas of contamination that might be impacted following a hazardous spill using the downstream trace. They can also help identify the source of a potential problem or obstruction by using the upstream trace to track the water back to it's original source.

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.

Mar. 20, 2013: 8:30am - 10:30am

May 8, 2013: 1:30pm - 3:30pm

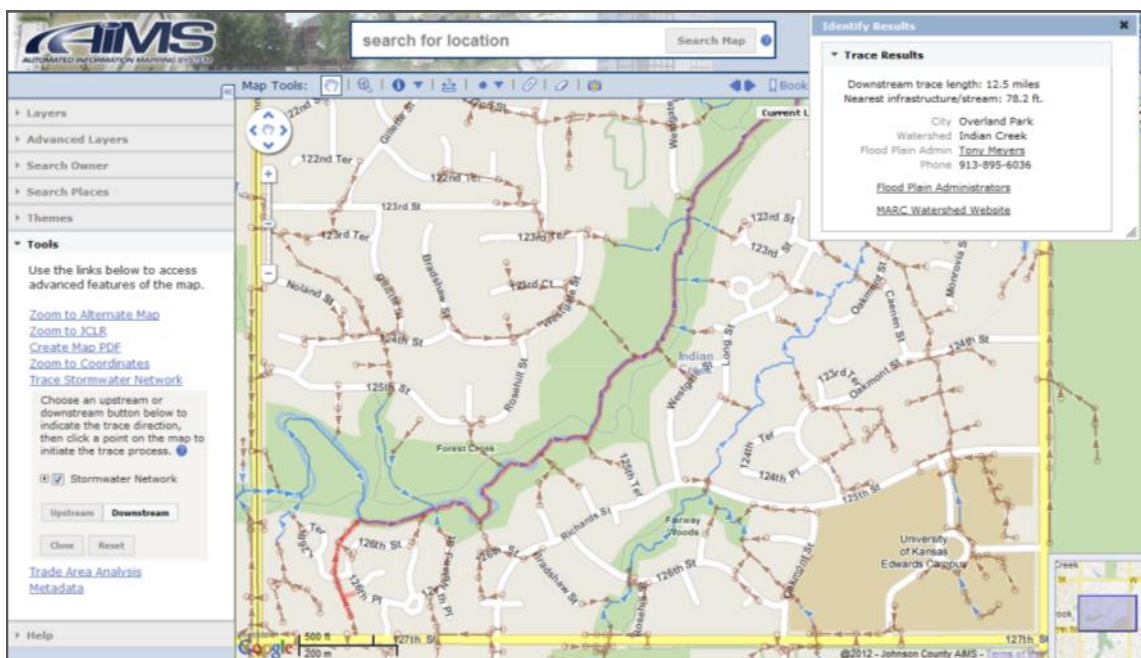
myAIMS 101: Introducing the myAIMS Web Applications.

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.

Apr. 17, 2013: 1:30 - 3:30am

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

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



The Online Mapping application offers a view of the countywide stormwater network, including both natural features and stormwater infrastructure. The trace tool allows users to trace through the network from a selected point.

... Analyzing Usage of Johnson County Library

"The maps that AIMS staff produce have become a key piece of JCL's ongoing efforts to maintain a knowledge base that facilitates data-driven decision making and evaluation."

*Robert Barr,
Project Manager,
Common Book of Knowledge,
Johnson County Library*

The Johnson County Library (JCL) has 12 neighborhood branches and one Central Resource Library to serve the County's population of over 550,000 residents. With over 1 million items in their collection and nearly 6.5 million check outs in 2011, it is necessary for the library to effectively track what items are being checked out and from what branches to ensure that demand for certain items is being met at all area libraries. Having worked with AIMS in the past for analysis and maps, the library again turned to GIS for this type of analysis.

