Building a Stronger GIS Through Interdepartmental Cooperation
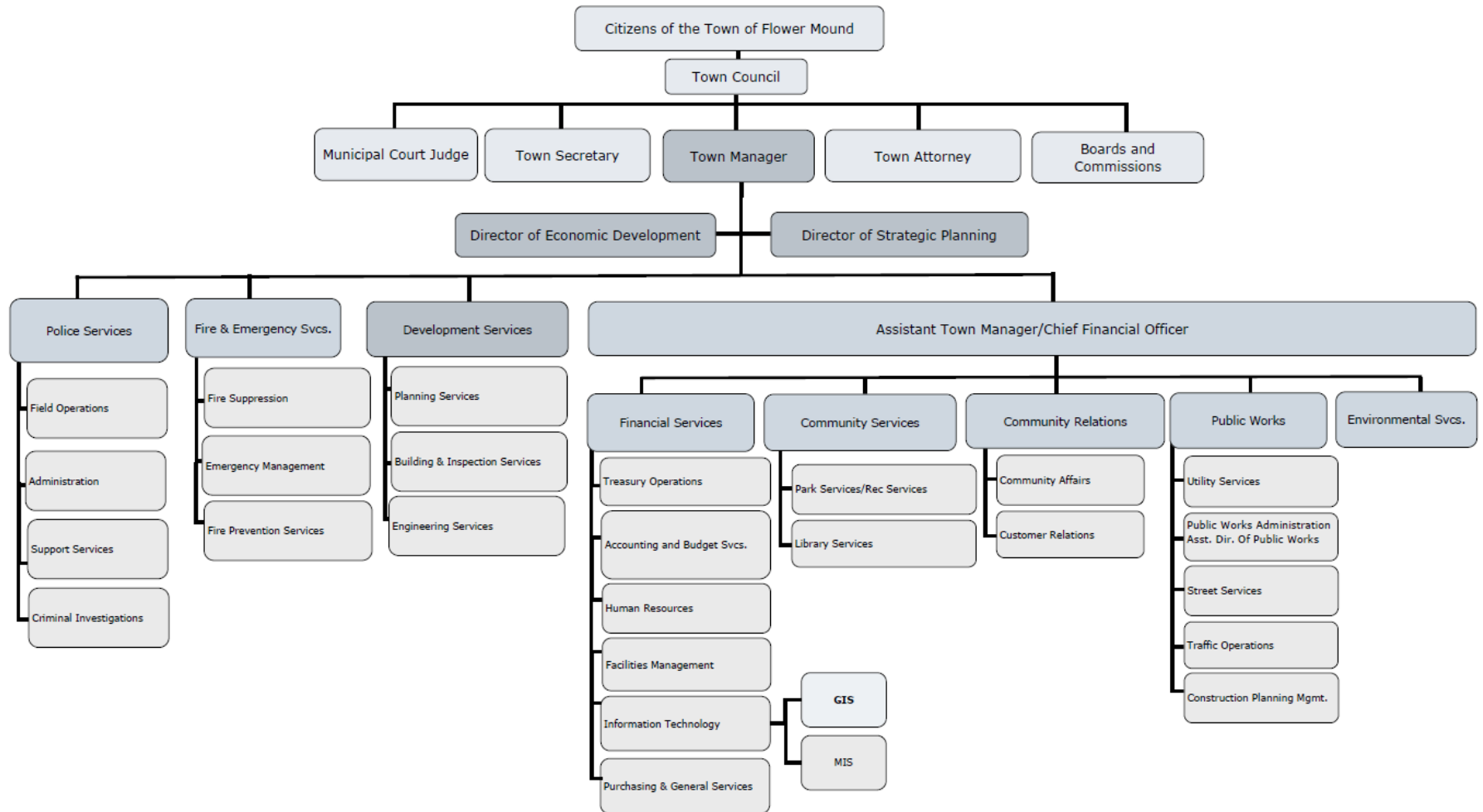
Nicole Dogan, GISP

Town of Flower Mound

Problem

- Too much work for GIS – too little resources
- Acquiring/creating new data
- Maintaining and QC of existing data
- Providing services to customers
- Flower Mound is used as example to identify some practices we have found have worked. Would like to hear of other practices that others have found beneficial!

