



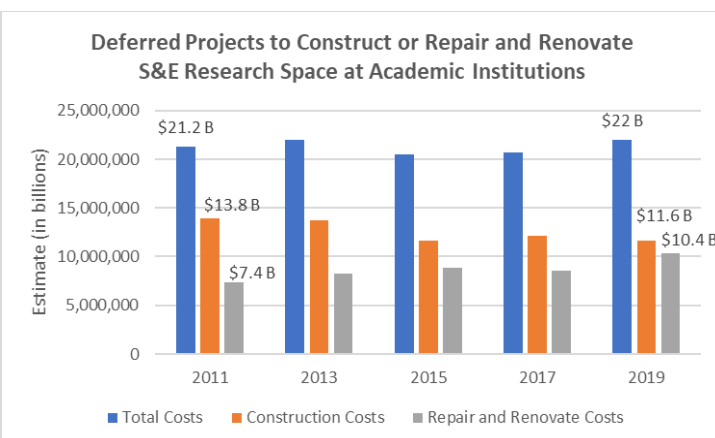
Association
of American
Universities
Inquiry · Innovation · Impact

Scientific Infrastructure

Following World War II and after the Soviet launch of Sputnik in 1957, the U.S. government invested heavily in scientific infrastructure programs, many of which helped construct and renovate research facilities and laboratories at America's colleges and universities. Many of the programs launched during that era, however, ended by the early 1970s.

The ensuing neglect of our research infrastructure threatens the long-term vitality of the U.S. scientific enterprise. Given the significant investments in scientific infrastructure that Asian and European nations have made in recent years in recent years, it is time for America to invest in maintaining our scientific leadership and reinvest in our research infrastructure.

The estimated needs for construction, renovation, and repairs of research space at America's colleges and universities in FY 2019 was \$22 billion.



Estimated by the National Science Foundation
<https://nces.nsf.gov/pubs/nsf21311#data-tables>

AAU calls for an infusion of at least *\$6 billion* for federal research agency programs that support scientific infrastructure at colleges and universities.

To address our nation's infrastructure needs, AAU recommends that Congress and the administration invest at least ***\$6 billion*** to help to support the following federal research agency programs that support the development and renovation of research infrastructure at U.S. colleges and universities:

NSF Academic Research Infrastructure (ARI)

For repair or replacement of existing shared research facilities and research training facilities (***\$1.0 billion***).

NSF Mid-Scale Research Infrastructure

For projects ranging from \$6 million to \$100 million, including advanced lasers, telescopes, and other critical facilities (***\$1.0 billion***).

NSF Major Research Instrumentation (MRI) Program

For smaller research equipment and instrumentation, such as nanofabrication tools, spectrometers, and advanced microscopes (***\$600 million***).

NIST Construction Grants

For the construction of new research facilities (\$600 million).

Department of Defense University Research Instrumentation Program (DURIP)

For the acquisition of major research equipment by universities to carry out cutting-edge research (\$300 million).

NIH C06 Construction and Renovation Awards

For renovation of existing and construction of new non-federal research facilities to expand research capacity and opportunity (\$2.0 billion).

NIH S10 Shared Instrumentation Programs

For new and upgraded research instrumentation such as mass spectrometers, DNA sequencers, and electron microscopes (\$500 million).

In addition to the \$6 billion requested for these specific research infrastructure programs, there are other federal infrastructure programs and needs that are important to our nation's research and innovation capacity, including:

AAU's \$6 billion recommendation is consistent with bipartisan calls for increased federal investments in our nation's infrastructure, scientific research, and The American Jobs Plan's proposal to upgrade America's research laboratories.

- **Increased investments to support other important existing and new infrastructure programs** including the NSF MREFC program, DOE science laboratories and Infrastructure program, and the new DOE Office of Science Mid-scale Instrumentation Program proposed in the House DOE Science for the Future Act.
- **Training funds** to support the specialized and technical workforce required to maintain the country's research infrastructure.
- **Funds to increase broadband access, connectivity, and networks** to students and between U.S. colleges and universities.
- **Increased support for the national data infrastructure** required to ensure public access to federally funded research data and results.
- **Better federal coordination of scientific infrastructure priorities and needs** across federal agencies.

