

**Town of Jupiter
GIS Strategic Plan
2020 Fiscal Year**



Mission Statement

Our focus is to efficiently manage and provide access to geographic information in order to best serve Jupiter’s citizens and utility customers. This Strategic Plan document exists to outline the steps and methods utilized by the GIS Division, within the Information Systems Department, to support and directly impact every facet of the Town’s Vision and Mission:

Vision: Jupiter is a distinctive coastal community committed to preserving its unique character and history and vibrant small town feel.

Mission: We provide exceptional municipal services that add value to residents’ lives and businesses while assuring a long term, sustainable community.

Town of Jupiter Strategic Results:



-  Prepare and manage budget; maintain fiduciary responsibility.
-  Organizational governance; internal support and services.
-  Support local businesses, create a business-friendly environment.
-  Support and enhance open 2-way communication between the Town and its residents and businesses.
-  Improved mobility for all modes of transit.
-  Plan for and manage growth, development and redevelopment to maintain Jupiter’s small town feel and its integrity as a distinctive, vibrant coastal community.
-  Keep citizens and businesses safe.
-  Maintain and enhance our vibrant small town feel by leveraging the unique combination of community, cultural and recreational assets that make Jupiter a special place to live and work.
-  Continue beautification and natural areas; green spaces, parks, beaches and landscaping. Maintain Jupiter as a distinctive coastal community with open and natural environments.

Introduction

The Town of Jupiter GIS Division manages and coordinates GIS within the Town. The Division provides leadership, strategic planning, coordination, and support of GIS technology for all departments and entities within the Town. The GIS Division regularly facilitates data creation, develops new applications, integrates existing applications, and maintains critical data and processes related to geography for the Town.

Our purpose herein is to provide a **GIS Strategic Plan** for the Town of Jupiter. Advances in technology have enabled greater data access, analysis, web and field solutions, inter-operable applications, and less expensive platforms for users. Numerous applications utilizing these tools are now on-line or in development. The continued operations of the GIS Division have a direct, positive impact on all of the Town's **Strategic Results**.

Detailed notations on application support and major data processing procedures are found within the separate **GIS Application Support and Standard Operating Procedures** document.

Overview of Data and Departmental / Division Responsibilities

Palm Beach Countywide GIS, along with participating County departments and other agencies, has implemented the Countywide GIS data model for managing County data, notably property data, road centerlines, addressing, and aerial photography. Within the Town the GIS Division maintains the layers and databases that are required for our enterprise GIS integration, and coordinates with Countywide GIS and other agencies to ensure accurate data and minimize duplication of effort. New data requirements may surface as departments come to realize the need for planning and in-house data development as it pertains to providing services and managing assets. Each Town Department and/or Division is ultimately responsible for the creation, verification, and maintenance costs associated with their data, or any data required specific to their departmental use. The GIS Division will assist and provide direction, including data model setup and sample data creation, geo-referencing existing departmental databases, options for in-house data creation by Town staff, estimate costs for outsourcing, data storage and access options, and may provide other guidance where applicable.

The GIS Strategic Plan section of this document is composed of 5 chapters, or phases. These phases provide a framework to follow, from early planning and application design, to implementation and review. The following **Quick-Look Summary** provides an overview and outline of pertinent fiscal and staffing information derived, in part, from the chapters which follow.



Quick-Look Summary: 2020 Fiscal Year, Oct. 2019 – Sept. 2020

Standard GIS Operations:

Department Strategic Results	Data/Products	Description	GIS Division Time (FY estimates)	Schedule
Town 	Ad Hoc	Ad Hoc / as requested data creation and mapping. These often turn into projects (Census), over allotted time, during a FY.	2 months of GIS Division time.	As requested
Town 	Addressing GIS data work, points, roads	Regular maintenance, coordination with Town departments, Dispatch, and Countywide GIS. Manage addresses in GIS for EnerGov, Lucity, Advanced, OSSSI. Coordinate with County for CAD / OSSSI, Countywide GIS applications. Assist others with updates, verification.	1 month of GIS Manager time. Data entry, verification is a Building Department function, responsibility.	On-going, OSSSI posted quarterly
Town 	Applications, software upgrades / maintenance	Regular upgrades to off-the-shelf GIS software. Continued testing, enhancement, code upgrades to websites, for field, desktop, and other applications.	6 weeks of GIS Division time.	On-going
Town 	GIS Coordination	GIS Strategic Plan, manage implementation of projects, perform continual research, inter-governmental cooperation, budgeting, and other managerial duties.	6 weeks of GIS Manager time.	On-going
Town 	GIS Data Warehouse (GDW)	On-going data work, maintenance, acquisition of new data, metadata review. Build and maintain critical data in SDE geodatabase environment for Lucity, Advanced, EnerGov, replicated with other databases and shapefiles.	2 months of GIS Manager time.	On-going
Town 	ICS related data, maps, modeling	Acquire / compile latest data, perform modeling, create maps, apps, packets. Support for/from County app, Rhodium, Lucity, Collector and web RIA app, integrate with other Town apps.	3 weeks of GIS Division time.	On-going, and posted annually
Town 	Property	Weekly rectification of Appraiser property data tables within Utilities (PBC/MC), enable related databases for EnerGov, Advanced, Lucity, other applications. Database work for confidentiality, selections, add-ins for condos.	6 weeks of GIS Manager time.	Repeated weekly
Utilities 	Regular updates of water, storm water, raw water systems	Digitize new water lines, valves, hydrants, raw water, storm water structures, and pipe. Also loading of updated data, scanned drawings to varied platforms, installations.	6 months GIS Specialist time to digitize, update.	On-going
Utilities 	Utilities Water Atlas	Hardcopy atlases, also posted to iPads w/ Avenza. Maps of water distribution system, as legislatively mandated and as required by staff.	2 weeks of GIS Division time.	Water repeated in even number years.
Utilities 	Utilities Water, Stormwater Field support	On-going configuration, maintenance, and training for field devices, typically tablets. As built copies. GPS collection of assets.	2 months of GIS Division time.	On-going
Planning 	Zoning, Land Use, Boundary, other Planning GIS needs	Perform updates due to zoning, land use map changes, and annexations for Lucity, general mapping. Create base, large format Zoning Map and Future Land Use Map.	2 weeks of GIS Manager time. Other maps are a Planning Department function.	Per amendments

