

# **BUSINESS PLANNING FOR MICHIGAN'S SPATIAL DATA INFRASTRUCTURE**

## **Regional Stakeholder Meetings April 2010**



Michigan SSDI Business Planning Project



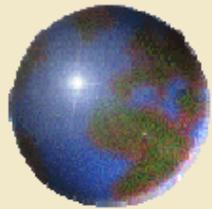
# Michigan SDI Regional Stakeholder Meeting

## WELCOME AND INTRODUCTION



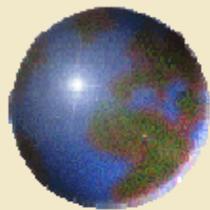
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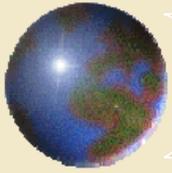
# *Michigan's NSDI Cooperative Agreements Program Grants*

*Paul Harmon  
Michigan Center for Shard Solutions and  
Technology Partnerships  
April 2010*



# *2009 National Spatial Data Infrastructure*

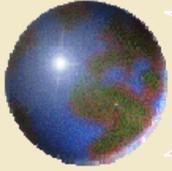
Category 3 – Advancing the Fifty States  
Initiative



# Main Goal:

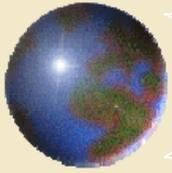
- With full support of the Michigan State CIO and Center for Shared Solutions and Technology Partnerships (CSSTP), the Local and State Cross Boundary Technology Steering Committee will collaborate with existing geospatial communities to develop a geospatial business plan.

Goal 1	Access: Expand Michigan's services to reach citizens and businesses anytime, anywhere <i>Citizens and agencies alike cite the need for simpler and streamlined access points to government services</i>
Goal 2	Service: Deliver efficient and effective technology services and shared solutions to the agencies <i>Meeting and exceeding client expectations</i>
Goal 3	IT Management and Infrastructure: Improving operations, security and reliability through <i>Enabling even more dependable, agile and leading-edge IT operations across state government</i>
Goal 4	Great Workplace: Support a high-performance workforce <i>Attracting and retaining the best technology talent</i>
Goal 5	Cross-boundary Solutions: Foster partnerships across and beyond state government <i>Using technology as a change agent for cross-boundary innovation</i>
Goal 6	Innovation and Transformation: Drive innovative processes and technologies to transform Michigan's government service <i>Rethinking technology and processes; challenging the status quo</i>

