GIS for Leaders: Seven Elements of a Successful Enterprise GIS

Adam Carnow
This is an **interactive** presentation...

Please follow along and participate in the polls by either...

Opening this URL in the browser on your smartphone:

https://swipe.to/6991kw

Or scanning this QR Code with your smartphone:
Abstract

It takes more than technology for an enterprise GIS to be successful. It requires business and IT management skills. This session will review the seven elements of a successful enterprise GIS and provide strategies how GIS Managers can implement them. The seven elements are:

- Vision and Leadership
- Understand how GIS can contribute to your organization’s success
- Develop and maintain a GIS Strategic Plan
- Implement effective governance
- Implement evolutionary approaches (change management)
- Deploy engaging apps
- Recruit, develop and maintain good staff
What makes an enterprise GIS successful?
What makes an enterprise GIS successful?

- More than technology:
  - Motivated people committed to managing change
  - Effectively applying the technology in a sustainable manner
  - Following best practices
What makes an enterprise GIS successful?

- More than technology:
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  - Effectively applying the technology in a sustainable manner
  - Following best practices

“...whether or not our GIS implementation is successful is not a technology problem, it's a people problem...”

- Assistant City Manager
Esri Case Study | Pinellas County, Florida
Are your leaders aware of the more advanced capabilities of GIS?
ArcGIS Transforms Organizations

Creating Shared Information & Facilitating Collaboration

Hierarchical
- Stovepiped Data
- Management
- Planning
- Operations

Networked
- Shared Geographic Understanding

Opening Access & Engaging Everyone
How does your organization use GIS?

No votes

1

2

3
Elements of a Successful Enterprise GIS

- Vision and Leadership
- Understand how GIS can contribute to your organization’s success
- Develop and maintain a GIS Strategic Plan
- Implement effective governance
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Vision and Leadership

- There’s a difference between being a manager and being a leader.
- Let everyone know the capabilities and benefits of GIS.
- They want your help. They need your help. They just don’t know it.
- Document your vision, and create and maintain a plan to realize that vision.
- It’s your job to extract as much value as possible from your GIS investment.
- It’s your job to exceed the expectations of the people funding your operation.
Do you evangelize the power of GIS?
Three Differences Between Managers and Leaders

Leader vs. Manager
- Creating Value vs. Counting Value
- Circles of Influence vs. Circles of Power
- Leading People vs. Managing Work

I didn’t have a ready answer and it’s a complicated issue, so we decided to talk the next day. I thought long and hard, and came up with three tests that will help you decide if you’ve made the shift from managing people to leading them.
Do you document and publicize your GIS ROI?
Understand how GIS can contribute to your organization’s success

- How does your organization define success?
  - Strategic Plan
  - Initiatives
  - Goals, Objectives, Policies
  - Performance Management (Key Performance Indicators)
  - Smart Community

- Talk to leaders
  - Vision
  - Pain
  - Learn their business and deploy solutions that further vision and reduce pain

- Make executives GIS users (think dashboards….)
Do you actively seek out executive sponsorship of GIS?
Develop and Maintain a GIS Strategic Plan

- Needs to align with organization’s strategic plan
- Needs to align with organization’s IT strategic plan
- Develop a GIS maturity assessment
- Identify where there is room for expansion of services
- Prioritize and execute in phases in a sustainable fashion
Do you have, and maintain, a GIS Strategic Plan?
DCSI
Geospatial Strategy

Coordinate
Facilitate collaboration

Simplify
Improve business practices

Innovate
Smarter service offerings

Enable
Informed decision makers
Do you regularly dedicate time to Research & Development?

