

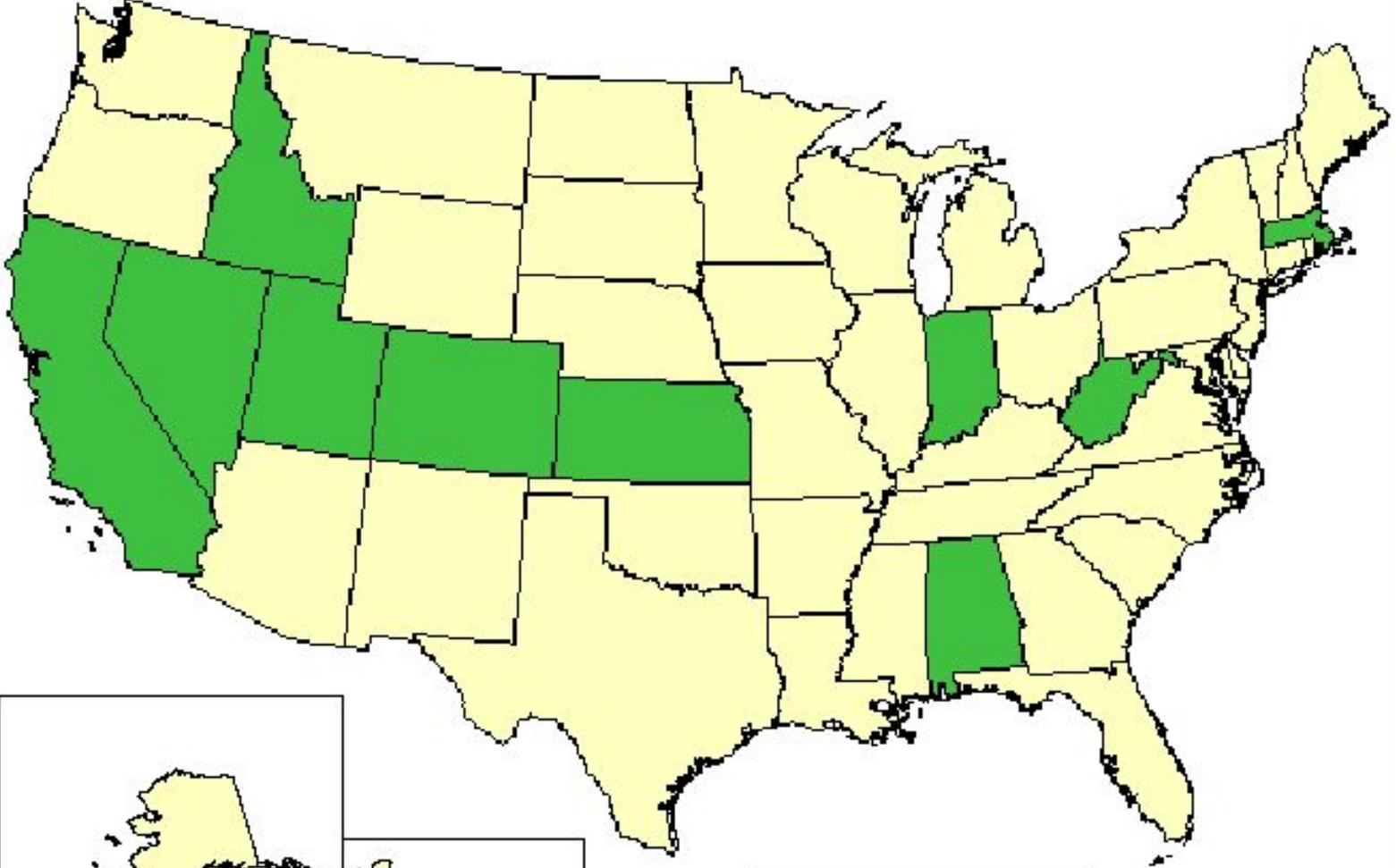


A Summary of State DOT GIS Activities

Presented at the
2004 AASHTO GIS-T Symposium
Rapid City, SD

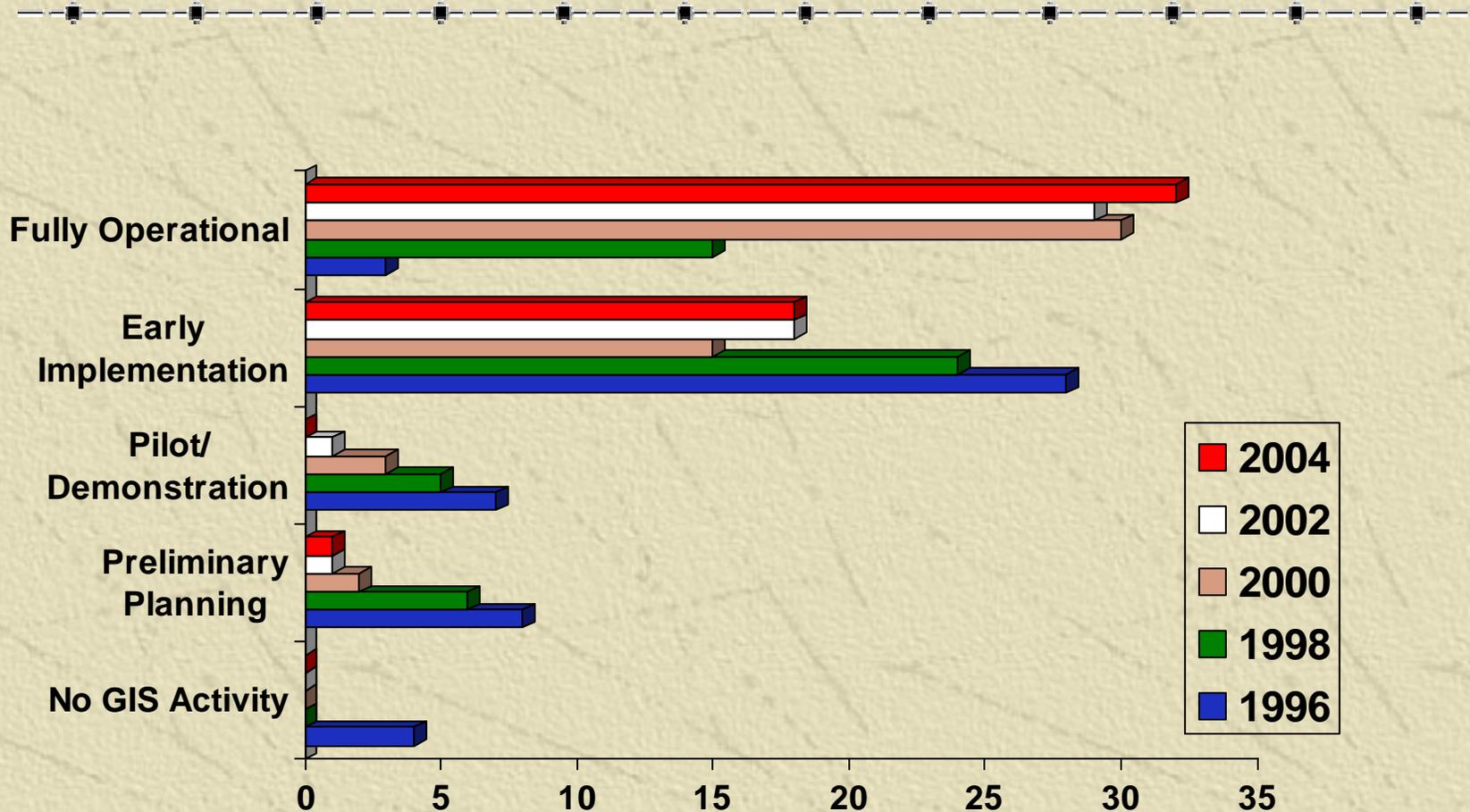
Information Sources

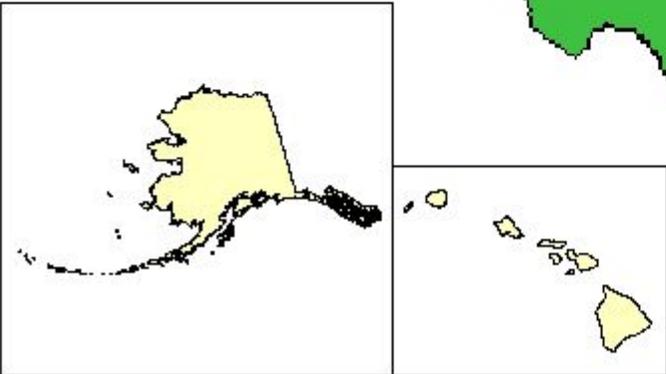
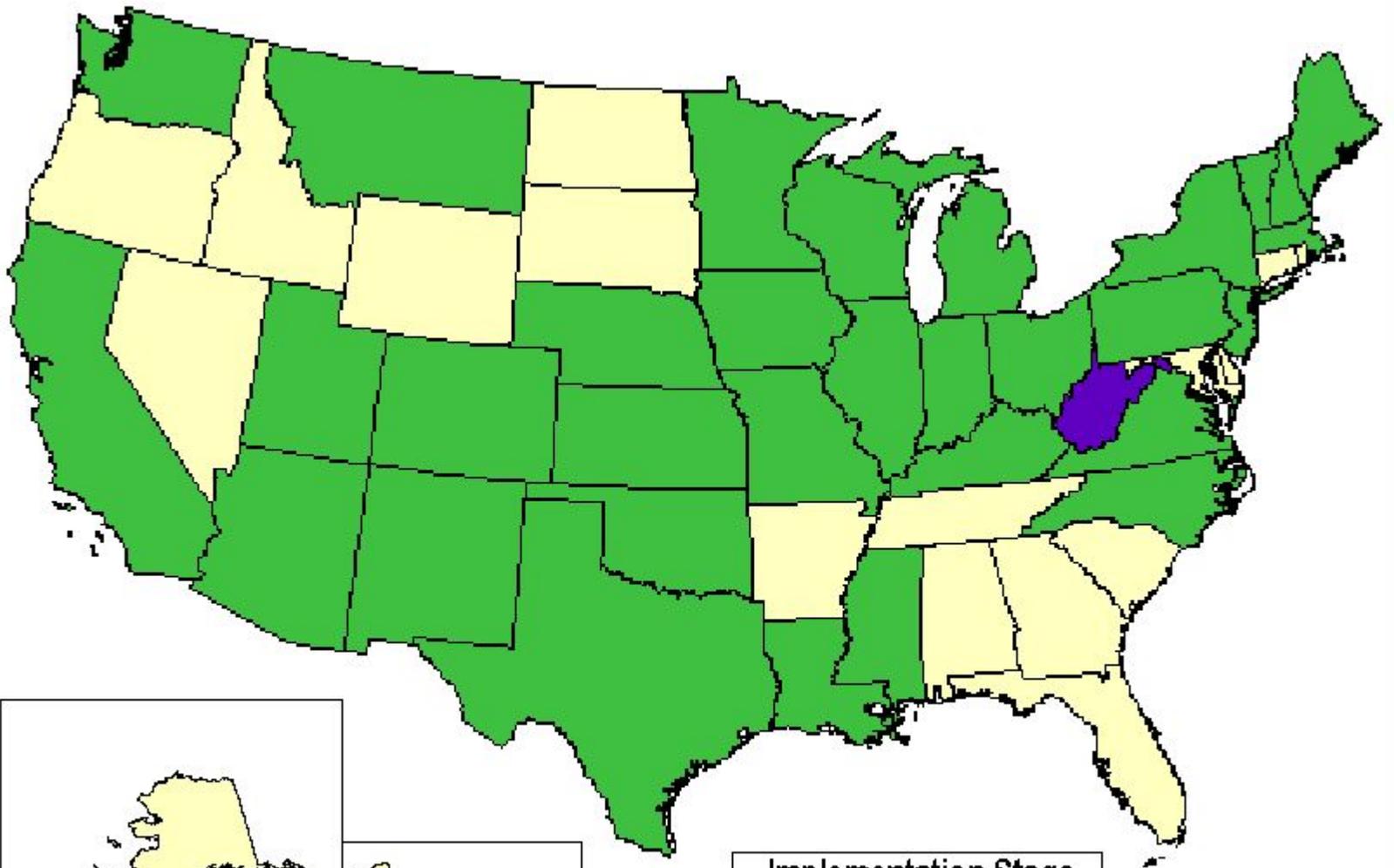
- ◆ E-mail survey of state DOT GIS managers
 - All 51 State DOTs (and DC) responded in 2004
 - First time 100 % response
- ◆ Results compared with prior year surveys
- ◆ Two new questions added:
 - Use of spatial data manager middleware
 - Questions you would like to see in future surveys