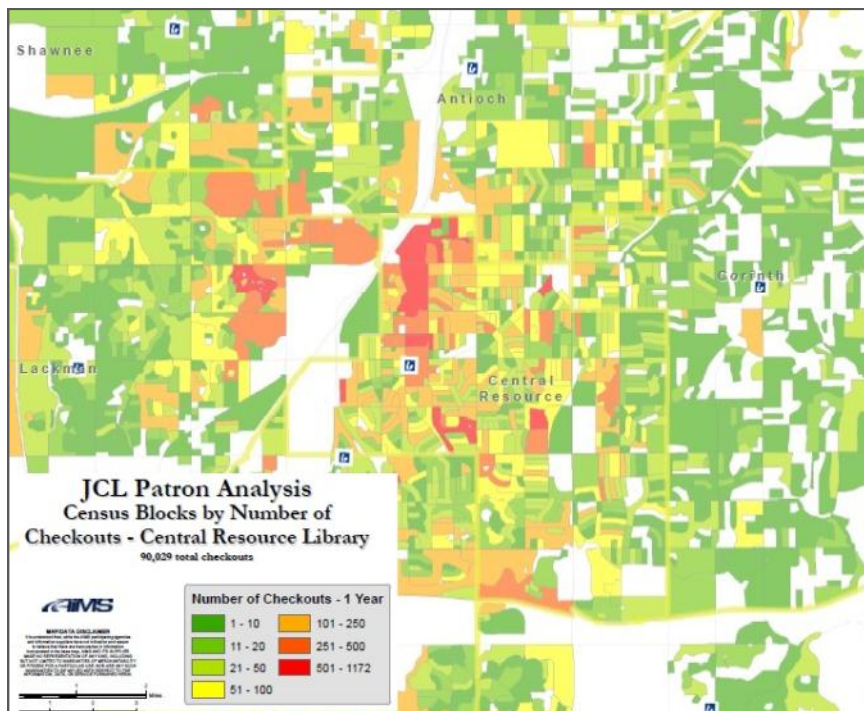
Analyzing Library Usage

The library wants to evaluate not only what branch items are being checked out but also the movement of those items through the library system. This serves two purposes. First, it helps to ensure that they are able to supply the right items in the correct areas of high demand. Second, this analysis gives the library a visual representation of what census blocks actually have the most library usage and which branch those patrons are primarily using. In addition to analyzing check out data, JCL is using GIS to evaluate the amount of traffic being realized on the more than 400 computers at each branch.

Using GIS Analysis to Enhance Decision Making

According to Robert Barr with the Central Resource Library, "JCL has been excited to learn of the opportunities for geographic information evaluation that the Johnson County AIMS staff provides. Utilizing JCL's user database, AIMS staff were able to produce nearly two dozen information rich maps that have allowed JCL staff and board members to visualize service trends, demographics, and make more informed and accurate decisions about future service needs. The maps that AIMS staff produce have become a key piece of JCL's ongoing efforts to maintain a knowledge base that facilitates data-driven decision making and evaluation."




Moving forward, JCL intends to provide data to AIMS monthly and plans to perform regular analysis on this data.

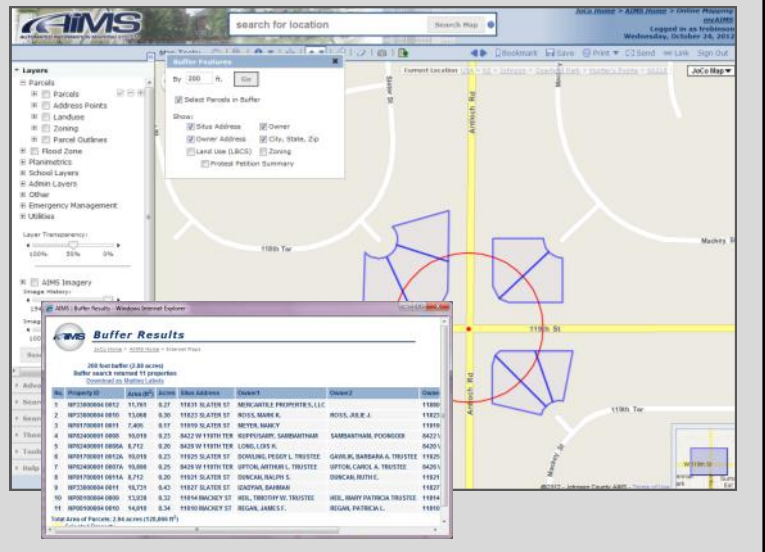


GIS analysis and maps provide a unique perspective to evaluate usage and demand of the public library system in Johnson County.

