The Economic Benefits of Higher Education Institutions in the Dallas-Fort Worth Area

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Contents

Executive Summary

- Higher education is beneficial from individual, economic, and societal perspectives. Educational attainment is linked to greater opportunities, higher income, and a lower probability of unemployment. In addition, a trained workforce is essential to growth in any economy. In the current environment of growing complexity in business operations of virtually all types, quality education is increasingly important. It is no exaggeration to say that the availability of quality workers is the currency of future prosperity.

- Through fulfilling their mission of providing education and training to students, institutions of higher education lead to a substantial economic stimulus with multiple dimensions. The Perryman Group (TPG) was recently asked to examine the economic benefits of higher education facilities across the Dallas-Fort Worth area including the multiplier (or ripple) effects through the economy. Thirteen institutions participated in the study.

- The Perryman Group measured several aspects of the ongoing economic benefits of higher education institutions across the Dallas-Fort Worth area which participated in this study. Results by type of institution (universities, medical education institutions, or community college) as well as individual institution are presented in the report.

    - When multiplier effects are considered, **ongoing operations** of Dallas-Fort Worth area higher education institutions participating in this study generate a total annual increase in business activity in the Dallas-Fort Worth area of approximately **$10.5 billion** in gross product each year and over **117,900** full-time equivalent jobs.

    - **Student spending** leads to an additional **$1.9 billion** in annual regional gross product and more than **19,500** jobs.

    - Tourism and **visitor spending** associated with higher education facilities in the region generate **$718.9 million** in gross product and more than **7,800** jobs in the area.

    - The estimated **total ongoing benefits for the region** include **$13.1 billion** in gross product each year and approximately **145,300** jobs (including multiplier effects).

  - Effects for Texas (including those within the region as well as spillover to other parts of the state) are even larger; statewide impacts are included in the report.

- Higher education facilities in the Dallas-Fort Worth area have completed numerous **construction projects** over the last five years and have additional projects planned in the future. These initiatives provide a notable (though transitory) stimulus to the regional economy. The Perryman Group estimates that recent and planned construction projects at Dallas-Fort Worth area higher education institutions participating in this study involve almost **$11.2 billion** in direct construction spending, thus resulting in gains in business activity in the region of **$17.8 billion** in gross product and **164,650** job-years of employment including multiplier effects.

- The benefits of **research activity** are multifaceted. Conducting research involves jobs for researchers and others as well as various operational expenses (which are included as part of the overall operational impacts of the facilities). In addition, research activity results in spinoff benefits such as commercialization of discoveries, royalties, and the general enhancements to productivity and social wellbeing that emanate from new discoveries.

  - The total spinoff benefits from research at Dallas-Fort Worth area higher education institutions over the last five years is estimated to include **$5.8 billion** in gross product in the Dallas-Fort Worth area as well as almost **33,500** jobs, based on typical patterns and including multiplier effects. For Texas, spinoff benefits from recent research leads to potential gains of nearly **$7.2 billion** in gross product and approximately **37,200** jobs (including effects within the region).

  - Even beyond these effects are societal benefits of research which involve economic components. As new discoveries are disseminated, they lead to improvements in health, business operations, technology, quality of life, and virtually every other aspect of the social complex. The Perryman Group estimates that the overall societal benefits of research at Dallas-Fort Worth area higher education institutions include **$9.6 billion** in US gross product and about **55,500** jobs.

- From the perspective of the competitiveness of a regional economy, higher education institutions provide a steady stream of **graduates** to fulfill the hiring needs of businesses, and an estimated 72.7% of graduates are retained in the region. The Perryman Group estimates the incremental economic benefits of employed graduates of the Dallas-Fort Worth area's higher education institutions includes **$120.6 billion** in gross product in the region each year and almost **945,300** jobs

when multiplier effects are considered. For Texas, gains were found to be **$162.9 billion** in annual gross product and nearly **1,300,900** jobs (including effects within the Dallas-Fort Worth area). These graduates thus support about **20%** of total employment in the region.

- In an increasingly complex economy, higher education can open doors to quality jobs for individuals while enhancing the workforce and competitiveness of the region. Research discoveries can improve health and wellbeing. For these and other reasons, higher education is crucial to ongoing prosperity and progress and an essential catalyst to the dynamic North Central Texas region.

Introduction

Higher education is beneficial from individual, economic, and societal perspectives. Educational attainment is linked to greater opportunities, higher income, and a lower probability of unemployment. In many cases, post-secondary education opens doors to more rewarding work, from both personal and financial perspectives.

In addition, a trained workforce is essential to growth in any economy. In the current environment of growing complexity in business operations of virtually all types, quality education is increasingly important. An aging population is increasing the demand for health care professionals, and programs at colleges, universities, and medical education institutions are all essential to meeting future needs. Education at all levels is crucial to ongoing prosperity, and areas with a highly skilled workforce are more competitive in attracting quality corporate locations and expansions. Higher education is particularly crucial to future economic growth as well as personal financial success. It is no exaggeration to say that the availability of quality workers is the currency of future prosperity.

In addition to the benefits to individuals, education at all levels is crucial to ongoing prosperity, and areas with a highly skilled workforce are more competitive in attracting quality corporate locations and expansions.

In addition, the non-pecuniary benefits of a more active and informed citizenry, an enhanced cultural environment, and a more sustainable social structure are profound. All of these factors are particularly crucial to the Dallas-Fort Worth area, one of the most dynamic and diverse centers of economic activity in the world.

Through fulfilling their mission of providing education and training to students, institutions of higher education lead to a substantial economic stimulus with multiple dimensions. Higher education institutions spend extensively for operational needs, employ faculty and staff, and engage in construction projects; all of these activities lead to multiple rounds of activity within the regional economy. Research funding flows into the region and can generate commercialization opportunities and other positive economic

effects. In addition, the enhanced productivity of graduates involves large economic benefits.

Summary of Key Statistics of Institutions Analyzed

- **13 institutions included in the study**
- **Approximately 300,000 students enrolled at the 13 institutions**
- **More than 57,000 full and part-time employees at these institutions**

Note: The "Dallas-Fort Worth Area" includes the counties within the North Central Texas Council of Governments Region (Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro counties.) In addition, there are other higher education institutions in the region not included in this study.
Sources: Data provided by institutions and The Perryman Group.

The Perryman Group (TPG) was recently asked to examine the economic benefits of higher education facilities across the Dallas-Fort Worth area including the multiplier (or ripple) effects through the economy. Thirteen institutions participated in the study, which is similar to a prior analysis and follows the same general structure. Note that there are additional higher education institutions in the region which were not a part of this study.

Economic Benefits

Any economic stimulus leads to dynamic responses across the economy. The Perryman Group has developed complex and comprehensive models over the past four decades to measure these dynamic responses.

In this instance, higher education institutions generate substantial business activity through multiple channels. The Perryman Group measured several aspects of the ongoing economic benefits of higher education institutions across the Dallas-Fort Worth area which participated in this study including

- Operational spending (jobs and purchases of needed goods and services);
- Student spending (living expenses);
- Visitor spending (visitors to students and the institutions);
- Research spending (research staff and purchases as well as potential commercialization and societal effects);
- Construction projects; and
- Graduates (overall effects of the increase in productivity).

Each of these aspects of higher education generate downstream effects through the economy.

Methods used in this analysis are summarized on the following page, with additional detail in Appendix A.

Measuring Economic and Fiscal Benefits

Any economic stimulus, whether positive or negative, generates multiplier effects throughout the economy. In this instance, participating higher education institutions' ongoing operations, student and visitor spending, research activity, construction projects, graduates, and other initiatives generate multiplier effects and dynamic responses rippling through the economy. Further detail regarding methods and assumptions is provided in Appendix A.

The Perryman Group's dynamic input-output assessment system (the US Multi-Regional Impact Assessment System, which is described in further detail in the Appendices to this report) was developed by the firm more than 40 years ago and has been consistently maintained and updated since that time. The model has been used in thousands of analyses for clients ranging from major corporations to government agencies and has been peer reviewed on multiple occasions. The impact system uses a variety of data (from surveys, industry information, and other sources) to describe the various goods and services (known as resources or inputs) required to produce another good/service. This process allows for estimation of the total economic impact (including multiplier effects) of the Dallas-Fort Worth Area's higher education institutions. The models used in the current analysis reflect the specific industrial composition and characteristics of the Dallas-Fort Worth area (North Central Texas Region: Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro counties) and Texas economies. Other aspects of the analysis made use of the firm's comprehensive US Multi-Regional Industry-Occupation System and US Multi-Regional Econometric Model.

Total economic effects are quantified for key measures of business activity (further explained in Appendix A). Note that these measures are not additive; they represent different ways of expressing the overall impact on business activity.

- **Total expenditures** (or total spending) measure the dollars changing hands as a result of the economic stimulus.
- **Gross product** (or output) is production of goods and services that will come about in the area as a result of the activity. This measure is parallel to the gross domestic product numbers commonly reported by various media outlets and is a subset of total expenditures.
- **Personal income** is dollars that end up in the hands of people in the area; the vast majority of this aggregate derives from the earnings of employees, but payments such as interest and rents are also included.
- **Job gains** are expressed as job-years of employment for temporary stimuli such as construction and jobs for ongoing effects.

Monetary values were quantified on a constant (2024) basis to eliminate the effects of inflation.

Ongoing Operations Benefits

As noted, Dallas-Fort Worth area higher education institutions employ thousands of persons and spend billions of dollars in the regional economy each year. This operational spending and employment generate additional business activity across a spectrum of industries.

The Perryman Group estimates that when multiplier effects are considered, ongoing operations of Dallas-Fort Worth area higher education institutions participating in this study generate a total annual increase in business activity in the Dallas-Fort Worth area of approximately **$10.5 billion** in gross product each year and over **117,900** full-time equivalent jobs.

Ongoing operations of Dallas-Fort Worth area higher education institutions participating in this study generate a total annual increase in business activity in the Dallas-Fort Worth area of approximately **$10.5 billion** in gross product each year and over **117,900** full-time equivalent jobs, including multiplier effects.

Student spending leads to an additional **$1.9 billion** in annual regional gross product and more than **19,500** jobs.[1] Tourism and visitor spending associated with higher education facilities in the region generate **$718.9 million** in gross product and more than **7,800** jobs in the area, thus leading to an aggregated ongoing benefit of an estimated **$13.1 billion** in gross product each year and approximately **145,300** jobs (including multiplier effects). See the following table for further detail and the Appendices to this report for results by major industry group.

[1] The Perryman Group estimated direct student spending on a "net" basis, adjusting for individuals who would likely be in the area even if they were not attending an institution of higher education. Direct spending estimates were further adjusted to reflect spending by out-of-area students as well as an estimate of those who would leave the area if not for the presence of the area's higher education facilities.

The Economic Benefits of Dallas-Fort Worth Area Higher Education Institutions				
	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
DALLAS-FORT WORTH AREA				
Operations	$19.861	$10.547	$7.343	117,931
Student Spending*	$3.779	$1.868	$1.153	19,541
Visitor Spending and Tourism*	$1.291	$0.719	$0.434	7,835
TOTAL ONGOING BENEFITS	**$24.931**	**$13.133**	**$8.929**	**145,308**
TEXAS				
Operations	$21.892	$11.246	$7.780	124,177
Student Spending*	$4.142	$1.989	$1.229	20,610
Visitor Spending and Tourism*	$1.421	$0.762	$0.461	8,219
TOTAL ONGOING BENEFITS	**$27.455**	**$13.997**	**$9.470**	**153,005**

Note: Includes only higher education institutions participating in this study. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro counties. Results for Texas include those within the Dallas-Fort Worth area as well as spillover to other parts of the state. Student Spending is net incremental spending and includes spending by out-of-area students as well as an estimate of those who would leave the area for education in the absence of regional higher education facilities. Visitor Spending and Tourism includes estimated spending by visitors to students and personnel and attendance at various events. Components may not sum to totals due to independent rounding.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Results for universities, medical education institutions, and Dallas Community College (which are subsets of these results) are presented in the following sections.

Universities

Of these overall total amounts, The Perryman Group estimates that universities lead to an increase in business activity of approximately **$5.5 billion** in annual gross product and more than **63,000** jobs in the Dallas-Fort Worth area when multiplier effects are considered. For the state, benefits are estimated to include **$5.8 billion** in annual gross product and over **66,200** jobs (including multiplier effects and benefits within the region).

The Economic Benefits of Dallas-Fort Worth Area Universities

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
DALLAS-FORT WORTH AREA				
Operations	$7.531	$4.025	$2.809	47,447
Student Spending*	$1.841	$0.910	$0.561	9,518
Visitor Spending and Tourism*	$0.997	$0.555	$0.335	6,049
TOTAL ONGOING BENEFITS	**$10.368**	**$5.490**	**$3.706**	**63,014**
TEXAS				
Operations	$8.279	$4.286	$2.974	49,841
Student Spending*	$2.018	$0.969	$0.598	10,039
Visitor Spending and Tourism*	$1.097	$0.588	$0.356	6,346
TOTAL ONGOING BENEFITS	**$11.393**	**$5.843**	**$3.929**	**66,225**

Note: Includes only higher education institutions participating in this study. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro counties. Results for Texas include those within the Dallas-Fort Worth area as well as spillover to other parts of the state. Student Spending is net incremental spending and includes spending by out-of-area students as well as an estimate of those who would leave the area for education in the absence of higher education facilities. Visitor Spending and Tourism includes estimated spending by visitors to students and personnel and attendance at various events. Components may not sum to totals due to independent rounding. These benefits are a subset of the overall totals described elsewhere in this report.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Medical Education Institutions

Some of the higher education institutions in the region provide education for doctors, nurses, and other medical professionals. The Perryman Group estimates that the economic benefits of these medical education institutions total **$6.6 billion** in annual gross product and approximately **70,300** jobs across the Dallas-Fort Worth area when multiplier effects are considered, with a statewide total of **$7.0 billion** in gross product and almost **74,200** jobs. Note that these results are a subset of the overall totals previously described.

The Economic Benefits of Dallas-Fort Worth Area Medical Education Institutions

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
DALLAS-FORT WORTH AREA				
Operations	$10.874	$5.743	$3.990	61,311
Student Spending*	$1.495	$0.739	$0.456	7,729
Visitor Spending and Tourism*	$0.207	$0.115	$0.070	1,257
TOTAL ONGOING BENEFITS	**$12.576**	**$6.597**	**$4.515**	**70,297**
TEXAS				
Operations	$12.013	$6.132	$4.231	64,700
Student Spending*	$1.638	$0.787	$0.486	8,151
Visitor Spending and Tourism*	$0.228	$0.122	$0.074	1,319
TOTAL ONGOING BENEFITS	**$13.879**	**$7.041**	**$4.791**	**74,170**

Note: Includes only higher education institutions participating in this study. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro counties. Results for Texas include those within the Dallas-Fort Worth area as well as spillover to other parts of the state. Student Spending is net incremental spending and includes spending by out-of-area students as well as an estimate of those who would leave the area for education in the absence of higher education facilities. Visitor Spending and Tourism includes estimated spending by visitors to students and personnel and attendance at various events. Components may not sum to totals due to independent rounding. These benefits are a subset of the overall totals described elsewhere in this report.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Community College

The portion of overall benefits associated with Dallas College includes an estimated **$1.0 billion** in regional gross product each year and approximately **12,000** jobs in the Dallas-Fort Worth area (**$1.1 billion** in annual gross product and **12,600** jobs in the state).