Survey Responses
■ 1st 10 States Responding

Stage of Development

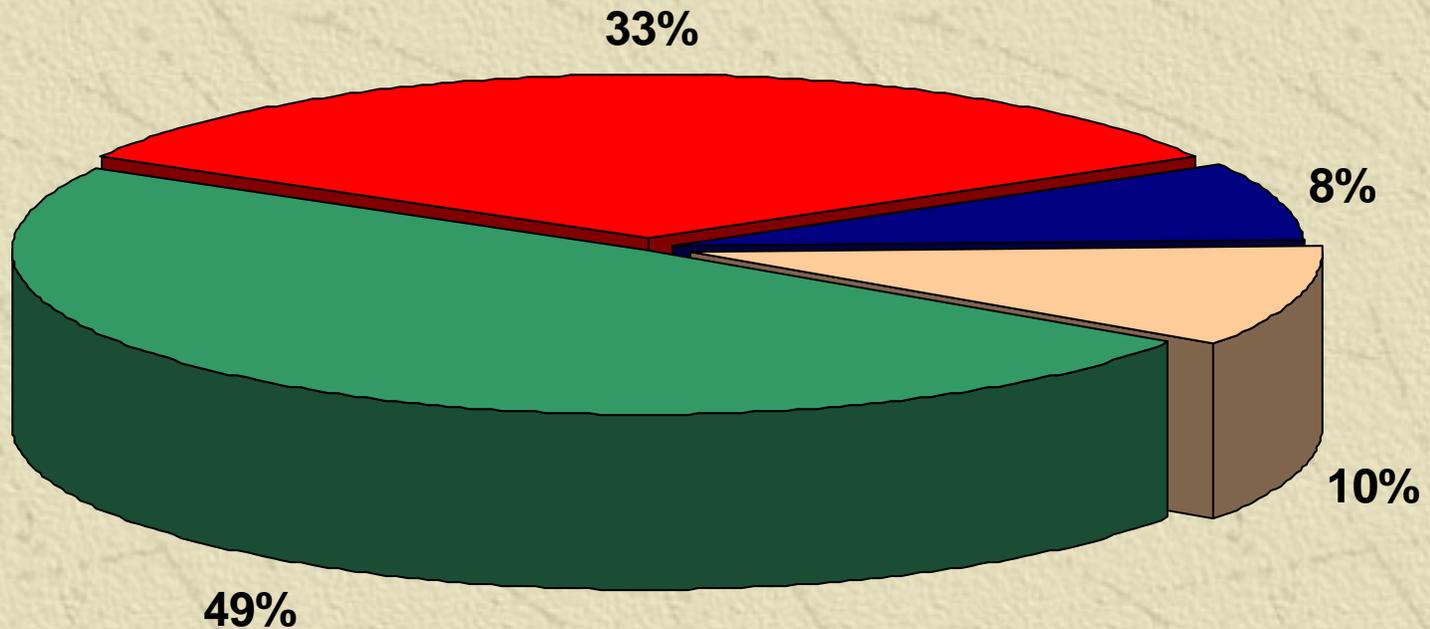




Implementation Stage

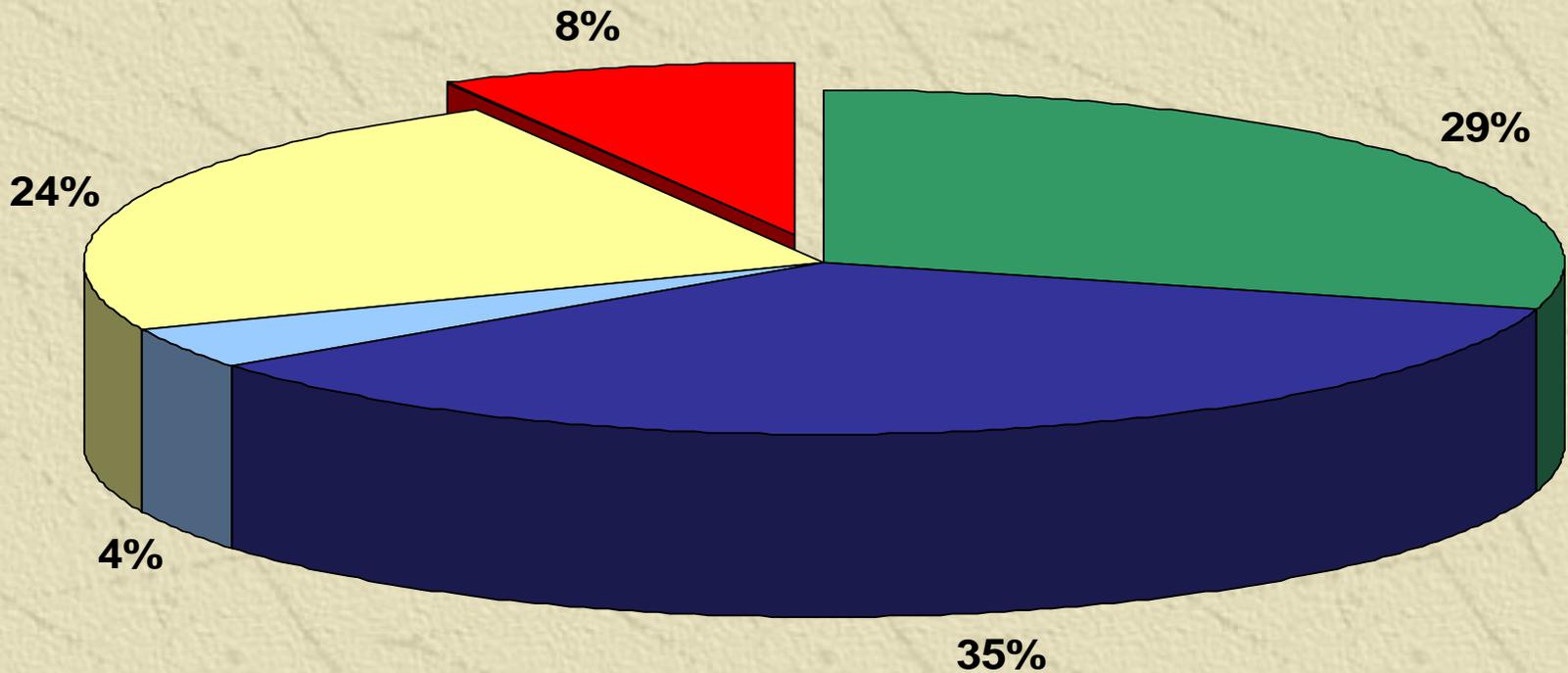
- Preliminary Planning**
- Ongoing Implementation**
- Fully Operational**

GIS Deployment in the DOT



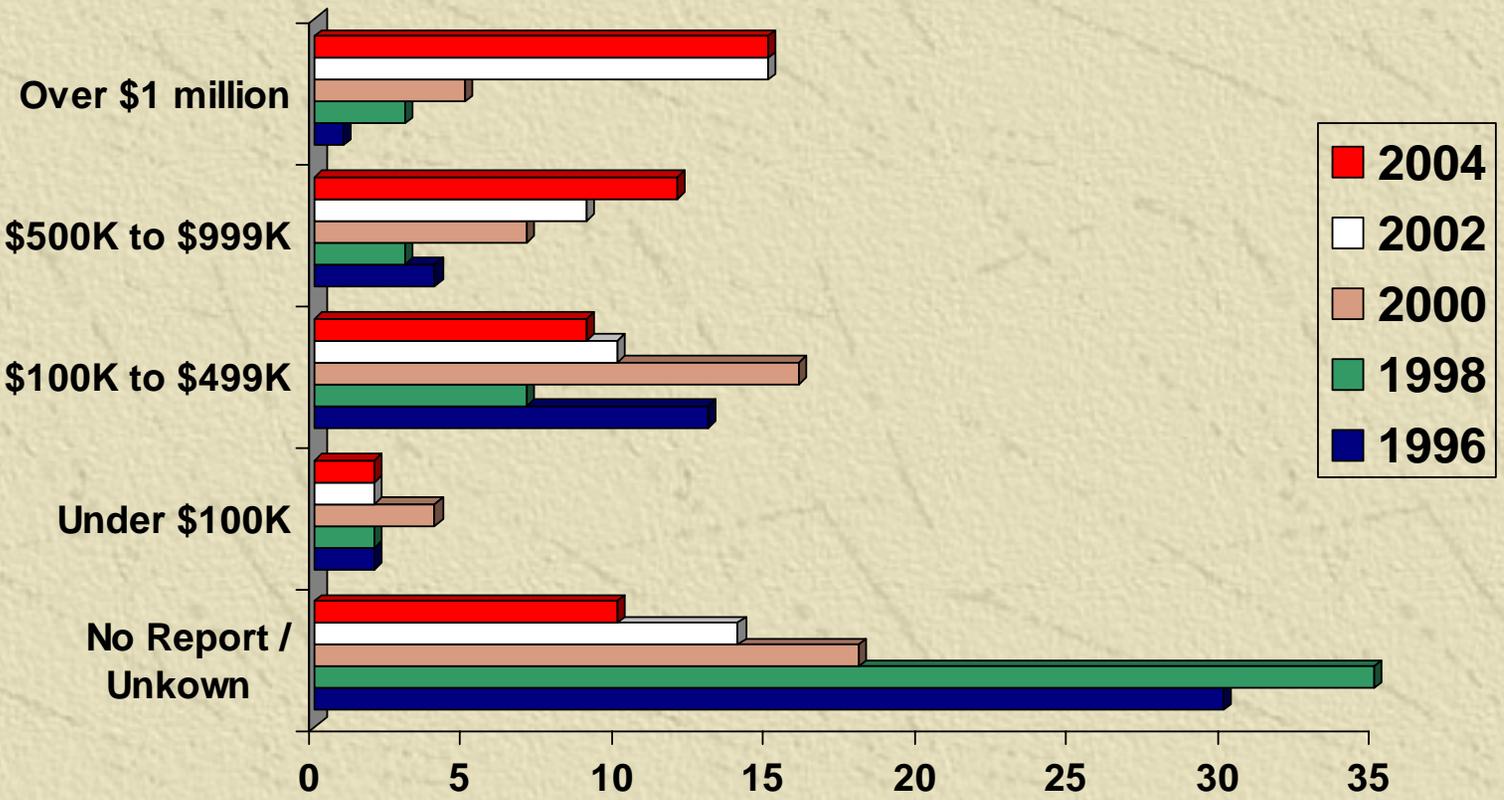
■ Individual Units ■ Single GIS Unit
■ Core GIS Unit & End Users ■ Enterprise GIS

Location of GIS Unit



 Planning	 Information Services	 Engineering
 Multiple Locations	 No Official GIS Unit	