Tips and Tricks for Using AIMS Online Mapping!

Using the Buffer Tool

1. Identify on a parcel or multiple parcels using the identify tool () or draw a point, line or polygon on the map using the draw tool ().
2. Select the Buffer Tool (), enter the desired buffer distance and attributes to have returned (myAIMS users, who are logged in, will have the option to download additional attributes including ownership, situs address, land use and zoning).
3. Click the “Go” button and the buffer will be drawn on the map, including the affected parcels. A separate window will display the list of affected parcels, including any attributes selected in the previous step.



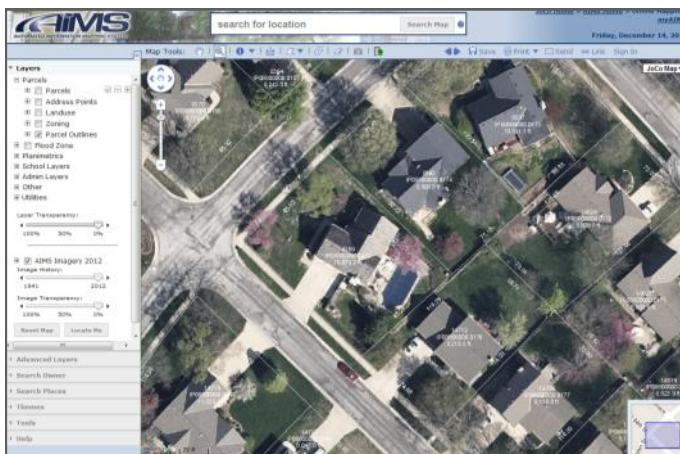
Viewing Aerials and Property Lines

It can be helpful to see how property lines correspond to aerial imagery. Viewing the latest imagery with corresponding property lines can be achieved with just a few clicks of the mouse.

1. After zooming into the desired area, select the check box to turn on AIMS Imagery and select the desired year (2012 is the default).
2. If you have Parcels selected from the layers, uncheck this box and select the “Parcel Outlines” layer.

You should now see white property lines with dimensions and property id overlaid on the imagery of your choice.

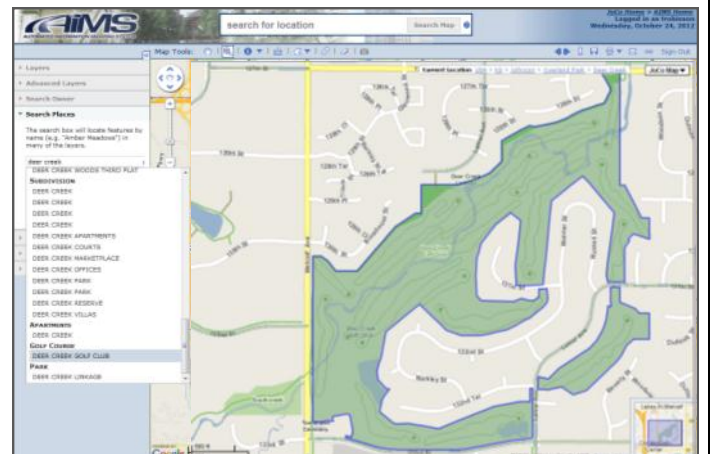
It is important to note that not all property lines will match up perfectly with the aerial imagery for a number of reasons and should not be used for legal disputes or considered a legal determination of property ownership.



Search Places Tool

The Search Places tool can help users quickly locate a specific feature, whether it's a subdivision, golf course, plat or other major feature, by name, in just a few simple steps.