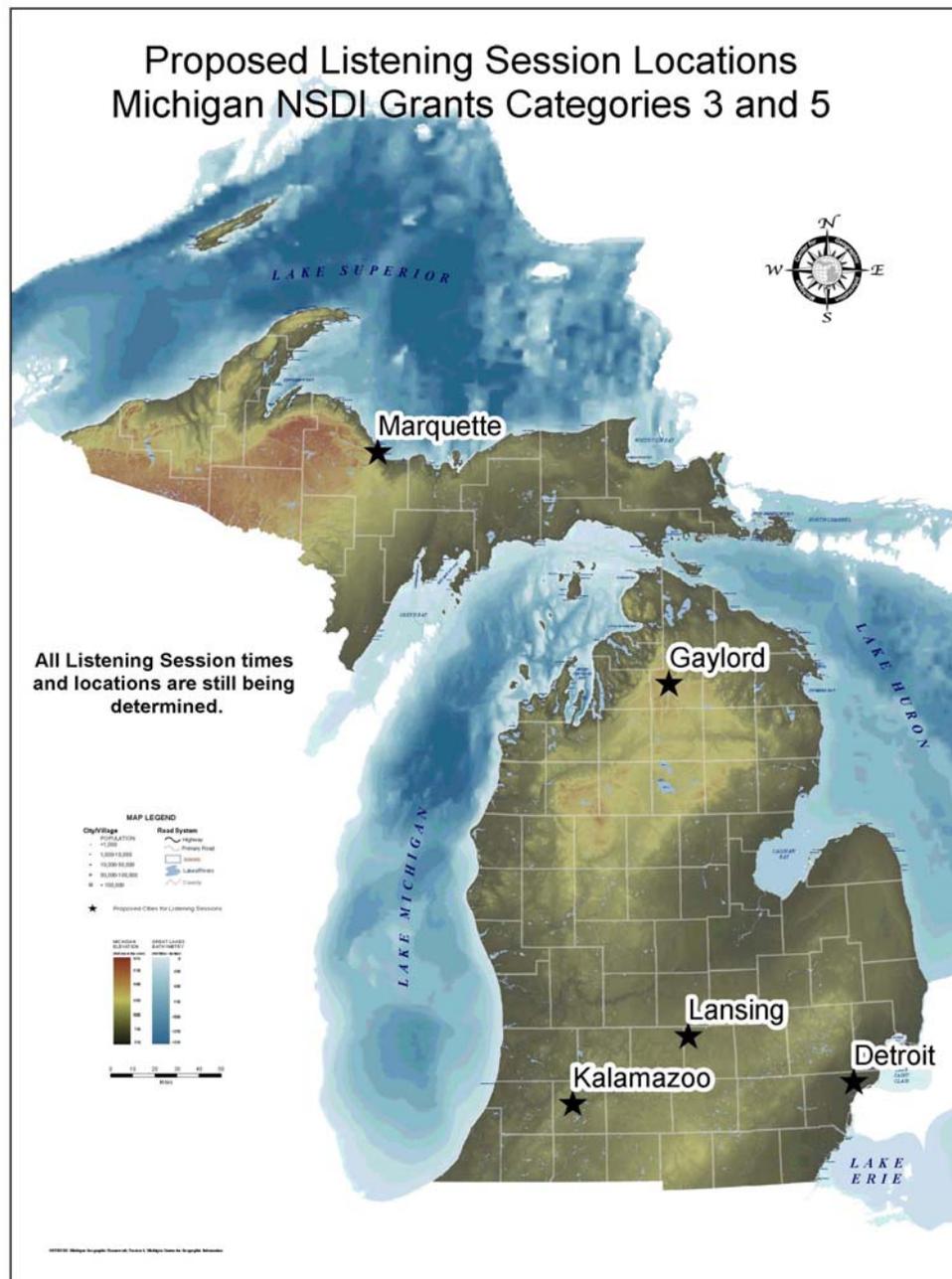


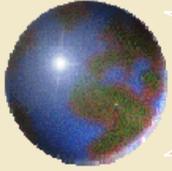
## *At the end of the day...*

- ❖ Increased collaboration among Geo-spatial stakeholders across the State
- ❖ Creation of an actionable Michigan statewide Geo-spatial business plan



## Proposed Listening Session Locations Michigan NSDI Grants Categories 3 and 5





## *Check us out online*

- Available through the Center for Shared Solutions & Technology Partnerships

<http://www.michigan.gov/nsdi>

## Project Goals

- **Get a current picture of the geospatial community statewide and its needs**
- **Build upon the foundation of the Michigan IT Strategic Plan a vision and mission for Michigan's spatial data infrastructure (SDI)**
- **Develop Business Plan addressing business objectives, benefits, and initiatives for the SDI**
- **Build an understanding, consensus, and active support among stakeholders for achieving Michigan's SDI**



# Key Project Personnel

- **Paul Harmon, Project Manager, Dept. of Technology, Management and Budget**
- **Laura Blastic, Project Manager, Dept. of Technology, Management and Budget**
- **Consultants:**
  - **Martin Roche, President GeoPlanning Services**
  - **Peter Croswell, President Croswell-Schulte IT Consultants**



## **Project Phases**

**Phase 1: Project Orientation and Planning Meeting, General Project Set-up and Management**

**Phase 2: Regional Stakeholder Meetings, Information Gathering and Compilation**

**Phase 3: Business Plan Preparation and Presentation**

**Phase 4: Stewardship Enhancement Plan Preparation and Presentation**

**Phase 5: Project Marketing Materials (summary, PowerPoint)**

### **Key Milestones:**

→final Outreach Summary Report: May 7

→final Business Plan: June 4

→full project completion: June 30



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# On-line Survey

- Another opportunity for individuals to provide their perspective
- [www.michigan.gov/nsdi](http://www.michigan.gov/nsdi)
- Everyone is invited to participate in the survey

