

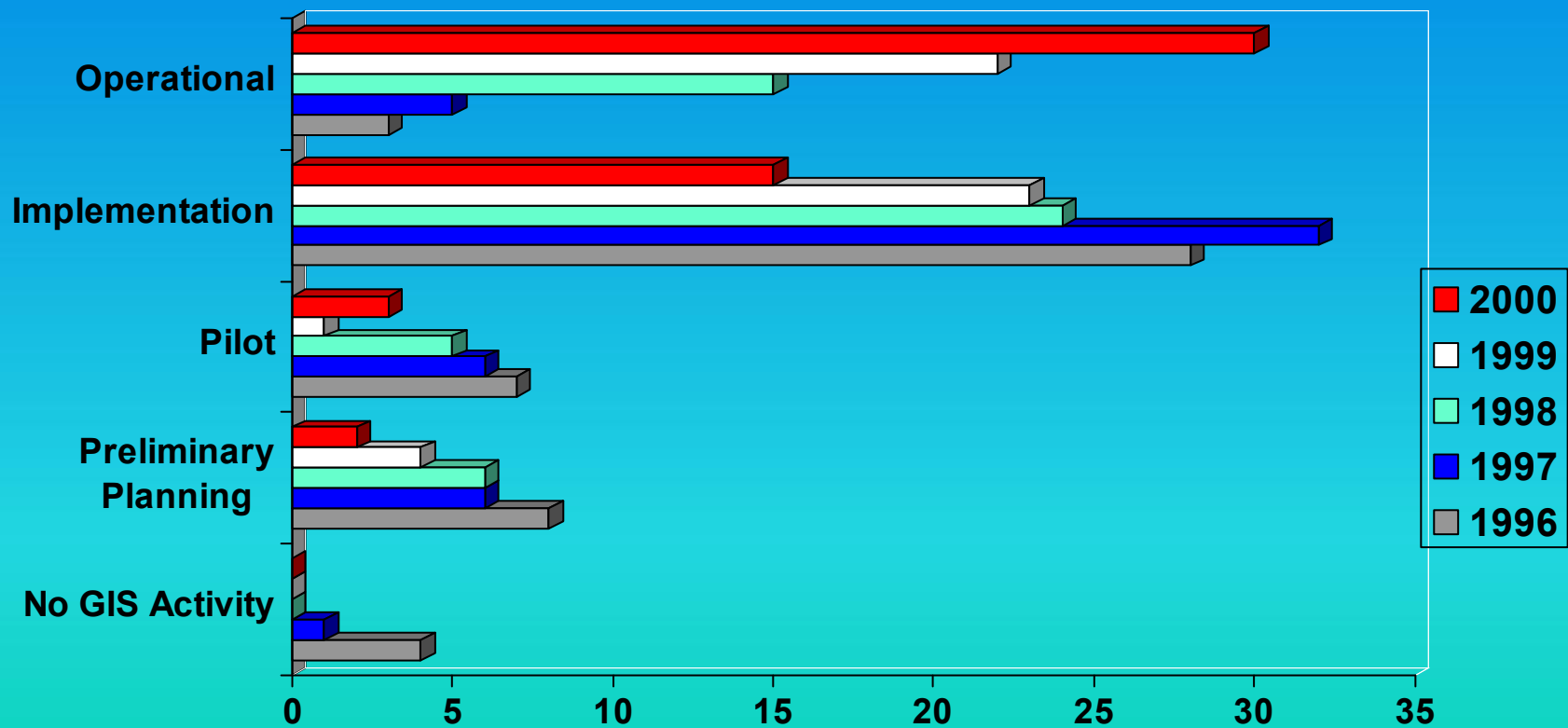
A Summary of State DOT GIS Activities

Presented at the
2000 AASHTO GIS-T Symposium
Minneapolis, MN

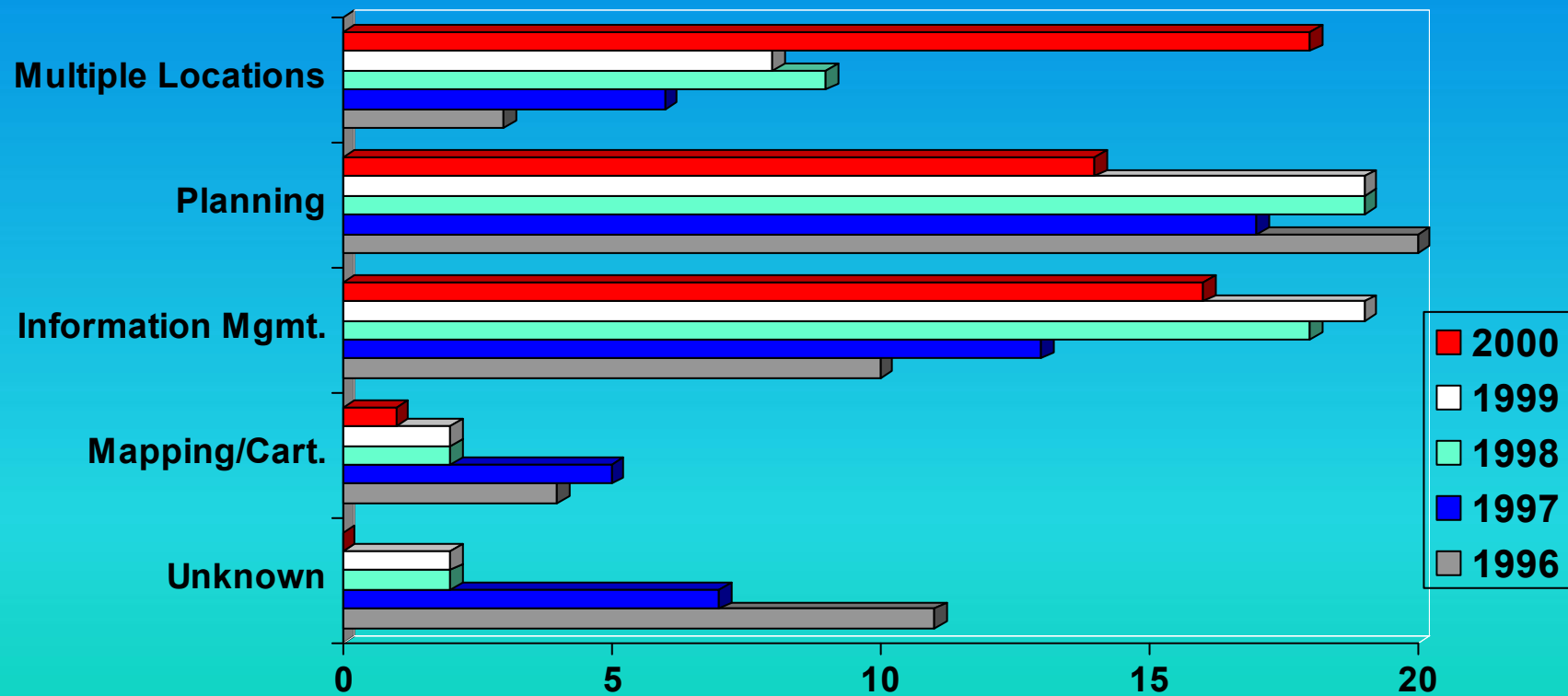
Information Sources

- E-mail survey of state DOT GIS managers
 - 49 State DOTs responded in 2000
 - Results compared with 1996 - 1999 surveys
 - Additional insights from informal discussions with DOTs and state data sharing partners

