LOJIC STRATEGY INNOVATION
Recommendations to the LOJIC Policy Board

July 14, 2015

LOJIC STRATEGY INNOVATION TEAM

✓ Chartered by LOJIC Policy Board in June 2014.

✓ Tasked with evaluating the current status of and future opportunities for LOJIC with consideration given to governance, funding, technology and staffing.

✓ Identify and investigate prospects for LOJIC to enhance and/or expand the provision of data, applications and other geospatial services.

LOJIC STRATEGY INNOVATION TEAM

- **Curt Bynum**, *LOJIC Manager*

- **James Bates**, *LWC Infrastructure Records Manager*

- **Jane Poole**, *LOJIC Customer Support Administrator*

- **Julie Buckler**, *MSD GIS/Records Manager*

- **Sharon Meador**, *Metro IT Manager*

- **Debbie Lowery**, *Metro Performance Improvement/ Outreach Manager*

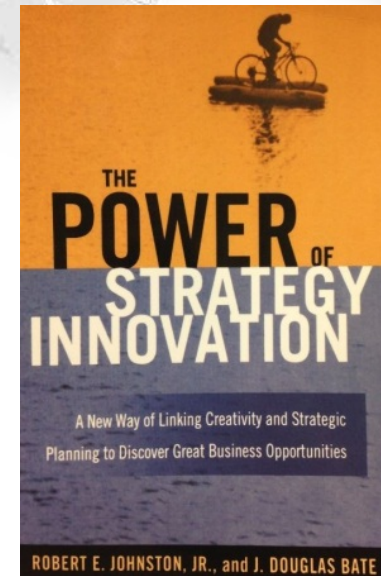- **Jay Mickle**, *PVA Mapping/GIS Director*

LOJIC STRATEGY INNOVATION TEAM

Goals:

- ✓ **Identify new opportunities for developing/marketing LOJIC data and services.**

- ✓ **Identify new opportunities for developing new internal LOJIC applications.**

- ✓ **Identify sustainable governance, organizational structure and funding options for LOJIC.**

STRATEGY INNOVATION

Methodology:

1) Discovery Phase

Assessed, with consultant assistance, the current state of LOJIC, the current state and trends associated with GIS and IT in general, trends in municipal needs.

2) Creating Phase

Used the Discovery Phase as "food for thought".

Identified and developed innovative concepts that will shape LOJIC moving forward.

3) Mapping Phase

Took ideas and recommendations assembled during the Creating Phase and developed them into final recommendations and implementable action items.

DISCOVERY PHASE

- ✓ **Self-Assessments**

- ✓ **Surveys of External & Internal Users**

- ✓ **Interviews**

- ✓ **Consultant Assistance Croswell-Schulte:**

  - User forums and interviews

  - Status of LOJIC Operations

  - National GIS Best Practices Survey & Analysis

  - Recommendations on Governance, Funding, Operational Improvements

CREATING PHASE

✓ **Incorporated all inputs from Discovery as"food for thought"**

✓ **Identified and prioritized innovation for…**

- Governance, organizational structure,
- System architecture, data storage and accessibility
- Open data policies/procedures
- Shared funding, revenue generation/cost offsets, ROI

✓ **Brainstormed and prioritized innovation for…**

- New and/or enhanced applications for internal/external users
- Branding, communications, outreach opportunities
- Catalog of GIS services provided to internal/external users

MAPPING PHASE

✓ **Considered 100s of ideas from Creating Phase**

  • Categorized, ranked, prioritized based on need, relative cost

✓ **Examined preliminary feasibility, internal/external cost for operational recommendations**

✓ **Final recommendations to LOJIC Policy Board:**

  • Governance and organizational structure

  • Shared funding, revenue generation, cost offsets

  • Applications for internal and external users

  • System architecture, data storage and accessibility

  • Branding, education and outreach

  • Open data concepts and impacts

1. WHAT IS THE IDEAL/RECOMMENDED GOVERNANCE STRUCTURE FOR LOJIC?

1) **RENEW FORMAL WRITTEN LOJIC PARTNERSHIP AGREEMENT**
   - ✓ Define governance, structure, roles, procedures, funding
   - ✓ Name a Managing Partner for:
     - • Facilities, core staff, procurement, HR, financial, legal support
   - ✓ 2006 MOU as starting point (Appendix 1)

