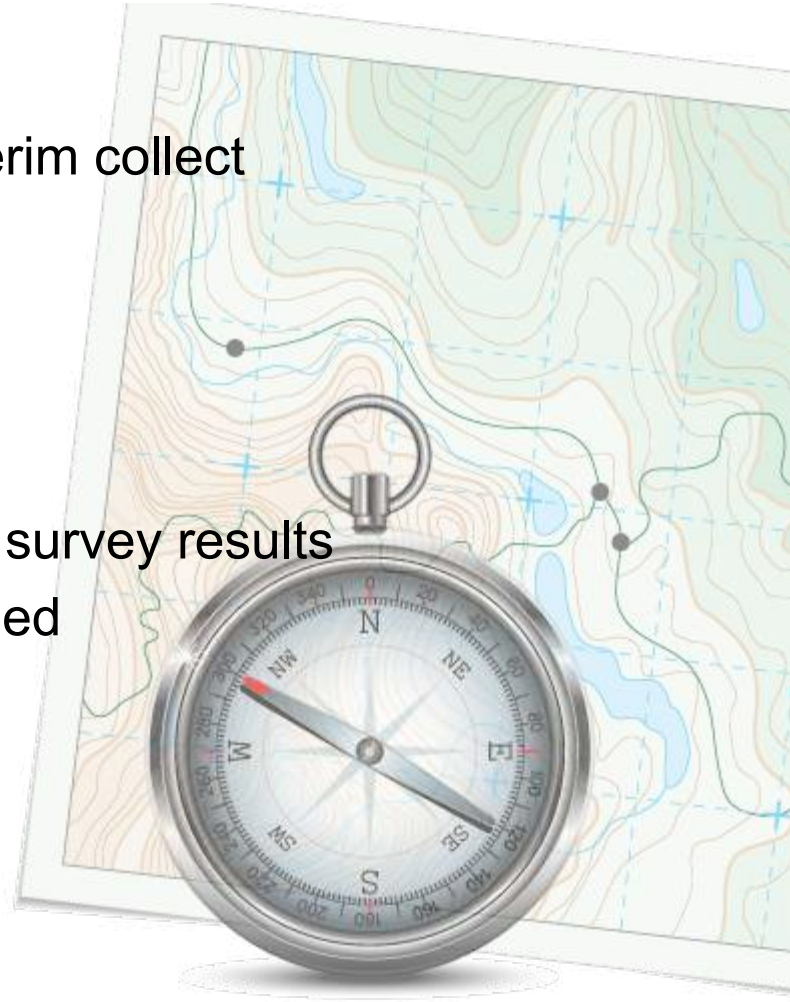
Statewide Geospatial Advisory Committee

January 28, 2015

AGENDA

- Call to order and introductions
- Approval of Sept. 24 meeting minutes
- General fund proposal update
- Next Generation 9-1-1 project
- Parcel, centerlines, address points interim collect
- Data sharing initiatives update
- Break – Networking
- Archiving issues
- FSA NAIP 2015
- Higher education GIS training/courses survey results
- Discussion of enterprise services needed
- MnGeo priority efforts updates
- Adjourn



Introductions

Approval of September 24 minutes

Nancy Rader, MnGeo

General fund update and discussion…

Dan Ross, MnGeo

Key Points to the Proposal

- No longer a Recorders Fee request
- MN Geospatial Commons as a focal point for delivery and collaboration
- Proposal identifies key items to pursue
- Focuses on aggregation, standardization and statewide
- Publicly available – data and services
- This Council will guide investments
- Focus on ongoing programs – not one-time projects

Request status…

Not in the Governor's budget…

What does that mean?

- It will not be included for review at the legislature this year
- We will try again next year
- Pursuing funding from other sources

Discussion: Where do go from here?

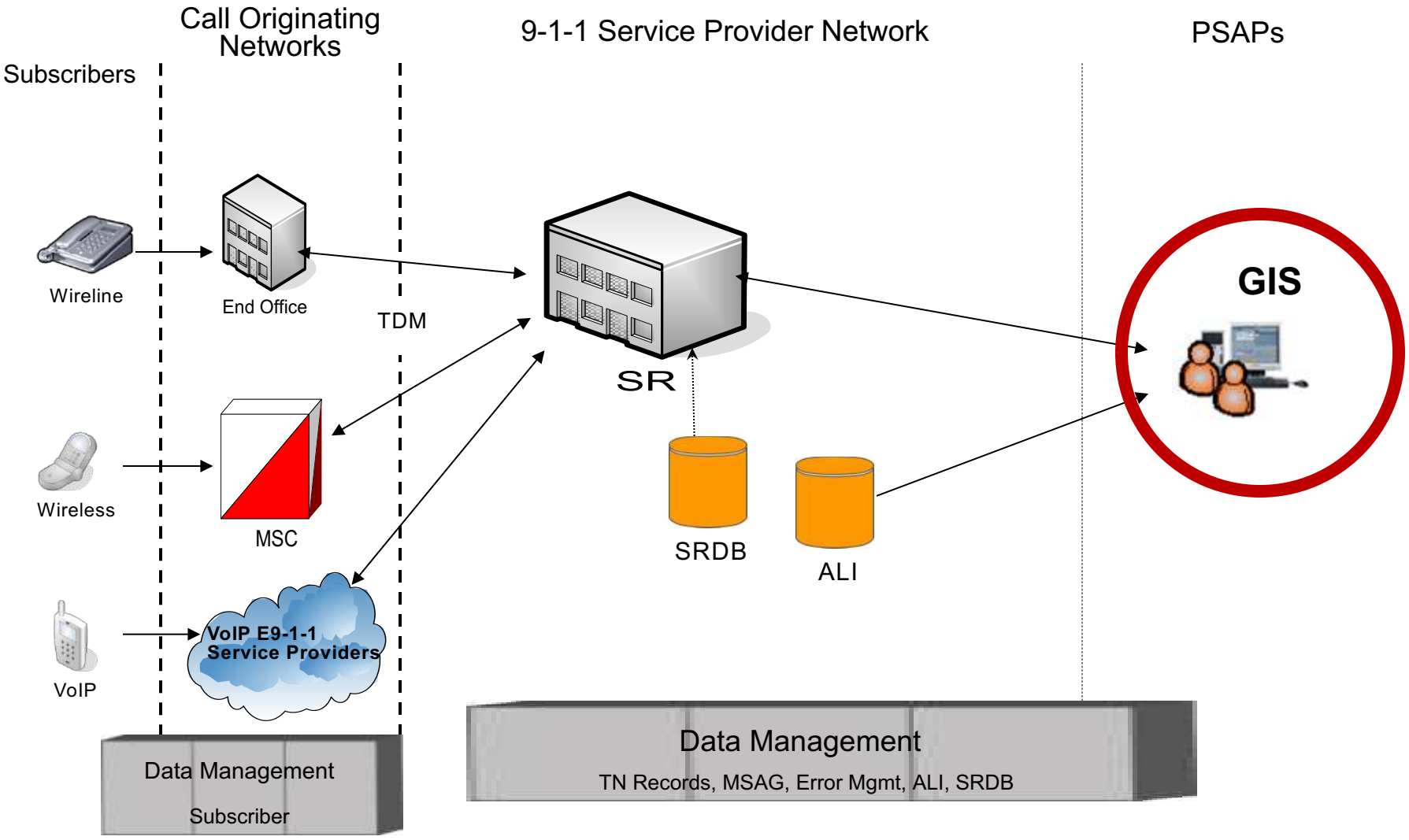
Identified items in the support documents for the request…

- Parcels
- Addresses
- Centerlines
- Next Generation 9-1-1 data layers
- Aerial Imagery
- LiDAR
- Hydrography

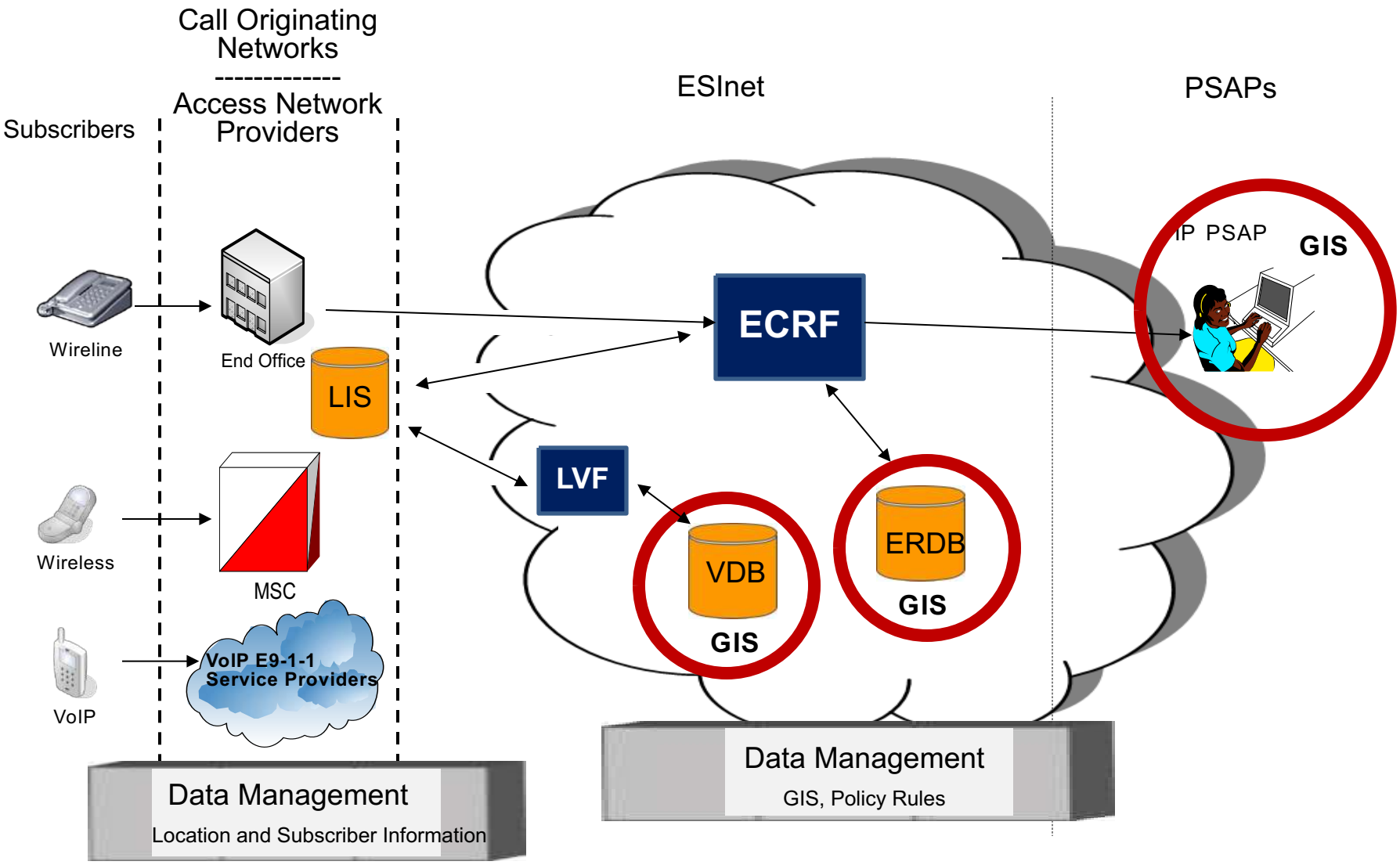
Next Generation 9-1-1 project

John Hoshal and Adam Iten, MnGeo

GIS Data in Legacy 9-1-1 Environment



GIS Data in NG9-1-1



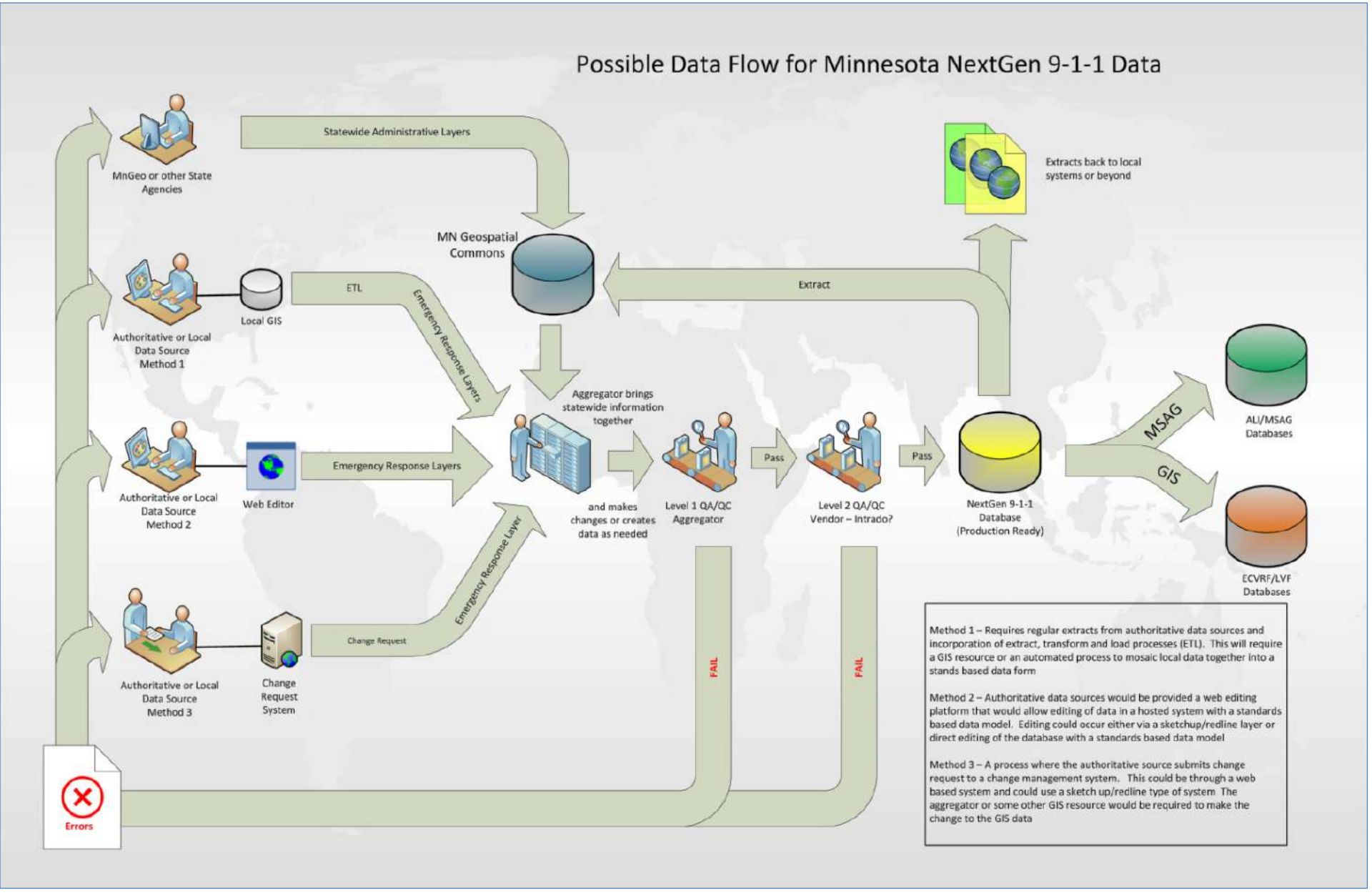
The NG9-1-1 GIS Project

- **DPS is the lead agency**, providing overall coordination and oversight of the NG 9-1-1 program.
- **MnGeo will take on the principal role** of coordinating the aggregation, development, standardization, quality assurance and maintenance of geospatial data needed for NG9-1-1.
- **Actively engage** PSAPs, federal, tribal, state, regional and local jurisdictions in Minnesota in the collection, aggregation and maintenance of geospatial data required for NG9-1-1.
- **Identify "core" NG9-1-1 geospatial data** that may be available from federal, tribal, state, regional and local jurisdictions in Minnesota.
- **Define a common data model** and successfully transition collected data to the defined schema.

The NG9-1-1 GIS Project

- **Validate local data** against statewide datasets and report findings back to local governments.
- **Identify and determine resources** necessary for a repeatable process for gathering, aggregating, standardizing, and storing the data for the State of Minnesota.
- **Identify areas of the State** where geospatial data and accuracy can be improved and identify funding to accomplish these improvements.
- **Make statewide geospatial data available** to stakeholders and provision data to NG9-1-1 services.

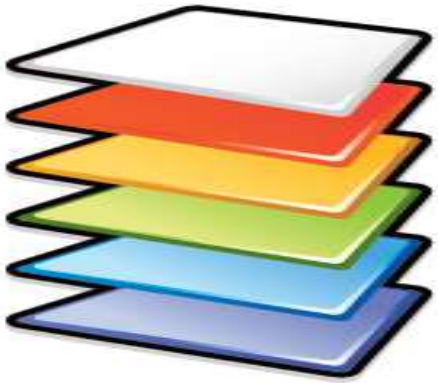
Possible Geospatial Data Flow



GIS Data for NG9-1-1

Required

- Street Centerlines
- Address Points
- Parcels
- Emergency Service Boundaries
  - Fire
  - Law
  - Medical
  - PSAP
- Community Boundaries
- Authoritative Boundaries



Recommended

- Water Features
- Railroads
- Trails
- Driveways
- Mile Markers
- Common Places
  - Schools
  - Churches
  - Hospitals
  - Businesses
  - Landmarks
- Cell Towers
- AVL
- Weather
- Traffic
- Camera Feeds
- Imagery
- 3D Landscape and Buildings
- Premise Info

GIS in NG9-1-1

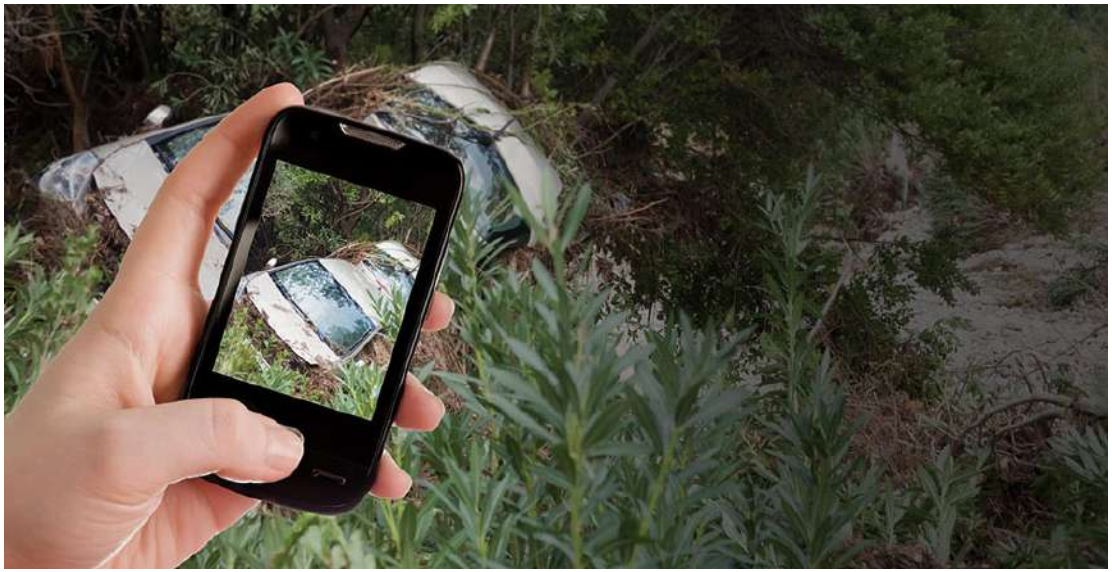
Who's involved?

- Government: Tribal, City, County, Regional, State, National
  - DPS, MnGeo, DOT, DNR
  - MESB, MetroGIS
  - City and County GIS Departments
  - PSAP Managers
  - Call takers, Dispatchers, and Responders
  - MSAG Coordinators
  - Addressing, Planning and Zoning, Assessor's Office
  - Schools, Colleges, and Universities
- Vendors and Contractors

Current Project Tasks

- Project Plan
- 9-1-1 GIS Survey
- Outreach to PSAPs and GIS sources
- 9-1-1 GIS Standards
- NG9-1-1 GIS Committee

Thank you!