CGI - NSDI Grant Activities

**dit** Center for Shared Solutions & Technology Partnerships  
Michigan Department of Information Technology

Michigan.gov  
The Official State of Michigan Website

Michigan.gov Home | CSSTP Home | Sitemap | FAQ | Inside CSSTP | Contact CSSTP | DIT Home

Office of Shared Solutions  
**Spatial Technology**  
MI Map Gallery  
MI Mapper  
Geographic Data Library  
Programs, Projects & Initiatives  
Geographic Information Standards  
**Outreach & Promotion**  
Business Intelligence (BI)  
Address Quality  
Business Objects  
Data Transport Tools  
Census & Demographic Data

**Registration**

- **Listening Summit Registration**  
As part of our National Spatial Data Infrastructure (NSDI) grant activities, please join us at one of our Listening Summits around the State of Michigan.

**Survey**

- **NSDI Geospatial Community Survey**  
Please take a moment to participate in an online survey to help gather information to be used in completing two NSDI grants. [More](#)

**Information**

- [What are the NSDI Grants?](#)
- [Contact the NSDI Team](#)

**Documents**

- [Summits - Hold the Date](#)

**MI Business One Stop**  
Departments/Agencies  
Online Services  
Surveys  
NSD feeds

**Quick Links**

- National States Geographic Information Council
- Great Lakes Information Network
- Urban and Regional Systems Association
- Association of American Geographers
- American Society for Photogrammetry & Remote Sensing
- Geospatial Information & Technology Association
- Federal Geographic Data Committee
- U.S. Geological Survey
- U.S. Environmental Protection Agency
- U.S. Census Bureau
- Natural Resource Conservation Service



# On-line Survey

- **Survey Questions Address:**
  - **Organization information**
  - **Current GIS details (if any)**
  - **Business Drivers**
  - **Data Sources**
  - **Limitations to Achieving Desired Business Results**
  - **Stewardship and the Michigan Geographic Framework**
  - **Organizational Benefits from GIS**



# Meeting Agenda Morning Session

## 9:00 to Noon

**1. Welcome and Introduction**

**2. Business Drivers and Business Needs for GIS**

**\*\*\*\*Break (15 minutes)**

**3. High level characterization of GIS Status and Implementation Obstacles**

**4. Specific Data Activities and Needs**

**5. Summarize Morning Discussion**

**\*\*\*\*Lunch (on your own)**



# Meeting Agenda Afternoon Session

## 1:00 to 4:00

1. Welcome, Introduction, Review Morning Session
2. Overview of MGF
3. Collaborative Programs Discussion
4. Data Stewardship and Access
- \*\*\*\*Break (15 minutes)
5. MGF Detailed Discussion
6. Summarize Afternoon Discussions
7. Wrap-Up and Next Steps



# Objectives of this Meeting

- **Learn about status of stakeholder GIS use and business needs**
- **Get input and ideas for achieving the SDI**
- **Craft direction for future of MGF**



# Michigan SDI Regional Stakeholder Meeting

## DEFINITIONS AND TERMS



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# What is a Spatial Data Infrastructure?

**National Spatial Data Infrastructure defined by the  
Federal Geographic Data Committee:**

**“..the National Spatial Data Infrastructure defined as  
the technologies, policies, and people necessary to  
promote sharing of geospatial data throughout all  
levels of government, the private and non-profit  
sectors, and the academic community. “**



# Myths about this Statewide SDI Effort

- It is just for state government agencies--local governments and regional agencies will not benefit
- The “state” is just going to tell us what to do and not consider our particular needs
- No one has enough money for effective GIS development so why take the time to plan for the future
- Senior managers and officials cannot understand the value of GIS technology so we’re fighting a losing battle



# Michigan SDI Regional Stakeholder Meeting

## BUSINESS DRIVERS FOR GEOSPATIAL TECHNOLOGY



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Blah blah blah blah blah, **MicroSoft**, blah blah  
blah blah blah **50,000 dollars**, blah blah blah blah blah  
**Internet**, blah blah blah **150,000 dollars**, blah blah blah  
blah, **maintenance fees**, blah blah blah, **ESRI** blah blah ...



