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Perryman CPRIT Impact Appendices

An Economic Assessment of the Cost of Cancer in Texas and the Benefits of the Cancer Prevention and Research Institute of Texas (CPRIT) and its Programs:

2018 Update

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Introduction

The Cancer Prevention and Research Institute of Texas (CPRIT) has been working to reduce the tragically high human and financial cost of cancer since 2010. CPRIT has helped attract 165 leading cancer research scientists and their labs to Texas (including members of the prestigious National Academy of Sciences) as well as recruit 11 companies. **CPRIT scholar Dr. James Allison, who was recruited to MD Anderson Cancer Center as part of a $10 million CPRIT grant in 2011, was recently awarded the 2018 Nobel Prize in physiology or medicine,** along with Tasuku Honjo, for his work in cancer immunotherapy. Many other CPRIT scholars have received other prestigious awards as well.

Reducing the burden of cancer provides benefits to individuals, families, hospitals, state and local governments, insurance providers, and society as a whole.

CPRIT has also funded research projects which have resulted in over 2,500 publications, almost 600 new patents and patent applications, more than 100 clinical trials with over 13,000 patients. In addition, CPRIT grants for screening and related education have provided almost five million prevention services and are improving access to lifesaving testing for some of the state's most vulnerable populations.

Reducing the burden of cancer provides benefits to individuals, families, hospitals, state and local governments, insurance providers, and society as a whole. Through research and prevention/screening, cancer incidence and severity can be notably reduced, providing relief in terms of health outcomes and quality of life, as well as the economy. Medical outlays can be decreased through earlier detection, and improving results benefit both patients and society as a whole through enhancing the productivity and lifespan of those affected by cancer. In addition, research activity, apart from its primary mission to drive fundamental breakthroughs, can serve as a catalyst for business development in related industries (such as biomedicine).

In addition to their positive effect on health and wellbeing, CPRIT activities generate sizable economic benefits.

In addition to their positive effect on health and wellbeing, CPRIT activities generate sizable economic benefits. The Perryman Group (TPG) has quantified the cost of cancer in Texas and the economic benefits of CPRIT for several years. This report updates the findings from TPG's analysis utilizing the most recent data regarding cancer incidence and results to date from CPRIT grants, following the same general methodology and report structure to aid in comparisons of results across years.

Summary of Study Results

- The direct **cost of cancer** in Texas, as traditionally measured, is estimated to be **$40.3 billion** in 2018 (about $1.5 billion higher than in 2017), with total economic losses (including spinoff effects) of an estimated **$104.6 billion** in output and **1,064,595** jobs.

- The **current total annual impact of all CPRIT operations, prevention/screening, and research programs** (including initial outlays and multiplier effects) includes **$719.8 million** in output (real gross product) in 2018 as well as **10,132** jobs. When all secondary and downstream benefits are considered, these values rise to **$12.4 billion** in output and **110,265** jobs.

- This incremental business activity generates **taxes for the State and local governments**. For Texas, annual tax receipts associated with CPRIT grants and programs (including downstream effects) total **$551.2 million** in 2018; local public entities receive **$249.8 million**. Over the ten-year life of the current commitment, these gross incremental taxes are expected to total just under $5.8 billion for the State and almost $2.7 billion for local governments. The net incremental taxes (which nets out the potential benefits of other typical uses of State funds over the ten-year period) include nearly $5.5 billion to the State and about $2.5 billion to local governments. These amounts are well in excess of the total commitment of State resources.

Every Dollar Invested Through CPRIT Returns: (Including Initial Outlays and Secondary (Downstream) Effects)	
$25.75	**In Treatment Cost Savings and Resulting Economic Benefits through Earlier Detection from Prevention/Screening Activity in 2018**
$70.32	**In Economic Activity (Total Expenditures) in 2018**
$39.41	**In Output (Real Gross Product) in 2018**
$27.41	**In Personal Income in 2018**
$9.38	**In Retail Sales in 2018**
$2.08	**In State Tax Receipts as of the 10th Year of Operation (assuming stabilized levels of awards)**
$0.94	**In Local Government Tax Receipts as of the 10th Year of Operation (assuming stabilized levels of awards)**
Source: The Perryman Group	

- **If funding for CPRIT is not renewed**, the net cumulative economic losses over the initial 10 years of these initiatives not being continued include an estimated **$141.7 billion in lost gross product and some 1,207,479 lost person-years of employment, as well as billions in foregone tax receipts to the State and local governments.**

- **Basic medical research is also a part of society's essential infrastructure, and CPRIT has demonstrated the capacity to enhance the health of Texans and the economy at a pace that far exceeds the direct investment.**
- These results are explained more fully in subsequent sections and the Appendices report.

Report Components

An approach consistent to prior years was used where possible in this 2018 update. At present, the initial CPRIT grants have been in place for more than eight years. Recipients have reported progress, hiring, matching funds, and other key performance metrics. Firms have also located to Texas as a result of CPRIT efforts. This information was used in assessing the economic impacts related to research to the extent possible and, as in last year's update, were used to validate model results. The major components of The Perryman Group's analysis include the following:

The **economic cost of cancer** in terms of Texas business activity including losses stemming from treatment, morbidity, and mortality as well as the associated spillover effects are initially estimated. Data regarding the numbers of Texans with cancer and the associated costs for direct medical expenses, morbidity costs, and mortality are the subject of reports by entities such as the National Institutes of Health, the American Cancer Society, the National Cancer Institute (Centers for Disease Control (CDC)), and the Texas Cancer Registry (Texas Department of State Health Services). The projected costs of cancer treatment in 2020 and an estimated breakout of cancer expenditures by payer in 2017 are also given: both of these elements are newer features of the report which were included for the first time in the 2015 edition. A new addition to last year's report that is being continued is an analysis of the losses associated with the top four cancer sites for annual deaths in Texas for 2018, which include lung and bronchus, colorectal, breast, and pancreas.

The **overall effect of CPRIT operations** on business activity in Texas (including multiplier effects) is estimated using input data regarding direct expenditures and operations employment at the Institute.

The **positive economic benefits of CPRIT-supported cancer prevention and screening programs** are also assessed, including both the increase in business activity due to the screenings themselves and the associated benefits from improved health. The effects of matching funds generated by CPRIT programs were also included. As of the 2015 report, this aspect of the analysis made use of extensive updates of prior underlying research on the rates of return to prevention and screening efforts, thus resulting in somewhat greater measured effects than in earlier years.

Economic returns on research supported by the Institute (including the effects related to the specific outlays, actual and anticipated recruitment efforts for high quality scholars in relevant areas, typical returns on medical research investments, and spinoff companies that surface from such endeavors) were also evaluated. Again, associated matching funds are incorporated into the analysis. These returns have been updated this year to accommodate recent research results.

Some illustrative scenarios related to **potential economic development and social gains** (a new feature this year) stemming from the Institute's role as a catalyst for incremental business activity are provided, as well as others demonstrating the economic value of increased quality of life, longevity, and productivity from improved outcomes.

The economic impact of not continuing CPRIT operations and initiatives beyond its original ten-year period is also evaluated. This projection reveals notable potential losses if CPRIT and its programs are not extended. When examined on a dynamic basis, CPRIT generates State revenues well in excess of its costs, thus providing a strong fiscal rationale for its continuation. The Appendices provide a detailed discussion of all aspects of the report, including methodology and disaggregated results.

The Economic Cost of Cancer in Texas

Cancer affects the longevity, quality of life, and finances of individuals suffering with the illness. Costs associated with cancer include direct medical outlays for treatment and care as well as indirect costs such as disease-related work disability or premature mortality. Prevention, early detection, effective treatment, and medical advances to minimize the consequences of the disease are vital national and, indeed, global priorities.

Despite advances in many aspects of cancer prevention and treatment, the number of Americans diagnosed with the disease remains very high. One factor in the recent upward trend in new cases is the aging of the US population, as cancer incidence increases among older age groups.

Cancer Incidence

The American Cancer Society estimates that there will be about 1,735,350 new cases of cancer (856,370 male and 878,980 female) and 609,640 deaths from cancer (323,630 male and 286,010 female) in the US in 2018. The number of new cases expected in 2018 is higher than the number for 2017 as cases for both males and females are projected to increase. The expected cancer deaths show an increase of about 8,700 over 2017.[1]

In addition to their positive effect on health and wellbeing, CPRIT activities generate sizable economic benefits.

In Texas, a total of 121,860 new cases of cancer are anticipated in 2018, with 41,030 cancer deaths projected according to the American Cancer Society.[2] Compared to the estimates for 2017, about 5,660 more cases and about 770 more deaths are expected in 2018. The Texas Cancer Registry projects slightly different numbers for Texas in 2018 than the American Cancer Society with 121,463 new cases (62,735 male and 58,728 female), as well as 44,713 deaths (24,345 male and 20,368 female).[3] As with the nation, cancer remains the second leading cause of death in the state after cardiovascular disease.[4]

[1] American Cancer Society, *Cancer Facts & Figures 2018*, Atlanta, American Cancer Society; 2018.
[2] American Cancer Society, *Cancer Facts & Figures 2018*, Atlanta, American Cancer Society; 2018.
[3] "Expected New Cancer Cases and Deaths by Primary Site, Texas, 2018," Texas Cancer Registry, Cancer Epidemiology and Surveillance Branch, Texas Department of State Health Service, January 2018. Because of the additional detail provided in these estimates, they are used in much of the current analysis.
[4] American Cancer Society, *Cancer Facts & Figures 2018*, Atlanta, American Cancer Society; 2018.

Cancer Costs

Apart from the extremely high human cost, cancer causes economic harms to affected individuals, businesses, and society as a whole through shortened life spans, lost productivity, increased health care expenditures, and premature mortality.

The direct medical costs of cancer and morbidity and mortality losses (as traditionally measured) in the state totaled an estimated $40.3 billion in 2018, up notably over the past few years.

The **direct medical costs and morbidity and mortality losses (as traditionally measured) in the state totaled an estimated $40.3 billion in 2018**, up notably from $38.7 billion in 2017 and $34.9 billion two years ago (according to TPG's update of existing information from the National Institutes of Health[5] and a study of costs in Texas).[6] In 2010, cancer treatment costs in Texas were about $11.5 billion in current dollars and $13.3 billion in constant 2018 dollars. By 2020, treatment costs are expected to be $18.5 billion in current dollars (a 61.0 % rise) and $17.5 billion in constant 2018 dollars (a 31.5% increase). The projected rates of increase at the national level are even higher.

Costs of cancer treatment are covered by private insurance companies, social programs such as Medicare and Medicaid, and by the patients themselves.

Costs of cancer treatment are covered by private insurance companies, social programs such as Medicare and Medicaid, and by the patients themselves.

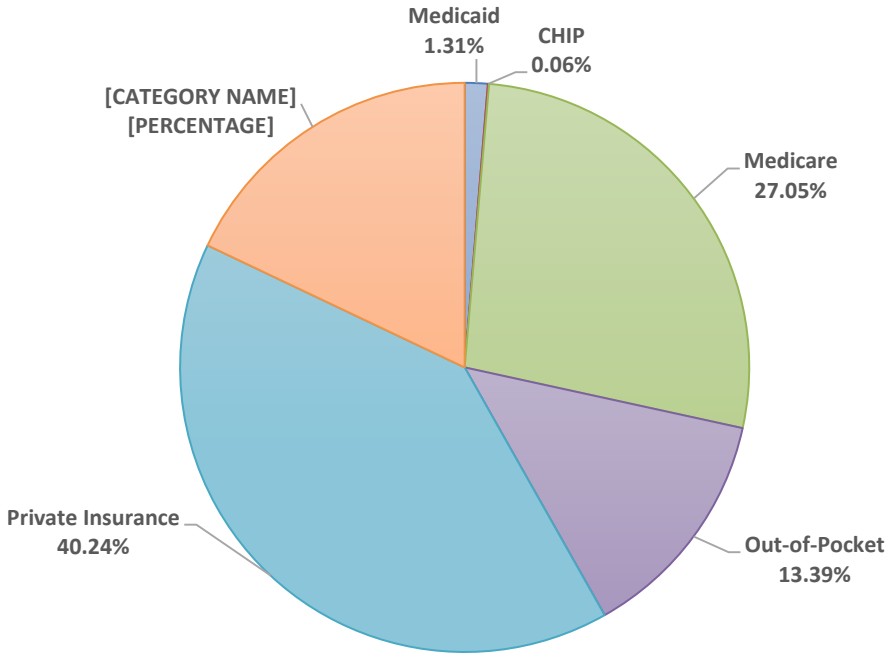
- The Perryman Group estimates that the cost of cancer treatment to private insurance companies in 2017 was almost $6.7 billion.
- The cost of treating cancer in Texas paid through Medicaid in 2017 was $216.6 million.
- The CHIP program spent some $10.6 million treating cancer in 2017.
- Costs of cancer treatment to Medicare in Texas totaled an estimated $4.5 billion.

[5] The National Institutes of Health (NIH) estimated the total overall cost of cancer in 2010 (the latest year for which such information is available) to be $263.8 billion including direct medical costs of $102.8 billion (including the total of all health expenditures), indirect morbidity costs (the cost of lost productivity due to illness) of $20.9 billion, and indirect mortality costs (the cost of lost productivity due to premature death) of $140.1 billion. See Cancer facts & figures 2011. (2011). American Cancer Society.

[6] A study directed by the Texas Department of State Health Services (DSHS) and conducted by scholars at the University of Texas Medical Branch (UTMB) found that the total cost of cancer in the state was roughly $21.9 billion in 2007, with $10.0 billion in direct medical costs and $11.8 billion in indirect costs from lost productivity due to cancer morbidity and mortality. See Philips, B.U., et al. (2009, March). The cost of cancer in Texas 2007. Department of Preventive Medicine and Community Health; Texas Medical Branch at Galveston.

- The cost of treating cancer to other third-party payers in 2017 was determined to be almost $3.0 billion.
- The out-of-pocket cost to cancer patients in 2017 was approximately $2.2 billion.[7]

Cancer Treatment Costs Allocation by Payer in Texas 2017



Sources: Medicaid and CHIP cancer expenditure data from AHQP Claims Universe, Texas Medicaid and Healthcare Partnership (TMHP); Enc_Best Picture Universe, TMHP; prepared by Data Quality and Dissemination, Center for Analytics and Decisions Support,

The cost of cancer goes well beyond initial effects. Several studies have clearly portrayed the very large economic losses associated with cancer. While many of these are excellent analyses, they fail to capture numerous "multiplier" effects associated with the disease and, thus, represent only a portion of the overall toll on business activity (only the initial effect of the various categories of cost).

The cost of cancer goes well beyond initial impacts. It also includes associated foregone spillover effects.

Most studies of cancer costs reflect only the initial effect of direct

[7] Medicaid and CHIP cancer expenditure data from AHQP Claims Universe, Texas Medicaid and Healthcare Partnership (TMHP); Enc_Best Picture Universe, TMHP; prepared by Data Quality and Dissemination, Center for Analytics and Decisions Support, Texas Health and Human Services Commission, October 2018. All other expenditures are approximations by The Perryman Group based on best available data.

medical outlays for treatment and care and indirect costs such as disease-related work disability or premature mortality are not included. However, these losses, in turn, generate further reductions in business activity.

Several years ago, The Perryman Group developed a more comprehensive measure of the cost of cancer which includes losses stemming from treatment, morbidity, and mortality as well as the associated foregone spillover effects. This more comprehensive measure is quantified in the approach utilized by The Perryman Group in the current analysis.

Measuring Economic Impacts

Any economic stimulus, whether positive (such as direct spending, investments, or corporate activity) or negative (such as lost productivity due to disease) generates multiplier effects throughout the economy. In this instance, economic costs of cancer include not only the initial incidence of costs, but also the subsequent rounds of economic activity which are forgone. Economic benefits of cancer research and prevention/screening activities include, among others, increased research spending, commercialization of discoveries, enhanced screening programs, and higher productivity stemming from better health outcomes. (These channels of benefits are described within the report and the accompanying Appendices.) Once the direct stimulus was quantified, the associated multiplier effects were measured.

The Perryman Group's input-output assessment model (the US Multi-Regional Impact Assessment System, which is described in further detail in the Appendices to this report) was developed by The Perryman Group some 35 years ago and has been consistently maintained and updated since that time; it has been used in hundreds of analyses for clients ranging from major corporations to government agencies. The 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 CPRIT programs and related activity. An associated fiscal model allows for estimation of tax receipts to state and local entities. The submodels used in the current analysis reflect the specific industrial composition and characteristics of the Texas economy and its various counties, metropolitan areas, regions, and legislative districts.

These total economic effects are quantified for key measures of 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 each 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 (1) person-years of employment (one person working for one year) for temporary projects (such as construction of a facility) or cumulative assessments over time or (2) permanent jobs when evaluating ongoing annual effects.

Dynamic State and local government revenues reflect tax receipts stemming from the increase in total economic activity. Monetary values were quantified on a constant (2018) basis, which eliminates inflationary effects and allows comparison across various time periods. See the Appendices to this report for more detailed information regarding the methods and assumptions used in this analysis.

Total Economic Cost of Cancer

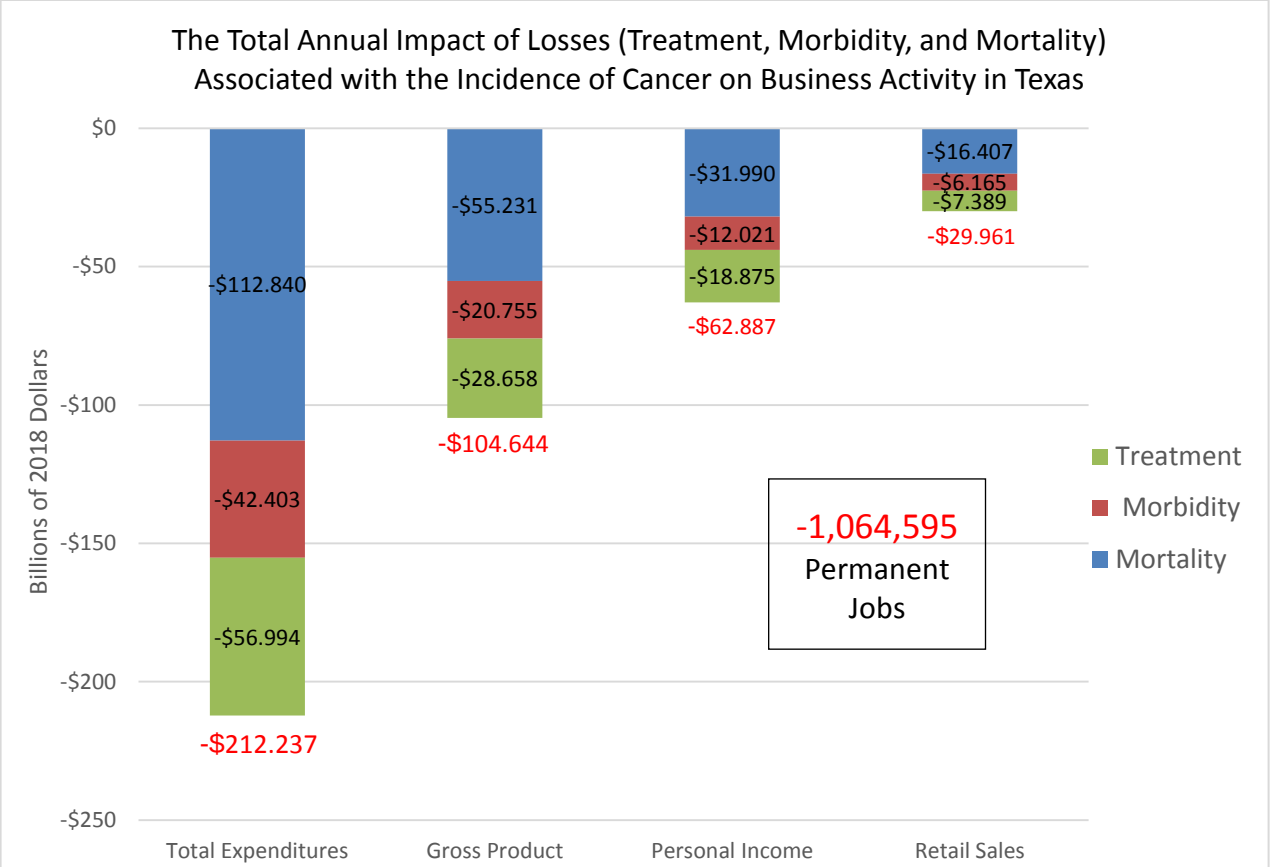
Using The Perryman Group's more comprehensive measure, the total cost to the Texas economy is estimated to be more than **$212.2 billion** in reduced annual spending, **$104.6 billion** in output losses per annum, and **1,064,595** lost jobs from cancer treatment, morbidity, and mortality and the associated spillover effects. These amounts represent a slight increase over last year's estimated total cost of $204.5 billion in spending, $100.8 billion in output, and 1,045,817 jobs. **These totals represent approximately 5.5% of the total output of the Texas economy, 5.7% of earnings, and 6.0% of employment.**

Using The Perryman Group's more comprehensive measure, the total cost of cancer to the Texas economy is estimated to be more than $104.6 billion in output losses per annum and 1,064,595 lost jobs.

The yearly loss in State fiscal revenues (including Medicaid and CHIP and uncompensated care) is some **$8.4 billion**, while losses to local governments include about **$3.5 billion** per annum.

Losses are spread across all regions of Texas and are concentrated in the state's most populous areas.

The yearly loss in State fiscal revenues (including Medicaid and CHIP and uncompensated care) is some $8.4 billion, while losses to local governments include about $3.5 billion per annum.



Source: The Perryman Group

COST OF CANCER BY COUNCIL OF GOVERNMENTS REGION

ECONOMIC COST OF CANCER INCLUDING DIRECT MEDICAL EXPENSES AND PREMATURE MORBIDITY AND MORTALITY

ANNUAL EFFECT ON BUSINESS ACTIVITY		
	GROSS PRODUCT	EMPLOYMENT
	(Billions of 2018 Dollars)	*(Permanent Jobs)*
Panhandle	($1.926)	(19,813)
South Plains	($1.788)	(19,259)
Nortex	($1.413)	(14,667)
North Central Texas	($25.706)	(254,899)
Ark-Tex	($1.536)	(17,491)
East Texas	($5.166)	(53,788)
West Central Texas	($1.997)	(20,839)
Rio Grande	($3.272)	(34,351)
Permian Basin	($1.822)	(17,969)
Concho Valley	($0.837)	(8,653)
Heart of Texas	($1.994)	(21,873)
Capital Area	($5.402)	(57,643)
Brazos Valley	($1.205)	(13,056)
Deep East Texas	($2.248)	(25,378)
South East Texas	($2.242)	(24,744)
Houston-Galveston Area	($24.774)	(229,429)
Golden Crescent	($1.040)	(10,883)
Alamo Area	($9.926)	(106,001)
South Texas	($0.756)	(8,130)
Coastal Bend	($2.922)	(29,711)
Lower Rio Grande Valley	($3.251)	(36,871)
Texoma	($1.147)	(12,940)
Central Texas	($1.677)	(19,406)
Middle Rio Grande	($0.594)	(6,801)
Border Region	($7.877)	(86,188)
TOTAL STATE	**($104.644)**	**(1,064,595)**

Note: Border Region includes Rio Grande, Terrell County, Middle Rio Grande, South Texas, and Lower Rio Grande Valley
Source: The Perryman Group

Cost of Top Death Causing Cancers

As a new component beginning with the 2017 analysis, The Perryman Group analyzed the losses associated with the top four cancer sites for annual deaths in Texas which include lung and bronchus, colorectal, breast, and pancreas. The Perryman Group determined the total direct annual medical cost of these cancers in Texas for 2018 is **$3.3 billion**. The analysis also indicates a total cost to the Texas economy of just under **$41.3 billion** in reduced annual spending, **$20.4 billion** in reduced output per year, and **207,521** lost jobs from cancer treatment, morbidity, and mortality and the associated spillover effects.

The top four cancer sites for annual deaths in Texas cost the state economy $20.4 billion in reduced output per year and 207,521 lost jobs.

The following table illustrates total lifetime losses associated with the deaths in 2018 resulting from these four sites. Details of losses from treatment, morbidity, and mortality for each of these cancers can be found in the Appendices.

The Total Impact of Losses (Treatment, Morbidity, and Mortality) from Lung and Bronchus, Colorectal, Breast, and Pancreatic Cancer Deaths in 2018 on Texas Business Activity

(Monetary Values in Billions of Constant 2018 Dollars)

	Lung and Bronchus	Colorectal	Breast	Pancreatic	TOTAL
Total Expenditures	($21.5)	($9.1)	($4.7)	($6.0)	($41.3)
Gross Product	($10.6)	($4.5)	($2.3)	($2.9)	($20.4)
Personal Income	($6.4)	($2.7)	($1.4)	($1.8)	($12.2)
Retail Sales	($3.0)	($1.3)	($0.7)	($0.8)	($5.8)
Employment (Permanent Jobs)	(108,203)	(45,392)	(23,803)	(30,124)	(207,521)

Note: Medical costs based on (1) estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas for 2018 as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns). Columns may not add to total due to rounding.
Source: The Perryman Group

Benefits of Screening and Prevention

It is far less expensive to screen for cancer and treat it in its early stages. Not only are treatment expenses likely to be lower for early-stage diagnoses, but also morbidity and mortality losses are reduced. The Perryman Group's analysis indicates that **every $1 spent through CPRIT for screening/prevention leads to $25.75 in treatment cost savings and resulting economic benefits through earlier detection.**[8] The Perryman Group's analysis also estimates that every $1 spent on screening/prevention saves $1.94 in direct health spending. (These savings are included in the $25.75 listed above.)

Every $1 spent through CPRIT for screening/prevention saves $1.94 in direct health spending and leads to a total of $25.75 in treatment cost savings and resulting economic benefits through earlier detection.

[8] The reported benefits from screening and prevention are significantly higher than in some earlier years based on recent and more comprehensive research which illustrates greater rates of return on prevention and screening than prior evidence. See, for example, Boland, Mairin and Joan Murphy, The Economic Argument for Prevention of Ill-health at Population Level, For Working Group on Public Health Policy Framework, May 2012.

The Economic Impact of CPRIT and its Programs

The overall effects of CPRIT and its various initiatives extend well beyond the initial stimulus and impacts business activity throughout the supply chain. Even beyond the potentially life-changing influence of spending to reduce the incidence and severity of the disease, this investment in research, screening, and related activities generates substantial economic impacts. Moreover, the investment has the potential to reduce the cost of cancer through improving outcomes.