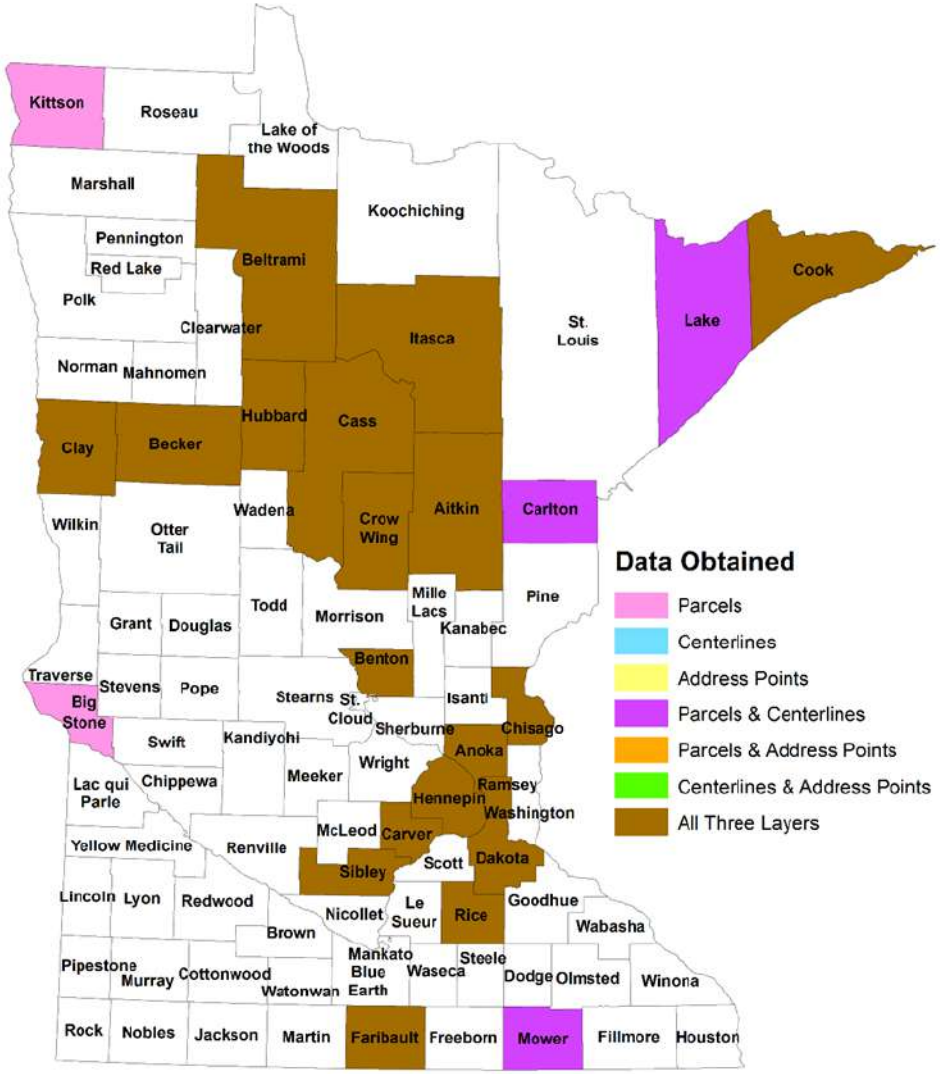


Adam Iten, Project Manager
Adam.Iten@state.mn.us
651-201-7559

John Hoshal
John.Hoshal@state.mn.us
651-201-2482

Parcel, centerline, address points interim collect update

Jim Krumrie, MnGeo



Status of County Data Collection

(as of 1/26/2015)

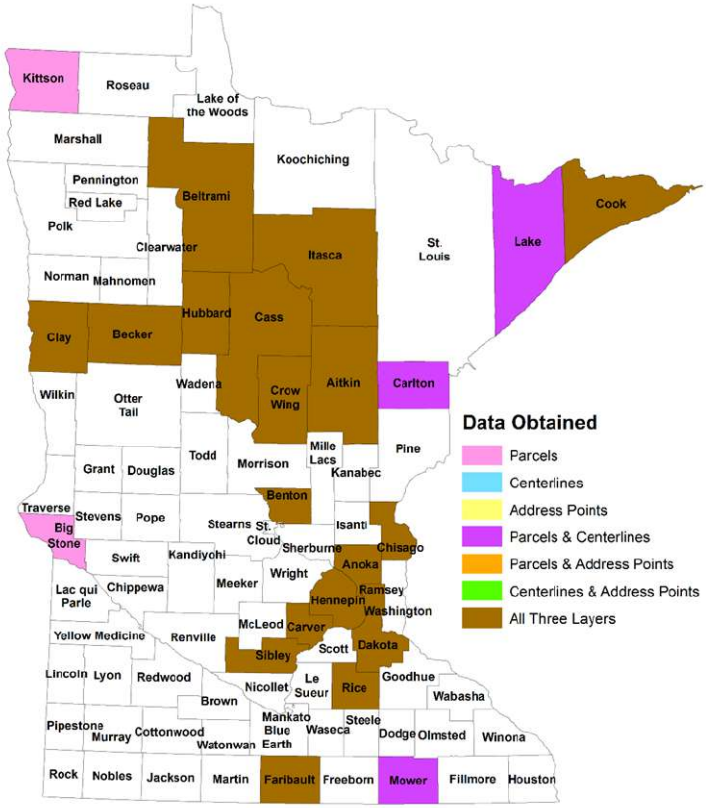
87 counties

- 50 counties contacted
- Data collected from 24

3 cities

1 Indian Reservation

Schedule



Milestones	Target Date
Collect all available data	May 2015
Standardize the three layers	Oct 2015
Aggregate the three layers into single statewide datasets (likely to have gaps)	Jan 2016

Issues, Concerns and Risks

Limited resources available to work on this

Although most counties seem to have at least Parcels...

- Many partners are reluctant to share especially with the public (i.e. require data release agreements)
- Data content and quality varies between counties (and sometimes within counties)
- Many partners do not respond quickly to the requests therefore requiring the need to contact multiple times

No established standards for data (although…)

- Draft standard being discussed

MnGeo's Proposal for Future Parcel Data Collection

Leverage Department of Revenue's new property records system

- To be implemented in September 2016 and then updated quarterly
- Contains most attributes requested by Minnesota Parcels and Land Records Committee (more may be added after 2016)
- Data already standardized

PRISM
Property Record Information System of Minnesota

MnGeo would collect parcel boundaries and join with PRISM-supplied attributes

Data sharing Initiatives

Dan Ross/Geoff Maas

Free + Open Data: Recent Developments

Clay County

Adopted a ‘free and open’ resolution (Oct 28, 2014)

Washington County

Adopted a ‘free and open’ resolution (Nov 18, 2014)

Stearns County

Published their data on their website (Dec 2014)

Sherburne County

‘Zeroed out’ their fees for GIS Data (Jan 1, 2015)

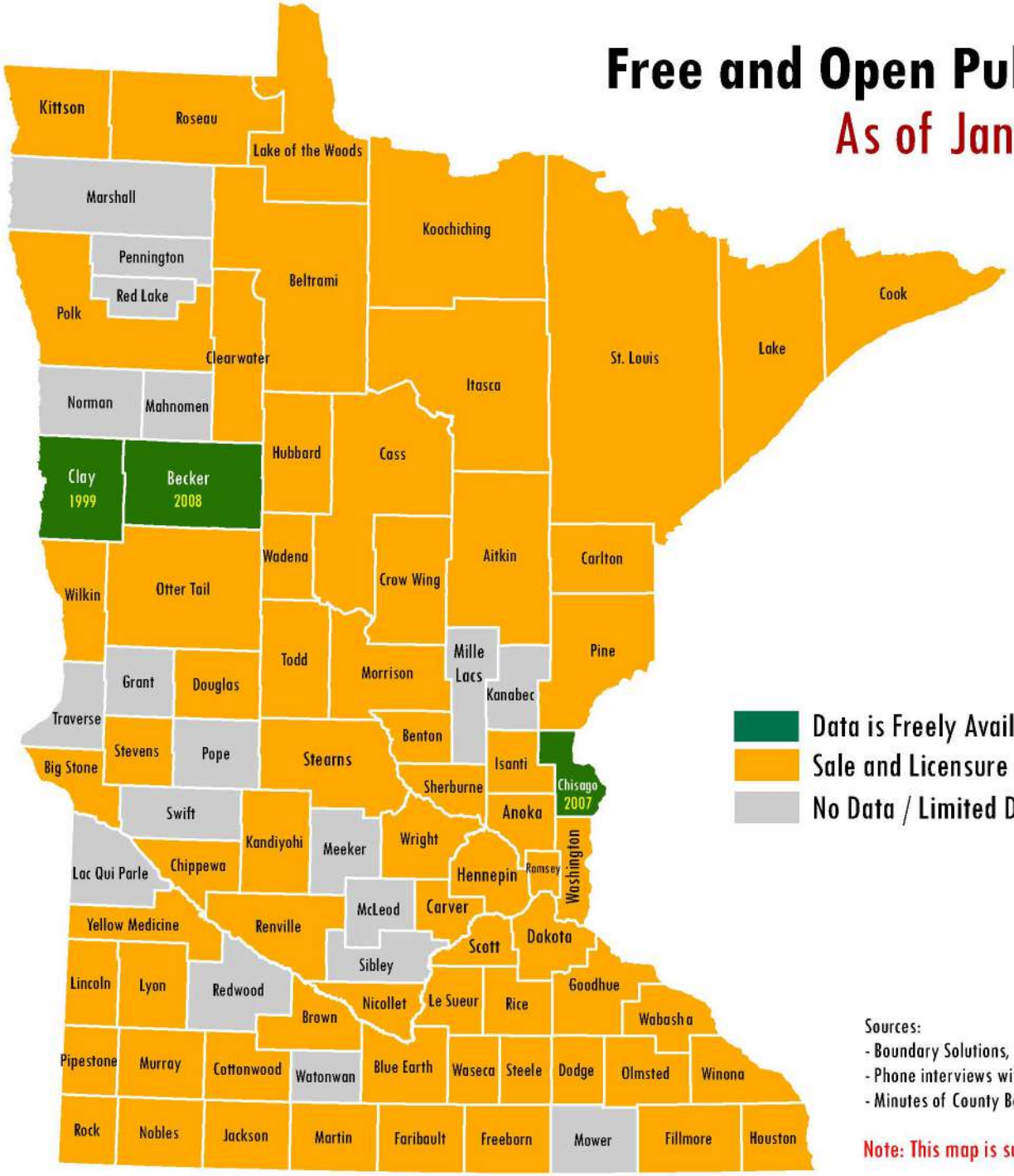
Borchert Map Library Staff

(University of Minnesota)

Volunteered to track county by county data availability

Free and Open Public Geospatial Data

As of January 1, 2014



Data is Freely Available: No Formal Policy Adopted

Sale and Licensure of Data

No Data / Limited Data Available

Sources:
- Boundary Solutions, Inc. (2014 data)
- Phone interviews with staff in counties in Minnesota (2014)
- Minutes of County Board Proceedings (2014)

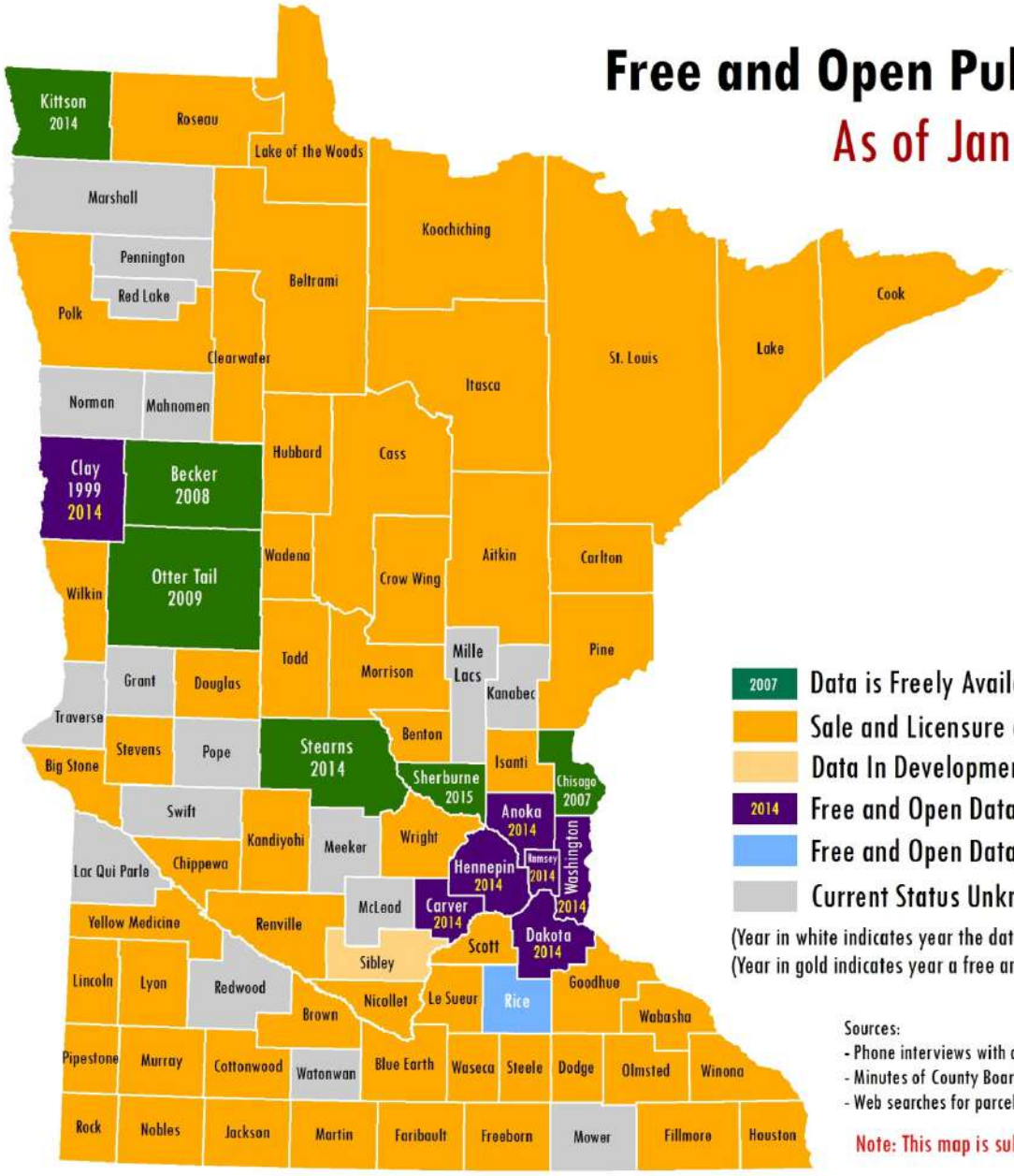
Note: This map is subject to frequent updates

MetroGIS™

Map: G. Mees, MetroGIS

Free and Open Public Geospatial Data

As of January 1, 2015



2007 Data is Freely Available: No Formal Policy Adopted

Sale and Licensure of Data

Data In Development

2014 Free and Open Data Policy Adopted: Data Freely Available

Free and Open Data Under Consideration

Current Status Unknown

(Year in white indicates year the data became freely available)
(Year in gold indicates year a free and open data policy was adopted)

Sources:
- Phone interviews with county staff (Jan 2014 - Jan 2015)
- Minutes of County Board Proceedings (Jan 2014 - Jan 2015)
- Web searches for parcel data and parcel data viewers (Jan 2014 - Jan 2015)

Note: This map is subject to frequent updates

MetroGIS

Map: G. Maus, MetroGIS

Data Sharing Agreements

- Goal – single agreement with partners
- Approach
  - MnGeo makes agreement, obtains and aggregates
  - Publishes, shares as needed
    - GeoCommons?, GDRS, Service
- MN.IT makes agreements with individual agencies
  - Why is that needed?

30 minutes...

lunchbreak

+

Archiving Minnesota Geospatial Data

Ryan Mattke
John R. Borchert Map Library
University of Minnesota

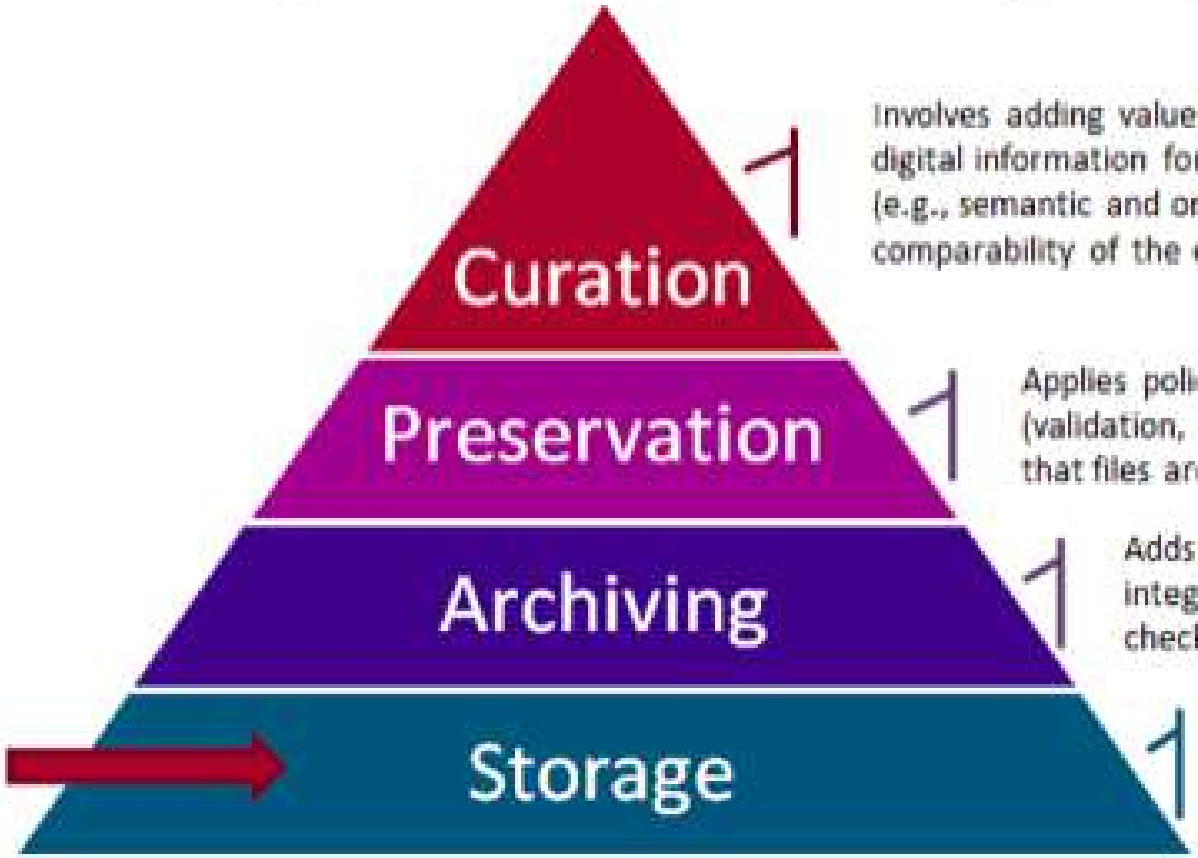
What is data archiving?

ar·chive *noun* \'är-,kīv\

: a place in which public records or historical materials (such as documents) are kept; *also* : the material that is stored in an archive

http://www.merriam-webster.com/dictionary/archive

Digital Stewardship Pyramid



Involves adding value to a trusted body of digital information for current and future use (e.g., semantic and ontological continuity and comparability of the collection content).

Applies policies and procedures (validation, migration, events) to ensure that files are continuously useable.

Adds identifiers, replication with integrity and verification checking.

Storing bits – public, private cloud, tape, etc.

Historical (“Old”) Data

- Parcels
- Survey Info (plats, monuments, and benchmarks)
- Aerial Imagery
- Utilities
- Permits (right-of-way, ordinance, utility, etc.)
- Construction Plans/As-Builts
- Easements, Openings, Vacations, CINU
- Maps (street, parks, natural resources, transit, etc.)
- Field Books and/or notes

Why archive? Why now?

- Historical versions are useful to:
  - Researchers
  - Planners
  - Historians
  - Genealogists
  - Surveyors
  - The curious resident
- Open Data Initiatives
- Minnesota Geospatial Commons
  - GDRS node (coming soon)

University of Minnesota Libraries

- Map Library is already de facto archive for aerial photographs and many state-produced paper maps
- Preservation System (soon[ish])
- For now, data is on disc or in the University Digital Conservancy (for MN Geological Survey)
- Data Management & Curation Initiative
  - developing curation procedures for different type of data (including geospatial)
- Data Repository for the University of Minnesota
  - self-deposit of datasets into repository that enables reuse, citation, and fulfills grant requirements

Minnesota State Archivist

Had a conversation with Shawn Rounds

- State Archivist has a handful of geospatial data sets, but does not generally collect data
- Since most/all geospatial data created by government agencies in MN is not directly related to the business of government, it would be out of scope for archiving with the State Archivist
- As long as MnGeo and other major players are involved in the conversation, the State Archivist is fine with any decisions made

Geospatial Data Archiving in Minnesota

Possible analogy:

- Minnesota Digital Library & Geospatial Commons
  - MDL aggregates, and facilitates access to, digital objects from 155 participating historical societies, special archives, libraries and other organizations.
- Once objects are in one place, archiving and preservation is that much easier
- http://mndigital.org

Geospatial Data Archiving in Minnesota

Question:

What is the level of interest in the concept of a centralized/aggregated service model?

Geospatial Data Archiving in Minnesota

Question:

Is the University of Minnesota the appropriate location for this kind of work?