These standard, on-going operations, outlined here without prioritization, are projected to use 90% of the GIS Specialist's time and 80% of the GIS Manager's time this FY.



Quick-Look Summary (continued)

Data / Products Requirements Summary (beyond standard GIS operations):

Department	Information Product(s)	Dataset	Description	Est. Staffing / Fiscal Impact	Status
Town 	ArcGIS Online deployment	Any Town features, events, areas	ArcGIS Online, cloud web maps for internal collaboration, and external promotion / mapping.	2 weeks of GIS Division time.	Initiated
Town 	ArcGIS Pro / ArcGIS Portal software migration. Same vendor, completely new products.	All	Implement / migrate to new desktop/server requirements, software. Create standard products, map services, support etc.	1 month of GIS Division time.	Initiated
Town 	CDS (Community Development), UBS (Utility Billing), EAM (Asset Management) enterprise systems	Most Town layers, and County data	Configure, build databases, map services. Adjust settings where defined, build, maintain evolving integrations with EnerGov, Advanced, and Lucity.	1 month of GIS Division time	Initiated
Town 	GIS layers, Town assets databases	Additional Town assets GIS layers	Develop layers, database items set up; define data entry scenarios, procedures. QA/QC temp staff input.	1 month of GIS Division time.	Initiated
Utilities 	GPS meters, other utility assets, add meters in from viable as built	Water meters, pipe, etc.	Accurately GPS, map from drawings water meters for locates, radio read, also other features for accuracy.	1 month of GIS Division time.	Initiated
Utilities 	Water Plant / Raw Water GIS, files, new ArcGIS extension	GIS piping layers, plant, drawings	Files, folders, evolving layer development for asset management and map interface. GIS/GPS piping, etc.	2 weeks of GIS Division time.	Initiated

Hardware / Software Requirements:

Hardware / Software	Description / Justification	Fiscal Impact	Status
ArcGIS Server / ArcGIS Portal software	Map server software. Map services of currently loaded GIS data for all other uses, applications, enterprise internally, non-EnerGov, non-Lucity. Includes inherent Portal data store for analysis.	Portion of \$50,000 ESRI software ELA / maintenance.	Server and Portal is in production, serves as Pro license, PD and UT evolving environment.
New SQL Server, Upgrade PROD ArcGIS server, and paired SQL Server.	Host new server for SQL Server, per ESRI best practices. Note: CDS/UBS/EAM map/database servers upgrade not GIS funded – enterprise.	\$3,000 budgeted FY 2020	Evolving platform for current and future production applications.
Desktop, Field Software	Town departments use for data maintenance and production. Field for Utilities, Public Works, ICS.	\$50,000 ESRI software ELA / maintenance.	Covers software maintenance and upgrades. In production.
Hardware replacement	Meet minimum requirements, for upgrades, failures.	\$3,600 budgeted.	Replacement GIS field devices, other as needed.

Map Server and Desktop hardware and software support the Town and citizens. ESRI software ELA / maintenance supports the Town and is currently funded through General fund, Utilities and Building Enterprise funds.

Quick-Look Summary (continued)

Status / Fiscal Impact / Staffing Summary FY 2020, and Five Year Projections:

Status:

The ESRI Small Government Enterprise License Agreement (ELA) is funded by a 1/3rd split of the \$50K annual costs by General funding, Utilities Enterprise and Building Enterprise funding, per the agreement. The GIS Division, within Information Systems, endeavors to fund the remainder of GIS specific costs. The GIS Manager and GIS Specialist positions, the GIS Division, manage and distribute virtually all GIS data, and develop and / or support various applications that provide GIS tools to all Town staff and citizens. Within Public Works / Engineering, the GIS/CAD Specialist also produces GIS data / map products; and the Building, Planning, Police, and other Town departments utilize desktop GIS tools for mapping and analysis through support and data managed by the GIS Division.