Returns on investments in medical research include jobs created in the private sector, health care costs saved, the value of increased longevity, the value of reduced morbidity and disability, and the benefits of newer medicines and therapies. Job creation occurs not only directly through the scientists and staff in the research facilities, but also indirectly through the provision of business services needed by those institutions and other multiplier effects.

Many studies over an extended period of time support the conclusion that investing in medical and cancer research can yield returns far in excess of initial outlays. Texas is already beginning to see tangible job gains and other benefits such as attracting top-tier research talent (including the CPRIT scholar, Dr. James Allison, who was recently awarded the 2018 Nobel Prize in physiology or medicine, along with Tasuku Honjo, for his work in cancer immunotherapy), external research funding, and commercialization of findings.

Benefits of CPRIT Operations and Spending

The direct outlays and related "multiplier" effects emanating from CPRIT operations and programs generated a sizable increase in business activity in Texas including **$719.8 million** in output (gross product) and **10,132** jobs during fiscal year 2018.

The direct outlays and related "multiplier" effects emanating from CPRIT operations and programs generated a sizable increase in business activity in Texas including $719.8 million in output (gross product) and 10,132 jobs.

These economic benefits stem from operations, prevention and screening, and research programs. They are consistent with the results reported by grant recipients and other data available regarding CPRIT initiatives. Fiscal benefits are also significant, as noted in the table below.

The Current Impact of CPRIT Direct Operations, Prevention and Screening, and Research Programs on Texas Business Activity and Tax Receipts

(Monetary Values in Millions of Constant 2018 Dollars)

ECONOMIC BENEFITS				
	Operations	**Prevention & Screening**	**Research**	**TOTAL**
Total Expenditures	$31.5	$117.0	$1,232.8	**$1,381.3**
Gross Product	$16.0	$63.7	$640.1	**$719.8**
Personal Income	$11.0	$44.6	$443.4	**$499.0**
Retail Sales	$4.2	$16.7	$168.6	**$189.5**
Employment (Permanent Jobs)	142	794	9,196	**10,132**
FISCAL BENEFITS				
State (Texas)	$0.8	$3.1	$32.7	$36.7
Local Governmental Entities Throughout the State	$0.4	$1.7	$19.3	$21.4

Note: Columns may not add to total due to rounding.
Source: The Perryman Group

Secondary Benefits

Even beyond these substantial gains in business activity, CPRIT programs lead to secondary (downstream) benefits such as improved outcomes stemming from screening and prevention and research. Screening can help reduce cancer incidence and severity. TPG estimates the total annual net outcomes-related benefits from screening and prevention supported by CPRIT to be **$359.7 million** in output (gross product) and **3,659** jobs in 2018 (on a net present value basis assuming typical outcomes from available academic studies[9]). Effects over 10 years are included in the Appendices to this report.

The economic benefits of CPRIT-funded research activity compound over time. Current estimates of these secondary effects stemming from research include **$11.3 billion** in output and

[9] As noted above, these estimates are notably higher than in some prior years as a result of more specific recent research. See, for example, Boland, Mairin and Joan Murphy, The Economic Argument for Prevention of Ill-health at Population Level, For Working Group on Public Health Policy Framework, May 2012.

96,473 jobs in 2018. These gains are expected to grow substantially in future years as programs continue and benefits cumulate (as indicated in the Appendices).[10]

The cancer research supported by CPRIT also generates substantial social returns. The estimated cumulative social returns from the cancer research supported by CPRIT over its first ten years include **$195.4 billion** in gross product in the United States and $240.3 billion globally. The impact on employment in the US is **1,585,884** person-years of employment and globally is **1,950,638** person years.[11]

Overall Total Current Impact of CPRIT Operations (including Secondary Effects)

Adding the economic benefits of CPRIT operations, prevention/screening programs, research, outcomes-based prevention/screening, and secondary research effects yield a total gross impact of the Institute's operations. The current total annual impact of CPRIT on Texas business activity was found to include almost **$22.3 billion** in annual spending, **$12.4 billion** in output each year, and **110,265** jobs in 2018. Fiscal benefits are also substantial, as noted in the table below.

The total economic benefits of CPRIT operations, prevention/screening programs, research, outcomes-based prevention/screening, and secondary research effects was found to include almost $22.3 billion in annual spending, $12.4 billion in output each year, and 110,265 jobs.

Because of the cumulative nature of research gains, these benefits increase over time. Even when other potential uses for State funding of CPRIT are considered, the net economic benefits remain substantial (as indicated in the Appendices). Over an extended time horizon, CPRIT and the research funding it provides will likely generate fiscal receipts totaling a multiple of the commitment of public resources (in addition to the notable economic and health benefits).

[10] Association of University Technology Managers®, *AUTM U.S. Licensing Activity Survey: FY2016*, editors Shawn Hawkins, Yiorgos Kostoulas, Alice Li, Nichole R. Mercier, Matthew A. Mroz, Olivia Novac, Ragan Robertson, Nate Ruey, Ashley J. Stevens, April Turley and Karen White, with research assistance by Chrys Gwellem.

[11] Social returns are added for the first time this year based on recent academic research. 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.

The Overall Total Gross Annual Impact of CPRIT Operations, Prevention/Screening, and Research Programs on Texas Business Activity and Tax Receipts (Including Direct Outlays with Multiplier Effects as Well as Secondary Effects) (Monetary Values in Millions of Constant 2018 Dollars)	
ECONOMIC BENEFITS*	
Total Expenditures	$22,264.2
Gross Product	$12,423.0
Personal Income	$8,639.5
Retail Sales	$2,976.1
Employment (Permanent Jobs)	110,265
FISCAL BENEFITS	
State (Texas)	$551.2
Local Governmental Entities Throughout the State	$249.8
*Based on budgeted operations and reported awards in fiscal year 2018. Source: The Perryman Group	

Further CPRIT Benefits

The ultimate goal of CPRIT is reducing cancer incidence and the associated high human and economic costs, and a major reduction in incidence/severity would yield substantial economic benefits. In addition, the research activity supported by CPRIT can serve as a catalyst for economic development.

If CPRIT's screening/prevention programs, research advances, and other initiatives **reduce the incidence of cancer** over time to equal the average of current levels observed in the five states with the lowest incidence and death rates, notable economic benefits would be realized. The Perryman Group estimates that the gains in Texas stemming from a substantial reduction in **cancer incidence by 2045 would include almost $15.8 billion in gross product and about 160,242 permanent jobs.**[12] (It is worth noting these totals are down slightly from last year due to the continued improving performance of Texas compared to other states as a result of the

[12] Note that the time horizon has been increased from 2040 to 2045 as of last year's report to assure an ongoing assessment on a long-term basis. This change is consistent with the most recent long-term simulations of the Texas Econometric Model.

efforts of CPRIT.) **Fiscal benefits of such a reduction in cancer incidence include an estimated $885.0 million to the State each year and $401.6 million to local government entities (in constant 2018 dollars).** Moreover, these benefits do not include the obvious gains in quality of life and would not be restricted to Texas; they would bring better outcomes throughout the country and, indeed, the entire world.

Research activity associated with CPRIT is enhancing Texas' position in a number of related industries. Through November 2018, CPRIT has funded 1,321 awards for cancer research, product development, and prevention since 2010 with the awards totaling $2,168,644,161.[13] CPRIT has enjoyed a number of successes and its programs and grants are helping attract key researchers and companies to Texas. CPRIT scholars have received numerous prestigious awards including the 2018 Nobel Prize in physiology or medicine awarded to Dr. James Allison, (along with Tasuku Honjo) for his work in cancer immunotherapy. CPRIT's investments have played a critical role in connecting universities, researchers, private companies, hospitals, clinics, and physicians across Texas in the battle against cancer. CPRIT has recruited 165 cancer researchers and their labs to Texas. CPRIT's efforts have resulted in 109 new clinical trials with more than 13,400 patients. CPRIT has delivered almost 2.1 million education and training services and over 2.2 million clinical services to Texans from every county in the state. CPRIT has awarded 32 grants for product development totaling just under $330 million. With matching funds, the total investment for research and development is more than $494 million as well as almost $1.7 billion in follow-on funding. In addition to helping save lives, these grants have the potential to generate significant returns to CPRIT as well. Recipients of CPRIT grants have also published over 2,500 findings and received or applied for almost 600 patents.[14]

If CPRIT's screening/prevention programs, research advances, and other initiatives reduce the incidence of cancer over time to equal the average of current levels observed in the five states with the lowest incidence and death rates, gains in Texas by 2045 would include almost $15.8 billion in gross product and about 160,242 permanent jobs as well as an estimated $885.0 million to the State each year and $401.6 million to local government entities (in constant 2018 dollars).

Research activity associated with CPRIT is enhancing Texas' position in a number of related industries.

[13] Grant Counter, Cancer Prevention & Research Institute of Texas website, December 10, 2018.
[14] Achievements Report, February 2018, Cancer Prevention & Research Institute of Texas.

The Institute's role as a potential catalyst for development of Texas' biomedical industries can help establish the Lone Star State as a center for such development. The economic gains from such economic development would be significant. The Perryman Group estimates that **if Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2045 equivalent to that of the US, incremental gains would include $19.0 billion in annual gross product and 164,034 jobs. If the state's concentration in the biomedical industry in 2045 reached a level equivalent to California, the incremental economic benefits would include $26.8 billion in gross product each year and about 227,491 jobs.** (Again, it is worth noting these impacts are down slightly from last year's numbers due to the continuing improvement of Texas as a biomedical center relative to the rest of the country.)

If Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2045 equivalent to that of the US, incremental gains would include $19.0 billion in annual gross product and 164,034 jobs.

Economic Effects of Not Extending CPRIT and Its Programs an Additional Ten Years

As has been illustrated, CPRIT plays a vital role in fighting cancer and generates substantial economic benefits to the state. The impact of not continuing CPRIT's programs with sustainable levels of funding for another 10 years beyond its initial mission would be significant.

The Perryman Group estimates the anticipated gross cumulative ten-year losses of not extending CPRIT and all of its programs include almost **$148.9 billion in lost gross product and some 1,308,799 lost person-years of employment**. The **gross fiscal losses** over ten years of not extending CPRIT and its programs include almost **$7.0 billion to the State and $3.2 billion to local governments**. Note that these losses do not include any offset for the residual effects of the initial decade of activity, as those will be enjoyed irrespective of whether the program is renewed.

The gross cumulative ten-year losses of not extending CPRIT and all of its programs include almost $148.9 billion in lost gross product, more than 1.3 million lost person-years of employment, almost $7.0 billion in lost revenue to the State and $3.2 billion in lost tax receipts to local governments.

Even when other potential uses for State funding of CPRIT are considered, the net cumulative economic losses over the additional 10 years not being funded remain substantial. These net

losses include **$141.7 billion in lost gross product and some 1,207,479 lost person-years of employment.** The net fiscal losses are noted in the table.

Given the magnitude of the losses from not extending CPRIT and its programs it is clear that **CPRIT more than pays for itself and it is sound policy to extend CPRIT funding beyond the initial ten years**. It should be noted that, while commercialization of discoveries is clearly a viable and important aspect of the overall initiative and can at times generate near-term returns, support of basic research brings greater long-term gains and should continue to be the major focus of CPRIT efforts. Attempts to substantially alter the priorities of the program would diminish its value in terms of human health, economic impact, and fiscal benefits.

Scientific research, as is facilitated by CPRIT, is valuable to society in large part due to what it facilitates downstream and how it produces further research leading to additional advances.[15] In traditional infrastructure such as roads, highways, water systems, and schools, the government typically plays a major role as provider, coordinator, or regulator. Scientific research, specifically cancer research, is much like traditional infrastructure because it creates benefits or value primarily from downstream uses and "contributes significantly to economic growth and social welfare."[16] Because of its inherent nature as infrastructure, cancer research and prevention should be funded and supported in a manner similar to that of traditional infrastructure. It is in essence a public good that benefits everyone in society although specific benefits might not occur until well in the future. Thus, it is imperative that CPRIT continue to receive the support of the state for its efforts.

Scientific research, as is facilitated by CPRIT, is valuable to society in large part due to what it facilitates downstream and how it produces further research leading to additional advances. It is much like traditional infrastructure because it creates benefits or value and should be funded in a similar manner.

[15] See for example, Frischman, Brett, "An Economic Theory of Infrastructure and Commons Management," American Law & Economics Association Annual Meetings, 2006.
[16] Frischman, Brett, "An Economic Theory of Infrastructure and Commons Management," American Law & Economics Association Annual Meetings, 2006 p. 993.

The Anticipated Net Cumulative Ten-Year Losses from Not Extending CPRIT and All of Its Programs at Sustainable Levels of Funding for Another Ten Years on Texas Business Activity and Tax Receipts (Including Direct Outlays with Multiplier Effects as Well as Secondary Effects)

(Monetary Values in Billions of Constant 2018 Dollars)

ECONOMIC LOSSES*	
Total Expenditures	($252.1)
Gross Product	($141.7)
Personal Income	($98.8)
Retail Sales	($33.6)
Employment (Person Years)	(1,207,479)
FISCAL LOSSES	
State (Texas)	($6.6)
Local Governmental Entities Throughout the State	($3.0)

*Assumes CPRIT and its programs are not extended beyond the initial authorization. Losses are based on a comparison to the situation where CPRIT and all of its programs are continued for an additional ten years beyond the original authorization. All funding levels are sustained at the stabilized levels currently anticipated for the final year of the current program. Measured impacts do not include the residual benefits of the initial ten-year commitment, since those gains will accrue irrespective of whether or not the extension occurs.
Source: The Perryman Group

Conclusion

The Cancer Prevention and Research Institute of Texas plays a crucial role in the war on cancer. Through its operations, screening/prevention efforts, and research programs, CPRIT is helping reduce the extremely high human and economic costs of cancer. CPRIT is also generating a sizable economic stimulus from its efforts including some $12.4 billion in output (gross product) and 110,265 jobs in 2018 (when multiplier and secondary effects are included). Moreover, the Institute's efforts to improve outcomes related to cancer prevention and treatment can lead to a significant reduction in cancer incidence and severity over time and be a catalyst to biomedical development in Texas.

The Institute's positive impact represents an excellent return on fiscal resources. Research enabled by grants funded through CPRIT is already bearing fruit, with leading researchers as well as companies coming to the state, matching funds being attracted, and findings being published in leading journals. Empirical evidence shows that medical research and prevention programs can reduce cancer incidence and enhance outcomes. Reductions in treatment expenses, morbidity, and mortality stand to bring notable economic benefits.

CPRIT efforts improve outcomes related to cancer prevention and treatment, leading to a significant reduction in cancer incidence and severity over time. The Institute is also a catalyst to biomedical development in Texas.

Basic medical research is part of society's essential infrastructure, and CPRIT has demonstrated capacity to enhance the health of Texans and the economy at a pace that far exceeds the direct investment.

The economic activity stemming from CPRIT operations and programs generates tax receipts and reduced State expenditures for health care over time which exceed the investment of resources. The significance of CPRIT activities continues to expand and will only accelerate in the future, particularly if its mission is extended beyond the original authorization period. **Basic medical research is a part of society's essential infrastructure, and CPRIT has demonstrated capacity to enhance the health of Texans and the economy at a pace that far exceeds the direct investment.**

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Perryman CPRIT Impact Report

An Economic Assessment of the Cost of Cancer in Texas and the Benefits of the Cancer Prevention and Research Institute of Texas (CPRIT) and its Programs:

2018 Update

APPENDICES

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Appendix A: About The Perryman Group

The Perryman Group (TPG) is an economic research and analysis firm based in Waco, Texas. The firm has more than 35 years of experience in assessing the economic impact of corporate expansions, regulatory changes, real estate developments, public policy initiatives, and myriad other factors affecting business activity. TPG has conducted hundreds of impact analyses for local areas, regions, and states throughout the United States. Impact studies have been performed for hundreds of clients including many of the largest corporations in the world, governmental entities at all levels (including 10 cabinet departments), educational institutions, major health care systems, utilities, and economic development organizations.

Dr. M. Ray Perryman, founder and President of the firm, developed the US Multi-Regional Impact Assessment System (USMRIAS—used in this study) in the early 1980s and has consistently maintained, expanded, and updated it since that time. The model has been used in hundreds of diverse applications, has been peer reviewed on numerous occasions, and has an excellent reputation for reliability.

TPG has extensively analyzed the health care sector, including insurance, cost, affordability, and other areas relevant to the current analysis. The firm has analyzed the cost of cancer and the economic benefits of CPRIT for each of the past nine years, as well as completing numerous other studies related to the cost of cancer and other diseases including diabetes, mental health disorders, and obesity. From a public policy perspective, studies have been performed related to Medicaid and State Children's Health Insurance Program (SCHIP) coverage, wellness initiatives, obesity treatment, health care access, and funding for mental health and substance abuse. One recent study was published in the *Journal of Medical Economics*. The firm has also examined the health effects of both child maltreatment and hunger.

Moreover, the proprietary models developed and maintained by the firm have been used in the analysis of scores of major medical facilities. Representative examples include the Methodist Hospital, Parkland, University Health System, Menninger Clinic, Baylor Scott & White, M. D. Anderson Cancer Center (including an assessment of its contribution to improved outcomes and the resulting benefits), and the University of Kansas Cancer Center (including an investigation of the benefits of achieving the status of a Comprehensive Cancer Center). Similarly, they have been employed to evaluate educational institutions and specific instructional and research programs for the University of Texas (including, among others, the Dell Medical School in Austin), Texas A&M University, University of Texas Medical Branch, Baylor University, University of Texas Health Science Center at San Antonio, University of Texas Southwestern Medical Center, the Texas A&M University Health Science Center, and Baylor College of Medicine). Recent work related to long-term access to health care has resulted in Dr. M. Ray Perryman, founder and president of the firm, being named as an Honorary Fellow of the National Academy of Nursing (the only non-medical professional to ever be so honored), while an analysis of the economics of Medicaid expansion under the Affordable Care Act helped frame the debate over participation in multiple states. His work on health-related aspects of issues such as indigent health care, mental health, jail diversion and drug treatment, hunger, and child maltreatment resulted in Dr. Perryman receiving the Cesar E. Chavez Legacy Award for his humanitarian efforts.

Appendix B: Methods Used

The Texas Econometric Model

The Texas Econometric Model was used in deriving baseline projections for economic activity and various costs, as well as in defining the growth parameters of the economic development scenarios. This Model 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. They are the result of more than 40 years 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, and Texas economies.

The remainder of this Technical Explanation 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 expanded version of the Texas Econometric Model, developed and maintained by The Perryman Group, revolves around a core system which projects output, income, 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 three-digit North American Industry Classification System (NAICS) level of aggregation. Hence, income by place of work is measured for approximately 70 distinct 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 three-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 interindustry 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, income, and employment at a disaggregated industrial level.

Several other components of the model are critical to the multi-regional 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 age-cohort-survival 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 (from the age-cohort-survival model), 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.

Retail sales is related to income, interest rates, dynamic adjustments, and patterns in consumer behavior on a store group basis. Inflation at the state level relates to national patterns, indicators of relative economic conditions, and ongoing trends.

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.

The overall Texas 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. 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 system and that of each of the individual sub-areas. 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. This process is, in effect, a disciplining exercise with regard to the individual regional (including metropolitan and rural) systems. By compelling equilibrium across all regions and sectors, the algorithm ensures that the patterns in state activity are reasonable in light of smaller area dynamics and, conversely, that the regional outlooks are within plausible performance levels for the state as a whole.

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 Texas Econometric Model is automatically 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 the preliminary forecast. 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, it is necessary to compile and assimilate extensive material regarding "what's happenin'" both across the state of Texas and elsewhere.

This critical aspect of the forecasting methodology includes activities such as (1) daily review of key financial and business publications and electronic information sites; (2) review of major newspapers in the state on a daily basis; (3) dozens of hours of direct telephone interviews with key business and political leaders in all parts of the state; (4) face-to-face discussions with representatives of major industry groups; and (5) frequent site visits to the various regions of the state. 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 US 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.

The US Multi-Regional Impact Assessment System and Input Assumptions

The US Multi-Regional Impact Assessment System (USMRIAS) was developed by The Perryman Group some 35 years ago and has been consistently maintained and updated since that time. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility. The systems used in the current simulations reflect the unique industrial structures and characteristics of the Texas economy and the counties, metropolitan areas, legislative districts, and regions within the state.

The basic USMRIAS modeling technique is known as dynamic input-output analysis. This methodology 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. The first phase of the analysis involves determining the magnitude of the direct effects. The data sources and assumptions used in determining direct effects are described below.

Cost of Cancer

The **cost of cancer** includes direct medical outlays for treatment and care and indirect costs such as disease-related work disability or premature mortality. Most studies of cancer costs reflect only the initial effect of the various categories of cost. However, these losses, in turn, generate further reductions in business activity. This more comprehensive measure was the approach utilized by The Perryman Group. An important source of input data is the Texas Cancer Registry, which includes information regarding treatment costs and income losses attributable to morbidity and mortality. Though this is an excellent source of the necessary input data, it is characterized by a significant time lag. In order to assess the full economic effects as of 2018, TPG updated these estimates using a projection model based on population growth and composition, overall inflation, and heath care costs. Patterns in mortality and morbidity were also updated using recent data from the American Cancer Society. This segment of the analysis indicates that the annual direct medical costs and morbidity and mortality losses associated with cancer within the state are now estimated to total more than $40.3. billion, up from $38.7 billion last year. The current estimate of $40.3 billion is an increase of 84.0% above the estimate of $21.9 billion in 2007, the base year of the original Texas cancer cost study conducted by researchers from the University of Texas Medical Branch (UTMB). The Perryman Group also estimated the projected treatment cost of cancer in 2020 and how much it is expected to increase from 2010. Additionally, a breakout of the expenditures on cancer in 2017 by payer is provided. The cancer expenditures by Medicaid and CHIP were provided by Data Quality and Dissemination, Center for Analytics and Decision Support, Texas Health and Human Services based on data from AHQP Claims Universe, Texas Medicaid and Healthcare Partnership. All other cancer expenditures (private insurance, Medicare, other third-party payers, and out-of-pocket to patients) are approximations by The Perryman Group based on the best available data. A new addition beginning with the 2017 report is an analysis of

the losses associated with the top four cancer sites for annual deaths in Texas for 2018 which include lung and bronchus, colorectal, breast, and pancreas. Specifically, this segment of the analysis measures the long-term consequences to the economy of the deaths from these four sites experienced in 2018. For this analysis, medical costs were based on (1) estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas for 2018 as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

Because the treatment cost component represents a loss to various payers, there is a "multiplier" effect if these funds could be redeployed into business activity. To estimate the direct inputs for this segment of the analysis, the actual outlays are allocated based on the current incidence of health care spending across more than 500 industrial and consumer categories utilizing the direct requirements matrix from the USMRIAS.

The **mortality and morbidity** estimates TPG used include productivity assumptions reflecting historical patterns and future projections from the baseline forecast of the Texas Econometric Model. Average compensation (rather than per-capita) was used to better capture any disparity between state and national earning patterns. Because the values were computed in terms of lost income, they do not reflect the full extent of the losses to the economy. Foregone income necessarily means that production, spending, employment, and other measures of economic activity are also foregone. These aggregates were measured using relevant coefficients to capture the relationships among the pertinent variables, as well as data from the Regional Economic Information System of the US Department of Commerce. Because the original approach captures these overall income effects, there are no additional "multiplier" calculations applied to this segment of the analysis, with the exception of the induced spending derived from the higher earnings. The direct values in this category were assumed to follow standard consumer purchasing patterns for Texas as identified by the Council for Community and Economic Research and the US Department of Labor.

An important element of this segment of the analysis was allocating cancer costs to various geographic areas. The regional allocations of various categories of direct effects were accomplished based on health spending, cancer incidence, and cancer mortality rates at the county level. The relevant information was obtained from the US Department of Commerce and the National Cancer Institute. The county-level submodels of the USMRIAS reflect the unique industrial composition and characteristics of each county and multi-county area analyzed. They also capture spillover effects across regions.

CPRIT Program Benefits

In determining the **benefits of CPRIT** programs, The Perryman Group utilized input information regarding employment and expenditure levels at the Institute.

In the case of the **cancer-related health costs saved through prevention and screening programs**, The Perryman Group utilized available studies of the returns on investment in cancer prevention and screening (including leveraged funds from other sources). These studies also formed the basis for estimates of the potential improvement in outcomes. TPG then used standard measures of productivity and worklife to obtain the likely incremental economic activity associated with reducing the incidence/severity of cancer through early detection. Because returns on direct spending for prevention and screening programs were estimated based on available studies of such returns, they are unlikely to be specific to Texas or the exact programs offered by the Institute and will be subject to some range of error. (The impacts in the report for the past few years are significantly higher than in earlier years due to recent and more specific research showing higher rates of return from screening and prevention than in the past.) Results to date were incorporated to the extent possible in estimating these economic benefits.

Returns on investments in medical research include jobs created in the private sector, health care costs saved, the value of increased longevity, the value of reduced morbidity and disability, and the benefits of newer medicines and therapies. Job creation occurs not only directly through the scientists and staff in the research facilities, but also indirectly through the provision of business services needed by those institutions and other multiplier effects. Additionally, revenues from licensing and royalty streams are economic gains generated by research and development facilities. Attracting matching funds further enhances these economic benefits. Although reporting on job creation is incomplete, the actual results to date are generally consistent with the estimates derived from the models.

TPG calculated the magnitude of these **secondary effects** based on typical annual rates of return to health-related research, the addition of new researchers each year, and standard patterns in spinoff companies from research outlays (fully adjusted for attrition). Commercialization of research estimates were based on typical patterns from funded basic research as provided by the Association of University Technology Managers[1] localized to the relevant geographic area and adjusted for the specific nature of CPRIT research as well as attrition.

Data from the US Department of Commerce regarding typical firm size (excluding large pharmaceutical manufacturers) was also utilized. This information was fully updated for the current analysis. Available program data to date is highly consistent with these estimates.

The Perryman Group also estimated the outcomes-based economic benefits of CPRIT's programs (such as reduced morbidity and mortality). An important aspect of CPRIT's spending on prevention and screening programs is the reduced incidence and severity of cancer cases through earlier detection, and many studies have demonstrated the secondary or downstream benefits of such programs in terms of reduced health care costs, morbidity, and mortality.