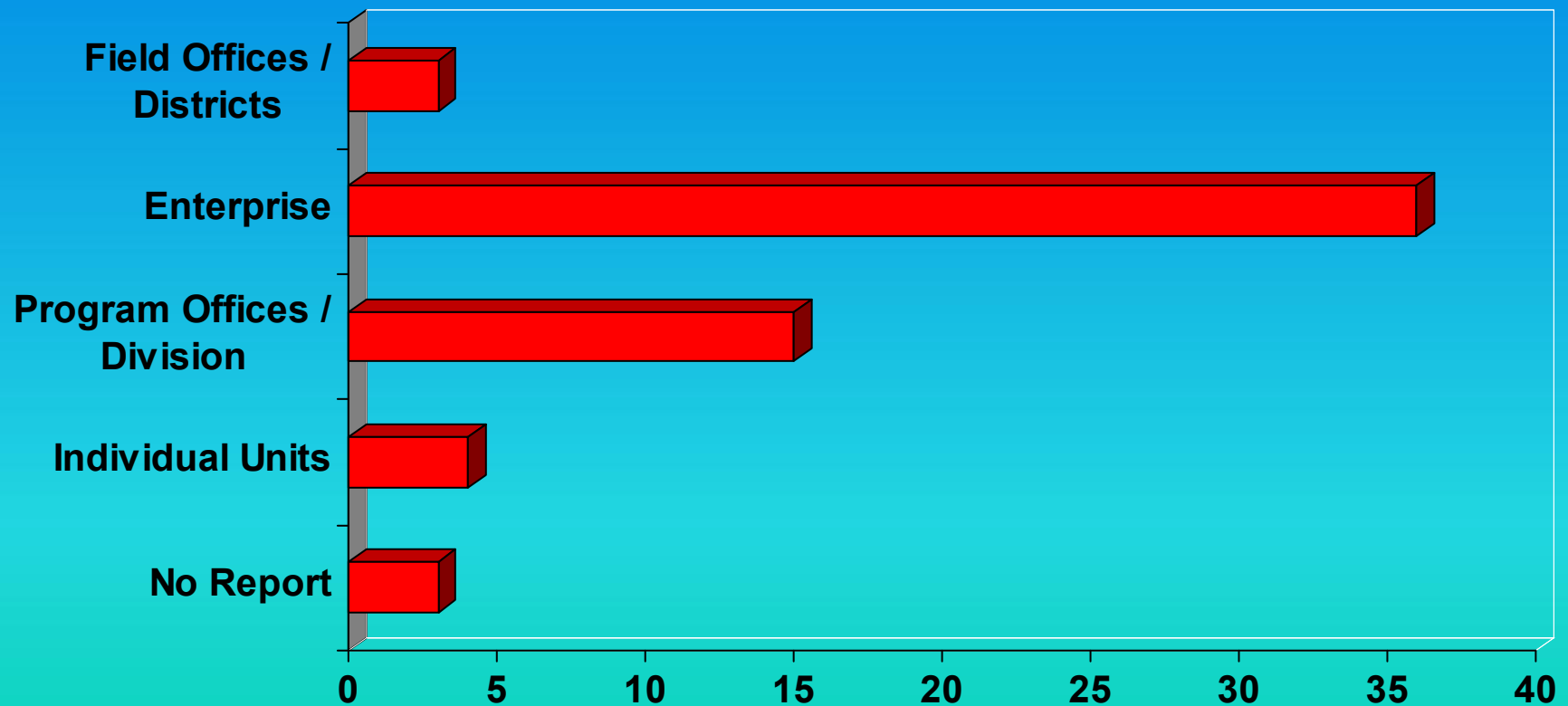
Stage of Development



Location of GIS Unit



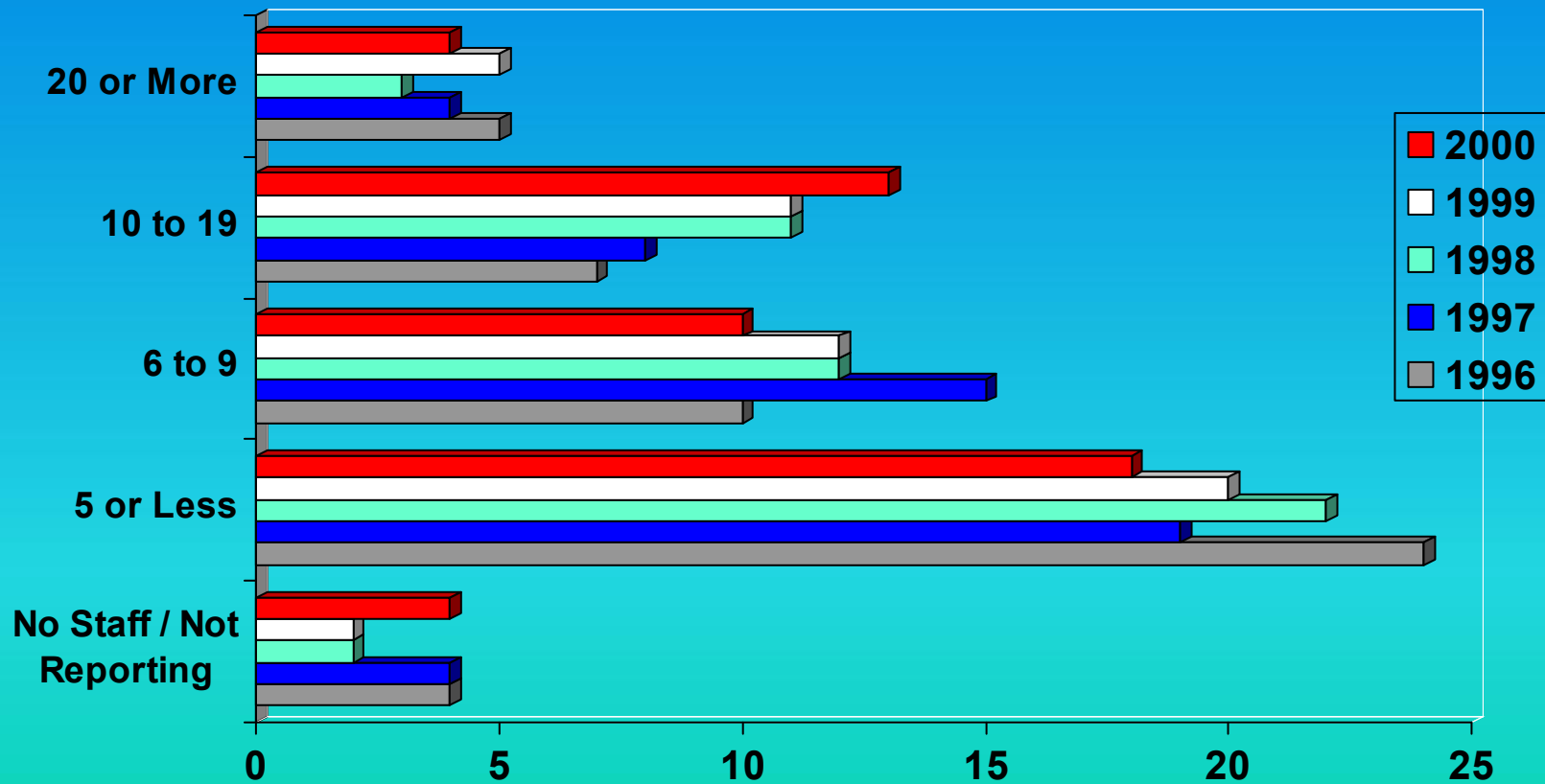
GIS Deployment in the DOT



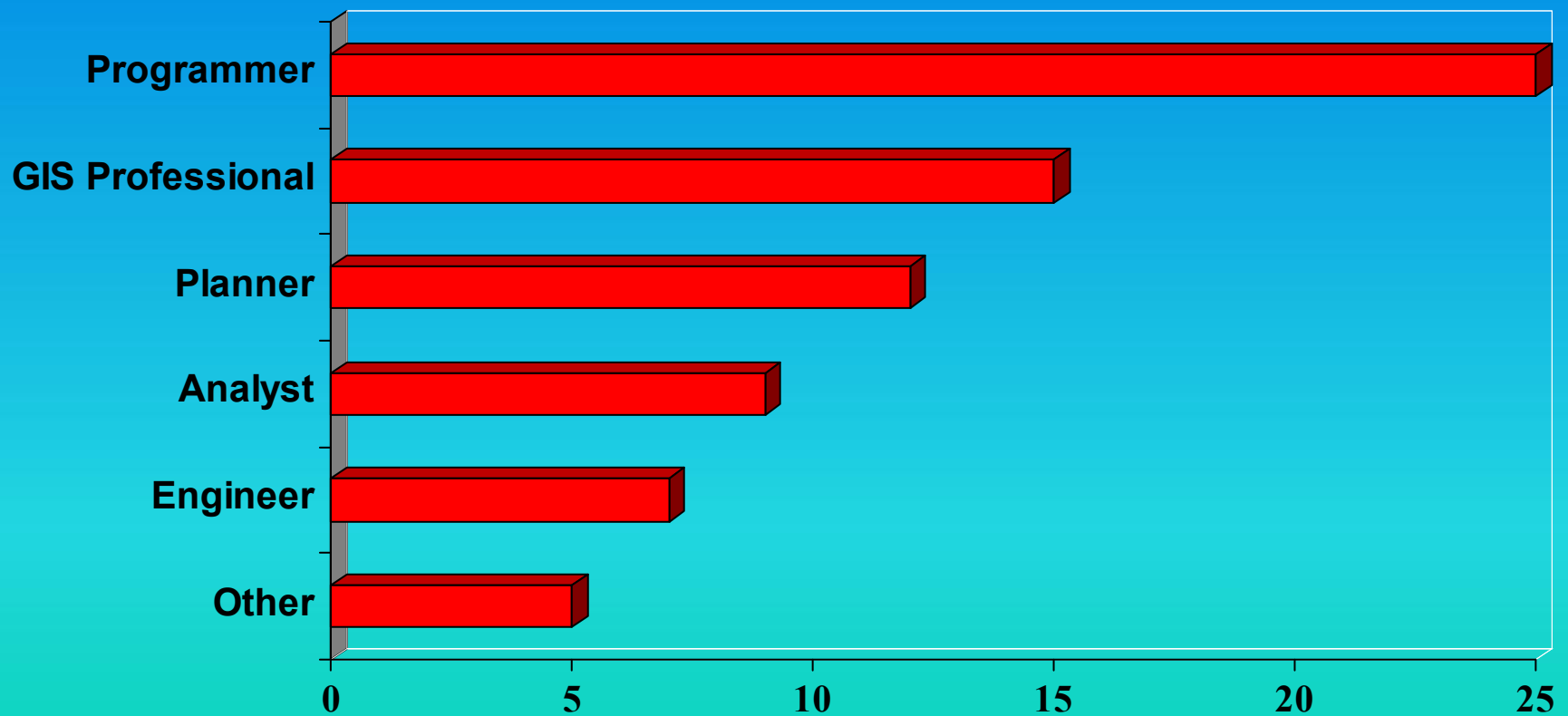
GIS Organizational Fit

- Increasing numbers of DOTs with GIS units in more than one organizational division
 - Often, shared responsibilities between planning and information services
 - Trend also reflects deployment of end-user GIS tools throughout the DOT