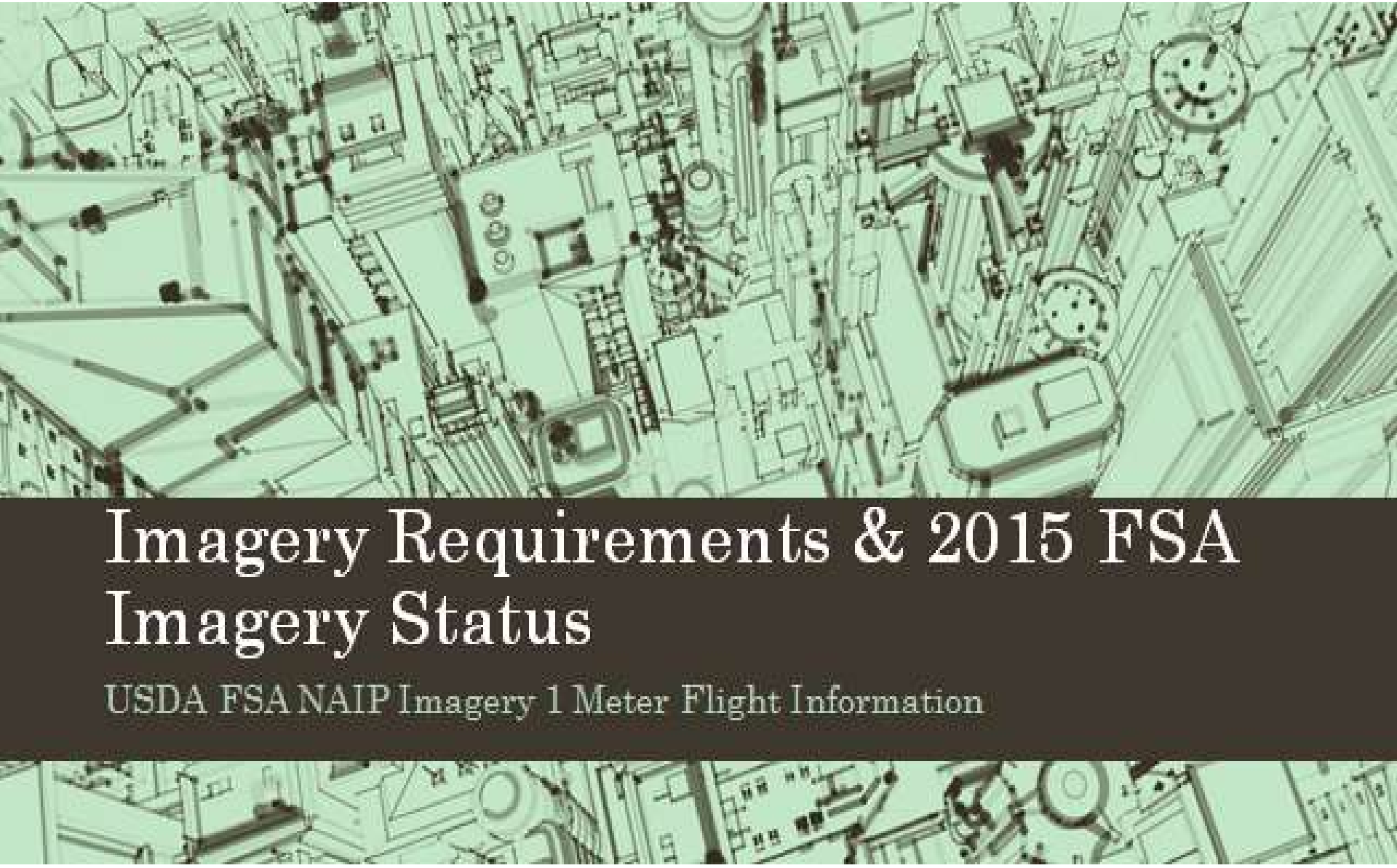
Geospatial Data Archiving in Minnesota

Question:

Data curation and retention
- Who decides what is kept?
- How is that decision made?
- Funding?
- Legal issues?

FSA NAIP 2015 update

Jeff Bloomquist, Farm Service Agency, USDA

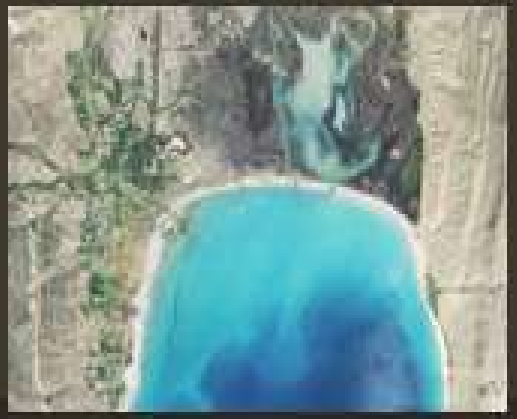


Imagery Requirements & 2015 FSA Imagery Status

USDA FSA NAIP Imagery 1 Meter Flight Information

What are the NAIP Specifications?

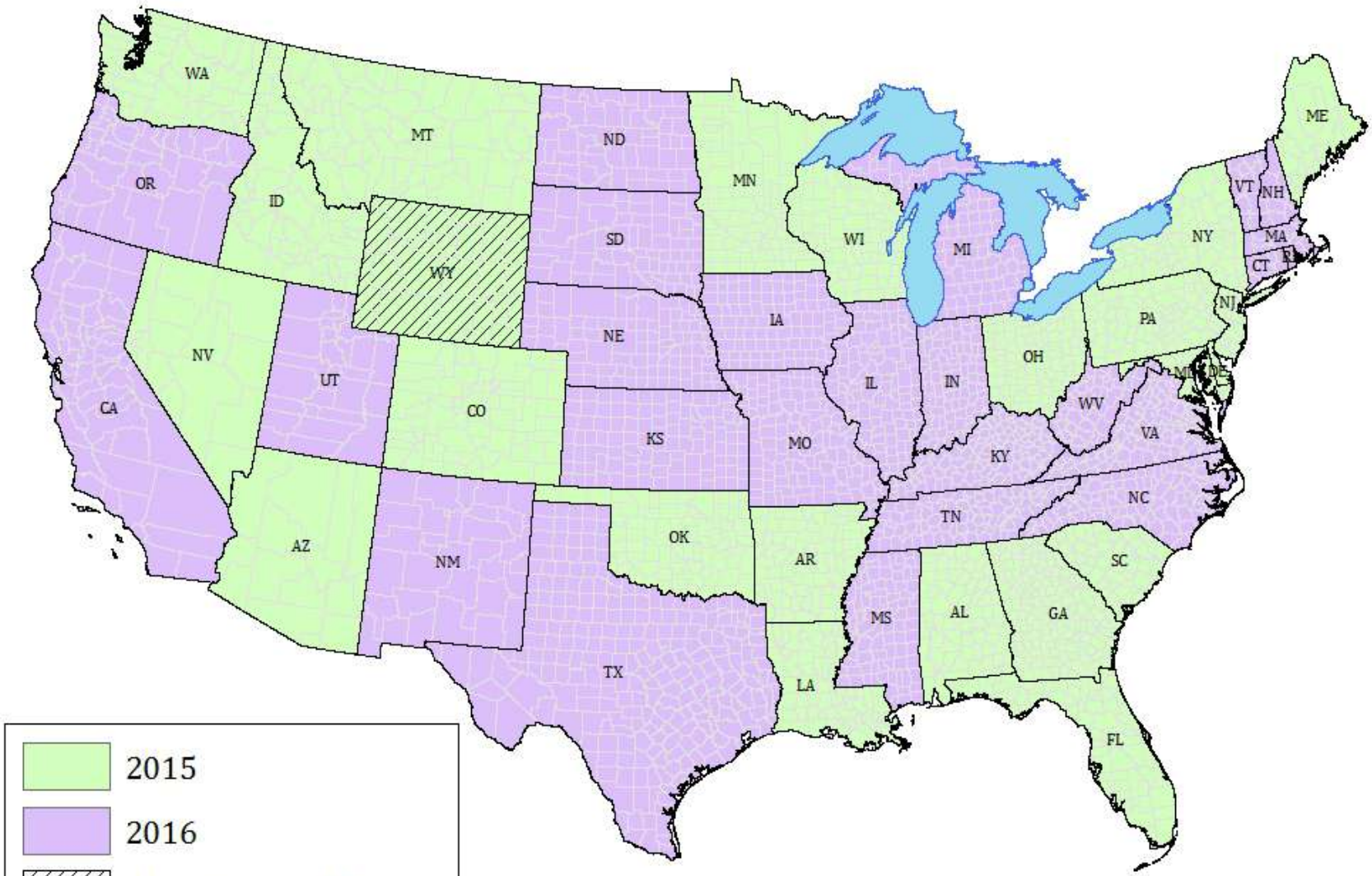
- 1 Meter Spatial Resolution
- ½ meter buy-up (Partners/States must pay)
- 6 meter absolute accuracy
- Color Corrected
- Leaf On
- Digital Ortho Quarter Quads (QQs) and Compressed County Mosaics (CCMs) – Hard Deliverables
  - CCMs – to be delivered within ***45*** days of the end of the flying season
    - 3 band – MrSID (g3) image format - 15 to 1 compression
  - QQs – to be delivered within ***30*** days of the end of the flying season
    - 4 band – GeoTiff image format



**Season Extensions can delay delivery*

NAIP 2015

2015 - 2016 NAIP PLANNED ACQUISITION



USDA-FSA-APFO

Higher education GIS training/courses survey results

Ben Richason, St. Cloud State University

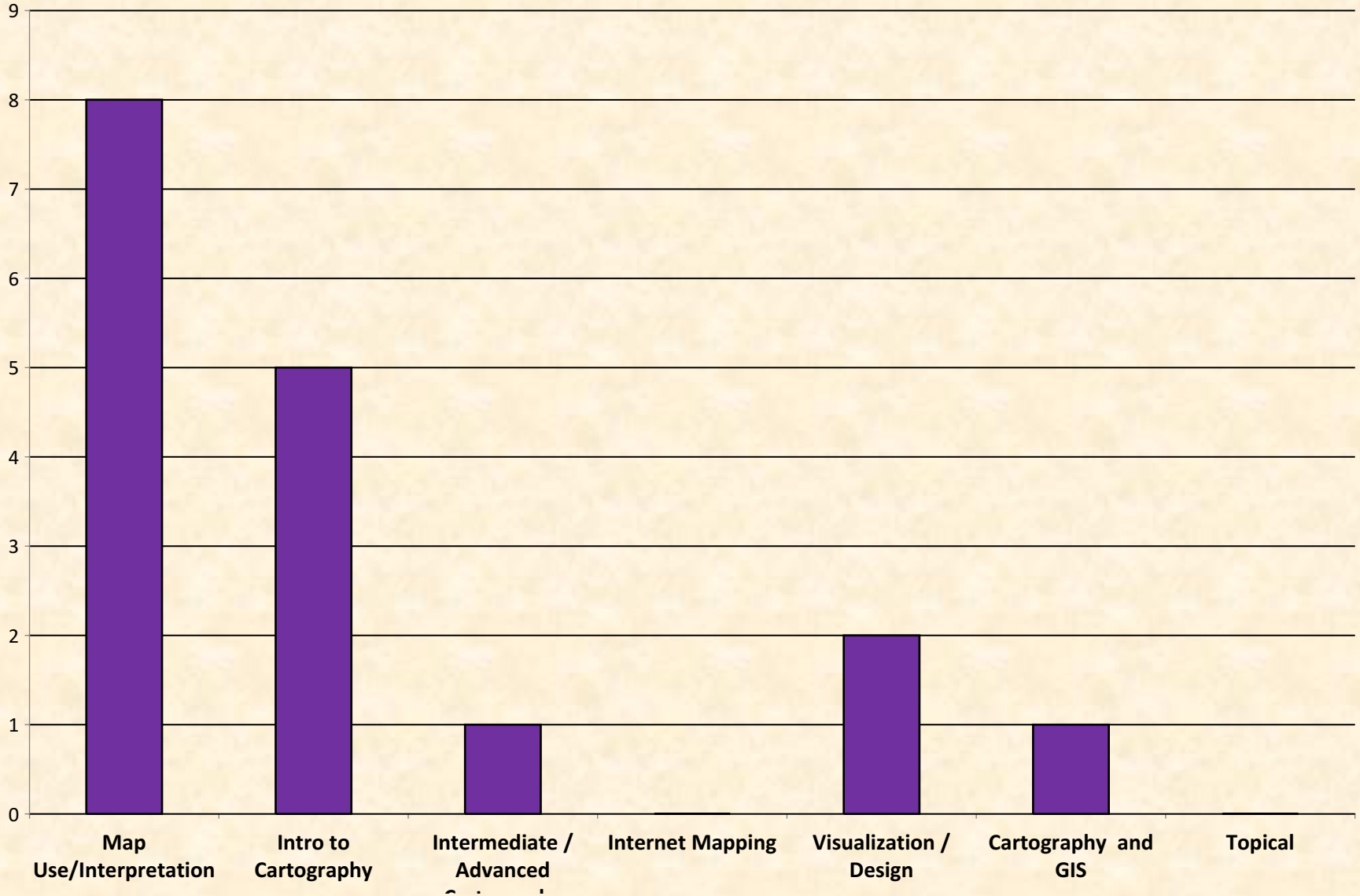
HIGHER EDUCATION GEOSPATIAL COURSES

COURSE CATEGORIES

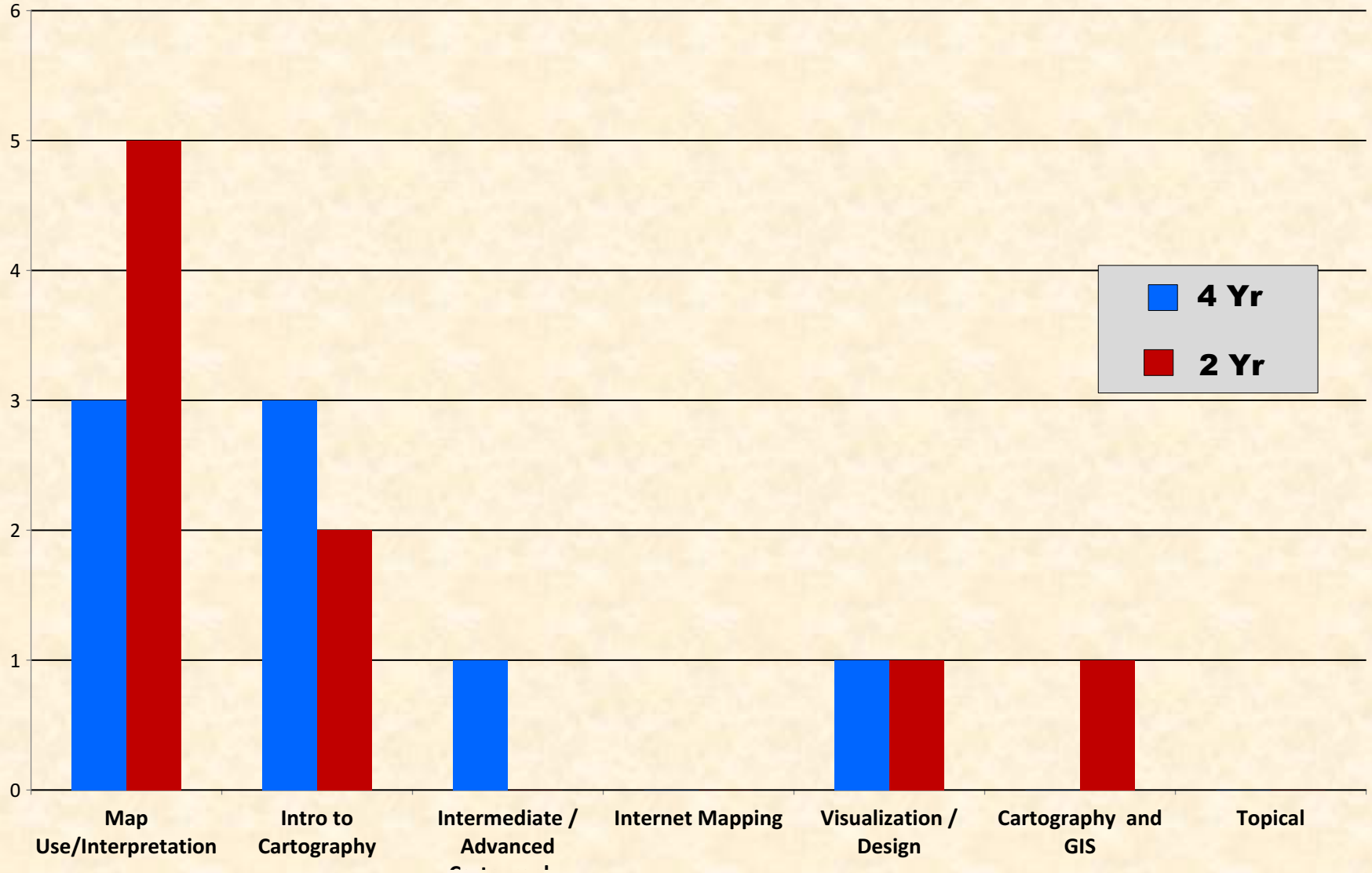
1) MAPS & CARTOGRAPHY
2) SURVEYING / GPS
3) REMOTE SENSING & PHOTOGRAMMETRY
4) GEOGRAPHIC INFORMATION SCIENCE
5) SPATIAL ANALYSIS

MAPS AND CARTOGRAPHY

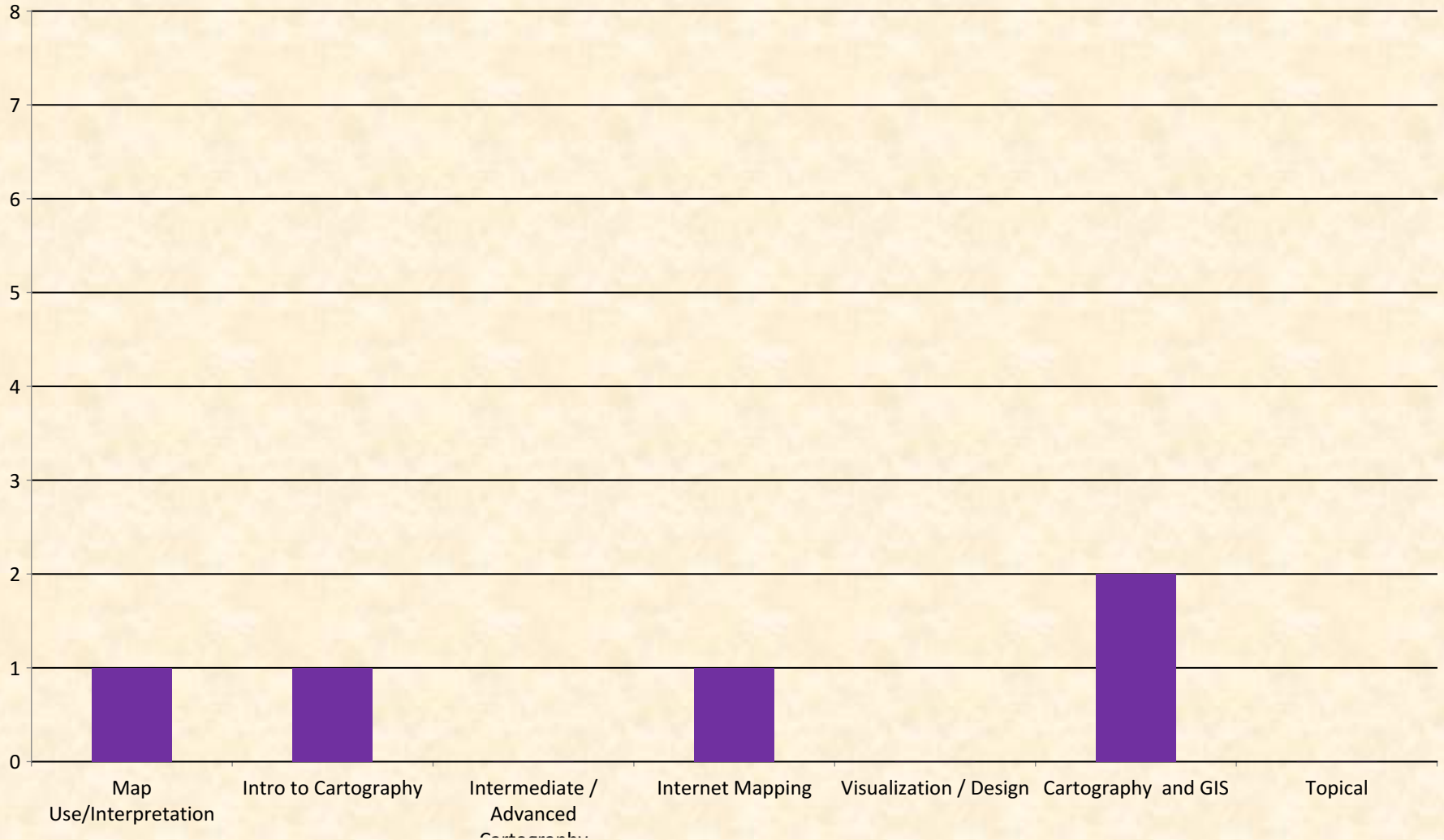
Maps & Cartography
MnSCU Totals



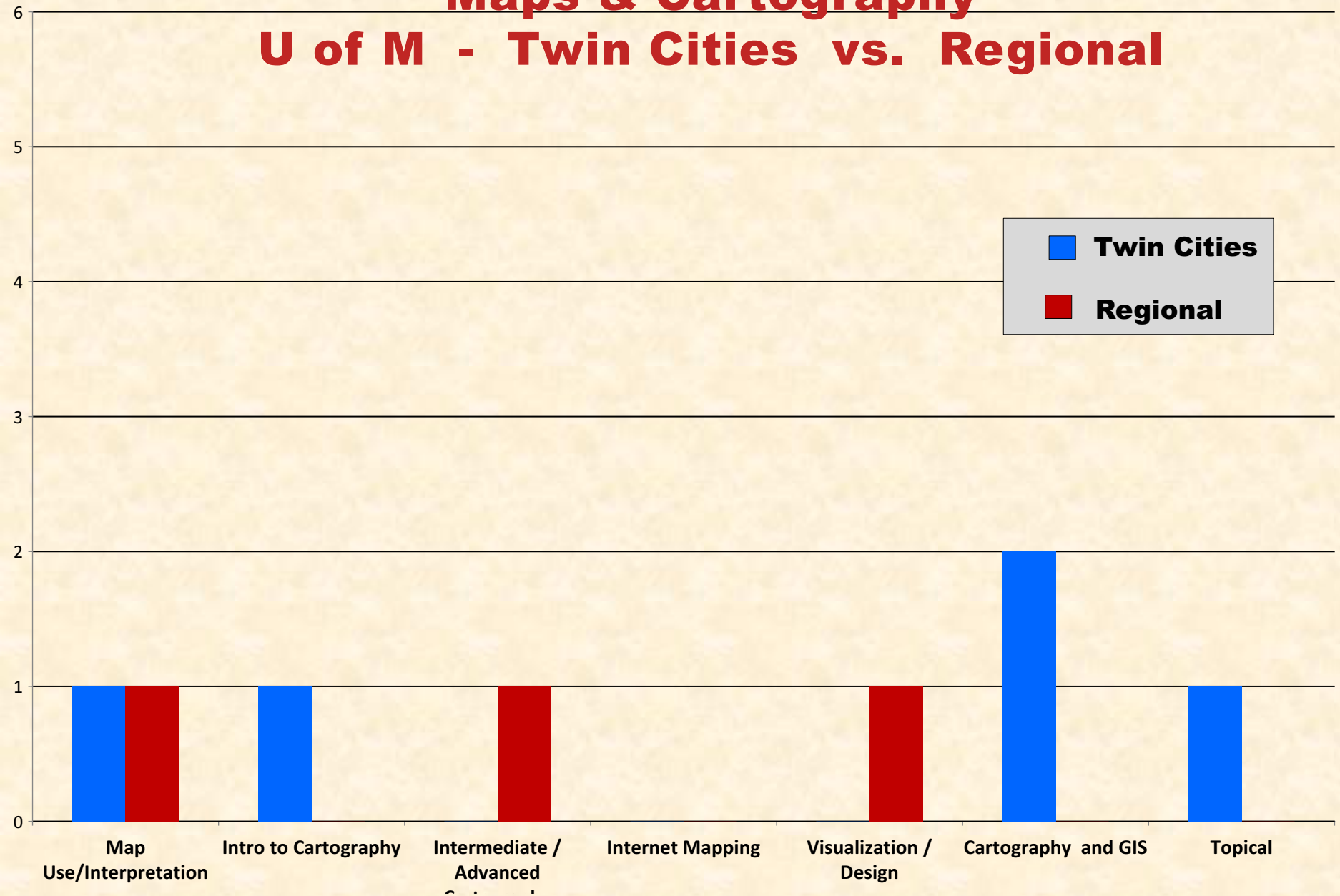
Maps & Cartography
MnSCU – 4 Yr vs. 2 Yr



