Topics

- Why GIS?
- Innovation and Enterprise
- Establishing a strong GIS vision
- Necessary supports for hardware and software
- Investing in knowledge capital
- Leveraging foundational software
Topics

- Levels of integration that support agile systems
- The importance of planned maintenance
- What Simcoe is Doing Differently
- What Simcoe Should Be Doing, but We’re Not
- Questions
Web GIS Creates New Connections
Providing an Open Platform for Collaboration and Innovation

Leveraging the Value of Shared Information
GIS Provides a Framework and Process For Enabling Geographic Understanding
GIS Supports the Entire Community
Efficiency, Transparency & Openness

Inside
Government-wide Collaboration

Outside
Public Engagement

Staff

Public

Works

Transportation

Health & Public Safety

Parks & Environment

Partners

• Utility
• Provincial
• Federal
• NGOs …

Startups
Academia
Citizens

Open Data
Applications
Story Mapping
GIS Integrates Information
Creating multiple types of systems...

System of Engagement
System of Insight
System of Record
GIS Enables Collaboration
Connecting Individuals, Organizations and Communities
GIS Deployment Options
Deploy in Cloud, on Premises, or Hybrid

Online / SaaS
- Deployed on 3rd Party-Managed Infrastructure
  - Apps
  - Organization
  - Services
    - GIS
    - Image Services
    - Geo Analytics
    - Portal
    - Server Roles

Enterprise / PaaS
- Deployed on Customer-Managed Infrastructure
  - Apps
  - GIS Server
  - Image Services
  - Geo Analytics
  - ...
Innovation

- How do you define innovation?
- Is there only one way to be innovative?
- Should municipalities be innovators?
- How do you do more with less?
- How do you know when you are innovating?
Innovation

- Having the ability to approach work with as many options as possible to achieve success

- Collaborating with others and openly sharing ideas (teams, partner agencies, consultants, software vendors)

- Investing resources in research and development

- Doing something that your peers see as differing from established practice yet achieving positive outcomes

- Doing more with less requires us to be innovative
Enterprise

- Enterprise = Expensive

ROI  KPI  Cost Benefit  TCO

- What is the true cost per user?

- How many users actually use the solution?

- How much of the functionality is actually used/useful?

- How long do you expect to keep an Enterprise solution before you replace it? 5, 7, 10 years?
Avg. daily users of maps.simcoe.ca

2012: 1000
2013: 1300
2014: 1500
2015: 1550
2016: 1700
2017: 2100
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Underutilization comes in many forms;

- Users login once and never login again (they get this information or functionality elsewhere)
- Users use the bare minimum (only what they have to)
- Staff have others use the system for them
- Users are quick to claim that the software doesn’t do that!
Can cloud technologies help to advance innovation?

Yes and no…

There are two fundamentally different ways to use the cloud

Integration with other systems can be a lot more work

Unless the vendor provides this integration with another vendor out-of-the-box
Establishing a Strong GIS Vision

- Keep it short (1 – 2 pages)
- Craft it around a central long term objective
- Keep it simple and make it viable for years to come
- Get help from peers in similar organizations
- Make your best attempt to write it yourself
Simcoe County’s GIS Vision is one page and was written in 2006.

The primary objective is to leverage the core technology and focus on Web GIS as the primary interface.

Underlying the above, is a second objective to adopt strong data standards, centralization and dissemination to the broadest possible audience using the Web.
Establishing a Strong GIS Vision

- Additional tenets we subscribe to:
  - Focus on learning and utilizing the core system first
  - Stay current with the release of new technology
  - Learn and know the foundational technology (Windows Operating Systems, MSSQL Server)
  - Approach all new work with a broad vision on how it can be used by the most users (including our partners), and Web first
Necessary supports for hardware and software

- Being innovative means having access to up-to-date systems (both hardware and software)

- Solutions architecture is important to the overall ability to innovate

- GIS should have the input/ability to optimize the solution

- System performance can play a major role in success of a solution
Investing in knowledge capital

- Hiring practices
- Time devoted to R & D, Training and access to test/development environments
- R&D focus utilizing user statistics, GIS vision and industry trends
- Formal training plan and budget
Leveraging foundational software

- What level of expertise does your organization have in relational databases? (MSSQL Server)

- Why is it important if it’s just the engine of the GIS car you are driving?

- Important to know for integration, customization, optimization…
Levels of integration that support agile systems

- If it is a black box, why would you allow it to be installed on your enterprise system?

- Ask the tough questions about how a bolt-on or third party application is architected before you buy it.

- Opt for loose integration whenever possible.

- Maintain system agility by avoiding tight integration.
The importance of planned maintenance

- Yearly plan to upgrade technology and stay current with releases

- Opportunity for staff to be involved in the upgrade and cultivate awareness of changes, limitations, bugs and workarounds

- Feeds into R & D cycles and helps focus team on the core technology stack
GIS Integrates Information
Creating multiple types of systems...

System of Engagement
System of Insight
System of Record

GIS
What Simcoe is Doing Differently

- Web Mapping
What Simcoe is Doing Differently

- Automatic Vehicle Location
What Simcoe is Doing Differently

- Commercial Real Estate Search (Economic Development)
What Simcoe is Doing Differently

- **AppTrack**
**What Simcoe is Doing Differently**

- **Pavement Condition Assessment**

  - **2016 COMPLETE**
  - **Survey Date:** 2017/02/28 4:43:34 PM
  - **Evaluated By:** Dave Crowe

  **Road Information**
  - **Road Name:** SOUTH ORR LAKE ROAD
  - **Class of Road:** Primary
  - **Ride Comfort:** 7 - Good

  **PCI Information Form**

  **Distresses**
  - **Surface Defects**
    - **Ravelling & Loss of surface aggregate**
    - **Flushing/Bleeding**
  - **Surface Deformations**
    - **Rippling and Shoving**
    - **Wheel Track Rutting**
    - **Distortion**

  **PCI 2014:** 91.75
  **PCI 2015:** 90.75
What we should be doing, but we’re not!

- Utilizing the ESRI Local Government data model and apps
- Contributing to online communities for sharing of app development / code
- Open Data / Metadata
- GIS Governance / Advisory
- Planning for the future of hybrid / cloud deployment
What we should be doing, but we’re not!

- Integration with ERP and Asset Lifecycle solutions
- Converting from paper-based field data collection
- Analysis, dashboards, insights
Questions?

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