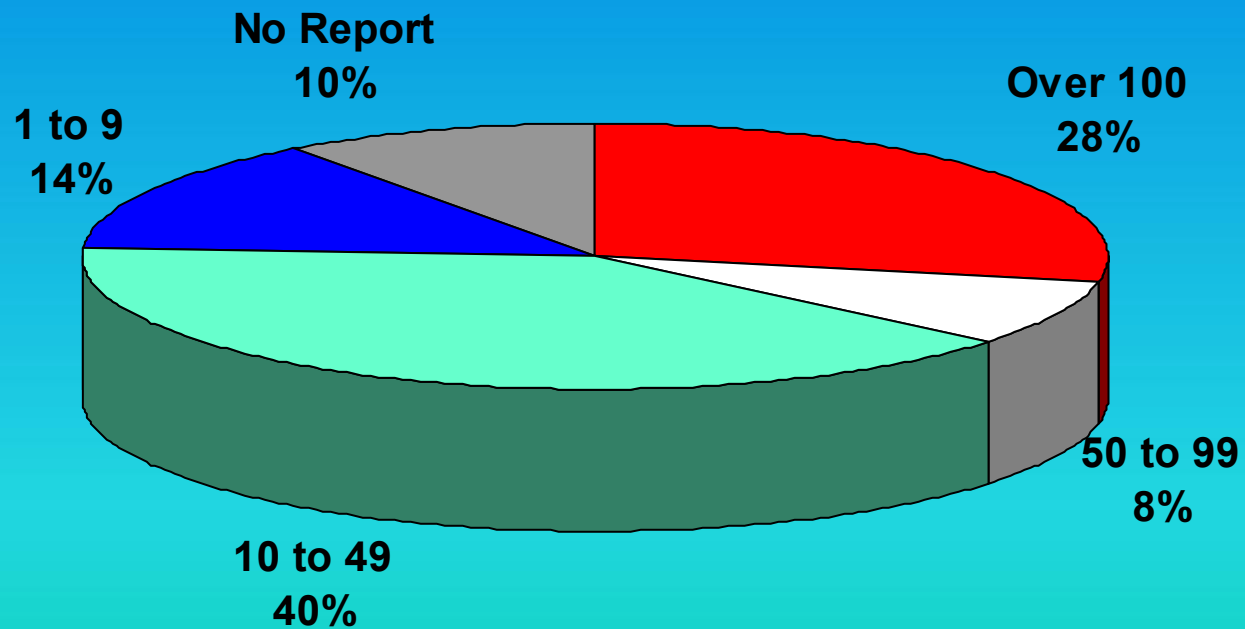
GIS Staff Size



GIS Staff Position Classifications



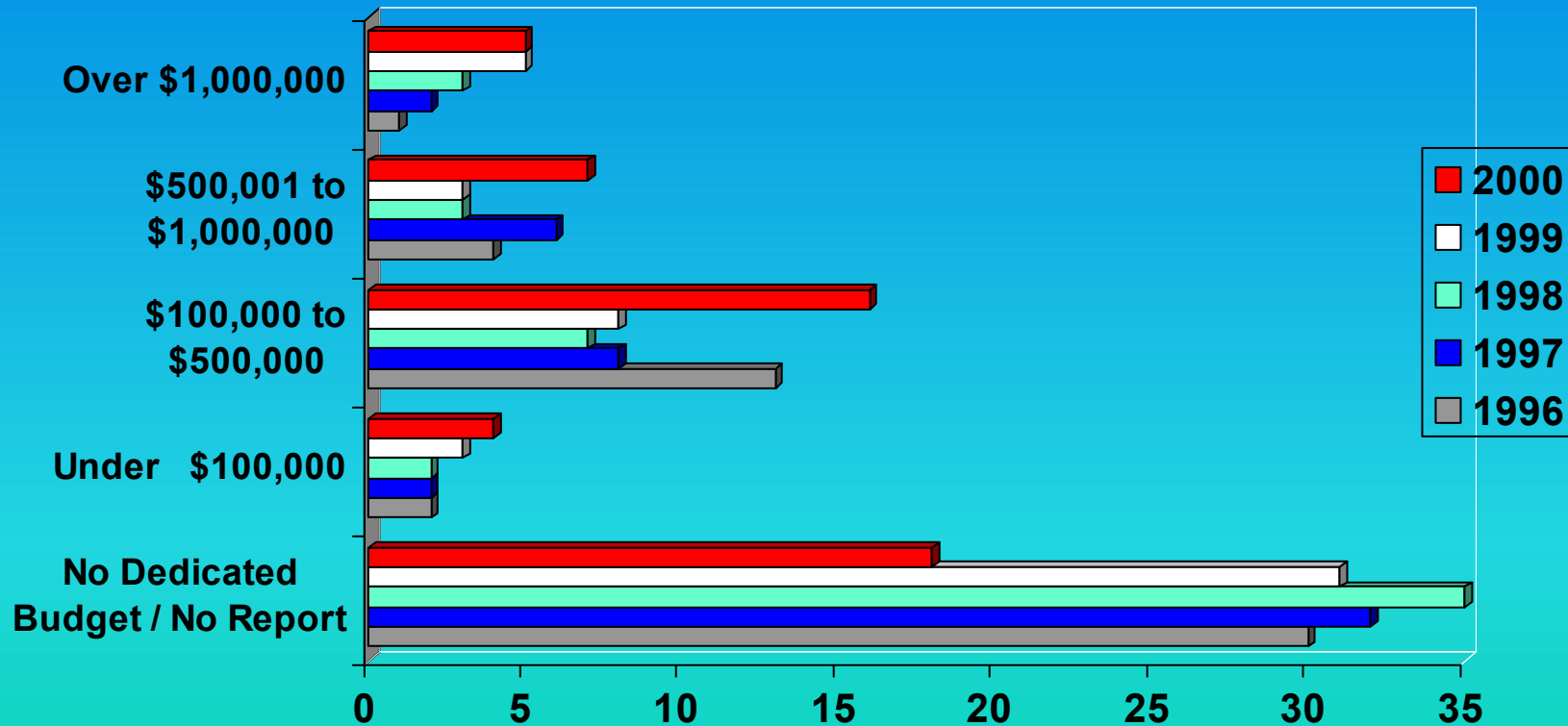
GIS Users in DOTs



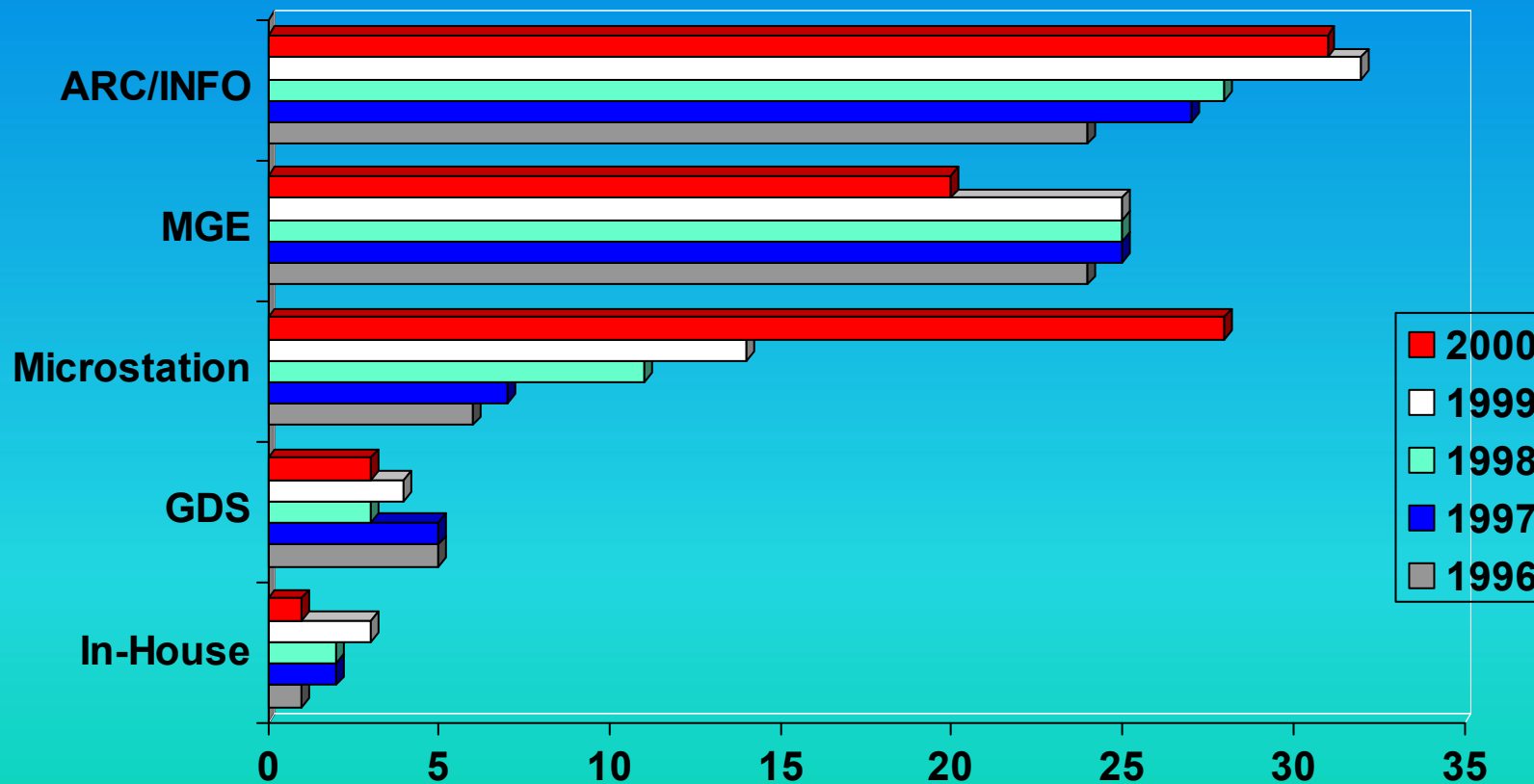
GIS Staff & Users

- Average GIS staff increased from 7.1 to 8.4 since 1996.
- More DOTs are able to hire GIS professionals specifically:
 - GIS is still viewed largely as a programming position
- Many DOTs support 10 or more GIS end-users per GIS staff