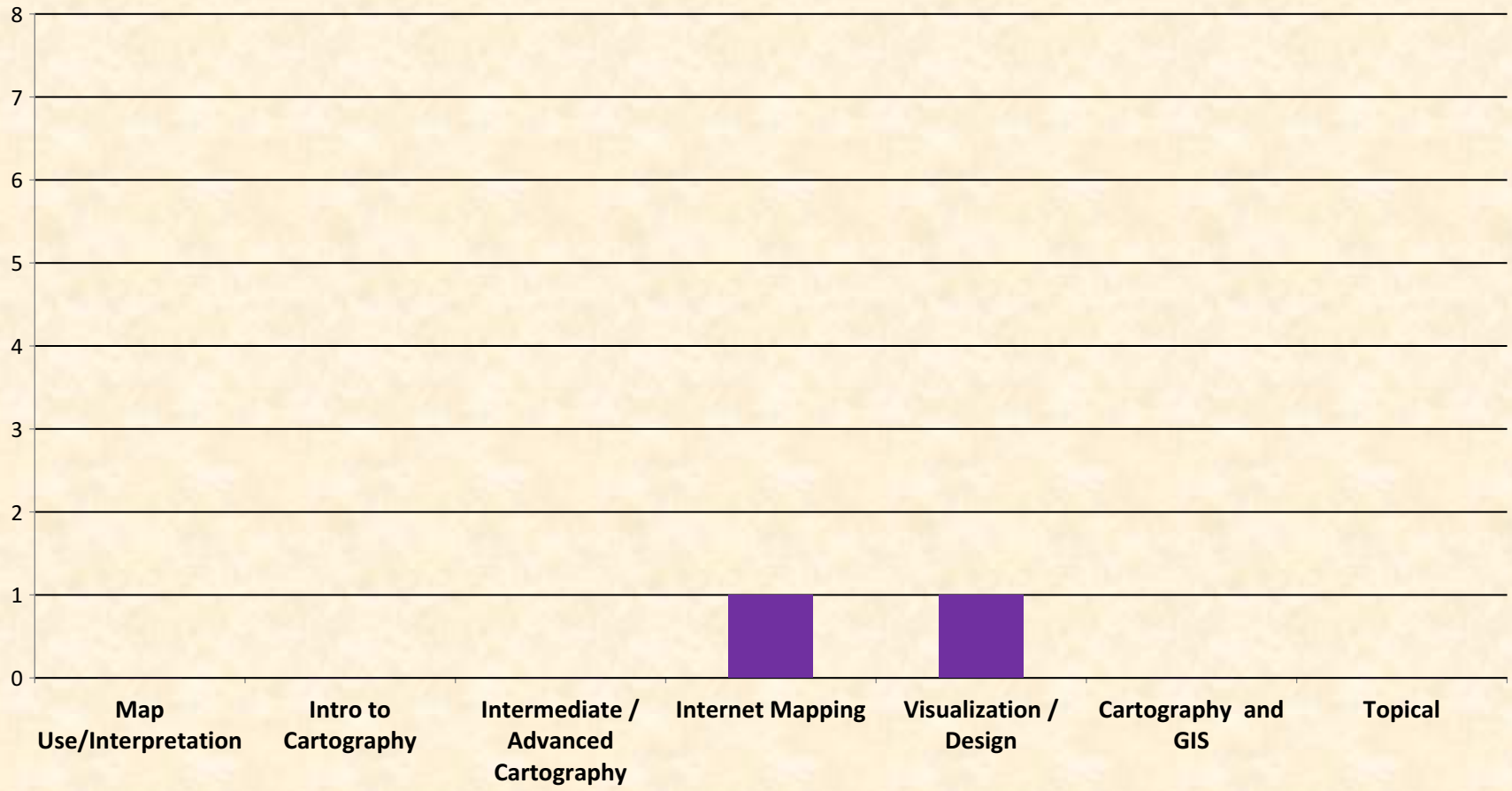
Maps & Cartography
U of M Totals



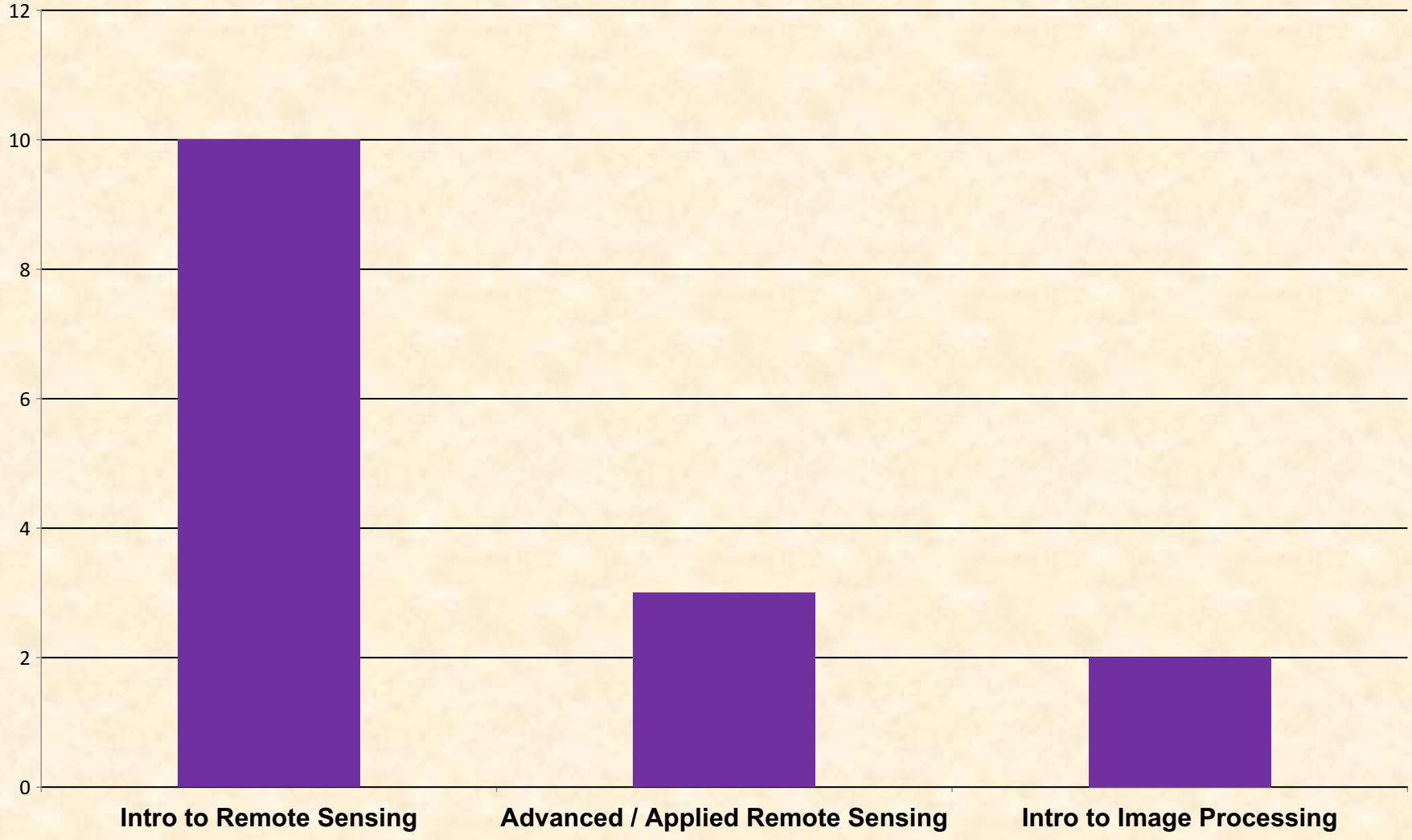
Maps & Cartography
U of M - Twin Cities vs. Regional



Maps & Cartography
Private Colleges & Univ. - Totals



Remote Sensing
MnSCU Totals



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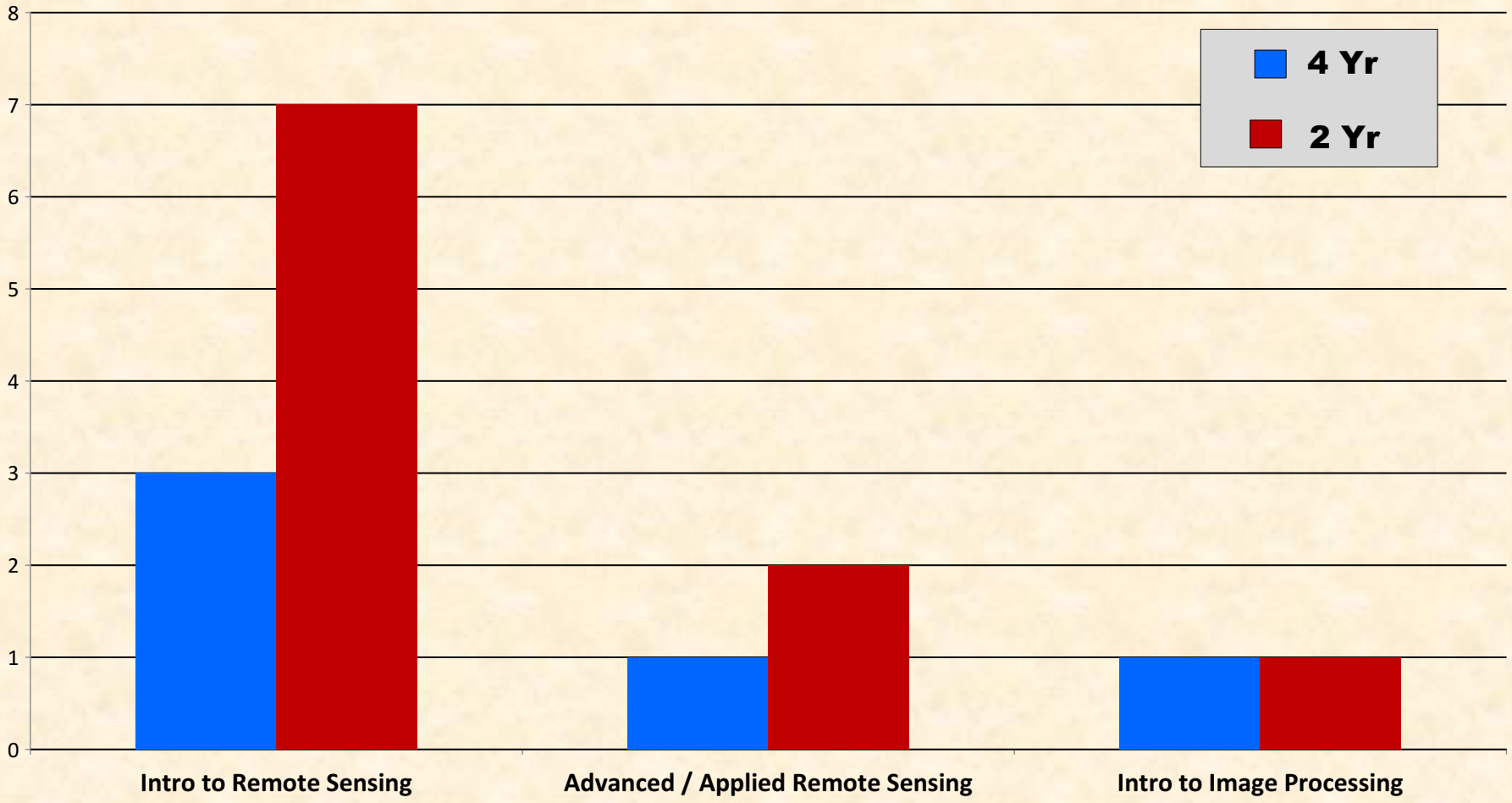
MnSCU – 4 Yr vs. 2 Yr



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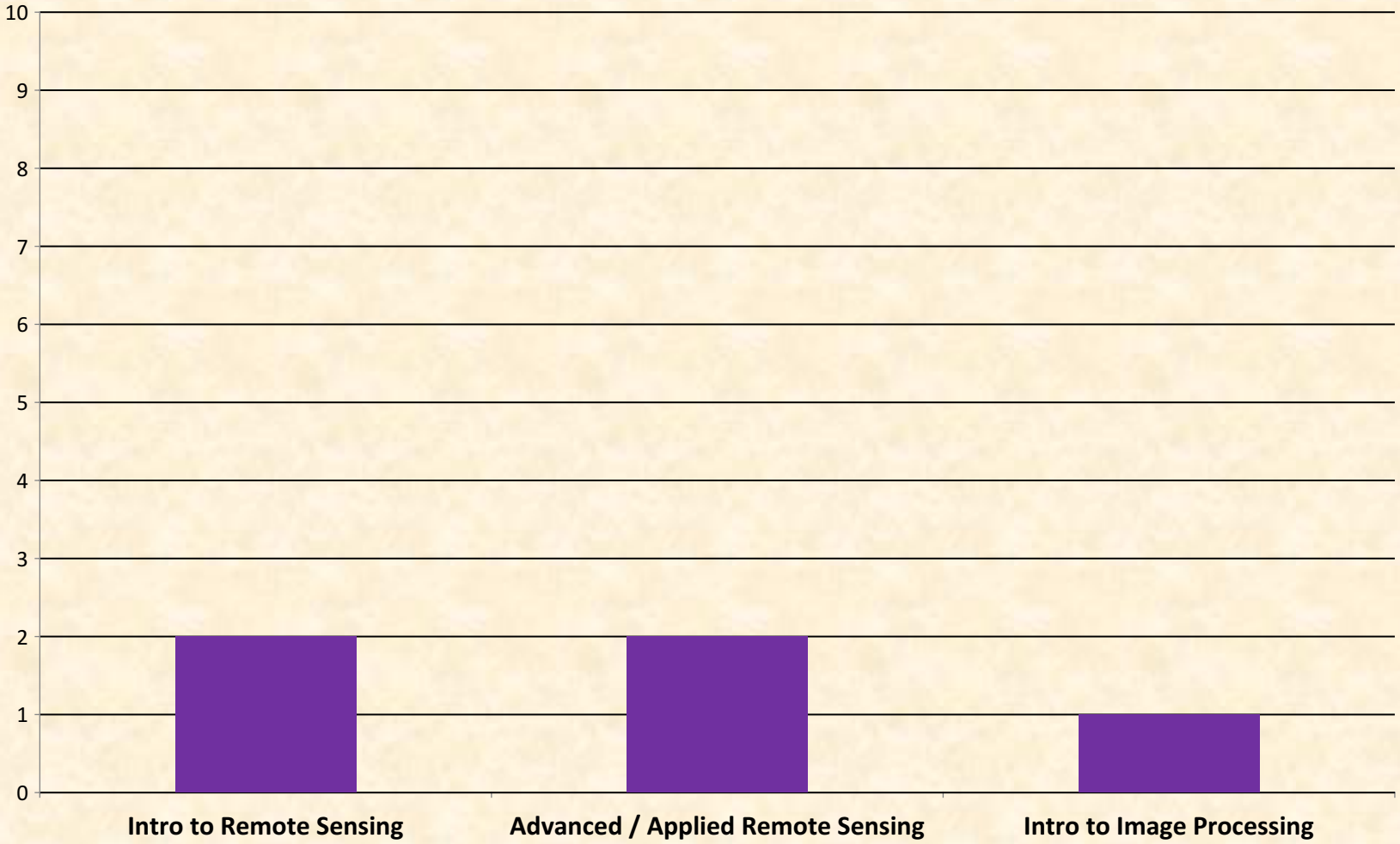

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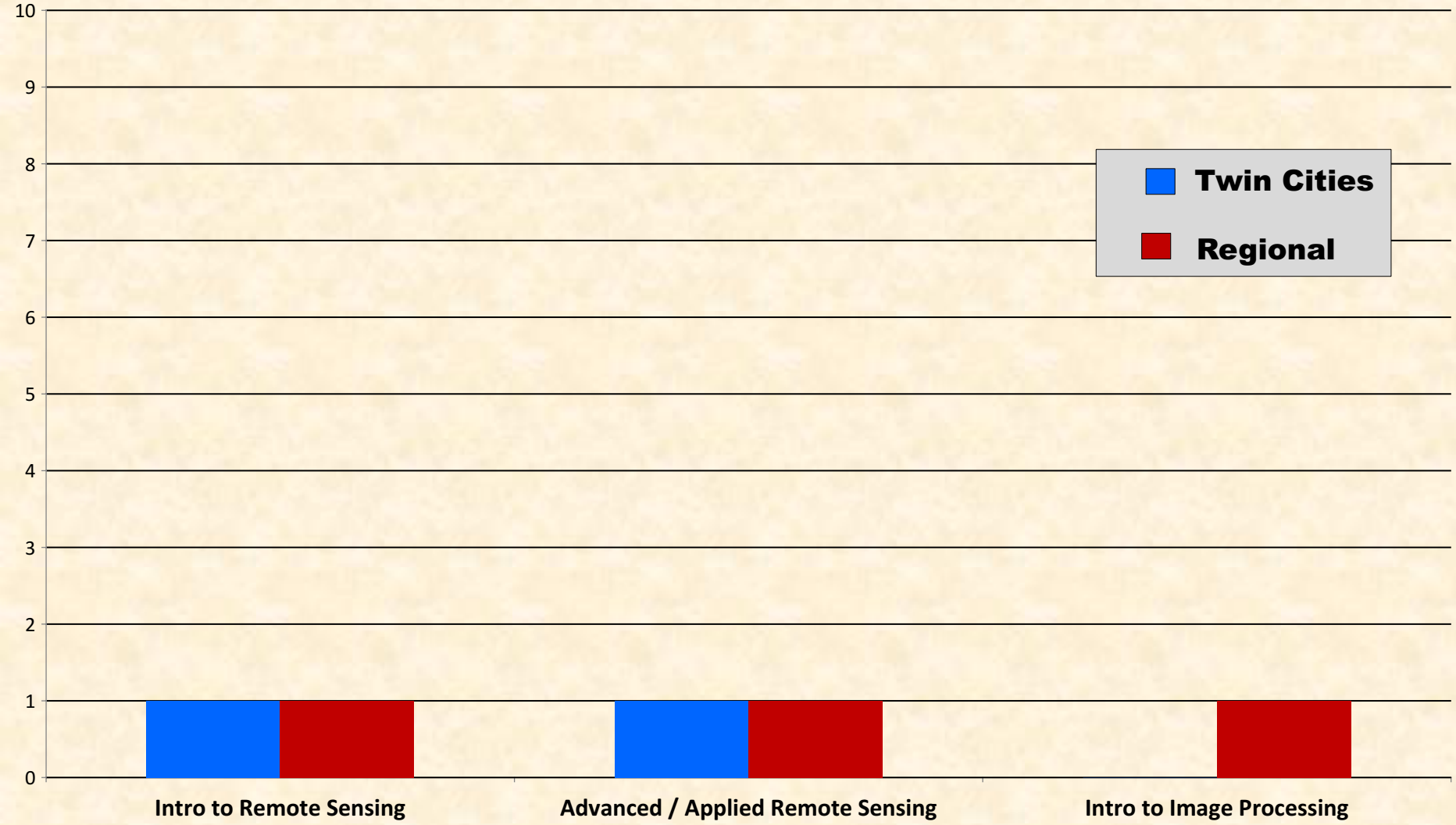
U of M - Twin Cities vs. Regional