2) **CLARIFY AND CODIFY ORGANIZATIONAL STRUCTURE AND ROLES**
   - ✓ LOJIC Policy Board (Partner Chief Executives, LOJIC Manager)
     - • Review/approval of agreements, budget, policies, workplan
   - ✓ LOJIC Steering Committee (Partner GIS leaders)
     - • Represent partner needs and priorities
     - • Contribute to workplan development
     - • Collaborate on resolving technical/resource issues
     - • Recommend actions to Policy Board
   - ✓ LOJIC Manager and Technical Staff

2. HOW CAN LOJIC AND PARTNERS GENERATE REVENUE OR OFFSET COST OF OPERATIONS?

What we learned…

- ✓ User fees and GIS data/products sales are no longer a significant source of revenue for LOJIC or any other municipal GIS entity around the nation.

- ✓ Little flexibility in KRS for public entities recouping costs or generating revenue with publicly acquired data and records.

- ✓ National trend to eliminate data/product fees in favor of Open Data to foster entrepreneurship and better realize the "value" of municipal GIS.

- ✓ Resources spent on revenue sources with diminishing returns at the expense of leveraging municipal GIS for better internal efficiencies and service delivery is misguided.

1) **SELECT AND IMPLEMENT FEASIBLE COST OFFSET OPTIONS**
   - ✓ **Expand user base to surrounding counties**
     - Marginal scale up LOJIC IT architecture and staff
     - Less costly and intimidating than counties building their own
     - Requires aggressive marketing and focused effort

   - ✓ **Market GIS professional services**
     - Contracting services for private entities
     - Legality of public entity competing with private sector
     - Potential competition for resources among partners
     - Requires additional staff resources

2. HOW CAN LOJIC AND PARTNERS GENERATE REVENUE OR OFFSET COST OF OPERATIONS?

1) **SELECT AND IMPLEMENT FEASIBLE COST OFFSET OPTIONS (Cont.)**

   ✓ **Grants**
   - Source of funding for special one-off projects, not ongoing funding
   - Requires administration and grantsmanship expertise
   - Applications must originate with and be driven by partners
   - LOJIC must share in funding and not simply sold as "in-kind"

   ✓ **Transaction fees earmarked for LOJIC**
   - Portion of fees for permits, land record filings, plan review
   - More common source of funding than expected
   - May be limited due to legislative/legal restrictions
   - Potential for significant cost offset especially for Metro

2. HOW CAN LOJIC AND PARTNERS GENERATE REVENUE OR OFFSET COST OF OPERATIONS?

1) **SELECT AND IMPLEMENT FEASIBLE COST OFFSET OPTIONS (Cont.)**
   - ✓ **Capital project cost allocation**
     - Most applicable to MSD and LWC
     - Issue of capital-to-operations funding cross-over
     - Allocate small % overhead cost for each capital project
     - Closely ties use of LOJIC to enable capital improvements

2. HOW CAN LOJIC AND PARTNERS GENERATE REVENUE OR OFFSET COST OF OPERATIONS?

2) **EXPAND LOJIC USE TO MAXIMIZE PARTNER ROI**

- Aggressively leverage LOJIC as enabling technology
- Expand LOJIC use within partner agencies
- Develop strategic objectives supported by GIS
- ROI via multi-agency, multi-generational GIS

3. ON WHAT SHOULD PERCENTAGE COST RESPONSIBILITIES FOR LOJIC PARTNERS BE BASED AND HOW MUCH WOULD THAT BE FOR EACH PARTNER?

What we learned…

✓ No single best practice model among GIS consortia

✓ Wide range of funding cases depending on participants

✓ Partner expectations vary widely and need to be defined. Should LOJIC be all things to all people all the time?

✓ Partners need to understand costs assumed if LOJIC didn't exist: IT architecture, software admin, staff technical support

✓ Scope of LOJIC services and customers must be defined:

✓ Core data, applications, consulting, technical support, training, project management…for whom?

3. ON WHAT SHOULD PERCENTAGE COST RESPONSIBILITIES FOR LOJIC PARTNERS BE BASED AND HOW MUCH WOULD THAT BE FOR EACH PARTNER?