The Economic Benefits of Dallas College				
	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
DALLAS-FORT WORTH AREA				
Operations	$1.456	$0.778	$0.543	9,173
Student Spending*	$0.444	$0.219	$0.135	2,295
Visitor Spending and Tourism*	$0.087	$0.048	$0.029	528
TOTAL ONGOING BENEFITS	**$1.987**	**$1.046**	**$0.708**	**11,996**
TEXAS				
Operations	$1.601	$0.829	$0.575	9,636
Student Spending*	$0.486	$0.234	$0.144	2,420
Visitor Spending and Tourism*	$0.096	$0.051	$0.031	554
TOTAL ONGOING BENEFITS	**$2.183**	**$1.114**	**$0.750**	**12,610**

Note: Includes only higher education institutions participating in this study. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Results for Texas include those within the Dallas-Fort Worth area. Student Spending is net incremental spending and includes spending by out-of-area students as well as an estimate of those who would leave the area for education in the absence of higher education facilities. Visitor Spending and Tourism includes estimated spending by visitors to students and personnel and attendance at various events. Components may not sum to totals due to independent rounding. These benefits are a subset of the overall totals described elsewhere in this report. Note that there are other community colleges in the region which did not participate in this study.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Total impacts by participating institution are presented in the table below, with additional details in Appendix B.

Impacts by Institution: Dallas-Fort Worth Area				
	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
UNIVERSITIES				
Southern Methodist University	$1.257	$0.668	$0.452	7,686
Texas A&M Commerce	$0.564	$0.299	$0.204	3,460
Texas Christian University	$1.251	$0.664	$0.447	7,618
Texas Woman's University	$0.694	$0.368	$0.251	4,251
University of North Texas	$2.410	$1.273	$0.856	14,561
University of North Texas Dallas	$0.222	$0.118	$0.081	1,372
University of Texas at Arlington	$2.034	$1.076	$0.726	12,343
University of Texas at Dallas	$1.848	$0.976	$0.658	11,182
West Coast University Texas	$0.088	$0.047	$0.032	539
Total	**$10.368**	**$5.490**	**$3.706**	**63,014**
MEDICAL EDUCATION				
University of Texas Southwestern Medical School	$11.167	$5.878	$4.047	62,692
University of North Texas Health Science Center	$0.858	$0.445	$0.298	4,727
Texas Tech University Health Sciences Center Dallas	$0.551	$0.274	$0.170	2,878
Total	**$12.576**	**$6.597**	**$4.515**	**70,297**
COMMUNITY COLLEGE				
Dallas College	$1.987	$1.046	$0.708	11,996
OVERALL TOTAL	**$24.931**	**$13.133**	**$8.929**	**145,308**

Note: Includes only higher education institutions participating in this study. Includes effects of operations, student spending, and visitor spending/tourism. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Medical education includes only the educational component and excludes health care services. Components may not sum to totals due to independent rounding.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Impacts by Institution: Texas				
	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
UNIVERSITIES				
Southern Methodist University	$1.381	$0.711	$0.479	8,077
Texas A&M Commerce	$0.620	$0.319	$0.216	3,636
Texas Christian University	$1.375	$0.707	$0.474	8,006
Texas Woman's University	$0.763	$0.392	$0.266	4,467
University of North Texas	$2.648	$1.355	$0.908	15,305
University of North Texas Dallas	$0.244	$0.126	$0.086	1,442
University of Texas at Arlington	$2.235	$1.145	$0.770	12,973
University of Texas at Dallas	$2.031	$1.039	$0.697	11,753
West Coast University Texas	$0.096	$0.050	$0.034	567
Total	**$11.393**	**$5.843**	**$3.929**	**66,225**
MEDICAL EDUCATION				
University of Texas Southwestern Medical School	$12.330	$6.274	$4.293	66,149
University of North Texas Health Science Center	$0.945	$0.475	$0.316	4,986
Texas Tech University Health Sciences Center Dallas	$0.604	$0.292	$0.181	3,035
Total	**$13.879**	**$7.041**	**$4.791**	**74,170**
COMMUNITY COLLEGE				
Dallas College	$2.183	$1.114	$0.750	12,610
OVERALL TOTAL	**$27.455**	**$13.997**	**$9.470**	**153,005**

Note: Includes only higher education institutions participating in this study. Includes effects of operations, student spending, and visitor spending/tourism. Medical education includes only the educational component and excludes health care services. Components may not sum to totals due to independent rounding. These benefits are a subset of the overall totals described elsewhere in this report.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Construction, Research, and Workforce Effects

The Perryman Group also measured other aspects of the economic benefits of participating higher education institutions including construction, research, and workforce improvement. Growing enrollments and changes over time lead to a consistent need for construction projects at higher education institutions. In addition, research by faculty and staff members generates substantial benefits, and researchers in university and other higher education settings receive external research funding from public and private sources to enable them to work toward enhancing society's knowledge across a spectrum of topics. Another major benefit to the regional economy is the dramatic increase in workforce productivity associated with higher education.

Construction Effects

Higher education facilities in the Dallas-Fort Worth area have completed numerous construction projects over the last five years and have additional projects planned in the future. These initiatives provide a notable (though transitory) stimulus to the regional economy. Many institutions participating in the study provided construction cost information, which was supplemented by additional research.

*The Perryman Group estimates that recent and planned construction projects at Dallas-Fort Worth area higher education institutions participating in this study involve gains in business activity in the region of **$17.8 billion** in gross product and **164,650** job-years of employment including multiplier effects.*

The Perryman Group estimates that recent and planned construction projects at Dallas-Fort Worth area higher education institutions participating in this study involve almost **$11.2 billion** in direct construction spending, thus resulting in gains in business activity in the region of **$17.8 billion** in gross product and **164,650** job-years of employment including multiplier effects.

THE PERRYMAN GROUP

The Economic Benefits of Recent and Planned Construction Projects at Dallas-Fort Worth Area Higher Education Institutions				
	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Job-Years)
DALLAS-FORT WORTH AREA				
Universities	$14.044	$6.793	$4.611	62,698
Medical Education Institutions	$22.047	$10.622	$7.205	98,018
Dallas College	$0.881	$0.426	$0.289	3,935
TOTAL CONSTRUCTION BENEFITS	**$36.973**	**$17.841**	**$12.106**	**164,650**
TEXAS				
Universities	$15.477	$7.297	$4.928	67,197
Medical Education Institutions	$24.344	$11.429	$7.713	105,216
Dallas College	$0.971	$0.458	$0.309	4,217
TOTAL CONSTRUCTION BENEFITS	**$40.792**	**$19.184**	**$12.951**	**176,630**

Note: Includes only higher education institutions participating in this study. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Results for Texas include those within the Dallas-Fort Worth area. Recent projects are projects within the last five years. Dallas College has other funding capability authorized, but the timing and magnitude of any additional construction is unknown and thus not included. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Employment is measured in job-years (one person working for one year, though it could be multiple individuals working partial years) due to the transitory nature of construction projects. Components may not sum to totals due to independent rounding.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Research Benefits

The benefits of research activity are multifaceted. Conducting research involves jobs for researchers and others as well as various operational expenses (which are included as part of the overall operational impacts of the facilities). In addition, research activity results in spinoff benefits such

as commercialization of discoveries, royalties, and the general enhancements to productivity and social wellbeing that emanate from new discoveries.

The state's life sciences sector has seen significant growth. In fact, the overall pace of life sciences net job creation in Texas over the past decade has been almost three times the national average and far above all major competitive states. The majority of the increase has been concentrated in the scientific research and development sector, and research activity at higher education institutions is facilitating this expansion.

Life sciences industries are characterized by high value-added components; thus, they generate significant economic benefits. The Perryman Group recently estimated that life sciences industries currently contribute approximately $41.4 billion in gross product and about 319,150 jobs in Texas (including multiplier effects). If growth trajectories can be enhanced, these benefits will expand accordingly. Research universities will be an important aspect of the industry's future in the state.

The Perryman Group estimated the benefits of research activity at Dallas-Fort Worth area higher institution facilities participating in this study during the past five years (including the cumulative effects of ongoing value from prior research) based on typical patterns and empirical studies; these methods are described in the Appendices to this report.

*The total spinoff benefits from research over the last five years at Dallas-Fort Worth area higher education institutions participating in this study is estimated to include almost **$5.8 billion** in regional gross product as well as almost **33,500** jobs.*

The total spinoff benefits from research at Dallas-Fort Worth area higher education institutions over the last five years is estimated to include **$5.8 billion** in gross product in the Dallas-Fort Worth area as well as almost **33,500** jobs, based on typical patterns and including multiplier effects. For Texas, spinoff benefits from recent research leads to potential gains of nearly **$7.2 billion** in gross product and approximately **37,200** jobs (including effects within the Region).

Research Benefits of Dallas-Fort Worth Area Higher Education Institutions				
	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
DALLAS-FORT WORTH AREA				
Universities	$1.253	$0.558	$0.338	4,096
Medical Education Institutions	$7.300	$5.210	$4.337	29,362
TOTAL RESEARCH SPINOFF BENEFITS	**$8.553**	**$5.767**	**$4.675**	**33,458**
TEXAS				
Universities	$1.455	$0.627	$0.379	4,581
Medical Education Institutions	$9.298	$6.539	$5.468	32,611
TOTAL RESEARCH SPINOFF BENEFITS	**$10.753**	**$7.167**	**$5.848**	**37,193**

Note: Includes only higher education institutions participating in this study. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Results for Texas include those within the Dallas-Fort Worth area. Based on typical research commercialization patterns from research over the last five years as described in the Appendices to this report. Components may not sum to totals due to independent rounding.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Results by institution are presented in the following tables.

Research Benefits by Institution: Dallas-Fort Worth Area

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
UNIVERSITIES				
Southern Methodist University	$0.138	$0.061	$0.037	450
Texas A&M Commerce	$0.015	$0.007	$0.004	49
Texas Christian University	$0.035	$0.016	$0.010	115
University of North Texas	$0.177	$0.079	$0.048	578
University of Texas at Arlington	$0.510	$0.227	$0.138	1,668
University of Texas at Dallas	$0.377	$0.168	$0.102	1,232
Total	**$1.253**	**$0.558**	**$0.338**	**4,096**
MEDICAL EDUCATION				
University of Texas Southwestern Medical School	$6.481	$4.625	$3.851	26,070
University of North Texas Health Science Center	$0.809	$0.577	$0.481	3,254
Texas Tech University Health Sciences Center Dallas	$0.009	$0.007	$0.006	38
Total	**$7.300**	**$5.210**	**$4.337**	**29,362**
OVERALL TOTAL	**$8.553**	**$5.767**	**$4.675**	**33,458**

Note: Includes only higher education institutions participating in this study. Texas Woman's University and the University of North Texas Dallas also engage in research activity to a lesser extent. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Based on typical research commercialization patterns from research over the last five years as described in the Appendices to this report. Components may not sum to totals due to independent rounding. Source: US Multi-Regional Impact Assessment System, The Perryman Group

Research Benefits by Institution: Texas

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
UNIVERSITIES				
Southern Methodist University	$0.160	$0.069	$0.042	504
Texas A&M Commerce	$0.017	$0.008	$0.005	55
Texas Christian University	$0.041	$0.018	$0.011	129
University of North Texas	$0.205	$0.088	$0.053	646
University of Texas at Arlington	$0.592	$0.255	$0.154	1,865
University of Texas at Dallas	$0.437	$0.189	$0.114	1,377
Total	**$1.455**	**$0.627**	**$0.379**	**4,581**
MEDICAL EDUCATION				
University of Texas Southwestern Medical School	$8.256	$5.806	$4.855	28,955
University of North Texas Health Science Center	$1.030	$0.725	$0.606	3,614
Texas Tech University Health Sciences Center Dallas	$0.012	$0.008	$0.007	42
Total	**$9.298**	**$6.539**	**$5.468**	**32,611**
OVERALL TOTAL	**$10.753**	**$7.167**	**$5.848**	**37,193**

Note: Includes only higher education institutions participating in this study. Texas Woman's University and the University of North Texas Dallas also engage in research activity to a lesser extent. Results for Texas include those within the Dallas-Fort Worth area. Based on typical research commercialization patterns from research over the last five years as described in the Appendices to this report. Components may not sum to totals due to independent rounding. Source: US Multi-Regional Impact Assessment System, The Perryman Group

Even beyond these effects are societal benefits of research which involve economic components. As new discoveries are disseminated, they lead to improvements in health, business

*Societal benefits of research at Dallas-Fort Worth area higher education institutions include an estimated **$9.6 billion** in US gross product and about **55,500** jobs.*

operations, technology, quality of life, and virtually every other aspect of the social complex.

The Perryman Group estimates that the overall societal benefits of research at Dallas-Fort Worth area higher education institutions include **$9.6 billion** in US gross product and about **55,500** jobs.

Societal Benefits of Research at Dallas-Fort Worth Area Higher Education Institutions

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 202 Dollars)	**Employment** (Jobs)
UNITED STATES				
Universities	$1.784	$0.771	$0.480	7,153
Medical Education Institutions	$14.032	$8.846	$7.452	48,358
TOTAL SOCIETAL RESEARCH BENEFITS	**$15.816**	**$9.617**	**$7.932**	**55,511**
GLOBAL				
Universities	$2.355	$1.018	$0.634	9,442
Medical Education Institutions	$18.523	$11.676	$9.836	63,832
TOTAL SOCIETAL RESEARCH BENEFITS	**$20.877**	**$12.694**	**$10.470**	**73,274**

Note: Includes only higher education institutions participating in this study. Global results include those within the United States. Based on research over the last five years and empirical studies of the societal benefits of research as described in the Appendices to this report. Components may not sum to totals due to independent rounding.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Societal benefits by institution are included in the following tables.

