

# Business Analysis and Requirements Gathering Within An Enterprise

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# Outline

- Pinellas County, Florida Background
- Enterprise GIS Within Pinellas County
- eGIS Goals and Timeline
- eGIS Steering Committee vs. eGIS Working Group
- Project Prioritization
- Requirements Gathering
- Challenges and Successes

# Pinellas County Snapshot

- Population just under 1M
- Part of the Tampa Bay region
- Peninsula bordered on three sides by water!
- 24 Municipalities



Most densely populated county based on people per square mile  
Pinellas: 3,347 person per square mile/929,048 total population  
Miami-Dade: 1,315 person per square mile/2,617,176 total population

(US Census 2013 estimates)

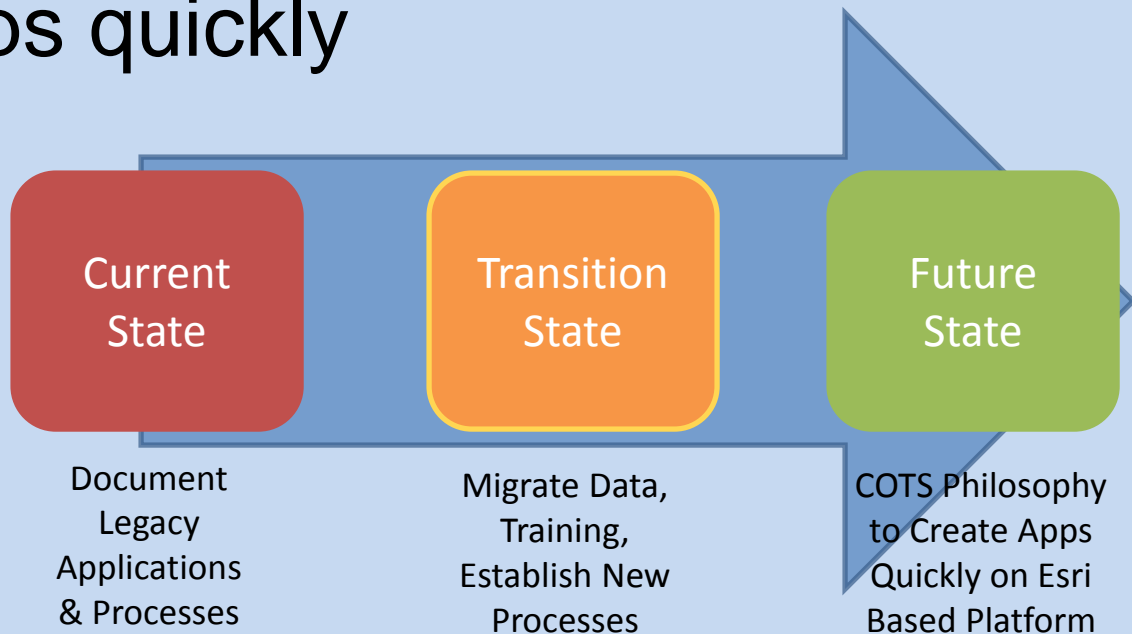


# Purpose of an Enterprise GIS for Pinellas County

- Large GIS user community
- Layoffs compromised key GIS positions and expertise
- Urgent replacement of unsupported legacy GIS system
- Make Pinellas County more efficient by eliminating redundancy supporting 2 GIS systems
- Move to Esri GIS platform and stay current

# Goals

- Enable Transformation – migrate from legacy system to entirely Esri based platform
- Follow COTS philosophy to create new apps quickly



# Timeline of eGIS Formation

- eGIS Steering Committee inaugural meeting July 29, 2010
- April 2011 – 2 GIS developers hired
- July 2011 – eGIS Bureau formed with 5 analysts
- April 2012 – \$1.8M Esri Enterprise License Agreement approved
- October 2012 – eGIS Working Group formed
  - Release process established

## **eGIS Steering Committee**

- Director level management
- Empowered to make decisions

## **eGIS Working Group**

- Every Day Experts and users of GIS from across the County and Eligible Agencies
- Makes recommendations to Steering Committee

## **eGIS Team**

- GIS Analysts and Developers
- Suggests release options for Working Group to choose from
- Estimates effort for each option

# Project Prioritization

- eGIS Working Group determines priority of new and existing projects
- Each project is discussed and estimated within the eGIS Team based on availability
- After estimates are completed, a list of possible projects is compiled and presented for approval by the eGIS Steering Committee



# Gathering Enterprise Requirements

- Stakeholder meetings to document legacy applications
  - Internal eGIS requirements gathering team
  - eGIS Team determined which legacy applications continue to be utilized within Pinellas County
  - eGIS Team solicited input from impacted departments
  - Documented business processes, workflows, other related data, tools and procedures, basic application functionality

