



## Mapping and Geographic Information

The Office of Mapping and Geographic Information (MAGI) provides centralized Geographic Information System (GIS) services to County departments, the public, and the private sector. A significant portion of the work performed by MAGI staff involves creating, maintaining, managing, and distributing spatial data. MAGI staff also create and maintain maps and develop web applications for use by the Board of Supervisors, County staff, the public, and the private sector, as well as manage the GIS software and infrastructure in collaboration with the Department of Information Technology (DIT) that supports the GIS. GIS's qualitative benefits include improved collaboration, better decision-making, and more efficient business processes. Through the use of GIS, County staff map land development activity; assist with planning studies; map and maintain conservation easements data; maintain street centerline data; map and provide analytical support for county initiatives; assign addresses, street names, and parcel identification numbers (PINs); and perform many other services. GIS data feeds a number of County systems or processes, such as the Land Management Information System (LMIS), Computer-aided Dispatch (CAD), and permits. GIS data will also be a significant component of LandMARC. County staff has access to the Office's web-mapping system, including intranet-mapping tools for the County's building inspectors, assessors, and public safety agencies. MAGI also oversees the Conservation Easement Stewardship Program and operates the County store.

### Mapping and Geographic Information's Programs

#### Public Information

Provides assistance and GIS Information to the public, the private sector, and other County agencies.

#### System Development and Support

Provides the critical administration, services, and application development that support the functions of the GIS and GIS integration with County systems.

#### Development and Analysis

Develops maps and analyzes, maintains, and distributes geospatial data – mappable data layers maintained and uploaded into the GIS or the GeoHub, a central website featuring project-specific interactive map applications, informative dashboards, and topical story maps.

#### Land Records Maintenance

Maintains parcels, addresses, and street information, per the Loudoun County Codified Ordinances, then transfers these and other data to various data systems.

**Mapping and Geographic Information****Budget Analysis****Department Financial and FTE Summary<sup>1</sup>**

	FY 2021 Actual	FY 2022 Actual	FY 2023 Adopted	FY 2024 Proposed	FY 2025 Projected
<b>Expenditures</b>					
Personnel	\$2,869,600	\$2,991,786	\$3,543,098	\$3,607,305	\$3,715,524
Operating and Maintenance	140,376	81,861	208,289	197,406	199,380
<b>Total – Expenditures</b>	<b>\$3,009,976</b>	<b>\$3,073,647</b>	<b>\$3,751,387</b>	<b>\$3,804,711</b>	<b>\$3,914,904</b>
<b>Revenues</b>					
Permits, Fees, and Licenses <sup>2</sup>	\$0	\$0	\$59,766	\$49,682	\$49,682
Use of Money and Property	1,791	2,605	3,400	3,400	3,400
Charges for Services	6,310	4,014	9,000	6,000	6,000
Miscellaneous Revenue	0	0	3,200	0	0
<b>Total – Revenues</b>	<b>\$8,101</b>	<b>\$6,618</b>	<b>\$75,366</b>	<b>\$59,082</b>	<b>\$59,082</b>
<b>Local Tax Funding</b>	<b>\$3,001,875</b>	<b>\$3,067,028</b>	<b>\$3,676,021</b>	<b>\$3,745,629</b>	<b>\$3,855,822</b>
<b>FTE</b>	<b>25.00</b>	<b>25.00</b>	<b>26.00</b>	<b>26.00</b>	<b>26.00</b>

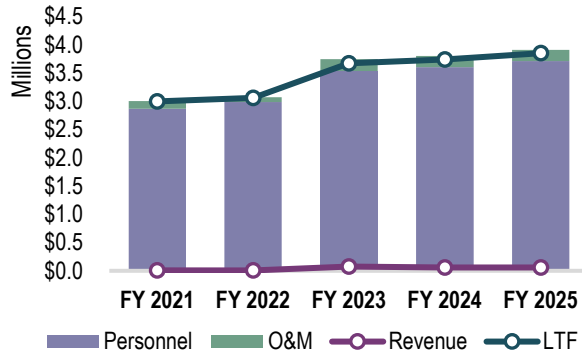
<sup>1</sup> Sums may not equal due to rounding.

<sup>2</sup> In FY 2023, the Office of Mapping and Geographic Information began receiving a percentage of permit revenue based on the type of permit and the hours worked per application. These percentages were updated countywide to realign with the amended land development fee schedule and current work processes, resulting in a percentage of permit revenue received.