Societal Benefits of Research by Institution: United States

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
UNIVERSITIES				
Southern Methodist University	$196.131	$84.794	$52.767	786
Texas A&M Commerce	$21.406	$9.254	$5.759	86
Texas Christian University	$50.274	$21.735	$13.526	202
University of North Texas	$251.547	$108.752	$67.676	1,009
University of Texas at Arlington	$726.250	$313.983	$195.389	2,912
University of Texas at Dallas	$536.369	$231.891	$144.304	2,151
Total	**$1,784.003**	**$771.286**	**$479.966**	**7,153**
MEDICAL EDUCATION				
University of Texas Southwestern Medical School	$12,458.973	$7,853.869	$6,616.281	42,936
University of North Texas Health Science Center	$1,555.060	$980.276	$825.807	5,359
Texas Tech University Health Sciences Center Dallas	$18.172	$11.455	$9.650	63
Total	**$14,032.205**	**$8,845.600**	**$7,451.738**	**48,358**
OVERALL TOTAL	**$15.816**	**$9.617**	**$7.932**	**55,511**

Note: Includes only higher education institutions participating in this study. Texas Woman's University and the University of North Texas Dallas also engage in research activity to a lesser extent. The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Based on typical research commercialization patterns from research over the last five years as described in the Appendices to this report. Components may not sum to totals due to independent rounding. Source: US Multi-Regional Impact Assessment System, The Perryman Group

Societal Benefits of Research by Institution: Global

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
UNIVERSITIES				
Southern Methodist University	$258.893	$111.928	$69.652	1,038
Texas A&M Commerce	$28.256	$12.216	$7.602	113
Texas Christian University	$66.361	$28.690	$17.854	266
University of North Texas	$332.042	$143.553	$89.332	1,331
University of Texas at Arlington	$958.650	$414.457	$257.914	3,844
University of Texas at Dallas	$708.008	$306.096	$190.481	2,839
Total	**$2,354.884**	**$1,018.097**	**$633.555**	**9,442**
MEDICAL EDUCATION				
University of Texas Southwestern Medical School	$12,458.973	$7,853.869	$6,616.281	42,936
University of North Texas Health Science Center	$1,555.060	$980.276	$825.807	5,359
Texas Tech University Health Sciences Center Dallas	$18.172	$11.455	$9.650	63
Total	**$18.523**	**$11.676**	**$9.836**	**63,832**
OVERALL TOTAL	**$20.877**	**$12.694**	**$10.470**	**73,274**

Note: Includes only higher education institutions participating in this study. Texas Woman's University and the University of North Texas Dallas also engage in research activity to a lesser extent. Results for Texas include those within the Dallas-Fort Worth area. Based on typical research commercialization patterns from research over the last five years as described in the Appendices to this report. Components may not sum to totals due to independent rounding. Source: US Multi-Regional Impact Assessment System, The Perryman Group

Workforce Effects

From the perspective of the competitiveness of a regional economy, higher education institutions provide a steady stream of graduates to fulfill the hiring needs of businesses. Corporations considering locations or expansions include the availability of excellent higher education opportunities as a decision criterion, and the institutions in the region represent an important economic development asset. An estimated 72.7% of graduates of higher education institutions in the Dallas-Fort Worth area remain in the region.

*Economic benefits of employed graduates of Dallas-Fort Worth area higher education institutions included in this assessment total an estimated **$120.6 billion** in gross product in the region each year and almost **945,300** jobs when multiplier effects are considered, which is about 20% of total economic activity in the region.*

The Perryman Group estimates the incremental economic benefits of employed graduates of the Dallas-Fort Worth area's higher education institutions includes **$120.6 billion** in gross product in the region each year and almost **945,300** jobs when multiplier effects are considered. For Texas, gains were found to be **$162.9 billion** in annual gross product and nearly **1,300,900** jobs (including effects within the Dallas-Fort Worth area). These graduates thus support about 20**%** of total employment in the region.

Note that the total effects of graduates estimated in the current study is significantly higher than in the previous report. In addition to the availability of substantially more comprehensive data for the current analysis, several additional years of graduates and growing enrollment at most institutions and changes in economic patterns in the region have enhanced the overall importance of graduates to the region.

Benefits of Employed Graduates of Dallas-Fort Worth Area Higher Education Institutions

	Total Expenditures (Billions of 2024 Dollars)	**Gross Product** (Billions of 2024 Dollars)	**Personal Income** (Billions of 2024 Dollars)	**Employment** (Jobs)
DALLAS-FORT WORTH AREA				
Universities	$237.392	$109.798	$64.768	837,243
Medical Education Institutions	$19.751	$10.762	$7.517	108,036
TOTAL WORKFORCE BENEFITS	**$257.14**	**$120.56**	**$72.28**	**945,279**
TEXAS				
Universities	$312.268	$140.987	$83.417	1,082,056
Medical Education Institutions	$41.698	$21.948	$15.233	218,799
TOTAL WORKFORCE BENEFITS	**$353.97**	**$162.94**	**$98.65**	**1,300,855**

Note: The Dallas-Fort Worth area (North Central Texas Region) includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Results for Texas include those within the Dallas-Fort Worth area. Based on the numbers of graduates from Dallas-Fort Worth area higher education institutions adjusted for industrial employment patterns, retirees, unemployment, and labor force participation. Components may not sum to totals due to independent rounding.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

Conclusion

Institutions of higher education in the Dallas-Fort Worth area offer a wide variety of options to students for attaining the needed skills for future success. At the same time, these institutions are providing current and potential future employers with workers with needed skillsets and setting the stage for even greater competitiveness and productivity in the future.

Enrollment has grown significantly over time, enhancing the economic importance of the area's universities, medical education institutions, and community colleges. Research at facilities within the region also helps to solve some of society's most pressing problems.

Through fulfilling their role of providing needed education and training, higher education institutions also generate substantial economic benefits. The Perryman Group estimates that the 13 institutions participating in this study generate ongoing business activity in the Dallas-Fort Worth area of an estimated **$13.1 billion** in gross product each year and approximately **145,300** jobs (including multiplier effects), with additional spillover benefits to other parts of the state. Construction and research spending lead to additional gains, the economic activity associated with graduates employed in the area further enhance these benefits.

Higher education is crucial to ongoing prosperity and progress.

In an increasingly complex economy, higher education can open doors to quality jobs for individuals while enhancing the workforce and competitiveness of the region. Research discoveries can improve health and wellbeing. For these and other reasons, higher education is crucial to ongoing prosperity and progress and an essential catalyst to the dynamic North Central Texas region.

Appendix A: Methods Used

US Multi-Regional Impact Assessment System

The US Multi-Regional Impact Assessment System (USMRIAS) measures multiplier effects of economic stimuli. The USMRIAS was developed and is maintained by The Perryman Group. This model has been used in thousands of diverse applications across the country and has an excellent reputation for accuracy and credibility; it has also been peer reviewed on multiple occasions and has been a key factor in major national and international policy simulations.

The basic modeling technique is known as dynamic input-output analysis, which essentially uses extensive survey data, industry information, and a variety of corroborative source materials to create a matrix describing the various goods and services (known as resources or inputs) required to produce one unit (a dollar's worth) of output for a given sector. Once the base information is compiled, it can be mathematically simulated to generate evaluations of the magnitude of successive rounds of activity involved in the overall production process.

There are two essential steps in conducting an input-output analysis once the system is operational. The first major endeavor is to accurately define the levels of direct activity to be evaluated. In this case, participating institutions provided needed input data, which was supplemented by substantial additional research by The Perryman Group. Student spending was based on typical patterns for out-of-area students as well as estimates of those who would leave the region in the absence of local opportunities. Visitor spending was based on the number of campus visits, the types of activities, and typical daily spending patterns for the relevant travel categories. The direct construction effects were estimated by using the volume and types of construction occurring over the last five years, as well as planned future activity. Commercialization of research estimates were based on typical patterns from funded basic research as provided by the Association of University Technology Managers[2] localized to the relevant geographic area and adjusted for the specifics of research programs in the area and current cost patterns. These estimates are fully adjusted for locations outside the area and attrition patterns. Societal and economic benefits were estimated on a global and national scale and were determined based on detailed academic studies related to the relevant

[2] Association of University Technology Managers®, *AUTM US Licensing Activity Survey: 2022, editors John Miner, Myron Kassaraba, Ragan Robertson, Amanda Sorensen, Ashley Stevens and Jordana Bieze Foster.*

returns to investments in basic medical research.[3] The number of graduates was estimated based on information provided by some of the institutions, as well as independent research by The Perryman Group, with the number living in the Dallas-Fort Worth area and Texas being estimated using limited available data from some institutions, as well as demographic segments of the US Multi-Regional Econometric Model (described below) and integrated gravity models. The number of graduates working in the area was estimated using the workforce participation segments of the econometric system. An occupational assessment of the area and the state was then conducted to determine the pattern of college graduates using the US Multi-Regional Industry-Occupation System (described below). These results were then mapped to the program offerings of local institutions in order to estimate the profile of the workforce component represented by graduates of local institutions. The occupational system was then reverse simulated to determine the approximate industrial patterns across more than 500 sectors of the regional and state economies. With respect to the medical education institutions, this process was further extended to reflect the role that physicians play in supporting the overall health care complex. This process made use of the US Multi-Regional Econometric model.

The second major phase of the analysis is the simulation of the input-output system to measure overall economic effects of the direct excess costs of the current situation. The present study was conducted within the context of the US Multi-Regional Impact Assessment System (USMRIAS) which was developed and is maintained by The Perryman Group. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility; it has also been peer reviewed on multiple occasions. The systems used in the current simulations reflect the unique industrial structure of the Dallas-Fort Worth area and Texas economies.

Model Structure

The USMRIAS is somewhat similar in format to the Input-Output Model of the United States which is maintained by the US Department of Commerce. The model developed by TPG, however, incorporates several important enhancements and refinements. Specifically, the expanded system includes (1) comprehensive 500-sector coverage for any county, multi-county, or urban region; (2) calculation of both total expenditures and

[3] See, in particular, Hall Bronwyn, Jacques Mairesse, and Pierre Mohnen; *Measuring the Returns to R&D*; chapter prepared for the *Handbook of the Economics of Innovation*, editors B.H. Hall and N. Rosenberg. December 2009. Frontier Economics, Rates of return to investment in science and innovation, report prepared for the Department for Business Innovation and Skills, July 2014.

value-added by industry and region; (3) direct estimation of expenditures for multiple basic input choices (expenditures, output, income, or employment); (4) extensive parameter localization; (5) price adjustments for real and nominal assessments by sectors and areas; (6) comprehensive measurement of the induced impacts associated with payrolls and consumer spending; (7) embedded modules to estimate multi-sectoral direct spending effects; (8) estimation of retail spending activity by consumers; and (9) comprehensive linkage and integration capabilities with a wide variety of econometric, real estate, occupational, and fiscal impact models.

The impact assessment (input-output) process essentially estimates the amounts of all types of goods and services required to produce one unit (a dollar's worth) of a specific type of output. For purposes of illustrating the nature of the system, it is useful to think of inputs and outputs in dollar (rather than physical) terms. As an example, the construction of a new building will require specific dollar amounts of lumber, glass, concrete, hand tools, architectural services, interior design services, paint, plumbing, and numerous other elements. Each of these suppliers must, in turn, purchase additional dollar amounts of inputs. This process continues through multiple rounds of production, thus generating subsequent increments to business activity. The initial process of building the facility is known as the *direct effect*. The ensuing transactions in the output chain constitute the *indirect effect*.

Another pattern that arises in response to any direct economic activity comes from the payroll dollars received by employees at each stage of the production cycle. As workers are compensated, they use some of their income for taxes, savings, and purchases from external markets. A substantial portion, however, is spent locally on food, clothing, health care services, utilities, housing, recreation, and other items. Typical purchasing patterns in the relevant areas are obtained from the Center for Community and Economic Research *Cost of Living Index*, a privately compiled inter-regional measure which has been widely used for several decades, and the *Consumer Expenditure Survey* of the US Department of Labor. These initial outlays by area residents generate further secondary activity as local providers acquire inputs to meet this consumer demand. These consumer spending impacts are known as the *induced effect*. The USMRIAS is designed to provide realistic, yet conservative, estimates of these phenomena.

Sources for information used in this process include the Bureau of the Census, the Bureau of Labor Statistics, the Regional Economic Information System of the US Department of Commerce, and other public and private sources. The pricing data are compiled from the US Department of Labor and the US Department of Commerce. The verification and testing procedures make use of extensive public and private sources.

Impacts are typically measured in constant dollars to eliminate the effects of inflation.

Measures of Business Activity

The USMRIAS generates estimates of total economic effects on several measures of business activity. Note that these are different ways of measuring the same impacts; they are not additive.

The most comprehensive measure of economic activity is **Total Expenditures**. This measure incorporates every dollar that changes hands in any transaction. For example, suppose a farmer sells wheat to a miller for $0.50; the miller then sells flour to a baker for $0.75; the baker, in turn, sells bread to a customer for $1.25. The Total Expenditures recorded in this instance would be $2.50, that is, $0.50 + $0.75 + $1.25. This measure is quite broad but is useful in that (1) it reflects the overall interplay of all industries in the economy, and (2) some key fiscal variables such as sales taxes are linked to aggregate spending.

A second measure of business activity is **Gross Product**. This indicator represents the regional equivalent of Gross Domestic Product, the most commonly reported statistic regarding national economic performance. In other words, the Gross Product of Texas is the amount of US output that is produced in that state; it is defined as the value of all final goods produced in a given region for a specific period of time. Stated differently, it captures the amount of value-added (gross area product) over intermediate goods and services at each stage of the production process, that is, it eliminates the double counting in the Total Expenditures concept. Using the example above, the Gross Product is $1.25 (the value of the bread) rather than $2.50. Alternatively, it may be viewed as the sum of the value-added by the farmer, $0.50; the miller, $0.25 ($0.75 - $0.50); and the baker, $0.50 ($1.25 - $0.75). The total value-added is, therefore, $1.25, which is equivalent to the final value of the bread. In many industries, the primary component of value-added is the wage and salary payments to employees.

The third gauge of economic activity used in this evaluation is **Personal Income**. As the name implies, Personal Income is simply the income received by individuals, whether in the form of wages, salaries, interest, dividends, proprietors' profits, or other sources. It may thus be viewed as the segment of overall impacts which flows directly to the citizenry.

The final aggregates used are **Jobs and Job-Years,** which reflect the full-time equivalent jobs generated by an activity. For an economic stimulus expected to endure (such as the ongoing operations of a facility), the jobs measure is used. It should be noted that, unlike the dollar values described above, jobs is a "stock" rather than a "flow." In other words, if an area produces $1 million in output in 2023 and $1 million in 2024, it is appropriate to say that $2 million was achieved in the 2023-24 period. If the same area has 100 people working in 2023 and 100 in 2024, it only has 100 Jobs. When a flow of

jobs is measured, such as in a construction project or a cumulative assessment over multiple years, it is appropriate to measure employment in job-years (a person working for a year, though it could be multiple individuals working for partial years). This concept is distinct from Jobs, which anticipates that the relevant positions will be maintained on a continuing basis.