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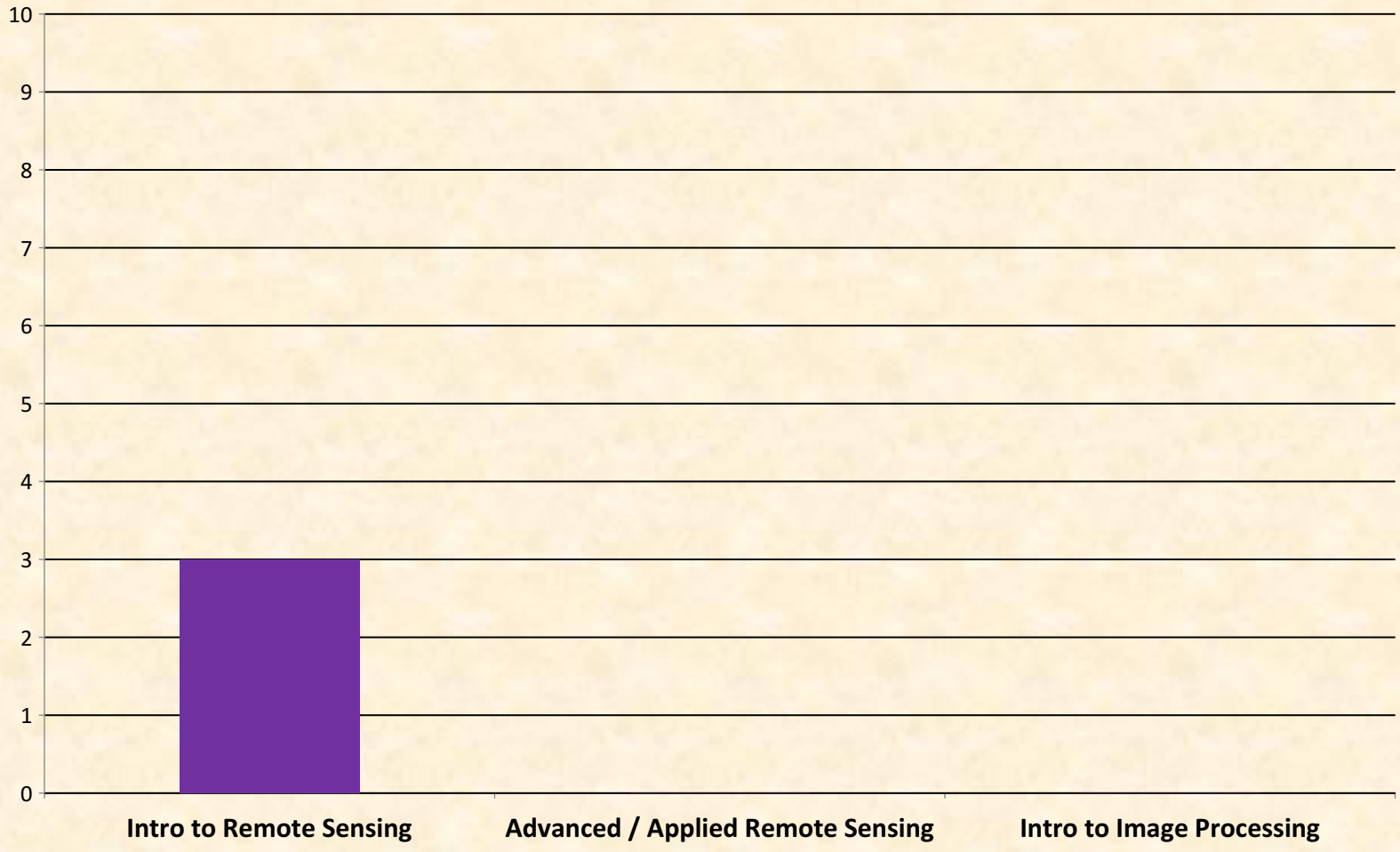
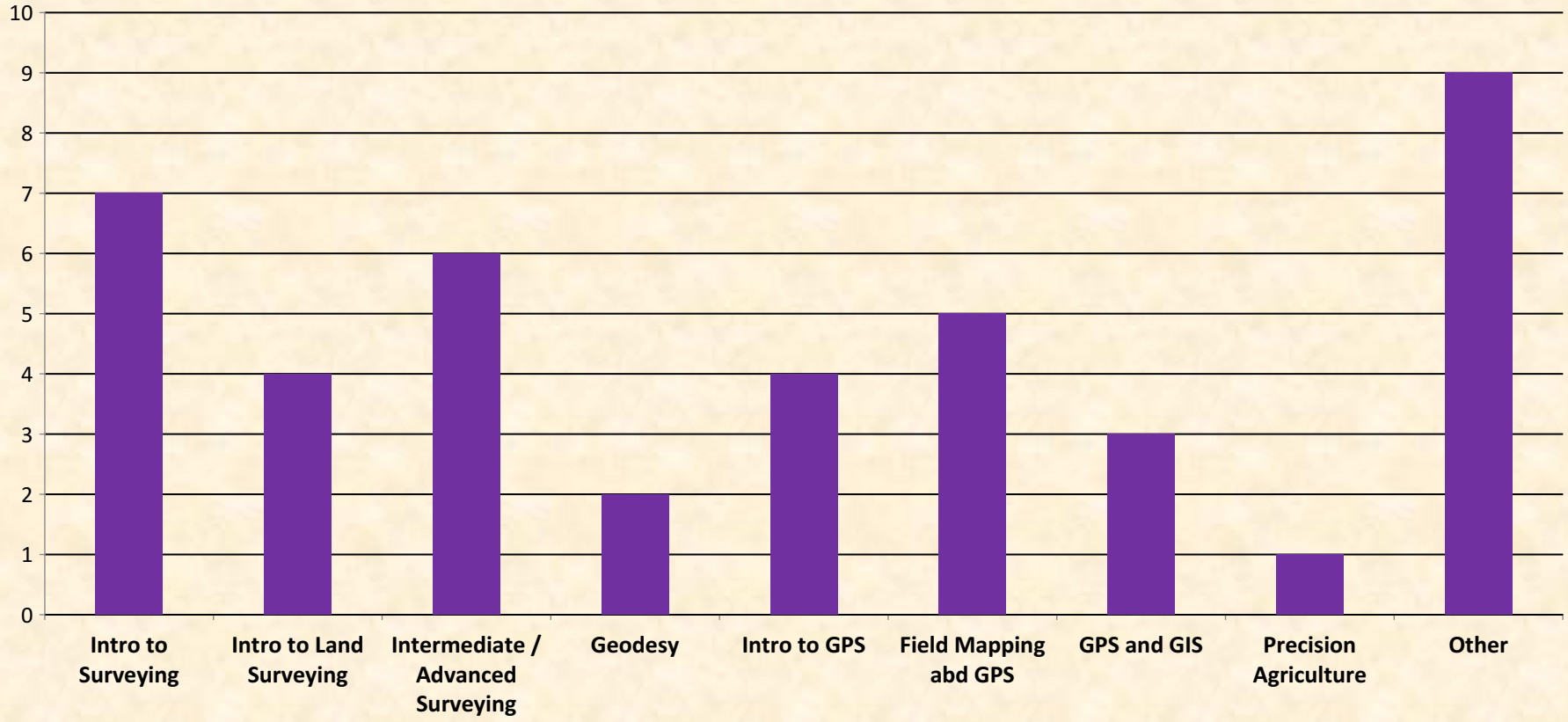


SURVEYING / GPS

SURVEYING / GPS
MnSCU Totals



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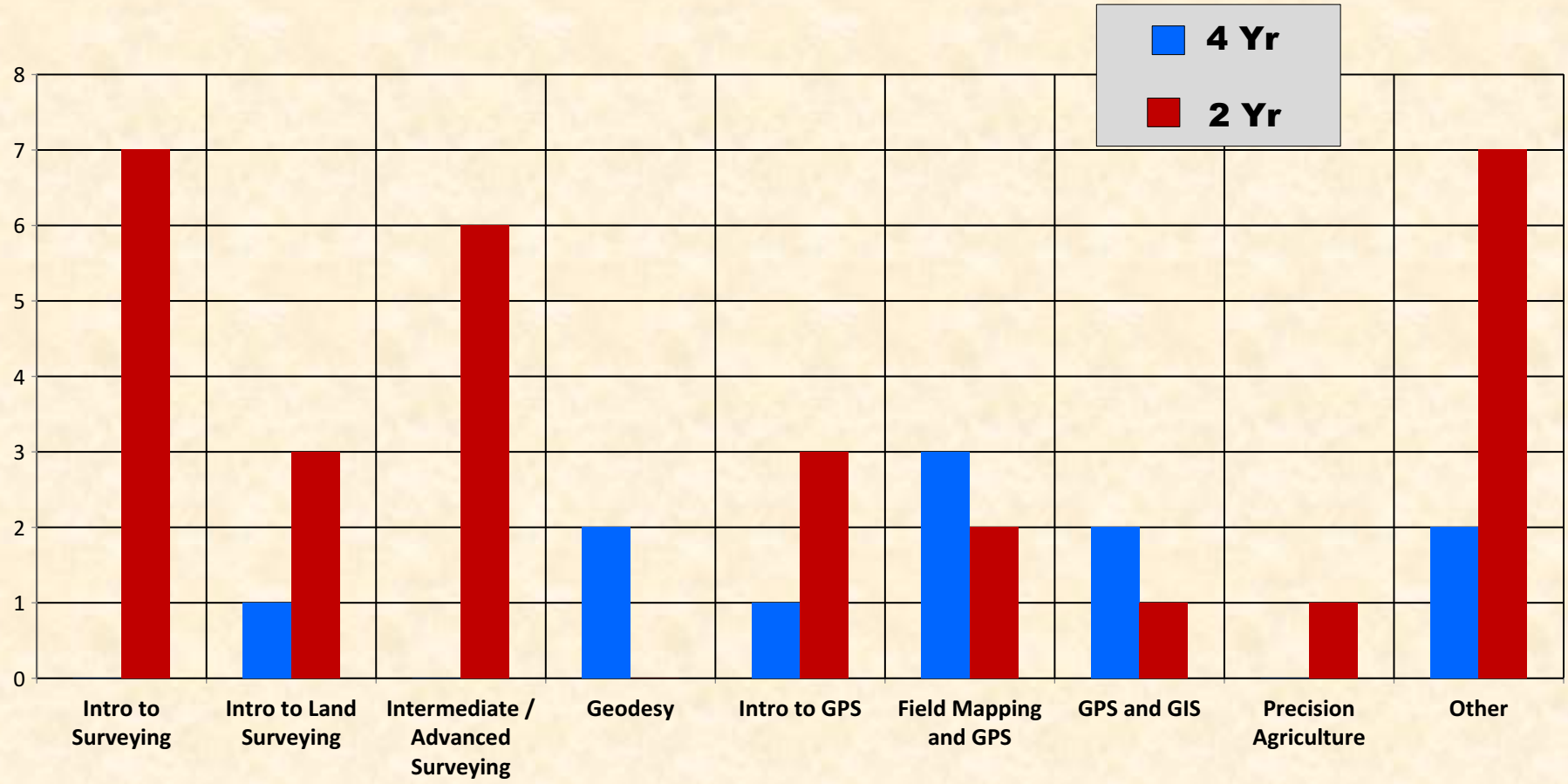

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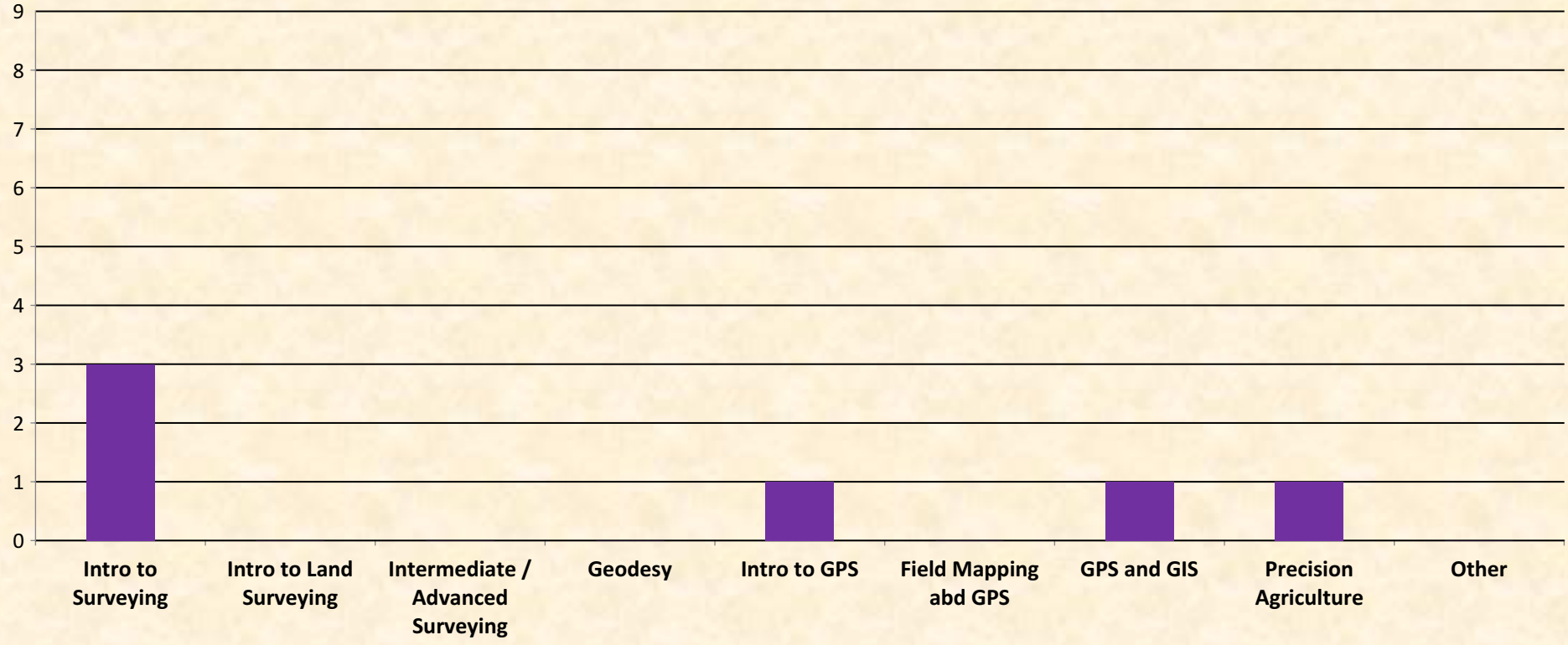
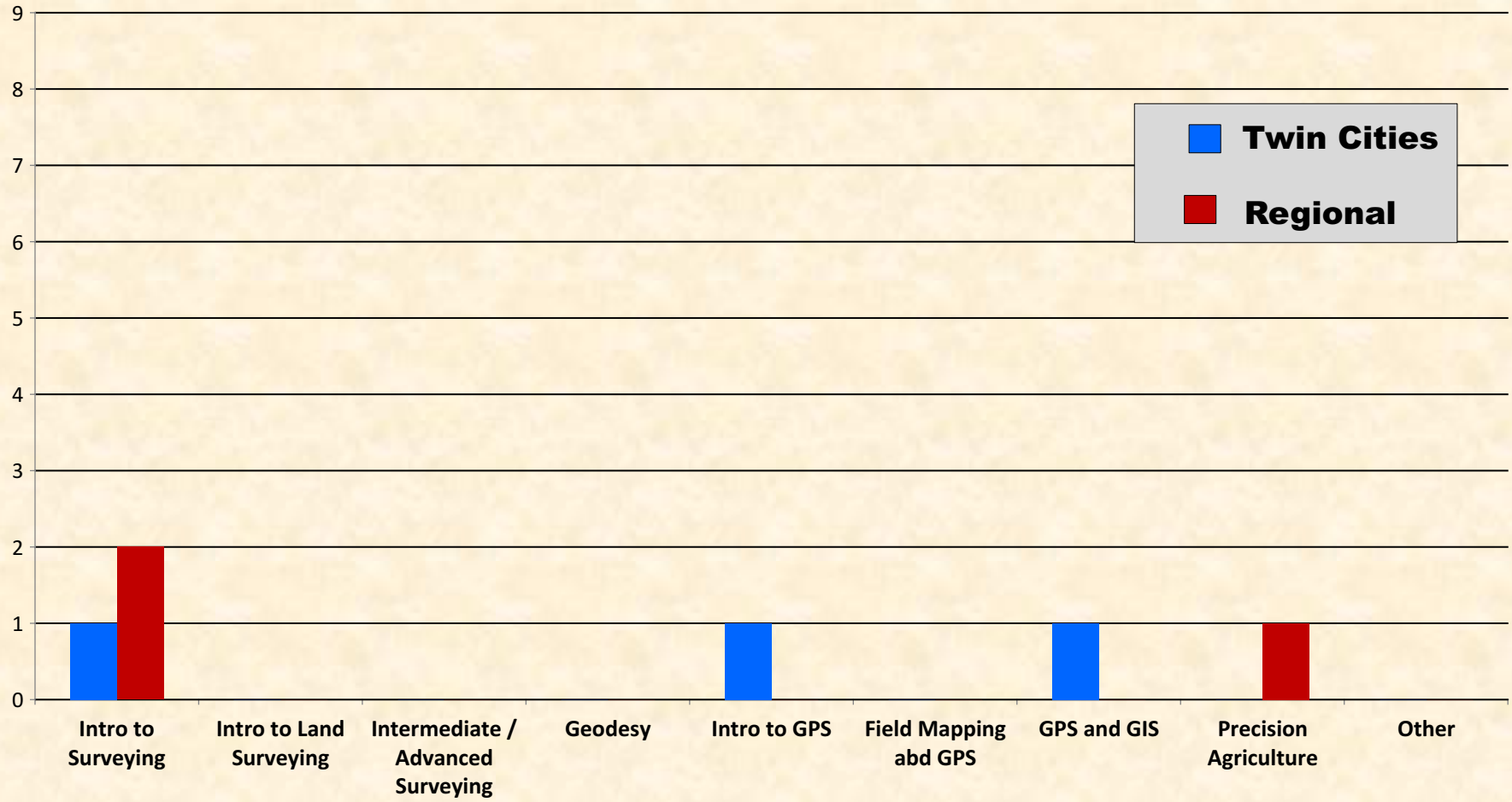
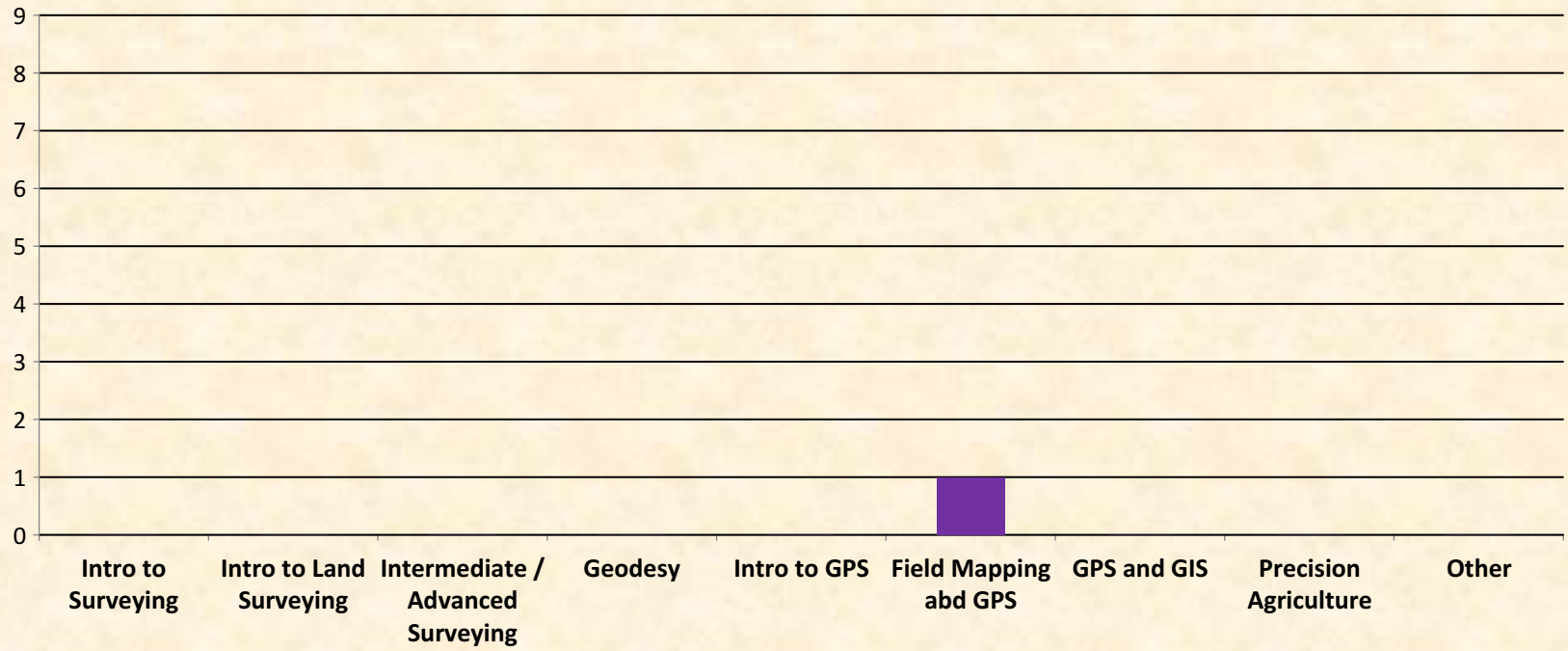


SURVEYING / GPS
U of M – TWIN CITIES vs. REGIONAL



SURVEYING / GPS
PRIVATE COLLEGES & UNIV.