**How purchasing interprets the  
complex language of the technician.**



## Business Drivers for Geospatial Technology

**Definition: A "business driver" is a major program area, need, or challenge that GIS technology and geospatial data can help support or address.**



## Common Business Drivers for Geospatial Technology

- Reduction in labor or operational costs
- Improvement in geospatial data quality and consistency
- Explore new channels and sources for revenue generation
- Enhance/increase inter-organizational partnerships & collaboration
- Improved response to citizens or customers
- Economic/business development and improvement
- Infrastructure improvement and maintenance (transportation, utility)
- Environmental Protection/Natural Resource Enhancement
- Improved land use planning and decision making
- Emergency preparedness and response (protection of life, property)
- Enhancement of health and quality of life for Michigan citizens
- Support quality and availability of education and training opportunities



# Michigan SDI Regional Stakeholder Meeting

## GIS Benefits



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# Cost Benefit Analysis Components

- Evaluate costs over time
- Enumerate current costs
- Project tangible benefits (may be formal ROI\*)
- Compare costs vs benefits over selected period of time
- Identify and “roll-in” intangible benefits

\*ROI is “return on investment”. It implies a quantified analysis and comparison of monetary costs vs benefits over a period of time to determine in the project or system will “pay off”.



## Examples of Benefits

### Hard-to-Quantify (Intangible) Benefits:

- Improved decision-making (land/infrastructure) development planning
- Improved timeliness and quality of data and services
- Protection/enhancement of natural resources
- Legal compliance/protection against expensive legal claims
- Savings of life/property (support for emergency management/response)
- Protection from catastrophic loss of records
- Catalyst for partnerships and information sharing

