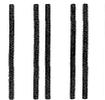


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Facilities-Related Work in Progress at Universities

Almost all doctorate-granting institutions are currently engaged in some science and engineering facility-related activities—major repairs, renovations, or new construction—or plan further work within the next five years. Much of the current and planned activity, however, is concentrated in the top 50 institutions ranked in terms of research and development expenditures in 1984.¹

Currently, the top 50 schools have roughly three times as much research space as universities ranked below them. In fact, they account for 55 percent of the estimated 83.8 million square feet of research space reported. Furthermore, at a majority of the top 50 schools, facilities are in good or excellent condition, according to their research administrators.

When completed, new construction in progress will increase research space at all doctorate-granting institutions by as much as 7 percent; building planned between 1986 and 1991 will increase existing space by as much as 19 percent. The top 50 schools will account for 50 percent of the estimated 6.1 million square feet added by construction in progress, and 58 percent of the 16 million square feet to be added between 1986 and 1991.

In the 1985-86 academic year, the estimation of costs to complete all facility-related work in progress is \$1.7 billion. For comparison, estimated expenditures on research and development at doctorate-granting institutions totaled \$9.3 billion in 1985. The costs to complete work

planned between 1986 and 1991 will be about \$5.8 billion.

The top 50 schools account for more than 50 percent of the costs of work in progress in each of the three areas of major repairs, renovations, and new construction. They account for more than 60 percent of the costs for future work planned in each area.

Roughly 43 percent of existing academic research facilities were constructed or renovated between 1970 and 1986. On average, the universities report that 18 percent of their facilities were built or renovated after 1980, 25 percent in the 1970s, about 30 percent in the 1960s, about 15 percent in the 1940s and 1950s, and about 12 percent before 1940.

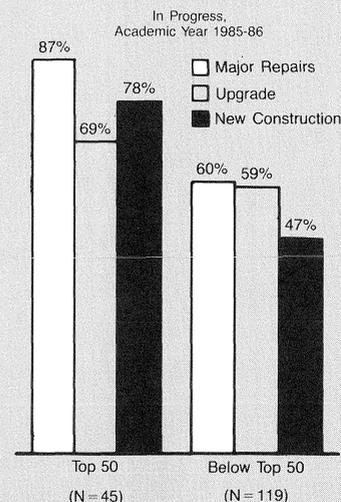
In general, research administrators at universities with greater research and development expenditures are more likely to report that their facilities are in good or excellent condition. In addition, these universities tend to have more research space. They are also more active in maintaining their research facilities and building new ones.

Almost all research administrators surveyed agree that there is less research space than needed on their campuses. Three-quarters of them say that additional space is a more critical need than upgrading or repairing existing space.

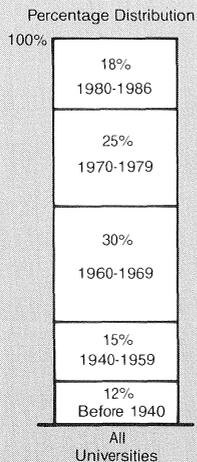
Facility needs in engineering, the physical sciences, and the biological, biomedical, and biotechnological areas appear to dominate the overall assessments of research space by academic officials. Current and planned construction is concentrated in these areas, which are most frequently cited by research administrators as having significant facility-related needs.

¹ In the National Science Foundation Authorization Act of 1985 (P.L. 99-159), Section 108, Congress instructed NSF to identify and assess the research facility needs of universities in a biennial report. For the first report, the foundation collected information on research space and facility-related expenditures from 164 doctorate-granting institutions, which accounted for 83 percent of academic research and development expenditures in 1984. In addition, 400 interviews with research administrators and deans provided assessments of the needs and problems pertaining to research facilities on their campuses.

Universities Reporting Facilities-Related Work



Average Proportion of Facilities Built or Renovated in Selected Time Periods*



* Some institutions were unable to identify the data of facilities' renovations, so they responded with construction dates.

Research Administrators' Assessment of Facilities' Condition and Need