No votes

1

2
Build a Strategy
ArcGIS supports all nine common business patterns

Mapping & Visualization
Understand locations and relationships with maps and visual representations

Data Management
Collect, organize, and maintain accurate locations and details about assets and resources

Field Mobility
Manage and enable a mobile workforce to collect and access information in the field

Monitoring
Track, manage, and monitor assets and resources in real-time

Analytics
Discover, quantify, and predict trends and patterns to improve outcomes

Design & Planning
Evaluate alternative solutions and create optimal designs

Decision Support
Gain situational awareness, and enable information-driven decision making

Constituent Engagement
Communicate and collaborate with citizens and external communities of interest

Sharing & Collaboration
Empower everyone to easily discover, use, make, and share geographic information
# Build a Strategy
Find Opportunities Where Location Can Add Value

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**Define and Measure Success**

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*Green = Meeting Need, Yellow = Partially Meeting Need, Red = Not Meeting Need*
Build a Strategy
Project Prioritization

- **High and Clear Benefit**: Cautiously Embrace
- **Low or Uncertain Benefit**: Avoid
- **High or Unmanageable Challenges**: Experiment
- **Low and Manageable Challenges**: Aggressively Embrace
Deliver Real Solutions
In a sustainable manner, enable others to use GIS...

http://www.esri.com/software/apps

See what ArcGIS Apps are available

Apps for the Field
Apps for the Office
Apps for the Community
App Builders
Deliver Real Solutions
Supported, Configurable, Included

http://solutions.arcgis.com

ArcGIS Industry Specific Maps and Apps
ArcGIS Solutions deliver Ready-to-Use Maps and Apps to jumpstart your work

FINd YOURS
Deliver Real Solutions
Supported, Configurable, Included
Have you deployed any ArcGIS Solutions?
Deliver Real Solutions
Supported, Configurable, Included

ArcGIS Open Data

Connecting Citizens and Businesses to Your Authoritative Data

Set up a public-facing website within minutes to share your open data. ArcGIS Open Data is an Esri hosted and managed solution that is included with ArcGIS Online.
The "DataHub" is the City of Johns Creek's central location for open data, dashboards, and interactive mapping applications.

Through this Hub, you can visualize city data in maps, charts, and dashboards. Developers can even tie their own data services and applications into City data.

Visualize Data in Dashboards
Dashboards provide an interactive way of visualizing information in the Johns Creek DataHub.

- Most Common Data
  - Explore the most commonly-accessed data in the DataHub

- CreekView
  - Interact with property information through a map

- Business Locations
  - Find businesses and associated information

- Building
  - Browse building permits and construction projects
total fire incidents in 2018: 878

% of calls in 2018 where Fire Department has arrived within 10 minutes of call: 93.7%

Bar chart showing total number of incidents (2018):
- Station 61: 450 incidents
- Station 62: 350 incidents
- Station 63: 200 incidents

Locations shown on map include:
- Milto
- Alpharetta
- Johns Creek
- Peachtree Corners
- Norcross
- Duluth
- Suwanee
- Johns Creek
- Alpharetta
- Norcross
- Duluth
- Suwanee

Map credits:
Esri, HERE, Garmin, NGA, USGS, NPS | Esri, HERE, NPS
Have you deployed ArcGIS Open Data?

No votes

1

2
Loudoun GeoHub

County Initiatives

Vision of the Board of Supervisors - By honoring its rich heritage as well as embracing the robust opportunities of a new day, Loudoun County maintains the high quality of life it has achieved, shapes a future that represents the best of both worlds, and creates a place where its residents are proud to live, work, learn, and play.
County Initiatives

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Enjoy Loudoun
Get Out and Explore!

Improving Transportation
Getting You There Faster

Building Loudoun’s Future
Loudoun 2040

Serving Our Community
Improving Your Quality of Life

Protecting Our Citizens
Public Safety

Business Success
is LoudounPossible
Improving Transportation

Optimize Your Commute

Find My Bus Stop
Local Riders & DC Commuters

Explore the Transit System
Search for Stops and Routes

LCT BusTime
DC Commuter Bus Arrival Times and Locations

Waze & Loudoun
We're Connected!

What's Under Construction?
Capital Projects Active and Planned in the County

Explore More Apps
ArcGIS Hub provides a two-way engagement platform to connect government and citizens.