1. Using the Search Places Tab along the left-hand side of the application, begin typing the name of the desired feature.
2. The type-ahead feature will begin to provide a list of potential matches once 2 characters are entered into the search box.
3. Scroll through the list, categorized by feature type (e.g. plat, subdivision, street, etc.), and select your desired feature.
4. The map will zoom to, and highlight, the feature selected.



FEATURED DATASETS

Traffic Counts for Johnson County

Knowing how many cars pass through an intersection during a certain time period is information that many entities track. AIMS has combined information from KDOT, Johnson County Public Works and various municipalities within Johnson County to develop a countywide representation of traffic flow.

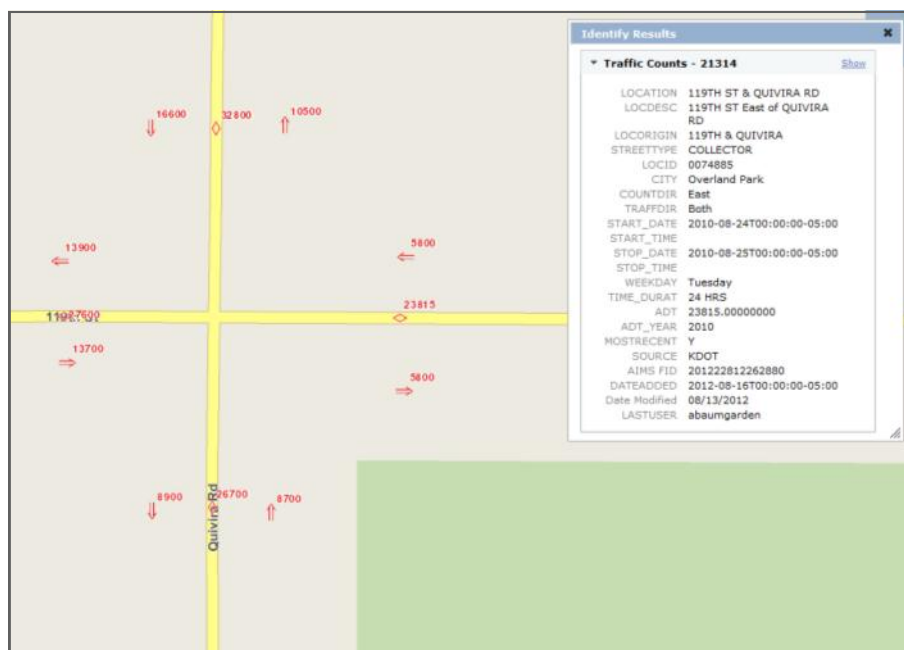
Information in an ADT (Average Daily Traffic) database includes what intersection the data is being collected for, the amount of traffic flowing through the intersection from a given start and stop time or date, and in which direction the traffic count is being collected.

ADT values are used by engineers and public works departments to evaluate trends in traffic flow, congestion, accident rates, and to plan the design of new roads. Traffic counts are also valuable to developers for site selection analysis and commercial development. Because the ADT counts are taken over a period of time, it is possible to show how traffic has changed over time in a particular area. While the database contains multiple years of data for some points, only the most recent year is displayed in the Online Mapping application.

In 2012, approximately 3,000 new records were added to the dataset from KDOT

which include the years of 2007 through 2012. Most of this data covered updates along interstates and areas where data for on and off ramps was limited. Additional updates from multiple cities, for various years, were also completed in 2012. The total database now contains over 24,000 records, some dating back as far as 1989.

Traffic count data, useful in the evaluation of congestion and future road planning, can be found in the Online Mapping application. The data presented provides the count, the provider of the data and the date (or dates) it was collected.



Additional Free Data Available Online



Making data accessible is a key component of any GIS. AIMS has recently made several new datasets freely available to the public. The AIMS Free Data page has always offered some basic datasets including the county boundary, sections and quarter sections, flood data from FEMA, water and fire districts, major roads and some recreational data. Newly added datasets include monuments and section corners, utility service areas, school attendance boundaries and various service areas (e.g., cemeteries, post offices, fire stations, etc.).