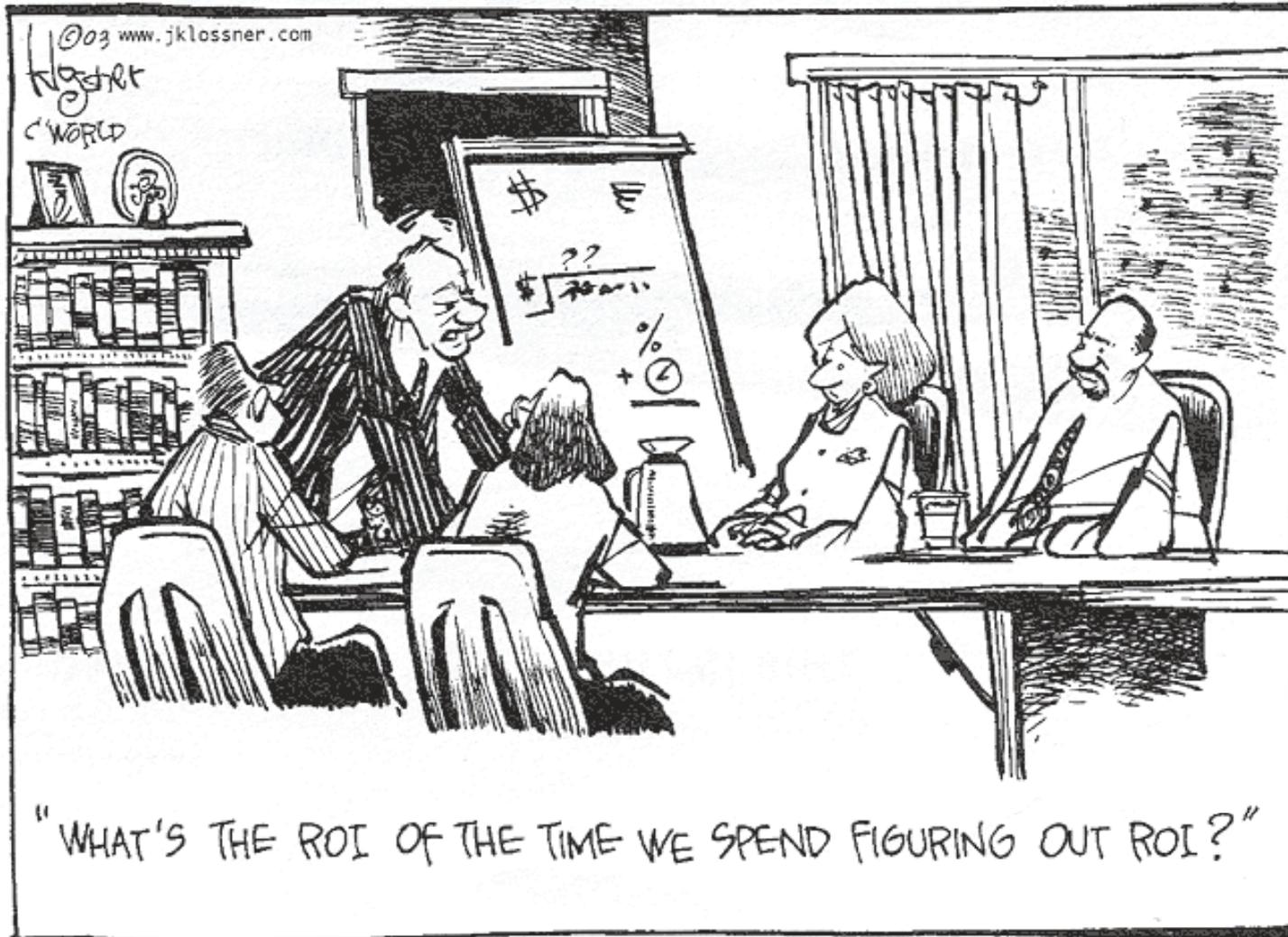


## Examples of Benefits

### Quantifiable benefits (ROI or other measurable benefits):

- Staff productivity and labor cost savings
- Public revenue increase (e.g., improved collection of taxes, fees, fines, insurance claims)
- Reduction in duplication and redundancy
- Asset management (e.g., land and real property management)
- Support for economic and business development initiatives
- Avoidance of new costs (e.g., for responding to new regulations)
- Savings in capital project design
- Savings in infrastructure design and maintenance
- More effective management/allocation of field services
- Leverage/reduce costs through joint funding





# Example of ROI

## Lake County, FL Web Mapping Project

- Assume that 10% of all web page uses would have represented a call or walk-in question
- Assume that each call or walk-in question is 20 minutes of staff time

**810,000 page views/year = 81,000 questions/year**

**81,000 questions/year X 20 minutes = 27,000 hours**

**27,000 X \$15/hour = \$405,000**



# Stewardship

**Definition: “Stewardship” is a sustained program with clear roles and responsibilities for organizations or individuals supporting regular update of and access to spatial data.**



# Michigan SDI Regional Stakeholder Meeting

## BUSINESS DRIVERS AND BUSINESS NEEDS

- Why have you (or will you) implement GIS?
- What are the key reasons for investing in spatial technology, data, and applications?
- What are the key GIS processes that support your operation
- What are your highest priority needs?
- What benefits are you seeing from GIS?



# Business Drivers for Geospatial Technology

**Definition:** A "business driver" is a major program area, need, or challenge that GIS technology and geospatial data can help support or address.

## Overarching GIS Business Drivers

- Response to public demand for information
- Reduction in redundancy, labor time, and cost
- Enhanced Revenue
- Energy costs and efficiency
- Enhancement of environmental quality and sustainability,
- Access to historical geographic information
- Improved geographic data quality and currency
- Support for private business
- Basis for organizational collaboration and partnerships
- Response to public demand for information
- Reduction in redundancy, labor time, and cost
- Enhanced Revenue
- Energy costs and efficiency
- Enhancement of environmental quality, sustainability, and livability
- Management and access to historical geographic information
- Improved geographic data quality and currency



# Business Drivers for Geospatial Technology

**Definition:** A "business driver" is a major program area, need, or challenge that GIS technology and geospatial data can help support or address.