1) **RESUME PRE-2010 COST SHARING**

   ✓ Pre/Post-merger, Pre/Post-2010 cost share background

   ✓ Nothing from Croswell-Schulte Best Practices analysis or SI Team research to indicate original funding shares are inequitable based on:

   - Number and type of users

   - Level of technical support required

   - Use of and dependency on LOJIC resources for data management, applications, user support

   - Use of and dependency on LOJIC/MSD IT architecture

3. ON WHAT SHOULD PERCENTAGE COST RESPONSIBILITIES FOR LOJIC PARTNERS BE BASED AND HOW MUCH WOULD THAT BE FOR EACH PARTNER?

Croswell-Schulte recommendations endorse…

"…restoration of the prior contribution levels as it realistically represents the user communities in main partner organizations."

Metro Government ……………………40%

Metropolitan Sewer District………..35%

Louisville Water Company…………..20%

Property Valuation Administrator…5%

LOJIC partners must come to agreement on this or alternate shared funding ASAP as part of MOU and long term agreement.

4. WHAT APPLICATIONS CAN/SHOULD LOJIC DEVELOP THAT WILL HAVE THE GREATEST IMPACT AND BENEFIT FOR THE COMMUNITY?

What we learned…

- ✓ Internal and external users want more LOJIC applications

- ✓ To determine need and priority, SI Team considered:

  - Responses from internal and external user surveys

  - Croswell-Schulte surveys, user forums, recommendations

  - SI Team knowledge and perceptions

- ✓ Applications were ranked and averaged to determine the highest priority

- ✓ Top 10 internal and external apps reviewed for feasibility

- ✓ Applications related to Open Data ranked high, but considered separately

4. WHAT APPLICATIONS CAN/SHOULD LOJIC DEVELOP THAT WILL HAVE THE GREATEST IMPACT AND BENEFIT FOR THE COMMUNITY?

Top 10 External Applications

- Road Closures
- Routing (Origin-Destination)
- Route Planner ("Traveling Salesman")
- Landmark Place Name Geocoding Service
- Enhanced Snow Route Information
- PVA Subscription - Linked to LOJIC Online
- Online LOJIC Products Estimator
- Mass Mail Generator
- LOJIC Products Generator – Pay Online
- LOJIC Online for Mobile

4. WHAT APPLICATIONS CAN/SHOULD LOJIC DEVELOP THAT WILL HAVE THE GREATEST IMPACT AND BENEFIT FOR THE COMMUNITY?

Top 10 Internal Applications

- Route Planner ("Traveling Salesman")
- Routing (Origin-Destination)
- Landmark Place Name Geocoding Service
- Address Verification Service
- Mass Mail Generator
- Save View Extent, Content, Markup
- Capital Projects Inventory
- Hansen Data Viewer
- Migrate Desktop Applications to Web
- Web-based Feature Data Query

4. WHAT APPLICATIONS CAN/SHOULD LOJIC DEVELOP THAT WILL HAVE THE GREATEST IMPACT AND BENEFIT FOR THE COMMUNITY?

1) **DEVELOP WORKPLAN FOR COMPLETION OF HIGH PRIORITY LOJIC APPLICATIONS**

   - Plan/prioritize with LOJIC Steering Committee
   - Coordinate requirements with required partner staff
   - Develop scope, optimal platform, resources, timelines
   - Design, test, document and deploy applications

5. WHAT CHANGES SHOULD BE MADE TO LOJIC SYSTEM ARCHITECTURE/DATA STORAGE TO OPTIMALLY POSITION LOJIC IN TODAY'S IT ENVIRONMENT?

1) **EXTERNAL (Esri) REVIEW OF LOJIC SYSTEM**

   ✓ Recs/specs to optimize architecture and data storage

   ✓ On-premise versioned database for maintenance

   ✓ On-premise non-versioned database for query/analysis

   ✓ Replicated database for Web access (On-premise or Cloud)

2) **RESEARCH BUSINESS CASE FOR CLOUD COMPUTING**

   ✓ Cloud deployment of AGS (software, data, apps, services)

   • Increased up-time for web services, apps, data

   • Open access to web services

   • Eliminates web traffic from on-premise servers

   • Reduced system outages for maintenance

   • Auto-scale resources during peak (e.g., snow events)

5. WHAT CHANGES SHOULD BE MADE TO LOJIC SYSTEM ARCHITECTURE/DATA STORAGE TO OPTIMALLY POSITION LOJIC IN TODAY'S IT ENVIRONMENT?