GEOGRAPHIC INFORMATION SCIENCE

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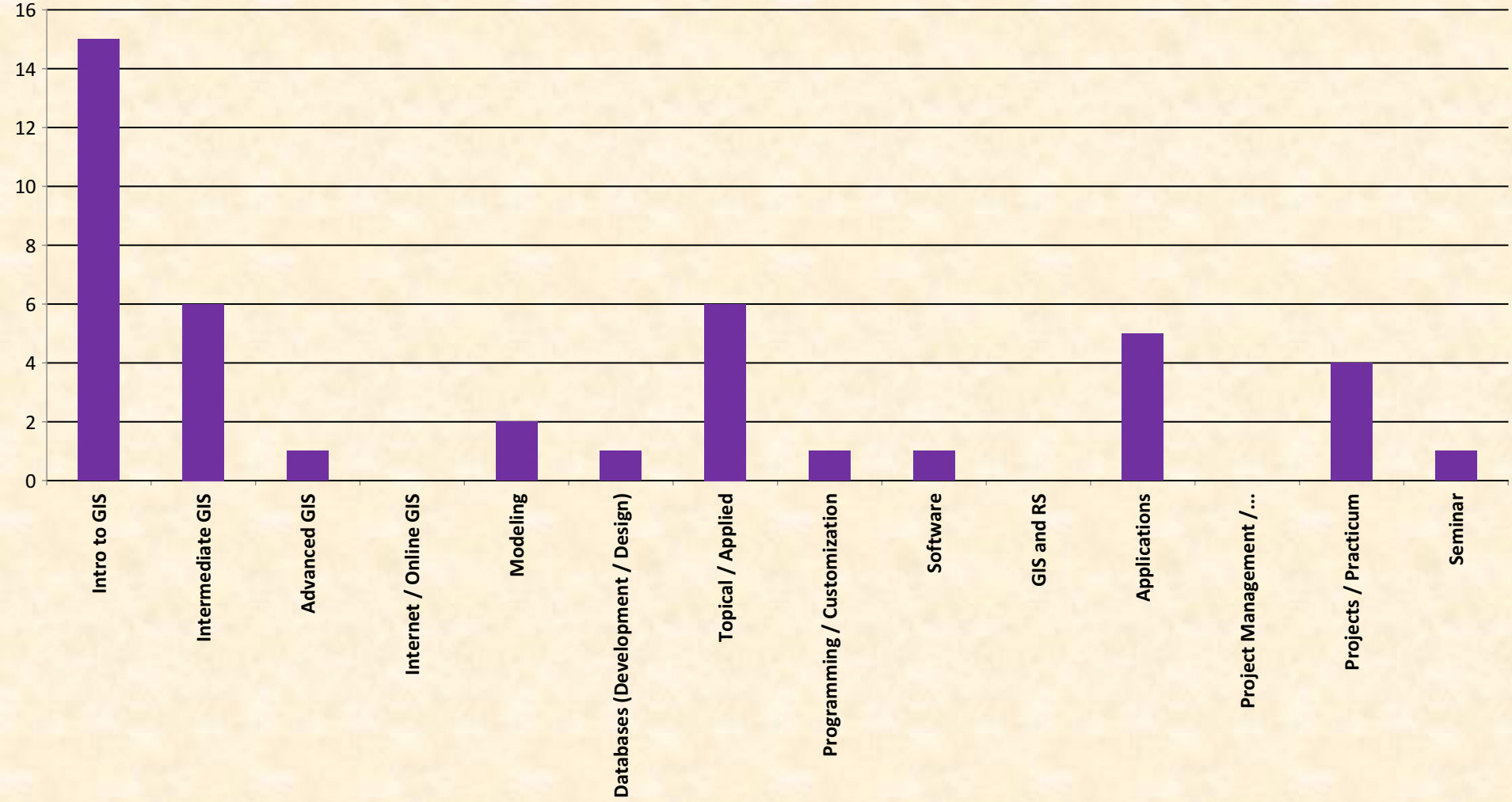
MnSCU Totals



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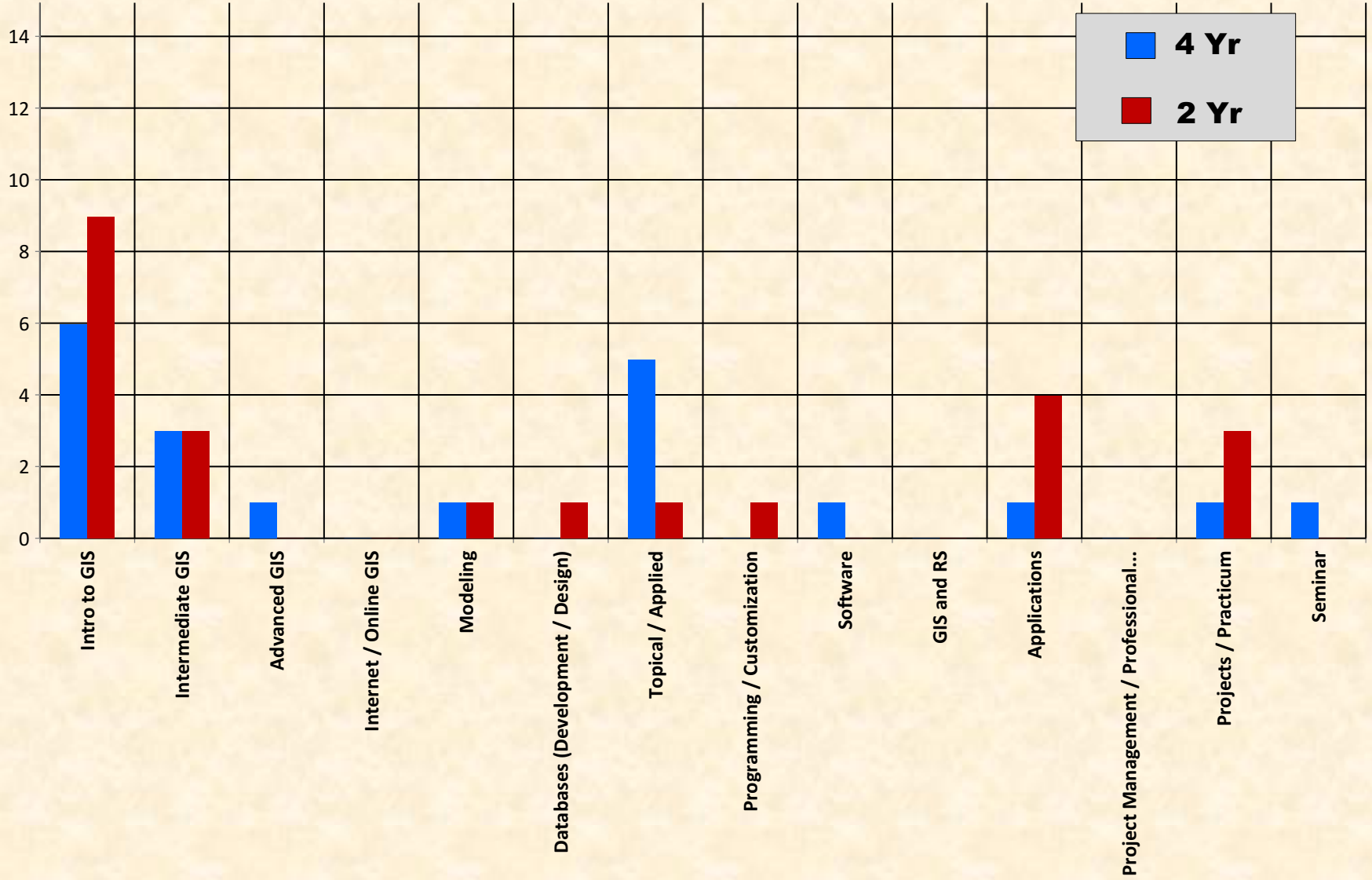

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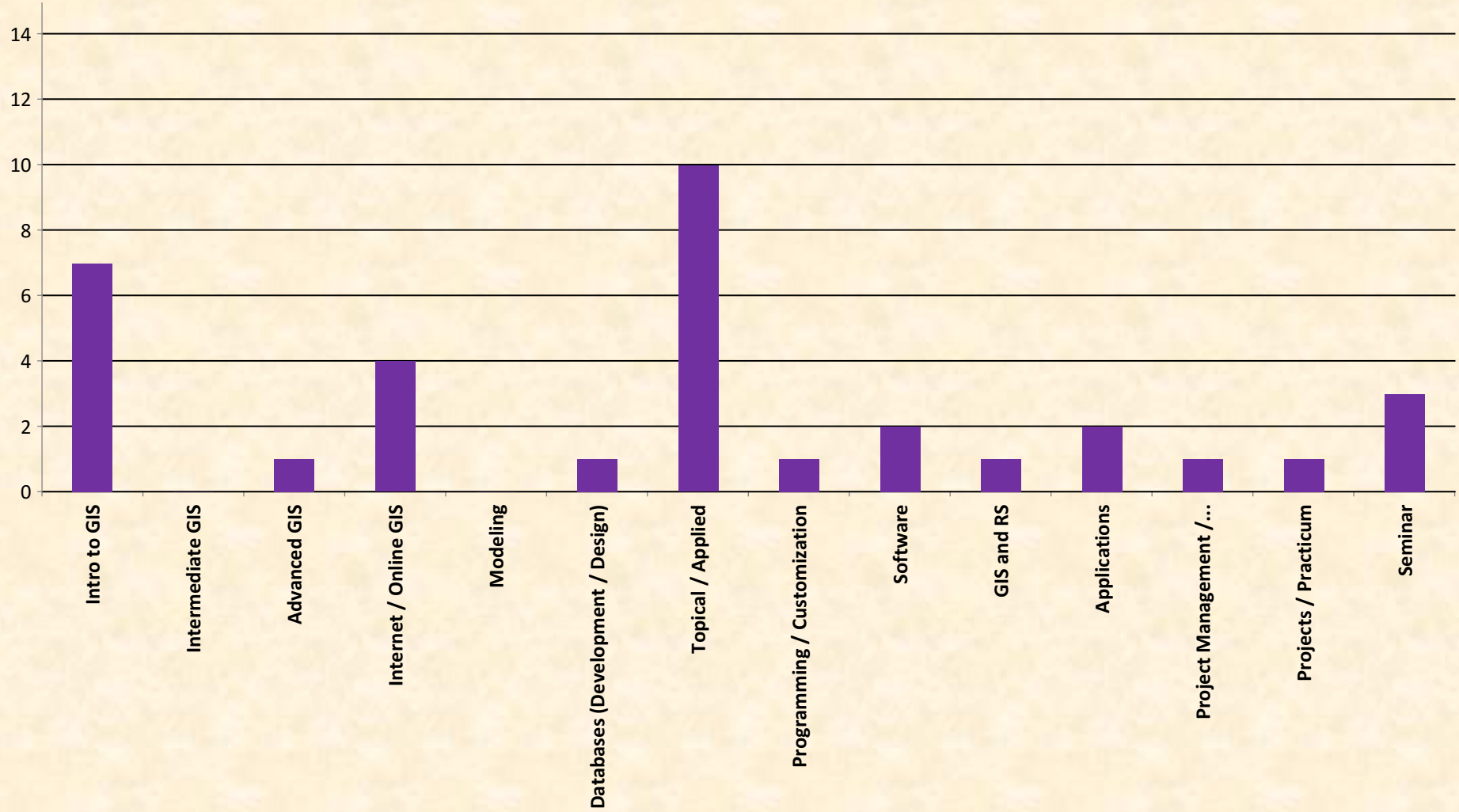

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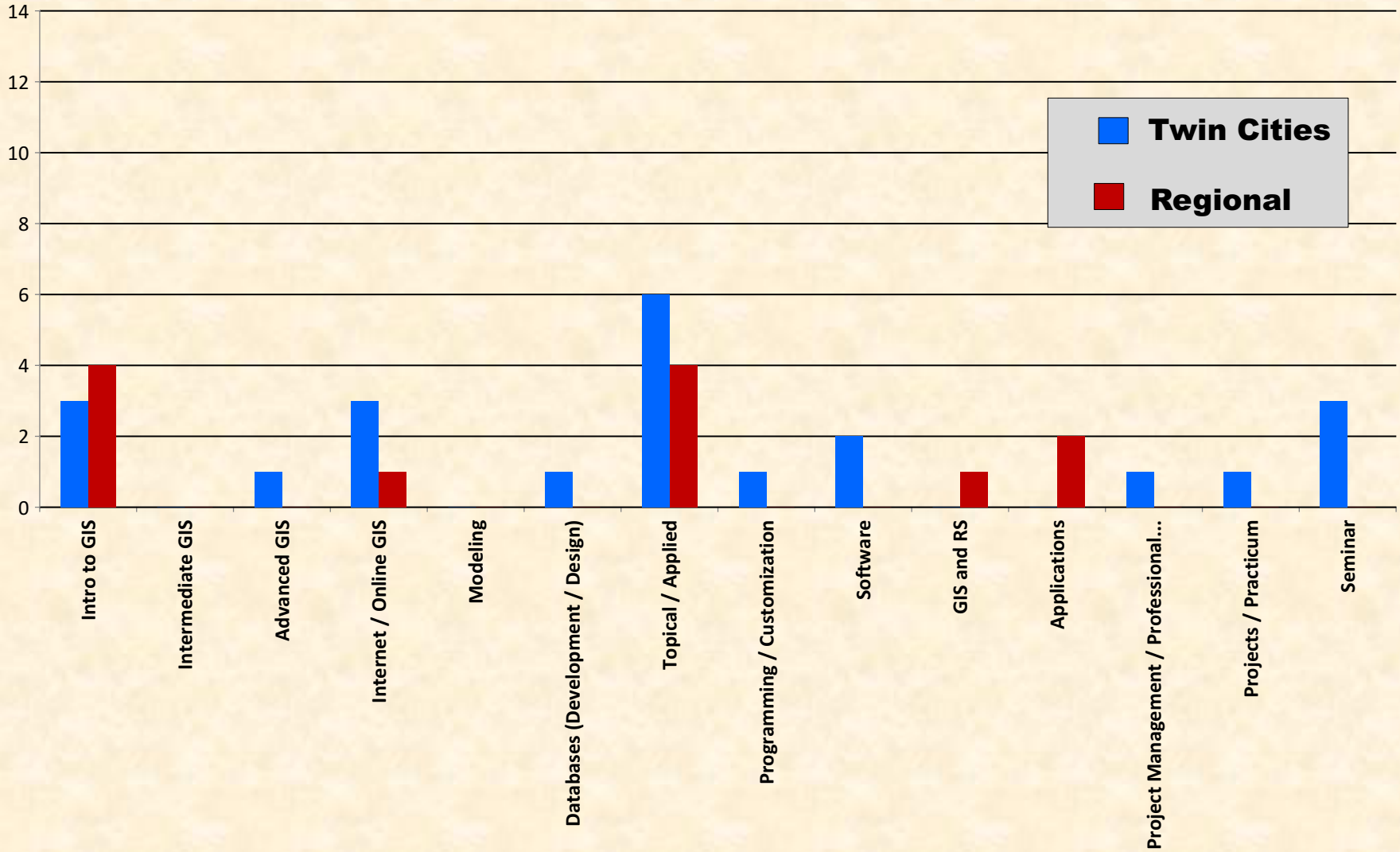

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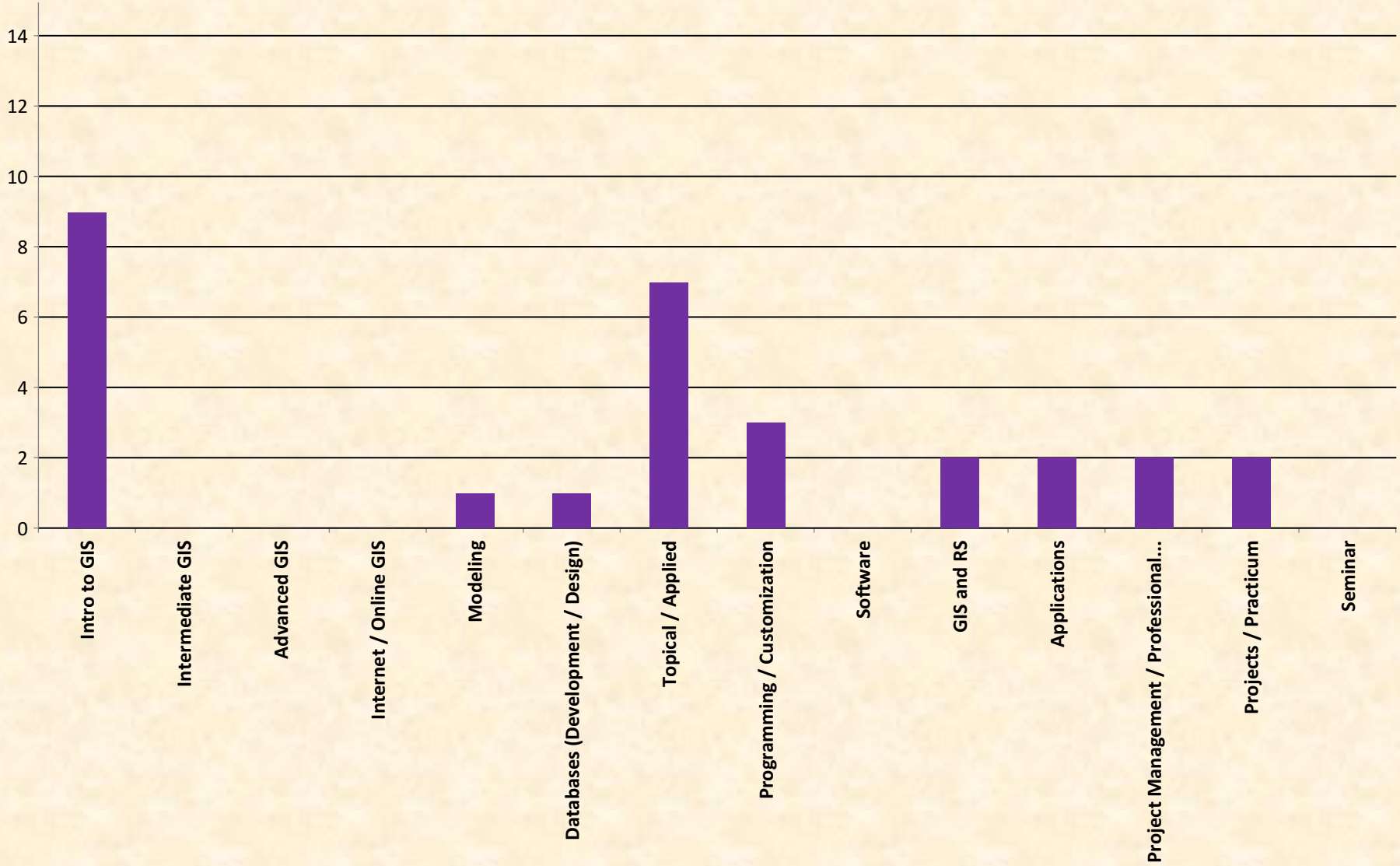