For the **secondary impact of CPRIT research**, The Perryman Group measured the positive economic effects of research activities beyond the initial stimulus. Research leads to better cancer outcomes (and, thus, lower costs), spinoff activity, and the attraction of top researchers (and associated grant inflows). Many studies over an

[1] Association of University Technology Managers®, *AUTM U.S. Licensing Activity Survey: FY2016*, editors Shawn Hawkins, Yiorgos Kostoulas, Alice Li, Nichole R. Mercier, Matthew A. Mroz, Olivia Novac, Ragan Robertson, Nate Ruey, Ashley J. Stevens, April Turley and Karen White, with research assistance by Chrys Gwellem.

extended period of time support the conclusion that investing in medical and cancer research can yield returns far in excess of initial outlays. The Perryman Group utilized studies of the relationship between research and reduced treatment costs (as well as reduced morbidity and mortality) to estimate the positive economic outcomes in these areas stemming from the Institute's research support.

In addition, the economic benefits of new cancer-related therapeutics, diagnostics, and devices are estimated based on available empirical analyses of typical rates of return. The information on returns was updated significantly in the current analysis based on recent evidence and, thus, not directly comparable with those provided in prior years. The new research also permitted an assessment of national and global social returns to CPRIT-supported research, which are included in the current analysis.[2] Direct investments from other sources, including annual rates of federal R&D expenditures, are also quantified. Estimates of spinoff firms were derived through information sources such as studies by AUTM and others regarding typical firm formation rates until sufficient time elapses to have actual information. Based on the results available to date, these estimates are highly consistent with actual outcomes. As noted, a number of CPRIT grants have resulted in published papers and notable findings which are likely to lead to significant returns over time; specific results were incorporated to the extent possible. However, anticipated returns are of necessity partially estimated based on typical responses observed in other contexts because it is still relatively early in the life of CPRIT and its programs and there is a substantial lag between the creation of new ideas and their translation into health (and, hence, market) benefits. In fact, many of the benefits of CPRIT activities will continue to occur decades into the future. Over time, the results of more specific initiatives will become known and increasingly specific measures can be developed (and have been over the past few years). For example, the current estimates reflect the recruitment of scholars to date and leveraged funds associated with CPRIT grants. Because research benefits are ongoing and continue to provide benefits beyond the initial year of the outlays, they rise substantially over time due to the compounding effects of the grants and related matching funds.

Potential Economic Development and Societal Gains

Illustrations of potential economic development and societal gains are derived from analysis of the likely range of potential outcomes. They are forward-looking in nature, and more appropriately measured over a relatively extended time horizon. Inputs are based on reputable academic studies; nonetheless, they are subject to a range of error and changing conditions can affect actual results. Although the models used in this process have been maintained for more than 35 years and are widely used and accepted, all economic models are based on estimates and do not give perfect results. As noted above, societal and economic benefits were estimated based on detailed academic studies related to the relevant returns to investments in basic medical research.

[2] 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.

An important role of CPRIT activity is as a **catalyst for economic development**. Investments in cancer research can be crucial to attracting top researchers and startup companies, which can later go on to grow into larger firms within the state. Even beyond the sizable economic benefits of the Institute's operations, screening, prevention, and research activity, the program has the potential to help establish Texas at the forefront of cancer research and related industries. The economic growth accruing from such a situation would be substantial. TPG measured the benefits that would occur if CPRIT, in conjunction with other ongoing initiatives, serves as a catalyst for greater economic development in the biomedical and pharmaceutical arena.

The Perryman Group developed scenarios to illustrate the potential economic development effects of Institute activities and measure gains in business activity above baseline projections. Scenarios involve the economic stimulus associated with a shift in Texas' relative position in industries related to the Institute (such as the biomedical industry cluster). The scenarios chosen are based on indications of the catalytic effect of the Institute (such as new company locations and related industrial development).

As this process occurs, supplier networks, training programs, related companies, and other resources tend to congregate, thus resulting in the establishment of a cluster of economic activity. Given the state's efforts to attract biomedical industries, CPRIT activity could serve as an impetus for a major concentration of emerging biomedical production sectors and, in fact, the results over time suggest that this phenomenon has already occurred.

The Perryman Group developed two scenarios to illustrate the potential economic development effects of CPRIT initiatives. Only incremental gains above baseline projections (as derived from the Texas Econometric Model) are included.

- Scenario I assumes Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2045 equivalent to that of the US.
- Scenario II presumes Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2045 equivalent to that of California. While there are certainly states with a higher relative presence in these sectors, California is representative of a large state that has strategically used its academic research capabilities to foster industrial development. The CPRIT initiative offers Texas an opportunity to leverage research into an enhanced presence in associated industries such as biomedicine and pharmaceuticals in a similar manner.

In addition, the research funded through CPRIT could help **reduce cancer incidence and severity**, thereby shrinking the enormous cost of the disease. The Perryman Group developed a scenario to illustrate the potential economic benefit of reducing cancer incidence in Texas which measures a shift in Texas' cancer incidence and death rates over time to the levels observed in other states. TPG quantified the gains that would occur in Texas and the US if research breakthroughs that were facilitated by CPRIT funding were able to reduce cancer incidence and death rates in the state and nation over time to a level equal to the current rate of the five states with the lowest prevalence. The results of this year's study indicate Texas is definitely making significant progress relative to other areas.

The Perryman Group also determined the anticipated economic losses from not extending CPRIT's operations and programs an additional ten years beyond the original mission. The losses were estimated on both a gross and net

basis and compared to the situation where CPRIT's programs are continued for a cumulative ten-year extension period with sustainable funding at the stabilized levels currently anticipated for the final year of the current program. The measured impacts do not include the residual benefits of the initial ten-year commitment as those gains will accrue irrespective of whether or not the extension occurs.

Model Simulation

Once these direct gains were quantified, they were utilized as inputs into The Perryman Group's impact assessment system, the USMRIAS. 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 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) 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 *ACCRA 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.

The USMRIAS generates estimates of the effect on several measures of business activity. The most comprehensive measure of economic activity used in this study 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 frequently employed in this analysis is that of **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 Arkansas 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 fourth measure, **Retail Sales**, represents the component of Total Expenditures which occurs in retail outlets (general merchandise stores, automobile dealers and service stations, building materials stores, food stores, drugstores, restaurants, and so forth). Retail Sales is a commonly used measure of consumer activity.

The final aggregates used are **Permanent Jobs and Person-Years of Employment**. The Person-Years of Employment measure reveals the full-time equivalent jobs generated by an activity. It should be noted that, unlike the dollar values described above, Permanent Jobs is a "stock" rather than a "flow." In other words, if an area produces $1 million in output in 2016 and $1 million in 2018, it is appropriate to say that $2 million was achieved in the 2017-18 period. If the same area has 100 people working in 2017 and 100 in 2018, it only has 100 Permanent 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 Person-Years (a person working for a year). This concept is distinct from Permanent Jobs, which anticipates that the relevant positions will be maintained on a continuing basis.

Appendix C: Detailed Results

Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($1,041,438,018)	($285,490,327)	($187,810,538)	(2,837)
Mining	($1,695,409,638)	($387,322,763)	($198,668,452)	(1,010)
Construction	($1,433,401,463)	($730,703,076)	($602,144,976)	(8,200)
Manufacturing	($8,409,770,763)	($2,625,517,047)	($1,481,171,806)	(20,975)
Transportation & Utilities	($6,600,853,027)	($2,269,056,950)	($1,361,987,859)	(15,701)
Information	($1,345,114,686)	($828,182,151)	($353,577,512)	(2,988)
Wholesale Trade	($1,838,900,491)	($1,244,235,730)	($717,437,287)	(7,754)
Retail Trade*	($7,388,896,157)	($5,545,004,707)	($3,223,849,578)	(95,565)
Financial Activities*	($10,778,293,171)	($3,687,263,394)	($1,551,471,090)	(16,321)
Business Services	($3,321,001,438)	($2,112,341,387)	($1,723,129,266)	(20,293)
Health Services	($9,669,785,623)	($7,152,167,190)	($6,047,223,525)	(96,828)
Other Services	($3,470,924,066)	($1,790,612,673)	($1,426,718,449)	(32,861)
Total, All Industries	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by Comptroller Region

Comptroller Region	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
High Plains	($1,943,776,451)	($1,004,862,217)	($662,429,370)	(285,521,888)	(11,527)
Northwest Texas	($1,590,624,325)	($833,033,853)	($554,726,128)	(247,373,403)	(9,781)
Metroplex	($14,827,034,572)	($7,435,514,280)	($4,848,831,670)	(1,823,907,075)	(81,555)
Upper East Texas	($3,411,477,316)	($1,763,182,696)	($1,179,813,976)	(505,416,892)	(20,666)
Southeast Texas	($2,320,832,075)	($1,212,187,454)	($821,919,530)	(364,431,923)	(14,447)
Gulf Coast	($13,830,634,701)	($6,560,442,699)	($4,291,989,044)	(1,468,951,842)	(70,196)
Capital	($3,074,407,923)	($1,624,828,060)	($1,072,018,286)	(437,017,769)	(18,378)
Central Texas	($2,607,844,664)	($1,360,937,901)	($906,014,266)	(390,483,016)	(16,004)
Alamo	($6,056,493,679)	($3,116,559,687)	($2,060,654,069)	(822,638,499)	(35,500)
South Texas	($4,138,734,323)	($2,138,082,667)	($1,428,366,111)	(614,006,646)	(25,224)
West Texas	($1,292,417,060)	($651,994,119)	($428,697,401)	(194,121,474)	(7,486)
Upper Rio Grande	($1,899,511,453)	($956,271,761)	($619,730,483)	(235,025,730)	(10,569)
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by Council of Governments

Council of Governments	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Panhandle	($984,269,259)	($500,115,859)	($328,732,749)	($146,569,467)	(5,738)
South Plains	($959,507,193)	($504,746,358)	($333,696,622)	($138,952,420)	(5,789)
Nortex	($637,724,624)	($339,219,297)	($227,172,618)	($102,689,383)	(4,013)
North Central Texas	($14,218,104,228)	($7,113,036,181)	($4,632,051,428)	($1,729,268,037)	(77,723)
Ark-Tex	($791,414,698)	($413,690,962)	($279,461,209)	($125,488,333)	(4,949)
East Texas	($2,620,062,618)	($1,349,491,735)	($900,352,768)	($379,928,559)	(15,717)
West Central Texas	($952,899,701)	($493,814,556)	($327,553,510)	($144,684,019)	(5,768)
Rio Grande	($1,899,511,453)	($956,271,761)	($619,730,483)	($235,025,730)	(10,569)
Permian Basin	($867,618,739)	($437,910,533)	($289,319,076)	($132,220,392)	(5,022)
Concho Valley	($424,798,321)	($214,083,587)	($139,378,324)	($61,901,082)	(2,464)
Heart of Texas	($1,075,067,235)	($546,546,775)	($360,014,008)	($149,143,234)	(6,320)
Capital Area	($3,074,407,923)	($1,624,828,060)	($1,072,018,286)	($437,017,769)	(18,378)
Brazos Valley	($626,061,077)	($326,372,129)	($216,770,328)	($98,193,565)	(3,842)
Deep East Texas	($1,177,682,588)	($622,129,595)	($420,550,069)	($189,505,616)	(7,463)
South East Texas	($1,143,149,487)	($590,057,860)	($401,369,461)	($174,926,307)	(6,984)
Houston-Galveston Area	($13,830,634,701)	($6,560,442,699)	($4,291,989,044)	($1,468,951,842)	(70,196)
Golden Crescent	($526,483,073)	($269,677,577)	($181,226,187)	($79,828,845)	(3,169)
Alamo Area	($5,531,149,156)	($2,847,377,364)	($1,879,726,371)	($742,941,867)	(32,336)
South Texas	($396,608,222)	($212,030,172)	($143,271,066)	($68,088,227)	(2,583)
Coastal Bend	($1,538,113,200)	($754,660,021)	($501,029,224)	($217,332,078)	(8,704)
Lower Rio Grande Valley	($1,893,661,223)	($1,004,630,290)	($671,751,582)	($278,028,099)	(11,915)
Texoma	($608,930,344)	($322,478,099)	($216,780,243)	($94,639,038)	(3,831)
Central Texas	($906,716,352)	($488,018,997)	($329,229,930)	($143,146,218)	(5,843)
Middle Rio Grande	($309,213,128)	($166,266,930)	($112,015,749)	($50,426,028)	(2,017)
Border Region	**($4,501,212,543)**	**($2,340,420,484)**	**($1,547,585,413)**	**($631,983,621)**	**($27,098)**
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**($321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area. The Border Region includes Rio Grande, Terrell County, Middle Rio Grande, South Texas, and Lower Rio Grande Valley

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by Metropolitan Statistical Area (MSA) and Rural Texas

