The IMO team consists of a group of people with a very specialized skillset. Each team member brings forth a different specialty. This allows us to address a wide variety of issues that a typical IT department would otherwise rely on outside vendors to assist with. We are able to lean on one another, learn from one another and work together in order to find the solution to complex problems, while keeping day-to-day operations running smoothly.

Note: A video is available on dekalbcounty.org in the "Annual Reports" section in which our IMO team members discuss their individual skill sets and specialties.
IMO’s role is constantly evolving as technology becomes more prevalent, needs of departments change and demand on using in-house resources increases. Below is a general list of IMO’s responsibilities as of 2021.

- Support network infrastructure
- Provide and support County voice network
- Network security
- Backups and storage of data and files
- Work with various County departments and vendors on technology upgrades
- Deploy and implement new software for departments
- Design and maintain custom databases
- Plan, deploy and maintain audio/visual equipment
- Assist departments with audio and video editing and redacting
- Desktop support
- Computer, printer and other technology deployments
- Provide support to neighboring police agencies
- Support squad car technology
- Assist departments with FOIA requests
- Develop and maintain geographic related features and maps
- Produce analytical maps
- Perform data and spatial analysis
- Maintain 911 map layers for use in 911 system
- Create and maintain custom websites
- Provide accurate and timely entry of data into County’s property tax system
- Update digital cadastral base map (boundaries of subdivisions of land, bearing and lengths of areas, description and recording of land information)
- Provide mapping support to communities
Each year, we take a look at the count of tasks IMO has completed, compare those with previous years, and highlight some of the more substantial accomplishments over the year. The counts below include tasks big and small. These items cover a wide variety of skills and expertise, anywhere from something as simple as assisting a user who is having trouble logging in remotely, to the more complex of designing and publishing a software program and wiring and installing the technology needed in police squad cars.

### 5-Year Task Trends

2017 – 2021

![5-Year Task Trends Chart]

### 2021 Task Categories

(Generalized categories for tasks)

- **Infrastructure**
  - 28%

- **Desktop Support**
  - 45%

- **GIS**
  - 18%

- **Databases (Design, Build, & Support) & Special Projects**
  - 3%

- **Websites (Maintenance and Updates)**
  - 3%

- **Phone, Internet, Fax (Support, Migrate, Upgrade, Secure)**
  - 3%
IMO has built 14 websites in-house to deliver various sets of data to County staff and the public. These sites account for a significant amount of the County’s website traffic. On average, these sites account for over **26,700 visits a month**, resulting in **320,766 total visits in 2021**. Some of the more notable websites are: COMPASS (property information), Warrants, Civil Processing, Animal Control, and an interactive map with street imagery. Not included in these counts are the complex mapping sites designed by the GIS team.

**Take a closer look some of the more notable sites...**

**Civil Process**

Civil Process is a website with is available to the public to view civil processing status. The site had **20,051 visits in 2021**.
Warrants

Warrants is a website that was built for the Sheriff’s Office and local police agencies to obtain basic warrant details. The site is for law enforcement use only, therefore restricted. The site had 2,759 visitors in 2021.

Animal Control

Animal Control is a website that is available to county staff, as well as a few local veterinarians. The site does not get a lot of visitors (271 in 2021), however, it is a great example of a way to deliver real-time data to staff that is out in the field and needs quick access to important information.
COMPASS was the most frequently visited webpage on the entire County website in 2021 with 256,871 visits. COMPASS contains details about property ownership, property descriptions, sales, zoning and voting districts. With the exception of some data that is based on the tax cycle, the data is live and updated as soon as a change is made by County staff.
In October, 2021, the County was subject to a ransomware attack. We were alerted to an issue in the middle of the night by the Sheriff’s Office who was experiencing network issues. We deployed a team of staff, as did the Sheriff, and had people onsite almost immediately. The issue was identified as being a ransomware attack, where the perpetrator had locked servers and computers and demanded that we contact them to find out the cost of a ransom for getting access back to equipment. The IMO team knew paying a ransom was not an option and that we had tools and knowledge to be able to recover on our own without engaging with the attacker. After being given the go-ahead by the FBI, we immediately started to restore the County network.

Working through many sleepless nights, we were able to put all network components back in-place. IMO did not utilize any outside assistance in dealing with this matter and was able to recover all functionality. The IMO team had the core of the network up and running within 24 hours. Servers, email, and computers started to come back online in the days and week to follow. The knowledge of our team, planning ahead for such a situation, and the support of all County departments were key to being able to accomplish this.