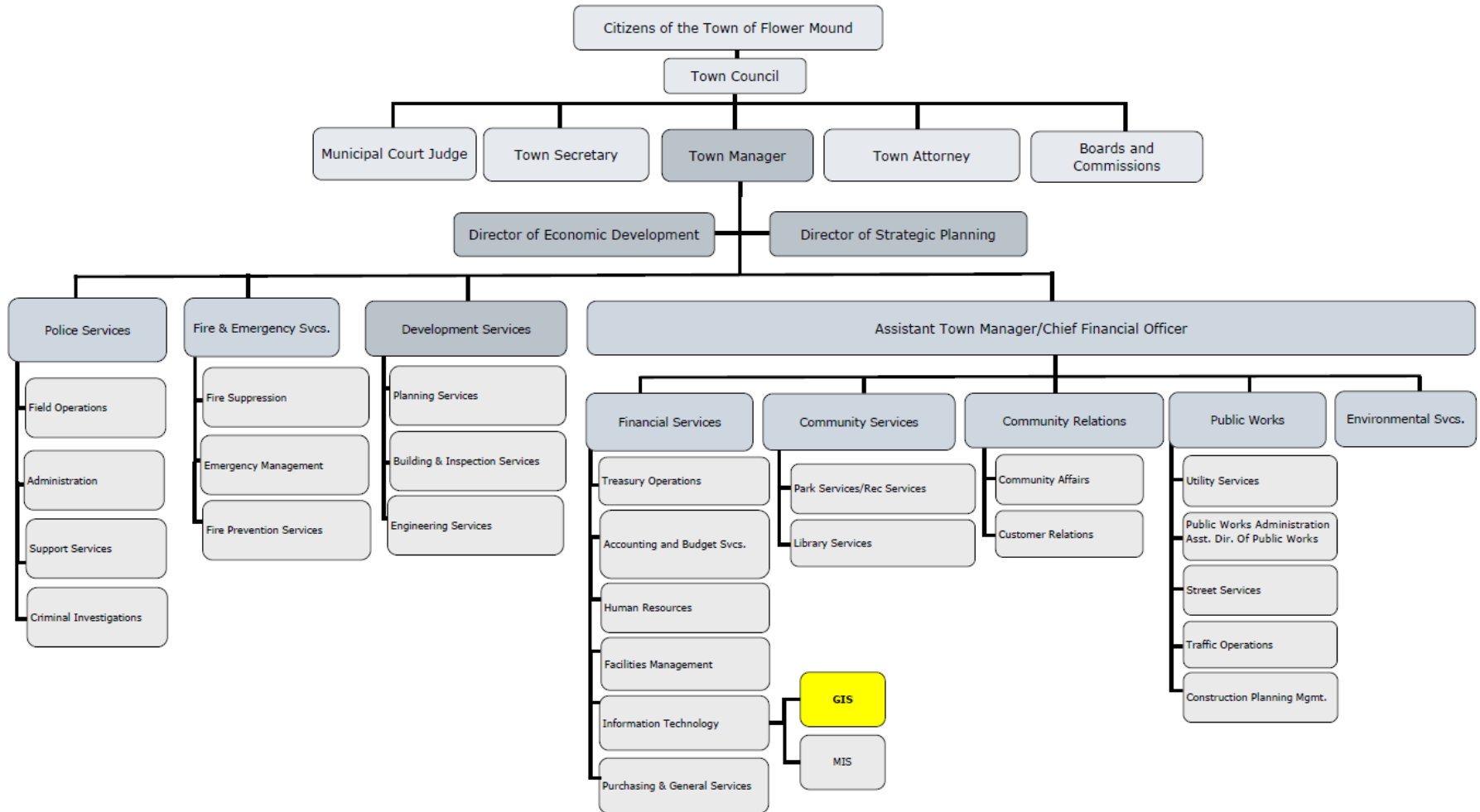❖ Flower Mound is used as example

Solution

- Streamline work flows
- Reduce amount of