Metro Area	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Abilene MSA	($465,444,030)	($236,406,348)	($155,836,260)	($62,514,979)	(2,684)
Amarillo MSA	($652,019,628)	($341,043,405)	($225,105,879)	($93,139,044)	(3,892)
Austin-Round Rock MSA	($2,645,903,261)	($1,407,611,632)	($929,389,607)	($375,146,924)	(15,879)
Beaumont-Port Arthur MSA	($1,163,012,950)	($601,916,886)	($409,708,138)	($179,412,318)	(7,134)
Brownsville-Harlingen MSA	($766,650,693)	($397,957,423)	($263,439,404)	($108,565,504)	(4,670)
College Station-Bryan MSA	($403,782,795)	($209,104,453)	($138,840,579)	($60,762,873)	(2,452)
Corpus Christi MSA	($1,219,121,421)	($587,268,375)	($388,551,140)	($163,055,729)	(6,681)
Dallas-Plano-Irving MD*	($8,644,907,730)	($4,303,423,696)	($2,781,899,636)	($1,004,097,310)	(46,071)
Fort Worth-Arlington MD*	($5,248,422,645)	($2,643,263,158)	($1,738,999,375)	($676,284,737)	(29,677)
El Paso MSA	($1,846,489,558)	($928,351,523)	($601,249,727)	($226,119,711)	(10,240)
Houston-The Woodlands-Sugar Land MSA	($13,301,421,558)	($6,282,775,460)	($4,105,042,118)	($1,381,419,897)	(66,835)
Killeen-Temple MSA	($785,873,740)	($424,334,144)	($286,118,762)	($122,089,235)	(5,067)
Laredo MSA	($301,165,728)	($159,350,371)	($106,908,816)	($49,117,438)	(1,908)
Longview MSA	($638,122,221)	($330,797,112)	($222,774,640)	($94,977,278)	(3,875)
Lubbock MSA	($743,866,533)	($395,003,416)	($261,811,661)	($101,378,352)	(4,493)
McAllen-Edinburg-Mission MSA	($1,089,390,398)	($585,812,249)	($394,412,060)	($162,566,512)	(6,993)
Midland MSA	($271,250,203)	($137,601,697)	($89,948,998)	($39,201,147)	(1,527)
Odessa MSA	($309,424,349)	($158,435,038)	($107,055,324)	($45,924,335)	(1,855)
San Angelo MSA	($305,680,428)	($153,662,300)	($99,635,918)	($41,996,679)	(1,757)
San Antonio-New Braunfels MSA	($5,164,805,936)	($2,659,333,327)	($1,755,114,699)	($687,644,136)	(30,126)
Sherman-Denison MSA	($376,836,700)	($204,087,893)	($137,761,380)	($59,448,066)	(2,447)
Texarkana MSA	($263,040,871)	($141,985,214)	($96,138,304)	($40,571,192)	(1,683)
Tyler MSA	($674,310,658)	($341,563,093)	($222,660,966)	($90,917,995)	(3,854)
Victoria MSA	($275,519,208)	($140,330,006)	($94,509,351)	($40,383,362)	(1,630)
Waco MSA	($774,779,454)	($392,679,774)	($257,027,142)	($101,713,548)	(4,470)
Wichita Falls MSA	($395,881,014)	($214,925,375)	($144,601,476)	($63,241,767)	(2,541)
Rural Texas	($8,266,664,832)	($4,278,874,030)	($2,860,648,975)	($1,317,206,087)	(50,895)
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 1 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Anderson	($136,038,549)	($74,955,323)	($50,958,474)	($21,261,710)	(890)
Andrews	($27,491,191)	($13,570,798)	($8,660,125)	($4,376,788)	(149)
Angelina	($257,306,883)	($134,631,174)	($90,458,435)	($39,162,470)	(1,599)
Aransas	($110,005,903)	($50,953,955)	($32,463,236)	($16,247,260)	(575)
Archer	($17,693,685)	($8,747,507)	($5,601,531)	($3,083,271)	(102)
Armstrong	($6,661,266)	($3,457,016)	($2,373,909)	($715,262)	(39)
Atascosa	($107,386,364)	($53,183,547)	($35,587,032)	($14,932,453)	(611)
Austin	($75,699,803)	($35,592,790)	($22,765,249)	($9,418,165)	(373)
Bailey	($10,416,706)	($5,343,812)	($3,349,708)	($1,880,360)	(59)
Bandera	($69,980,697)	($34,899,407)	($22,584,073)	($11,175,861)	(404)
Bastrop	($179,285,170)	($89,226,414)	($58,107,929)	($27,517,035)	(1,034)
Baylor	($17,037,179)	($9,180,676)	($6,200,524)	($2,723,529)	(108)
Bee	($55,290,033)	($29,820,770)	($20,311,208)	($9,391,480)	(365)
Bell	($586,834,910)	($319,782,371)	($216,312,556)	($90,346,034)	(3,806)
Bexar	($4,143,892,139)	($2,147,525,420)	($1,419,160,542)	($530,994,257)	(24,104)
Blanco	($28,372,159)	($14,054,323)	($9,087,855)	($4,106,263)	(160)
Borden	($7,700,992)	($3,506,754)	($2,102,320)	($1,057,623)	(34)
Bosque	($63,228,612)	($32,977,336)	($22,313,589)	($8,267,216)	(385)
Bowie	($263,040,871)	($141,985,214)	($96,138,304)	($40,571,192)	(1,683)
Brazoria	($583,862,165)	($283,634,561)	($187,956,189)	($91,155,593)	(3,332)
Brazos	($302,052,065)	($156,403,528)	($103,609,439)	($42,167,743)	(1,814)
Brewster	($23,922,366)	($13,300,169)	($8,992,119)	($3,850,507)	(158)
Briscoe	($4,250,804)	($1,912,563)	($1,176,851)	($746,305)	(22)
Brooks	($14,362,704)	($8,122,534)	($5,687,660)	($2,817,444)	(105)
Brown	($112,924,800)	($63,497,081)	($43,179,766)	($20,191,681)	(791)
Burleson	($51,008,721)	($26,543,493)	($17,655,132)	($9,391,480)	(317)
Burnet	($134,878,820)	($67,338,921)	($43,852,135)	($19,346,448)	(767)
Caldwell	($97,217,615)	($49,504,307)	($33,709,828)	($14,462,879)	(593)
Calhoun	($34,819,209)	($14,519,408)	($9,348,891)	($4,716,093)	(164)
Callahan	($46,548,061)	($22,719,866)	($14,906,145)	($7,043,610)	(263)
Cameron	($766,650,693)	($397,957,423)	($263,439,404)	($108,565,504)	(4,670)
Camp	($32,501,871)	($17,154,262)	($11,730,732)	($4,583,603)	(206)
Carson	($7,661,641)	($3,028,843)	($1,774,131)	($586,524)	(29)
Cass	($88,663,469)	($46,124,532)	($31,292,647)	($15,596,278)	(562)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 2 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Castro	($8,904,210)	($4,077,797)	($2,555,749)	($1,536,725)	(48)
Chambers	($67,460,828)	($26,987,835)	($16,836,620)	($7,794,607)	(288)
Cherokee	($135,648,648)	($72,876,768)	($50,131,834)	($21,154,709)	(889)
Childress	($18,743,784)	($9,790,498)	($6,620,598)	($3,193,103)	(121)
Clay	($31,392,044)	($15,932,785)	($10,818,010)	($4,467,022)	(185)
Cochran	($4,089,115)	($1,947,188)	($1,246,255)	($564,481)	(22)
Coke	($13,035,068)	($6,322,900)	($4,081,089)	($2,165,823)	(71)
Coleman	($35,152,733)	($18,440,387)	($12,371,893)	($5,540,973)	(218)
Collin	($1,208,122,149)	($629,440,545)	($415,238,383)	($170,325,845)	(7,061)
Collingsworth	($8,150,534)	($4,396,525)	($2,936,720)	($1,530,583)	(52)
Colorado	($77,356,922)	($40,027,710)	($27,008,966)	($12,474,687)	(495)
Comal	($300,933,598)	($153,408,898)	($100,785,406)	($43,482,551)	(1,804)
Comanche	($47,184,520)	($25,026,922)	($16,910,494)	($7,004,040)	(294)
Concho	($8,072,675)	($4,411,387)	($3,101,029)	($1,182,153)	(54)
Cooke	($115,118,948)	($56,168,985)	($37,126,041)	($17,937,726)	(652)
Coryell	($128,338,457)	($67,601,914)	($45,057,644)	($20,473,426)	(812)
Cottle	($6,730,647)	($3,845,447)	($2,601,011)	($1,093,609)	(44)
Crane	($5,351,831)	($2,905,149)	($2,016,861)	($743,195)	(35)
Crockett	($6,617,860)	($3,311,520)	($2,111,047)	($1,502,637)	(41)
Crosby	($15,168,767)	($8,396,312)	($5,758,879)	($1,769,703)	(97)
Culberson	($4,074,019)	($2,315,961)	($1,552,517)	($1,033,063)	(30)
Dallam	($10,443,277)	($5,306,318)	($3,327,681)	($1,532,935)	(58)
Dallas	($5,488,213,188)	($2,692,622,106)	($1,722,042,139)	($561,164,392)	(27,808)
Dawson	($31,464,724)	($15,144,810)	($9,306,687)	($5,417,026)	(168)
Deaf Smith	($22,824,629)	($10,921,656)	($6,954,234)	($2,933,491)	(120)
Delta	($14,710,861)	($7,779,060)	($5,384,785)	($1,482,976)	(88)
Denton	($1,067,797,994)	($535,384,370)	($349,602,589)	($136,364,284)	(5,942)
DeWitt	($69,616,948)	($36,806,970)	($24,896,713)	($10,518,457)	(438)
Dickens	($7,610,801)	($3,927,054)	($2,578,383)	($1,364,061)	(45)
Dimmit	($16,332,418)	($8,671,218)	($5,993,885)	($3,005,273)	(110)
Donley	($13,623,025)	($7,756,136)	($5,382,669)	($2,723,529)	(100)
Duval	($24,864,050)	($12,651,208)	($8,627,571)	($3,313,276)	(150)
Eastland	($59,578,125)	($30,084,289)	($20,048,515)	($10,236,713)	(368)
Ector	($309,424,349)	($158,435,038)	($107,055,324)	($45,924,335)	(1,855)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 3 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Edwards	($4,481,729)	($2,156,134)	($1,291,697)	($764,738)	(23)
El Paso	($1,843,601,984)	($926,927,968)	($600,406,833)	($225,301,596)	(10,222)
Ellis	($289,518,357)	($139,242,650)	($89,837,185)	($43,548,885)	(1,601)
Erath	($80,976,572)	($44,801,305)	($30,713,751)	($14,181,134)	(557)
Falls	($54,878,200)	($29,837,164)	($20,340,424)	($8,174,411)	(355)
Fannin	($116,974,696)	($62,221,222)	($41,892,822)	($17,253,246)	(733)
Fayette	($106,380,368)	($54,807,645)	($36,292,287)	($14,650,708)	(630)
Fisher	($12,430,158)	($6,810,319)	($4,582,004)	($2,053,199)	(81)
Floyd	($12,685,395)	($5,957,701)	($3,788,415)	($1,461,180)	(64)
Foard	($3,208,240)	($1,829,260)	($1,291,523)	($487,510)	(23)
Fort Bend	($975,741,825)	($461,916,500)	($296,954,571)	($127,462,047)	(5,012)
Franklin	($24,837,668)	($12,744,533)	($8,559,935)	($3,860,418)	(152)
Freestone	($53,039,912)	($26,478,684)	($17,325,791)	($9,391,480)	(314)
Frio	($34,797,966)	($17,284,509)	($11,404,053)	($5,015,016)	(200)
Gaines	($20,411,827)	($9,170,552)	($5,643,942)	($3,083,624)	(99)
Galveston	($894,742,122)	($444,527,026)	($294,286,749)	($121,056,172)	(5,075)
Garza	($10,890,582)	($5,080,271)	($3,225,886)	($1,889,156)	(57)
Gillespie	($101,049,520)	($51,924,993)	($34,690,009)	($15,026,367)	(615)
Glasscock	($1,036,148)	($443,527)	($263,329)	($90,249)	(4)
Goliad	($18,426,995)	($9,931,984)	($6,863,460)	($3,850,507)	(128)
Gonzales	($39,511,699)	($20,910,668)	($14,255,455)	($6,248,685)	(253)
Gray	($76,406,604)	($37,854,133)	($25,593,596)	($11,973,640)	(450)
Grayson	($376,836,700)	($204,087,893)	($137,761,380)	($59,448,066)	(2,447)
Gregg	($379,465,129)	($202,057,300)	($137,098,349)	($56,067,133)	(2,378)
Grimes	($47,116,569)	($24,415,584)	($16,440,411)	($7,996,451)	(295)
Guadalupe	($240,044,422)	($119,943,240)	($78,073,995)	($41,604,255)	(1,432)
Hale	($61,399,449)	($33,901,191)	($22,895,789)	($11,749,509)	(421)
Hall	($11,856,549)	($6,086,239)	($3,924,267)	($1,800,638)	(68)
Hamilton	($25,727,614)	($13,539,840)	($9,199,807)	($4,413,995)	(166)
Hansford	($6,577,287)	($2,653,207)	($1,554,445)	($779,552)	(26)
Hardeman	($11,715,258)	($6,376,878)	($4,242,235)	($2,535,699)	(81)
Hardin	($145,488,960)	($73,324,069)	($48,236,673)	($23,854,358)	(858)
Harris	($9,332,160,462)	($4,352,334,569)	($2,835,732,955)	($847,628,798)	(45,094)
Harrison	($203,052,540)	($98,118,236)	($65,969,750)	($24,675,985)	(1,104)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 4 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Hartley	($2,833,317)	($1,353,936)	($870,323)	($410,057)	(16)
Haskell	($18,393,043)	($9,776,244)	($6,757,654)	($2,751,729)	(117)
Hays	($254,014,808)	($133,781,818)	($88,568,459)	($38,317,237)	(1,560)
Hemphill	($4,547,702)	($2,085,867)	($1,328,237)	($616,625)	(23)
Henderson	($324,397,982)	($165,219,819)	($109,161,065)	($46,487,824)	(1,919)
Hidalgo	($1,089,390,398)	($585,812,249)	($394,412,060)	($162,566,512)	(6,993)
Hill	($118,563,186)	($59,477,034)	($39,180,239)	($18,407,300)	(719)
Hockley	($41,326,524)	($21,096,932)	($14,246,066)	($7,009,251)	(259)
Hood	($191,231,673)	($97,262,863)	($64,890,309)	($28,644,013)	(1,142)
Hopkins	($91,704,768)	($47,523,402)	($31,544,991)	($16,622,919)	(572)
Houston	($91,555,955)	($46,401,265)	($31,362,356)	($10,566,938)	(517)
Howard	($96,655,322)	($48,481,816)	($32,511,148)	($14,368,964)	(570)
Hudspeth	($2,887,575)	($1,423,555)	($842,894)	($818,115)	(18)
Hunt	($221,516,019)	($115,358,136)	($76,973,432)	($37,284,174)	(1,387)
Hutchinson	($53,443,031)	($24,281,977)	($15,598,686)	($10,831,009)	(290)
Irion	($3,582,598)	($1,408,052)	($813,949)	($486,340)	(14)
Jack	($19,584,891)	($9,382,176)	($6,075,135)	($3,462,521)	(108)
Jackson	($32,542,252)	($16,344,338)	($10,523,516)	($6,031,442)	(192)
Jasper	($109,600,700)	($58,885,231)	($40,123,561)	($18,528,954)	(723)
Jeff Davis	($8,482,972)	($4,413,646)	($2,958,378)	($1,298,921)	(52)
Jefferson	($761,811,459)	($396,165,291)	($271,201,259)	($112,228,181)	(4,670)
Jim Hogg	($10,636,136)	($5,284,994)	($3,324,510)	($2,253,955)	(63)
Jim Wells	($85,752,480)	($47,592,218)	($32,184,994)	($14,650,708)	(573)
Johnson	($366,044,556)	($189,082,447)	($127,494,671)	($54,376,667)	(2,252)
Jones	($60,352,978)	($31,200,003)	($20,999,267)	($8,420,056)	(366)
Karnes	($45,788,931)	($21,883,441)	($14,415,998)	($6,480,121)	(251)
Kaufman	($238,681,164)	($122,916,838)	($82,381,763)	($36,438,941)	(1,478)
Kendall	($94,513,976)	($45,970,089)	($29,936,422)	($13,993,305)	(528)
Kenedy	($2,549,832)	($1,190,223)	($757,123)	($718,658)	(18)
Kent	($2,920,819)	($1,331,989)	($815,946)	($424,183)	(14)
Kerr	($183,568,254)	($96,455,841)	($63,803,122)	($28,644,013)	(1,139)
Kimble	($16,620,236)	($7,538,088)	($4,671,650)	($2,535,699)	(83)
King	($3,565,583)	($1,678,360)	($1,041,426)	($378,123)	(17)
Kinney	($13,127,258)	($6,250,255)	($3,894,772)	($2,022,915)	(71)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 5 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Kleberg	($71,769,142)	($36,884,369)	($24,767,713)	($10,988,031)	(441)
Knox	($11,279,296)	($5,980,425)	($4,038,488)	($1,506,996)	(68)
La Salle	($10,615,668)	($5,756,450)	($3,919,271)	($1,972,211)	(73)
Lamar	($162,086,914)	($83,861,878)	($56,867,051)	($25,432,427)	(1,014)
Lamb	($24,183,976)	($11,581,654)	($7,558,345)	($3,610,530)	(131)
Lampasas	($70,700,373)	($36,949,859)	($24,748,562)	($11,269,776)	(449)
Lavaca	($74,473,758)	($40,766,187)	($27,692,260)	($11,930,806)	(493)
Lee	($44,213,814)	($22,070,455)	($14,467,984)	($6,581,018)	(252)
Leon	($42,202,333)	($21,570,958)	($13,596,361)	($8,754,987)	(252)
Liberty	($209,905,961)	($110,067,995)	($74,889,714)	($31,285,720)	(1,295)
Limestone	($65,456,072)	($34,933,947)	($24,167,248)	($11,363,690)	(431)
Lipscomb	($7,263,566)	($3,169,000)	($1,917,584)	($831,108)	(32)
Live Oak	($45,722,474)	($22,001,717)	($14,481,090)	($7,888,843)	(261)
Llano	($114,659,501)	($58,945,084)	($38,928,419)	($17,186,408)	(690)
Loving	($1,208,886)	($398,501)	($251,570)	($131,932)	(5)
Lubbock	($718,672,260)	($381,713,727)	($252,979,472)	($98,610,536)	(4,346)
Lynn	($10,025,505)	($4,893,377)	($3,073,310)	($998,113)	(49)
Madison	($30,541,469)	($16,108,599)	($10,755,131)	($5,259,229)	(196)
Marion	($40,065,011)	($20,786,936)	($14,070,984)	($6,574,036)	(256)
Martin	($8,634,660)	($4,252,749)	($2,854,975)	($1,115,265)	(48)
Mason	($17,679,073)	($8,896,127)	($5,836,115)	($2,629,614)	(103)
Matagorda	($95,104,289)	($44,521,641)	($29,224,923)	($16,845,450)	(531)
Maverick	($81,038,287)	($42,685,346)	($28,534,132)	($13,148,071)	(521)
McCulloch	($29,725,451)	($15,802,786)	($10,751,473)	($4,789,655)	(189)
McLennan	($719,901,254)	($362,842,610)	($236,686,718)	($93,539,137)	(4,115)
McMullen	($1,138,550)	($495,254)	($298,490)	($132,213)	(5)
Medina	($106,396,224)	($52,615,331)	($34,270,509)	($15,965,515)	(618)
Menard	($7,596,338)	($3,856,047)	($2,431,722)	($1,502,637)	(44)
Midland	($262,615,543)	($133,348,948)	($87,094,023)	($38,085,882)	(1,479)
Milam	($64,565,683)	($32,903,008)	($22,261,183)	($10,995,934)	(399)
Mills	($12,965,723)	($7,711,940)	($5,350,106)	($2,453,950)	(96)
Mitchell	($23,298,731)	($12,470,788)	($8,439,888)	($3,812,196)	(149)
Montague	($73,492,156)	($36,893,709)	($24,424,696)	($10,988,031)	(438)
Montgomery	($1,084,422,954)	($533,374,480)	($354,502,313)	($133,409,871)	(5,975)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 6 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Moore	($34,148,452)	($14,517,023)	($9,129,112)	($4,700,026)	(158)
Morris	($36,302,070)	($16,569,092)	($11,105,568)	($3,942,388)	(186)
Motley	($5,411,748)	($2,628,645)	($1,661,584)	($807,074)	(29)
Nacogdoches	($152,426,551)	($82,881,717)	($56,853,136)	($26,014,398)	(1,038)
Navarro	($147,389,605)	($75,345,796)	($50,721,694)	($20,241,977)	(889)
Newton	($19,863,463)	($11,859,026)	($8,338,676)	($4,486,010)	(150)
Nolan	($51,383,627)	($26,859,070)	($17,647,916)	($8,164,994)	(312)
Nueces	($944,423,938)	($455,338,388)	($301,255,586)	($120,023,109)	(5,121)
Ochiltree	($13,102,217)	($5,981,559)	($3,793,957)	($1,983,265)	(65)
Oldham	($1,542,914)	($831,800)	($545,133)	($436,573)	(12)
Orange	($235,849,068)	($120,568,499)	($81,931,529)	($38,843,768)	(1,456)
Palo Pinto	($96,407,675)	($46,202,226)	($29,716,972)	($14,462,879)	(530)
Panola	($68,950,218)	($34,866,858)	($23,641,515)	($10,449,874)	(413)
Parker	($281,148,027)	($133,810,194)	($85,162,311)	($41,228,595)	(1,511)
Parmer	($7,465,232)	($3,231,995)	($2,097,113)	($560,632)	(34)
Pecos	($26,439,147)	($13,317,183)	($8,734,807)	($4,789,655)	(160)
Polk	($201,214,256)	($105,856,550)	($70,427,400)	($34,278,901)	(1,245)
Potter	($340,662,175)	($178,738,613)	($118,934,557)	($46,769,568)	(2,037)
Presidio	($16,542,537)	($7,890,462)	($4,977,743)	($2,723,529)	(89)
Rains	($28,331,981)	($12,923,509)	($7,826,489)	($5,217,920)	(143)
Randall	($295,491,631)	($154,987,133)	($101,478,149)	($44,631,117)	(1,776)
Reagan	($3,775,376)	($1,847,875)	($1,128,900)	($807,704)	(21)
Real	($15,902,891)	($7,676,863)	($5,019,201)	($2,253,955)	(88)
Red River	($51,388,763)	($26,700,500)	($17,805,419)	($7,385,403)	(314)
Reeves	($24,556,861)	($12,226,642)	($7,986,946)	($4,883,569)	(150)
Refugio	($18,681,064)	($9,128,606)	($5,660,724)	($4,507,910)	(111)
Roberts	($1,583,996)	($686,845)	($409,841)	($368,071)	(8)
Robertson	($50,722,009)	($26,157,432)	($17,576,008)	($9,203,650)	(321)
Rockwall	($131,058,859)	($68,459,051)	($45,824,144)	($18,970,789)	(795)
Runnels	($38,209,533)	($17,537,270)	($11,230,374)	($5,229,751)	(199)
Rusk	($138,805,218)	($68,261,429)	($46,041,820)	($19,563,697)	(799)
Sabine	($41,561,171)	($21,443,032)	($14,937,578)	($6,919,751)	(267)
San Augustine	($35,480,015)	($17,920,505)	($12,002,160)	($4,920,805)	(209)
San Jacinto	($78,133,088)	($39,335,763)	($25,978,112)	($12,772,412)	(465)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 7 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
San Patricio	($164,691,580)	($80,976,032)	($54,832,318)	($26,785,359)	(986)
San Saba	($17,583,592)	($9,530,065)	($6,300,071)	($3,193,103)	(116)
Schleicher	($5,356,147)	($2,836,094)	($1,987,867)	($534,525)	(33)
Scurry	($36,054,869)	($19,015,045)	($12,044,328)	($7,473,970)	(224)
Shackelford	($7,135,477)	($3,545,392)	($2,322,416)	($1,192,115)	(42)
Shelby	($61,864,040)	($33,586,607)	($23,353,268)	($10,527,800)	(417)
Sherman	($1,758,152)	($736,237)	($444,866)	($220,636)	(8)
Smith	($674,310,658)	($341,563,093)	($222,660,966)	($90,917,995)	(3,854)
Somervell	($12,248,961)	($6,060,918)	($4,202,830)	($1,225,184)	(71)
Starr	($65,310,636)	($37,107,776)	($26,060,550)	($12,960,242)	(483)
Stephens	($24,322,266)	($13,219,965)	($8,798,248)	($5,229,079)	(163)
Sterling	($1,854,610)	($1,035,792)	($692,469)	($469,574)	(13)
Stonewall	($4,105,032)	($2,274,204)	($1,544,824)	($857,527)	(29)
Sutton	($8,785,058)	($4,562,670)	($2,949,043)	($1,784,381)	(54)
Swisher	($12,314,920)	($5,668,247)	($3,548,583)	($1,725,826)	(63)
Tarrant	($4,282,191,854)	($2,158,381,167)	($1,418,896,031)	($530,900,342)	(24,017)
Taylor	($358,542,991)	($182,486,478)	($119,930,848)	($47,051,313)	(2,055)
Terrell	($2,218,517)	($1,221,330)	($816,532)	($415,536)	(14)
Terry	($22,724,077)	($11,229,735)	($6,886,695)	($4,678,962)	(128)
Throckmorton	($3,082,642)	($1,538,820)	($984,496)	($499,895)	(17)
Titus	($58,679,313)	($30,402,749)	($20,762,509)	($10,594,332)	(377)
Tom Green	($302,097,830)	($152,254,248)	($98,821,969)	($41,510,340)	(1,743)
Travis	($1,675,406,947)	($899,402,337)	($592,241,182)	($223,367,100)	(9,948)
Trinity	($59,921,404)	($32,820,797)	($22,142,825)	($10,216,027)	(399)
Tyler	($68,755,063)	($36,507,927)	($24,572,560)	($11,111,148)	(433)
Upshur	($119,851,874)	($60,478,382)	($39,634,471)	($19,346,448)	(697)
Upton	($7,097,101)	($3,528,671)	($2,293,768)	($1,024,937)	(39)
Uvalde	($64,222,609)	($33,996,343)	($22,892,438)	($9,861,054)	(410)
Val Verde	($88,709,251)	($50,303,926)	($34,223,024)	($14,462,879)	(606)
Van Zandt	($154,619,601)	($87,142,254)	($59,483,791)	($27,047,461)	(1,072)
Victoria	($257,092,213)	($130,398,023)	($87,645,892)	($36,532,856)	(1,502)
Walker	($239,980,881)	($130,384,065)	($87,897,189)	($38,786,811)	(1,568)
Waller	($77,425,438)	($34,339,703)	($21,117,759)	($12,208,923)	(391)
Ward	($23,094,097)	($11,816,700)	($7,705,629)	($4,413,995)	(141)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by County (Table 8 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Washington	($102,417,912)	($55,172,534)	($37,137,846)	($15,420,025)	(647)
Webb	($301,165,728)	($159,350,371)	($106,908,816)	($49,117,438)	(1,908)
Wharton	($116,771,051)	($62,733,824)	($42,815,848)	($19,424,998)	(767)
Wheeler	($12,008,344)	($6,604,696)	($4,461,757)	($2,432,667)	(83)
Wichita	($346,795,284)	($190,245,084)	($128,181,934)	($55,691,474)	(2,253)
Wilbarger	($50,057,987)	($25,656,763)	($17,284,392)	($7,607,098)	(304)
Willacy	($37,620,133)	($20,860,618)	($13,900,118)	($6,896,083)	(253)
Williamson	($439,978,721)	($235,696,756)	($156,762,208)	($71,482,674)	(2,744)
Wilson	($101,658,517)	($51,787,394)	($34,716,719)	($15,495,941)	(625)
Winkler	($12,217,541)	($6,141,365)	($4,021,090)	($2,297,816)	(72)
Wise	($115,557,574)	($58,665,568)	($38,353,223)	($19,909,937)	(684)
Wood	($184,023,339)	($93,087,565)	($61,942,526)	($26,580,165)	(1,096)
Yoakum	($11,336,703)	($5,370,398)	($3,406,406)	($2,181,381)	(63)
Young	($60,017,252)	($31,129,013)	($20,451,626)	($10,549,618)	(366)
Zapata	($19,495,722)	($10,287,031)	($6,977,191)	($3,756,592)	(129)
Zavala	($14,783,018)	($8,770,395)	($6,247,329)	($2,934,932)	(116)
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by State House District (Table 1 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($501,354,216)	($265,292,126)	($179,370,708)	($77,249,439)	(3,164)
2	($467,840,388)	($250,023,792)	($168,002,214)	($80,954,554)	(3,030)
3	($365,881,944)	($176,217,315)	($115,415,374)	($47,695,949)	(1,980)
4	($507,931,490)	($260,049,287)	($172,985,448)	($75,023,835)	(3,071)
5	($501,673,132)	($252,112,319)	($166,806,456)	($72,738,726)	(2,932)
6	($512,476,100)	($259,587,951)	($169,222,335)	($69,097,676)	(2,929)
7	($499,317,003)	($262,535,682)	($176,732,820)	($75,413,581)	(3,075)
8	($455,031,251)	($236,256,837)	($158,186,197)	($69,302,467)	(2,812)
9	($504,156,449)	($254,926,201)	($173,265,743)	($74,743,725)	(3,020)
10	($344,666,014)	($167,330,019)	($108,394,566)	($51,451,815)	(1,927)
11	($426,880,417)	($224,019,915)	($153,026,790)	($66,732,804)	(2,726)
12	($435,354,987)	($224,805,890)	($149,667,206)	($63,550,332)	(2,632)
13	($534,454,052)	($277,325,944)	($184,992,151)	($81,282,322)	(3,249)
14	($253,723,735)	($131,378,964)	($87,031,929)	($35,420,904)	(1,524)
15	($397,983,224)	($195,748,434)	($130,102,349)	($48,961,423)	(2,193)
16	($397,983,224)	($195,748,434)	($130,102,349)	($48,961,423)	(2,193)
17	($406,017,229)	($203,595,285)	($134,957,194)	($61,289,738)	(2,384)
18	($528,019,930)	($279,787,824)	($188,765,015)	($82,844,943)	(3,329)
19	($544,922,441)	($286,432,803)	($191,698,870)	($92,259,371)	(3,409)
20	($296,239,821)	($152,095,215)	($100,601,004)	($46,068,570)	(1,769)
21	($510,101,193)	($263,188,004)	($179,563,982)	($79,245,913)	(3,137)
22	($487,559,334)	($253,545,786)	($173,568,806)	($71,826,036)	(2,989)
23	($461,147,362)	($222,579,726)	($146,322,790)	($61,059,322)	(2,521)
24	($501,055,588)	($248,935,135)	($164,800,579)	($67,791,456)	(2,842)
25	($352,003,641)	($169,320,848)	($111,925,646)	($56,953,911)	(1,997)
26	($265,401,776)	($125,641,288)	($80,771,643)	($34,669,677)	(1,363)
27	($265,401,776)	($125,641,288)	($80,771,643)	($34,669,677)	(1,363)
28	($265,401,776)	($125,641,288)	($80,771,643)	($34,669,677)	(1,363)
29	($326,962,812)	($158,835,354)	($105,255,466)	($51,047,132)	(1,866)
30	($508,642,331)	($251,738,945)	($166,878,916)	($76,373,083)	(2,918)
31	($320,206,546)	($166,654,321)	($112,643,414)	($53,885,377)	(2,021)
32	($462,767,730)	($223,115,810)	($147,615,237)	($58,811,324)	(2,509)
33	($276,033,517)	($143,991,916)	($95,652,750)	($39,409,890)	(1,643)
34	($481,656,209)	($232,222,578)	($153,640,349)	($61,211,786)	(2,612)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by State House District (Table 2 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
35	($269,772,589)	($142,636,730)	($95,269,442)	($39,264,649)	(1,689)
36	($237,487,107)	($127,707,070)	($85,981,829)	($35,439,500)	(1,524)
37	($321,993,291)	($167,142,118)	($110,644,550)	($45,597,512)	(1,961)
38	($314,326,784)	($163,162,543)	($108,010,156)	($44,511,857)	(1,915)
39	($237,487,107)	($127,707,070)	($85,981,829)	($35,439,500)	(1,524)
40	($237,487,107)	($127,707,070)	($85,981,829)	($35,439,500)	(1,524)
41	($237,487,107)	($127,707,070)	($85,981,829)	($35,439,500)	(1,524)
42	($192,746,066)	($101,984,237)	($68,421,642)	($31,435,161)	(1,221)
43	($377,503,235)	($195,273,389)	($132,096,233)	($61,815,578)	(2,364)
44	($341,702,938)	($171,730,634)	($112,790,714)	($57,100,196)	(2,058)
45	($282,386,967)	($147,836,141)	($97,656,314)	($42,423,499)	(1,720)
46	($273,091,332)	($146,602,581)	($96,535,313)	($36,408,837)	(1,621)
47	($284,819,181)	($152,898,397)	($100,681,001)	($37,972,407)	(1,691)
48	($284,819,181)	($152,898,397)	($100,681,001)	($37,972,407)	(1,691)
49	($274,766,739)	($147,501,983)	($97,127,554)	($36,632,204)	(1,631)
50	($273,091,332)	($146,602,581)	($96,535,313)	($36,408,837)	(1,621)
51	($284,819,181)	($152,898,397)	($100,681,001)	($37,972,407)	(1,691)
52	($171,591,701)	($91,921,735)	($61,137,261)	($27,878,243)	(1,070)
53	($557,644,009)	($283,749,207)	($185,884,467)	($86,479,982)	(3,320)
54	($352,381,130)	($190,445,397)	($128,578,589)	($54,635,872)	(2,275)
55	($305,154,153)	($166,286,833)	($112,482,529)	($46,979,938)	(1,979)
56	($503,930,878)	($253,989,827)	($165,680,702)	($65,477,396)	(2,881)
57	($517,008,059)	($269,453,299)	($180,317,269)	($78,880,457)	(3,171)
58	($429,273,168)	($222,059,783)	($149,808,260)	($62,643,883)	(2,637)
59	($354,750,890)	($190,075,690)	($128,486,176)	($57,734,486)	(2,301)
60	($573,300,811)	($294,972,068)	($196,234,265)	($92,541,063)	(3,516)
61	($396,705,601)	($192,475,762)	($123,515,534)	($61,138,532)	(2,195)
62	($508,522,257)	($274,088,174)	($185,038,987)	($78,184,288)	(3,268)
63	($266,949,499)	($133,846,092)	($87,400,647)	($34,091,071)	(1,485)
64	($266,949,499)	($133,846,092)	($87,400,647)	($34,091,071)	(1,485)
65	($266,949,499)	($133,846,092)	($87,400,647)	($34,091,071)	(1,485)
66	($265,786,873)	($138,476,920)	($91,352,444)	($37,471,686)	(1,553)
67	($265,786,873)	($138,476,920)	($91,352,444)	($37,471,686)	(1,553)
68	($483,740,919)	($245,730,848)	($162,887,978)	($77,387,124)	(2,884)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by State House District (Table 3 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
69	($427,405,728)	($231,915,736)	($156,132,011)	($67,959,802)	(2,740)
70	($265,786,873)	($138,476,920)	($91,352,444)	($37,471,686)	(1,553)
71	($470,279,596)	($240,545,552)	($158,578,031)	($63,636,363)	(2,732)
72	($468,319,160)	($233,742,867)	($152,644,257)	($66,310,898)	(2,688)
73	($496,497,094)	($251,303,980)	($165,411,838)	($72,502,223)	(2,947)
74	($293,207,676)	($155,746,977)	($103,765,434)	($49,578,692)	(1,874)
75	($368,720,397)	($185,385,594)	($120,081,367)	($45,060,319)	(2,044)
76	($368,720,397)	($185,385,594)	($120,081,367)	($45,060,319)	(2,044)
77	($368,720,397)	($185,385,594)	($120,081,367)	($45,060,319)	(2,044)
78	($368,720,397)	($185,385,594)	($120,081,367)	($45,060,319)	(2,044)
79	($368,720,397)	($185,385,594)	($120,081,367)	($45,060,319)	(2,044)
80	($258,051,395)	($136,375,629)	($92,002,070)	($42,255,146)	(1,652)
81	($372,227,179)	($189,963,900)	($127,442,168)	($57,012,935)	(2,217)
82	($315,163,861)	($159,180,327)	($103,566,314)	($46,386,305)	(1,769)
83	($407,684,906)	($212,971,741)	($139,382,272)	($60,548,703)	(2,422)
84	($431,203,356)	($229,028,236)	($151,787,683)	($59,166,321)	(2,608)
85	($328,849,798)	($164,070,798)	($107,979,005)	($48,909,456)	(1,881)
86	($340,601,001)	($176,632,837)	($115,272,632)	($50,504,805)	(2,016)
87	($437,673,452)	($221,302,694)	($145,881,353)	($63,107,763)	(2,522)
88	($307,988,069)	($154,543,545)	($102,337,991)	($50,995,420)	(1,832)
89	($265,786,873)	($138,476,920)	($91,352,444)	($37,471,686)	(1,553)
90	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
91	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
92	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
93	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
94	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
95	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
96	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
97	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
98	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
99	($389,679,459)	($196,412,686)	($129,119,539)	($48,311,931)	(2,186)
100	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
101	($385,397,267)	($194,254,305)	($127,700,643)	($47,781,031)	(2,162)
102	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by State House District (Table 4 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
103	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
104	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
105	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
106	($266,949,499)	($133,846,092)	($87,400,647)	($34,091,071)	(1,485)
107	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
108	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
109	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
110	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
111	($397,895,456)	($195,215,103)	($124,848,055)	($40,684,418)	(2,016)
112	($389,663,136)	($191,176,170)	($122,264,992)	($39,842,672)	(1,974)
113	($397,895,456)	($195,215,103)	($124,848,055)	($40,684,418)	(2,016)
114	($397,895,456)	($195,215,103)	($124,848,055)	($40,684,418)	(2,016)
115	($397,895,456)	($195,215,103)	($124,848,055)	($40,684,418)	(2,016)
116	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
117	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
118	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
119	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
120	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
121	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
122	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
123	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
124	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
125	($414,389,214)	($214,752,542)	($141,916,054)	($53,099,426)	(2,410)
126	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
127	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
128	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
129	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
130	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
131	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
132	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
133	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
134	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
135	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
136	($171,591,701)	($91,921,735)	($61,137,261)	($27,878,243)	(1,070)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by State House District (Table 5 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
137	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
138	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
139	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
140	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
141	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
142	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
143	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
144	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
145	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
146	($391,950,739)	($182,798,052)	($119,100,784)	($35,600,410)	(1,894)
147	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
148	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
149	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
150	($382,618,579)	($178,445,717)	($116,265,051)	($34,752,781)	(1,849)
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by State Senate District