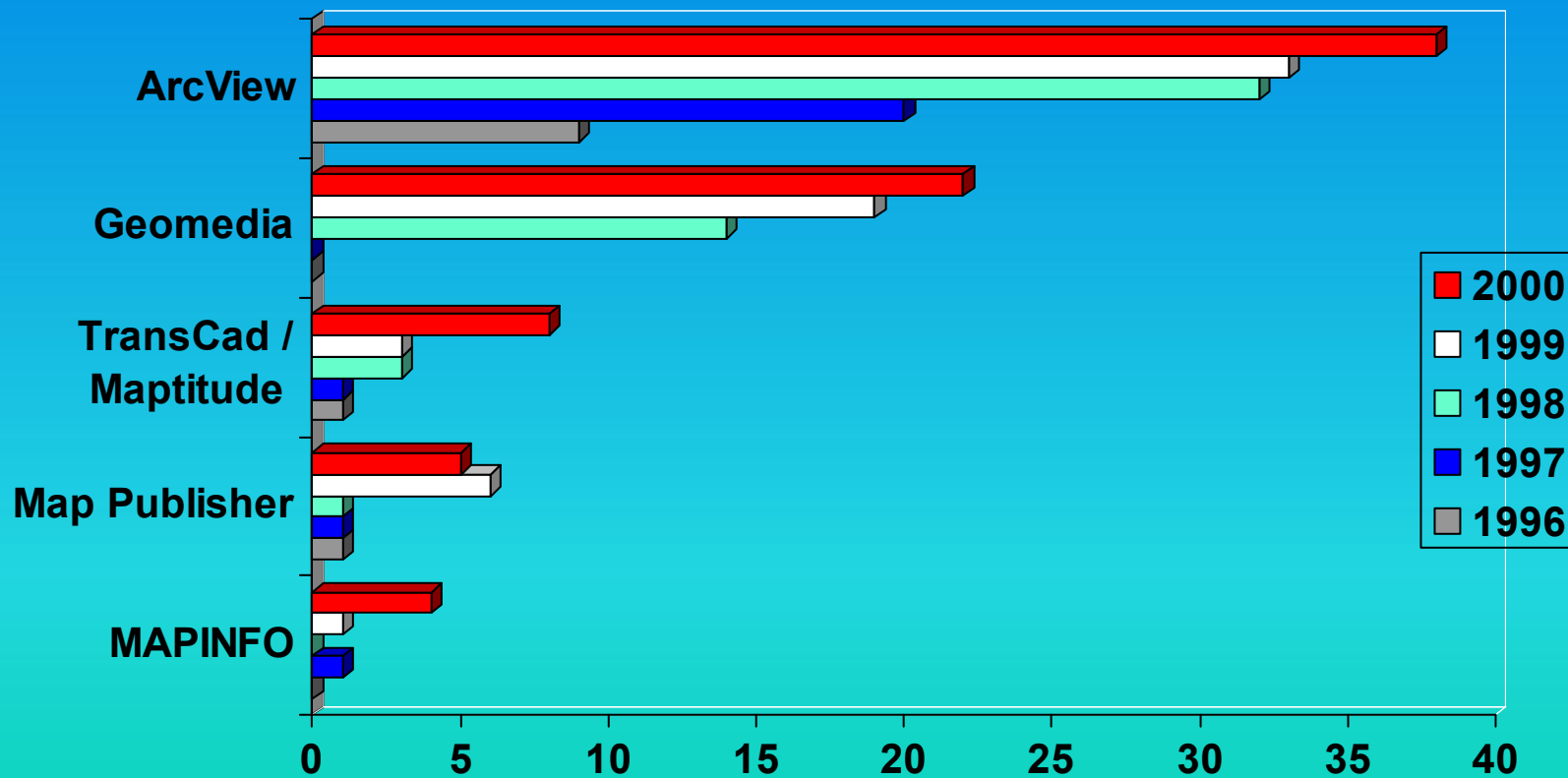
GIS Budgets



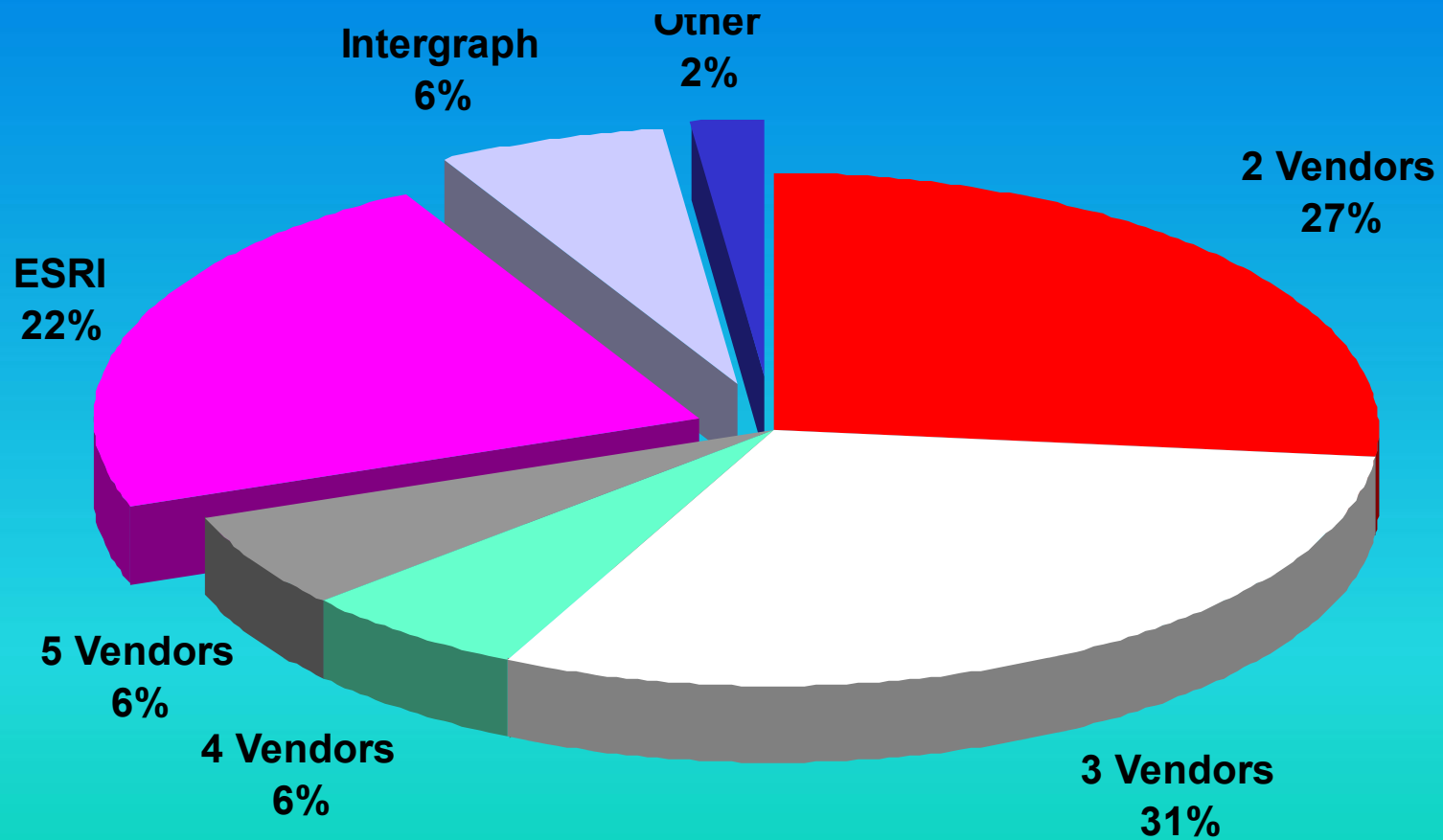
Workstation GIS Software



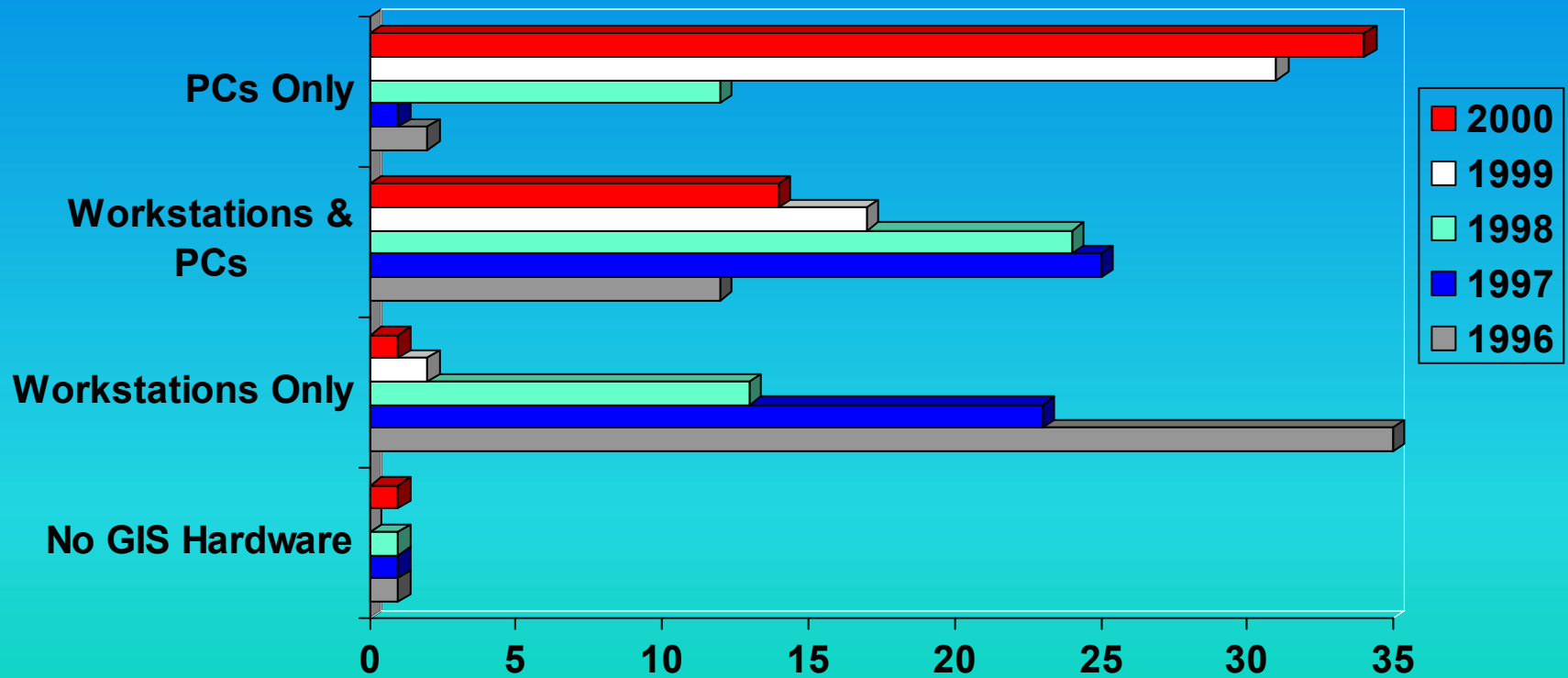
Desktop GIS Software



Current GIS Software Mix



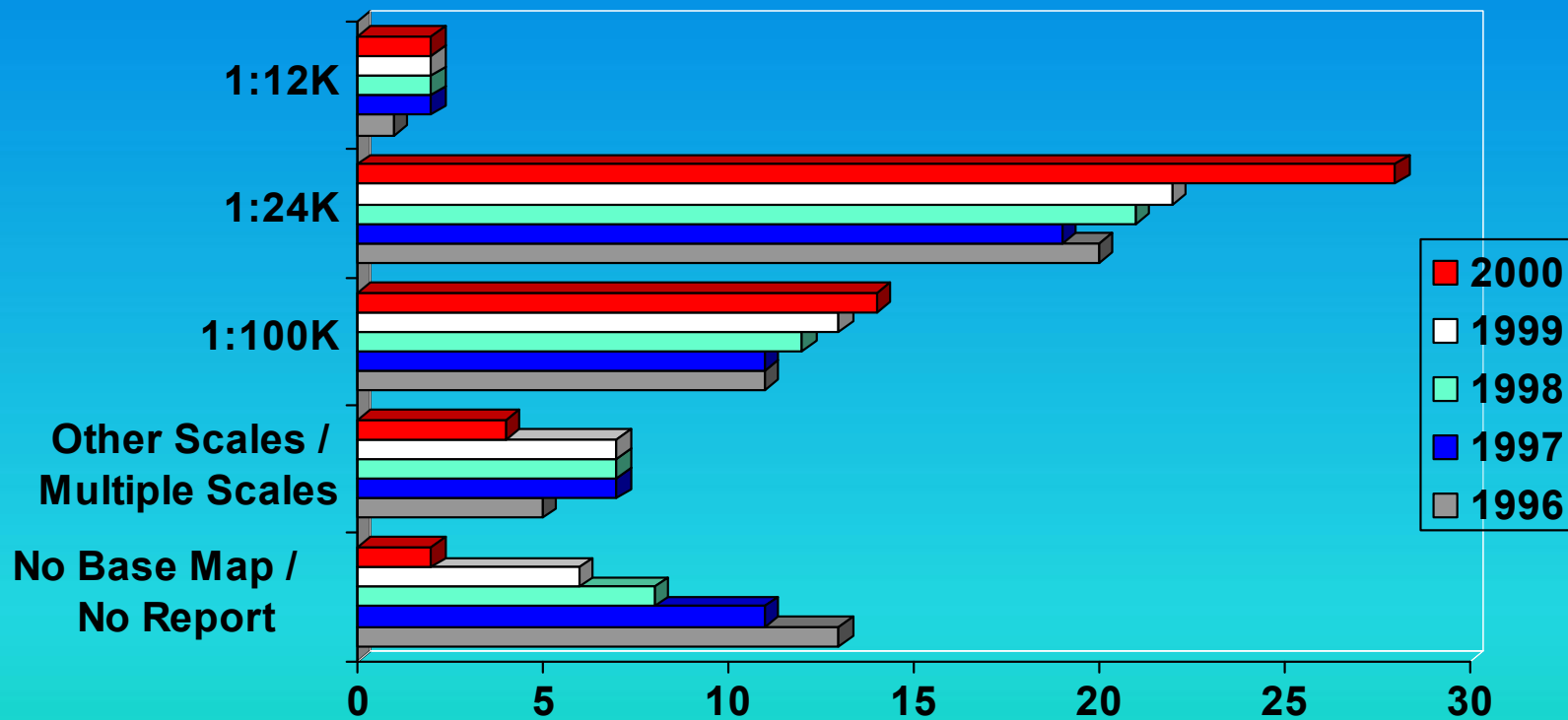
GIS Hardware



Hardware & Software

- Continuing trend toward Windows NT operating system.
- Multiple GIS software used within the DOT.
 - Growth in “niche market” software for specialized GIS-T applications
