

GIS-T Symposium

GIS and the Other Enterprise Database

March 31, 2004 Rapid City, South Dakota

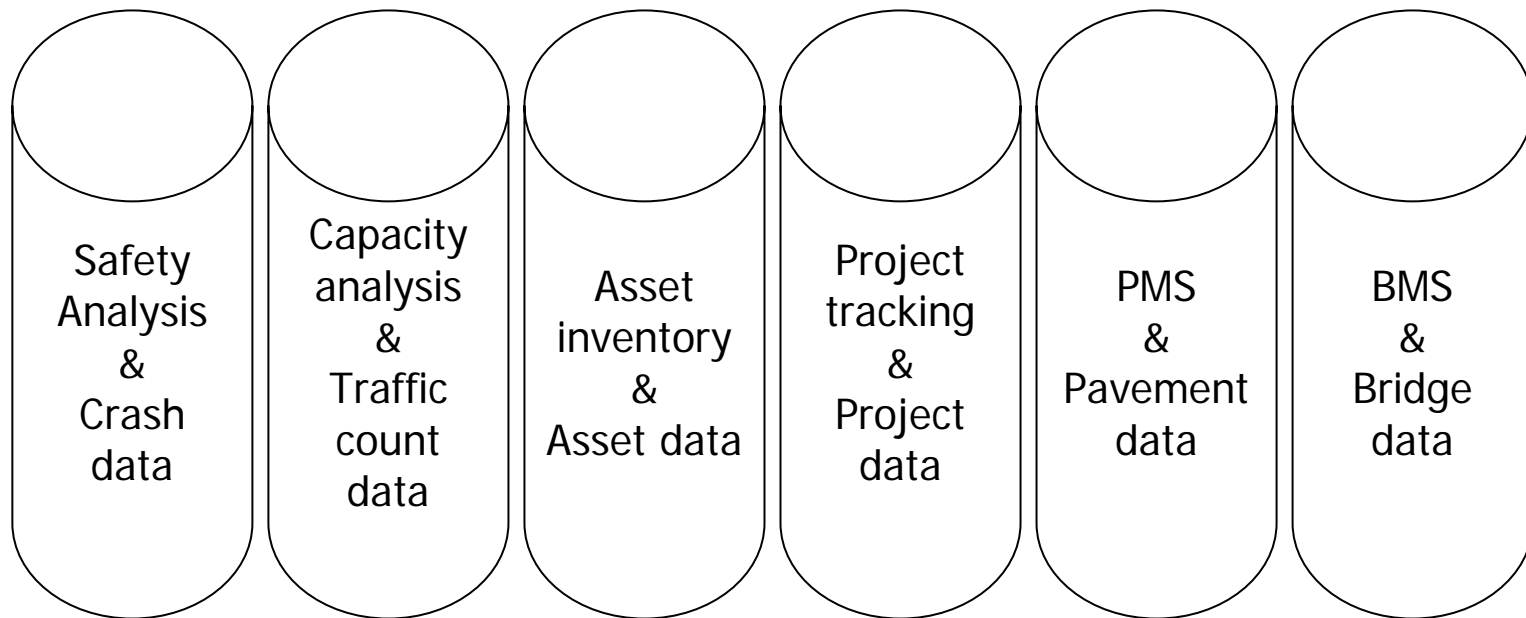


- ◆ **Personal thoughts on recent evolution of GIS**
- ◆ **Shift in perspective from GIS-centric to asset-centric**
- ◆ **Driven by technology, but really about what we do**

- ◆ **GIS is integrating technology**
- ◆ **Promised to be hub of enterprise systems**
- ◆ **True technologically, but not departmentally**
- ◆ **Technology now ubiquitous and commoditized**
- ◆ **What about the GIS Department?**

- ◆ **Broadening role**
 - Project
 - Departmental
 - Enterprise
 - Societal
- ◆ **Greater diversity**
 - Diverse technology
 - Diverse uses
 - Diverse users
- ◆ **Loss of coherence?**