The resilience of County departments did not go unnoticed. Not all departments programs were affected by the ransomware, but for those that were, in many cases they were able to find ways to still function and address the needs of the public. Some of that involved going back to historical methods before technology was so prevalent, and some of that involved finding new techniques. We would like to offer a special thanks to everyone on their roles in being able to overcome this difficult situation.
MULTI FACTOR AUTHENTICATION

In light of the ransomware attack, IMO implemented a few new security measures. One being Multi Factor Authentication. This means that the users have to undergo a few extra steps when connecting to the County network, but it is essential for the additional security.

NEW REMOTE ACCESS SYSTEM

IMO implemented a new remote access system. This is the system used by employees that gives them the capability to work from a remote location. During implementation, a new policy was also adopted. This required remote users to adhere to additional security requirements on their remote computers, as well as comply with new rules. We have found that many departments have opted to only allow remote access for certain employees due to the risk factor of an employee connecting from an outside environment.

SECURITY CAMERAS

In 2021, IMO installed security cameras to several sites that previously did not have the technology. Those included expansion on parking lot camera systems, monitoring of equipment inside buildings technology rooms, and interior building cameras.
73 COMPUTERS DEPLOYED

In 2021, IMO deployed 73 computers and laptops. Not included in this count are the numerous printers, scanners, cameras, phones, and fax machines that were also deployed.

DATABASE UPGRADES

IMO has developed and deployed over 50 databases. Several of those databases underwent revisions in 2021. By doing this development work in-house, IMO is able to save the County a significant amount of money by not having to purchase vendor’s programs. This also alleviates the need to pay ongoing maintenance and support costs. Some of the more notable databases that are deployed are: State’s Attorney Case Information, Human Resources, Well & Septic, Animal Control Tracking, Restaurants Inspections, and Community Development Permitting.

PAYROLL PROCESS

Several offices moved to an online timekeeping system. In order to get the data from the timekeeping system into the legacy Finance software, some back-end processing needs to take place. IMO handles this task with each payroll. The steps taken are essential as it helps alleviate the need to duplicate data-entry.
**FOIA**

FOIA requests have increased drastically in recent years. IMO is often asked to assist with these requests when they involve searching of email correspondence. These requests can be very time consuming and many times occupy an entire staff member for the duration of the 5-day response period.

**WEBSITE MAINTENANCE**

IMO continued to assist the County’s webmaster with website maintenance and postings, and took over this role in late 2021. This includes software updates and posting of documents to the website for most departments.

**ELECTION**

IMO works closely with the County Clerk on each election. The work involves setting up early voting sites, taking down early voting sites, setting up election day sites, programming changes to the election day phone system, acting as technical support throughout the election cycle, and addressing issues at polling places on election day.

**REDACTIONS**

The amount of requested assistance with redactions increased in 2021, which coincided with the increase in FOIA requests. IMO is often asked to help departments who may not have the technical knowledge to perform redactions. The redactions that IMO assists with involve editing video clips for use in the courtroom, or for FOIA request.

**COURTROOM REMOTE HEARING CAPABILITY**

As a result of the pandemic, the need for remote meetings increased. This was especially the case in the courthouse, where the courtrooms moved to remote and hybrid hearings. IMO setup a system that would allow a judge to perform a hearing with participants not having to be onsite in the courtroom.
IMO is responsible for maintaining the maps in the 911 call center. The map is an essential part of 911 as each call verifies against map data in an effort to link public safety responders to the caller as quickly and efficiently as possible.

The latest technology is also being incorporated into the 911 call centers and will allow for texting and sending of photos and videos. This is referred to as Next Generation 911 (NG9-1-1). Preparation for NG9-1-1 has been a long-term, and very important, project for IMO. With the introduction of NG9-1-1, the map layer becomes even more essential in the process of calling 911.

After undergoing a State analysis of our system, we learned that DeKalb County’s GIS maps were 1 of 12 systems, out of 133 GIS system in the State, that met and exceeded the standards needed for NG9-1-1. The GIS team will continue to maintain this level of accuracy and work closely with neighboring Counties in an effort to assist with public safety efforts throughout the region.
In 2021, the Decennial Census data was released. After this occurs, County Board redistricting is performed. IMO worked with the County Administrator, County Engineer and Community Development Director in order to tackle this task. We provided the 3 parties mentioned with GIS software in order for each person to have the tools available to create a redistricting plan.