US Multi-Regional Econometric Model

Overview

The US Multi-Regional Econometric Model (also known as the Texas Econometric Model) was developed by Dr. M. Ray Perryman, President and CEO of The Perryman Group (TPG), beginning 40 years ago as a Texas model and has been consistently maintained, expanded, and updated to a national level since that time. It is formulated in an internally consistent manner and is designed to permit the integration of relevant global, national, state, and local factors into the projection process. It is the result of more than four decades of continuing research in econometrics, economic theory, statistical methods, and key policy issues and behavioral patterns, as well as intensive, ongoing study of all aspects of the global, US, state, and metropolitan area economies. It is extensively used by scores of federal and State governmental entities on an ongoing basis, as well as hundreds of major corporations. It is employed in the current analysis to generate estimates of various inputs for which complete information is not available and in defining demographic and employment profiles of graduates of local institutions at both the state and regional levels.

This section describes the forecasting process in a comprehensive manner, focusing on both the modeling and the supplemental analysis. The overall methodology, while certainly not ensuring perfect foresight, permits an enormous body of relevant information to impact the economic outlook in a systematic manner.

Model Logic and Structure

The US Multi-Regional Econometric Model revolves around a core system which projects output (real and nominal), income (real and nominal), and employment by industry in a simultaneous manner. For purposes of illustration, it is useful to initially consider the employment functions. Essentially, employment within the system is a derived demand relationship obtained from a neo-Classical production function. The expressions are augmented to include dynamic temporal adjustments to changes in relative factor input costs, output and (implicitly) productivity, and technological

progress over time. Thus, the typical equation includes output, the relative real cost of labor and capital, dynamic lag structures, and a technological adjustment parameter. The functional form is logarithmic, thus preserving the theoretical consistency with the neo-Classical formulation.

The income segment of the model is divided into wage and non-wage components. The wage equations, like their employment counterparts, are individually estimated at the 3-digit North American Industry Classification System (NAICS) level of aggregation. Hence, income by place of work is measured for approximately 90 production categories. The wage equations measure real compensation, with the form of the variable structure differing between "basic" and "non-basic."

The basic industries, comprised primarily of the various components of Mining, Agriculture, and Manufacturing, are export-oriented, i.e., they bring external dollars into the area and form the core of the economy. The production of these sectors typically flows into national and international markets; hence, the labor markets are influenced by conditions in areas beyond the borders of the particular region. Thus, real (inflation-adjusted) wages in the basic industry are expressed as a function of the corresponding national rates, as well as measures of local labor market conditions (the reciprocal of the unemployment rate), dynamic adjustment parameters, and ongoing trends.

The "non-basic" sectors are somewhat different in nature, as the strength of their labor markets is linked to the health of the local export sectors. Consequently, wages in these industries are related to those in the basic segment of the economy. The relationship also includes the local labor market measures contained in the basic wage equations.

Note that compensation rates in the export or "basic" sectors provide a key element of the interaction of the regional economies with national and international market phenomena, while the "non-basic" or local industries are strongly impacted by area production levels. Given the wage and employment equations, multiplicative identities in each industry provide expressions for total compensation; these totals may then be aggregated to determine aggregate wage and salary income. Simple linkage equations are then estimated for the calculation of personal income by place of work.

The non-labor aspects of personal income are modeled at the regional level using straightforward empirical expressions relating to national performance, dynamic responses, and evolving temporal patterns. In some instances (such as dividends, rents, and others) national variables (for example, interest rates) directly enter the forecasting system. These factors have numerous other implicit linkages into the system resulting from their simultaneous interaction with other phenomena in national and international markets which are explicitly included in various expressions.

The output or gross area product expressions are also developed at the 3-digit NAICS level. Regional output for basic industries is linked to national performance in the relevant industries, local and national production in key related sectors, relative area and national labor costs in the industry, dynamic adjustment parameters, and ongoing changes in industrial interrelationships (driven by technological changes in production processes).

Output in the non-basic sectors is modeled as a function of basic production levels, output in related local support industries (if applicable), dynamic temporal adjustments, and ongoing patterns. The inter-industry linkages are obtained from the input-output (impact assessment) system which is part of the overall integrated modeling structure maintained by The Perryman Group. Note that the dominant component of the econometric system involves the simultaneous estimation and projection of output (real and nominal), income (real and nominal), and employment at a disaggregated industrial level. This process, of necessity, also produces projections of regional price deflators by industry. These values are affected by both national pricing patterns and local cost variations and permit changes in prices to impact other aspects of economic behavior. Income is converted from real to nominal terms using the appropriate Consumer Price Index.

Several other components of the model are critical to the forecasting process. The demographic module includes (1) a linkage equation between wage and salary (establishment) employment and household employment, (2) a labor force participation rate function, and (3) a complete population system with endogenous migration. Given household employment, labor force participation (which is a function of economic conditions and evolving patterns of worker preferences), and the working age population, the unemployment rate and level become identities.

The population system uses Census information, fertility rates, and life tables to determine the "natural" changes in population by age group. Migration, the most difficult segment of population dynamics to track, is estimated in relation to relative regional and extra-regional economic conditions over time. Because evolving economic conditions determine migration in the system, population changes are allowed to interact simultaneously with overall economic conditions. Through this process, migration is treated as endogenous to the system, thus allowing population to vary in accordance with relative business performance (particularly employment).

Real retail sales is related to income, interest rates, dynamic adjustments, and patterns in consumer behavior on a store group basis. It is expressed on an inflation-adjusted basis. Inflation at the state level relates to national patterns, indicators of relative economic conditions, and ongoing trends. As noted earlier, prices are endogenous to the system.

A final significant segment of the forecasting system relates to real estate absorption and activity. The short-term demand for various types of property is determined by underlying economic and demographic factors, with short-term adjustments to reflect the current status of the pertinent building cycle. In some instances, this portion of the forecast requires integration with the Multi-Regional Industry-Occupation System which is maintained by The Perryman Group. This system also allows any employment simulation or forecast from the econometric model to be translated into a highly detailed occupational profile.

The overall US Multi-Regional Econometric Model contains numerous additional specifications, and individual expressions are modified to reflect alternative lag structures, empirical properties of the estimates, simulation requirements, and similar phenomena. Moreover, it is updated on an ongoing basis as new data releases become available. Nonetheless, the above synopsis offers a basic understanding of the overall structure and underlying logic of the system.

Model Simulation and Multi-Regional Structure

The initial phase of the simulation process is the execution of a standard non-linear algorithm for the state-level system and that of each of the individual sub-areas, if any, being examined. The external assumptions are derived from scenarios developed through national and international models and extensive analysis by The Perryman Group.

Once the initial simulations are completed, they are merged into a single system with additive constraints and interregional flows. Using information on minimum regional requirements, import needs, export potential, and locations, it becomes possible to balance the various forecasts into a mathematically consistent set of results.

The iterative simulation process has the additional property of imposing a global convergence criterion across the entire multi-regional system, with balance being achieved simultaneously on both a sectoral and a geographic basis. This approach is particularly critical on non-linear dynamic systems, as independent simulations of individual systems often yield unstable, non-convergent outcomes.

It should be noted that the underlying data for the modeling and simulation process are frequently updated and revised by the various public and private entities compiling them. Whenever those modifications to the database occur, they bring corresponding changes to the structural parameter estimates of the various systems and the solutions to the simulation and forecasting system. The multi-regional version of the US Multi-Regional Econometric Model is re-estimated and simulated with each such data release,

thus providing a constantly evolving and current assessment of state and local business activity.

The Final Forecast

The process described above is followed to produce an initial set of projections. Through the comprehensive multi-regional modeling and simulation process, a systematic analysis is generated which accounts for both historical patterns in economic performance and inter-relationships and best available information on the future course of pertinent external factors. While the best available techniques and data are employed in this effort, they are not capable of directly capturing "street sense," i.e., the contemporaneous and often non-quantifiable information that can materially affect economic outcomes. In order to provide a comprehensive approach to the prediction of business conditions and to achieve the property of statistical consistence, it is necessary to compile and assimilate extensive material regarding current events and factors affecting the forecast.

This critical aspect of the forecasting methodology includes activities such as (1) daily review of hundreds of financial and business publications and electronic information sites; (2) review of major newspapers and online news sources on a daily basis; (3) direct discussions with key business and political leaders; (4) face-to-face discussions with representatives of major industry groups; and (5) frequent site visits to various regions. The insights arising from this "fact finding" are analyzed and evaluated for their effects on the likely course of the future activity.

Another vital information resource stems from the firm's ongoing interaction with key players in the international, domestic, and state economic scenes. Such activities include visiting with corporate groups on a regular basis and being regularly involved in the policy process at all levels. The firm is also an active participant in many major corporate relocations, economic development initiatives, and regulatory proceedings.

Once organized, this information is carefully assessed and, when appropriate, independently verified. The impact on specific communities and sectors that is distinct from what is captured by the econometric system is then factored into the forecast analysis. For example, the opening or closing of a major facility, particularly in a relatively small area, can cause a sudden change in business performance that will not be accounted for by either a modeling system based on historical relationships or expected (primarily national and international) factors.

The final step in the forecasting process is the integration of this material into the results in a logical and mathematically consistent manner. In some instances, this task is accomplished through "constant adjustment factors" which augment relevant

equations. In other cases, anticipated changes in industrial structure or regulatory parameters are initially simulated within the context of the Multi-Regional Impact Assessment System to estimate their ultimate effects by sector. Those findings are then factored into the simulation as constant adjustments on a distributed temporal basis. Once this scenario is formulated, the extended system is again balanced across regions and sectors through an iterative simulation algorithm analogous to that described in the preceding section.

US Multi-Regional Industry-Occupation System

The US Multi-Regional Industry-Occupation System translates standard data on employment by industry into estimates of occupational categories at a highly detailed level. The system was used extensively in the present analysis to define the occupational and industrial patterns of the graduates of local institutions in the Dallas-Fort Worth area and Texas.

The modeling process begins with the industry-occupation coefficients compiled by the US Department of Labor based on extensive surveys of operating patterns in thousands of firms and other secondary sources. As an example, a typical tire plant of a given size requires machinists, mechanics, plant managers, administrative staff, custodial staff, shipping personnel, and numerous other types of workers. By compiling this information across the entire economy, a matrix is created which allows the data on employment by industry (which is regularly compiled) to be translated into employment by occupation. The Perryman Group takes this basic structure and links it specifically to the economy of Texas and its various metropolitan areas, regions, and counties, accounting for productivity and production patterns in each area. It is also regularly updated to reflect evolving patterns. The system can be fully integrated with historical employment data and the projections obtained from the Texas Econometric Model. It can also be linked to results from the US Multi-Regional Impact Assessment System. Thus, the industry-occupation system is a flexible mechanism to allow extensive evaluations of workforce characteristics and patterns. It is highly detailed, providing results for approximately 700 occupational categories.

Appendix B: Additional Results

Results by Institution

Operations Impacts by Institution: Dallas-Fort Worth Area (Dollar amounts in billions of 2024 dollars)				
University	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Southern Methodist University	$0.939	$0.502	$0.350	5,914
Texas A&M Commerce	$0.452	$0.242	$0.169	2,849
Texas Christian University	$0.887	$0.474	$0.331	5,586
Texas Woman's University	$0.552	$0.295	$0.206	3,480
University of North Texas	$1.663	$0.889	$0.621	10,480
University of North Texas Dallas	$0.189	$0.101	$0.071	1,191
University of Texas at Arlington	$1.470	$0.786	$0.548	9,260
University of Texas at Dallas	$1.306	$0.698	$0.487	8,230
West Coast University Texas	$0.073	$0.039	$0.027	459
Total, All Universities	**$7.531**	**$4.025**	**$2.809**	**47,447**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
University of Texas Southwestern Medical Center	$10.273	$5.426	$3.769	57,922
University of North Texas Health Science Center	$0.572	$0.302	$0.210	3,226
Texas Tech University Health Science Center Dallas	$0.029	$0.015	$0.011	162
Total, All Medical Education Institutions	**$10.874**	**$5.743**	**$3.990**	**61,311**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Dallas College	$1.456	$0.778	$0.543	9,173
TOTAL, ALL INSTITUTIONS	**$19.861**	**$10.547**	**$7.343**	**117,931**

Sources: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. These benefits are a subset of the overall totals described elsewhere in this report. Medical education includes only the educational component and excludes health care services. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Components may not sum to totals due to independent rounding.

Operations Impacts by Institution: Texas
(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Jobs
Southern Methodist University	$1.032	$0.534	$0.371	6,212
Texas A&M Commerce	$0.497	$0.257	$0.179	2,993
Texas Christian University	$0.975	$0.505	$0.350	5,867
Texas Woman's University	$0.607	$0.314	$0.218	3,655
University of North Texas	$1.829	$0.947	$0.657	11,009
University of North Texas Dallas	$0.208	$0.108	$0.075	1,251
University of Texas at Arlington	$1.616	$0.836	$0.580	9,727
University of Texas at Dallas	$1.436	$0.743	$0.516	8,645
West Coast University Texas	$0.080	$0.041	$0.029	482
Total, All Universities	**$8.279**	**$4.286**	**$2.974**	**49,841**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
University of Texas Southwestern Medical Center	$11.349	$5.793	$3.997	61,124
University of North Texas Health Science Center	$0.632	$0.323	$0.223	3,405
Texas Tech University Health Science Center Dallas	$0.032	$0.016	$0.011	171
Total, All Medical Education Institutions	**$12.013**	**$6.132**	**$4.231**	**64,700**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Dallas College	$1.601	$0.829	$0.575	9,636
TOTAL, ALL INSTITUTIONS	**$21.892**	**$11.246**	**$7.780**	**124,177**

Sources: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. These benefits are a subset of the overall totals described elsewhere in this report. Medical education includes only the educational component and excludes health care services. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Components may not sum to totals due to independent rounding.

Net Student Spending Impacts by Institution: Dallas-Fort Worth Area
(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Jobs
Southern Methodist University	$0.175	$0.086	$0.053	905
Texas A&M Commerce	$0.078	$0.039	$0.024	403
Texas Christian University	$0.201	$0.099	$0.061	1,037
Texas Woman's University	$0.098	$0.048	$0.030	507
University of North Texas	$0.501	$0.248	$0.153	2,590
University of North Texas Dallas	$0.023	$0.011	$0.007	119
University of Texas at Arlington	$0.379	$0.187	$0.115	1,957
University of Texas at Dallas	$0.376	$0.186	$0.115	1,945
West Coast University Texas	$0.011	$0.005	$0.003	55
Total, All Universities	**$1.841**	**$0.910**	**$0.561**	**9,518**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
University of Texas Southwestern Medical Center	$0.734	$0.363	$0.224	3,795
University of North Texas Health Science Center	$0.257	$0.127	$0.078	1,330
Texas Tech University Health Science Center Dallas	$0.504	$0.249	$0.154	2,604
Total, All Medical Education Institutions	**$1.495**	**$0.739**	**$0.456**	**7,729**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Dallas College	$0.444	$0.219	$0.135	2,295
TOTAL, ALL INSTITUTIONS	**$3.779**	**$1.868**	**$1.153**	**19,541**

Sources: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. These benefits are a subset of the overall totals described elsewhere in this report. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Components may not sum to totals due to independent rounding.