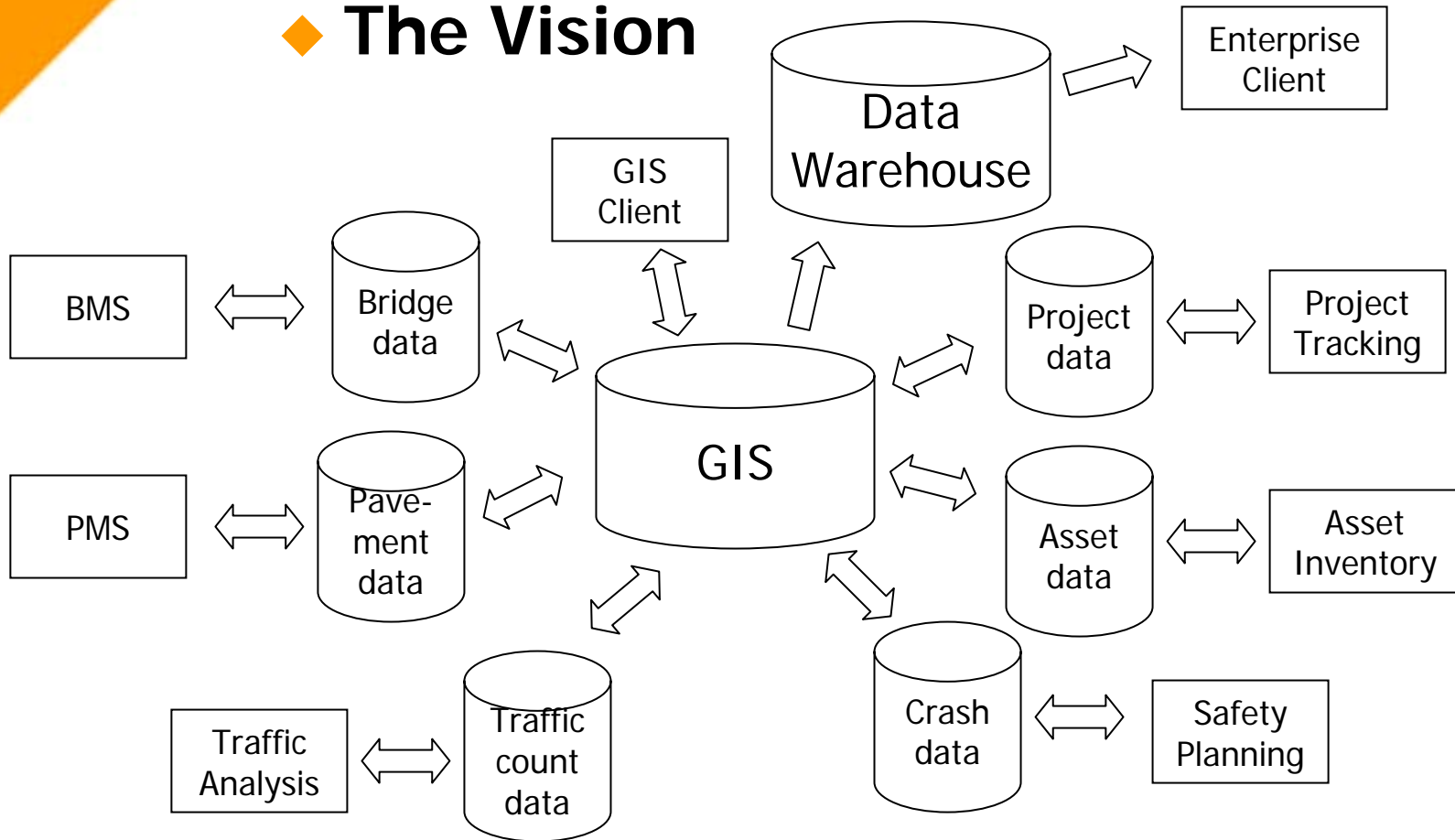
◆ The old problem



◆ The GIS hub is seen as a way of integrating business or data silos

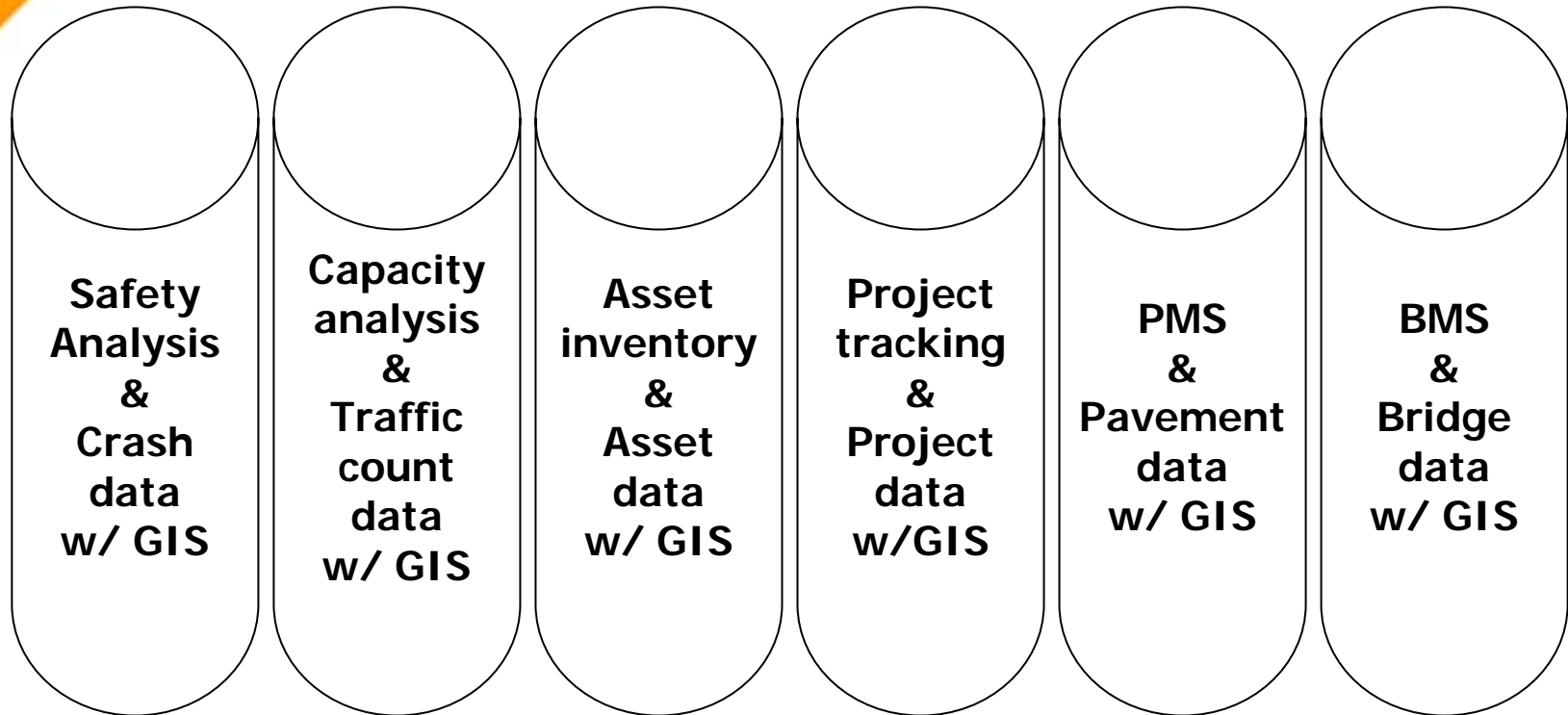
GIS-Centric Integration