# Evolution of Requirements Process

- Initial approach included large format stakeholder meetings approving SDLC steps – Design, Build, Test
- Iterative process now includes several meetings with individual stakeholder groups to discuss evolving requirements
- As Design step unfolds, bring stakeholders into the testing process to discover changes or improvements

# Challenges

- Stakeholder engagement and response
  - Application functionality may not be known or conveyed appropriately
- Dependency confusion
  - Large number of unknown background scripts, applications, etc.
- Internal department disorganization
  - Key staff departures
  - Internal reorganization

# Successes

- Increased stakeholder confidence and support
- Executive Leadership support
- COTS approach enabled quick turnaround

# Pinellas County Case Study

## GIS Enterprise Implementation Case Study: Pinellas County, Florida

### Introduction

Geographic information systems (GIS) have become a widely accepted tool for multiple disciplines in both the public and private sectors. While this adoption has become a lucrative tool for varying professions, the evolution of the technology from tool for specialists to an enterprise system has forced organizations to focus on management and institutional aspects to its dissemination (Croswell 2009). As Peter Croswell (ibid., xv) eloquently states in the introduction of *The GIS Management Handbook*, "Sound planning and operational management are the keys to successful use of the technology and its ability to deliver value to organizations."

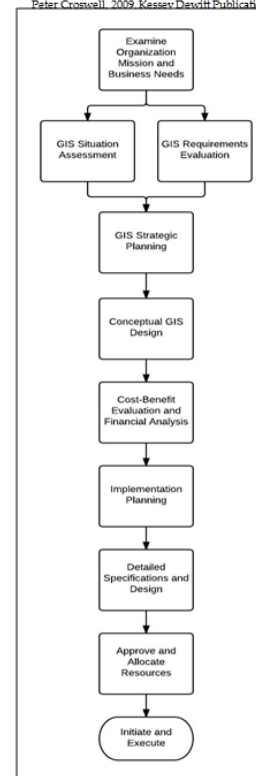
While many may perceive the technical considerations of GIS implementation the major crux to overcome, there are a breadth of a factors that may be mostly unrelated to these issues with enterprise level GIS deployment (Ramasubramanian 1999; Obermeyer and Pinto 1994; Campbell and Masser 1995). As many institutions have utilized the technology for day-to-day workflows a host of problems were introduced to managers ranging from data maintenance, to funding, interoperability, and interdepartmental relationships. Inasmuch, early GIS developers found themselves working less at code development in lieu of developing rules, standards, and budgets while establishing relationships with stakeholders (Tulloch 2008).

### From Technical Barriers to Institutional

Obermeyer and Pinto (1994) describe much of the early research involved with barriers and benefits focusing on technical inhibitions. However, in 1993, the authors undertook a series of surveys from GIS users which implicated a series of non-technical barriers to overcome to realize institutional success. Considering the steady reduction of technology costs and an increase in IT support this seems a logical conclusion to come to, especially some two decades later as this paper is written.

While technical barriers obviously still exist, it may be helpful to think of them as a smaller issue in the greater domain of GIS program planning. The focus on these technical inhibitors appears to draw away from some of the larger considerations necessary to a successful implementation. Interdepartmental or organizational relationships, funding acquisition, transition from legacy to modernized systems, and proper management are just a few of the more obvious roadblocks involved with system implementation.

Figure 1: Workflow for Assessment, Design, and Planning for GIS Program Development. Replicated from the GIS Management Handbook, Peter Croswell, 2009, Kessav Devditt Publications.



also had the goal of remaining current for future endeavors by employing a commercial-off-the-shelf (COTS) philosophy. As commercial leaders in the GIS industry, the business integrity of

However, rather than simply identifying and ranking inhibitors of a successful program, this paper will attempt to utilize the contemporary GIS management literature as a contextual guide to a documented success in an enterprise level implementation. Figure 1 demonstrates a generic workflow adopted from Croswell's *GIS Management Handbook* (2009). Within this construct we can analyze the some of the issues as they apply to the implementation of an enterprise GIS in Pinellas County, Florida.

### Case Study: Pinellas County, Florida

Pinellas County, Florida has one of the highest population densities in the country at 3,347 people per square mile as estimated by the U.S. Census Bureau (2010). While the success of GIS applications to manage spatial data of high density population areas has been well documented, the reasoning behind the implementation of an enterprise level GIS (eGIS) system in Pinellas is slightly different in that it was in response to a two-fold issue:

- 1) Pinellas County met with an unfortunate amount of layoffs prior to the eGIS implementation which decimated the GIS staff and
- 2) the remaining GIS employees utilized a legacy GIS system, WebGI/MapGuide, which was fast losing support by the vendor (Christianna Kretschmann, pers. comm.).

According to the Pinellas County Inaugural eGIS Newsletter (2012) the public infrastructure had also grown in size, complexity and age. Considering these attributes, the County was forced to consolidate systems to effectively mitigate redundancy and cost overlap. While the two factors mentioned above appear to be the primary motivators, the organization

# Thank you!

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