Net Student Spending Impacts by Institution: Texas
(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Jobs
Southern Methodist University	$0.192	$0.092	$0.057	954
Texas A&M Commerce	$0.085	$0.041	$0.025	425
Texas Christian University	$0.220	$0.106	$0.065	1,094
Texas Woman's University	$0.107	$0.052	$0.032	534
University of North Texas	$0.549	$0.264	$0.163	2,732
University of North Texas Dallas	$0.025	$0.012	$0.008	126
University of Texas at Arlington	$0.415	$0.199	$0.123	2,064
University of Texas at Dallas	$0.412	$0.198	$0.122	2,051
West Coast University Texas	$0.012	$0.006	$0.003	58
Total, All Universities	**$2.018**	**$0.969**	**$0.598**	**10,039**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
University of Texas Southwestern Medical Center	$0.804	$0.386	$0.239	4,002
University of North Texas Health Science Center	$0.282	$0.135	$0.084	1,403
Texas Tech University Health Science Center Dallas	$0.552	$0.265	$0.164	2,747
Total, All Medical Education Institutions	**$1.638**	**$0.787**	**$0.486**	**8,151**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Dallas College	$0.486	$0.234	$0.144	2,420
TOTAL, ALL INSTITUTIONS	**$4.142**	**$1.989**	**$1.229**	**20,610**

Sources: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. These benefits are a subset of the overall totals described elsewhere in this report. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Components may not sum to totals due to independent rounding.

Visitor Spending Impacts by Institution: Dallas-Fort Worth Area
(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Jobs
Southern Methodist University	$0.143	$0.080	$0.048	868
Texas A&M Commerce	$0.034	$0.019	$0.012	209
Texas Christian University	$0.164	$0.091	$0.055	995
Texas Woman's University	$0.044	$0.024	$0.015	265
University of North Texas	$0.246	$0.137	$0.083	1,491
University of North Texas Dallas	$0.010	$0.006	$0.003	62
University of Texas at Arlington	$0.186	$0.103	$0.062	1,127
University of Texas at Dallas	$0.166	$0.092	$0.056	1,007
West Coast University Texas	$0.004	$0.002	$0.001	25
Total, All Universities	**$0.997**	**$0.555**	**$0.335**	**6,049**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
University of Texas Southwestern Medical Center	$0.161	$0.089	$0.054	975
University of North Texas Health Science Center	$0.028	$0.016	$0.009	171
Texas Tech University Health Science Center Dallas	$0.018	$0.010	$0.006	112
Total, All Medical Education Institutions	**$0.207**	**$0.115**	**$0.070**	**1,257**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Dallas College	$0.087	$0.048	$0.029	528
TOTAL, ALL INSTITUTIONS	**$1.291**	**$0.719**	**$0.434**	**7,835**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. These benefits are a subset of the overall totals described elsewhere in this report. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Components may not sum to totals due to independent rounding.

Visitor Spending Impacts by Institution: Texas
(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Jobs
Southern Methodist University	$0.157	$0.084	$0.051	910
Texas A&M Commerce	$0.038	$0.020	$0.012	219
Texas Christian University	$0.180	$0.097	$0.059	1,044
Texas Woman's University	$0.048	$0.026	$0.016	278
University of North Texas	$0.270	$0.145	$0.088	1,564
University of North Texas Dallas	$0.011	$0.006	$0.004	65
University of Texas at Arlington	$0.204	$0.110	$0.066	1,182
University of Texas at Dallas	$0.183	$0.098	$0.059	1,057
West Coast University Texas	$0.005	$0.002	$0.001	27
Total, All Universities	**$1.097**	**$0.588**	**$0.356**	**6,346**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
University of Texas Southwestern Medical Center	$0.177	$0.095	$0.057	1,023
University of North Texas Health Science Center	$0.031	$0.017	$0.010	179
Texas Tech University Health Science Center Dallas	$0.020	$0.011	$0.007	117
Total, All Medical Education Institutions	**$0.228**	**$0.122**	**$0.074**	**1,319**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Jobs**
Dallas College	$0.096	$0.051	$0.031	554
TOTAL, ALL INSTITUTIONS	**$1.421**	**$0.762**	**$0.461**	**8,219**

Sources: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. These benefits are a subset of the overall totals described elsewhere in this report. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Components may not sum to totals due to independent rounding.

Recent and Planned Construction Impacts by Institution: Dallas-Fort Worth Area

(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Job-Years
Southern Methodist University	$2.868	$1.387	$0.942	12,803
Texas A&M Commerce	$0.113	$0.055	$0.037	506
Texas Christian University	$3.008	$1.455	$0.988	13,427
Texas Woman's University	$1.071	$0.518	$0.352	4,780
University of North Texas	$0.850	$0.411	$0.279	3,793
University of North Texas Dallas	$1.577	$0.763	$0.518	7,041
University of Texas at Arlington	$0.875	$0.423	$0.287	3,907
University of Texas at Dallas	$3.683	$1.781	$1.209	16,442
West Coast University Texas	NA	NA	NA	NA
Total, All Universities	**$14.044**	**$6.793**	**$4.611**	**62,698**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Job-Years**
University of Texas Southwestern Medical Center	$21.700	$10.454	$7.092	96,475
University of North Texas Health Science Center	$0.344	$0.166	$0.112	1,528
Texas Tech University Health Science Center Dallas	$0.003	$0.002	$0.001	15
Total, All Medical Education Institutions	**$22.047**	**$10.622**	**$7.205**	**98,018**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Job-Years**
Dallas College	$0.881	$0.426	$0.289	3,935
TOTAL, ALL INSTITUTIONS	**$36.973**	**$17.841**	**$12.106**	**164,650**

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Recent projects are projects within the last five years. Dallas College has other funding capability authorized, but the timing and magnitude of any additional construction is unknown and thus not included. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Employment is measured in job-years (one person working for one year, though it could be multiple individuals working partial years) due to the transitory nature of construction projects. Components may not sum to totals due to independent rounding.

Recent and Planned Construction Impacts by Institution: Texas

(Dollar amounts in billions of 2024 dollars)

University	Total Expenditures	Gross Product	Personal Income	Job-Years
Southern Methodist University	$3.160	$1.490	$1.006	13,722
Texas A&M Commerce	$0.125	$0.059	$0.040	542
Texas Christian University	$3.315	$1.563	$1.055	14,391
Texas Woman's University	$1.180	$0.556	$0.376	5,123
University of North Texas	$0.936	$0.441	$0.298	4,065
University of North Texas Dallas	$1.738	$0.819	$0.553	7,546
University of Texas at Arlington	$0.964	$0.455	$0.307	4,188
University of Texas at Dallas	$4.059	$1.914	$1.292	17,622
West Coast University Texas	NA	NA	NA	NA
Total, All Universities	**$15.477**	**$7.297**	**$4.928**	**67,197**
Medical Education*	**Total Expenditures**	**Gross Product**	**Personal Income**	**Job-Years**
University of Texas Southwestern Medical Center	$23.961	$11.249	$7.592	103,560
University of North Texas Health Science Center	$0.379	$0.178	$0.120	1,640
Texas Tech University Health Science Center Dallas	$0.004	$0.002	$0.001	16
Total, All Medical Education Institutions	**$24.344**	**$11.429**	**$7.713**	**105,216**
Community College	**Total Expenditures**	**Gross Product**	**Personal Income**	**Job-Years**
Dallas College	$0.971	$0.458	$0.309	4,217
TOTAL, ALL INSTITUTIONS	**$40.792**	**$19.184**	**$12.951**	**176,630**

Sources: US Multi-Regional Impact Assessment System, The Perryman Group

Notes: Monetary values in billions of 2024 US dollars. The Dallas-Fort Worth area includes Wise, Denton, Collin, Hunt, Palo Pinto, Parker, Tarrant, Dallas, Rockwall, Kaufman, Erath, Hood, Johnson, Somervell, Ellis, and Navarro Counties. Recent projects are projects within the last five years. Dallas College has other funding capability authorized, but the timing and magnitude of any additional construction is unknown and thus not included. Note that input information provided may not be complete and was supplemented by research by The Perryman Group. Employment is measured in job-years (one person working for one year, though it could be multiple individuals working partial years) due to the transitory nature of construction projects. Components may not sum to totals due to independent rounding.

Detailed Results: Operations

The Impact of Current Operations Associated with Participating Universities on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$46.7 m	+$13.6 m	+$9.2 m	+112
Mining	+$64.5 m	+$14.8 m	+$8.0 m	+33
Utilities	+$259.6 m	+$58.6 m	+$25.6 m	+86
Construction	+$181.4 m	+$97.4 m	+$80.3 m	+892
Manufacturing	+$795.5 m	+$267.8 m	+$150.8 m	+1,942
Wholesale Trade	+$248.2 m	+$168.0 m	+$96.9 m	+871
Retail Trade*	+$1,032.0 m	+$770.6 m	+$447.4 m	+10,946
Transportation & Warehousing	+$241.8 m	+$159.5 m	+$105.5 m	+1,139
Information	+$170.1 m	+$104.9 m	+$44.8 m	+314
Financial Activities*	+$1,273.1 m	+$352.0 m	+$119.7 m	+971
Business Services	+$298.6 m	+$183.9 m	+$150.0 m	+1,444
Health Services	+$220.7 m	+$154.6 m	+$130.7 m	+1,711
Other Services	+$2,698.9 m	+$1,679.7 m	+$1,440.7 m	+26,988
Total, All Industries	**+$7,531.0 m**	**+$4,025.4 m**	**+$2,809.4 m**	**+47,447**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with Participating Universities on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$135.6 m	+$40.5 m	+$26.8 m	+333
Mining	+$110.3 m	+$25.7 m	+$14.3 m	+58
Utilities	+$426.4 m	+$96.4 m	+$42.1 m	+142
Construction	+$210.3 m	+$112.9 m	+$93.0 m	+1,034
Manufacturing	+$1,016.8 m	+$314.5 m	+$175.7 m	+2,200
Wholesale Trade	+$251.8 m	+$170.4 m	+$98.3 m	+882
Retail Trade*	+$1,098.5 m	+$821.3 m	+$477.0 m	+11,646
Transportation & Warehousing	+$245.0 m	+$161.7 m	+$106.9 m	+1,150
Information	+$173.5 m	+$106.9 m	+$45.7 m	+317
Financial Activities*	+$1,296.2 m	+$356.0 m	+$121.2 m	+987
Business Services	+$303.2 m	+$186.6 m	+$152.2 m	+1,469
Health Services	+$257.6 m	+$180.3 m	+$152.4 m	+1,998
Other Services	+$2,753.8 m	+$1,712.7 m	+$1,468.8 m	+27,624
Total, All Industries	**+$8,278.9 m**	**+$4,285.8 m**	**+$2,974.3 m**	**+49,841**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with Participating Medical Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$71.8 m	+$19.6 m	+$13.2 m	+158
Mining	+$94.1 m	+$21.5 m	+$11.6 m	+46
Utilities	+$361.3 m	+$81.8 m	+$35.7 m	+126
Construction	+$237.8 m	+$127.6 m	+$105.1 m	+1,170
Manufacturing	+$1,260.1 m	+$423.9 m	+$238.0 m	+3,064
Wholesale Trade	+$387.6 m	+$262.2 m	+$151.2 m	+1,366
Retail Trade*	+$1,477.6 m	+$1,102.7 m	+$640.1 m	+15,670
Transportation & Warehousing	+$333.0 m	+$222.8 m	+$147.4 m	+1,591
Information	+$241.6 m	+$149.0 m	+$63.6 m	+453
Financial Activities*	+$1,728.1 m	+$465.0 m	+$165.3 m	+1,355
Business Services	+$467.4 m	+$284.2 m	+$231.8 m	+2,243
Health Services	+$2,306.4 m	+$1,432.7 m	+$1,211.3 m	+15,850
Other Services	+$1,907.2 m	+$1,150.3 m	+$975.5 m	+18,219
Total, All Industries	**+$10,873.9 m**	**+$5,743.4 m**	**+$3,989.9 m**	**+61,311**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with Participating Medical Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$208.4 m	+$58.6 m	+$38.8 m	+480
Mining	+$161.6 m	+$37.6 m	+$20.9 m	+86
Utilities	+$589.9 m	+$133.9 m	+$58.4 m	+193
Construction	+$276.2 m	+$148.1 m	+$122.0 m	+1,360
Manufacturing	+$1,646.1 m	+$513.5 m	+$284.6 m	+3,496
Wholesale Trade	+$392.9 m	+$265.7 m	+$153.2 m	+1,379
Retail Trade*	+$1,574.1 m	+$1,176.2 m	+$683.0 m	+16,692
Transportation & Warehousing	+$337.6 m	+$226.0 m	+$149.5 m	+1,613
Information	+$246.6 m	+$152.1 m	+$64.9 m	+459
Financial Activities*	+$1,762.2 m	+$470.8 m	+$167.5 m	+1,376
Business Services	+$474.1 m	+$288.2 m	+$235.1 m	+2,265
Health Services	+$2,361.5 m	+$1,469.3 m	+$1,242.3 m	+16,258
Other Services	+$1,981.6 m	+$1,191.8 m	+$1,010.8 m	+19,043
Total, All Industries	**+$12,012.8 m**	**+$6,131.7 m**	**+$4,231.1 m**	**+64,700**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with Dallas College on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$9.0 m	+$2.6 m	+$1.8 m	+22
Mining	+$12.5 m	+$2.9 m	+$1.5 m	+6
Utilities	+$50.2 m	+$11.3 m	+$4.9 m	+17
Construction	+$35.1 m	+$18.8 m	+$15.5 m	+172
Manufacturing	+$153.8 m	+$51.8 m	+$29.2 m	+375
Wholesale Trade	+$48.0 m	+$32.5 m	+$18.7 m	+168
Retail Trade*	+$199.5 m	+$149.0 m	+$86.5 m	+2,116
Transportation & Warehousing	+$46.7 m	+$30.8 m	+$20.4 m	+220
Information	+$32.9 m	+$20.3 m	+$8.7 m	+61
Financial Activities*	+$246.1 m	+$68.1 m	+$23.1 m	+188
Business Services	+$57.7 m	+$35.5 m	+$29.0 m	+279
Health Services	+$42.7 m	+$29.9 m	+$25.3 m	+331
Other Services	+$521.8 m	+$324.7 m	+$278.5 m	+5,218
Total, All Industries	**+$1,456.0 m**	**+$778.3 m**	**+$543.2 m**	**+9,173**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with Dallas College on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$26.2 m	+$7.8 m	+$5.2 m	+64
Mining	+$21.3 m	+$5.0 m	+$2.8 m	+11
Utilities	+$82.4 m	+$18.6 m	+$8.1 m	+27
Construction	+$40.7 m	+$21.8 m	+$18.0 m	+200
Manufacturing	+$196.6 m	+$60.8 m	+$34.0 m	+425
Wholesale Trade	+$48.7 m	+$32.9 m	+$19.0 m	+171
Retail Trade*	+$212.4 m	+$158.8 m	+$92.2 m	+2,252
Transportation & Warehousing	+$47.4 m	+$31.3 m	+$20.7 m	+222
Information	+$33.5 m	+$20.7 m	+$8.8 m	+61
Financial Activities*	+$250.6 m	+$68.8 m	+$23.4 m	+191
Business Services	+$58.6 m	+$36.1 m	+$29.4 m	+284
Health Services	+$49.8 m	+$34.9 m	+$29.5 m	+386
Other Services	+$532.4 m	+$331.1 m	+$284.0 m	+5,341
Total, All Industries	**+$1,600.6 m**	**+$828.6 m**	**+$575.0 m**	**+9,636**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with All Participating Higher Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$127.5 m	+$35.9 m	+$24.2 m	+292
Mining	+$171.1 m	+$39.2 m	+$21.1 m	+85
Utilities	+$671.2 m	+$151.7 m	+$66.2 m	+229
Construction	+$454.3 m	+$243.8 m	+$200.9 m	+2,234
Manufacturing	+$2,209.4 m	+$743.5 m	+$418.0 m	+5,381
Wholesale Trade	+$683.8 m	+$462.6 m	+$266.8 m	+2,405
Retail Trade*	+$2,709.1 m	+$2,022.3 m	+$1,173.9 m	+28,732
Transportation & Warehousing	+$621.5 m	+$413.2 m	+$273.3 m	+2,950
Information	+$444.6 m	+$274.2 m	+$117.1 m	+829
Financial Activities*	+$3,247.3 m	+$885.1 m	+$308.1 m	+2,514
Business Services	+$823.7 m	+$503.6 m	+$410.8 m	+3,966
Health Services	+$2,569.7 m	+$1,617.2 m	+$1,367.4 m	+17,892
Other Services	+$5,127.9 m	+$3,154.8 m	+$2,694.8 m	+50,425
Total, All Industries	**+$19,861.0 m**	**+$10,547.1 m**	**+$7,342.5 m**	**+117,931**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Current Operations Associated with All Participating Higher Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$370.3 m	+$106.9 m	+$70.8 m	+878
Mining	+$293.2 m	+$68.2 m	+$38.0 m	+155
Utilities	+$1,098.7 m	+$248.9 m	+$108.6 m	+363
Construction	+$527.2 m	+$282.7 m	+$233.0 m	+2,594
Manufacturing	+$2,859.4 m	+$888.9 m	+$494.3 m	+6,122
Wholesale Trade	+$693.3 m	+$469.1 m	+$270.5 m	+2,432
Retail Trade*	+$2,885.0 m	+$2,156.3 m	+$1,252.1 m	+30,590
Transportation & Warehousing	+$629.9 m	+$419.0 m	+$277.1 m	+2,985
Information	+$453.6 m	+$279.7 m	+$119.4 m	+837
Financial Activities*	+$3,308.9 m	+$895.7 m	+$312.2 m	+2,555
Business Services	+$835.9 m	+$510.8 m	+$416.7 m	+4,018
Health Services	+$2,668.9 m	+$1,684.4 m	+$1,424.2 m	+18,641
Other Services	+$5,267.9 m	+$3,235.5 m	+$2,763.6 m	+52,007
Total, All Industries	**+$21,892.3 m**	**+$11,246.1 m**	**+$7,780.5 m**	**+124,177**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