## Program or Discipline-Specific Business Drivers

- Emergency planning/ management and public safety
- Real Property Appraisal
- Economic Development and Tourism Promotion
- Infrastructure Facility management
- Agricultural Productivity and Invasive Species Management
- Floodplain/Flood event management
- Land Development Planning
- Facility planning and design
- Support for improved regulatory decisions
- Educational Program Enhancement
- Grant application support
- Public Health Management
- Land Development Planning
- Facility planning and design
- Support for improved regulatory decisions
- Educational Program Enhancement
- Public Health Management



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# Michigan SDI Regional Stakeholder Meeting

## WHAT ARE THE BENEFITS FROM GIS?

- Tangible benefits? (Can you identify any \$\$\$?)
- Intangible benefits?



# Michigan SDI Regional Stakeholder Meeting

**BREAK!**

**15 Minutes**



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# Michigan SDI Regional Stakeholder Meeting

## STATUS OF YOUR GIS ACTIVITIES

- Current geospatial technology and data use
- Success stories
- Future plans
- Problems/obstacles



## Status of Your GIS Program

- **Operational, in planning or development, undergoing major expansion or change?**
- **Users and key applications**
- **Organizational structure and external collaboration**
- **Plans for future**



# Michigan SDI Regional Stakeholder Meeting

## GEOSPATIAL DATA NEEDS AND PRIORITIES

- Geospatial data types
- Michigan geospatial data standards and activities
- Geospatial data sources and priorities
- Problems/obstacles



# Business Plan Sections

**1. Strategic Summary** (project background, summary of vision and goals)

**2. Overview of Future SDI Architecture and Requirements**

SDI Architecture Overview (data, technology, organizational structure, standards/policies)

**3. Benefits and Justification**

Types of benefits - Experiences in other States - Business Needs and Anticipated Benefits

**4. Implementation Initiatives, Timing, and Resource Requirements**

Strategic Initiatives, Results, Deliverables - Phases and Timing - High-Level Budget - Internal Resource Needs

**5. Implementation Management and Monitoring**

Management Structure and Approach - Roles and Responsibilities - Risk and Change Management Strategy - Monitoring and Reporting on Progress - Marketing and Outreach Approach



# Regional Stakeholder Meeting

## Summary

**Please complete the on-line survey**  
**[www.michigan.gov/nsdi](http://www.michigan.gov/nsdi)**



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**LUNCH BREAK  
RETURN IN ONE HOUR**



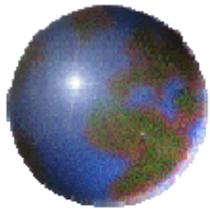
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# Meeting Agenda Afternoon Session

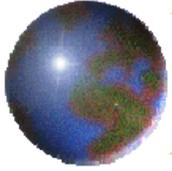
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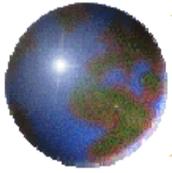
# *2009 National Spatial Data Infrastructure*

Category 5 – Building Data Stewardship  
for *The National Map and the NSDI*



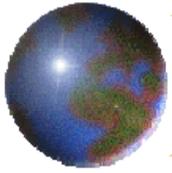
# *Center for Shared Solutions and Technology Partnerships*

- Our vision is that, through technology, we will endeavor government to be more efficient and effective.
- Our mission is to transform government with IT being the catalyst, fostering collaboration across government lines. We will do this by sharing resources to eliminate duplication of effort and reduce costs.
- Our goal is to build once, serve many, operate as one unit with a single entry point to reduce costs, provide more and better services to citizens and make crossing government lines seamless