work required of GIS staff by utilizing other department staff
- Instilling good practices within organization to minimize GIS staff time required in handling data
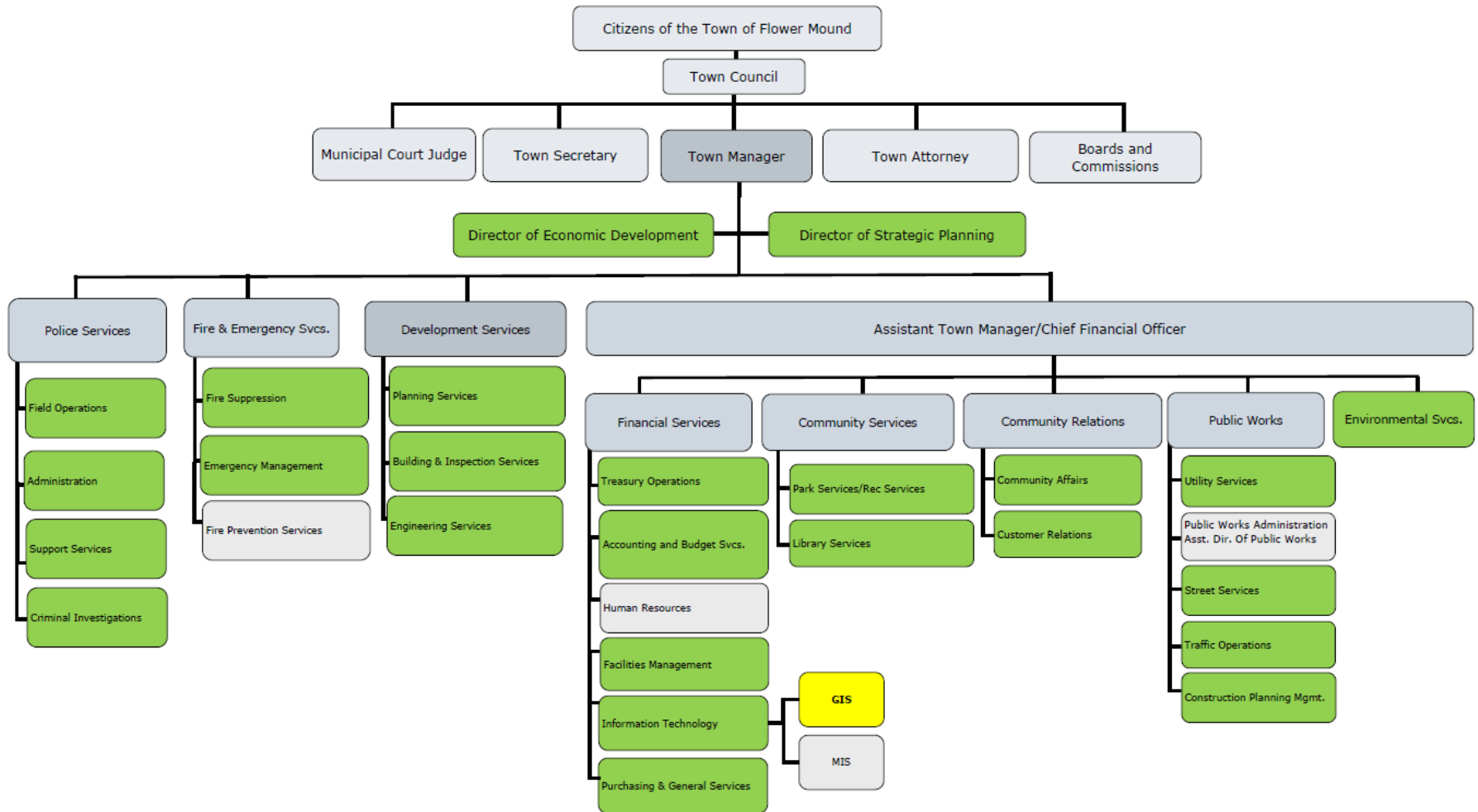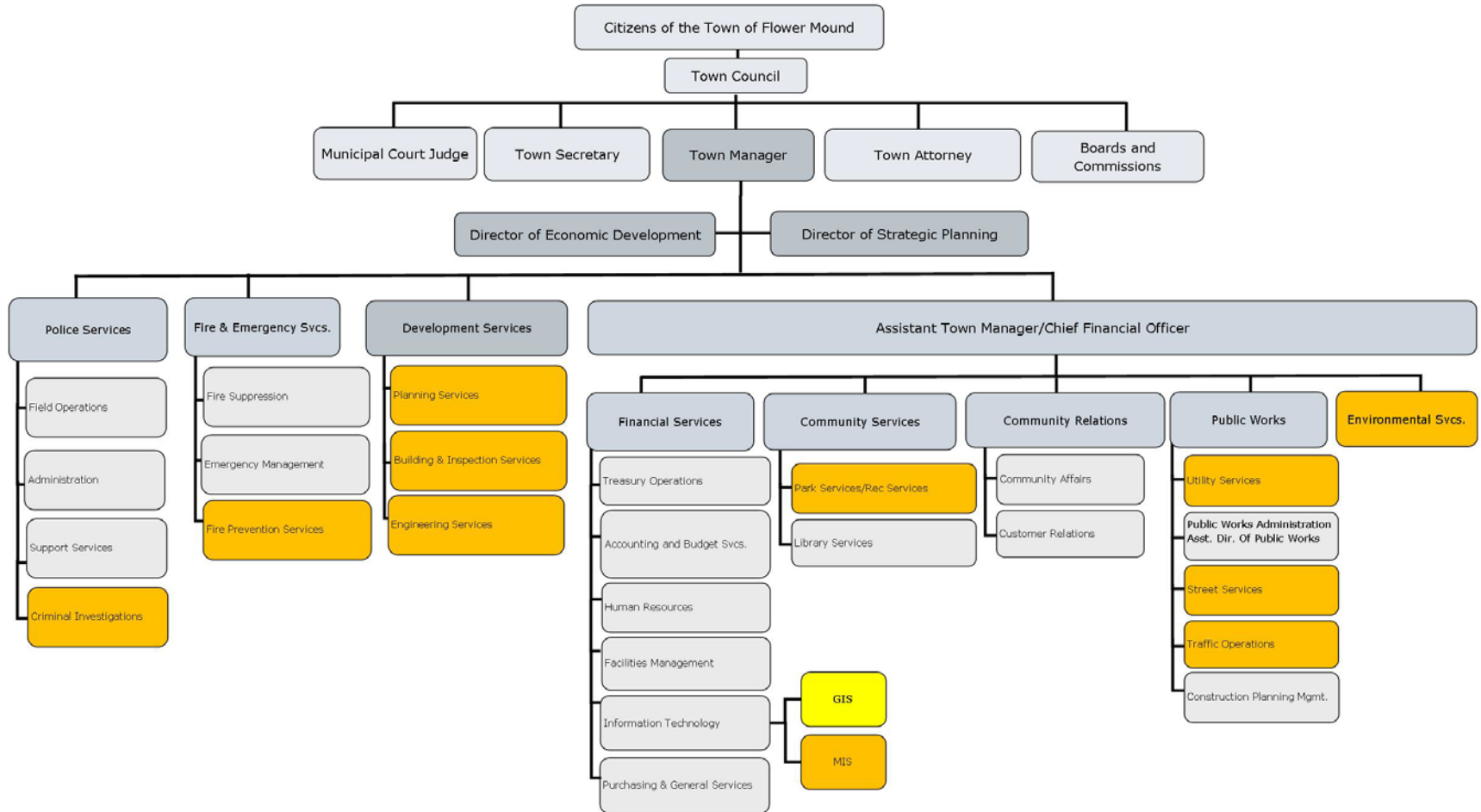
Org. Chart