Detailed Results: Student Spending

The Annual Impact of Net Incremental Student Spending Associated with Participating Universities on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$13.2 m	+$3.7 m	+$2.5 m	+31
Mining	+$19.1 m	+$4.4 m	+$2.4 m	+11
Utilities	+$109.6 m	+$24.6 m	+$10.7 m	+37
Construction	+$42.0 m	+$21.5 m	+$17.8 m	+198
Manufacturing	+$186.8 m	+$62.3 m	+$35.0 m	+461
Wholesale Trade	+$60.4 m	+$40.9 m	+$23.6 m	+212
Retail Trade*	+$529.2 m	+$399.5 m	+$232.7 m	+5,598
Transportation & Warehousing	+$56.3 m	+$38.7 m	+$25.6 m	+276
Information	+$58.7 m	+$36.3 m	+$15.5 m	+110
Financial Activities*	+$409.7 m	+$68.7 m	+$25.9 m	+215
Business Services	+$78.1 m	+$46.0 m	+$37.5 m	+362
Health Services	+$97.0 m	+$68.8 m	+$58.2 m	+762
Other Services	+$180.7 m	+$94.2 m	+$74.1 m	+1,246
Total, All Industries	**+$1,840.9 m**	**+$909.6 m**	**+$561.4 m**	**+9,518**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with Participating Universities on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$38.2 m	+$11.1 m	+$7.3 m	+91
Mining	+$32.7 m	+$7.6 m	+$4.4 m	+21
Utilities	+$144.9 m	+$32.5 m	+$14.2 m	+49
Construction	+$48.8 m	+$25.0 m	+$20.6 m	+229
Manufacturing	+$240.1 m	+$73.6 m	+$41.0 m	+522
Wholesale Trade	+$61.3 m	+$41.4 m	+$23.9 m	+215
Retail Trade*	+$544.0 m	+$410.8 m	+$239.3 m	+5,754
Transportation & Warehousing	+$57.1 m	+$39.2 m	+$25.9 m	+280
Information	+$59.5 m	+$36.8 m	+$15.7 m	+111
Financial Activities*	+$415.1 m	+$69.6 m	+$26.2 m	+218
Business Services	+$79.2 m	+$46.6 m	+$38.0 m	+366
Health Services	+$105.1 m	+$74.5 m	+$63.0 m	+824
Other Services	+$191.6 m	+$99.9 m	+$78.9 m	+1,358
Total, All Industries	**+$2,017.6 m**	**+$968.7 m**	**+$598.4 m**	**+10,039**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with Participating Medical Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$10.7 m	+$3.0 m	+$2.0 m	+25
Mining	+$15.5 m	+$3.6 m	+$2.0 m	+9
Utilities	+$89.0 m	+$20.0 m	+$8.7 m	+30
Construction	+$34.1 m	+$17.5 m	+$14.4 m	+161
Manufacturing	+$151.7 m	+$50.6 m	+$28.4 m	+374
Wholesale Trade	+$49.1 m	+$33.2 m	+$19.1 m	+172
Retail Trade*	+$429.7 m	+$324.4 m	+$188.9 m	+4,546
Transportation & Warehousing	+$45.7 m	+$31.4 m	+$20.8 m	+224
Information	+$47.7 m	+$29.5 m	+$12.6 m	+89
Financial Activities*	+$332.6 m	+$55.8 m	+$21.0 m	+175
Business Services	+$63.4 m	+$37.3 m	+$30.5 m	+294
Health Services	+$78.8 m	+$55.9 m	+$47.3 m	+618
Other Services	+$146.7 m	+$76.5 m	+$60.1 m	+1,011
Total, All Industries	**+$1,494.8 m**	**+$738.6 m**	**+$455.8 m**	**+7,729**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with Participating Medical Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$31.1 m	+$9.0 m	+$5.9 m	+74
Mining	+$26.5 m	+$6.2 m	+$3.6 m	+17
Utilities	+$117.7 m	+$26.4 m	+$11.5 m	+40
Construction	+$39.6 m	+$20.3 m	+$16.7 m	+186
Manufacturing	+$195.0 m	+$59.8 m	+$33.3 m	+424
Wholesale Trade	+$49.7 m	+$33.7 m	+$19.4 m	+175
Retail Trade*	+$441.7 m	+$333.6 m	+$194.3 m	+4,672
Transportation & Warehousing	+$46.3 m	+$31.8 m	+$21.1 m	+227
Information	+$48.3 m	+$29.9 m	+$12.7 m	+91
Financial Activities*	+$337.1 m	+$56.5 m	+$21.3 m	+177
Business Services	+$64.3 m	+$37.8 m	+$30.9 m	+298
Health Services	+$85.3 m	+$60.5 m	+$51.1 m	+669
Other Services	+$155.6 m	+$81.1 m	+$64.0 m	+1,102
Total, All Industries	**+$1,638.3 m**	**+$786.6 m**	**+$485.9 m**	**+8,151**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with Dallas College on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$3.2 m	+$0.9 m	+$0.6 m	+7
Mining	+$4.6 m	+$1.1 m	+$0.6 m	+3
Utilities	+$26.4 m	+$5.9 m	+$2.6 m	+9
Construction	+$10.1 m	+$5.2 m	+$4.3 m	+48
Manufacturing	+$45.0 m	+$15.0 m	+$8.4 m	+111
Wholesale Trade	+$14.6 m	+$9.9 m	+$5.7 m	+51
Retail Trade*	+$127.6 m	+$96.3 m	+$56.1 m	+1,350
Transportation & Warehousing	+$13.6 m	+$9.3 m	+$6.2 m	+67
Information	+$14.2 m	+$8.7 m	+$3.7 m	+27
Financial Activities*	+$98.8 m	+$16.6 m	+$6.2 m	+52
Business Services	+$18.8 m	+$11.1 m	+$9.0 m	+87
Health Services	+$23.4 m	+$16.6 m	+$14.0 m	+184
Other Services	+$43.6 m	+$22.7 m	+$17.9 m	+300
Total, All Industries	**+$443.8 m**	**+$219.3 m**	**+$135.3 m**	**+2,295**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with Dallas College on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$9.2 m	+$2.7 m	+$1.8 m	+22
Mining	+$7.9 m	+$1.8 m	+$1.1 m	+5
Utilities	+$34.9 m	+$7.8 m	+$3.4 m	+12
Construction	+$11.8 m	+$6.0 m	+$5.0 m	+55
Manufacturing	+$57.9 m	+$17.7 m	+$9.9 m	+126
Wholesale Trade	+$14.8 m	+$10.0 m	+$5.8 m	+52
Retail Trade*	+$131.2 m	+$99.0 m	+$57.7 m	+1,387
Transportation & Warehousing	+$13.8 m	+$9.5 m	+$6.3 m	+68
Information	+$14.3 m	+$8.9 m	+$3.8 m	+27
Financial Activities*	+$100.1 m	+$16.8 m	+$6.3 m	+53
Business Services	+$19.1 m	+$11.2 m	+$9.2 m	+88
Health Services	+$25.3 m	+$18.0 m	+$15.2 m	+199
Other Services	+$46.2 m	+$24.1 m	+$19.0 m	+327
Total, All Industries	**+$486.4 m**	**+$233.6 m**	**+$144.3 m**	**+2,420**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with All Participating Higher Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$27.0 m	+$7.5 m	+$5.1 m	+63
Mining	+$39.2 m	+$9.0 m	+$5.0 m	+23
Utilities	+$225.1 m	+$50.5 m	+$22.0 m	+76
Construction	+$86.3 m	+$44.2 m	+$36.5 m	+406
Manufacturing	+$383.6 m	+$128.0 m	+$71.8 m	+946
Wholesale Trade	+$124.1 m	+$84.0 m	+$48.4 m	+436
Retail Trade*	+$1,086.5 m	+$820.1 m	+$477.7 m	+11,494
Transportation & Warehousing	+$115.6 m	+$79.5 m	+$52.6 m	+568
Information	+$120.6 m	+$74.5 m	+$31.8 m	+226
Financial Activities*	+$841.1 m	+$141.0 m	+$53.1 m	+442
Business Services	+$160.4 m	+$94.4 m	+$77.0 m	+742
Health Services	+$199.2 m	+$141.3 m	+$119.5 m	+1,564
Other Services	+$370.9 m	+$193.4 m	+$152.1 m	+2,557
Total, All Industries	**+$3,779.5 m**	**+$1,867.5 m**	**+$1,152.5 m**	**+19,541**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Net Incremental Student Spending Associated with All Participating Higher Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$78.5 m	+$22.8 m	+$14.9 m	+186
Mining	+$67.1 m	+$15.7 m	+$9.1 m	+43
Utilities	+$297.5 m	+$66.8 m	+$29.1 m	+100
Construction	+$100.1 m	+$51.3 m	+$42.3 m	+470
Manufacturing	+$493.0 m	+$151.1 m	+$84.2 m	+1,071
Wholesale Trade	+$125.8 m	+$85.1 m	+$49.1 m	+442
Retail Trade*	+$1,116.9 m	+$843.4 m	+$491.3 m	+11,814
Transportation & Warehousing	+$117.1 m	+$80.5 m	+$53.3 m	+575
Information	+$122.2 m	+$75.5 m	+$32.2 m	+229
Financial Activities*	+$852.3 m	+$142.9 m	+$53.8 m	+448
Business Services	+$162.5 m	+$95.7 m	+$78.0 m	+752
Health Services	+$215.8 m	+$153.0 m	+$129.3 m	+1,692
Other Services	+$393.4 m	+$205.0 m	+$161.9 m	+2,787
Total, All Industries	**+$4,142.3 m**	**+$1,988.9 m**	**+$1,228.6 m**	**+20,610**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