 - User friendly “desktop” GIS used for department-wide deployment

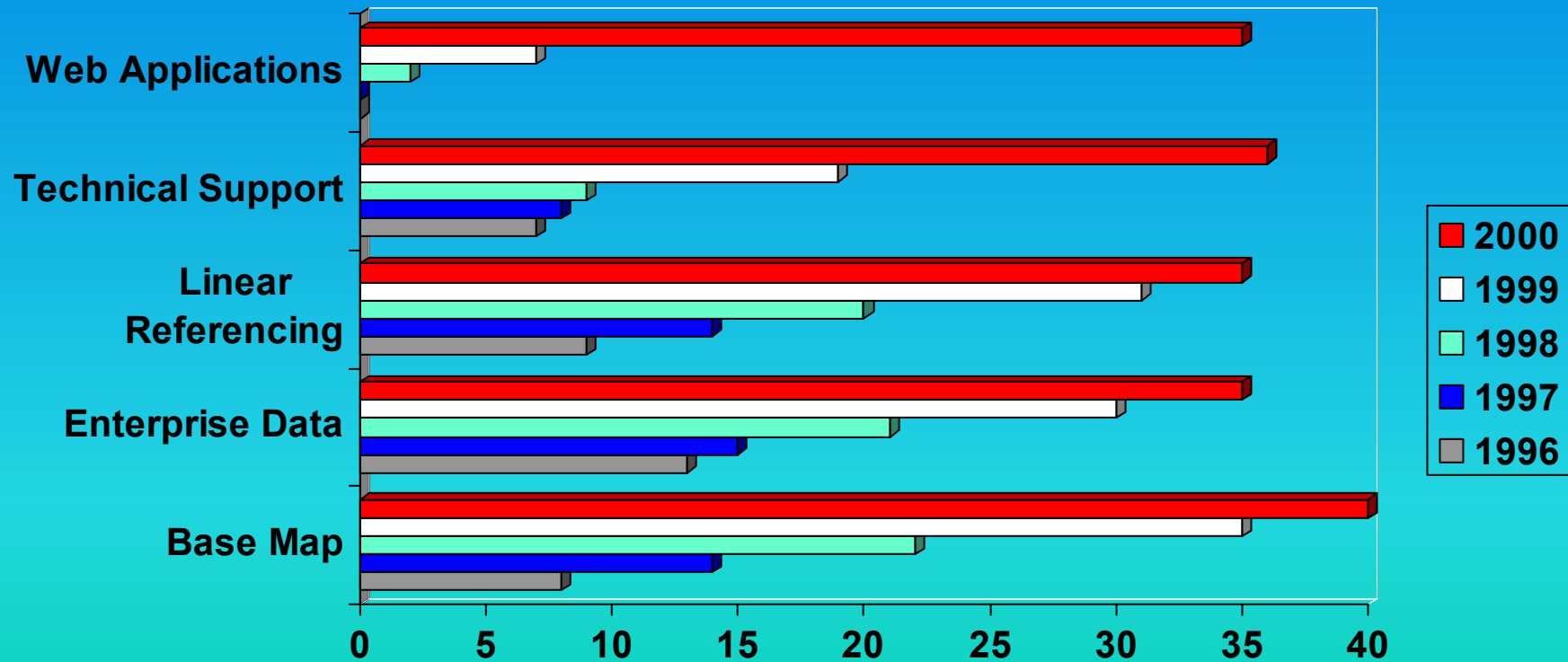
Base Map Scales



Spatial Databases

- DOTs generally settling on either 1:24K or 1:100K basemaps.
 - Nearly 2/3 of states using 1:24K scale or larger
- Many DOTs participate in statewide GIS coordinating councils for data sharing.
 - Currently 30 state GIS councils are officially recognized NSDI cooperating partners.
 - Several states have established statewide GIS data centers.