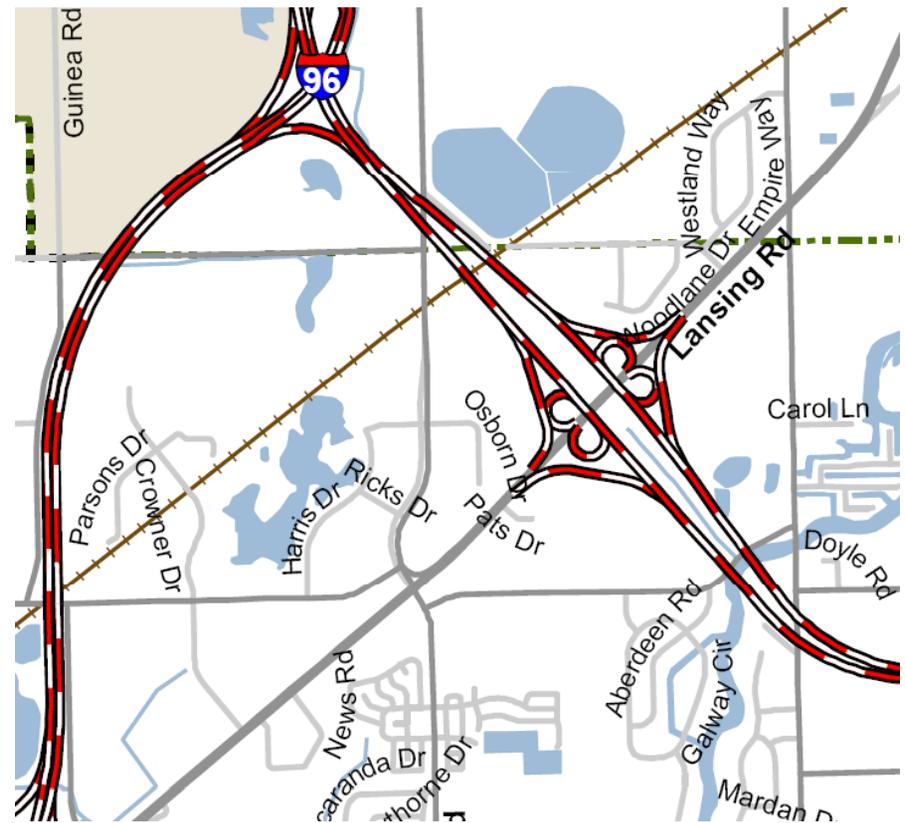
## *Shared Solutions*

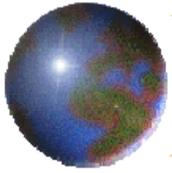
- ⊕ Spatial Technology
- ⊕ Business Intelligence
- ⊕ Address Quality
- ⊕ ETL
- ⊕ Census & Demographic Data
- ⊕ Technology Partnerships



## *NSDI Data Stewardship:*

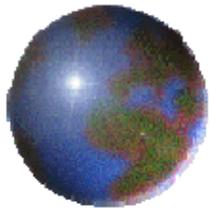
- Build Transportation Data Steward Partnerships (TDSP) participating in Michigan Geographic Framework maintenance in a capacity for 100% TDSP coverage for the State of Michigan.
- Create a Marketing Plan to promote the benefits of the collaboration for all levels of government .



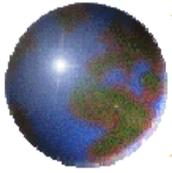


## *Activities during the Grant period:*

- ❖ Survey the MGF user community
- ❖ Categorize the user community into capability groups
- ❖ Identify requirements for interfacing between the MGF and each group
- ❖ Create design plans, processes and procedures to standardize distribution of the MGF changes

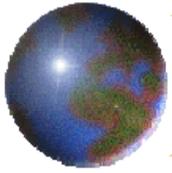


# *Michigan Geographic Framework*



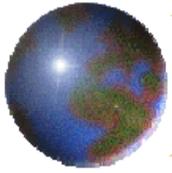
## *Framework - Purpose*

- Statewide Seamless Base Map
  - Transportation (Roads, Rail, Bridges)
  - Hydrography
  - Boundaries (City / Village / Townships, Political, Census, School Districts and IDS)
- Linear Referencing System
  - Allows users to reference tabular data to the Framework base map
  - Able to administer programs that use location-based information and need to relate one dataset to another geographically