## Mapping and Geographic Information

### Revenue and Expenditure History



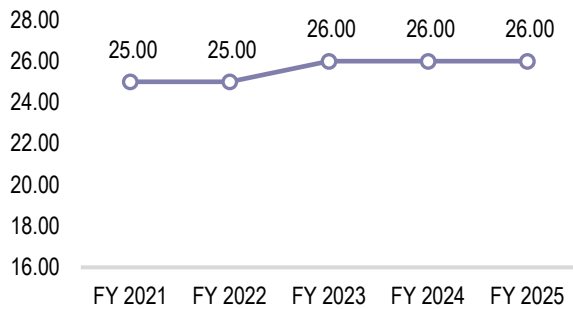
#### Revenue/Local Tax Funding

As shown, MAGI is primarily funded by local tax funding (98 percent). Program-generated revenue consists of permit revenue and charges for service, including requests for maps, data, and the County store.

#### Expenditure

The majority of MAGI’s expenditure budget is dedicated to personnel costs (95 percent). Major drivers of personnel increases are additional staffing as outlined in the Staffing/FTE History section and compensation increases, including merit increases for the general workforce in each fiscal year.

### Staffing/FTE History



FY 2021: 1.00 FTE programmer analyst

FY 2023: 1.00 FTE GIS data analyst

MAGI’s expenditures have increased primarily due to personnel costs. Personnel costs have grown with the merit increases approved each fiscal year and additional positions, as indicated in the Staffing/FTE History graph above.<sup>1</sup> Operating and maintenance costs decreased due to a realignment in the internal services telephone budget.

MAGI’s FY 2024 revenues are forecasted to decrease because permit and fee revenues fluctuate based on projected activity levels and the type of development permits and fees. Estimated revenues were prepared by the Department of Finance and Budget in consultation with staff from Building and Development and Planning and Zoning using regression analysis to forecast revenues based on the historical relationships between revenues and economic data such as employment, home prices, gross county product, forecasted construction levels, inflation, and overall health of the economy. Other minor sources of revenue have decreased over the years as fewer residents purchase maps and data with more data available for free online, though historically, MAGI’s revenues have not been high. The Office manages the County Store, a small source of revenue; much of this revenue is from County staff and internal needs.

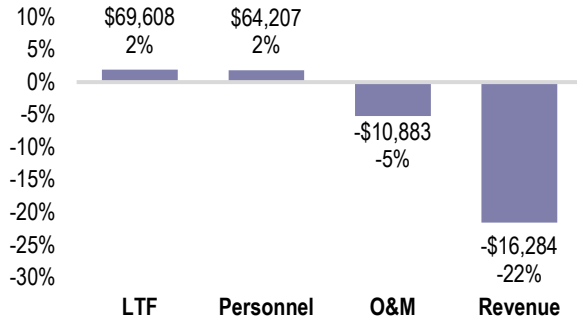
The FY 2023 Adopted Budget added one GIS data analyst (1.00 FTE) to support the work performed by the GIS database administrator, help develop and manage data, assist with implementing software upgrades, troubleshoot problems, perform data quality control, and support metadata development and maintenance.

<sup>1</sup> See summary of merit increases in Non-Departmental Expenditures section 6-2.



## Mapping and Geographic Information

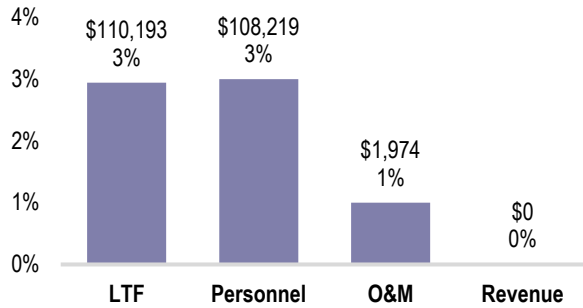
### Percent Change from Adopted FY 2023 to Proposed FY 2024



#### Reasons for Change:

**Personnel:** ↑ general pay changes || **O&M:** ↓ internal services || **Revenue:** ↓ general permit/fee changes

### Percent Change from Proposed FY 2024 to Projected FY 2025



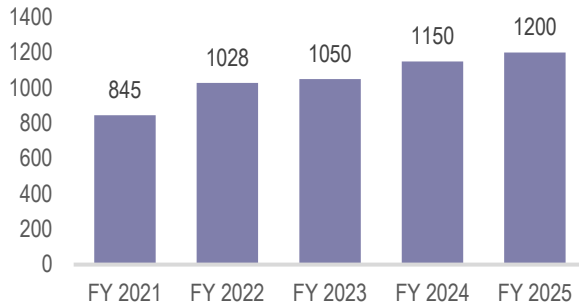
#### Reasons for Change:

**Personnel:** ↑ 3 percent || **O&M:** ↑ 1 percent || **Revenue:** ↔



## Mapping and Geographic Information

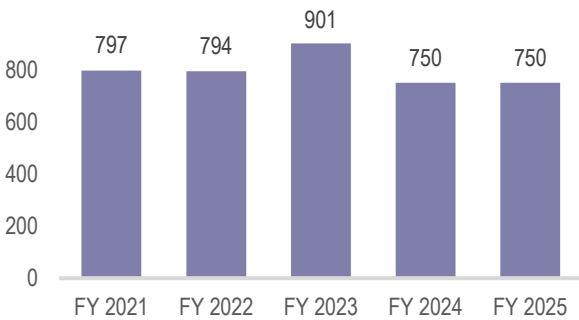
### Key Measures



**Objective:** Maintain GIS functionality to a level that supports all users of the Loudoun County GIS by ensuring the system is current and available 99 percent of the time.

**Measure:** Number of internal GIS user accounts supported.

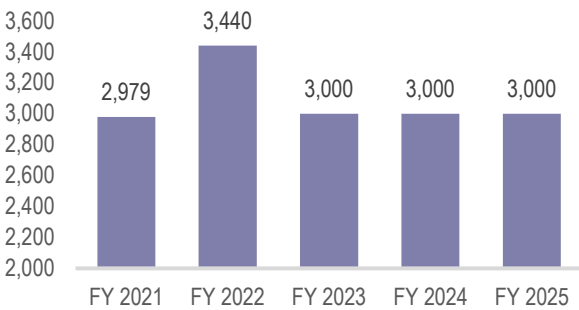
*The GIS data analyst position included in the FY 2023 Adopted Budget provides direct support to the increasing number of GIS user accounts.*



**Objective:** Maintain parcel, address, and street data on an hourly basis to a level that supports E911, LMIS, Computer Aided Mass Appraisal (CAMA) system, and the Automatic Vehicle Location (AVL) system.

**Measure:** Number of street name referrals.

*MAGI assists with the community development referral process with the street name referrals associated with site plans, boundary line adjustments, and more.*



**Objective:** Maintain parcel, address, and street data on an hourly basis to a level that supports E911, the LMIS, iasWorld, and other County information systems.

**Measure:** Number of addresses assigned and transferred to County systems.

*The number of addresses that are assigned and transferred to LMIS has decreased and is projected to remain constant.*



## Mapping and Geographic Information

### Department Programs

#### Department Financial and FTE Summary by Program<sup>1</sup>

	FY 2021 Actual	FY 2022 Actual	FY 2023 Adopted	FY 2024 Proposed	FY 2025 Projected
<b>Expenditures</b>					
Public Information	\$198,579	\$200,273	\$239,764	\$242,231	\$249,099
System Development and Support	1,120,941	1,132,043	1,505,924	1,527,189	1,570,301
Land Records Development and Analysis	608,899	630,267	991,024	1,005,331	1,035,017
Land Records Maintenance	1,081,557	1,111,064	1,014,675	1,029,960	1,060,487
<b>Total – Expenditures</b>	<b>\$3,009,976</b>	<b>\$3,073,647</b>	<b>\$3,751,387</b>	<b>\$3,804,711</b>	<b>\$3,914,904</b>
<b>Revenues</b>					
Public Information	\$8,101	\$6,618	\$15,600	\$9,400	\$9,400
System Development and Support	0	0	0	0	0
Land Records Development and Analysis	0	0	0	0	0
Land Records Maintenance	0	0	59,766	49,682	49,682
<b>Total – Revenues</b>	<b>\$8,101</b>	<b>\$6,618</b>	<b>\$75,366</b>	<b>\$59,082</b>	<b>\$59,082</b>
<b>Local Tax Funding</b>					
Public Information	\$190,478	\$193,654	\$224,164	\$232,831	\$239,699
System Development and Support	1,120,941	1,132,043	1,505,924	1,527,189	1,570,301
Land Records Development and Analysis	608,899	630,267	991,024	1,005,331	1,035,017
Land Records Maintenance	1,081,557	1,111,064	954,909	980,278	1,010,805
<b>Total – Local Tax Funding</b>	<b>\$3,001,875</b>	<b>\$3,067,028</b>	<b>\$3,676,021</b>	<b>\$3,745,629</b>	<b>\$3,855,822</b>
<b>FTE</b>					
Public Information	2.00	2.00	2.00	2.00	2.00
System Development and Support	9.00	9.00	10.00	10.00	10.00
Land Records Development and Analysis	7.00	7.00	7.00	7.00	7.00
Land Records Maintenance	7.00	7.00	7.00	7.00	7.00
<b>Total – FTE</b>	<b>25.00</b>	<b>25.00</b>	<b>26.00</b>	<b>26.00</b>	<b>26.00</b>

<sup>1</sup> Sums may not equal due to rounding.