Core Functions

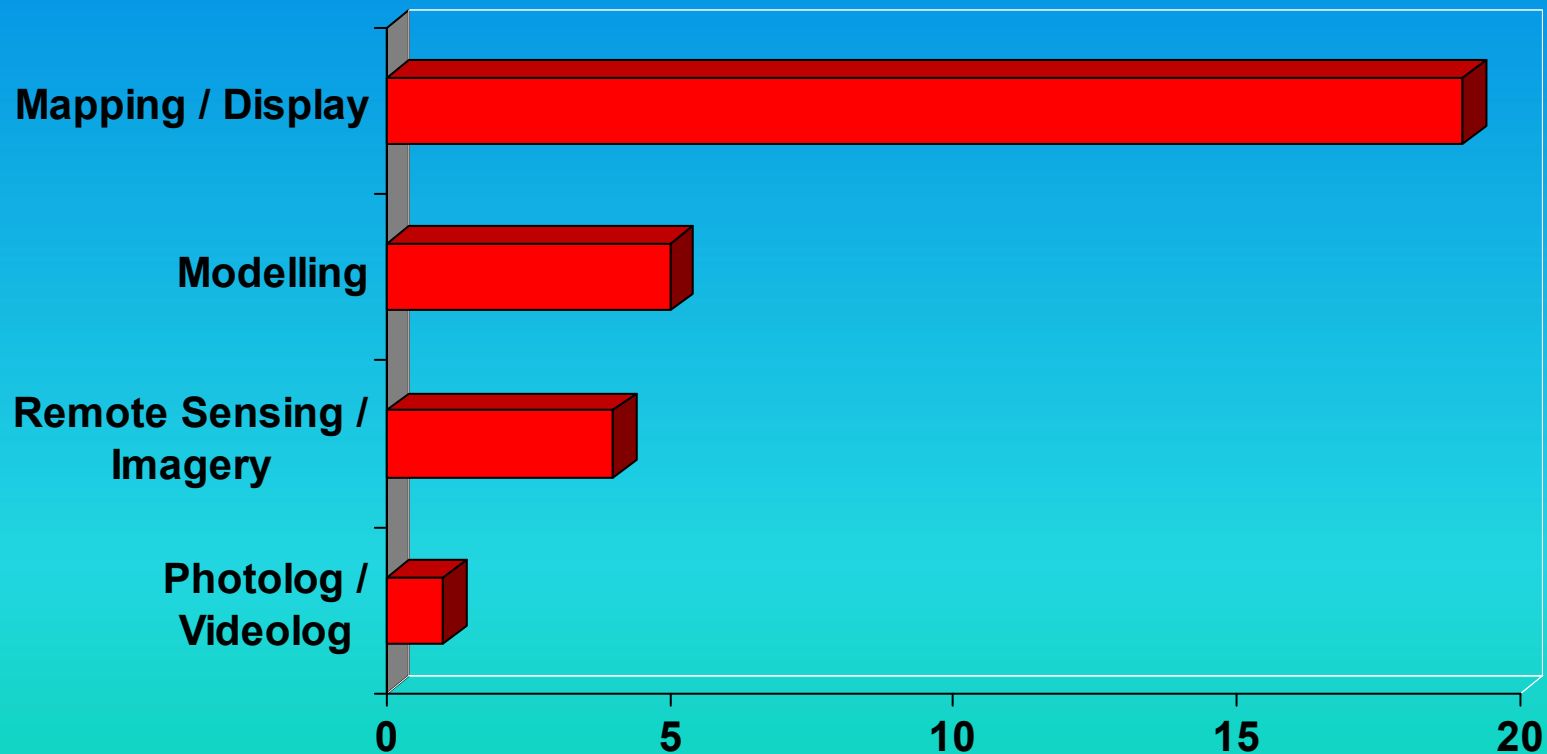


Core Functions

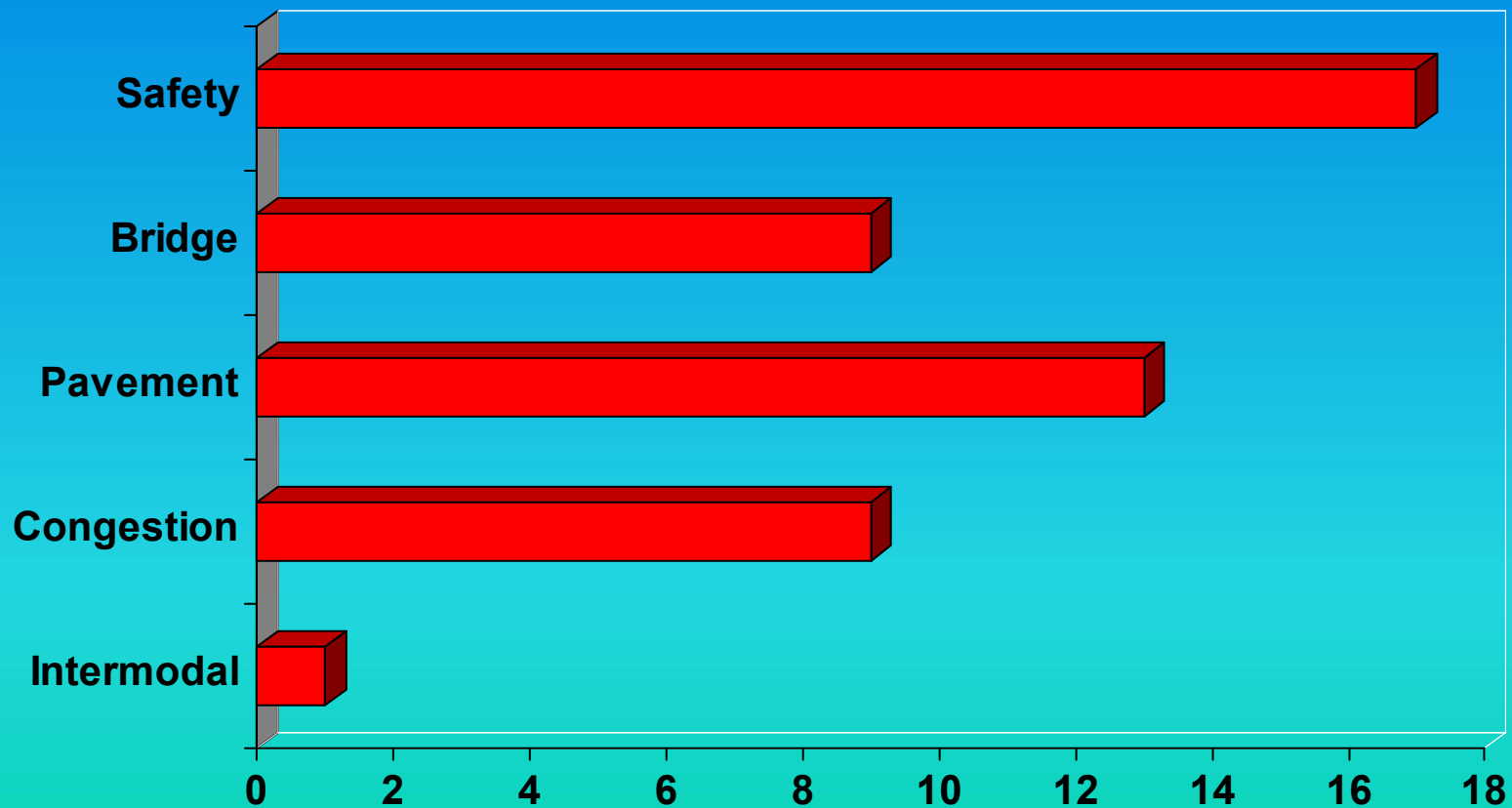
- 70 percent or more state DOTs are participating in all basic core activities.
- Extraordinary growth in web-based applications since 1999

GIS Capabilities

(listed among top 5 activities)