Senate District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($3,584,038,183)	($1,861,944,879)	($1,235,643,640)	($499,144,007)	(21,322)
2	($3,163,187,092)	($1,625,084,288)	($1,076,849,146)	($429,239,814)	(18,490)
3	($1,979,612,351)	($1,017,792,614)	($677,317,691)	($292,212,264)	(11,991)
4	($1,260,399,065)	($656,151,021)	($432,937,620)	($178,597,122)	(7,371)
5	($703,855,992)	($361,104,457)	($239,655,219)	($107,424,606)	(4,281)
6	($15,168,767)	($8,396,312)	($5,758,879)	($1,769,703)	(97)
7	($4,074,019)	($2,315,961)	($1,552,517)	($1,033,063)	(30)
8	($504,382,464)	($247,642,307)	($158,311,474)	($52,037,730)	(2,561)
9	($2,167,844,209)	($1,063,585,732)	($680,206,645)	($221,659,935)	(10,984)
10	($932,996,242)	($457,745,758)	($292,747,164)	($95,397,947)	(4,727)
11	($1,947,722,904)	($955,021,093)	($610,365,459)	($201,952,233)	(9,882)
12	($196,236,520)	($98,794,403)	($64,817,226)	($24,664,904)	(1,098)
13	($955,889,283)	($481,175,997)	($315,066,862)	($123,700,813)	(5,370)
14	($23,943,219)	($12,598,272)	($8,572,269)	($4,369,334)	(155)
15	($13,623,025)	($7,756,136)	($5,382,669)	($2,723,529)	(100)
16	($24,864,050)	($12,651,208)	($8,627,571)	($3,313,276)	(150)
17	($373,484,204)	($190,675,460)	($128,395,536)	($56,925,786)	(2,245)
18	($4,637,201,539)	($2,302,005,830)	($1,501,499,509)	($613,986,398)	(25,794)
19	($5,826,688,651)	($2,800,679,472)	($1,838,934,351)	($630,708,024)	(30,197)
20	($4,666,080,231)	($2,176,167,284)	($1,417,866,478)	($423,814,399)	(22,547)
21	($3,032,035,626)	($1,563,743,210)	($1,043,690,973)	($434,976,507)	(18,267)
22	($1,451,481,076)	($752,840,372)	($510,298,660)	($224,148,697)	(8,937)
23	($60,352,978)	($31,200,003)	($20,999,267)	($8,420,056)	(366)
24	($1,070,658,992)	($549,066,403)	($365,777,898)	($164,927,752)	(6,518)
25	($485,209,908)	($250,688,701)	($167,980,416)	($77,310,756)	(2,962)
26	($1,208,886)	($398,501)	($251,570)	($131,932)	(5)
27	($807,938,906)	($427,755,389)	($283,733,872)	($112,557,179)	(4,895)
28	($6,378,987,214)	($3,191,981,198)	($2,112,520,787)	($907,627,235)	(36,749)
29	($127,994,126)	($68,513,203)	($46,007,951)	($22,921,513)	(833)
30	($5,194,765,043)	($2,625,356,015)	($1,725,777,664)	($660,406,179)	(29,371)
31	($5,401,863,777)	($2,857,065,919)	($1,897,643,354)	($810,793,464)	(33,036)
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by US Congressional District (Table 1 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($2,120,305,374)	($1,089,451,525)	($728,841,825)	($305,317,771)	(12,712)
2	($1,586,467,279)	($739,896,877)	($482,074,602)	($144,096,896)	(7,666)
3	($1,075,228,712)	($560,202,085)	($369,562,161)	($151,590,002)	(6,284)
4	($1,881,803,735)	($987,884,081)	($663,650,896)	($296,685,507)	(11,750)
5	($1,871,830,261)	($957,792,387)	($631,607,193)	($247,433,362)	(10,821)
6	($1,635,921,681)	($818,935,173)	($537,849,768)	($212,442,958)	(9,214)
7	($1,586,467,279)	($739,896,877)	($482,074,602)	($144,096,896)	(7,666)
8	($1,835,618,485)	($918,731,339)	($611,367,505)	($239,549,860)	(10,420)
9	($1,550,437,921)	($724,805,965)	($471,241,256)	($150,533,543)	(7,566)
10	($1,538,477,796)	($765,250,624)	($501,159,915)	($189,545,914)	(8,418)
11	($1,898,887,436)	($970,389,956)	($641,980,977)	($288,912,608)	(11,295)
12	($1,653,694,956)	($825,787,927)	($539,977,838)	($213,572,577)	(9,223)
13	($1,764,284,695)	($909,508,475)	($602,195,519)	($271,350,001)	(10,557)
14	($1,942,646,042)	($979,673,253)	($657,586,540)	($277,950,594)	(11,377)
15	($1,102,456,391)	($578,885,974)	($386,954,238)	($171,005,658)	(6,906)
16	($1,603,933,726)	($806,427,332)	($522,353,944)	($196,012,388)	(8,893)
17	($1,618,941,053)	($833,041,732)	($549,411,944)	($230,614,356)	(9,591)
18	($1,586,467,279)	($739,896,877)	($482,074,602)	($144,096,896)	(7,666)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Direct Medical Expenses and Related Outlays Associated with Cancer Treatment on Business Activity in Texas: Results by US Congressional District (Table 2 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
19	($1,699,111,864)	($881,677,922)	($581,965,153)	($247,105,224)	(10,118)
20	($1,698,995,777)	($880,485,422)	($581,855,822)	($217,707,645)	(9,883)
21	($1,688,630,828)	($874,692,885)	($576,526,561)	($234,740,555)	(9,979)
22	($1,216,219,282)	($578,137,692)	($375,288,243)	($159,038,464)	(6,360)
23	($1,517,063,247)	($784,555,427)	($518,098,387)	($215,942,136)	(9,026)
24	($1,554,870,578)	($772,848,423)	($500,885,826)	($176,632,155)	(8,293)
25	($1,487,133,010)	($778,114,946)	($518,252,181)	($217,428,809)	(9,074)
26	($1,234,335,897)	($619,732,143)	($405,403,874)	($156,215,547)	(6,881)
27	($1,946,406,427)	($956,124,281)	($634,862,497)	($277,457,700)	(11,028)
28	($1,146,896,398)	($601,394,682)	($402,870,635)	($170,783,849)	(7,076)
29	($1,586,467,279)	($739,896,877)	($482,074,602)	($144,096,896)	(7,666)
30	($1,613,534,677)	($791,630,899)	($506,280,389)	($164,982,331)	(8,175)
31	($962,261,791)	($520,303,066)	($349,280,383)	($151,890,644)	(6,131)
32	($1,576,257,742)	($775,544,890)	($496,753,849)	($163,978,594)	(8,043)
33	($1,636,848,430)	($813,985,738)	($527,896,567)	($185,045,724)	(8,734)
34	($1,325,140,843)	($695,452,927)	($464,303,954)	($198,847,147)	(8,258)
35	($1,445,033,239)	($754,616,822)	($498,410,716)	($194,201,179)	(8,525)
36	($1,804,711,135)	($892,243,898)	($592,215,370)	($237,993,769)	(10,057)
Texas	**($56,993,788,542)**	**($28,657,897,395)**	**($18,875,190,336)**	**($7,388,896,157)**	**(321,333)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($543,980,933)	($161,950,376)	($97,934,096)	(1,715)
Mining	($3,903,135,651)	($1,875,778,676)	($641,477,112)	(2,484)
Construction	($1,561,830,576)	($761,288,076)	($574,043,920)	(8,510)
Manufacturing	($7,661,540,827)	($2,465,146,492)	($1,451,077,526)	(14,113)
Transportation & Utilities	($3,935,921,233)	($1,367,942,568)	($764,133,229)	(7,667)
Information	($1,067,597,848)	($716,055,140)	($312,412,268)	(2,584)
Wholesale Trade	($1,503,242,600)	($1,172,648,902)	($658,357,692)	(7,332)
Retail Trade*	($6,165,304,370)	($4,772,243,333)	($2,751,218,237)	(82,794)
Financial Activities*	($8,799,242,241)	($2,615,298,856)	($931,720,388)	(8,493)
Business Services	($2,692,265,977)	($1,953,129,578)	($1,581,313,444)	(17,735)
Health Services	($1,743,779,059)	($1,401,979,833)	($1,121,044,799)	(18,863)
Other Services	($2,825,229,841)	($1,491,477,983)	($1,136,579,136)	(25,446)
Total, All Industries	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Comptroller Region

Comptroller Region	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
High Plains	($1,414,885,769)	($722,774,905)	($418,670,478)	(238,441,219)	(7,166)
Northwest Texas	($1,196,588,305)	($615,731,531)	($350,220,412)	(206,510,544)	(5,987)
Metroplex	($10,988,848,703)	($5,403,589,577)	($3,127,574,971)	(1,521,225,064)	(50,600)
Upper East Texas	($2,486,677,804)	($1,249,383,714)	($723,039,756)	(422,120,854)	(12,449)
Southeast Texas	($1,651,574,047)	($829,981,654)	($502,201,086)	(304,343,810)	(8,799)
Gulf Coast	($11,083,894,006)	($5,120,034,740)	($2,901,147,557)	(1,225,765,540)	(43,646)
Capital	($2,214,036,944)	($1,140,467,691)	($680,270,971)	(364,119,310)	(11,593)
Central Texas	($1,807,806,137)	($911,644,310)	($540,323,227)	(325,954,369)	(9,687)
Alamo	($4,281,421,042)	($2,129,775,676)	($1,256,161,560)	(686,406,329)	(21,533)
South Texas	($2,953,349,159)	($1,491,544,261)	($868,232,562)	(512,316,079)	(15,233)
West Texas	($1,025,188,859)	($509,832,345)	($284,841,463)	(162,015,160)	(4,723)
Upper Rio Grande	($1,298,800,380)	($630,179,411)	($368,627,803)	(196,086,092)	(6,319)
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Council of Governments

Council of Governments	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Panhandle	($746,287,644)	($376,548,019)	($214,307,735)	($122,407,349)	(3,620)
South Plains	($668,598,125)	($346,226,885)	($204,362,742)	($116,033,870)	(3,547)
Nortex	($490,514,162)	($257,012,392)	($146,165,044)	($85,687,124)	(2,485)
North Central Texas	($10,573,452,742)	($5,191,128,597)	($2,999,295,855)	($1,442,247,446)	(48,315)
Ark-Tex	($538,490,421)	($272,281,024)	($163,776,076)	($104,818,239)	(2,968)
East Texas	($1,948,187,383)	($977,102,690)	($559,263,680)	($317,302,616)	(9,480)
West Central Texas	($706,074,144)	($358,719,140)	($204,055,367)	($120,823,420)	(3,502)
Rio Grande	($1,298,800,380)	($630,179,411)	($368,627,803)	($196,086,092)	(6,319)
Permian Basin	($707,042,019)	($353,542,396)	($197,865,384)	($110,361,056)	(3,211)
Concho Valley	($318,146,840)	($156,289,950)	($86,976,079)	($51,654,104)	(1,513)
Heart of Texas	($740,520,333)	($357,779,492)	($209,924,341)	($124,519,539)	(3,745)
Capital Area	($2,214,036,944)	($1,140,467,691)	($680,270,971)	($364,119,310)	(11,593)
Brazos Valley	($460,700,123)	($235,481,549)	($136,619,331)	($81,979,190)	(2,402)
Deep East Texas	($822,191,883)	($421,015,234)	($251,846,133)	($158,370,643)	(4,518)
South East Texas	($829,382,164)	($408,966,420)	($250,354,953)	($145,973,167)	(4,281)
Houston-Galveston Area	($11,083,894,006)	($5,120,034,740)	($2,901,147,557)	($1,225,765,540)	(43,646)
Golden Crescent	($402,264,396)	($199,604,505)	($115,387,154)	($66,669,406)	(1,941)
Alamo Area	($3,880,216,946)	($1,930,681,985)	($1,141,036,594)	($619,847,061)	(19,596)
South Texas	($296,081,536)	($156,682,168)	($87,878,884)	($56,807,180)	(1,556)
Coastal Bend	($1,195,470,278)	($568,488,358)	($323,057,443)	($181,354,378)	(5,368)
Lower Rio Grande Valley	($1,251,385,580)	($655,696,764)	($392,230,548)	($231,965,091)	(7,109)
Texoma	($415,395,961)	($212,460,980)	($128,279,116)	($78,977,618)	(2,285)
Central Texas	($606,585,681)	($318,383,269)	($193,779,555)	($119,455,639)	(3,540)
Middle Rio Grande	($209,351,466)	($110,166,156)	($64,803,498)	($42,079,291)	(1,196)
Border Region	**($3,057,491,535)**	**($1,553,832,939)**	**($914,199,395)**	**($527,283,947)**	**($16,191)**
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**($197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area. The Border Region includes Rio Grande, Terrell County, Middle Rio Grande, South Texas, and Lower Rio Grande Valley.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Metropolitan Statistical Area (MSA) and Rural Texas