Citizens of the Town of Flower Mound
Town Council

Municipal Court Judge — Town Secretary — Town Manager — Town Attorney — Boards and Commissions

Director of Economic Development — Director of Strategic Planning

Police Services
- Field Operations
- Administration
- Support Services
- Criminal Investigations

Fire & Emergency Svcs.
- Fire Suppression
- Emergency Management
- Fire Prevention Services

Development Services
- Planning Services
- Building & Inspection Services
- Engineering Services

Assistant Town Manager/Chief Financial Officer

Financial Services
- Treasury Operations
- Accounting and Budget Svcs.
- Human Resources
- Facilities Management
- Information Technology
  - GIS
  - MIS
- Purchasing & General Services

Community Services
- Park Services/Rec Services
- Library Services

Community Relations
- Community Affairs
- Customer Relations

Public Works
- Utility Services
- Public Works Administration Asst. Dir. Of Public Works
- Street Services
- Traffic Operations
- Construction Planning Mgmt.

Environmental Svcs.

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Environmental Svcs.

GIS Supports

Products

- Maps – paper and digital
- Mapbooks
- Web services
- Data for internal use with 3rd party software
- Statistics
- Analysis
- Address assignments
- Software support
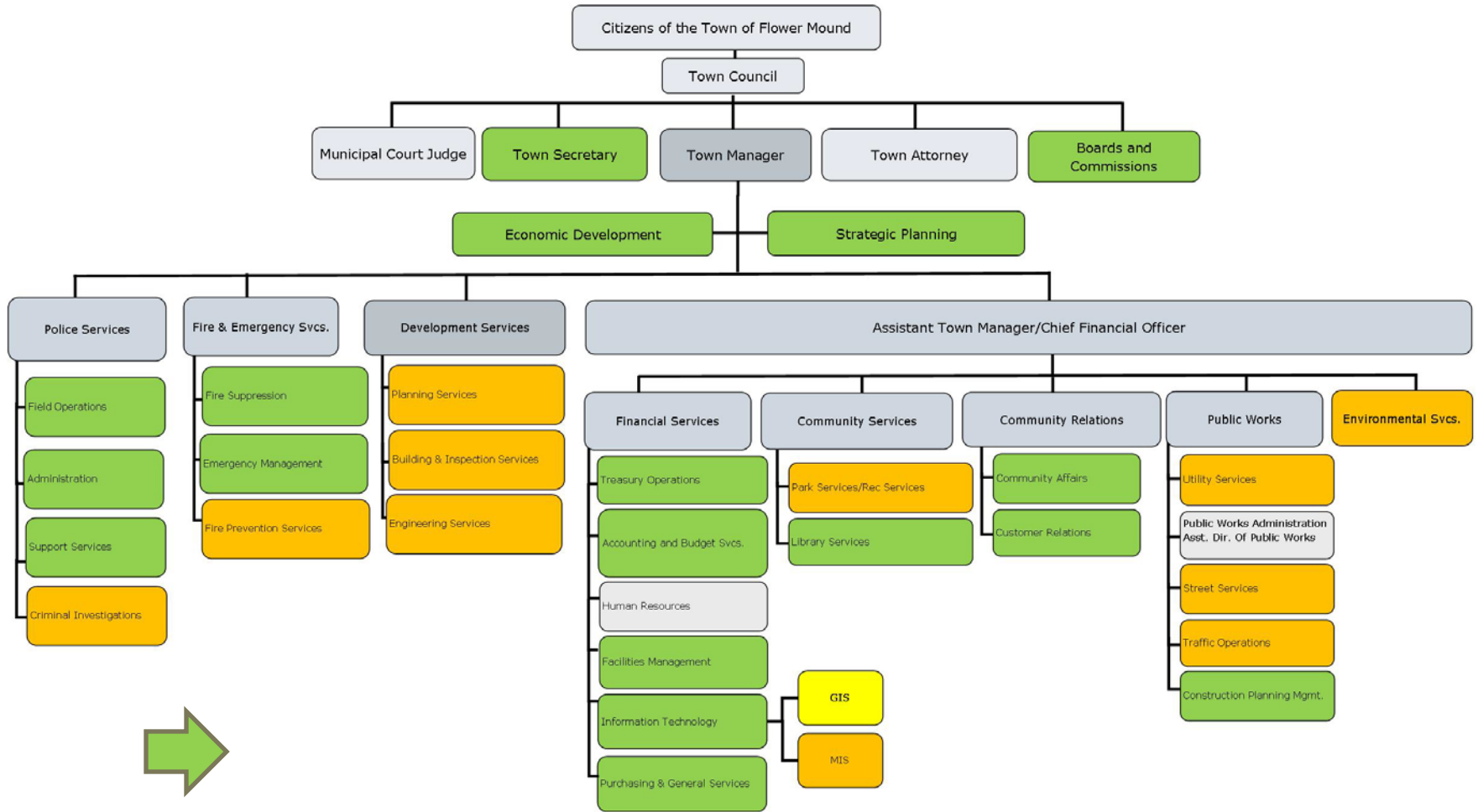- Data/Maps for external entities

Support GIS

Input

- Plats/As-built drawings
- GPS data
- Tabular Data
- Ordinances
- Verbal updates
- Paper markups

Directional Support

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Environmental Svcs.

5/02/2013

People support what they help to create

Getting buy in is crucial!

- Who has a stake in the process?
- How can you increase their dependence on GIS?
- How can they help GIS?

Building Interdependence

- The departments we have developed good working relationships with have helped us to improve the GIS.

- Include all parties involved in the process
- Work out business process between parties
- Document!
- Everyone must be held accountable
- Build mutual need for each part of business process
- Follow up and adjust process and documentation as needed
- Don't skip steps

Document

Task Fact Sheet

Task No: Y-12
Task Name: Calculating Statistics

Department: Finance
Division: IT
Section/Activity: GIS

FLOWER MOUND

Document Links:
- CAFR
- Economic Development
- Linear Utilities

Description: CAFR
This describes the process of updating the statistics of certain utilities on a yearly basis at the end of the fiscal year (09/30).

Resources:
ArcMap, Excel (There is a spreadsheet located at the following location: G:\Files\MSOfficeFiles\Excel\departments\GIS).