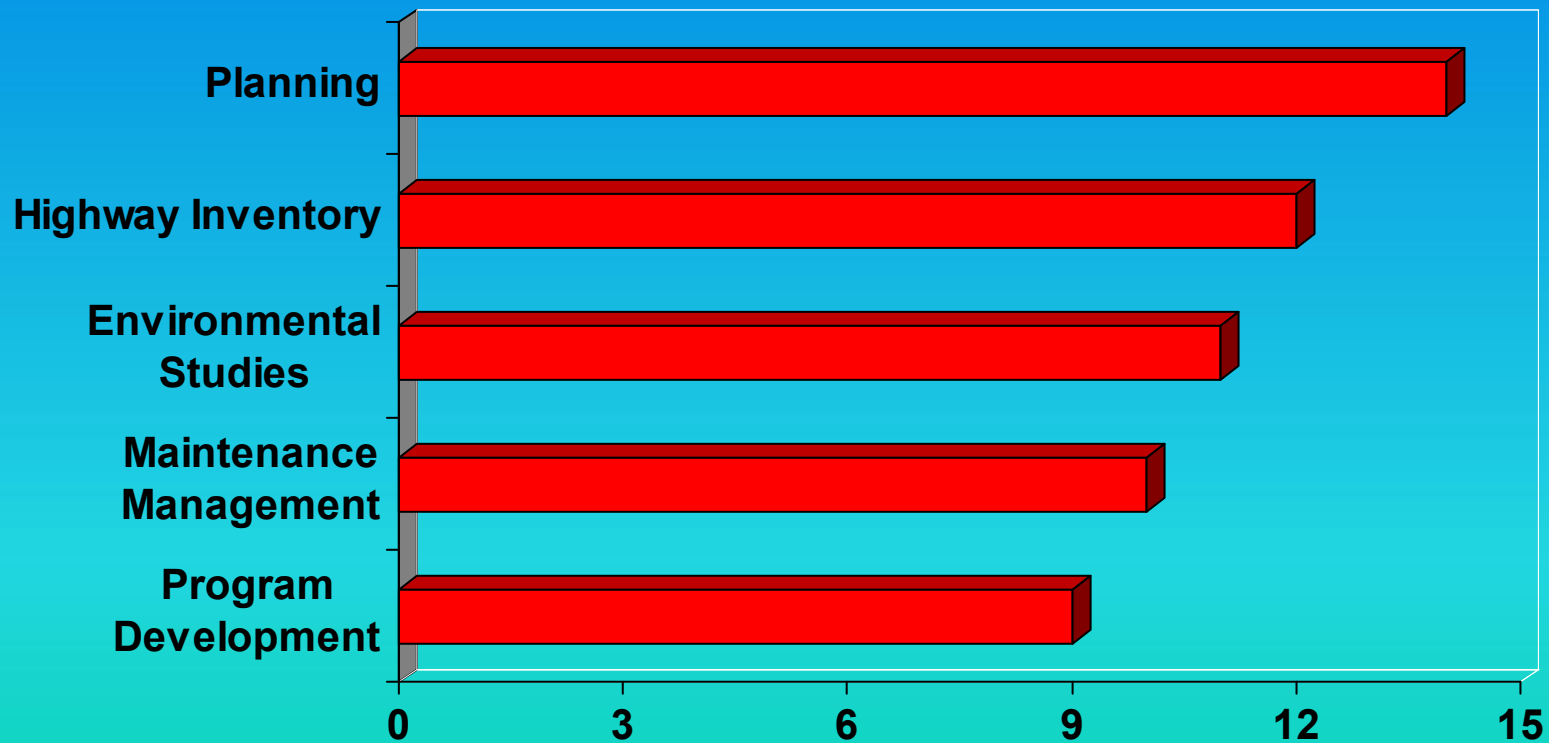


Management Systems (listed among top 5 activities)



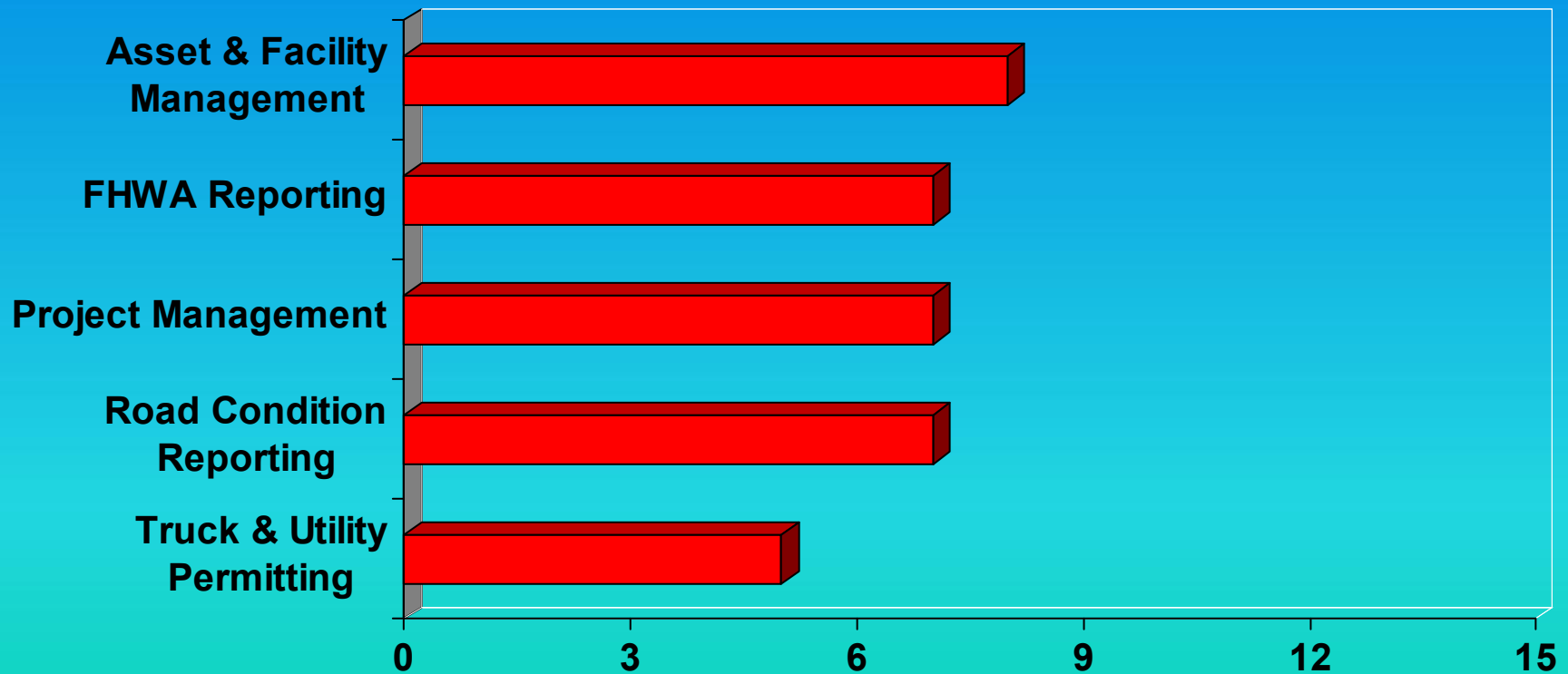
GIS Applications

(listed among top 5 activities)



GIS Applications

(listed among top 5 activities)



GIS Applications

(listed among top 5 activities)



GIS-T Research Priorities

- Document and disseminate GIS-T applications from other state DOTs.
- Develop improved methods for conflating spatial data.
- Establish and maintain a directory of GIS-T contacts at state DOTs.
- Improve database interoperability between commercial GIS packages.

GIS-T Research Priorities

- Develop improved GIS-T training for DOT managers and technicians.
- Identify GIS-T skills required in state DOTs and create standard GIS position descriptions.
- Develop a library of GIS-T literature accessible via the Internet.
- Develop tools to better integrate GIS with other transportation models.

GIS-T Research Priorities

- Develop improved LRS functionality in GIS software.
- Establish spatial data standards to facilitate data sharing among agencies.
- Develop improved procedures for using GPS measurements to improve basemap accuracy and locational references.