Detailed Results: Visitor Spending

The Annual Impact of Tourism and Visitor Spending Associated with Participating Universities on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$9.2 m	+$2.3 m	+$1.6 m	+20
Mining	+$9.0 m	+$2.0 m	+$1.1 m	+5
Utilities	+$28.8 m	+$6.6 m	+$2.9 m	+10
Construction	+$17.3 m	+$9.2 m	+$7.6 m	+84
Manufacturing	+$119.0 m	+$38.8 m	+$21.6 m	+286
Wholesale Trade	+$37.4 m	+$25.3 m	+$14.6 m	+131
Retail Trade*	+$352.9 m	+$258.7 m	+$149.3 m	+3,760
Transportation & Warehousing	+$86.3 m	+$62.2 m	+$41.2 m	+444
Information	+$22.7 m	+$14.0 m	+$6.0 m	+42
Financial Activities*	+$144.8 m	+$38.3 m	+$14.5 m	+120
Business Services	+$37.6 m	+$23.6 m	+$19.2 m	+185
Health Services	+$26.9 m	+$18.9 m	+$15.9 m	+209
Other Services	+$104.6 m	+$55.1 m	+$40.0 m	+753
Total, All Industries	**+$996.5 m**	**+$555.0 m**	**+$335.3 m**	**+6,049**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with Participating Universities on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$26.6 m	+$7.2 m	+$4.6 m	+58
Mining	+$15.3 m	+$3.5 m	+$1.9 m	+9
Utilities	+$47.4 m	+$10.9 m	+$4.8 m	+16
Construction	+$20.1 m	+$10.7 m	+$8.8 m	+98
Manufacturing	+$149.9 m	+$45.2 m	+$25.0 m	+321
Wholesale Trade	+$37.8 m	+$25.6 m	+$14.8 m	+133
Retail Trade*	+$361.3 m	+$265.1 m	+$153.1 m	+3,848
Transportation & Warehousing	+$86.8 m	+$62.5 m	+$41.3 m	+446
Information	+$23.2 m	+$14.2 m	+$6.1 m	+43
Financial Activities*	+$147.8 m	+$38.8 m	+$14.7 m	+122
Business Services	+$38.2 m	+$23.9 m	+$19.5 m	+188
Health Services	+$31.5 m	+$22.0 m	+$18.6 m	+244
Other Services	+$111.1 m	+$58.5 m	+$42.8 m	+820
Total, All Industries	**+$1,096.9 m**	**+$588.2 m**	**+$356.0 m**	**+6,346**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with Participating Medical Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$1.9 m	+$0.5 m	+$0.3 m	+4
Mining	+$1.9 m	+$0.4 m	+$0.2 m	+1
Utilities	+$6.0 m	+$1.4 m	+$0.6 m	+2
Construction	+$3.6 m	+$1.9 m	+$1.6 m	+18
Manufacturing	+$24.7 m	+$8.1 m	+$4.5 m	+59
Wholesale Trade	+$7.8 m	+$5.3 m	+$3.0 m	+27
Retail Trade*	+$73.4 m	+$53.8 m	+$31.0 m	+782
Transportation & Warehousing	+$17.9 m	+$12.9 m	+$8.6 m	+92
Information	+$4.7 m	+$2.9 m	+$1.2 m	+9
Financial Activities*	+$30.1 m	+$8.0 m	+$3.0 m	+25
Business Services	+$7.8 m	+$4.9 m	+$4.0 m	+38
Health Services	+$5.6 m	+$3.9 m	+$3.3 m	+43
Other Services	+$21.7 m	+$11.5 m	+$8.3 m	+156
Total, All Industries	**+$207.1 m**	**+$115.4 m**	**+$69.7 m**	**+1,257**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with Participating Medical Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$5.5 m	+$1.5 m	+$1.0 m	+12
Mining	+$3.2 m	+$0.7 m	+$0.4 m	+2
Utilities	+$9.9 m	+$2.3 m	+$1.0 m	+3
Construction	+$4.2 m	+$2.2 m	+$1.8 m	+20
Manufacturing	+$31.1 m	+$9.4 m	+$5.2 m	+67
Wholesale Trade	+$7.9 m	+$5.3 m	+$3.1 m	+28
Retail Trade*	+$75.1 m	+$55.1 m	+$31.8 m	+800
Transportation & Warehousing	+$18.0 m	+$13.0 m	+$8.6 m	+93
Information	+$4.8 m	+$3.0 m	+$1.3 m	+9
Financial Activities*	+$30.7 m	+$8.1 m	+$3.0 m	+25
Business Services	+$7.9 m	+$5.0 m	+$4.1 m	+39
Health Services	+$6.5 m	+$4.6 m	+$3.9 m	+51
Other Services	+$23.1 m	+$12.2 m	+$8.9 m	+170
Total, All Industries	**+$228.0 m**	**+$122.3 m**	**+$74.0 m**	**+1,319**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with Dallas College on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$0.8 m	+$0.2 m	+$0.1 m	+2
Mining	+$0.8 m	+$0.2 m	+$0.1 m	+0
Utilities	+$2.5 m	+$0.6 m	+$0.3 m	+1
Construction	+$1.5 m	+$0.8 m	+$0.7 m	+7
Manufacturing	+$10.4 m	+$3.4 m	+$1.9 m	+25
Wholesale Trade	+$3.3 m	+$2.2 m	+$1.3 m	+11
Retail Trade*	+$30.8 m	+$22.6 m	+$13.0 m	+328
Transportation & Warehousing	+$7.5 m	+$5.4 m	+$3.6 m	+39
Information	+$2.0 m	+$1.2 m	+$0.5 m	+4
Financial Activities*	+$12.6 m	+$3.3 m	+$1.3 m	+10
Business Services	+$3.3 m	+$2.1 m	+$1.7 m	+16
Health Services	+$2.3 m	+$1.6 m	+$1.4 m	+18
Other Services	+$9.1 m	+$4.8 m	+$3.5 m	+66
Total, All Industries	**+$87.0 m**	**+$48.5 m**	**+$29.3 m**	**+528**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with Dallas College on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$2.3 m	+$0.6 m	+$0.4 m	+5
Mining	+$1.3 m	+$0.3 m	+$0.2 m	+1
Utilities	+$4.1 m	+$1.0 m	+$0.4 m	+1
Construction	+$1.8 m	+$0.9 m	+$0.8 m	+9
Manufacturing	+$13.1 m	+$3.9 m	+$2.2 m	+28
Wholesale Trade	+$3.3 m	+$2.2 m	+$1.3 m	+12
Retail Trade*	+$31.6 m	+$23.2 m	+$13.4 m	+336
Transportation & Warehousing	+$7.6 m	+$5.5 m	+$3.6 m	+39
Information	+$2.0 m	+$1.2 m	+$0.5 m	+4
Financial Activities*	+$12.9 m	+$3.4 m	+$1.3 m	+11
Business Services	+$3.3 m	+$2.1 m	+$1.7 m	+16
Health Services	+$2.7 m	+$1.9 m	+$1.6 m	+21
Other Services	+$9.7 m	+$5.1 m	+$3.7 m	+72
Total, All Industries	**+$95.8 m**	**+$51.4 m**	**+$31.1 m**	**+554**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with All Participating Higher Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$11.9 m	+$3.0 m	+$2.0 m	+25
Mining	+$11.6 m	+$2.6 m	+$1.4 m	+6
Utilities	+$37.3 m	+$8.6 m	+$3.7 m	+13
Construction	+$22.4 m	+$11.9 m	+$9.8 m	+109
Manufacturing	+$154.2 m	+$50.3 m	+$28.0 m	+371
Wholesale Trade	+$48.4 m	+$32.8 m	+$18.9 m	+170
Retail Trade*	+$457.1 m	+$335.1 m	+$193.4 m	+4,870
Transportation & Warehousing	+$111.8 m	+$80.6 m	+$53.3 m	+576
Information	+$29.5 m	+$18.1 m	+$7.7 m	+55
Financial Activities*	+$187.5 m	+$49.6 m	+$18.7 m	+156
Business Services	+$48.8 m	+$30.5 m	+$24.9 m	+240
Health Services	+$34.8 m	+$24.4 m	+$20.6 m	+270
Other Services	+$135.5 m	+$71.4 m	+$51.8 m	+975
Total, All Industries	**+$1,290.7 m**	**+$718.9 m**	**+$434.3 m**	**+7,835**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Impact of Tourism and Visitor Spending Associated with All Participating Higher Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$34.5 m	+$9.3 m	+$6.0 m	+75
Mining	+$19.8 m	+$4.6 m	+$2.5 m	+11
Utilities	+$61.4 m	+$14.2 m	+$6.2 m	+21
Construction	+$26.1 m	+$13.9 m	+$11.4 m	+127
Manufacturing	+$194.1 m	+$58.5 m	+$32.4 m	+415
Wholesale Trade	+$49.0 m	+$33.1 m	+$19.1 m	+172
Retail Trade*	+$468.0 m	+$343.4 m	+$198.3 m	+4,984
Transportation & Warehousing	+$112.4 m	+$81.0 m	+$53.6 m	+578
Information	+$30.0 m	+$18.5 m	+$7.9 m	+56
Financial Activities*	+$191.4 m	+$50.3 m	+$19.0 m	+158
Business Services	+$49.5 m	+$30.9 m	+$25.2 m	+243
Health Services	+$40.7 m	+$28.5 m	+$24.1 m	+316
Other Services	+$144.0 m	+$75.7 m	+$55.5 m	+1,062
Total, All Industries	**+$1,420.8 m**	**+$761.9 m**	**+$461.1 m**	**+8,219**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

Detailed Results: Research

The Annual Benefits of the Recent (Last Five Years) Research and Related Programs Associated with Participating Universities on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$6.0 m	+$1.7 m	+$1.1 m	+14
Mining	+$18.4 m	+$4.4 m	+$2.3 m	+12
Utilities	+$41.6 m	+$9.2 m	+$4.0 m	+14
Construction	+$18.7 m	+$10.1 m	+$8.4 m	+93
Manufacturing	+$658.0 m	+$248.7 m	+$146.8 m	+1,215
Wholesale Trade	+$55.3 m	+$37.4 m	+$21.6 m	+194
Retail Trade*	+$128.9 m	+$95.9 m	+$55.6 m	+1,369
Transportation & Warehousing	+$42.0 m	+$27.2 m	+$18.0 m	+194
Information	+$21.8 m	+$13.5 m	+$5.7 m	+41
Financial Activities*	+$136.7 m	+$35.8 m	+$14.3 m	+118
Business Services	+$44.7 m	+$27.2 m	+$22.2 m	+214
Health Services	+$27.2 m	+$19.1 m	+$16.1 m	+211
Other Services	+$54.0 m	+$27.8 m	+$22.0 m	+408
Total, All Industries	**+$1,253.4 m**	**+$557.8 m**	**+$338.1 m**	**+4,096**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Benefits of the Recent (Last Five Years) Research and Related Programs Associated with Participating Universities on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$17.8 m	+$5.1 m	+$3.4 m	+43
Mining	+$32.8 m	+$8.1 m	+$4.5 m	+24
Utilities	+$73.9 m	+$16.2 m	+$7.1 m	+24
Construction	+$22.2 m	+$12.0 m	+$9.9 m	+110
Manufacturing	+$759.6 m	+$280.2 m	+$163.9 m	+1,351
Wholesale Trade	+$56.3 m	+$38.1 m	+$22.0 m	+198
Retail Trade*	+$142.2 m	+$105.9 m	+$61.5 m	+1,509
Transportation & Warehousing	+$42.9 m	+$27.8 m	+$18.4 m	+199
Information	+$22.8 m	+$14.1 m	+$6.0 m	+43
Financial Activities*	+$143.3 m	+$36.9 m	+$14.7 m	+121
Business Services	+$46.1 m	+$28.0 m	+$22.8 m	+219
Health Services	+$32.8 m	+$22.9 m	+$19.4 m	+254
Other Services	+$62.2 m	+$32.1 m	+$25.6 m	+488
Total, All Industries	**+$1,454.9 m**	**+$627.5 m**	**+$379.0 m**	**+4,581**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Benefits of the Recent (Last Five Years) Research and Related Programs Associated with Participating Medical Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$21.0 m	+$11.9 m	+$10.6 m	+52
Mining	+$121.9 m	+$61.3 m	+$29.2 m	+70
Utilities	+$196.5 m	+$83.5 m	+$65.4 m	+60
Construction	+$214.4 m	+$126.7 m	+$107.0 m	+995
Manufacturing	+$1,530.5 m	+$1,115.6 m	+$1,024.8 m	+3,486
Wholesale Trade	+$288.4 m	+$244.8 m	+$186.6 m	+1,089
Retail Trade*	+$1,024.7 m	+$857.1 m	+$622.4 m	+11,228
Transportation & Warehousing	+$271.2 m	+$183.0 m	+$146.6 m	+1,149
Information	+$185.0 m	+$141.4 m	+$94.3 m	+358
Financial Activities*	+$1,351.5 m	+$633.7 m	+$433.4 m	+1,214
Business Services	+$435.6 m	+$341.1 m	+$298.8 m	+2,269
Health Services	+$455.5 m	+$364.5 m	+$313.0 m	+3,819
Other Services	+$1,203.5 m	+$1,045.1 m	+$1,005.0 m	+3,571
Total, All Industries	**+$7,299.6 m**	**+$5,209.5 m**	**+$4,337.1 m**	**+29,362**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Annual Benefits of the Recent (Last Five Years) Research and Related Programs Associated with Participating Medical Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$126.3 m	+$71.0 m	+$62.5 m	+308
Mining	+$448.6 m	+$224.8 m	+$104.0 m	+240
Utilities	+$449.3 m	+$190.9 m	+$149.6 m	+138
Construction	+$227.7 m	+$134.6 m	+$113.7 m	+1,057
Manufacturing	+$2,479.4 m	+$1,843.3 m	+$1,718.7 m	+4,619
Wholesale Trade	+$306.3 m	+$260.0 m	+$198.2 m	+1,156
Retail Trade*	+$1,088.4 m	+$910.3 m	+$661.1 m	+11,926
Transportation & Warehousing	+$288.1 m	+$194.3 m	+$155.7 m	+1,221
Information	+$196.4 m	+$150.2 m	+$100.1 m	+381
Financial Activities*	+$1,435.5 m	+$673.1 m	+$460.3 m	+1,289
Business Services	+$462.6 m	+$362.3 m	+$317.4 m	+2,410
Health Services	+$483.8 m	+$387.2 m	+$332.5 m	+4,057
Other Services	+$1,305.6 m	+$1,137.3 m	+$1,094.7 m	+3,810
Total, All Industries	**+$9,298.0 m**	**+$6,539.2 m**	**+$5,468.5 m**	**+32,611**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