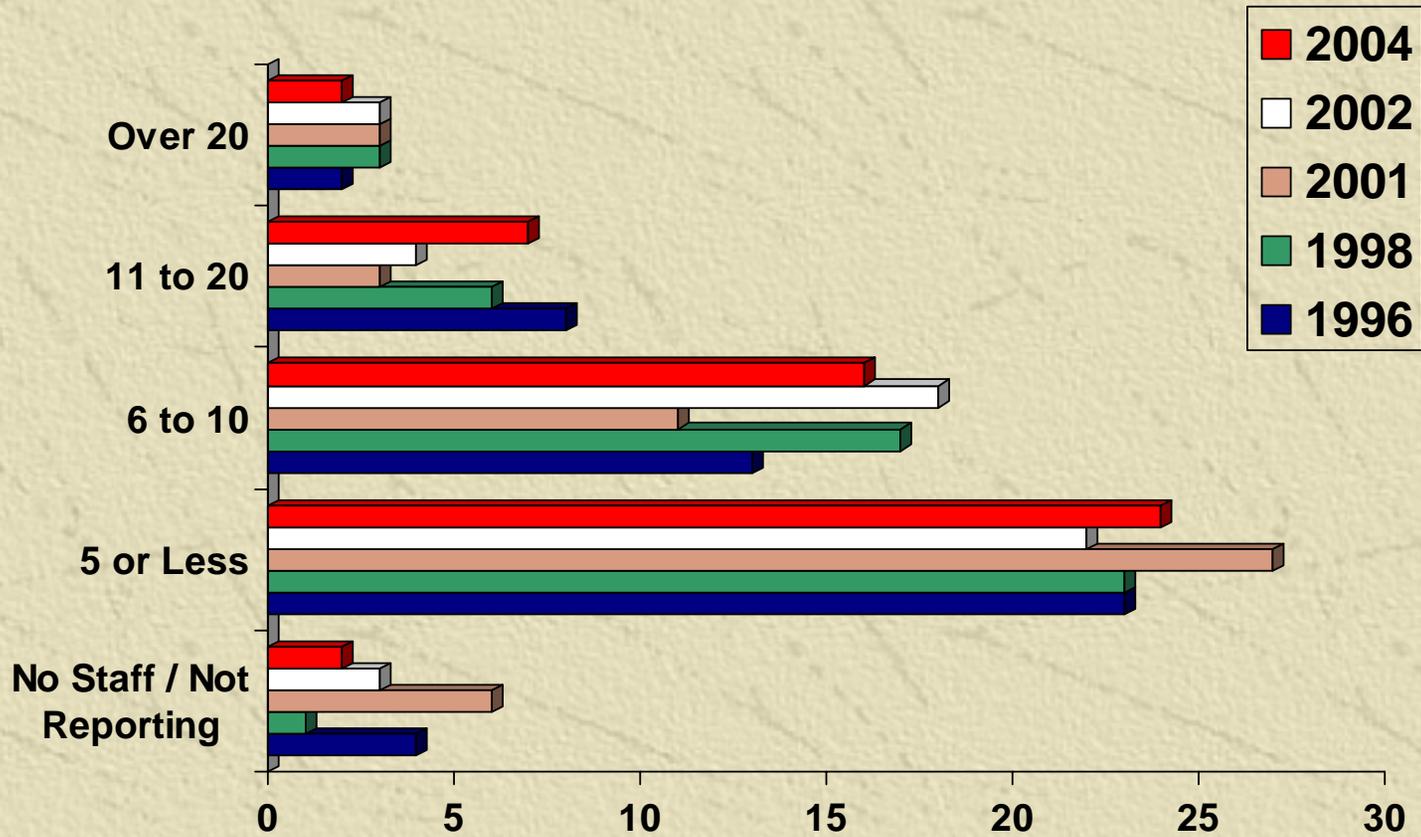
GIS Budgets



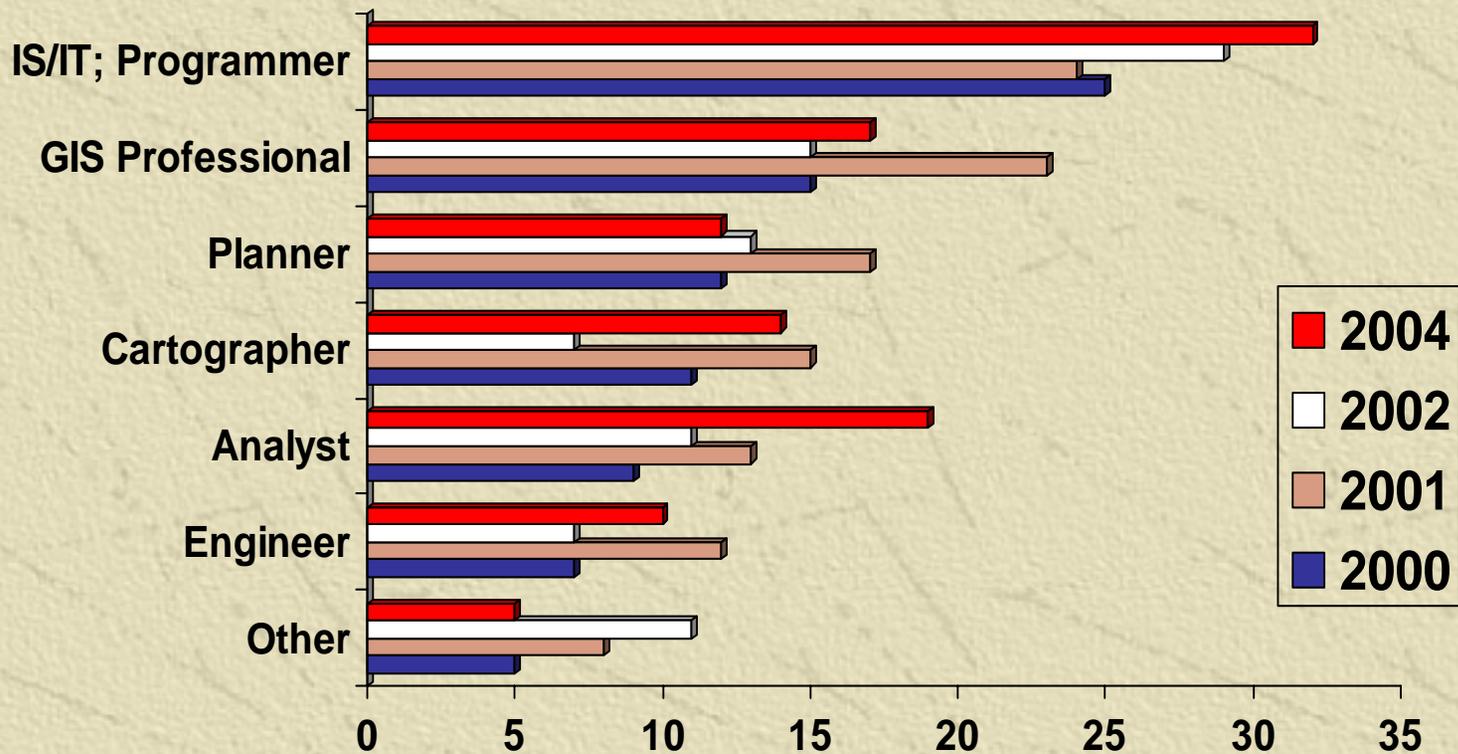
GIS Organization: Summary

- ✦ All but one State DOT have a recognized GIS unit.
- ✦ Continuing trend to locate GIS core staff in Information Services.
- ✦ GIS deployment strategies split between core GIS unit and enterprise GIS
- ✦ GIS budgets in many states impacted somewhat by State fiscal cutbacks.

