

Research Funding in Texas Overview



Fiscal Year 2020

Importance of Research at Higher Education Institutions

Scientific research conducted at higher education institutions is vital for identifying and developing new knowledge that leads to groundbreaking innovations. These innovations drive the state’s economy and improve the quality of life for Texans. Strong programs in basic and applied research, and technology transfer, which puts research into action, build on one another. Strong research programs provide state-of-the-art educational opportunities for students and attract high-quality faculty. State and federal governments are two principle sources for research funding.

Research Expenditures

Total research expenditures at Texas higher education institutions was \$5.64 billion for Fiscal Year (FY) 2019, based on the institutions’ annual financial reports. The share of funding by source was 42 percent federal, 20 percent private, 17 percent state and local, and 20 percent internal institutional sources. Research expenditures increased overall by \$324 million (6.1%) from FY 2018.

At *public universities and health-related institutions*, research expenditures reached \$4.76 billion in FY 2019, an increase of \$274 million (6.1%) from \$4.49 billion in FY 2018. Research expenditures at *independent universities and health-related institutions* was \$882 million in FY 2019, an increase of \$49 million (5.9%) from \$833 million in FY 2018.

Texas’ Share of National Research

Comparisons of states are based on data collected by the National Science Foundation’s (NSF) Higher Education Research and Development Survey. FY 2018 is the most recent year data are available. Texas ranked sixth in *federal research expenditures* for FY 2018 (Table 1). Texas ranked third among the states in *total research expenditures*, with \$5.65 billion, behind California (\$10.18 billion) and New York (\$6.65 billion).

Table 1. Total and Federal Research Expenditures, FY 2018

Total Research Expenditures		Federal Research Expenditures	
California	\$10.18 billion	California	\$5.09 billion
New York	\$6.65 billion	New York	\$3.45 billion
Texas	\$5.65 billion	Maryland	\$3.21 billion
Pennsylvania	\$4.42 billion	Pennsylvania	\$2.45 billion
Maryland	\$4.17 billion	Massachusetts	\$2.25 billion
Massachusetts	\$4.07 billion	Texas	\$2.24 billion
North Carolina	\$3.21 billion	North Carolina	\$1.83 billion
Michigan	\$2.78 billion	Illinois	\$1.50 billion
Florida	\$2.73 billion	Ohio	\$1.43 billion
Illinois	\$2.57 billion	Georgia	\$1.38 billion

Source: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, R&D Expenditures by Broad Field and Federal Sources, retrieved December 12, 2019

Texas Research Programs

Table 2 lists state appropriations for research funds for the 2020 to 2021 biennium, 86th Texas Legislature, 2019.

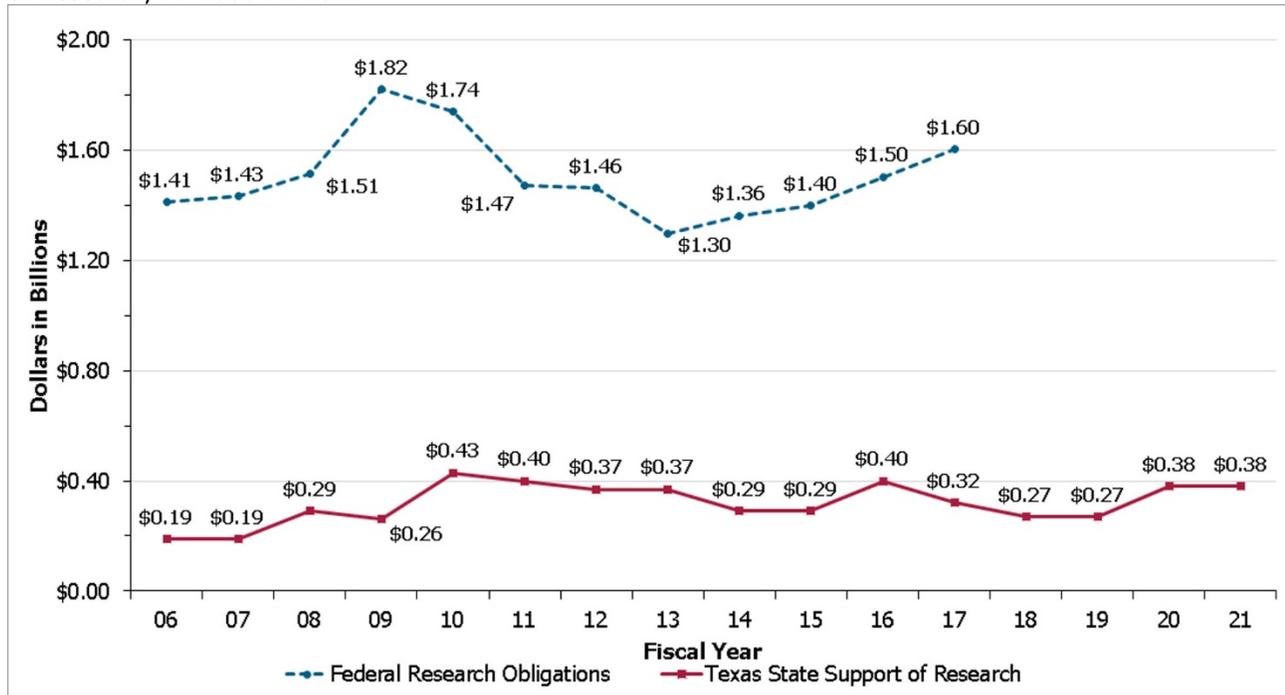
Table 2. Texas State Research Funding, 86th Texas Legislature, 2019