This data is available for download from the AIMS website in various geospatial formats including shapefile, DWG, and KMZ files and as themed file geodatabases. Also added, an ArcGIS Server Service containing the free datasets, can be accessed from <http://aims.jocogov.org/AIMSData/aimsonline.aspx>. Access to these various formats allows users to consume AIMS' data within a host of software programs or within their own GIS system.

FUTURE PLANS

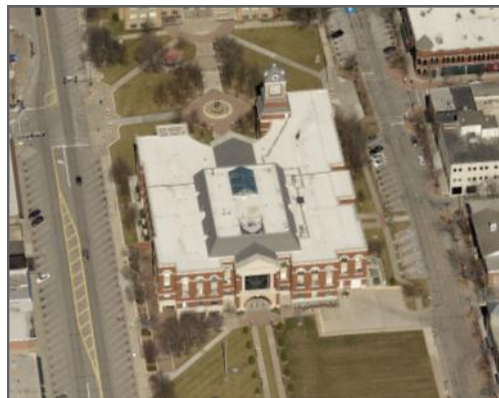
Ortho and Oblique Imagery Acquired in 2012



Orthophotography in color at 6" resolution

Johnson County also collected new oblique imagery in 2012. Flown in February and March of this year, these images are taken at approximately a 45° angle from the north, south, east, and west directions, allowing visibility of structure on all four sides. These photos are particularly beneficial for appraisal personnel doing property evaluations. Emergency responders and law enforcement officials also make use of oblique photography for situation assessment and preplanning purposes. The oblique imagery is available in Johnson County Online Mapping at <http://pol.jocogov.org/efs/php>.

Johnson County is committed to providing current imagery for a wide range of uses within the county. Orthophotography is typically captured every two years. As in previous years, Johnson County cooperated with the Mid-America Regional Council (MARC) and other metro communities to acquire this imagery. The imagery was flown in late February and was released through online mapping applications in October.



Oblique Imagery from a north facing view

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:

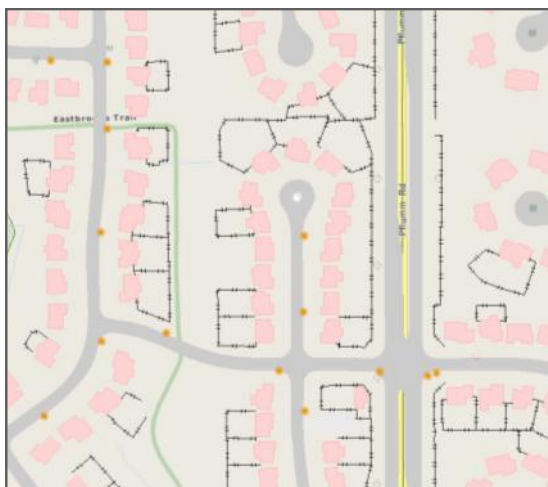
<http://aims.jocogov.org/OtherResources/Coordinator.aspx>

Upcoming Meeting Locations:

02/14/13—AIMS (Admin Building)
03/14/13—AIMS (Admin Building)
04/11/13— 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.



Planimetric Updates Underway

With the recent release of 2012 orthophotography, AIMS will once again be updating various planimetric datasets. A comprehensive update of building footprints, edge of pavement, and water features will be completed. Clean up of minor features (e.g., vegetation points, fences) that have been removed due to new construction will also be done. It is anticipated that this update will be complete in February 2013.

Planimetric data has many uses. Edge of pavement, for example, is used to calculate impervious surface area that contributes to excess stormwater runoff. Cities often use this information to apply special stormwater assessments to properties.

Contact AIMS through the
Mapper of the Day at:
Phone: 913-715-1600
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Email: mapper@jocogov.org

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like to view this newsletter in a digital format.



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.



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Your geographic data
and service provider for
Johnson County Kansas