Metro Area	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Abilene MSA	($346,079,238)	($172,196,966)	($97,314,513)	($52,178,661)	(1,614)
Amarillo MSA	($477,715,767)	($247,760,493)	($141,822,666)	($77,745,982)	(2,397)
Austin-Round Rock MSA	($1,904,773,754)	($988,533,449)	($593,426,735)	($312,489,492)	(10,070)
Beaumont-Port Arthur MSA	($843,118,188)	($417,526,403)	($255,897,108)	($149,749,765)	(4,381)
Brownsville-Harlingen MSA	($502,702,051)	($254,687,779)	($151,855,390)	($90,578,070)	(2,773)
College Station-Bryan MSA	($297,806,358)	($151,066,779)	($87,465,870)	($50,695,511)	(1,526)
Corpus Christi MSA	($948,421,809)	($440,617,659)	($251,802,568)	($136,072,913)	(4,126)
Dallas-Plano-Irving MD*	($6,499,953,383)	($3,184,411,866)	($1,829,979,793)	($837,197,664)	(28,940)
Fort Worth-Arlington MD*	($3,844,385,080)	($1,892,633,618)	($1,101,710,843)	($564,231,483)	(18,166)
El Paso MSA	($1,261,898,482)	($610,950,733)	($357,225,148)	($188,655,214)	(6,110)
Houston-The Woodlands-Sugar Land MSA	($10,700,264,739)	($4,926,867,515)	($2,787,612,005)	($1,152,698,632)	(41,602)
Killeen-Temple MSA	($521,301,232)	($274,390,555)	($167,276,948)	($101,861,151)	(3,053)
Laredo MSA	($228,273,884)	($119,644,520)	($66,306,326)	($40,979,525)	(1,149)
Longview MSA	($487,910,817)	($250,722,209)	($144,905,126)	($79,273,801)	(2,405)
Lubbock MSA	($506,730,371)	($263,736,432)	($157,196,809)	($84,584,495)	(2,706)
McAllen-Edinburg-Mission MSA	($723,375,947)	($386,709,499)	($232,085,480)	($135,632,040)	(4,183)
Midland MSA	($220,149,085)	($111,516,158)	($61,902,077)	($32,703,116)	(983)
Odessa MSA	($250,455,530)	($123,869,491)	($70,893,670)	($38,315,464)	(1,140)
San Angelo MSA	($225,014,362)	($109,577,307)	($60,524,105)	($35,043,211)	(1,055)
San Antonio-New Braunfels MSA	($3,611,823,176)	($1,799,641,246)	($1,065,785,914)	($573,713,344)	(18,258)
Sherman-Denison MSA	($244,524,499)	($127,049,746)	($77,458,392)	($49,598,545)	(1,418)
Texarkana MSA	($173,977,306)	($91,654,941)	($55,589,678)	($33,849,244)	(999)
Tyler MSA	($513,348,885)	($252,575,500)	($139,485,169)	($75,867,005)	(2,304)
Victoria MSA	($218,276,819)	($107,246,981)	($61,304,552)	($33,692,535)	(994)
Waco MSA	($527,463,531)	($253,820,390)	($149,755,325)	($84,891,949)	(2,645)
Wichita Falls MSA	($306,345,600)	($164,204,019)	($93,459,281)	($52,776,472)	(1,571)
Rural Texas	($6,016,981,261)	($3,031,327,557)	($1,761,270,356)	($1,100,229,086)	(31,169)
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 1 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Anderson	($97,721,659)	($53,151,214)	($30,784,537)	($17,768,692)	(529)
Andrews	($23,755,497)	($12,317,255)	($6,788,755)	($3,669,648)	(108)
Angelina	($174,530,648)	($87,279,993)	($53,034,973)	($32,673,923)	(950)
Aransas	($90,830,625)	($41,961,054)	($22,873,037)	($13,555,369)	(380)
Archer	($14,800,602)	($7,648,451)	($4,100,587)	($2,563,630)	(71)
Armstrong	($4,973,974)	($2,513,506)	($1,417,848)	($596,723)	(22)
Atascosa	($83,712,632)	($40,442,750)	($22,815,031)	($12,458,402)	(370)
Austin	($59,111,101)	($28,080,657)	($16,855,144)	($7,901,132)	(263)
Bailey	($7,360,456)	($3,794,391)	($2,278,689)	($1,570,982)	(41)
Bandera	($52,723,874)	($25,058,963)	($14,131,689)	($9,324,213)	(256)
Bastrop	($127,175,225)	($62,511,964)	($36,924,427)	($22,957,936)	(669)
Baylor	($12,129,790)	($6,456,045)	($3,757,330)	($2,272,287)	(66)
Bee	($41,510,510)	($22,026,426)	($12,398,533)	($7,835,473)	(220)
Bell	($386,597,613)	($206,420,268)	($127,042,921)	($75,377,252)	(2,296)
Bexar	($2,871,673,826)	($1,440,922,625)	($858,225,034)	($443,017,652)	(14,520)
Blanco	($19,510,700)	($9,250,683)	($5,292,039)	($3,420,679)	(98)
Borden	($7,087,400)	($3,525,742)	($1,875,258)	($894,511)	(28)
Bosque	($41,470,185)	($20,445,318)	($12,381,030)	($6,953,668)	(218)
Bowie	($173,977,306)	($91,654,941)	($55,589,678)	($33,849,244)	(999)
Brazoria	($460,005,878)	($219,323,661)	($129,031,021)	($76,254,949)	(2,180)
Brazos	($220,933,616)	($111,651,817)	($64,397,785)	($35,181,274)	(1,111)
Brewster	($16,081,343)	($8,827,530)	($5,365,718)	($3,212,544)	(97)
Briscoe	($3,601,603)	($1,695,274)	($974,581)	($618,910)	(17)
Brooks	($11,059,181)	($6,034,709)	($3,495,093)	($2,350,642)	(63)
Brown	($72,678,075)	($39,419,387)	($23,983,225)	($16,846,267)	(458)
Burleson	($41,177,557)	($21,853,858)	($12,488,141)	($7,835,473)	(215)
Burnet	($98,257,743)	($47,040,593)	($27,195,432)	($16,141,075)	(475)
Caldwell	($72,136,900)	($36,255,495)	($20,772,720)	($12,066,629)	(356)
Calhoun	($29,951,746)	($12,301,789)	($7,071,729)	($3,927,034)	(114)
Callahan	($35,928,377)	($17,428,426)	($9,546,497)	($5,876,605)	(165)
Cameron	($502,702,051)	($254,687,779)	($151,855,390)	($90,578,070)	(2,773)
Camp	($21,370,405)	($10,479,723)	($6,230,126)	($3,850,436)	(113)
Carson	($6,253,079)	($2,637,623)	($1,230,541)	($490,531)	(18)
Cass	($61,484,981)	($31,115,266)	($18,568,162)	($13,027,413)	(342)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 2 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Castro	($6,237,352)	($3,025,599)	($1,796,896)	($1,290,984)	(34)
Chambers	($60,980,658)	($26,256,094)	($14,200,521)	($6,487,681)	(213)
Cherokee	($90,710,975)	($45,584,302)	($28,087,137)	($17,746,266)	(502)
Childress	($13,349,250)	($6,680,192)	($3,846,538)	($2,664,061)	(72)
Clay	($23,948,446)	($12,205,378)	($7,312,094)	($3,748,485)	(120)
Cochran	($3,599,992)	($1,928,783)	($1,004,149)	($473,578)	(16)
Coke	($11,436,170)	($5,535,922)	($3,091,404)	($1,811,941)	(50)
Coleman	($26,476,749)	($13,698,186)	($7,623,137)	($4,622,929)	(131)
Collin	($868,858,568)	($446,765,826)	($264,606,679)	($142,180,917)	(4,453)
Collingsworth	($6,059,325)	($3,335,598)	($2,002,564)	($1,281,345)	(35)
Colorado	($52,339,797)	($26,645,831)	($15,365,071)	($10,413,396)	(292)
Comal	($204,636,949)	($99,110,954)	($57,722,799)	($36,278,241)	(1,070)
Comanche	($30,677,659)	($15,610,685)	($9,406,385)	($5,865,127)	(169)
Concho	($5,302,751)	($2,836,798)	($1,784,204)	($983,331)	(32)
Cooke	($95,734,424)	($47,701,874)	($27,641,500)	($14,965,754)	(446)
Coryell	($87,748,906)	($44,316,497)	($26,237,301)	($17,081,331)	(490)
Cottle	($5,077,729)	($2,950,528)	($1,757,763)	($915,883)	(28)
Crane	($4,096,165)	($2,228,190)	($1,211,840)	($620,934)	(20)
Crockett	($5,871,482)	($3,033,751)	($1,657,609)	($1,253,676)	(30)
Crosby	($10,453,755)	($5,656,116)	($3,175,423)	($1,480,434)	(51)
Culberson	($2,936,007)	($1,748,179)	($1,026,771)	($861,902)	(20)
Dallam	($7,574,450)	($4,065,285)	($2,421,933)	($1,277,647)	(42)
Dallas	($4,236,016,213)	($2,065,200,949)	($1,165,794,989)	($467,529,189)	(17,610)
Dawson	($26,138,832)	($13,222,370)	($7,196,780)	($4,524,562)	(123)
Deaf Smith	($15,959,318)	($7,798,813)	($4,589,950)	($2,446,316)	(80)
Delta	($9,753,668)	($5,101,193)	($3,084,844)	($1,246,761)	(50)
Denton	($772,925,981)	($370,569,334)	($218,995,467)	($113,771,070)	(3,644)
DeWitt	($48,201,554)	($24,208,432)	($14,445,134)	($8,775,730)	(256)
Dickens	($5,771,322)	($3,047,045)	($1,835,440)	($1,141,833)	(32)
Dimmit	($12,026,643)	($6,266,325)	($3,514,458)	($2,507,351)	(65)
Donley	($8,730,953)	($4,932,372)	($2,982,755)	($2,272,287)	(59)
Duval	($19,170,544)	($9,357,607)	($5,036,495)	($2,769,431)	(84)
Eastland	($46,755,155)	($23,161,583)	($12,984,275)	($8,540,666)	(229)
Ector	($250,455,530)	($123,869,491)	($70,893,670)	($38,315,464)	(1,140)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 3 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Edwards	($3,674,738)	($1,812,815)	($970,669)	($642,783)	(17)
El Paso	($1,259,746,090)	($609,829,021)	($356,590,700)	($187,973,001)	(6,097)
Ellis	($216,399,653)	($100,195,135)	($59,445,700)	($36,380,368)	(1,030)
Erath	($53,251,162)	($28,794,340)	($17,646,638)	($11,831,564)	(334)
Falls	($34,975,195)	($18,535,134)	($11,337,036)	($6,850,636)	(206)
Fannin	($75,137,037)	($37,709,360)	($23,179,224)	($14,413,319)	(421)
Fayette	($79,128,834)	($40,417,080)	($22,712,107)	($12,223,338)	(379)
Fisher	($8,024,632)	($4,160,923)	($2,434,820)	($1,715,929)	(46)
Floyd	($8,900,367)	($4,008,338)	($2,315,166)	($1,225,997)	(40)
Foard	($1,955,726)	($1,099,537)	($678,371)	($409,083)	(12)
Fort Bend	($809,280,553)	($379,893,111)	($213,262,013)	($106,391,834)	(3,328)
Franklin	($18,654,883)	($9,283,762)	($5,042,586)	($3,233,330)	(88)
Freestone	($42,650,150)	($21,096,433)	($11,470,474)	($7,835,473)	(202)
Frio	($26,400,510)	($12,792,551)	($6,953,012)	($4,182,151)	(118)
Gaines	($17,227,313)	($8,335,110)	($4,373,435)	($2,579,723)	(72)
Galveston	($646,597,115)	($301,744,904)	($176,330,070)	($100,999,249)	(3,015)
Garza	($9,504,656)	($4,661,305)	($2,565,414)	($1,580,974)	(43)
Gillespie	($70,091,430)	($34,326,838)	($20,389,736)	($12,536,757)	(370)
Glasscock	($912,208)	($450,286)	($218,416)	($76,460)	(3)
Goliad	($14,581,060)	($7,811,281)	($4,464,033)	($3,212,544)	(81)
Gonzales	($27,032,618)	($13,792,599)	($8,250,550)	($5,253,811)	(150)
Gray	($62,926,912)	($29,424,574)	($16,491,612)	($10,006,451)	(268)
Grayson	($244,524,499)	($127,049,746)	($77,458,392)	($49,598,545)	(1,418)
Gregg	($288,836,479)	($152,427,956)	($88,471,740)	($46,777,775)	(1,452)
Grimes	($37,406,822)	($18,833,171)	($11,123,391)	($6,717,882)	(194)
Guadalupe	($181,581,766)	($89,853,733)	($53,143,728)	($34,711,146)	(959)
Hale	($40,384,260)	($21,670,523)	($13,123,635)	($9,835,786)	(253)
Hall	($7,955,563)	($4,017,393)	($2,318,324)	($1,506,975)	(42)
Hamilton	($17,429,219)	($8,606,972)	($5,200,986)	($3,682,672)	(98)
Hansford	($6,584,896)	($2,980,627)	($1,445,750)	($654,002)	(20)
Hardeman	($8,019,551)	($4,407,276)	($2,599,394)	($2,115,578)	(52)
Hardin	($111,812,141)	($54,905,013)	($31,280,453)	($19,902,102)	(543)
Harris	($7,576,296,721)	($3,447,733,125)	($1,940,117,774)	($706,884,334)	(27,833)
Harrison	($159,829,576)	($74,365,733)	($42,448,103)	($20,657,893)	(657)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 4 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Hartley	($1,868,766)	($921,238)	($532,438)	($343,231)	(10)
Haskell	($13,341,881)	($6,872,357)	($4,002,770)	($2,307,834)	(68)
Hays	($179,542,323)	($90,819,681)	($53,902,117)	($31,968,730)	(956)
Hemphill	($4,099,765)	($1,932,465)	($987,652)	($518,522)	(15)
Henderson	($234,651,191)	($113,556,952)	($65,503,135)	($38,785,592)	(1,159)
Hidalgo	($723,375,947)	($386,709,499)	($232,085,480)	($135,632,040)	(4,183)
Hill	($81,128,337)	($37,720,623)	($21,753,795)	($15,357,527)	(423)
Hockley	($32,433,155)	($16,686,698)	($9,281,143)	($5,854,816)	(162)
Hood	($135,726,911)	($64,130,646)	($37,954,048)	($23,898,193)	(684)
Hopkins	($64,191,802)	($33,655,297)	($20,459,759)	($13,868,787)	(378)
Houston	($65,454,064)	($32,035,833)	($19,512,616)	($8,883,906)	(306)
Howard	($77,405,047)	($37,226,188)	($20,944,623)	($11,988,274)	(344)
Hudspeth	($2,152,392)	($1,121,712)	($634,448)	($682,213)	(14)
Hunt	($150,910,665)	($75,752,956)	($45,694,771)	($31,106,828)	(845)
Hutchinson	($50,411,477)	($23,655,441)	($13,167,466)	($9,058,674)	(217)
Irion	($3,375,524)	($1,415,212)	($725,349)	($410,420)	(11)
Jack	($17,085,993)	($8,574,925)	($4,847,775)	($2,886,356)	(80)
Jackson	($27,536,949)	($14,250,076)	($7,707,161)	($5,038,188)	(133)
Jasper	($74,895,032)	($38,153,106)	($22,869,498)	($15,471,056)	(428)
Jeff Davis	($5,883,283)	($2,890,002)	($1,678,115)	($1,084,145)	(30)
Jefferson	($540,257,741)	($267,058,897)	($166,142,129)	($93,633,904)	(2,825)
Jim Hogg	($9,430,117)	($4,770,578)	($2,565,889)	($1,880,514)	(45)
Jim Wells	($62,097,411)	($34,381,248)	($19,289,659)	($12,223,338)	(339)
Johnson	($252,912,986)	($124,776,067)	($76,534,174)	($45,367,390)	(1,347)
Jones	($45,001,347)	($22,766,765)	($12,817,873)	($7,046,335)	(216)
Karnes	($37,289,790)	($17,091,360)	($9,372,619)	($5,406,476)	(153)
Kaufman	($167,344,979)	($81,401,033)	($48,821,720)	($30,401,636)	(884)
Kendall	($73,071,972)	($33,742,653)	($19,337,866)	($11,674,855)	(333)
Kenedy	($3,073,029)	($1,578,180)	($810,321)	($592,253)	(15)
Kent	($2,539,563)	($1,229,526)	($666,490)	($357,696)	(10)
Kerr	($133,551,739)	($66,319,176)	($38,273,124)	($23,898,193)	(694)
Kimble	($13,589,893)	($5,948,998)	($3,267,697)	($2,115,578)	(57)
King	($2,421,070)	($1,300,490)	($782,409)	($320,414)	(13)
Kinney	($10,847,525)	($5,113,316)	($2,625,950)	($1,684,735)	(46)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 5 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Kleberg	($54,308,750)	($27,541,241)	($15,454,444)	($9,167,504)	(266)
Knox	($8,800,848)	($4,646,280)	($2,565,645)	($1,267,764)	(40)
La Salle	($7,555,296)	($4,081,496)	($2,236,081)	($1,645,449)	(42)
Lamar	($105,117,553)	($52,132,361)	($31,736,938)	($21,226,887)	(595)
Lamb	($17,397,822)	($8,045,695)	($4,767,640)	($3,033,573)	(82)
Lampasas	($46,954,714)	($23,653,791)	($13,996,726)	($9,402,568)	(267)
Lavaca	($51,264,709)	($27,804,628)	($16,608,028)	($9,982,108)	(294)
Lee	($33,479,468)	($16,892,799)	($9,556,830)	($5,505,810)	(161)
Leon	($33,893,157)	($18,178,820)	($10,235,232)	($7,303,000)	(186)
Liberty	($158,342,456)	($81,545,024)	($47,457,390)	($26,114,672)	(793)
Limestone	($47,808,131)	($24,696,729)	($14,563,716)	($9,480,923)	(258)
Lipscomb	($6,042,580)	($2,905,357)	($1,454,316)	($701,852)	(22)
Live Oak	($38,706,858)	($18,386,700)	($10,240,701)	($6,581,797)	(172)
Llano	($78,886,446)	($38,333,087)	($22,087,828)	($14,338,916)	(410)
Loving	($1,780,928)	($863,682)	($359,742)	($109,702)	(4)
Lubbock	($489,141,292)	($254,601,310)	($152,005,342)	($82,272,468)	(2,623)
Lynn	($7,135,324)	($3,479,005)	($2,016,044)	($831,593)	(32)
Madison	($19,853,338)	($10,168,632)	($5,729,740)	($4,387,865)	(111)
Marion	($28,027,583)	($14,355,281)	($8,296,817)	($5,484,831)	(154)
Martin	($6,673,630)	($3,168,860)	($1,745,619)	($938,476)	(27)
Mason	($13,529,051)	($6,701,611)	($3,601,425)	($2,193,932)	(63)
Matagorda	($80,466,706)	($36,929,801)	($21,537,604)	($14,068,077)	(371)
Maverick	($54,257,798)	($27,870,553)	($16,074,374)	($10,969,662)	(303)
McCulloch	($20,316,783)	($10,557,424)	($6,391,639)	($3,996,091)	(114)
McLennan	($492,488,335)	($235,285,256)	($138,418,290)	($78,041,313)	(2,440)
McMullen	($1,060,300)	($510,815)	($262,188)	($110,138)	(4)
Medina	($75,033,418)	($35,969,727)	($20,446,070)	($13,320,304)	(378)
Menard	($6,506,578)	($3,399,834)	($1,859,351)	($1,253,676)	(32)
Midland	($213,475,455)	($108,347,298)	($60,156,458)	($31,764,640)	(956)
Milam	($48,103,666)	($24,274,836)	($14,516,219)	($9,193,041)	(259)
Mills	($7,890,356)	($4,782,519)	($3,029,706)	($2,054,714)	(57)
Mitchell	($17,823,722)	($9,217,143)	($5,210,940)	($3,181,624)	(89)
Montague	($55,450,848)	($27,066,041)	($14,788,221)	($9,167,504)	(259)
Montgomery	($866,793,486)	($414,534,116)	($235,123,879)	($111,478,666)	(3,706)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 6 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Moore	($28,779,909)	($12,601,317)	($6,931,718)	($3,922,533)	(110)
Morris	($27,890,968)	($12,225,731)	($7,322,785)	($3,309,896)	(114)
Motley	($4,286,371)	($2,035,698)	($1,077,593)	($676,952)	(19)
Nacogdoches	($99,478,642)	($53,023,739)	($32,451,760)	($21,704,261)	(621)
Navarro	($99,299,242)	($49,282,728)	($29,720,818)	($16,920,106)	(528)
Newton	($13,736,024)	($8,559,984)	($5,542,155)	($3,776,597)	(100)
Nolan	($39,138,186)	($20,641,002)	($11,582,194)	($6,817,462)	(197)
Nueces	($727,883,217)	($337,964,698)	($194,040,476)	($100,137,347)	(3,140)
Ochiltree	($12,043,901)	($5,801,532)	($3,117,805)	($1,660,588)	(49)
Oldham	($1,153,530)	($652,182)	($398,722)	($366,347)	(9)
Orange	($177,312,281)	($87,002,509)	($52,932,372)	($32,437,161)	(912)
Palo Pinto	($76,563,875)	($36,006,046)	($20,237,763)	($12,066,629)	(347)
Panola	($52,893,469)	($26,965,838)	($15,353,411)	($8,760,955)	(258)
Parker	($217,396,999)	($101,656,801)	($58,629,022)	($34,397,727)	(1,012)
Parmer	($5,105,834)	($2,341,474)	($1,349,340)	($468,700)	(21)
Pecos	($21,552,220)	($10,785,333)	($5,936,366)	($3,996,091)	(106)
Polk	($156,186,041)	($80,020,033)	($45,245,986)	($28,599,477)	(777)
Potter	($246,949,741)	($128,740,615)	($73,100,174)	($39,020,656)	(1,218)
Presidio	($12,001,265)	($5,762,966)	($3,332,051)	($2,272,287)	(61)
Rains	($24,149,490)	($11,255,692)	($6,246,804)	($4,362,197)	(111)
Randall	($218,385,443)	($113,216,567)	($65,675,380)	($37,271,724)	(1,131)
Reagan	($3,590,181)	($1,857,350)	($993,364)	($677,024)	(16)
Real	($12,336,842)	($5,638,514)	($3,058,686)	($1,880,514)	(52)
Red River	($35,624,384)	($16,921,767)	($9,725,251)	($6,201,051)	(175)
Reeves	($19,382,490)	($10,011,549)	($5,554,217)	($4,074,446)	(101)
Refugio	($17,122,186)	($8,564,587)	($4,529,629)	($3,761,027)	(83)
Roberts	($1,649,438)	($750,487)	($389,765)	($307,170)	(7)
Robertson	($35,695,185)	($17,561,104)	($10,579,945)	($7,678,764)	(201)
Rockwall	($87,497,324)	($44,526,633)	($26,620,467)	($15,827,656)	(474)
Runnels	($30,514,296)	($13,740,166)	($7,487,602)	($4,381,975)	(124)
Rusk	($107,904,337)	($52,578,906)	($30,272,616)	($16,354,952)	(501)
Sabine	($29,007,251)	($14,377,523)	($8,958,472)	($5,803,818)	(161)
San Augustine	($25,195,359)	($12,107,608)	($6,686,899)	($4,132,629)	(117)
San Jacinto	($57,321,705)	($28,030,142)	($16,495,071)	($10,656,243)	(299)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 7 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
San Patricio	($129,707,967)	($60,691,907)	($34,889,055)	($22,380,197)	(606)
San Saba	($11,861,208)	($6,328,387)	($3,755,697)	($2,664,061)	(72)
Schleicher	($3,948,145)	($2,027,845)	($1,126,126)	($445,130)	(17)
Scurry	($30,432,011)	($16,617,649)	($9,107,781)	($6,239,287)	(160)
Shackelford	($6,419,895)	($3,231,258)	($1,725,498)	($997,000)	(28)
Shelby	($39,521,617)	($21,335,276)	($13,583,454)	($8,844,646)	(252)
Sherman	($1,299,780)	($601,100)	($342,757)	($185,431)	(6)
Smith	($513,348,885)	($252,575,500)	($139,485,169)	($75,867,005)	(2,304)
Somervell	($8,876,358)	($4,125,594)	($2,529,183)	($1,017,672)	(42)
Starr	($43,136,762)	($24,389,887)	($14,613,032)	($10,812,953)	(282)
Stephens	($20,563,894)	($11,114,415)	($6,236,731)	($4,366,089)	(109)
Sterling	($1,530,987)	($881,805)	($500,761)	($391,774)	(9)
Stonewall	($3,262,347)	($1,829,929)	($1,029,804)	($717,672)	(19)
Sutton	($7,510,458)	($3,931,304)	($2,178,393)	($1,488,740)	(38)
Swisher	($8,938,996)	($4,128,751)	($2,422,870)	($1,442,958)	(43)
Tarrant	($3,134,909,280)	($1,548,766,848)	($898,479,685)	($442,939,298)	(14,611)
Taylor	($265,149,514)	($132,001,775)	($74,950,142)	($39,255,721)	(1,233)
Terrell	($1,872,574)	($1,108,440)	($658,661)	($346,294)	(11)
Terry	($19,832,503)	($10,242,966)	($5,386,271)	($3,909,310)	(94)
Throckmorton	($2,545,992)	($1,331,685)	($693,557)	($419,439)	(11)
Titus	($41,794,876)	($20,190,707)	($12,246,072)	($8,854,869)	(227)
Tom Green	($221,638,837)	($108,162,095)	($59,798,756)	($34,632,791)	(1,044)
Travis	($1,203,632,701)	($626,837,971)	($375,905,624)	($185,856,511)	(6,235)
Trinity	($40,329,629)	($22,034,163)	($12,968,047)	($8,536,757)	(243)
Tyler	($46,535,873)	($24,057,833)	($14,497,204)	($9,287,328)	(264)
Upshur	($91,170,002)	($45,715,347)	($26,160,770)	($16,141,075)	(453)
Upton	($5,802,385)	($2,937,170)	($1,551,920)	($858,893)	(25)
Uvalde	($43,476,564)	($22,688,585)	($13,484,125)	($8,227,247)	(247)
Val Verde	($57,237,426)	($31,986,258)	($19,827,422)	($12,066,629)	(362)
Van Zandt	($103,714,541)	($58,527,560)	($34,326,885)	($22,566,163)	(634)
Victoria	($203,695,760)	($99,435,700)	($56,840,520)	($30,479,991)	(912)
Walker	($162,594,041)	($83,564,537)	($50,552,190)	($32,360,504)	(929)
Waller	($62,856,770)	($27,756,823)	($15,234,194)	($10,186,115)	(271)
Ward	($18,835,120)	($9,668,887)	($5,370,100)	($3,682,672)	(94)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 8 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Washington	($71,740,447)	($37,234,146)	($22,065,097)	($12,874,931)	(384)
Webb	($228,273,884)	($119,644,520)	($66,306,326)	($40,979,525)	(1,149)
Wharton	($88,228,723)	($46,027,055)	($26,080,687)	($16,224,930)	(452)
Wheeler	($9,351,810)	($5,192,639)	($2,918,041)	($2,032,733)	(53)
Wichita	($267,596,553)	($144,350,189)	($82,046,599)	($46,464,356)	(1,379)
Wilbarger	($34,368,787)	($16,476,155)	($9,947,486)	($6,346,733)	(177)
Willacy	($25,307,581)	($14,299,486)	($8,289,679)	($5,754,981)	(153)
Williamson	($322,286,605)	($172,108,338)	($105,921,848)	($59,639,686)	(1,854)
Wilson	($69,388,739)	($34,539,843)	($19,963,698)	($12,928,531)	(371)
Winkler	($10,589,224)	($5,476,544)	($3,029,523)	($1,920,265)	(51)
Wise	($94,562,545)	($49,177,662)	($27,584,730)	($16,611,203)	(468)
Wood	($133,858,791)	($65,562,687)	($37,596,429)	($22,178,785)	(655)
Yoakum	($9,975,778)	($5,068,523)	($2,748,385)	($1,825,159)	(47)
Young	($50,080,136)	($25,777,865)	($14,329,423)	($8,797,228)	(241)
Zapata	($15,240,773)	($7,877,182)	($4,393,636)	($3,134,189)	(80)
Zavala	($7,938,635)	($4,708,295)	($3,011,733)	($2,454,920)	(63)
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 1 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($333,374,126)	($169,992,831)	($102,094,453)	($64,510,512)	(1,857)
2	($318,817,008)	($167,935,812)	($100,481,416)	($67,541,779)	(1,857)
3	($293,423,838)	($138,022,898)	($77,777,145)	($39,839,440)	(1,257)
4	($362,105,468)	($175,653,303)	($103,189,323)	($62,593,677)	(1,846)
5	($372,268,263)	($180,332,659)	($103,118,657)	($60,764,264)	(1,773)
6	($390,145,152)	($191,957,380)	($106,008,729)	($57,658,924)	(1,751)
7	($380,006,480)	($198,143,303)	($114,632,510)	($62,918,849)	(1,904)
8	($320,799,389)	($161,250,997)	($93,729,624)	($57,881,799)	(1,681)
9	($370,764,477)	($182,514,917)	($107,208,420)	($62,579,556)	(1,823)
10	($256,290,355)	($119,499,817)	($70,581,233)	($42,973,918)	(1,227)
11	($298,093,954)	($151,186,947)	($90,811,512)	($55,805,479)	(1,624)
12	($301,574,391)	($149,242,835)	($88,309,829)	($53,051,720)	(1,573)
13	($392,169,267)	($200,869,372)	($117,216,978)	($67,948,261)	(2,022)
14	($185,584,238)	($93,787,527)	($54,094,139)	($29,552,271)	(933)
15	($318,113,209)	($152,134,021)	($86,290,463)	($40,912,670)	(1,360)
16	($318,113,209)	($152,134,021)	($86,290,463)	($40,912,670)	(1,360)
17	($297,114,001)	($146,544,216)	($84,877,145)	($51,190,663)	(1,488)
18	($378,258,202)	($193,139,704)	($114,504,651)	($69,131,420)	(2,021)
19	($403,165,111)	($205,695,970)	($119,435,294)	($77,036,561)	(2,112)
20	($217,264,461)	($109,179,263)	($65,014,457)	($38,454,847)	(1,142)
21	($371,805,068)	($183,143,712)	($112,743,538)	($66,145,367)	(1,930)
22	($345,764,954)	($170,917,694)	($106,330,962)	($59,925,699)	(1,808)
23	($345,483,389)	($159,023,852)	($91,785,751)	($50,927,350)	(1,540)
24	($362,094,385)	($168,977,146)	($98,744,839)	($56,559,579)	(1,689)
25	($282,869,292)	($133,432,212)	($78,311,253)	($47,620,255)	(1,330)
26	($220,124,310)	($103,330,926)	($58,007,268)	($28,938,579)	(905)
27	($220,124,310)	($103,330,926)	($58,007,268)	($28,938,579)	(905)
28	($220,124,310)	($103,330,926)	($58,007,268)	($28,938,579)	(905)
29	($257,603,292)	($122,821,250)	($72,257,372)	($42,702,772)	(1,221)
30	($404,382,930)	($194,282,843)	($110,224,082)	($63,711,694)	(1,827)
31	($242,212,300)	($123,852,208)	($70,364,511)	($44,956,561)	(1,231)
32	($356,662,777)	($165,602,702)	($95,079,833)	($49,067,300)	(1,538)
33	($191,760,352)	($98,138,532)	($58,373,268)	($32,889,366)	(1,009)
34	($371,220,441)	($172,361,996)	($98,960,643)	($51,070,047)	(1,601)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 2 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
35	($178,051,470)	($92,795,738)	($55,522,358)	($32,759,173)	(1,007)
36	($157,695,957)	($84,302,671)	($50,594,635)	($29,567,785)	(912)
37	($211,134,861)	($106,968,867)	($63,779,264)	($38,042,789)	(1,165)
38	($206,107,841)	($104,421,989)	($62,260,710)	($37,137,009)	(1,137)
39	($157,695,957)	($84,302,671)	($50,594,635)	($29,567,785)	(912)
40	($157,695,957)	($84,302,671)	($50,594,635)	($29,567,785)	(912)
41	($157,695,957)	($84,302,671)	($50,594,635)	($29,567,785)	(912)
42	($146,095,286)	($76,572,493)	($42,436,049)	($26,226,896)	(735)
43	($287,624,638)	($144,640,822)	($82,031,691)	($51,606,512)	(1,431)
44	($250,970,504)	($124,393,576)	($73,107,426)	($47,639,677)	(1,330)
45	($199,053,023)	($100,070,364)	($59,194,156)	($35,389,409)	(1,054)
46	($196,192,130)	($102,174,589)	($61,272,617)	($30,294,611)	(1,016)
47	($204,617,559)	($106,562,455)	($63,903,956)	($31,595,607)	(1,060)
48	($204,617,559)	($106,562,455)	($63,903,956)	($31,595,607)	(1,060)
49	($197,395,763)	($102,801,427)	($61,648,522)	($30,480,468)	(1,023)
50	($196,192,130)	($102,174,589)	($61,272,617)	($30,294,611)	(1,016)
51	($204,617,559)	($106,562,455)	($63,903,956)	($31,595,607)	(1,060)
52	($125,691,776)	($67,122,252)	($41,309,521)	($23,259,477)	(723)
53	($407,162,664)	($198,175,624)	($112,658,668)	($72,155,655)	(2,043)
54	($232,521,568)	($122,735,519)	($74,977,328)	($45,583,649)	(1,369)
55	($201,030,759)	($107,338,539)	($66,062,319)	($39,196,171)	(1,194)
56	($344,741,835)	($164,699,679)	($96,892,803)	($54,628,919)	(1,708)
57	($359,256,194)	($181,805,049)	($108,167,508)	($65,918,081)	(1,913)
58	($294,383,171)	($145,221,385)	($88,915,204)	($52,321,057)	(1,565)
59	($238,051,650)	($123,122,418)	($74,197,535)	($48,193,233)	(1,377)
60	($421,112,932)	($208,189,947)	($120,291,175)	($77,214,378)	(2,151)
61	($311,959,544)	($150,834,463)	($86,213,752)	($51,008,930)	(1,480)
62	($329,415,204)	($169,860,298)	($103,722,460)	($65,258,626)	(1,889)
63	($193,231,495)	($92,642,334)	($54,748,867)	($28,442,768)	(911)
64	($193,231,495)	($92,642,334)	($54,748,867)	($28,442,768)	(911)
65	($193,231,495)	($92,642,334)	($54,748,867)	($28,442,768)	(911)
66	($191,148,885)	($98,288,482)	($58,213,469)	($31,279,802)	(980)
67	($191,148,885)	($98,288,482)	($58,213,469)	($31,279,802)	(980)
68	($373,585,373)	($188,313,897)	($107,575,916)	($64,625,324)	(1,834)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 3 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
69	($329,231,964)	($176,405,881)	($100,460,626)	($56,725,605)	(1,689)
70	($191,148,885)	($98,288,482)	($58,213,469)	($31,279,802)	(980)
71	($349,289,047)	($175,409,542)	($99,350,210)	($53,119,518)	(1,646)
72	($355,706,001)	($172,105,823)	($95,544,479)	($55,353,990)	(1,633)
73	($347,800,351)	($167,180,444)	($97,450,400)	($60,489,853)	(1,773)
74	($205,985,251)	($108,089,520)	($63,073,835)	($41,360,651)	(1,155)
75	($251,949,218)	($121,965,804)	($71,318,140)	($37,594,600)	(1,219)
76	($251,949,218)	($121,965,804)	($71,318,140)	($37,594,600)	(1,219)
77	($251,949,218)	($121,965,804)	($71,318,140)	($37,594,600)	(1,219)
78	($251,949,218)	($121,965,804)	($71,318,140)	($37,594,600)	(1,219)
79	($251,949,218)	($121,965,804)	($71,318,140)	($37,594,600)	(1,219)
80	($187,261,723)	($97,404,965)	($55,227,243)	($35,258,488)	(986)
81	($303,635,371)	($151,332,177)	($86,082,048)	($47,588,050)	(1,392)
82	($256,186,467)	($129,903,888)	($71,862,618)	($38,707,505)	(1,151)
83	($295,194,792)	($153,258,139)	($88,771,865)	($50,545,035)	(1,524)
84	($293,484,775)	($152,760,786)	($91,203,205)	($49,363,481)	(1,574)
85	($264,673,294)	($130,177,463)	($73,028,059)	($40,839,215)	(1,197)
86	($250,047,341)	($128,995,559)	($74,967,763)	($42,173,965)	(1,294)
87	($333,693,987)	($168,236,095)	($94,772,656)	($52,677,825)	(1,569)
88	($236,981,832)	($117,285,155)	($66,685,490)	($42,664,340)	(1,157)
89	($191,148,885)	($98,288,482)	($58,213,469)	($31,279,802)	(980)
90	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
91	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
92	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
93	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
94	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
95	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
96	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
97	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
98	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
99	($285,276,745)	($140,937,783)	($81,761,651)	($40,307,476)	(1,330)
100	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
101	($282,141,835)	($139,389,016)	($80,863,172)	($39,864,537)	(1,315)
102	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 4 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
103	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
104	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
105	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
106	($193,231,495)	($92,642,334)	($54,748,867)	($28,442,768)	(911)
107	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
108	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
109	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
110	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
111	($307,111,175)	($149,727,069)	($84,520,137)	($33,895,866)	(1,277)
112	($300,757,151)	($146,629,267)	($82,771,444)	($33,194,572)	(1,250)
113	($307,111,175)	($149,727,069)	($84,520,137)	($33,895,866)	(1,277)
114	($307,111,175)	($149,727,069)	($84,520,137)	($33,895,866)	(1,277)
115	($307,111,175)	($149,727,069)	($84,520,137)	($33,895,866)	(1,277)
116	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
117	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
118	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
119	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
120	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
121	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
122	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
123	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
124	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
125	($287,167,383)	($144,092,262)	($85,822,503)	($44,301,765)	(1,452)
126	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
127	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
128	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
129	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
130	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
131	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
132	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
133	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
134	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
135	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
136	($125,691,776)	($67,122,252)	($41,309,521)	($23,259,477)	(723)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 5 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
137	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
138	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
139	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
140	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
141	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
142	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
143	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
144	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
145	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
146	($318,204,462)	($144,804,791)	($81,484,947)	($29,689,142)	(1,169)
147	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
148	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
149	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
150	($310,628,166)	($141,357,058)	($79,544,829)	($28,982,258)	(1,141)
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State Senate District