Research Funding	Recipients	FY 2020	FY 2021
Texas Research University Fund	Research Universities	\$73,537,897	\$73,537,897
Core Research Support Fund	Emerging Research Universities	\$58,555,705	\$58,555,705
Texas Comprehensive Research Fund	Other Non-Research & Non-Emerging Research Universities	\$7,136,187	\$7,136,187
National Research University Fund	Eligible Emerging Research Universities	\$24,680,472	25,545,062
Texas Research Incentive Program	Emerging Research Universities	\$17,500,000	\$17,500,000
Research Enhancement Fund	Health-Related Institutions	\$42,272,717	\$42,272,717
Performance-Based Research Operation	Health-Related Institutions	\$79,387,025	\$79,387,025
Autism Grant Program	Public and Private Institutions	\$3,900,000	\$3,900,000
Special Item Funding	Public Universities and Health-Related Institutions	\$59,366,406	\$59,366,388
Cancer Prevention and Research Institute of Texas	Cancer Research Grants	\$254,738,136	\$254,738,136
Governor's University Research Initiative	Distinguished Faculty Recruitment	\$22,900,000	\$0

Source: Texas General Appropriations Act 2020-2021

Figure 1 shows federal obligations to Texas for research and development (R&D) in science and engineering and Texas state research funding. State support is shown in billions of dollars from the last eight biennia. State funding includes research funds, research grants, special item funding, health-related institution research enhancement funds, and the Governor's University Research Initiative. *Research funding for the Cancer Prevention and Research Institute of Texas (CPRIT), based on \$2.49 billion in bond proceeds since FY 2010, is not included in Figure 1.*

Figure 1. Federal Obligations for Science and Engineering Research and Development and Texas State Support of Research, FY 2006-FY 2021



Sources: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, retrieved August 23, 2019, for federal obligations; the Texas General Appropriations Act 2020-2021 for state support

Texas Research University Fund (TRUF)

In 2015, the Texas Legislature created the TRUF to provide funds to the two Texas research universities with total research expenditures greater than \$450 million (Texas Education Code, Section 62, Subchapter C). The TRUF allows institutions to support faculty to ensure excellence in instruction and research. The distribution of funds is based on a three-year average of total research expenditures. The average annual funding, over six years, is \$31.2 million for The University of Texas at Austin and is \$38.7 million for Texas A&M University.

Historical note: TRUF replaced the Texas Competitive Knowledge Fund (TCKF), established in 2007 and in place until 2015. TCKF supported the two research universities and up to six emerging research universities with average total research expenditures over \$50 million.

Core Research Support Fund (CRSF)

The CRSF, created in 2015, provides funds to Texas emerging research universities in Texas (Texas Education Code, Chapter 62, Subchapter F-1). CRSF funding is a set formula allocation for the support and maintenance of educational and general activities, including research and student services, that promote increased research capacity. The allocation is based equally on total and restricted research expenditures. The Texas Higher Education Coordinating Board (THECB) *Standards and Accounting Methods* (SAMs) guides the reporting of restricted research expenditures. The THECB convenes the Restricted Research Committee annually for a transparency review of restricted research awards. Additionally, the universities report annually how they use the funds. The CRSF will provide \$58.6 million annually to the eight emerging research universities over the current biennium (FY 2020-21).

Texas Comprehensive Research Fund (TCRF)

The TCRF, created in 2015, provides funds to Texas public institutions that are neither research nor emerging research universities (Texas Education Code, Chapter 62, Subchapter E). TCRF funding is a set formula allocation for the support and maintenance of educational and general activities, including research and student services, that promote increased research capacity. The allocation is based on restricted research expenditures. Universities report annually how they use the funds. The TCRF will provide \$7.1 million annually to 25 institutions over the current biennium (FY 2020-21).

Historical note: The CRSF and TCRF replaced the Research Development Fund (RDF), established in 2003 and first funded in FY 2006. The RDF originally replaced the University Research Fund and the Texas Excellence Fund, both established in 2001. Using a formula based on restricted research expenditures, the RDF supported all public universities, except The University of Texas at Austin and Texas A&M University.