The plans were then evaluated according to terms outlined in the County Code, and presented to the County Board to adopt one of the plans. In preparation for redistricting, there is a significant amount of work that needs to be performed in advance. We work with the Census Bureau in the years before the Decennial Census in an effort to have the most accurate data available to perform the Census. Once the Census is completed, we then prepare the data for use in our GIS software.

IMO also worked with the City of Sycamore, as well as the City of Genoa on redistricting of their Wards.
Over the past few years, the GIS team has deployed a new program to help the County and its communities in an effort to encourage economic development. This program allows communities to gather infrastructure information and make it easily accessible and viewable through an online mapping portal. The original intended use of economic development has evolved and communities have continued to expand on their uses as they become more involved in the program and learn of how their neighbors are using the GIS tools that were developed. The GIS team has deployed several applications. A few of the notable ones are: zoning and land use maps, a tool for businesses to select a site that best meets their needs for desired nearby infrastructure and assets, and a tool to collect public works infrastructure locations within communities.
CADASTRAL MAPPING

The County’s Mapper joined the IMO team from the Assessors Office in late 2020. The shift between departments was a logical change because of the close ties between the position and the functions of GIS. The Mapping position is responsible for digitizing the parcels and any accompanying measurements and details, as well as reviewing the land-based portions of legal descriptions, conveying key information from recorded documents, calculating farmland measurements, and inputting details into the the County’s property tax database for use by other offices and the public. In 2021, the Mapper worked on 3,935 conveyance documents (16/day average), which was an increase from 3,042 in 2020 (12/day average). There were also 27 subdivision plats (an increase from 21 in 2020) and 10 annexations/vacations.

TOWNSHIP ASSESSOR & BOARD OF REVIEW MAPPING PROGRAMS

The GIS team released a mapping tool for the Assessors Office and Township Assessors in 2020. With further expansion in 2021. The tool provides easy access to assessment and sales information in an interactive map context. It includes quick access to sales ratio’s, lot sizes and land use. This allows the Assessors and Board of Review to compare similar properties in an effort to more accurately review appeals and assessments.
The Information Management Office’s budget includes expenses for countywide services, including supporting of the countywide network, voice services, and special projects to meet other departments technical needs. Much of the savings are identified as projects arise during the year and other departments request IMO’s assistance.

**COMPUTER REPLACEMENTS**
IMO was able to identify a cost savings for computer purchases for departments that participate in the asset replacement fund’s computer replacement program. By leveraging a large order, alongside past purchase history, we were about to purchase the computers at a significant cost savings over what was already negotiated in the State contract. We also identified replacements that could be held off. The planned expense for computers in FY21 was: $113,545, the actual expenses were $69,555, resulting in a savings of $43,990.

**NETWORK SWITCHES**
IMO identifying alternative network switches to accommodate the network that in-turn lowered the costs due to requiring fewer devices.

**COURTROOM A/V**
IMO deployed video camera and audio equipment in the courthouse to allow for a low-cost, quick solution to use during hearings and trials. This allowed the County to avoid having to hire an outside vendor to outfit the courtrooms for the technical needs when only a simple solution would suffice.

**BACKUP DEVICES**
Eliminating certain backup units for the countywide files by using more efficient, less-costly units.

**BODY CAMERAS**
IMO was able to offset the cost of the Body Camera Project by leaning on internal staff to install equipment to County buildings in order to sync body camera footage to internal servers. We also took on the responsibility of installing docking stations in squad cars. This helped offset the costs from the vendor working on the body camera project.

**SQUADS TECHNOLOGY INSTALLED**
Performing the technical upgrades needed on squad cars internally, rather than relying on an outside vendor. IMO hardwires the printers, installs docks, brackets, power, tablets/pc's, any technical writing needed, and mounts the hardware.
Looking ahead, IMO has many projects in the works. There are many significant upgrades that need to occur to back-end network equipment, as well as many major projects that will be very time-consuming, but essential for seamless operations moving forward.

Upcoming Project Plans

- 102 computers due for replacement
- First full year of assuming webmaster duties
- Audio/Video upgrades in select conference rooms
- Major overhaul to email system
- Major overhaul to phone system
- Upgrade anti-virus software countywide
- Implement more security features
- Continue to transition Mapping functions from Assessor’s Office to IMO
- Upgrade backbone equipment
- Expand on security cameras
- Server upgrades and replacements
- Work with judges to expand on technology in the courtrooms
- Implement new backup software
- Increase backup capacity
- Increase available content on website
- Expand on community mapping program
- GIS field data collection
- Upgrade interactive mapping website tools

Thank you,

Sheila Santos, IMO Director