Senate District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($1,861,784,478)	($928,551,505)	($534,546,655)	($305,776,395)	(9,085)
2	($1,402,822,263)	($699,013,884)	($406,619,623)	($213,273,310)	(6,791)
3	($1,814,093,674)	($914,795,025)	($540,808,500)	($326,732,142)	(9,475)
4	($1,580,435,670)	($756,263,774)	($442,516,019)	($218,209,760)	(7,091)
5	($971,224,712)	($502,134,417)	($299,090,541)	($179,778,412)	(5,305)
6	($1,515,259,344)	($689,546,625)	($388,023,555)	($141,376,867)	(5,567)
7	($1,515,259,344)	($689,546,625)	($388,023,555)	($141,376,867)	(5,567)
8	($950,330,593)	($483,011,000)	($283,205,426)	($144,230,239)	(4,666)
9	($1,447,110,615)	($712,448,814)	($410,404,642)	($192,676,988)	(6,553)
10	($1,442,058,269)	($712,432,750)	($413,300,655)	($203,752,077)	(6,721)
11	($1,487,875,971)	($691,402,100)	($399,406,418)	($202,087,075)	(6,438)
12	($1,111,764,956)	($539,887,575)	($316,538,191)	($160,870,883)	(5,216)
13	($1,441,733,748)	($658,294,322)	($370,339,804)	($140,384,785)	(5,364)
14	($1,017,863,424)	($526,372,063)	($315,094,589)	($160,491,754)	(5,282)
15	($1,439,496,377)	($655,069,294)	($368,622,377)	($134,308,023)	(5,288)
16	($1,461,425,594)	($712,494,328)	($402,199,271)	($161,297,570)	(6,076)
17	($1,386,490,173)	($637,761,437)	($360,458,771)	($149,579,385)	(5,359)
18	($1,558,335,880)	($755,972,799)	($430,524,663)	($241,421,221)	(7,132)
19	($1,282,813,997)	($646,114,997)	($380,383,061)	($211,503,701)	(6,567)
20	($1,213,319,027)	($599,292,518)	($349,494,401)	($192,376,537)	(5,936)
21	($1,036,167,200)	($524,897,734)	($301,620,584)	($182,331,101)	(5,250)
22	($1,520,022,667)	($731,934,842)	($434,998,059)	($252,933,837)	(7,649)
23	($1,461,425,594)	($712,494,328)	($402,199,271)	($161,297,570)	(6,076)
24	($1,396,574,354)	($710,639,412)	($420,829,672)	($255,282,259)	(7,550)
25	($1,273,271,457)	($633,723,976)	($375,198,513)	($208,651,534)	(6,507)
26	($1,335,328,329)	($670,029,021)	($399,074,641)	($206,003,208)	(6,752)
27	($889,209,309)	($460,524,676)	($273,885,735)	($163,058,264)	(4,964)
28	($1,477,983,364)	($752,202,878)	($432,096,930)	($252,626,194)	(7,468)
29	($1,282,719,036)	($621,351,880)	($363,262,085)	($192,873,548)	(6,222)
30	($1,472,722,284)	($746,020,980)	($433,542,976)	($253,767,201)	(7,464)
31	($1,356,149,453)	($680,714,239)	($385,002,662)	($214,975,660)	(6,356)
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by US Congressional District (Table 1 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($1,569,675,303)	($786,123,651)	($453,143,079)	($255,009,528)	(7,660)
2	($1,287,970,443)	($586,114,631)	($329,820,022)	($120,170,337)	(4,732)
3	($773,284,125)	($397,621,585)	($235,499,944)	($126,541,016)	(3,963)
4	($1,276,457,655)	($647,292,295)	($388,783,943)	($247,708,438)	(7,040)
5	($1,370,178,065)	($681,998,059)	($394,044,499)	($206,473,282)	(6,580)
6	($1,193,473,494)	($583,132,580)	($340,740,830)	($177,323,476)	(5,649)
7	($1,287,970,443)	($586,114,631)	($329,820,022)	($120,170,337)	(4,732)
8	($1,415,175,213)	($685,608,574)	($394,503,735)	($200,153,741)	(6,422)
9	($1,263,001,679)	($577,655,915)	($324,931,992)	($125,561,765)	(4,729)
10	($1,167,430,406)	($566,315,584)	($327,426,790)	($158,071,843)	(5,265)
11	($1,434,804,744)	($712,667,421)	($405,596,487)	($241,123,762)	(6,964)
12	($1,226,098,269)	($600,953,812)	($347,915,769)	($178,187,279)	(5,724)
13	($1,353,724,821)	($692,788,652)	($394,675,611)	($226,545,771)	(6,660)
14	($1,412,257,737)	($676,272,395)	($405,697,399)	($231,998,078)	(6,909)
15	($772,437,634)	($400,503,092)	($236,955,442)	($142,678,073)	(4,236)
16	($1,095,979,098)	($530,551,248)	($310,233,909)	($163,536,511)	(5,304)
17	($1,151,281,847)	($572,693,638)	($335,818,848)	($192,393,278)	(5,864)
18	($1,287,970,443)	($586,114,631)	($329,820,022)	($120,170,337)	(4,732)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Morbidity Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by US Congressional District (Table 2 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
19	($1,236,403,995)	($631,782,540)	($364,894,804)	($206,333,667)	(6,222)
20	($1,177,386,269)	($590,778,276)	($351,872,264)	($181,637,237)	(5,953)
21	($1,195,278,486)	($594,563,358)	($350,260,581)	($195,752,389)	(6,083)
22	($993,089,347)	($465,729,563)	($264,554,686)	($132,821,586)	(4,164)
23	($1,063,604,642)	($536,334,557)	($313,900,276)	($180,179,690)	(5,480)
24	($1,167,563,002)	($571,017,479)	($327,393,479)	($147,274,199)	(5,148)
25	($1,035,557,147)	($519,783,113)	($311,613,681)	($181,335,666)	(5,502)
26	($896,557,323)	($433,539,096)	($254,810,408)	($130,332,661)	(4,211)
27	($1,512,937,192)	($720,246,976)	($412,485,620)	($231,596,222)	(6,850)
28	($817,263,147)	($420,435,853)	($243,633,707)	($142,487,738)	(4,248)
29	($1,287,970,443)	($586,114,631)	($329,820,022)	($120,170,337)	(4,732)
30	($1,245,388,767)	($607,169,079)	($342,743,727)	($137,453,582)	(5,177)
31	($666,358,480)	($355,822,377)	($218,990,048)	($126,725,440)	(3,898)
32	($1,212,799,957)	($592,671,010)	($335,304,228)	($136,633,853)	(5,092)
33	($1,231,035,195)	($604,045,844)	($345,580,388)	($154,287,845)	(5,418)
34	($902,941,239)	($464,370,519)	($273,221,328)	($165,918,723)	(4,929)
35	($1,015,860,861)	($513,694,900)	($305,569,262)	($161,919,861)	(5,206)
36	($1,405,904,244)	($676,318,247)	($389,234,999)	($198,626,821)	(6,257)
Texas	**($42,403,071,155)**	**($20,754,939,814)**	**($12,021,311,847)**	**($6,165,304,370)**	**(197,735)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($1,447,599,451)	($430,969,656)	($260,614,545)	(4,732)
Mining	($10,386,718,888)	($4,991,675,296)	($1,707,048,648)	(6,853)
Construction	($4,156,221,200)	($2,025,880,202)	($1,527,600,719)	(23,478)
Manufacturing	($20,388,292,371)	($6,560,054,765)	($3,861,493,859)	(38,937)
Transportation & Utilities	($10,473,965,311)	($3,640,261,620)	($2,033,451,499)	(21,152)
Information	($2,841,007,776)	($1,905,509,855)	($831,367,059)	(7,129)
Wholesale Trade	($4,000,311,467)	($3,120,561,412)	($1,751,969,925)	(20,229)
Retail Trade*	($16,406,625,101)	($12,699,520,180)	($7,321,326,488)	(228,419)
Financial Activities*	($23,415,854,264)	($6,959,628,477)	($2,479,421,321)	(23,430)
Business Services	($7,164,447,349)	($5,197,515,458)	($4,208,067,483)	(48,928)
Health Services	($4,640,408,254)	($3,730,838,923)	($2,983,236,614)	(52,041)
Other Services	($7,518,280,372)	($3,969,004,392)	($3,024,575,377)	(70,201)
Total, All Industries	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Comptroller Region

Comptroller Region	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
High Plains	($3,886,927,661)	($1,986,658,363)	($1,150,290,599)	(652,742,315)	(20,379)
Northwest Texas	($3,815,343,553)	($1,961,744,258)	($1,115,778,805)	(654,623,341)	(19,739)
Metroplex	($28,527,461,284)	($14,013,836,707)	($8,108,108,817)	(3,916,573,970)	(135,683)
Upper East Texas	($7,329,827,659)	($3,689,101,439)	($2,137,612,619)	(1,246,367,478)	(38,164)
Southeast Texas	($4,870,626,652)	($2,448,006,875)	($1,483,079,104)	(893,045,148)	(26,875)
Gulf Coast	($28,365,817,912)	($13,093,399,906)	($7,422,871,092)	(3,116,556,936)	(115,588)
Capital	($5,137,586,572)	($2,636,756,978)	($1,568,931,860)	(838,024,271)	(27,672)
Central Texas	($5,178,608,198)	($2,604,522,133)	($1,542,787,267)	(928,340,835)	(28,644)
Alamo	($11,494,030,283)	($5,718,386,830)	($3,371,818,776)	(1,834,908,997)	(59,838)
South Texas	($7,742,846,321)	($3,895,892,913)	($2,265,913,279)	(1,328,823,745)	(41,068)
West Texas	($3,014,769,089)	($1,497,430,224)	($837,361,808)	(476,902,433)	(14,412)
Upper Rio Grande	($3,475,886,623)	($1,685,683,610)	($985,619,510)	(519,715,631)	(17,464)
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Council of Governments

Council of Governments	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Panhandle	($2,076,354,511)	($1,049,825,064)	($597,840,099)	($339,719,128)	(10,456)
South Plains	($1,810,573,150)	($936,833,299)	($552,450,500)	($313,023,187)	(9,923)
Nortex	($1,560,088,771)	($817,053,537)	($464,398,099)	($270,997,917)	(8,169)
North Central Texas	($27,331,153,908)	($13,401,994,187)	($7,738,424,735)	($3,689,749,878)	(128,860)
Ark-Tex	($1,680,920,639)	($849,927,139)	($510,584,639)	($324,903,333)	(9,573)
East Texas	($5,648,907,020)	($2,839,174,300)	($1,627,027,980)	($921,464,145)	(28,591)
West Central Texas	($2,255,254,781)	($1,144,690,721)	($651,380,706)	($383,625,424)	(11,569)
Rio Grande	($3,475,886,623)	($1,685,683,610)	($985,619,510)	($519,715,631)	(17,464)
Permian Basin	($2,063,474,676)	($1,030,782,400)	($577,731,714)	($323,173,541)	(9,736)
Concho Valley	($951,294,413)	($466,647,824)	($259,630,094)	($153,728,892)	(4,676)
Heart of Texas	($2,257,604,418)	($1,089,919,971)	($639,049,004)	($377,967,615)	(11,808)
Capital Area	($5,137,586,572)	($2,636,756,978)	($1,568,931,860)	($838,024,271)	(27,672)
Brazos Valley	($1,260,403,132)	($643,564,383)	($373,648,562)	($224,566,791)	(6,813)
Deep East Texas	($2,348,442,962)	($1,204,637,528)	($721,433,220)	($451,299,524)	(13,397)
South East Texas	($2,522,183,691)	($1,243,369,347)	($761,645,884)	($441,745,624)	(13,479)
Houston-Galveston Area	($28,365,817,912)	($13,093,399,906)	($7,422,871,092)	($3,116,556,936)	(115,588)
Golden Crescent	($1,147,825,829)	($571,029,255)	($330,345,399)	($191,282,672)	(5,773)
Alamo Area	($10,347,251,886)	($5,147,863,093)	($3,041,732,974)	($1,643,735,406)	(54,069)
South Texas	($731,692,075)	($387,161,984)	($217,271,102)	($140,612,650)	(3,991)
Coastal Bend	($3,367,295,666)	($1,599,342,352)	($909,495,060)	($506,827,277)	(15,639)
Lower Rio Grande Valley	($3,039,847,903)	($1,591,043,563)	($951,522,370)	($559,747,004)	(17,846)
Texoma	($1,196,307,375)	($611,842,520)	($369,684,081)	($226,824,092)	(6,823)
Central Texas	($1,660,600,649)	($871,037,778)	($530,089,701)	($325,806,429)	(10,023)
Middle Rio Grande	($602,963,245)	($317,839,496)	($187,365,149)	($121,527,735)	(3,588)
Border Region	**($7,852,249,373)**	**($3,982,831,058)**	**($2,342,434,086)**	**($1,341,945,974)**	**($42,900)**
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**($545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area. The Border Region includes Rio Grande, Terrell County, Middle Rio Grande, South Texas, and Lower Rio Grande Valley.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by Metropolitan Statistical Area (MSA) and Rural Texas