◆ The Vision



◆ The GIS provides an integrating technology and data

◆ The reality

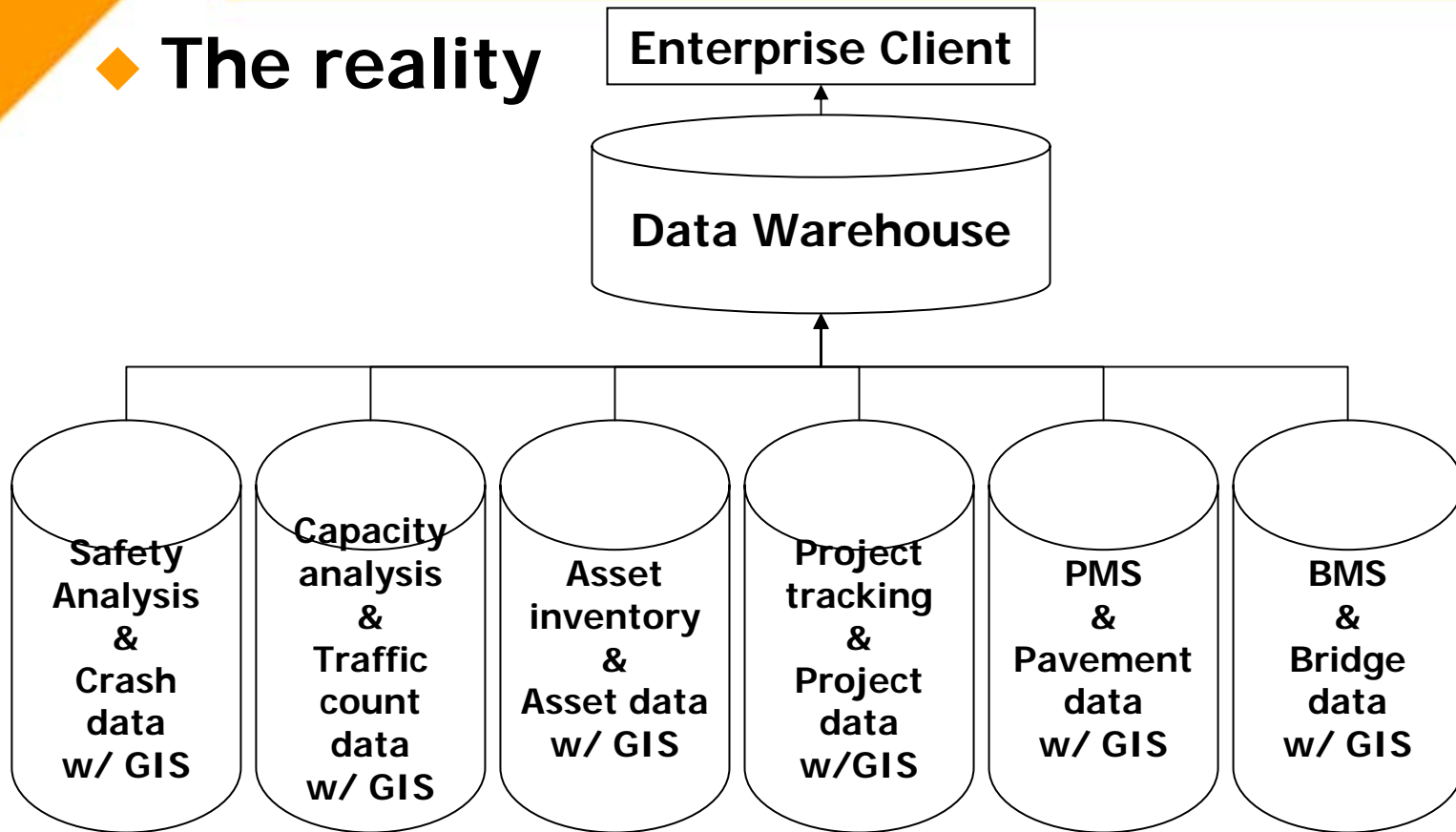


◆ GIS is integrated into each silo

- Records have geography