National Research University Fund (NRUF)

The NRUF, created in 2009, provides funds to Texas eligible emerging research universities (Texas Education Code, Chapter 62, Subchapter G). The NRUF provides a dedicated funding source (endowment) to enable emerging research universities to achieve national prominence as major research universities. An institution must meet legislatively specified benchmarks to become eligible for funds. Eligibility is limited to the institutions designated as emerging research universities that have more than \$45 million in restricted research expenditures. Texas Tech University and the University of Houston achieved eligibility in FY 2012. The University of Texas at Dallas achieved NRUF eligibility in FY 2018. The average annual funding per institution was \$8.3 million.

Texas Research Incentive Program (TRIP)

The TRIP, created in 2009, provides matching funds to assist emerging research universities in leveraging private gifts for the enhancement of research productivity and faculty recruitment (Texas Education Code, Chapter 62, Subchapter F). Matching funds are awarded based on private gifts and endowments to enhance research activities. From FY 2010 through FY 2021, the TRIP will provide a total of \$361 million in matching funds.

Research Enhancement Fund

Health-related institutions receive Research Enhancement Funds of \$1.4 million in base funding plus formula-allocated funds of 1.18 percent in FY 2020 and FY 2021 of their research expenditures as reported to the THECB (General Appropriations Act 2019, Article III, Special Provisions Relating Only to State Agencies of Higher Education, Section 3). The Research Enhancement Fund will provide annual funding of \$42 million to 12 health-related institutions in FY 2020 and 2021.

Performance-Based Research Operation

The University of Texas Southwestern Medical Center, The University of Texas Health Science Center Houston, and The University of Texas Health Science Center San Antonio received this formula-driven annual funding of a combined \$79 million in FY 2020 and 2021 to enhance research capacity, assist the institutions in leveraging research grants and gifts, and support expansion of the institution's research operations. The formula for funding includes a base match according to the average annual research expenditures and a tiered performance incentive match according to increased expenditures over the previous biennium (General Appropriations Act 2019, Article III, Special Provisions Relating Only to State Agencies of Higher Education, Sections 10, 11, and 12).

Autism Research Program

In 2015, the Texas Legislature established funding to provide grant support for autism research centers at public and independent institutions of higher education that provide evidence-based behavioral services and training (General Appropriations Act 2017, Article III, Higher Education Coordinating Board, Strategy I.1.2, Section 50). The grant program awards funding through a competitive process, and the THECB annually reports to the Legislature on the effectiveness of each funded program.

Cancer Prevention and Research Institute of Texas (CPRIT)

In November 2007, and again in 2019, Texas voters passed amendments to the Texas State Constitution creating the CPRIT (Texas Health and Safety Code Chapter 102). The bonds are set at a combined \$6 billion, with a \$300 million funding limit per year. The CPRIT implements the Texas Cancer Plan, aimed at finding a cure for cancer. Grants are distributed to institutions and medical research facilities for cancer research, therapies, protocols, cancer prevention, and control programs. CPRIT grant recipients must have funds in place for the grant subject area of at least one-half of the grant amount. The first grants were awarded in FY 2010, and since then a total of \$2.49 billion has been spent through 1,504 awards (February 2020).

Governor's University Research Initiative (GURI)

The GURI, created in 2015, awards matching grants to public universities and health-related institutions to assist in recruiting distinguished researchers, such as Nobel laureates and National Academy members, from institutions outside of Texas (Texas Education Code, Chapter 62, Subchapter H). The purpose is to enhance Texas national and global economic competitiveness. The Texas Economic Development and Tourism Office, within the Office of the Governor, administers the fund. The University of Houston, Texas A&M University, Texas Tech University, and The University of Texas at Austin have received \$54 million, during the first two biennia.

Historical note: The 84th Texas Legislature established GURI, which replaced the Texas Emerging Technology Fund.

Non-formula Support (previously known as Special Item Appropriations)

The Texas Legislature may authorize direct appropriations to Texas public higher education institutions for non-formula support of specific programs or activities, centers, or institutes. The University of Texas at Austin's McDonald Observatory and the Energy Research Cluster at the University of Houston are examples of such items. For the 2020 to 2021 biennium, appropriations for non-formula support related to research activities totaled \$59 million per year at both general academic institutions and health-related institutions.

The Academy of Medicine, Engineering & Science of Texas (TAMEST)

TAMEST connects Texas top scientists and researchers, promotes cross-industry and cross-disciplinary forums, convenes conferences, sponsors task forces to report on science informing important state and national political issues, and sponsors protégés with funding. TAMEST includes 11 Texas Nobel laureates and about 1,200 Texas members of the National Academy of Sciences, the National Academy of Engineering, and the National Academy of Medicine. TAMEST, a not-for-profit organization, was co-founded in 2004 by the Honorable Kay Bailey Hutchison and Nobel laureates Michael S. Brown, and Richard E. Smalley.

Commercialization

Commercialization of higher education institutions' research may be measured by the number of patent applications filed and issued. For the 2018 to 2019 biennium, 16 Texas institutions of higher education reported 626 patents issued and 1,358 patents filed. About 72 percent of patents and patent applications reported were U.S. patents, while the remainder were foreign patents.

Texas Higher Education Coordinating Board

Academic Quality and Workforce

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