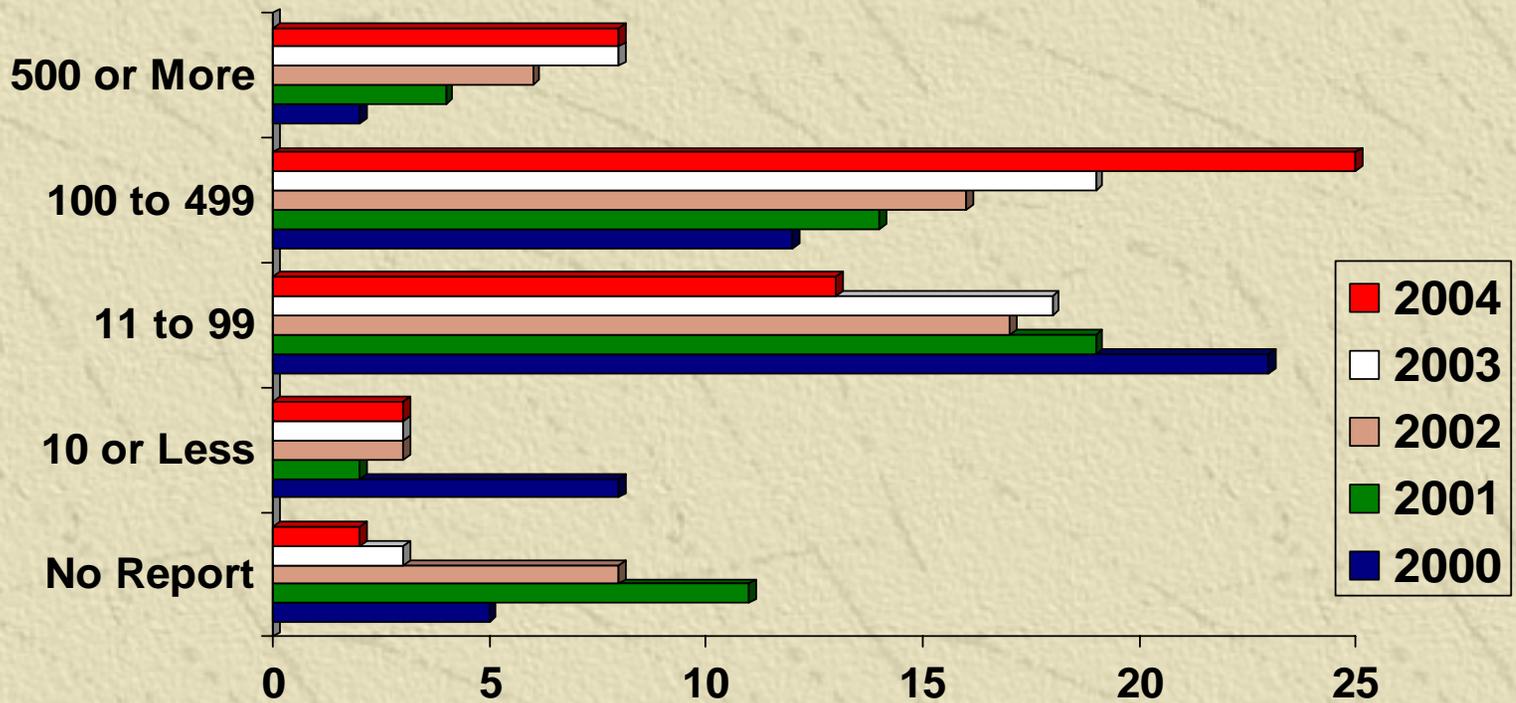
GIS Core Unit Staffing



GIS Staff Classifications



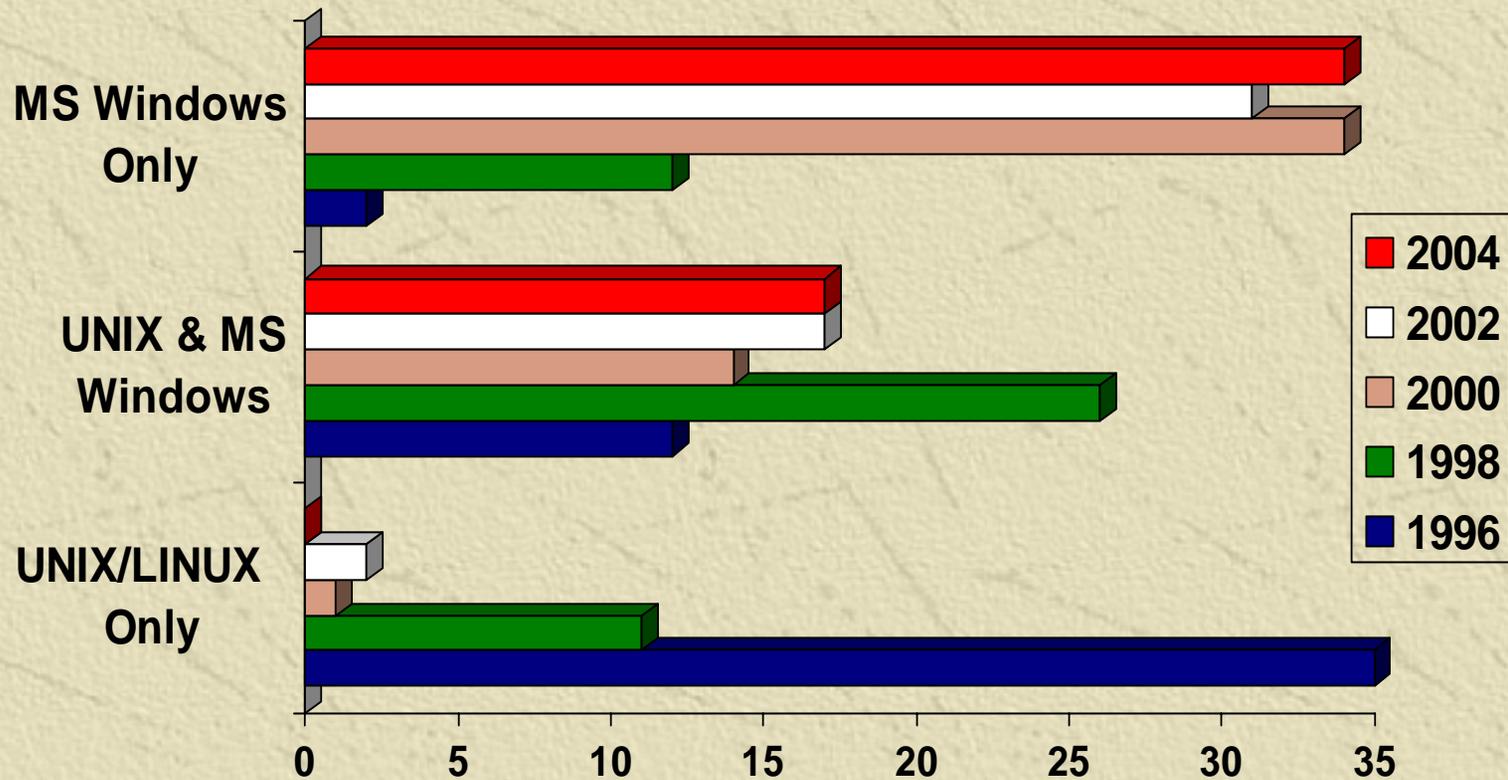
GIS End Users



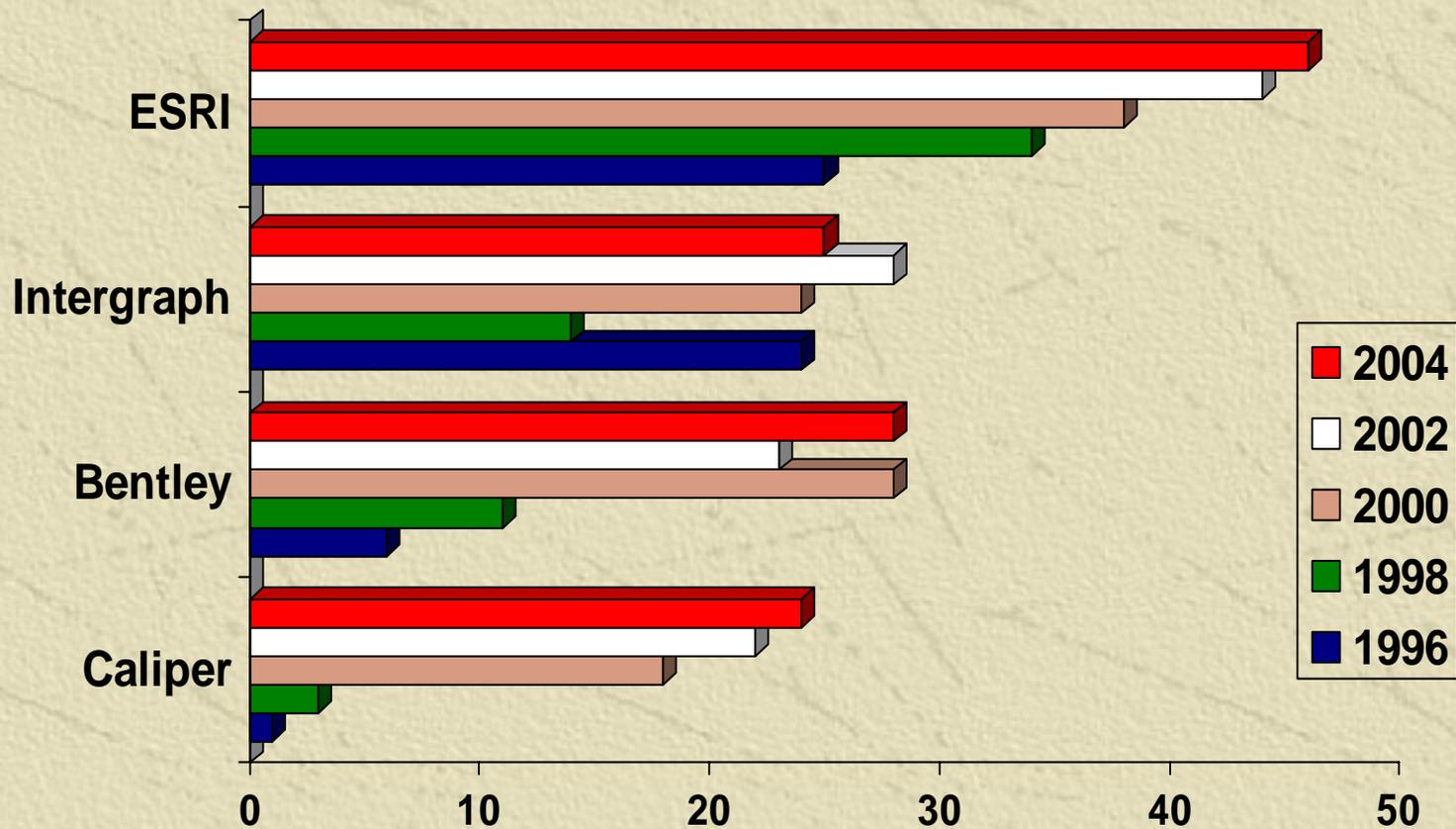
GIS Staff & Users: Summary

- ✦ GIS core staff has stayed relatively constant in size
- ✦ Rapid growth in GIS use throughout the DOT
- ✦ Decentralization of GIS applications among end-users
- ✦ Core staff activities focus on database maintenance and integration, support and training for end users.