- Map-based client applications

GIS Makes Silos Interoperative

◆ The reality



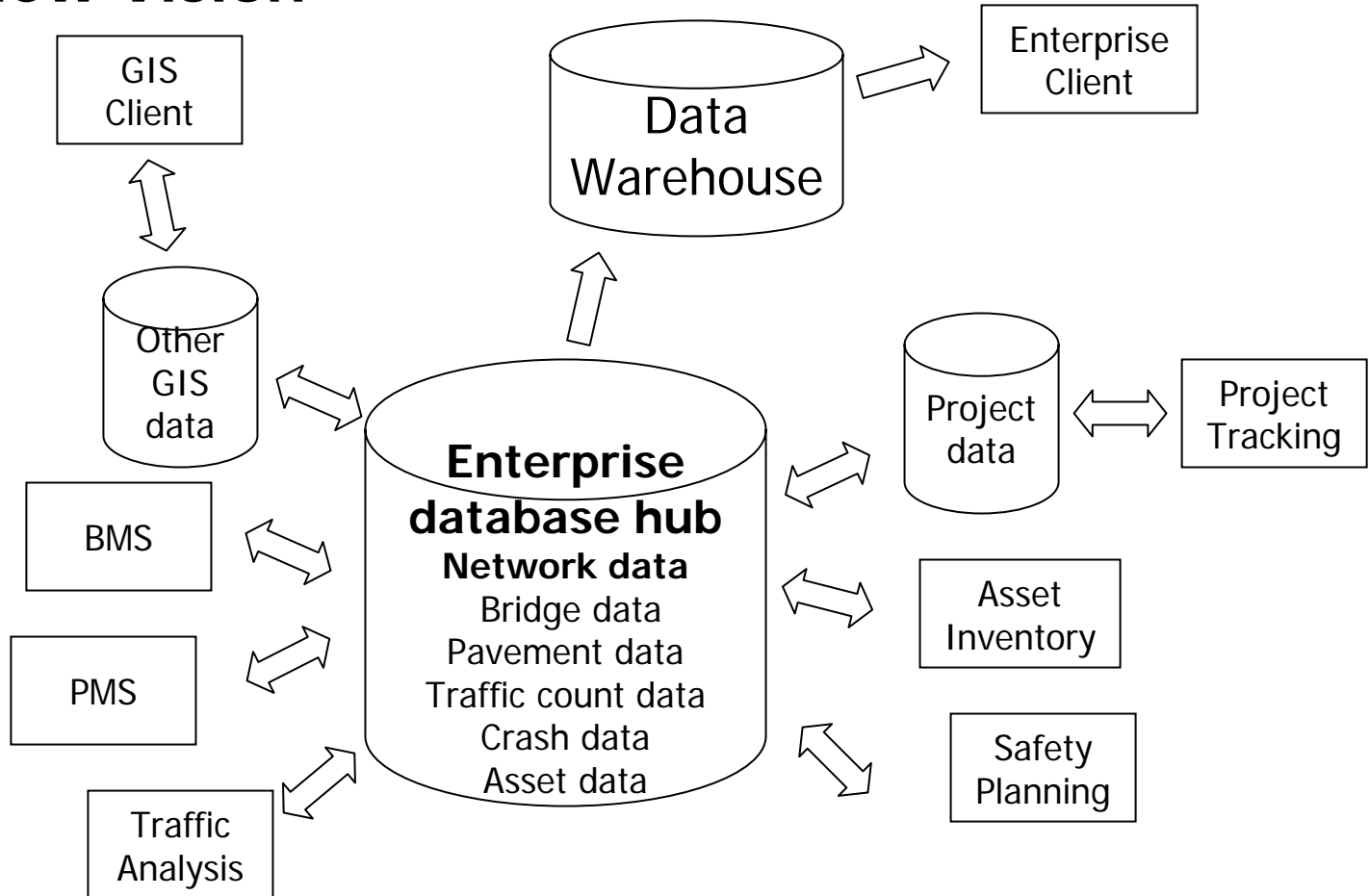
◆ GIS enabled silos are interoperative

- Compatible coord reference systems
- Compatible spatial data formats

- ◆ **GIS promised to integrate silos**
- ◆ **Now it is one**
- ◆ **Silos did integrate GIS**
- ◆ **They are now interoperable with each other and with new GIS silo**