SPATIAL ANALYSIS

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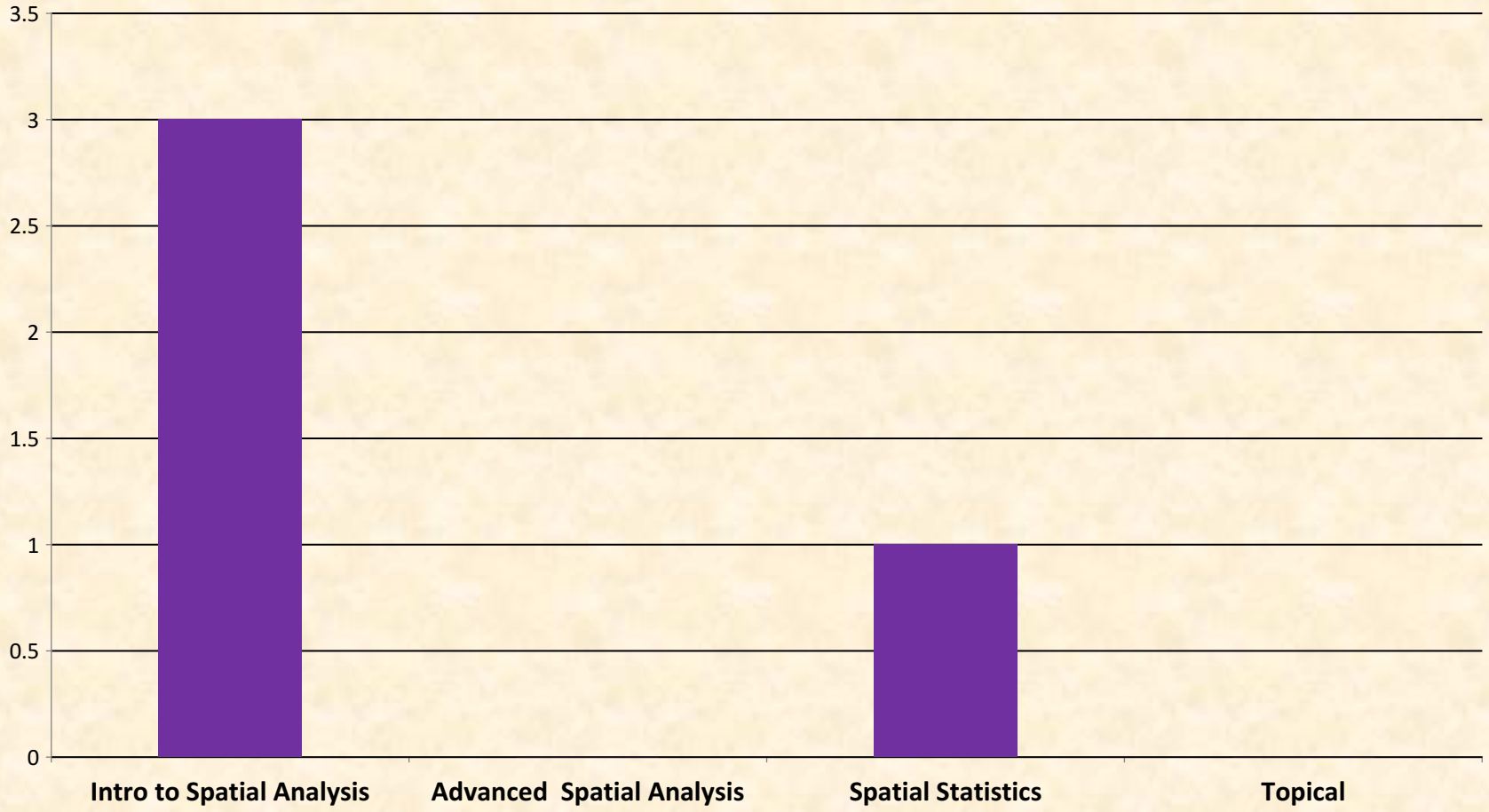
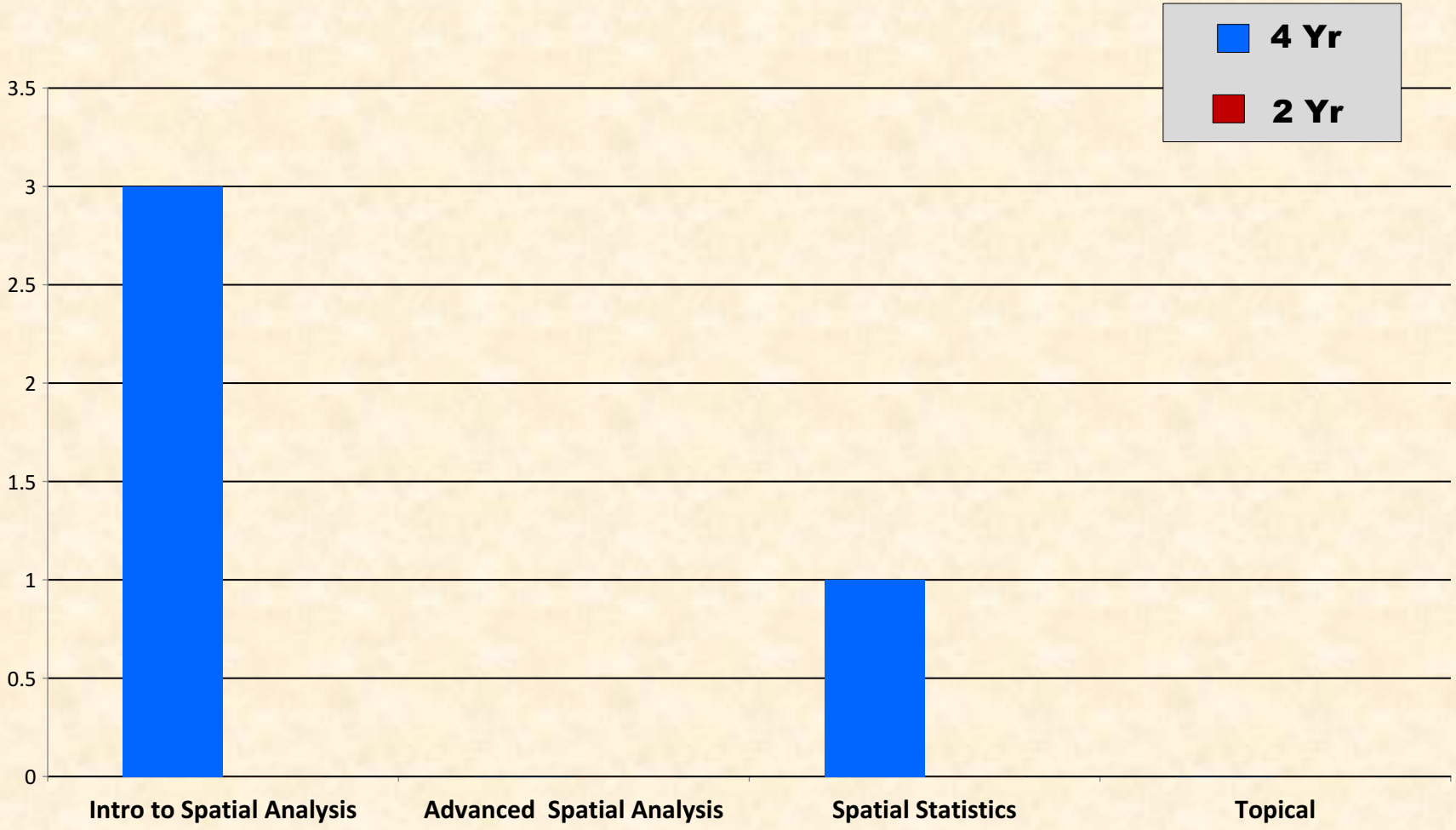
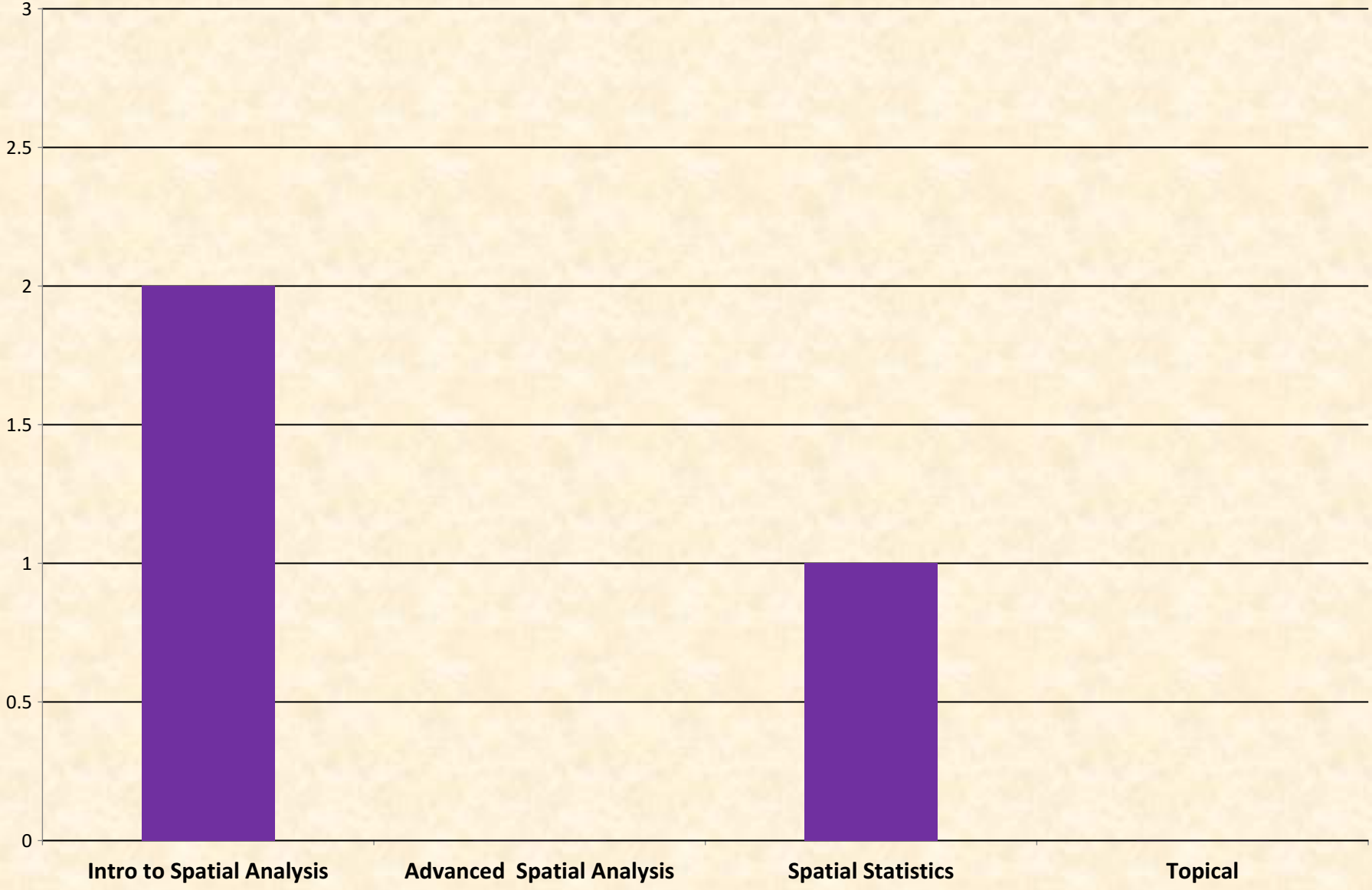
MnSCU Totals



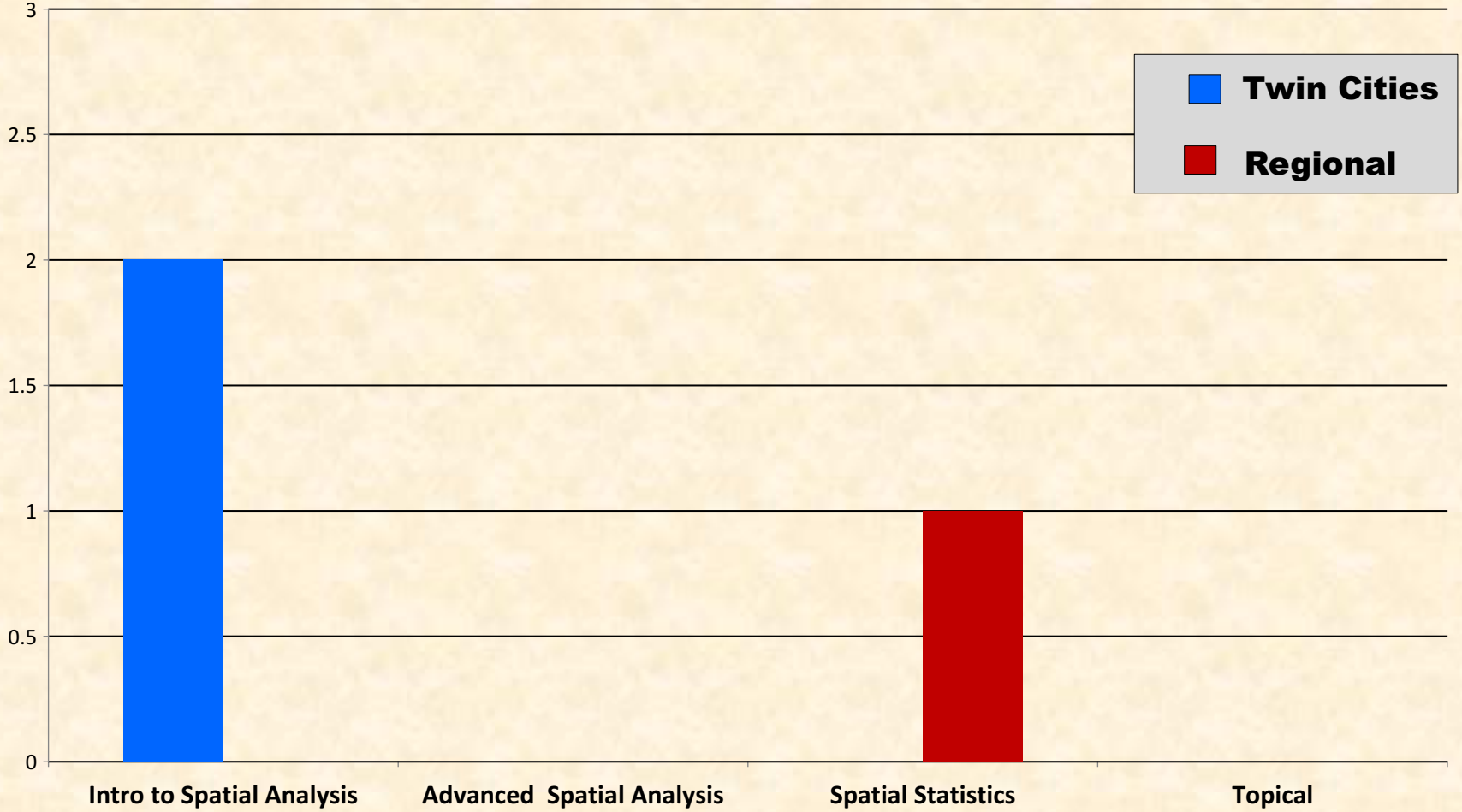
SPATIAL ANALYSIS
MnSCU – 4 Yr vs. 2 Yr



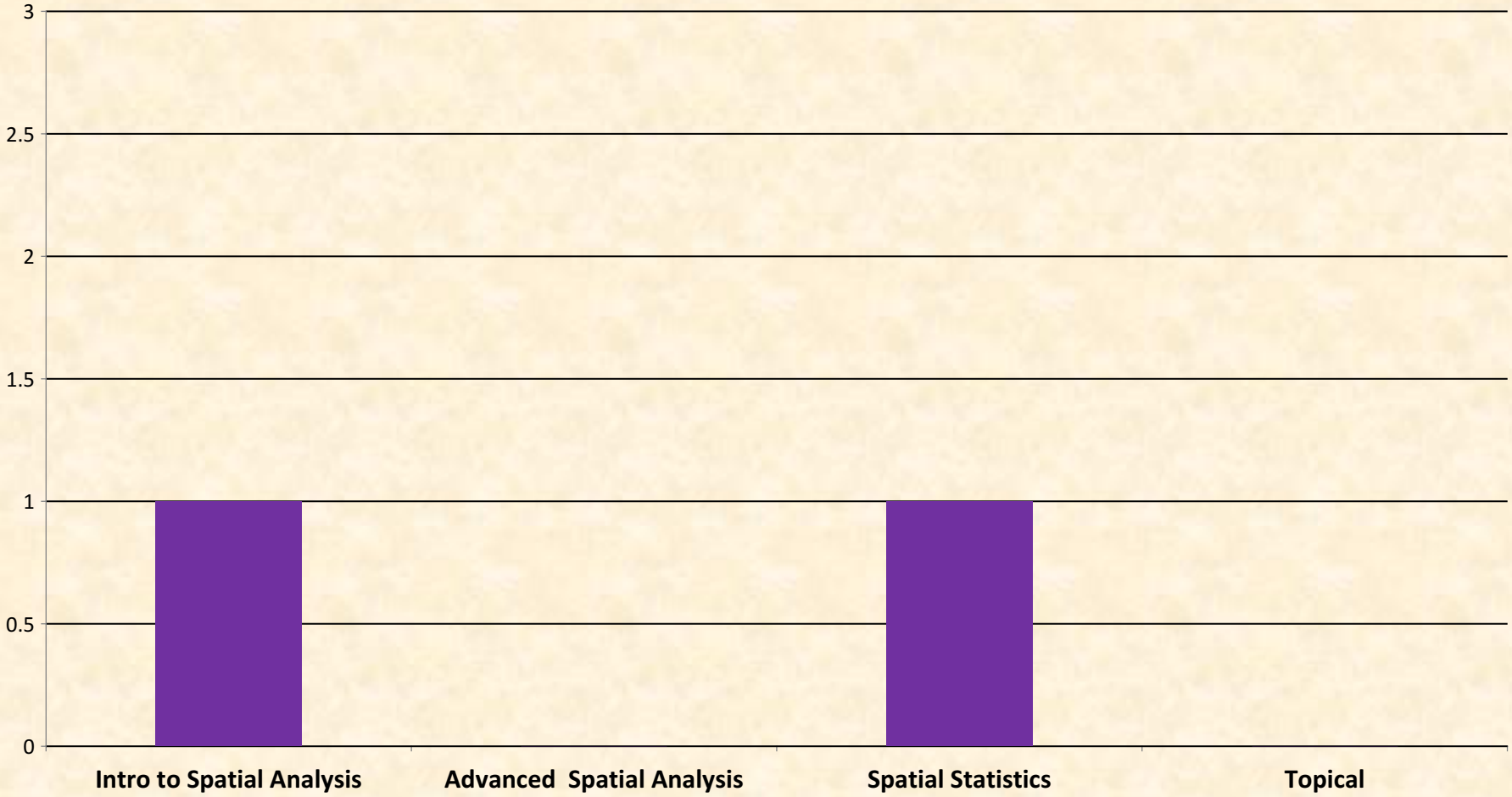
SPATIAL ANALYSIS
U of M Totals



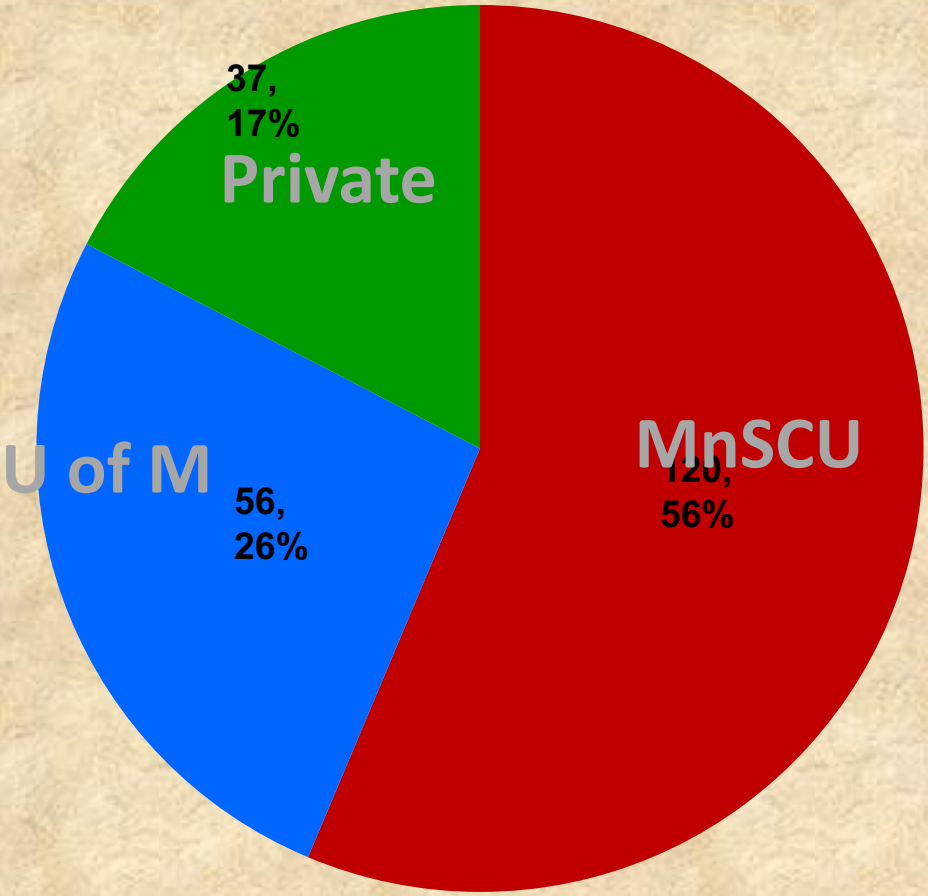
SPATIAL ANALYSIS
U of M – TWIN CITIES vs. REGIONAL



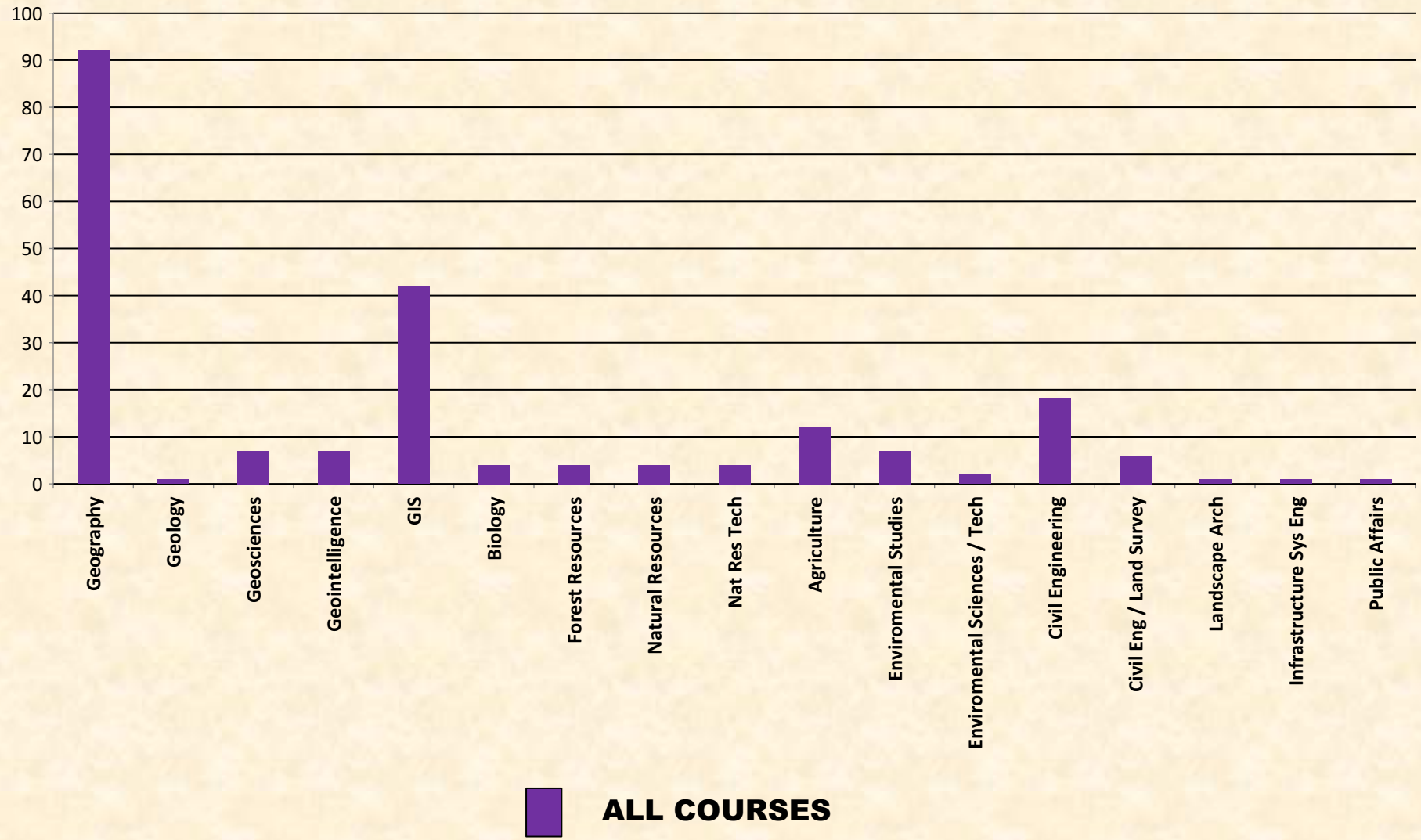
SPATIAL ANALYSIS
PRIVATE COLLEGES & UNIV.