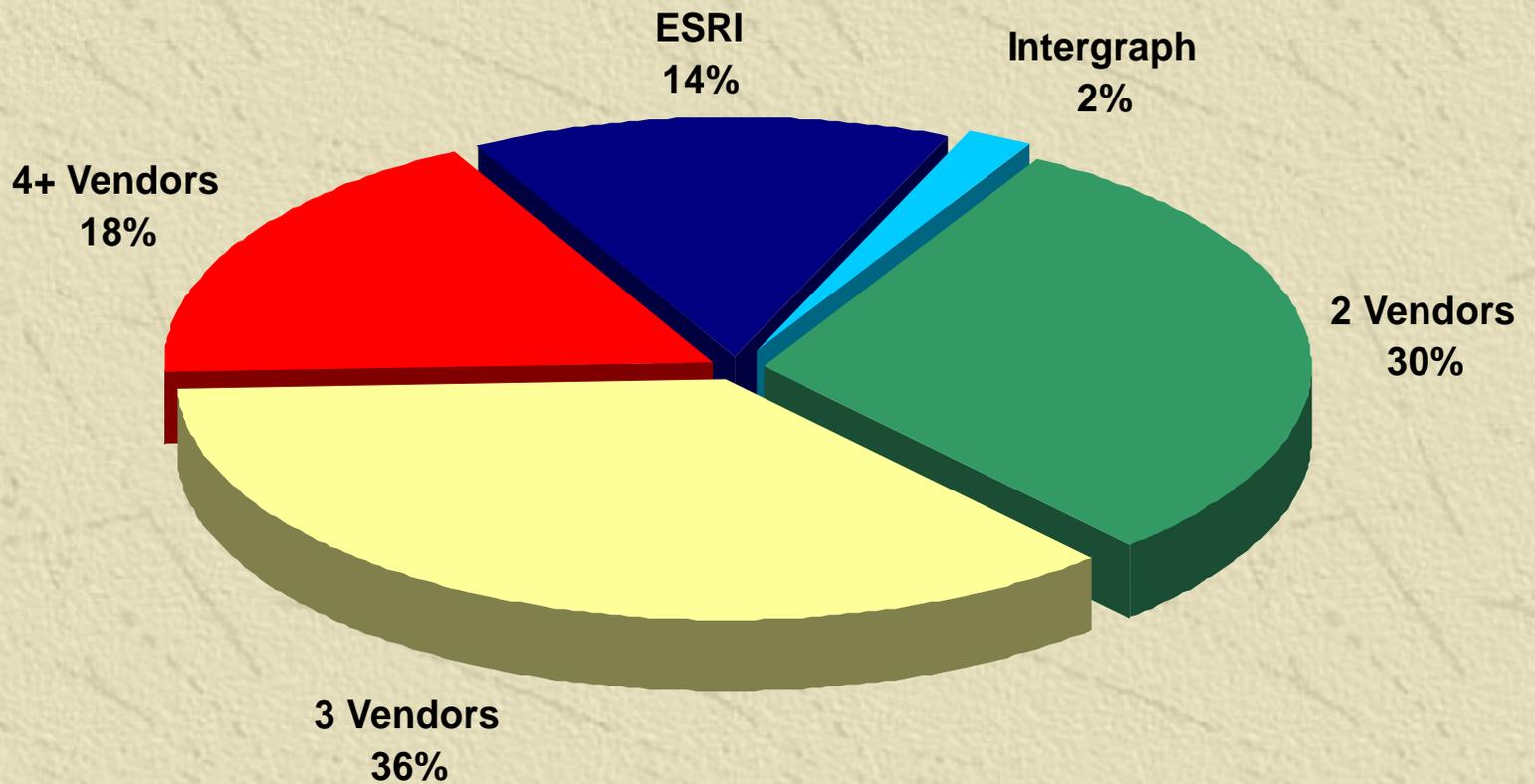
Operating Systems



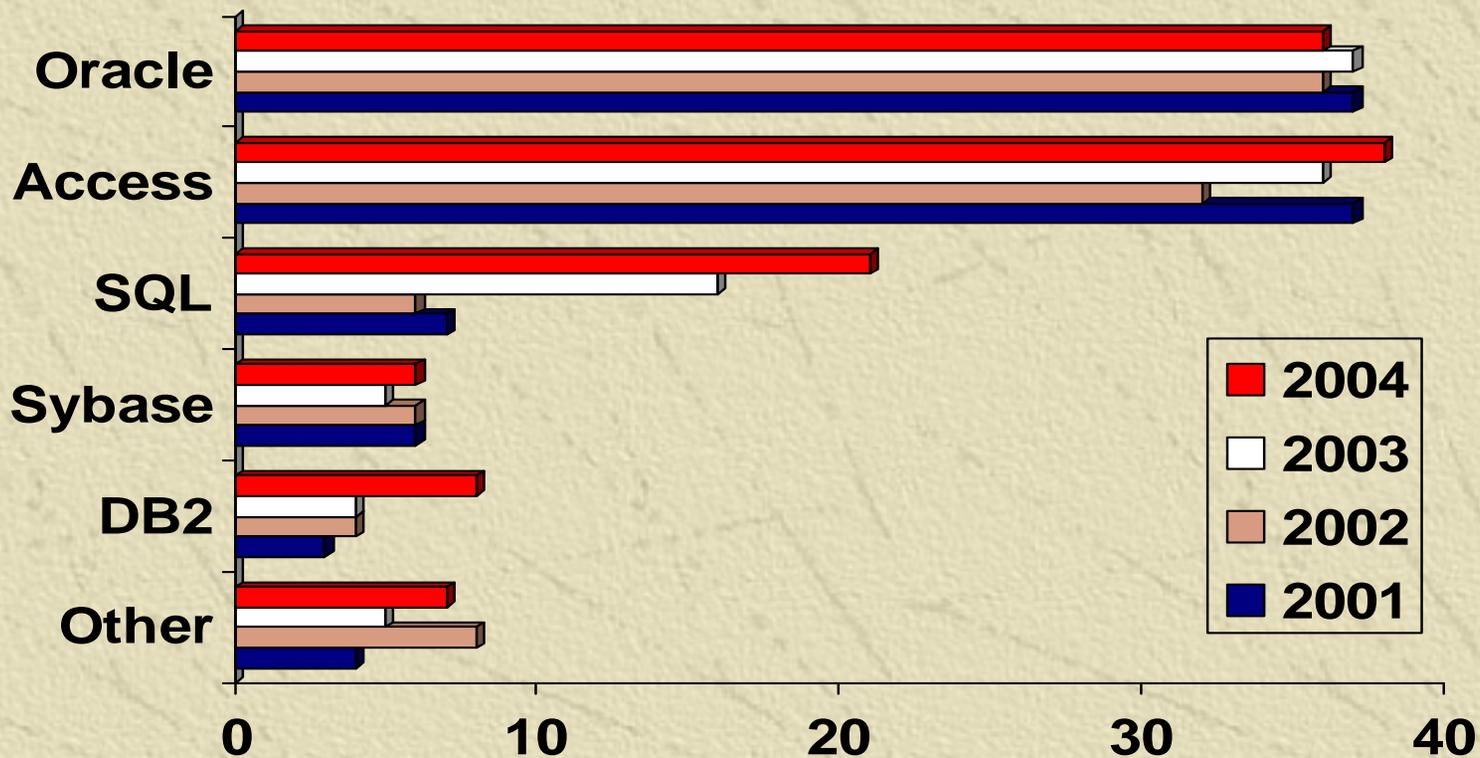
GIS Software in State DOTs



Current GIS Software Mix



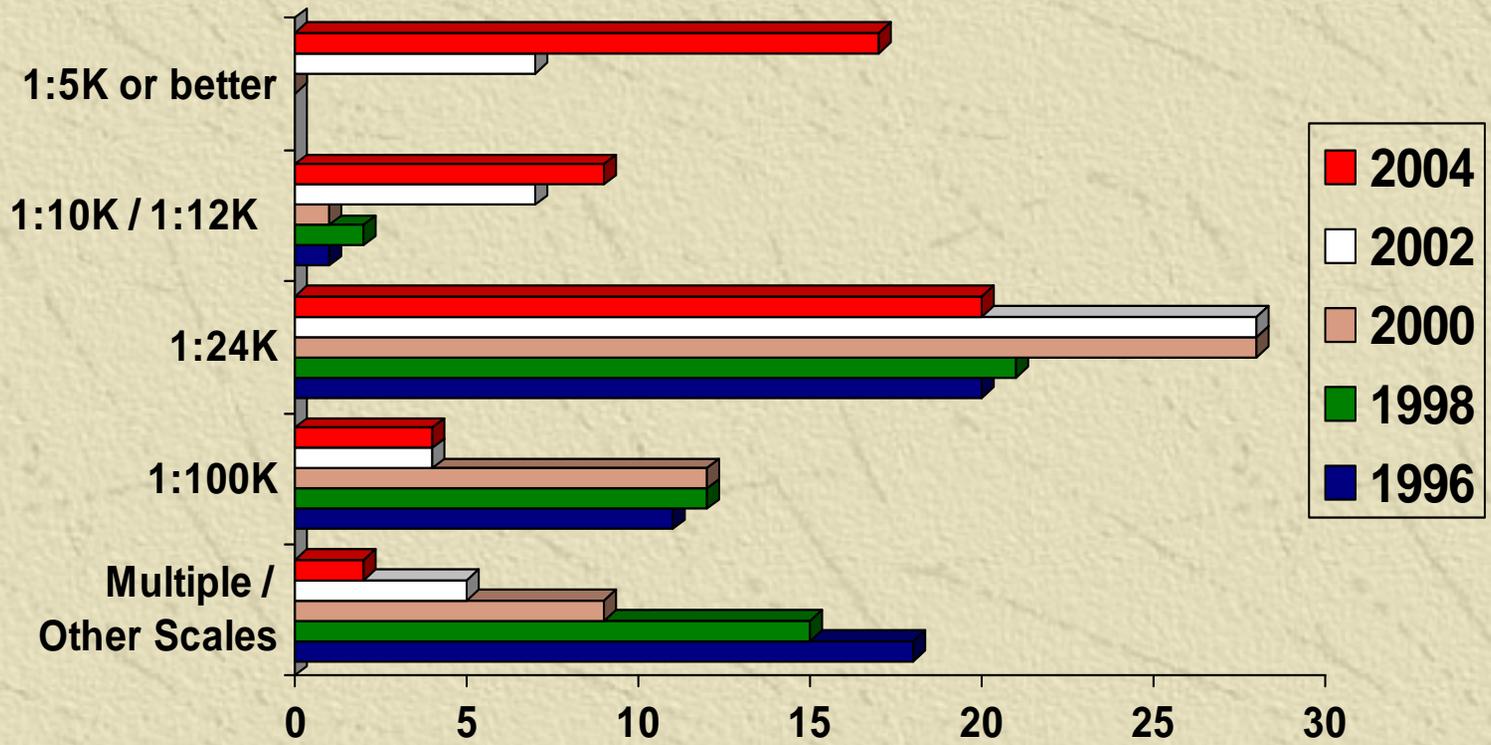
DBMS Software

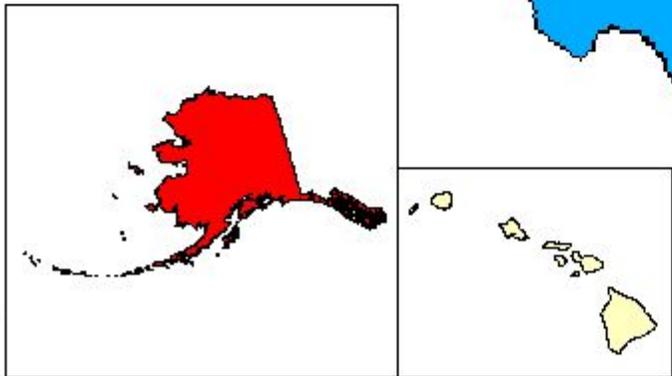
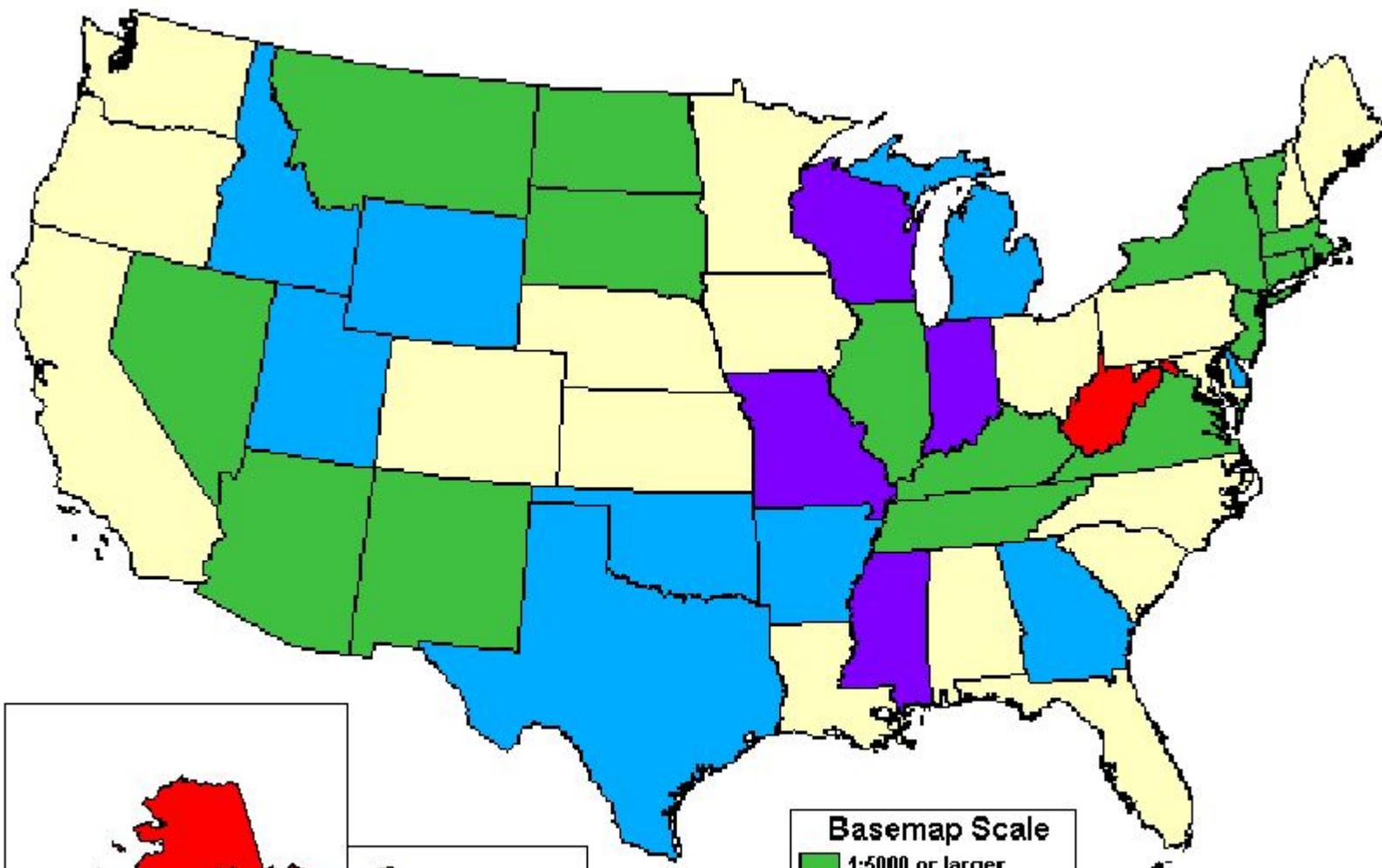


GIS Software: Summary

- ✦ Continued migration toward Windows operating system.
 - ◆ Some growth in DOTs using both OS
- ✦ Use of multiple GIS software packages and vendors
 - ◆ Increased market penetration for most major software packages
 - ◆ Major growth in desktop end user, and web-based software