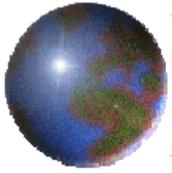
## *Framework History*

- Multi-departmental effort began 1996
  - Major players – MIC, MDOT, MDNR, DOS
- Conflation of Census Bureau's TIGER attributes to the DNR's MIRIS linework
  - Contained the features most agencies needed to meet their business needs
- Incorporated a Linear Referencing System built from the Michigan Accident Location Index (MALI)
- First Delivery was in 2001



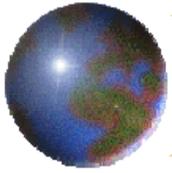
## *Major Framework Updates*

- Repositioned to the USGS DOQQ's
  - Named Roads Only
  - 1:12,000 scale (+/- 33 feet accuracy)
- Address updates from TIGER 2000 data
- Reconciled annually with Act51 certification
- Boundary Annexations updated annually
- New Roads added from various sources:
  - Act 51, MSP (Crash), QVF, data collections, imagery
- Local Data Partnerships



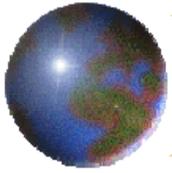
## *Partnerships*

- ❖ Utilize partnerships with local agencies to create a current and cost efficient product
- ❖ Types of data from local agencies: Address Ranges, Road Names, Zipcodes as well as New Development
- ❖ Must be beneficial for both agencies



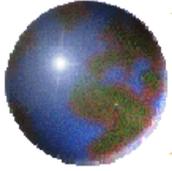
## *Oracle Migration Project Overview*

- Present Environment – ESRI Coverage and Microsoft Visual FoxPro
- New & Improved – Oracle Spatial 11g Database (Topology Model) with ERDAS ADE web interface
- System Broken into Two Parts
  - Workflow Manager – Manage work requests, review process, and administrative functions
  - MGF Editing Environment – GIS editing functionality



## *Status*

- ⦿ Currently –
  - Data model complete
  - Data loaded into the database
  - Workflow Manager – development 80%
  - MGF Editing Environment
    - Finalizing the editing requirements
    - Functional Design - Development on Business Rule Engine
    - Testing begins May 2010
  - Move to Production in June 2010



## *Future Expectations*

- More streamlined and efficient editing with QC upfront
- Open the system to external users for direct input and request changes MGF data.
  - Secure User Accounts – control edits by geographic location and / or data field
- More frequent deliveries and on-demand data exports
- Create process / tools to link local data to MGF and upload changes.
- Create data pushes from the MGF to other systems
- Future, Future – realtime application access to the MGF data

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## COLLABORATION PROGRAMS

- Have you been involved in an collaborative projects or programs?
- What makes a collaborative effort successful?
- What causes a collaborative effort to have less than ideal outcomes?



# Michigan SDI Regional Stakeholder Meeting

## STEWARDSHIP AND DATA ACCESS

- How do you and your organization define “stewardship”?
- What are the key business drivers that suggest active participation in stewardship activities?
- What are the business drivers that cause your organization to avoid data sharing?
- What are your data sharing and distribution policies?



# Michigan SDI Regional Stakeholder Meeting

## STEWARDSHIP AND DATA ACCESS

- “Stewardship” a sustained program with clear roles and responsibilities for organizations or individuals supporting regular update of and access to spatial data.



# Michigan SDI Regional Stakeholder Meeting

**BREAK!**

**15 Minutes**



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# Michigan SSDI Regional Stakeholder Meeting

## MGF Discussion

- Do you participate in MGF? At what level?
- What is the business driver(s) for participation?
- What is the business driver(s) for non-participation?
- What is the appropriate future of the MGF to best meet your needs?



# Michigan SDI Regional Stakeholder Meeting

**Time Permitting:  
Other DTMB Program Areas  
Focus on**

Michigan Center for Shared Solutions and  
Technology Partnerships (CSSTP)



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# Michigan SDI Regional Stakeholder Meeting

## Wrap Up

- Summarize findings
- Discuss next steps
  - Continued participation by GIS community
    - “Virtual” Summit in May
  - Document production and posting



# Regional Stakeholder Meeting

**Thank you!**

**Please complete the on-line survey  
[www.michigan.gov/nsdi](http://www.michigan.gov/nsdi)**



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