TOTAL CLASSES



DEPARTMENTS and PROGRAMS WHERE GEOSPATIAL COURSES ARE TAUGHT



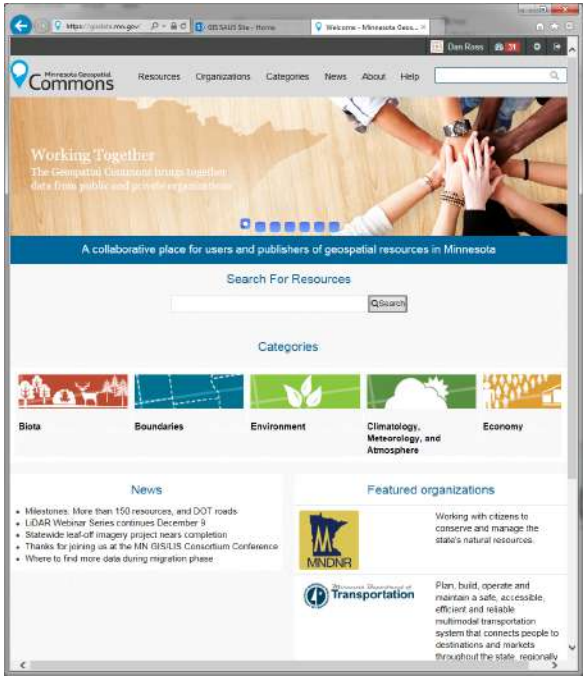
Discussion of enterprise services that are needed

Dan Ross, MnGeo

Examples of Enterprise Services

Existing

- MN Geospatial Commons
- Imagery
- Geocoding
- MnTopo



Under consideration

- USPS verification
- Web map services
- Shared Code Repository

Discussion

What enterprise services are needed by the Geospatial Community?

Example – coordinate statewide data for the Census Bureau?

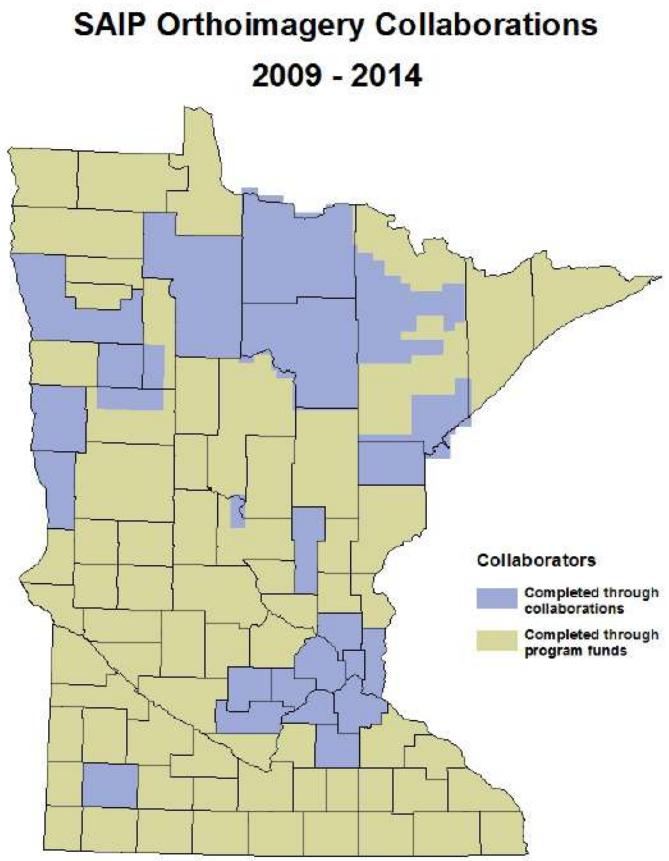
MnGeo priority efforts and updates

Dan Ross, MnGeo

Statewide Addresses

- Developed as part of NG9-1-1
- Shaping the project now
- Collaboration with DPS, State Patrol, MnDOT, local partners
- Aligned with Street Centerlines
- Will begin moving forward this spring

Spring Aerial Imagery Project 2009-2014

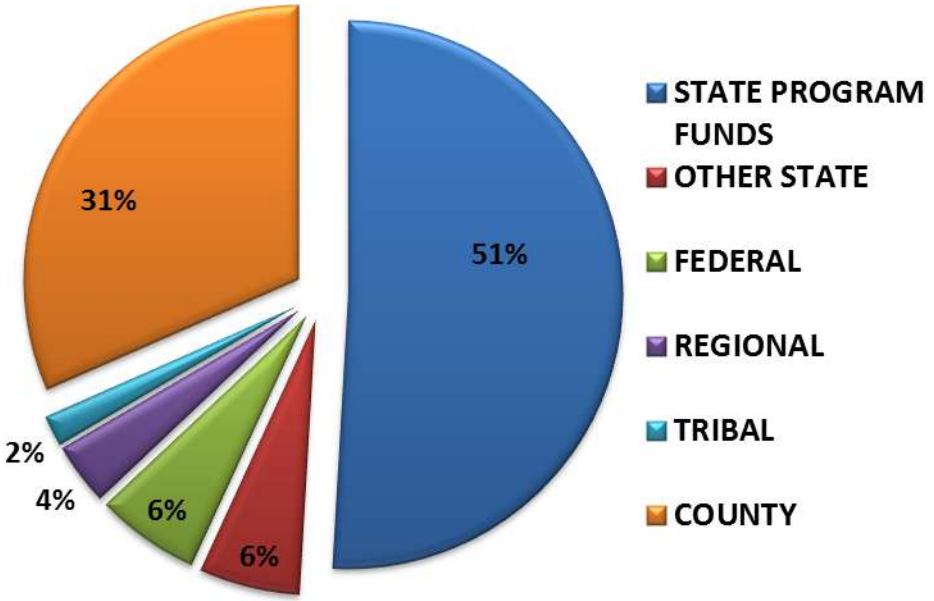


- SAIP
  - 6-year project
  - 4-band & stereo imagery
  - 0.5-meter resolution
  - Funded: ENRTF at $1.1-million
  - Purpose: Update National Wetland Inventory
  - Strategy: individual, annual contracts
- Partnerships Offered
  - To counties, tribes, federal agencies
  - 22 partnerships developed
  - Most bought up from 0.5-meter to 1-foot
  - Over an area representing 33% of MN
  - Total project budget increase: ~$1-million

Spring Aerial Imagery Project 2009-2014

Roles

- **DNR**: Primary customer, funding source, ID technical specs
- **MnGeo**: project/contract mgmt; liaison with partners; imagery QC
- **MnDOT**: Tech specialists; positional accuracy assessment
- **Counties, Tribes, Feds**: partners engaged through JPAs and POs; involvement varied



Future

- Project ending in first quarter 2015
- Interest in continuing partnership program, but no dedicated state $$
- State would dedicate resources to develop and execute a new contract

Master Services Contract (MSC)

- Identify specifications for a set of products and/or services
- Pre-approve a number of qualified vendors
- Contract in force for multiple years
- When products are desired, they are pooled and a work order is prepared
- Vendor responses evaluated; best value selected
- As new needs arise, new work orders can be issued over the life of the contract
- For this contract, the primary product would be imagery:
  - 4-band; Resolution from 3- or 4-inch to ½-meter

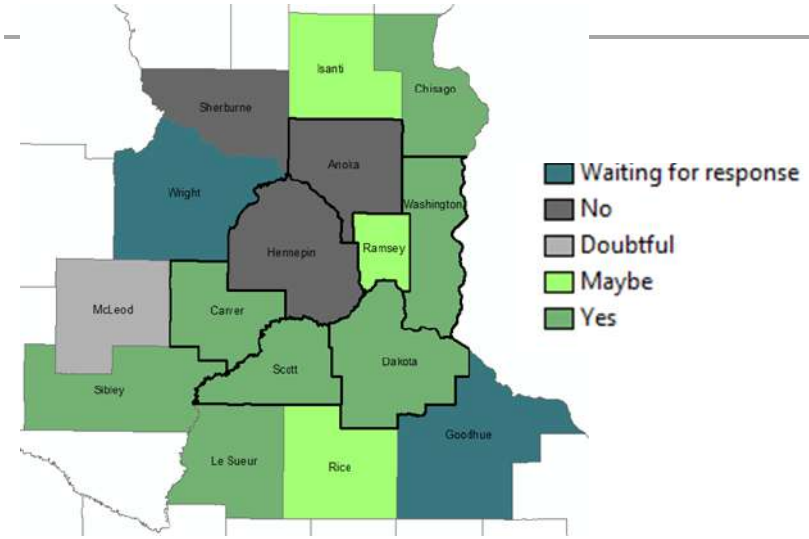
2016 Imagery

- Met Council is in the process of securing funding
  - 1-foot imagery
  - 7-county Metro

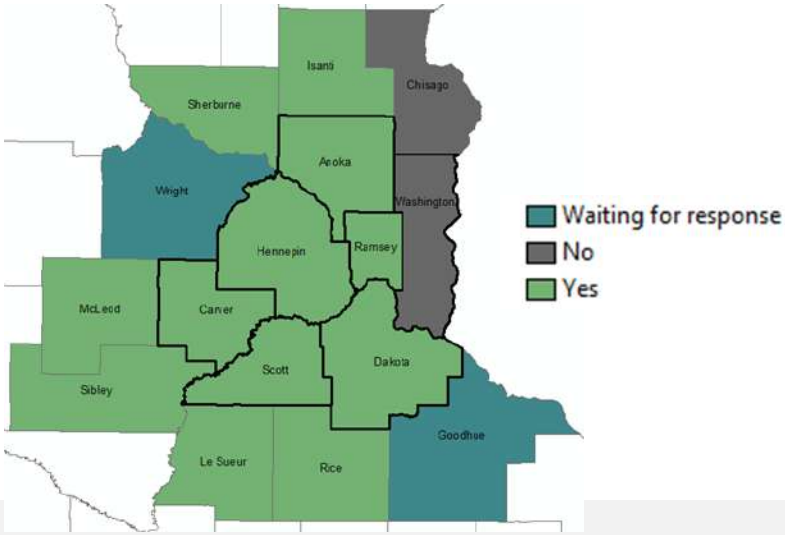
If an MSC is in place, there is an opportunity for partners to buy up

Additional partnerships would increase leverage, decrease costs

2016 Imagery Plans



Interest in Cost Share Opportunity



14 Counties Responded

Imagery Plans

▪ Yes:	4 metro	3 collar
▪ Maybe:	1	2
▪ No/Doubtful	2	2

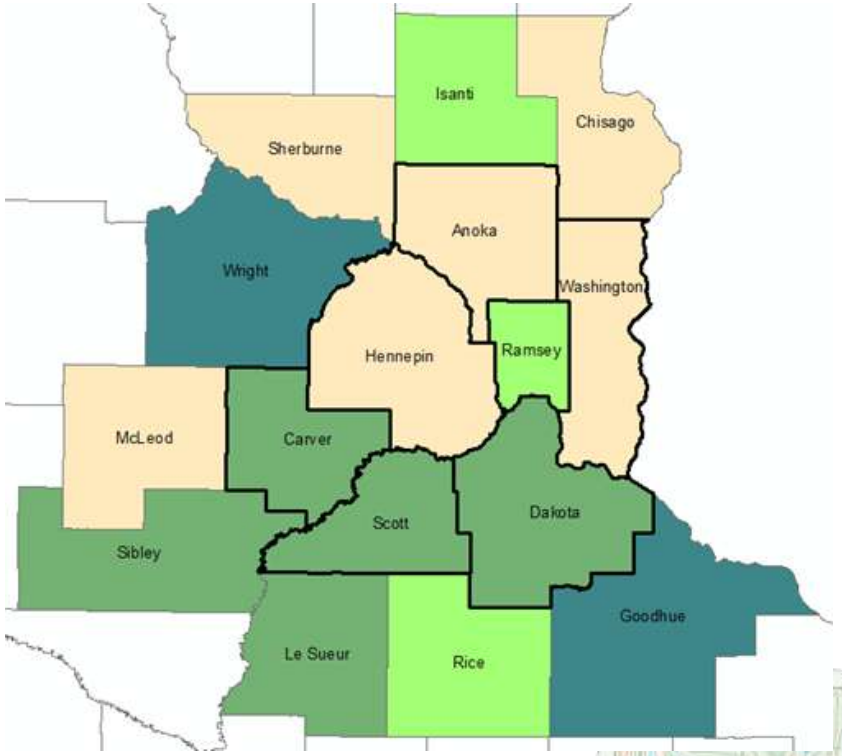
Cost Share Interest

▪ Yes:	6 metro	6 collar
▪ No:	1	1

Imagery Survey

2016 Imagery Plans and Cost Share Interest

- No Cost Share Interest and/or No 2016 Imagery Plans
- Waiting for response
- Cost Share Interest and 2016 Imagery Plans
- Cost Share Interest and Possible 2016 Imagery Plans

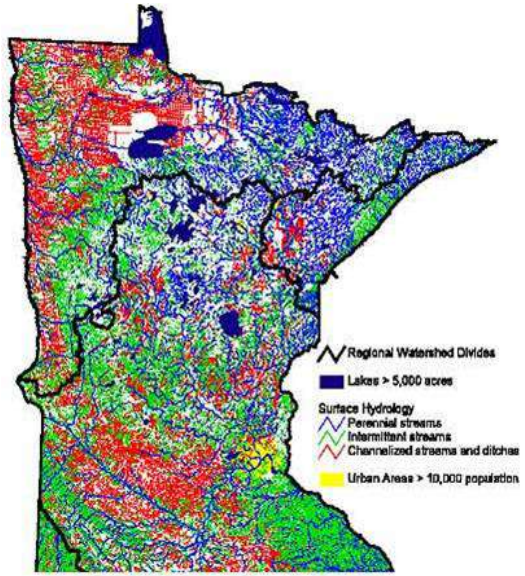


Additional Responses

- Primary resolution: 6-inch
- Spring, leaf-off
- Other related products to consider:
  - Stereo
  - Elevation data from stereo
  - Planimetrics

Drainage Records Modernization

Project Goal: Develop a GIS database template along with data standards and a web-based data portal for Minnesota's public drainage system records.



Project Status: A project plan has been written and a Service Authorization (SA) between the Board of Water and Soil Resources (BWSR) and MnGeo has been written but not yet executed.

Project Funding: $230,000

Statewide Parcels

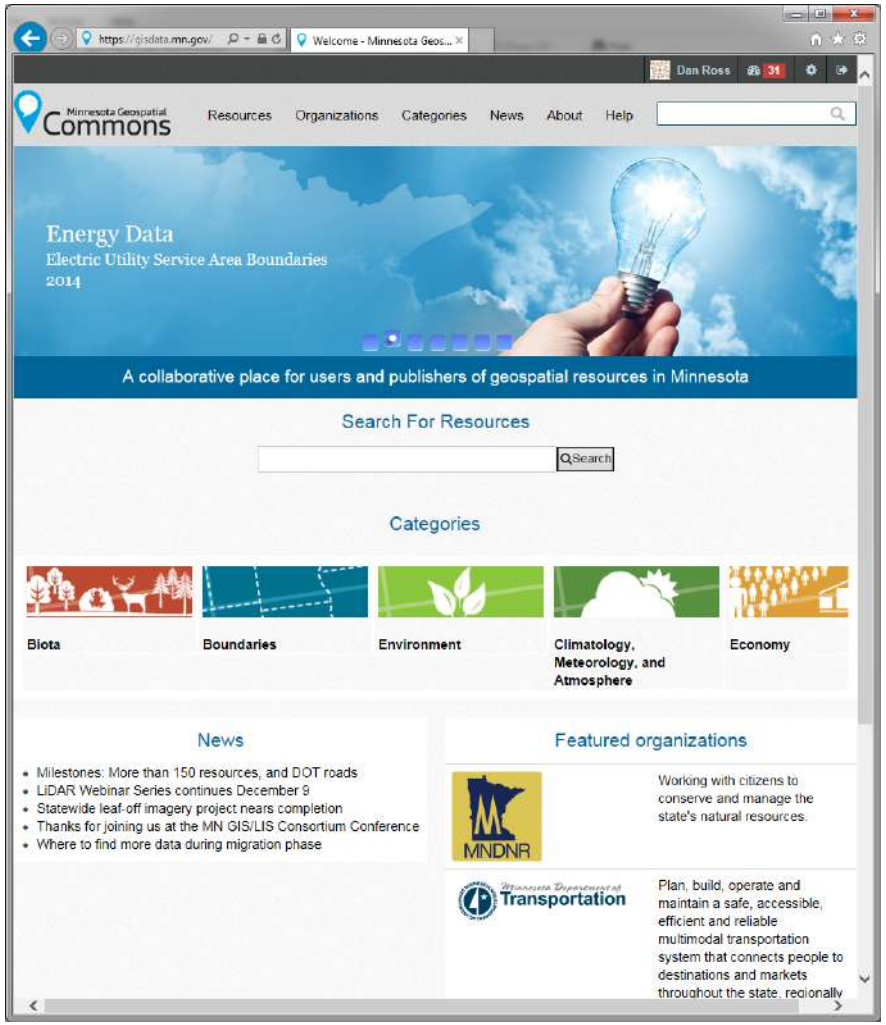
- Align with Revenue efforts
- Exchange Guideline - shared
- Regional Collaborations - happening
- MnGeo to do parcel collect 2014-15
  - Will obtain, aggregate, standardize, make available to state agencies

PRISM
Property Record Information System of Minnesota

Minnesota Geospatial Commons

The experiment…

- Build a place that users see as the place of choice to go to find, evaluate, access and follow (stay connected with) the best data to meet their needs…
- Create a place that publishers want to put their geospatial resources for others to discover...



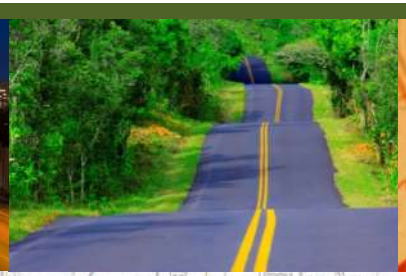
Status

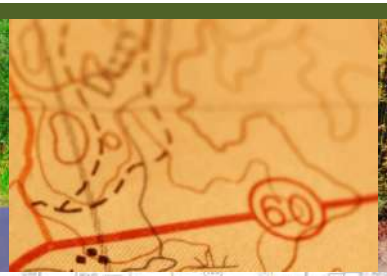
- Migration of all significant state geospatial resources currently provided in the Data Deli, Minnesota Geographic Data Clearinghouse, DataFinder and other independent state agencies taking place
- Published resources accessible through the Commons has reached nearly 200
- Participation of remaining state agencies and external partners will be pursued beginning in March 2015

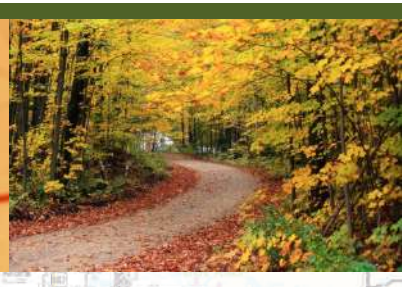
Delay…..

- **Set up - MnGeo instance of Esri Roads and Highways for the partners**
- **Conflation of non-state data**
- **Align with Metro counties GIS Centerlines, Next Generation 9-1-1 efforts**

Statewide Centerline Initiative







To develop, test, refine, publish and perpetuate a single state- wide roadway dataset that meets the needs of a diverse user community…

Adjourn…

See you next meeting,
April 1 (no fooling!)