Encourage people to take action and bring positive change in their own neighborhoods.

https://hub.arcgis.com/
AZ ESF/RSF Operations Dashboard

Individual County Count Summary

- Apache 1 County
- Cochise 22 County
- Coconino 77 County
- Gila County 10
- Graham 6 County
- Greenlee 5 County
- Maricopa 16 County

Total Operating Cost
- $50,038k FY 19
- $2,904M FY 18

Total Missions
- 319 Missions FY 19
- 476 Missions FY 18

Recovery Type Summary

- Aircraft: 2
- Non-Eligible: 1
- PLB: 1
- Recovery: 7
- Rescue: 153
- Search: 131
- Vehicle Search: 24

Last update: a few seconds ago
Have you deployed any ArcGIS dashboards?

No votes
If you’re going to raise your game, you need to upgrade your infrastructure...
Do you have, and maintain, a GIS architecture design?

No votes

1

2
Implement effective governance

- Do not want process to get in the way of progress
- Must obtain and cultivate executive sponsorship
- GIS Steering Committee
- Management review of COTS vs. Custom decisions
- Project prioritization
Do you have formal GIS governance in place?

No votes

1

2
Implement evolutionary approaches (change management)

- Embrace change, make it part of your routine
- Participate in ArcGIS Early Adopter Community
- Participate in ArcGIS Developer Program
- Make Research and Development part of everyone’s work
- Investigate the latest improvements and make plans to use them
Do you participate in the Early Adopter and/or Developer Program?
Do you have, and maintain, a Change Management Plan?
Deploy engaging apps

- People want to use apps like those on their smart phones and tablets
- Apps need to be focused and intuitive
- Apps need to work on any device, anywhere, anytime
- Focus on business drivers, not technology
- The goal is:
  - to give everyone alternatives (responsive)
  - but keep them in a known, controlled and secure environment (identity)
  - while using the latest and most authoritative data and processes (web services)
Understand the Need for a Mobile Workforce

Field Operations

- Operations Dashboard
- ArcGIS Pro
- ArcGIS Online
- Workforce for ArcGIS
- Navigator for ArcGIS
- Drone2Map for ArcGIS
- Survey123 for ArcGIS
- Collector for ArcGIS
- Explorer for ArcGIS
Recruit, develop and maintain good staff

- Create and Maintain a Workforce Development Plan (Esri can help…)
- GIS Managers need IT management and business skills
  - Business Skills
    - Market and sell your team’s capabilities to the leaders
    - Develop and maintain a business plan and change management plan
  - IT Management Skills
    - System Architecture Design
    - Service Level Agreements
    - Enterprise System Integration
    - Security
    - Project Management, etc.
- Get help (Esri and our Partners)
Do you have, and maintain, a Workforce Development Plan?
Develop Strong Partnerships
Esri Team and Esri Partners

- **Esri Team**
  - Account Team (Manager and Solution Engineer)
  - Subject Matter Experts
  - Training Consultant
    - Workforce Development Plan
  - Technical Support
    - Premium Support
  - Professional Services
    - Packages, Rent-a-Tech, Projects
  - Esri Enterprise Advantage Program (EEAP)

- **Esri Partners**
  - Specialties (ArcGIS Online, ArcGIS for Local Government)
  - ArcGIS Marketplace
Do you regularly get external assistance with implementing your GIS?

No votes

1 vote

2 votes
Develop Strong Partnerships
Develop and Grow Your Internal Team

- Executive Champion(s)
- IT Leadership
- Enable collaboration and empower others
- Mindset of a GIS Consulting Firm
- Market Spatial Analysis
- Measure, document, and publicize the impact (ROI)
Esri Resources

- Architecting the ArcGIS Platform: Best Practices
- Implementing ArcGIS on GeoNet
- Managers in GIS LinkedIn group
- Events
  - Esri Public Sector CIO Summit
  - Esri Developer Summit
  - Esri International User Conference
  - GIS Managers’ Open Summit at Esri International User Conference
  - Meetups
  - GIS Manager Workshops
- Esri Account Team
Have you read the Architecting the ArcGIS Platform: Best Practices document?
It’s time to seize the opportunity in front of you.