3) **ADOPT MOBILE STANDARDS AND STRATEGY**

   ✓ Define partner business case for mobile/field computing

   - Mobile device types
   - Features and OS (tablet and smart phone)
   - Wireless communication services
   - GPS/GNSS location specs and capabilities
   - Server-based or mobile device software

4) **EVALUATE DATA & APPLICATION DELIVERY ARCHITECTURE**

   ✓ Explore optimizing Esri software and templates

   - Esri Local Government Data Models
   - Production Workflows
   - Desktop/Web application templates

6. WHAT STEPS CAN LOJIC TAKE TO STRENGTHEN, ADVERTISE AND REMAKE ITS BRAND AND PROMOTE AWARENESS OF HOW TO USE IT?

What we learned…

- ✓ The recurring question: **"Who are LOJIC's customers?"**
- ✓ Opportunities for:
  - **Branding -** new logo, promo swag, maps for events
  - **Dialog -** meetings with users, agency heads, topical focus groups with internals/externals (e.g., realtors, attorneys, NH groups)
  - **Training -** brown bag lunch demos, topical webinars/seminars, videos (e.g., YouTube, MetroTV)
  - **Promoting Awareness –** local publications (e.g., Business First, Louisville Magazine, C-J), agency/community events, advocacy by Policy Board

6. WHAT STEPS CAN LOJIC TAKE TO STRENGTHEN, ADVERTISE AND REMAKE ITS BRAND AND PROMOTE AWARENESS OF HOW TO USE IT?

1) **DEFINE CUSTOMER FOCUS: Who are LOJIC's customers?**
   - ✓ ROI:
     - Increasing awareness of the value of LOJIC to partners and community
     - Wider, more effective use of LOJIC resources
     - Stronger engagement with customers

2) **ASSIGN TEAMS/RESOURCES TO TARGET CUSTOMER GROUPS**
   - ✓ Approach varies with customer groups
     - Internals (user departments)
     - Externals (licensees, potentials, public)

What we learned…

- ✓ Open Data assumes:
  - • Available and easily accessible via unrestricted download in usable format
  - • Unrestricted reuse and redistribution
  - • Universal participation (no commercial vs non-commercial)
- ✓ Drivers:
  - • Mayor's Executive Order
  - • Decline in LOJIC data/product revenue
  - • Use of alternate data sources
  - • Pressure from Open Data advocates (e.g., Code for America)

7. HOW WILL "OPEN DATA" CONCEPTS/INITIATIVES IMPACT LOJIC MISSION AND OPERATIONS?

What we learned...

✓ More drivers:

- National trend to Open Data (transparency, entrepreneurs, economic development, public expectation, service)

- Fees for service (custom products, applications, analysis)

- Host of other sources for accessible spatial data

- Technology savvy public

- Cost avoidance

7. HOW WILL "OPEN DATA" CONCEPTS/INITIATIVES IMPACT LOJIC MISSION AND OPERATIONS?

1) **ACTIVELY MANAGE/IMPLEMENT LOJIC OPEN DATA THROUGH ESTABLISHED COMMITTEE**

- ✓ Initial workgroup formed and process already begun

- ✓ Objectives…

- • Perform data audit to determine potential Open Data

- • Define partner costs to support Open Data services on LOJIC

- • Define Open Data standards (format, metadata, updates)

- • Present Open Data proposal to LOJIC Policy Board

CONCLUSIONS AND NEXT STEPS

✓ SI Team is confident in the thoroughness and quality of our process, assessments, research, interviews, surveys, consultant analysis and finding and our deliberations.

✓ Internal and external users indicated high level satisfaction with LOJIC, but all want more and better from us…and from you.

✓ Our recommendations are not a definitive roadmap, but indicate the direction LOJIC should grow.

✓ All our recommendations require active horizontal and vertical engagement across all partner agencies at all levels…users to Policy Board.

✓ Meeting the challenges of new opportunities requires renewed commitment, advocacy and support from top management of our partners.

OUR SHORT TERM EXPECTATIONS

✓ **Negotiate and execute a new partnership agreement that defines…**

- Policy Board participation

- Levels of partner funding

- Governance procedures

- LOJIC organization, administration, management

- Who are LOJIC's customers

- What services are expected from LOJIC staff