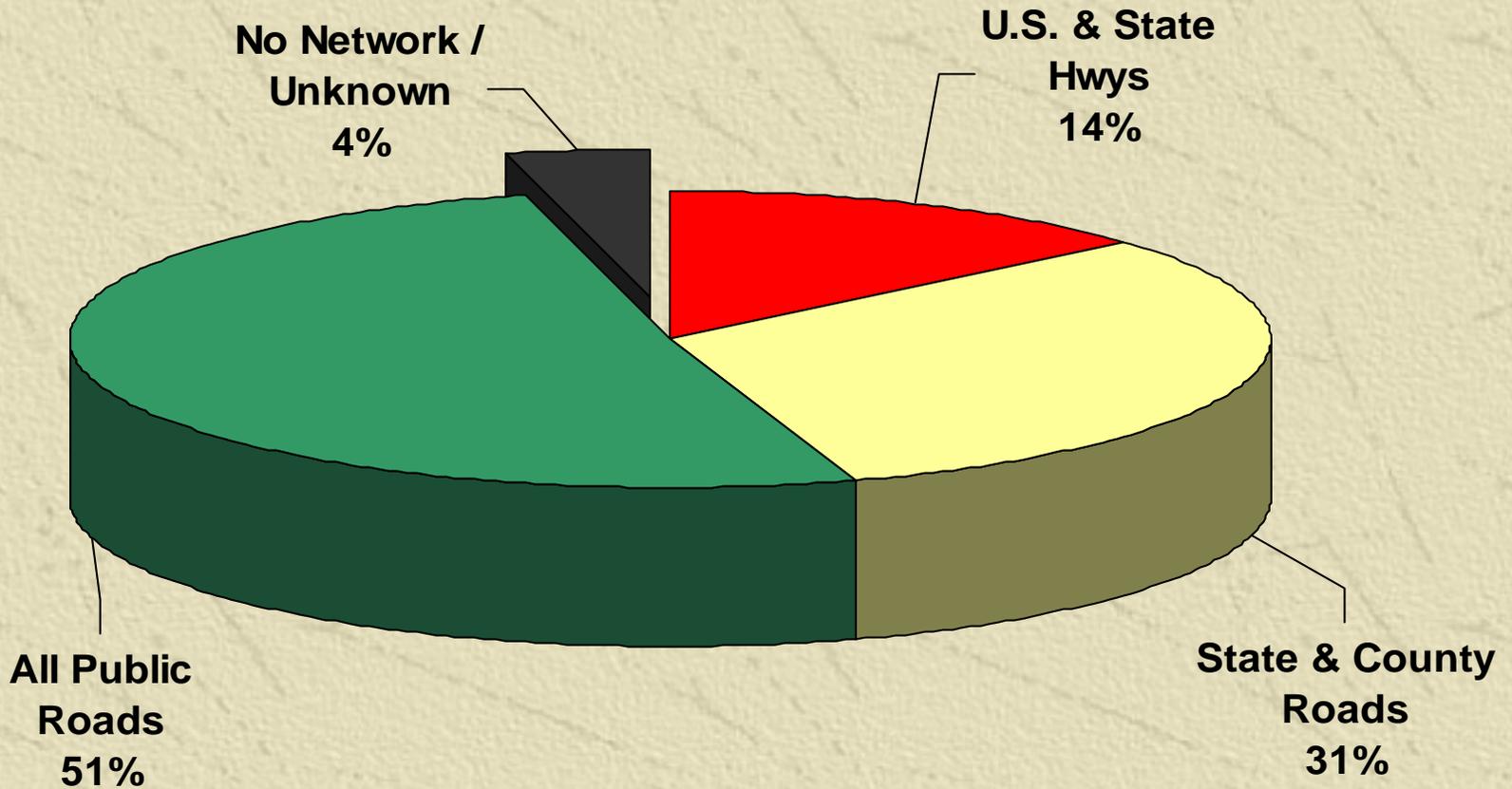
Base Map Scales



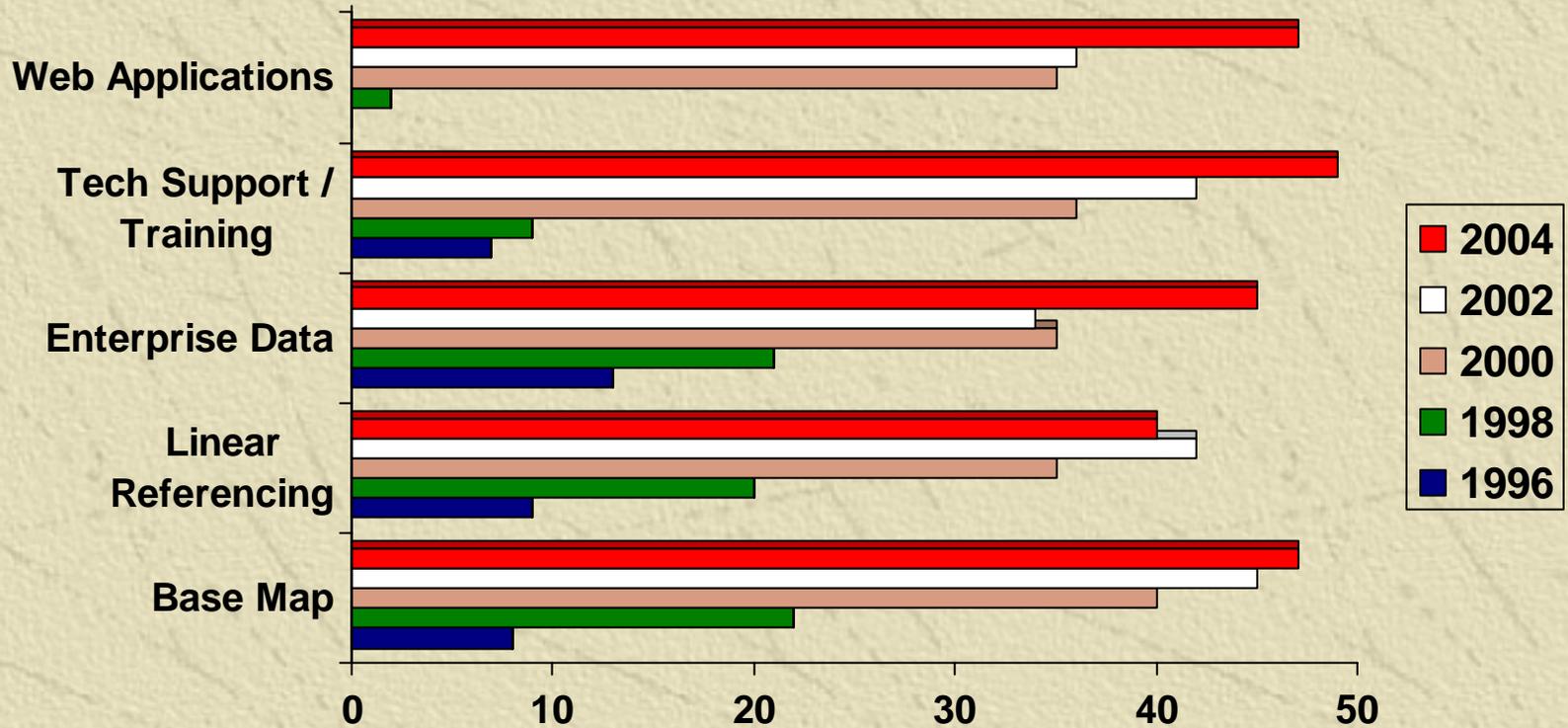


Basemap Scale	
Green	1:5000 or larger
Blue	1:10,000 / 12,000
Yellow	1:24,000
Purple	1:100,000 or smaller
Red	No Basemap

Road Network Coverage



GIS Core Functions



Current GIS Staff Activities

✦ Core Functions

- Web application development (35)
- Attribute data integration (12)
- Base map enhancement (19)
- LRS development (15)

✦ Other Activities

- Videolog/Photolog integration (8)
- Migration to new DBMS (6)
- Data sharing and coordination (5)
- Migration to new GIS platform (5)

Current GIS Applications

✦ Road feature inventory (10)

✦ Highway asset management (7)

✦ Safety management / crash analysis (6)

✦ Highway project locations (6)

✦ Traffic incident monitoring (5)

✦ Road conditions / weather (5)

✦ State highway map / atlas (4)

✦ Road construction / detours (4)

✦ Truck permitting / routing (4)

✦ Environmental impact analysis (3)

GIS Activities: Summary

- ✦ Significant growth in web-based GIS
- ✦ Continued emphasis on base map enhancement and attribute data
- ✦ Broad range of applications identified:
 - ◆ Asset management and inventory
 - ◆ Visualization of features and events
 - ◆ Few complex spatial analysis applications