Detailed Results: Recent and Planned Construction

The Impact of Recent and Planned Construction Projects Associated with Participating Universities on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$73.6 m	+$21.0 m	+$14.1 m	+177
Mining	+$118.8 m	+$29.3 m	+$16.0 m	+82
Utilities	+$356.8 m	+$80.5 m	+$35.1 m	+121
Construction	+$4,412.0 m	+$2,016.9 m	+$1,662.0 m	+18,496
Manufacturing	+$2,356.0 m	+$876.1 m	+$514.7 m	+6,588
Wholesale Trade	+$601.5 m	+$406.9 m	+$234.6 m	+2,111
Retail Trade*	+$1,810.8 m	+$1,368.2 m	+$797.2 m	+19,145
Transportation & Warehousing	+$435.9 m	+$291.1 m	+$192.5 m	+2,079
Information	+$272.4 m	+$167.7 m	+$71.6 m	+508
Financial Activities*	+$1,774.8 m	+$436.5 m	+$176.3 m	+1,471
Business Services	+$765.9 m	+$482.5 m	+$393.6 m	+3,793
Health Services	+$370.0 m	+$259.3 m	+$219.2 m	+2,869
Other Services	+$695.6 m	+$357.1 m	+$284.2 m	+5,256
Total, All Industries	**+$14,044.3 m**	**+$6,793.2 m**	**+$4,611.3 m**	**+62,698**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with Participating Universities on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$215.4 m	+$63.3 m	+$41.8 m	+522
Mining	+$211.6 m	+$54.6 m	+$30.8 m	+170
Utilities	+$573.7 m	+$129.7 m	+$56.6 m	+195
Construction	+$4,445.8 m	+$2,034.7 m	+$1,676.8 m	+18,660
Manufacturing	+$2,944.1 m	+$1,028.3 m	+$603.1 m	+7,505
Wholesale Trade	+$608.5 m	+$411.7 m	+$237.4 m	+2,136
Retail Trade*	+$1,941.4 m	+$1,468.6 m	+$856.0 m	+20,521
Transportation & Warehousing	+$442.4 m	+$295.6 m	+$195.5 m	+2,111
Information	+$279.2 m	+$171.9 m	+$73.4 m	+521
Financial Activities*	+$1,822.2 m	+$444.5 m	+$179.2 m	+1,496
Business Services	+$774.9 m	+$487.8 m	+$397.9 m	+3,835
Health Services	+$434.1 m	+$303.9 m	+$256.9 m	+3,362
Other Services	+$783.6 m	+$402.4 m	+$322.7 m	+6,164
Total, All Industries	**+$15,477.1 m**	**+$7,297.0 m**	**+$4,928.1 m**	**+67,197**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with Participating Medical Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$115.3 m	+$32.9 m	+$22.2 m	+277
Mining	+$191.9 m	+$47.4 m	+$25.8 m	+133
Utilities	+$558.2 m	+$125.7 m	+$54.9 m	+188
Construction	+$6,988.7 m	+$3,156.4 m	+$2,601.1 m	+28,945
Manufacturing	+$3,645.3 m	+$1,350.1 m	+$792.3 m	+10,093
Wholesale Trade	+$961.5 m	+$650.5 m	+$375.1 m	+3,375
Retail Trade*	+$2,845.5 m	+$2,151.2 m	+$1,253.5 m	+30,089
Transportation & Warehousing	+$695.5 m	+$464.1 m	+$306.9 m	+3,314
Information	+$426.6 m	+$263.3 m	+$112.4 m	+798
Financial Activities*	+$2,777.6 m	+$684.2 m	+$276.4 m	+2,308
Business Services	+$1,161.6 m	+$728.5 m	+$594.2 m	+5,727
Health Services	+$578.8 m	+$405.4 m	+$342.8 m	+4,486
Other Services	+$1,100.5 m	+$561.9 m	+$447.6 m	+8,285
Total, All Industries	**+$22,047.0 m**	**+$10,621.7 m**	**+$7,205.2 m**	**+98,018**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with Participating Medical Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$337.4 m	+$99.4 m	+$65.5 m	+818
Mining	+$341.6 m	+$88.4 m	+$49.7 m	+275
Utilities	+$898.6 m	+$202.6 m	+$88.4 m	+305
Construction	+$7,042.0 m	+$3,184.5 m	+$2,624.2 m	+29,204
Manufacturing	+$4,601.5 m	+$1,598.4 m	+$938.0 m	+11,594
Wholesale Trade	+$972.8 m	+$658.1 m	+$379.5 m	+3,415
Retail Trade*	+$3,054.2 m	+$2,311.7 m	+$1,347.5 m	+32,286
Transportation & Warehousing	+$706.0 m	+$471.3 m	+$311.7 m	+3,365
Information	+$437.5 m	+$270.1 m	+$115.3 m	+820
Financial Activities*	+$2,854.1 m	+$697.0 m	+$281.3 m	+2,348
Business Services	+$1,176.2 m	+$737.1 m	+$601.2 m	+5,796
Health Services	+$679.7 m	+$475.6 m	+$402.1 m	+5,262
Other Services	+$1,242.0 m	+$634.3 m	+$509.0 m	+9,728
Total, All Industries	**+$24,343.7 m**	**+$11,428.6 m**	**+$7,713.4 m**	**+105,216**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with Dallas College on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$4.6 m	+$1.3 m	+$0.9 m	+11
Mining	+$7.5 m	+$1.8 m	+$1.0 m	+5
Utilities	+$22.4 m	+$5.1 m	+$2.2 m	+8
Construction	+$276.9 m	+$126.6 m	+$104.3 m	+1,161
Manufacturing	+$147.8 m	+$55.0 m	+$32.3 m	+413
Wholesale Trade	+$37.7 m	+$25.5 m	+$14.7 m	+132
Retail Trade*	+$113.6 m	+$85.9 m	+$50.0 m	+1,201
Transportation & Warehousing	+$27.4 m	+$18.3 m	+$12.1 m	+130
Information	+$17.1 m	+$10.5 m	+$4.5 m	+32
Financial Activities*	+$111.4 m	+$27.4 m	+$11.1 m	+92
Business Services	+$48.1 m	+$30.3 m	+$24.7 m	+238
Health Services	+$23.2 m	+$16.3 m	+$13.8 m	+180
Other Services	+$43.7 m	+$22.4 m	+$17.8 m	+330
Total, All Industries	**+$881.3 m**	**+$426.3 m**	**+$289.4 m**	**+3,935**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with Dallas College on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$13.5 m	+$4.0 m	+$2.6 m	+33
Mining	+$13.3 m	+$3.4 m	+$1.9 m	+11
Utilities	+$36.0 m	+$8.1 m	+$3.6 m	+12
Construction	+$279.0 m	+$127.7 m	+$105.2 m	+1,171
Manufacturing	+$184.8 m	+$64.5 m	+$37.8 m	+471
Wholesale Trade	+$38.2 m	+$25.8 m	+$14.9 m	+134
Retail Trade*	+$121.8 m	+$92.2 m	+$53.7 m	+1,288
Transportation & Warehousing	+$27.8 m	+$18.5 m	+$12.3 m	+132
Information	+$17.5 m	+$10.8 m	+$4.6 m	+33
Financial Activities*	+$114.3 m	+$27.9 m	+$11.2 m	+94
Business Services	+$48.6 m	+$30.6 m	+$25.0 m	+241
Health Services	+$27.2 m	+$19.1 m	+$16.1 m	+211
Other Services	+$49.2 m	+$25.3 m	+$20.3 m	+387
Total, All Industries	**+$971.3 m**	**+$457.9 m**	**+$309.3 m**	**+4,217**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with All Participating Higher Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$193.5 m	+$55.2 m	+$37.2 m	+465
Mining	+$318.2 m	+$78.5 m	+$42.8 m	+220
Utilities	+$937.5 m	+$211.3 m	+$92.2 m	+317
Construction	+$11,677.6 m	+$5,299.9 m	+$4,367.4 m	+48,602
Manufacturing	+$6,149.2 m	+$2,281.2 m	+$1,339.4 m	+17,094
Wholesale Trade	+$1,600.8 m	+$1,083.0 m	+$624.4 m	+5,618
Retail Trade*	+$4,769.9 m	+$3,605.3 m	+$2,100.7 m	+50,436
Transportation & Warehousing	+$1,158.8 m	+$773.4 m	+$511.5 m	+5,523
Information	+$716.0 m	+$441.5 m	+$188.5 m	+1,338
Financial Activities*	+$4,663.8 m	+$1,148.1 m	+$463.7 m	+3,871
Business Services	+$1,975.6 m	+$1,241.2 m	+$1,012.5 m	+9,758
Health Services	+$972.0 m	+$681.0 m	+$575.8 m	+7,536
Other Services	+$1,839.7 m	+$941.4 m	+$749.6 m	+13,871
Total, All Industries	**+$36,972.7 m**	**+$17,841.2 m**	**+$12,105.9 m**	**+164,650**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars. A job-year is equivalent to one person working for one year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

The Impact of Recent and Planned Construction Projects Associated with All Participating Higher Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Job Years*
Agriculture	+$566.4 m	+$166.7 m	+$109.9 m	+1,373
Mining	+$566.5 m	+$146.4 m	+$82.4 m	+456
Utilities	+$1,508.4 m	+$340.4 m	+$148.6 m	+511
Construction	+$11,766.8 m	+$5,347.0 m	+$4,406.2 m	+49,035
Manufacturing	+$7,730.4 m	+$2,691.3 m	+$1,579.0 m	+19,570
Wholesale Trade	+$1,619.5 m	+$1,095.6 m	+$631.7 m	+5,685
Retail Trade*	+$5,117.4 m	+$3,872.5 m	+$2,257.2 m	+54,095
Transportation & Warehousing	+$1,176.3 m	+$785.4 m	+$519.4 m	+5,609
Information	+$734.2 m	+$452.8 m	+$193.3 m	+1,374
Financial Activities*	+$4,790.6 m	+$1,169.4 m	+$471.8 m	+3,937
Business Services	+$1,999.8 m	+$1,255.5 m	+$1,024.1 m	+9,872
Health Services	+$1,141.1 m	+$798.5 m	+$675.1 m	+8,835
Other Services	+$2,074.8 m	+$1,062.0 m	+$851.9 m	+16,279
Total, All Industries	**+$40,792.1 m**	**+$19,183.5 m**	**+$12,950.8 m**	**+176,630**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate.

Detailed Results: Graduates

The Estimated Annual Impact of Employed Graduates of Participating Universities on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$1,627.4 m	+$434.8 m	+$292.8 m	+3,680
Mining	+$10,645.4 m	+$2,395.2 m	+$1,161.8 m	+5,061
Utilities	+$10,865.7 m	+$2,391.6 m	+$1,043.6 m	+3,593
Construction	+$4,865.1 m	+$2,576.3 m	+$2,123.1 m	+23,626
Manufacturing	+$43,064.8 m	+$15,828.9 m	+$9,270.3 m	+104,617
Wholesale Trade	+$7,013.8 m	+$4,744.0 m	+$2,735.4 m	+24,611
Retail Trade*	+$24,393.1 m	+$18,148.3 m	+$10,524.7 m	+258,881
Transportation & Warehousing	+$7,863.1 m	+$5,089.7 m	+$3,366.1 m	+36,344
Information	+$10,182.5 m	+$6,293.8 m	+$2,687.0 m	+19,070
Financial Activities*	+$71,769.2 m	+$23,936.6 m	+$8,582.1 m	+67,668
Business Services	+$22,075.8 m	+$14,119.2 m	+$11,517.7 m	+111,015
Health Services	+$10,584.3 m	+$7,252.0 m	+$6,131.6 m	+80,240
Other Services	+$12,441.8 m	+$6,587.3 m	+$5,331.4 m	+98,837
Total, All Industries	**+$237,392.1 m**	**+$109,797.7 m**	**+$64,767.6 m**	**+837,243**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate. Adjusted for industrial employment patterns, retirees, unemployment, and labor force participation.

The Estimated Annual Impact of Employed Graduates of Participating Universities on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$5,110.4 m	+$1,401.3 m	+$928.3 m	+11,624
Mining	+$14,858.0 m	+$3,369.2 m	+$1,679.7 m	+7,467
Utilities	+$18,257.9 m	+$4,035.7 m	+$1,761.1 m	+6,062
Construction	+$6,822.2 m	+$3,611.1 m	+$2,975.8 m	+33,116
Manufacturing	+$60,843.4 m	+$21,179.3 m	+$12,301.0 m	+136,667
Wholesale Trade	+$8,575.3 m	+$5,800.3 m	+$3,344.5 m	+30,091
Retail Trade*	+$31,439.0 m	+$23,417.6 m	+$13,585.3 m	+333,566
Transportation & Warehousing	+$9,584.6 m	+$6,208.3 m	+$4,105.9 m	+44,332
Information	+$12,387.3 m	+$7,656.5 m	+$3,268.8 m	+23,199
Financial Activities*	+$87,287.5 m	+$28,984.8 m	+$10,395.4 m	+81,988
Business Services	+$26,763.3 m	+$17,109.3 m	+$13,956.8 m	+134,525
Health Services	+$13,852.1 m	+$9,501.4 m	+$8,033.5 m	+105,129
Other Services	+$16,487.3 m	+$8,712.4 m	+$7,080.6 m	+134,291
Total, All Industries	**+$312,268.1 m**	**+$140,987.2 m**	**+$83,416.7 m**	**+1,082,056**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate. Adjusted for industrial employment patterns, retirees, unemployment, and labor force participation.

The Estimated Annual Impact of Employed Graduates of Participating Local Medical Education Institutions on Business Activity in the Dallas-Fort Worth Area

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$145.2 m	+$38.8 m	+$26.1 m	+328
Mining	+$163.9 m	+$37.9 m	+$20.6 m	+96
Utilities	+$663.3 m	+$150.5 m	+$65.7 m	+226
Construction	+$358.5 m	+$190.3 m	+$156.9 m	+1,746
Manufacturing	+$2,268.2 m	+$759.7 m	+$426.0 m	+5,544
Wholesale Trade	+$706.8 m	+$478.1 m	+$275.7 m	+2,480
Retail Trade*	+$2,771.0 m	+$2,070.8 m	+$1,202.4 m	+29,385
Transportation & Warehousing	+$557.1 m	+$376.0 m	+$248.7 m	+2,685
Information	+$443.0 m	+$273.5 m	+$116.7 m	+829
Financial Activities*	+$3,083.7 m	+$805.5 m	+$303.2 m	+2,519
Business Services	+$848.7 m	+$514.8 m	+$420.0 m	+4,048
Health Services	+$6,623.7 m	+$4,486.4 m	+$3,793.3 m	+49,640
Other Services	+$1,118.4 m	+$579.2 m	+$461.8 m	+8,510
Total, All Industries	**+$19,751.5 m**	**+$10,761.6 m**	**+$7,517.0 m**	**+108,036**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate. Adjusted for industrial employment patterns, retirees, unemployment, and labor force participation.

The Estimated Annual Impact of Employed Graduates of Participating Local Medical Education Institutions on Business Activity in Texas

Results by Industry

Industry	Total Expenditures	Gross Product	Personal Income	Jobs
Agriculture	+$726.8 m	+$199.3 m	+$131.9 m	+1,650
Mining	+$535.8 m	+$125.5 m	+$70.3 m	+335
Utilities	+$1,989.1 m	+$452.6 m	+$197.5 m	+680
Construction	+$804.0 m	+$426.7 m	+$351.6 m	+3,913
Manufacturing	+$5,667.3 m	+$1,766.0 m	+$976.7 m	+12,167
Wholesale Trade	+$1,374.0 m	+$929.4 m	+$535.9 m	+4,822
Retail Trade*	+$5,640.2 m	+$4,219.2 m	+$2,450.7 m	+59,796
Transportation & Warehousing	+$1,084.8 m	+$732.4 m	+$484.4 m	+5,230
Information	+$866.1 m	+$534.6 m	+$228.2 m	+1,620
Financial Activities*	+$6,026.0 m	+$1,563.8 m	+$588.5 m	+4,889
Business Services	+$1,651.5 m	+$1,001.4 m	+$816.9 m	+7,874
Health Services	+$12,939.9 m	+$8,757.3 m	+$7,404.4 m	+96,896
Other Services	+$2,392.5 m	+$1,240.3 m	+$995.7 m	+18,928
Total, All Industries	**+$41,698.2 m**	**+$21,948.4 m**	**+$15,232.7 m**	**+218,799**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in millions of 2024 US dollars per year. Components may not sum due to rounding. Retail Trade includes Restaurants, Financial Activities includes Real Estate. Adjusted for industrial employment patterns, retirees, unemployment, and labor force participation.