All Town and Utility staff use GIS-centric applications and databases daily, or are directly and positively impacted by, the GIS Division’s enterprise implementation of GIS technology. Citizens have had direct access to detailed, pertinent geographic information using internet accessible, Town-centric interactive mapping since 2002.

GIS Operating Fiscal Impact FY 2020 (excludes staff positions): \$ 25,625

Projected GIS Operating Fiscal Impact:

<i>Projected Fiscal Impact FY 2021:</i>	27,400
<i>Projected Fiscal Impact FY 2022:</i>	\$28,200
<i>Projected Fiscal Impact FY 2023:</i>	\$35,000**
<i>Projected Fiscal Impact FY 2024:</i>	\$31,600
<i>Projected Fiscal Impact FY 2025:</i>	\$32,400
<i>Planned Additional Requirements:</i>	
<i>**Expected plotter replacement, \$5,000</i>	

Operating Budget Line Items:

<i>00125313-540000 - Travel & Per Diem</i>	
<i>GIS-Local Conferences, User Groups, Seminars</i>	\$ 1,000
<i>00125313-541000 - Communication Services</i>	
<i>GIS - Communications</i>	\$ 900
<i>00125313-546000 - Repairs & Maintenance</i>	
<i>GIS-Maintenance Fees \$50,000 shared 1/3 each by</i>	\$ 16,700
<i>Water 40050033, Building 45040024, General Fund 00125313</i>	
<i>GIS-Plotters clean/align and misc other</i>	\$ 300
<i>00125313-546001 - Vehicle R&M</i>	
<i>GIS-GIS vehicle maintenance.</i>	\$ 125
<i>00125313-552000 - Operating Supplies</i>	
<i>GIS-Supplies, Hardware, PC Software</i>	\$ 6,600

Staffing:

GIS Division staff is performing standard operating procedures, requirements beyond standard operating procedures, and other related work for the Town. Additional data requirements and application needs beyond those planned may be outsourced, or initiated beyond the current FY for implementation. GIS Division staff consists of the GIS Manager and the GIS Specialist within the Information Systems Department.

The GIS Manager’s workload typically involves administrative (coordination, budgeting, strategic and project planning), application development and support (coding and configuring new apps, integrating and maintaining systems, platforms, user training and help requests), data warehousing (posting updates, formatting, RDBMS duties, incorporating new sets), and output (advanced modeling, ad hoc) tasks. Generally speaking, the GIS Manager plans, implements, and maintains the Town’s enterprise GIS using industry standard best practices.

The GIS Specialist’s workload typically involves data updates, asset data maintenance, meeting quality / accuracy requirements, user’s platforms and interfaces support through Help Desk, and ad hoc requests, work orders, and map production requirements tasks. This workload supports, with few exceptions, Utilities department requirements.

Outside of the GIS Division, other agencies such as Palm Beach Countywide GIS provide core data integral to the Town’s enterprise GIS. Within the Town, power users of desktop GIS software in both Police and Planning provide for their department’s intensive modeling and output requirements, in Building the Town addressing data requirements are met, and for Engineering and Public Works their GIS / CADD Specialist meets both CADD design, and enterprise GIS asset datasets editing and maintenance requirements.

Five Year Staffing Projections Summary:

In the short term, continuing extensive, scheduled standard GIS operating procedures, and planned requirements beyond standard operating procedures, typically use all available GIS Division time. As Town departments realize additional data needs the GIS Division will assist within the Data and Departmental Responsibilities guidelines detailed herein.

When new requirements emerge or timelines are found unacceptable the addition of temporary staff, acquired through outreach with local universities and / or outside staffing agencies, may be budgeted by the GIS Division or other departments to further the Town’s enterprise GIS.

Further within the five year staffing window GIS Division time allocation is projected to be:
GIS Manager

30% for administrative duties, furthering coordination, GIS planning and implementation.

30% for application development within the new ArcGIS Pro / ArcGIS Portal, jsapi 4.x environment.

25% for RDBMS tasks related to services editing workflows, data development and maintenance.

15% for ad hoc requests, advanced modeling, user training and support.

GIS Specialist

30% GPS collection and asset horizontal accuracy requirements. Water plant assets for location, meters.

30% data, attribute densification, representation within new model, detail specifications, water plant.

20% on Lucity work orders, related platform (tablets), application and user support.

10% incorporating new as built data for distribution, stormwater, plant. CIP, redevelopment.

10% on GIS technology upgrades and Division systems support, ad hoc output.

Table of Contents

Preceding Pages:

Mission Statement

Introduction

Overview of Data and Departmental / Division Responsibilities

Quick-Look Summary

Following Pages:

GIS Strategic Plan:

Chapter I

Current Projects and Applications

Description / Status

Future Considerations / Change Administration

Chapter II

Requirements Analysis

New Projects

Related Data Requirements Summary

Chapter III

Planned Information Product Descriptions / Projects Review

Chapter IV

Platforms

Systems Determinations

Application Design

Chapter V

Implementation

Review and Recommendations

Appendices:

GIS Data Warehouse / GDW Outline

Sample GIS Layer metadata file, Address Points, w/ Data Flow Diagram

REST Services