Instructions:

Step 1: In ArcMap, create a blank project with the following layers (the request will state what layers need to be counted:
- Parks
- Water Lines (Pressurized Mains) - Miles
- Fire Stations
- Fire Hydrants - Count
- Streets
- Sewer Lines (Gravity & Pressurized Mains) - Miles
- Water Valves (Control & System) - Count
- Man Holes - Count

Step 2: Starting with any of the above mentioned layers, begin running statistics using the notes listed below **(Note: Be sure to query only Active).** Spreadsheet is located on files/msoffice/excel/departments/finance/CapitalAssets.
- Parks: Exclude any records named 'Greenbelt' from the count and note the sum of the records. There shouldn't be any duplicates but always skim through the table to make sure. Exclude Parks not owned by the Town eg COE.
- Parks (Acreage): This value is pulled from the parks layer under the points_of_interest dataset. Make sure that the acreage field has been updated. The way to check this is to take the sum of the shape.area field and divide by 43560 to get acres. Include Greenbelt records but not COE. Query (NAME <> 'Murrell Park' AND NAME <> 'Twin Coves Park').
- Water Pressurized Mains (Miles): Excluding any private water lines, take the sum of the shape.length field from the remaining records and divide by 5280. (Only include Active waterlines)

- Fire Stations: This is the count of fire stations from the emergency_management dataset. Make sure that proposed fire stations are not included.
- Fire Hydrants: Take the sum of all the hydrants in town, (exclude abandoned, removed and proposed.)

- Improved Streets (Miles): Calculated by using the definition query (Location = 'In Town' & Lifecyclestatus = 'COMP') and taking the sum of shape.length divided by 5280.
- Unimproved Steets (Miles): Like the Improved Streets above, only the sum of those streets with surface = 'G' or surface ='GD' is used.
- Storm Sewers (Miles): This is the sum of all the storm sewer lines, minus any private lines, using the shape.length field divided by 5280.

Drains on GIS

- Can't get it all done!

Identify where time is wasted

- Correcting GIS data formats, projection

- Georeferencing CAD/.pdf drawings

- Requesting data is resent when corrupt file is provided

- Other staff skipping steps so what GIS required is not received initially

Less Drain on GIS

- Simplify work flows
- Document what is required for each step include as much detail as possible
- Accept what is required
- Ensure departments forward data in correct format
- Set up checks and balances
- Make sure GIS provides what/when promised

New SF Subdivision

Development Services - Planning

o Developer

o Staff: Planning Department, Fire, Engineering, Environmental, Building Inspections, Parks

o Development Review Committee

o Planning and Zoning Commission

o Town Council

Active Cases

• Planning adds development to Active Cases table

• GIS updates map for web publication monthly

New Landuse/Zoning

• Ordinance approved by Town Council

• Planning sends draft ordinance and notification of approval

• GIS updates Zoning, Land use, SUP, Planned Development layers

• Signature page to follow (for records)

Subdivision

- Ordinance approved by Town Council
- Planning sends draft ordinance and notification of approval
- GIS edits subdivision layers
- Signature page to follow (for records)

Plat

- Plat goes through Planning and Zoning Commission for approval and sometimes Town Council
- GIS gets a copy of record plat in CAD format when Planning Department feel it is nearly ready to record with County
- Recorded with Appraisal District
- GIS assigns addresses and Temporary parcel ID's.
- Address points, Parcels, streets entered into GIS
- ❖ No development can start until addresses are assigned to tie permits to

Development Services – Building Inspections

- Permits can be issued once ID's and addresses are created (GIS) and plat is registered with the County
- Building can proceed

Development Services – Engineering Services

Completed Subdivision

- At final approval Engineering GPS point features
- GIS entered into GIS. If feature are existing their status is changed from 'not corrected' to 'corrected'.

- When GIS receives As-builts in digital format (CAD) line features are entered into GIS
- Existing feature status changed from 'proposed' to 'existing'
- Monument CAD and .pdf file received.
- GIS monument layer updated and documentation on web updated

Public Works

- GIS features are available through Cityworks software to assign SR and WO

- Map layers are updated and viewable through ArcReader and Cityworks

Police

- New features available through Police CAD system

- Mapbooks uploaded to CAD

- Monthly:

  - geometric street network re-created and uploaded into
      Police CAD system

  - shapefiles exported for CAD system

Fire

- Mapbook pages updated

- Notified of new hydrants and Fire personnel enter into Fire House software

Do's

- Build a relationship with other departments
- Document business processes
- Be approachable to notification of errors in your system
- Require data in specified system and stick to it – as much as possible
- Garner other departments support

Questions/Comments?

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