Integrated Enterprise Database

◆ New Vision



◆ Enterprise database integrates spatial and business data

What's Going On Here

**Network
database**

**GIS
database**



**Spatially enabled
network
database**



**Enterprise
database hub**



What are the implications

- ◆ **Many Implications for GIS**
 - GIS Technology Implications
 - GIS Software Implications
 - GIS Data Implications
 - GIS Organizational Implications

◆ GIS Is Core Technology

- Spatially Enabled Network Database
- Database Vendors Support GIS
 - Enhanced SQL
- GIS Vendors Support databases
- Spatial Features and LRS are Commodities

◆ GIS Is Distributed

- Desktop Workstation all but Dead
- Traditional Client Server in Decline
- Thin Client on the Rise
 - This means middleware

GIS Software Implications

- ◆ **There's more than ever**
- ◆ **It's better than ever**
- ◆ **It's more commoditized than ever**
- ◆ **It's everywhere**

Data collection	ArcPad
Database	Oracle Spatial
Middleware	GeoMedia Web Map
Desktop	ArcGIS
Browser	AnyGIS

- ◆ **Better temporal accuracy**
 - Transactional databases replace annual snapshots
- ◆ **Better completeness**
 - More records have geography
- ◆ **Better spatial accuracy**
 - 1:12,000 DOQQ set the standard



GIS Organizational Implications

- ◆ **Two separate but related questions**
 - Whither The GIS Group
 - What Do GIS Staff Do

Whither GIS Group?

- ◆ **“GIS is a tool, not a section”**
- ◆ **Planning?**
 - Most Common
 - GIS Used For Data Analysis And Presentation
- ◆ **Cartography?**
 - GIS Replacing CAD For Thematic And Online Maps
- ◆ **Information Services?**
 - Growing
 - DBA Services
 - Application Development
- ◆ **All of the above?**
 - Means No Single GIS Group
 - Best Match For Distributed GIS
 - GIS Professionals In Several Departments
 - What Do They Do?

What Do GIS Professionals Do?

- ◆ Database Design
- ◆ Project Management
- ◆ Cartography
- ◆ Application Design
- ◆ Application Development
- ◆ Training
- ◆ Transportation Planning
- ◆ ROW Property Management
- ◆ Public Information
- ◆ Map Production
- ◆ Database Administration
- ◆ Data Processing
- ◆ Web Site Design
- ◆ Web Site Administration
- ◆ System Integration
- ◆ Environmental Planning
- ◆ Federal Reporting
- ◆ Travel Demand Forecasting
- ◆ Surveying
- ◆ Spatial Analysis

- ◆ **GIS professionals tackle broad range of tasks when GIS is enterprise database hub in its own right**
- ◆ **Other professionals tackle many of these when the enterprise database is not GIS centric (even though it is still spatially enabled)**
- ◆ **What tasks are best done by GIS professionals?**

What Must GIS Professionals do?

- ◆ Database Design
- ◆ Project Management
- ◆ Cartography
- ◆ **Application Design**
- ◆ **Application Development**
- ◆ **Training**
- ◆ Transportation Planning
- ◆ ROW Property Management
- ◆ Public Information
- ◆ Map Production
- ◆ **Database Administration**
- ◆ **Data Processing**
- ◆ Web Site Design
- ◆ Web Site Administration
- ◆ System Integration
- ◆ Environmental Planning
- ◆ Federal Reporting
- ◆ Travel Demand Forecasting
- ◆ Surveying
- ◆ **Spatial Analysis**

◆ GIS DBA

- Smarter than your average DBA
 - Coordinate Systems, Projections
 - Topology
 - GIS Metadata
- Responsible for
 - Base Map Planning
 - GIS Data Standards
 - GIS Data sharing

◆ GIS Application Development?

◆ GIS Training?

- ◆ **Spatial Analysis (e.g. Corridor studies, environmental impact)**
 - Design Study
 - Gather Data
 - Carry out analysis
 - Present results

Conclusion

- ◆ **GIS may not be a section, but it's more than a tool**
- ◆ **It's a set of skills and methodologies, but that doesn't make it a profession**
- ◆ **Focusing on GIS technology distracts from it's purpose**
- ◆ **Someone has to get the data right**



Thank you

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