Metro Area	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Abilene MSA	($1,104,878,991)	($549,433,260)	($310,663,134)	($165,544,529)	(5,330)
Amarillo MSA	($1,343,562,278)	($697,072,732)	($398,698,951)	($216,648,447)	(6,963)
Austin-Round Rock MSA	($4,270,164,454)	($2,211,284,043)	($1,325,670,385)	($693,903,580)	(23,258)
Beaumont-Port Arthur MSA	($2,577,915,484)	($1,278,111,472)	($784,157,483)	($457,015,933)	(13,901)
Brownsville-Harlingen MSA	($1,229,946,145)	($622,468,431)	($370,912,509)	($220,066,638)	(7,006)
College Station-Bryan MSA	($779,495,186)	($394,948,741)	($228,828,260)	($132,771,796)	(4,140)
Corpus Christi MSA	($2,720,697,406)	($1,263,300,310)	($722,205,433)	($388,646,789)	(12,253)
Dallas-Plano-Irving MD*	($16,573,861,432)	($8,106,808,606)	($4,651,971,173)	($2,096,685,868)	(75,876)
Fort Worth-Arlington MD*	($10,046,899,272)	($4,941,860,087)	($2,877,123,665)	($1,467,468,127)	(49,112)
El Paso MSA	($3,399,446,272)	($1,645,306,930)	($961,616,194)	($504,058,432)	(17,009)
Houston-The Woodlands-Sugar Land MSA	($27,508,111,997)	($12,663,882,472)	($7,172,356,171)	($2,955,916,481)	(110,952)
Killeen-Temple MSA	($1,392,492,661)	($732,546,021)	($446,575,724)	($270,248,104)	(8,429)
Laredo MSA	($549,738,386)	($287,875,226)	($159,531,804)	($98,272,038)	(2,863)
Longview MSA	($1,440,864,720)	($739,687,351)	($427,616,732)	($233,095,467)	(7,349)
Lubbock MSA	($1,344,817,183)	($699,536,661)	($416,731,283)	($222,693,067)	(7,417)
McAllen-Edinburg-Mission MSA	($1,757,183,480)	($938,810,660)	($563,356,102)	($327,747,700)	(10,510)
Midland MSA	($582,977,363)	($295,139,208)	($163,888,993)	($86,307,373)	(2,695)
Odessa MSA	($779,110,937)	($385,140,089)	($220,524,369)	($118,658,258)	(3,669)
San Angelo MSA	($669,385,087)	($326,102,388)	($180,167,371)	($103,905,304)	(3,254)
San Antonio-New Braunfels MSA	($9,535,254,051)	($4,751,276,226)	($2,813,934,976)	($1,504,398,534)	(49,867)
Sherman-Denison MSA	($718,611,723)	($373,090,031)	($227,412,938)	($144,794,438)	(4,307)
Texarkana MSA	($577,627,374)	($304,147,150)	($184,416,981)	($111,862,851)	(3,430)
Tyler MSA	($1,299,491,085)	($638,577,705)	($352,645,778)	($190,900,438)	(6,029)
Victoria MSA	($597,763,885)	($294,052,040)	($168,166,393)	($92,522,078)	(2,828)
Waco MSA	($1,604,546,574)	($771,709,184)	($455,157,093)	($256,853,149)	(8,322)
Wichita Falls MSA	($970,929,913)	($520,532,366)	($296,359,010)	($166,531,328)	(5,154)
Rural Texas	($17,463,958,467)	($8,798,720,847)	($5,109,484,630)	($3,179,108,355)	(93,606)
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 1 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Anderson	($433,946,469)	($236,074,251)	($136,775,552)	($78,682,959)	(2,433)
Andrews	($60,902,358)	($31,613,837)	($17,433,111)	($9,380,505)	(287)
Angelina	($458,070,857)	($228,750,922)	($138,949,091)	($85,203,948)	(2,575)
Aransas	($246,383,041)	($113,683,223)	($61,965,113)	($36,590,652)	(1,067)
Archer	($39,635,359)	($20,469,301)	($10,971,619)	($6,843,042)	(198)
Armstrong	($11,087,469)	($5,605,359)	($3,163,253)	($1,326,968)	(51)
Atascosa	($228,909,329)	($110,599,439)	($62,409,154)	($33,977,034)	(1,048)
Austin	($184,205,038)	($87,526,682)	($52,544,051)	($24,446,179)	(848)
Bailey	($25,507,622)	($13,168,348)	($7,908,327)	($5,433,647)	(149)
Bandera	($133,593,204)	($63,471,732)	($35,787,392)	($23,522,562)	(672)
Bastrop	($334,656,099)	($164,429,586)	($97,104,222)	($60,113,215)	(1,820)
Baylor	($47,542,016)	($25,319,751)	($14,736,068)	($8,886,301)	(267)
Bee	($124,964,635)	($66,290,559)	($37,316,703)	($23,522,562)	(685)
Bell	($1,047,276,565)	($558,614,242)	($343,678,489)	($202,816,759)	(6,426)
Bexar	($7,638,738,447)	($3,832,932,206)	($2,282,959,889)	($1,171,946,321)	(39,977)
Blanco	($51,754,747)	($24,526,709)	($14,020,194)	($9,034,171)	(269)
Borden	($7,049,884)	($3,507,904)	($1,866,635)	($884,779)	(29)
Bosque	($121,213,256)	($59,721,957)	($36,153,176)	($20,228,811)	(658)
Bowie	($577,627,374)	($304,147,150)	($184,416,981)	($111,862,851)	(3,430)
Brazoria	($1,239,212,728)	($590,289,395)	($347,323,880)	($204,214,474)	(6,070)
Brazos	($562,302,789)	($283,818,202)	($163,678,893)	($88,863,013)	(2,921)
Brewster	($36,846,498)	($20,215,900)	($12,284,362)	($7,318,130)	(229)
Briscoe	($8,770,447)	($4,126,321)	($2,371,464)	($1,502,191)	(43)
Brooks	($24,588,937)	($13,436,719)	($7,789,606)	($5,227,236)	(145)
Brown	($224,288,355)	($121,557,821)	($73,946,196)	($51,749,637)	(1,462)
Burleson	($110,105,138)	($58,452,740)	($33,421,809)	($20,908,944)	(596)
Burnet	($300,844,553)	($143,921,807)	($83,175,091)	($49,136,019)	(1,502)
Caldwell	($216,224,853)	($108,642,928)	($62,271,497)	($36,067,929)	(1,106)
Calhoun	($77,627,649)	($31,858,378)	($18,313,978)	($10,134,958)	(305)
Callahan	($108,924,716)	($52,819,449)	($28,929,497)	($17,772,603)	(517)
Cameron	($1,229,946,145)	($622,468,431)	($370,912,509)	($220,066,638)	(7,006)
Camp	($62,505,593)	($30,652,937)	($18,218,704)	($11,231,622)	(341)
Carson	($14,376,092)	($6,050,266)	($2,818,652)	($1,121,753)	(43)
Cass	($181,501,434)	($91,894,449)	($54,843,885)	($38,397,869)	(1,047)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 2 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Castro	($16,267,971)	($7,877,559)	($4,675,223)	($3,347,334)	(91)
Chambers	($143,749,147)	($61,890,163)	($33,496,300)	($15,260,402)	(521)
Cherokee	($237,760,401)	($119,447,482)	($73,606,117)	($46,344,060)	(1,363)
Childress	($42,012,999)	($21,025,253)	($12,106,373)	($8,363,578)	(233)
Clay	($68,748,248)	($35,035,095)	($21,002,449)	($10,712,059)	(357)
Cochran	($13,510,839)	($7,239,238)	($3,769,018)	($1,776,301)	(61)
Coke	($42,873,334)	($20,756,255)	($11,599,719)	($6,767,648)	(195)
Coleman	($86,967,130)	($45,005,584)	($25,047,735)	($15,158,985)	(446)
Collin	($1,774,156,838)	($911,447,823)	($539,809,702)	($287,683,611)	(9,391)
Collingsworth	($22,497,733)	($12,402,712)	($7,451,057)	($4,747,608)	(134)
Colorado	($127,322,132)	($64,732,789)	($37,307,123)	($25,214,007)	(736)
Comal	($522,145,847)	($252,681,649)	($147,063,582)	($91,999,354)	(2,821)
Comanche	($98,934,751)	($50,342,104)	($30,324,291)	($18,850,824)	(564)
Concho	($14,202,023)	($7,601,197)	($4,782,148)	($2,624,690)	(88)
Cooke	($258,794,731)	($128,879,369)	($74,741,697)	($40,249,718)	(1,249)
Coryell	($226,949,091)	($114,472,039)	($67,741,155)	($43,908,783)	(1,310)
Cottle	($10,485,215)	($6,096,260)	($3,633,943)	($1,879,419)	(61)
Crane	($14,613,162)	($7,945,021)	($4,321,636)	($2,209,018)	(73)
Crockett	($17,141,342)	($8,861,420)	($4,843,637)	($3,659,065)	(91)
Crosby	($32,792,027)	($17,733,106)	($9,955,823)	($4,628,484)	(166)
Culberson	($8,910,290)	($5,308,120)	($3,118,600)	($2,613,618)	(64)
Dallam	($18,035,590)	($9,685,691)	($5,768,117)	($3,024,729)	(104)
Dallas	($11,350,725,735)	($5,533,150,537)	($3,124,135,830)	($1,243,644,131)	(48,824)
Dawson	($77,822,714)	($39,341,384)	($21,416,346)	($13,414,042)	(379)
Deaf Smith	($46,058,669)	($22,512,230)	($13,243,355)	($7,030,423)	(239)
Delta	($28,137,972)	($14,701,015)	($8,884,951)	($3,562,311)	(148)
Denton	($1,710,527,822)	($819,828,687)	($484,324,963)	($249,861,883)	(8,333)
DeWitt	($161,295,198)	($81,010,421)	($48,355,288)	($29,272,522)	(888)
Dickens	($19,309,101)	($10,203,063)	($6,148,549)	($3,807,651)	(110)
Dimmit	($35,105,745)	($18,295,565)	($10,263,501)	($7,318,130)	(195)
Donley	($24,173,654)	($13,646,630)	($8,250,951)	($6,272,683)	(168)
Duval	($61,475,779)	($30,002,038)	($16,144,313)	($8,866,873)	(280)
Eastland	($157,680,761)	($78,110,216)	($43,810,954)	($28,749,798)	(800)
Ector	($779,110,937)	($385,140,089)	($220,524,369)	($118,658,258)	(3,669)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 3 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Edwards	($14,782,429)	($7,281,978)	($3,895,720)	($2,571,278)	(70)
El Paso	($3,397,315,220)	($1,644,195,253)	($960,987,782)	($503,382,831)	(16,995)
Ellis	($609,210,595)	($281,818,567)	($167,139,219)	($101,702,288)	(2,995)
Erath	($158,553,516)	($85,712,457)	($52,508,335)	($35,022,482)	(1,027)
Falls	($113,399,422)	($60,129,881)	($36,769,885)	($22,150,250)	(691)
Fannin	($218,900,921)	($109,873,120)	($67,529,446)	($41,779,936)	(1,268)
Fayette	($203,790,419)	($104,062,141)	($58,482,905)	($31,363,416)	(1,011)
Fisher	($27,999,349)	($14,517,359)	($8,491,525)	($5,971,684)	(165)
Floyd	($22,148,087)	($9,964,342)	($5,749,889)	($3,036,428)	(102)
Foard	($1,936,843)	($1,089,511)	($672,152)	($404,902)	(13)
Fort Bend	($1,631,066,256)	($765,479,451)	($429,962,537)	($213,024,762)	(6,940)
Franklin	($70,615,967)	($35,091,467)	($19,049,922)	($12,187,908)	(346)
Freestone	($136,794,768)	($67,650,629)	($36,778,325)	($25,090,733)	(671)
Frio	($70,634,777)	($34,216,211)	($18,594,820)	($11,160,508)	(327)
Gaines	($61,284,720)	($29,640,312)	($15,552,132)	($9,152,119)	(264)
Galveston	($1,886,925,849)	($879,829,295)	($514,003,902)	($293,247,942)	(9,101)
Garza	($28,968,961)	($14,193,074)	($7,814,377)	($4,792,875)	(134)
Gillespie	($194,082,717)	($94,949,706)	($56,379,327)	($34,499,758)	(1,059)
Glasscock	($903,050)	($446,084)	($216,362)	($75,617)	(3)
Goliad	($47,415,184)	($25,428,854)	($14,542,968)	($10,454,472)	(275)
Gonzales	($76,905,547)	($39,250,899)	($23,477,067)	($14,904,889)	(442)
Gray	($166,428,621)	($77,805,381)	($43,629,459)	($26,399,549)	(736)
Grayson	($718,611,723)	($373,090,031)	($227,412,938)	($144,794,438)	(4,307)
Gregg	($833,008,578)	($439,577,497)	($255,264,134)	($134,339,966)	(4,335)
Grimes	($120,624,374)	($60,725,151)	($35,877,718)	($21,580,792)	(649)
Guadalupe	($445,967,137)	($220,473,767)	($130,376,805)	($84,681,224)	(2,434)
Hale	($113,829,022)	($61,016,939)	($36,936,560)	($27,570,259)	(737)
Hall	($25,353,090)	($12,804,128)	($7,385,395)	($4,786,070)	(138)
Hamilton	($64,512,336)	($31,853,089)	($19,242,919)	($13,590,814)	(377)
Hansford	($14,074,211)	($6,370,978)	($3,090,997)	($1,395,506)	(44)
Hardeman	($21,825,394)	($11,994,823)	($7,074,312)	($5,749,960)	(146)
Hardin	($330,097,158)	($162,002,828)	($92,296,721)	($58,545,044)	(1,661)
Harris	($19,556,220,563)	($8,897,463,891)	($5,008,987,983)	($1,814,556,481)	(74,403)
Harrison	($468,430,580)	($217,814,141)	($124,381,138)	($60,303,599)	(1,992)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 4 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Hartley	($7,836,619)	($3,856,398)	($2,225,837)	($1,430,716)	(44)
Haskell	($49,805,024)	($25,664,507)	($14,953,114)	($8,599,901)	(265)
Hays	($387,833,261)	($195,935,702)	($116,229,214)	($68,476,792)	(2,132)
Hemphill	($9,759,471)	($4,603,239)	($2,352,933)	($1,234,599)	(37)
Henderson	($689,324,479)	($333,511,371)	($192,316,420)	($113,431,022)	(3,524)
Hidalgo	($1,757,183,480)	($938,810,660)	($563,356,102)	($327,747,700)	(10,510)
Hill	($255,145,206)	($118,516,191)	($68,288,906)	($48,090,572)	(1,376)
Hockley	($98,754,724)	($50,779,306)	($28,247,288)	($17,791,723)	(512)
Hood	($355,085,811)	($167,699,996)	($99,213,059)	($62,204,109)	(1,852)
Hopkins	($184,585,649)	($96,741,583)	($58,796,074)	($39,726,994)	(1,126)
Houston	($214,607,990)	($105,054,682)	($64,001,573)	($28,974,960)	(1,040)
Howard	($223,452,647)	($107,411,134)	($60,445,709)	($34,499,758)	(1,028)
Hudspeth	($2,131,053)	($1,111,677)	($628,412)	($675,601)	(14)
Hunt	($413,034,825)	($207,108,257)	($124,880,174)	($84,681,224)	(2,389)
Hutchinson	($138,664,192)	($65,021,021)	($36,219,584)	($24,850,175)	(619)
Irion	($3,357,070)	($1,405,017)	($719,777)	($406,030)	(11)
Jack	($59,996,583)	($30,120,525)	($17,042,831)	($10,109,926)	(292)
Jackson	($87,376,361)	($45,257,649)	($24,487,003)	($15,984,077)	(439)
Jasper	($223,134,596)	($113,669,457)	($68,127,557)	($45,982,145)	(1,321)
Jeff Davis	($11,262,416)	($5,528,559)	($3,209,583)	($2,066,385)	(60)
Jefferson	($1,663,939,407)	($822,392,525)	($511,740,705)	($286,975,259)	(9,005)
Jim Hogg	($34,107,333)	($17,260,277)	($9,285,408)	($6,795,407)	(169)
Jim Wells	($167,785,677)	($92,884,594)	($52,120,347)	($32,931,587)	(948)
Johnson	($712,173,993)	($351,043,678)	($215,269,465)	($127,021,836)	(3,921)
Jones	($122,819,183)	($62,133,597)	($34,989,956)	($19,181,920)	(611)
Karnes	($108,572,605)	($49,734,388)	($27,275,716)	($15,681,708)	(460)
Kaufman	($477,423,844)	($232,058,123)	($139,146,235)	($86,249,395)	(2,607)
Kendall	($187,547,703)	($86,510,933)	($49,567,354)	($29,795,245)	(885)
Kenedy	($3,041,417)	($1,562,321)	($802,816)	($587,105)	(16)
Kent	($2,523,087)	($1,221,635)	($662,593)	($353,894)	(11)
Kerr	($437,660,306)	($217,181,043)	($125,288,537)	($77,885,817)	(2,352)
Kimble	($47,235,185)	($20,658,032)	($11,341,611)	($7,318,130)	(203)
King	($2,412,954)	($1,295,546)	($779,122)	($316,878)	(13)
Kinney	($24,191,304)	($11,396,062)	($5,848,643)	($3,746,998)	(106)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 5 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Kleberg	($155,468,835)	($78,773,419)	($44,206,875)	($26,136,180)	(789)
Knox	($29,437,618)	($15,538,499)	($8,580,621)	($4,225,812)	(140)
La Salle	($19,255,405)	($10,389,495)	($5,690,114)	($4,181,789)	(111)
Lamar	($305,454,858)	($151,448,327)	($92,178,063)	($61,500,033)	(1,791)
Lamb	($53,259,093)	($24,640,754)	($14,600,402)	($9,270,084)	(260)
Lampasas	($118,267,006)	($59,459,739)	($35,156,079)	($23,522,562)	(693)
Lavaca	($146,857,190)	($79,599,869)	($47,545,670)	($28,464,148)	(872)
Lee	($100,135,272)	($50,537,771)	($28,607,490)	($16,428,262)	(499)
Leon	($87,430,671)	($46,859,527)	($26,375,806)	($18,769,535)	(496)
Liberty	($498,637,733)	($256,743,748)	($149,479,070)	($81,950,997)	(2,586)
Limestone	($139,904,614)	($72,322,010)	($42,671,504)	($27,704,351)	(782)
Lipscomb	($13,488,755)	($6,474,651)	($3,239,508)	($1,559,142)	(51)
Live Oak	($61,623,558)	($29,257,351)	($16,299,872)	($10,454,472)	(284)
Llano	($210,897,127)	($102,424,506)	($58,975,796)	($38,158,823)	(1,133)
Loving	($1,759,322)	($853,440)	($355,742)	($108,665)	(4)
Lubbock	($1,293,291,953)	($672,655,630)	($401,475,503)	($215,884,849)	(7,164)
Lynn	($18,733,203)	($9,147,925)	($5,299,957)	($2,179,734)	(87)
Madison	($66,589,113)	($34,038,611)	($19,160,177)	($14,636,261)	(385)
Marion	($93,793,111)	($48,002,415)	($27,741,608)	($18,295,326)	(534)
Martin	($26,757,580)	($12,703,440)	($6,997,539)	($3,753,758)	(113)
Mason	($35,574,247)	($17,610,611)	($9,459,169)	($5,749,960)	(170)
Matagorda	($228,345,183)	($104,813,209)	($61,156,971)	($39,812,541)	(1,090)
Maverick	($150,711,232)	($77,312,528)	($44,564,141)	($30,317,969)	(871)
McCulloch	($58,750,273)	($30,517,190)	($18,473,386)	($11,499,919)	(340)
McLennan	($1,491,147,152)	($711,579,303)	($418,387,209)	($234,702,898)	(7,630)
McMullen	($1,047,432)	($505,518)	($259,598)	($109,080)	(4)
Medina	($189,304,375)	($90,666,953)	($51,504,500)	($33,454,311)	(985)
Menard	($19,018,554)	($9,943,703)	($5,439,588)	($3,659,065)	(98)
Midland	($556,219,783)	($282,435,769)	($156,891,453)	($82,553,616)	(2,582)
Milam	($138,857,949)	($70,133,169)	($41,953,104)	($26,516,007)	(777)
Mills	($27,350,124)	($16,564,418)	($10,490,121)	($7,087,927)	(204)
Mitchell	($61,012,272)	($31,554,852)	($17,846,138)	($10,871,239)	(314)
Montague	($177,717,278)	($86,645,580)	($47,324,497)	($29,272,522)	(859)
Montgomery	($2,173,546,384)	($1,038,866,238)	($589,494,371)	($277,851,828)	(9,618)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 6 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Moore	($74,825,917)	($32,758,900)	($18,026,142)	($10,176,244)	(297)
Morris	($86,768,928)	($37,992,251)	($22,756,314)	($10,246,493)	(367)
Motley	($11,474,881)	($5,446,184)	($2,881,065)	($1,805,628)	(52)
Nacogdoches	($287,029,228)	($152,824,148)	($93,488,459)	($62,204,109)	(1,851)
Navarro	($315,157,922)	($156,363,703)	($94,284,655)	($53,460,026)	(1,734)
Newton	($55,731,793)	($34,742,124)	($22,511,598)	($15,270,309)	(422)
Nolan	($123,542,094)	($65,173,139)	($36,586,498)	($21,461,511)	(644)
Nueces	($2,089,812,173)	($969,825,374)	($556,869,001)	($285,929,812)	(9,326)
Ochiltree	($29,857,524)	($14,394,744)	($7,739,406)	($4,113,508)	(126)
Oldham	($1,145,292)	($647,374)	($395,853)	($362,603)	(9)
Orange	($528,147,126)	($258,973,994)	($157,608,458)	($96,225,321)	(2,813)
Palo Pinto	($236,681,766)	($111,249,335)	($62,536,908)	($37,113,376)	(1,112)
Panola	($167,073,096)	($85,194,830)	($48,527,380)	($27,626,077)	(844)
Parker	($588,144,536)	($274,757,849)	($158,433,513)	($92,522,078)	(2,831)
Parmer	($12,915,327)	($5,925,706)	($3,415,120)	($1,182,912)	(56)
Pecos	($70,599,380)	($35,340,639)	($19,458,489)	($13,068,090)	(359)
Polk	($411,861,067)	($211,054,435)	($119,371,894)	($75,272,199)	(2,123)
Potter	($777,326,911)	($405,123,033)	($230,104,134)	($122,317,323)	(3,970)
Presidio	($19,421,146)	($9,324,101)	($5,390,772)	($3,659,065)	(102)
Rains	($87,764,898)	($40,891,301)	($22,689,221)	($15,781,036)	(419)
Randall	($539,626,513)	($279,646,700)	($162,217,059)	($91,519,800)	(2,890)
Reagan	($13,061,130)	($6,763,141)	($3,618,862)	($2,462,623)	(62)
Real	($34,413,422)	($15,714,769)	($8,521,639)	($5,227,236)	(149)
Red River	($121,718,980)	($57,774,103)	($33,183,156)	($21,113,059)	(618)
Reeves	($62,194,667)	($32,144,742)	($17,844,863)	($13,068,090)	(336)
Refugio	($47,649,422)	($23,835,040)	($12,609,097)	($10,454,472)	(239)
Roberts	($1,633,406)	($743,426)	($386,324)	($304,172)	(7)
Robertson	($107,087,259)	($52,677,799)	($31,727,558)	($22,999,839)	(623)
Rockwall	($238,781,773)	($121,396,612)	($72,535,051)	($42,863,336)	(1,336)
Runnels	($97,307,839)	($43,764,451)	($23,844,036)	($13,915,524)	(408)
Rusk	($335,135,540)	($163,310,064)	($94,073,395)	($50,664,929)	(1,612)
Sabine	($72,022,754)	($35,655,834)	($22,216,760)	($14,349,931)	(413)
San Augustine	($77,514,405)	($37,224,695)	($20,545,723)	($12,683,759)	(374)
San Jacinto	($155,405,948)	($75,936,753)	($44,674,667)	($28,749,798)	(839)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 7 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
San Patricio	($384,502,192)	($179,791,713)	($103,371,319)	($66,126,325)	(1,859)
San Saba	($37,387,578)	($19,941,082)	($11,827,833)	($8,363,578)	(236)
Schleicher	($8,781,249)	($4,515,370)	($2,508,855)	($990,016)	(40)
Scurry	($82,941,574)	($45,279,369)	($24,818,820)	($16,957,009)	(452)
Shackelford	($23,392,943)	($11,771,755)	($6,288,952)	($3,627,200)	(107)
Shelby	($120,647,975)	($65,077,877)	($41,430,795)	($26,883,414)	(794)
Sherman	($4,757,284)	($2,197,376)	($1,252,195)	($674,337)	(23)
Smith	($1,299,491,085)	($638,577,705)	($352,645,778)	($190,900,438)	(6,029)
Somervell	($24,484,135)	($11,392,441)	($6,987,170)	($2,796,587)	(121)
Starr	($114,792,240)	($64,937,091)	($38,918,315)	($28,749,798)	(779)
Stephens	($65,141,659)	($35,198,594)	($19,761,606)	($13,796,209)	(357)
Sterling	($1,515,949)	($873,858)	($496,626)	($387,959)	(9)
Stonewall	($10,893,108)	($6,109,774)	($3,439,026)	($2,393,252)	(64)
Sutton	($23,756,038)	($12,444,660)	($6,899,121)	($4,704,512)	(125)
Swisher	($24,163,523)	($11,173,435)	($6,556,929)	($3,895,663)	(121)
Tarrant	($8,095,205,965)	($3,995,594,066)	($2,317,899,677)	($1,135,355,669)	(38,992)
Taylor	($873,135,091)	($434,480,214)	($246,743,681)	($128,590,007)	(4,202)
Terrell	($1,859,527)	($1,102,405)	($655,954)	($342,955)	(11)
Terry	($53,607,007)	($27,675,241)	($14,551,389)	($10,531,015)	(264)
Throckmorton	($8,508,228)	($4,447,802)	($2,315,465)	($1,398,416)	(39)
Titus	($124,509,476)	($60,136,794)	($36,475,292)	($26,305,816)	(701)
Tom Green	($666,028,017)	($324,697,370)	($179,447,594)	($103,499,274)	(3,243)
Travis	($2,676,981,870)	($1,392,967,480)	($835,156,628)	($409,241,559)	(14,313)
Trinity	($132,688,692)	($72,455,938)	($42,625,526)	($27,972,105)	(826)
Tyler	($139,727,657)	($72,190,662)	($43,489,576)	($27,752,848)	(819)
Upshur	($272,720,602)	($136,799,789)	($78,279,203)	($48,090,572)	(1,402)
Upton	($13,671,751)	($6,924,968)	($3,659,211)	($2,021,556)	(61)
Uvalde	($130,364,906)	($68,014,181)	($40,413,123)	($24,568,009)	(766)
Val Verde	($164,652,101)	($91,960,797)	($56,992,648)	($34,499,758)	(1,077)
Van Zandt	($298,809,481)	($168,565,003)	($98,849,287)	($64,817,727)	(1,893)
Victoria	($550,348,701)	($268,623,186)	($153,623,424)	($82,067,606)	(2,553)
Walker	($240,420,608)	($123,435,327)	($74,649,867)	($47,567,848)	(1,420)
Waller	($194,548,298)	($85,793,610)	($47,064,078)	($31,363,416)	(866)
Ward	($64,260,250)	($32,998,795)	($18,338,370)	($12,545,367)	(332)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 8 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Washington	($206,263,788)	($106,992,353)	($63,406,601)	($36,808,408)	(1,143)
Webb	($549,738,386)	($287,875,226)	($159,531,804)	($98,272,038)	(2,863)
Wharton	($261,617,991)	($136,536,109)	($77,400,960)	($48,046,059)	(1,389)
Wheeler	($31,217,232)	($17,346,556)	($9,754,780)	($6,779,543)	(182)
Wichita	($862,546,307)	($465,027,970)	($264,384,942)	($148,976,227)	(4,599)
Wilbarger	($102,161,900)	($48,976,986)	($29,573,264)	($18,818,050)	(544)
Willacy	($52,718,278)	($29,764,471)	($17,253,760)	($11,932,666)	(330)
Williamson	($654,468,370)	($349,308,348)	($214,908,823)	($120,004,085)	(3,887)
Wilson	($189,048,009)	($93,939,546)	($54,266,300)	($35,022,482)	(1,045)
Winkler	($41,012,944)	($21,232,438)	($11,753,791)	($7,437,348)	(205)
Wise	($271,804,832)	($141,372,056)	($79,320,781)	($47,567,848)	(1,393)
Wood	($369,143,107)	($180,755,514)	($103,660,042)	($60,954,811)	(1,869)
Yoakum	($22,973,674)	($11,674,600)	($6,333,231)	($4,197,631)	(112)
Young	($167,493,629)	($86,277,735)	($47,982,022)	($29,345,509)	(834)
Zapata	($33,054,116)	($17,089,391)	($9,535,574)	($6,795,407)	(180)
Zavala	($29,486,702)	($17,474,121)	($11,175,620)	($9,096,567)	(242)
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 1 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($1,075,417,180)	($548,461,047)	($328,828,123)	($206,663,850)	(6,185)
2	($896,429,956)	($472,414,843)	($282,525,535)	($189,225,945)	(5,408)
3	($772,711,636)	($362,132,029)	($203,869,580)	($105,272,002)	(3,424)
4	($1,049,563,161)	($508,872,561)	($298,768,864)	($180,397,143)	(5,533)
5	($1,042,569,863)	($503,687,446)	($288,434,560)	($170,335,883)	(5,144)
6	($987,613,225)	($485,319,056)	($268,010,792)	($145,084,333)	(4,582)
7	($1,105,729,180)	($576,377,287)	($333,543,337)	($182,430,538)	(5,737)
8	($1,141,044,365)	($578,604,775)	($336,127,437)	($205,324,290)	(6,214)
9	($1,103,468,949)	($543,639,546)	($319,141,566)	($185,856,217)	(5,626)
10	($726,395,756)	($338,515,500)	($199,833,010)	($120,985,562)	(3,594)
11	($859,925,169)	($435,581,694)	($261,167,971)	($159,213,098)	(4,825)
12	($897,703,887)	($444,014,393)	($262,873,733)	($157,483,392)	(4,853)
13	($1,099,168,079)	($562,091,725)	($328,585,876)	($188,785,894)	(5,854)
14	($472,334,343)	($238,407,290)	($137,490,270)	($74,644,931)	(2,453)
15	($797,691,523)	($381,263,909)	($216,344,434)	($101,971,621)	(3,530)
16	($797,691,523)	($381,263,909)	($216,344,434)	($101,971,621)	(3,530)
17	($836,494,375)	($412,595,571)	($238,735,993)	($143,196,002)	(4,327)
18	($894,464,289)	($456,115,827)	($268,803,604)	($158,268,643)	(4,845)
19	($1,160,552,270)	($593,659,507)	($345,797,347)	($222,822,544)	(6,345)
20	($583,685,543)	($290,902,812)	($172,408,136)	($102,052,924)	(3,134)
21	($1,127,165,312)	($555,035,303)	($341,835,112)	($199,536,414)	(6,055)
22	($1,064,921,221)	($526,331,216)	($327,514,051)	($183,664,166)	(5,763)
23	($973,996,521)	($449,015,053)	($259,658,017)	($144,289,496)	(4,526)
24	($1,056,678,475)	($492,704,405)	($287,842,185)	($164,218,848)	(5,096)
25	($773,598,784)	($364,540,543)	($213,979,479)	($129,666,909)	(3,761)
26	($443,650,022)	($208,210,411)	($116,949,810)	($57,942,735)	(1,888)
27	($443,650,022)	($208,210,411)	($116,949,810)	($57,942,735)	(1,888)
28	($443,650,022)	($208,210,411)	($116,949,810)	($57,942,735)	(1,888)
29	($693,959,127)	($330,562,061)	($194,501,373)	($114,360,106)	(3,399)
30	($1,130,719,194)	($544,439,102)	($309,409,869)	($178,974,682)	(5,327)
31	($601,559,709)	($307,714,720)	($174,852,956)	($110,881,461)	(3,166)
32	($1,024,007,965)	($475,214,433)	($272,865,810)	($140,105,608)	(4,570)
33	($451,680,594)	($230,770,351)	($137,312,215)	($77,385,369)	(2,463)
34	($1,065,804,208)	($494,610,941)	($284,003,190)	($145,824,204)	(4,756)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 2 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
35	($434,010,330)	($225,987,398)	($135,164,708)	($79,363,034)	(2,536)
36	($383,065,999)	($204,660,724)	($122,811,630)	($71,448,999)	(2,291)
37	($516,577,381)	($261,436,741)	($155,783,254)	($92,427,988)	(2,943)
38	($504,277,920)	($255,212,057)	($152,074,129)	($90,227,321)	(2,873)
39	($383,065,999)	($204,660,724)	($122,811,630)	($71,448,999)	(2,291)
40	($383,065,999)	($204,660,724)	($122,811,630)	($71,448,999)	(2,291)
41	($383,065,999)	($204,660,724)	($122,811,630)	($71,448,999)	(2,291)
42	($351,832,567)	($184,240,145)	($102,100,355)	($62,894,104)	(1,833)
43	($832,721,339)	($417,740,286)	($237,015,243)	($148,716,654)	(4,281)
44	($635,015,146)	($314,413,313)	($184,643,105)	($119,703,705)	(3,478)
45	($439,588,009)	($220,462,412)	($130,249,408)	($77,510,963)	(2,401)
46	($436,348,045)	($227,053,699)	($136,130,530)	($66,706,374)	(2,333)
47	($455,086,918)	($236,804,472)	($141,976,627)	($69,571,065)	(2,433)
48	($455,086,918)	($236,804,472)	($141,976,627)	($69,571,065)	(2,433)
49	($439,025,027)	($228,446,667)	($136,965,687)	($67,115,616)	(2,347)
50	($436,348,045)	($227,053,699)	($136,130,530)	($66,706,374)	(2,333)
51	($455,086,918)	($236,804,472)	($141,976,627)	($69,571,065)	(2,433)
52	($255,242,664)	($136,230,256)	($83,814,441)	($46,801,593)	(1,516)
53	($1,172,157,476)	($570,774,777)	($324,465,566)	($206,900,776)	(6,089)
54	($620,959,757)	($327,594,575)	($200,121,754)	($120,874,606)	(3,778)
55	($544,583,814)	($290,479,406)	($178,712,815)	($105,464,714)	(3,342)
56	($1,043,803,007)	($498,105,512)	($292,871,046)	($164,292,029)	(5,341)
57	($1,036,901,727)	($524,384,375)	($311,657,896)	($188,240,567)	(5,696)
58	($833,387,249)	($410,765,635)	($251,422,640)	($147,250,647)	(4,580)
59	($696,921,804)	($360,794,819)	($217,595,211)	($141,120,913)	(4,179)
60	($1,258,163,140)	($623,412,752)	($359,534,909)	($230,171,916)	(6,652)
61	($859,949,368)	($416,129,905)	($237,754,294)	($140,089,926)	(4,225)
62	($965,650,616)	($497,664,167)	($303,827,335)	($190,136,685)	(5,722)
63	($427,631,955)	($204,957,172)	($121,081,241)	($62,465,471)	(2,083)
64	($427,631,955)	($204,957,172)	($121,081,241)	($62,465,471)	(2,083)
65	($427,631,955)	($204,957,172)	($121,081,241)	($62,465,471)	(2,083)
66	($390,314,504)	($200,518,521)	($118,758,134)	($63,290,394)	(2,066)
67	($390,314,504)	($200,518,521)	($118,758,134)	($63,290,394)	(2,066)
68	($1,136,390,589)	($573,366,318)	($327,260,718)	($197,206,993)	(5,793)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 3 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
69	($1,049,846,390)	($562,480,127)	($320,347,851)	($180,048,343)	(5,573)
70	($390,314,504)	($200,518,521)	($118,758,134)	($63,290,394)	(2,066)
71	($1,119,496,369)	($561,786,950)	($318,320,135)	($169,233,438)	(5,457)
72	($1,062,701,060)	($513,718,508)	($285,170,834)	($164,639,122)	(5,047)
73	($903,776,267)	($434,142,289)	($253,010,263)	($156,294,358)	(4,765)
74	($554,538,937)	($291,598,969)	($170,352,208)	($111,485,325)	(3,234)
75	($679,463,044)	($328,839,051)	($192,197,556)	($100,676,566)	(3,399)
76	($679,463,044)	($328,839,051)	($192,197,556)	($100,676,566)	(3,399)
77	($679,463,044)	($328,839,051)	($192,197,556)	($100,676,566)	(3,399)
78	($679,463,044)	($328,839,051)	($192,197,556)	($100,676,566)	(3,399)
79	($679,463,044)	($328,839,051)	($192,197,556)	($100,676,566)	(3,399)
80	($496,552,064)	($258,724,551)	($147,414,087)	($94,316,555)	(2,741)
81	($945,286,489)	($470,985,159)	($268,049,641)	($148,021,478)	(4,494)
82	($689,084,990)	($349,350,581)	($193,286,187)	($103,951,990)	(3,208)
83	($801,945,442)	($415,867,855)	($240,525,273)	($136,929,835)	(4,276)
84	($775,975,172)	($403,593,378)	($240,885,302)	($129,530,909)	(4,299)
85	($649,110,543)	($322,641,977)	($181,001,069)	($103,226,693)	(3,105)
86	($625,618,011)	($322,274,099)	($187,265,341)	($104,551,183)	(3,343)
87	($1,009,950,395)	($511,150,595)	($288,420,707)	($159,139,832)	(4,951)
88	($647,540,027)	($321,340,908)	($183,251,272)	($117,390,960)	(3,306)
89	($390,314,504)	($200,518,521)	($118,758,134)	($63,290,394)	(2,066)
90	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
91	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
92	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
93	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
94	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
95	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
96	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
97	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
98	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
99	($736,663,743)	($363,599,060)	($210,928,871)	($103,317,366)	(3,548)
100	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
101	($728,568,537)	($359,603,466)	($208,610,971)	($102,182,010)	(3,509)
102	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 4 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
103	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
104	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
105	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
106	($427,631,955)	($204,957,172)	($121,081,241)	($62,465,471)	(2,083)
107	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
108	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
109	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
110	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
111	($822,927,616)	($401,153,414)	($226,499,848)	($90,164,200)	(3,540)
112	($805,901,527)	($392,853,688)	($221,813,644)	($88,298,733)	(3,467)
113	($822,927,616)	($401,153,414)	($226,499,848)	($90,164,200)	(3,540)
114	($822,927,616)	($401,153,414)	($226,499,848)	($90,164,200)	(3,540)
115	($822,927,616)	($401,153,414)	($226,499,848)	($90,164,200)	(3,540)
116	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
117	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
118	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
119	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
120	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
121	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
122	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
123	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
124	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
125	($763,873,845)	($383,293,221)	($228,295,989)	($117,194,632)	(3,998)
126	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
127	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
128	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
129	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
130	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
131	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
132	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
133	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
134	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
135	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
136	($255,242,664)	($136,230,256)	($83,814,441)	($46,801,593)	(1,516)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 5 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
137	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
138	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
139	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
140	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
141	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
142	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
143	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
144	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
145	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
146	($821,361,264)	($373,693,483)	($210,377,495)	($76,211,372)	(3,125)
147	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
148	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
149	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
150	($801,805,043)	($364,796,020)	($205,368,507)	($74,396,816)	(3,051)
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by State Senate District

Senate District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($5,369,498,310)	($2,679,169,433)	($1,545,694,998)	($884,021,369)	(27,259)
2	($3,877,062,739)	($1,931,970,606)	($1,124,413,530)	($590,881,460)	(19,486)
3	($5,370,652,821)	($2,716,832,475)	($1,606,044,769)	($965,378,184)	(29,122)
4	($4,282,494,320)	($2,053,429,862)	($1,207,611,842)	($598,557,406)	(20,122)
5	($2,254,480,515)	($1,160,968,772)	($687,781,776)	($413,732,463)	(12,612)
6	($3,911,244,113)	($1,779,492,778)	($1,001,797,597)	($362,911,296)	(14,881)
7	($3,911,244,113)	($1,779,492,778)	($1,001,797,597)	($362,911,296)	(14,881)
8	($2,075,569,599)	($1,051,388,177)	($615,045,038)	($306,713,276)	(10,424)
9	($3,773,935,344)	($1,856,485,531)	($1,069,258,115)	($497,948,899)	(17,652)
10	($3,723,794,744)	($1,837,973,270)	($1,066,233,851)	($522,263,608)	(17,937)
11	($4,092,048,812)	($1,901,153,157)	($1,099,146,499)	($558,242,404)	(18,406)
12	($2,634,018,987)	($1,279,796,920)	($749,674,671)	($377,688,713)	(12,765)
13	($3,634,460,084)	($1,658,009,957)	($933,220,839)	($348,949,307)	(13,967)
14	($2,315,622,683)	($1,195,225,521)	($715,120,127)	($362,951,968)	(12,412)
15	($3,715,681,907)	($1,690,518,139)	($951,707,717)	($344,765,731)	(14,137)
16	($3,916,000,379)	($1,908,936,935)	($1,077,826,861)	($429,057,225)	(16,844)
17	($3,448,405,821)	($1,584,613,443)	($896,426,852)	($367,366,753)	(13,775)
18	($4,073,874,344)	($1,981,752,746)	($1,130,651,809)	($638,106,025)	(19,494)
19	($3,471,853,698)	($1,749,936,061)	($1,030,080,999)	($572,579,023)	(18,436)
20	($3,280,455,084)	($1,610,958,617)	($937,956,803)	($511,323,003)	(16,422)
21	($2,643,845,398)	($1,335,792,378)	($766,740,486)	($463,745,362)	(13,835)
22	($4,401,777,790)	($2,118,045,422)	($1,258,387,726)	($729,125,160)	(22,929)
23	($3,916,000,379)	($1,908,936,935)	($1,077,826,861)	($429,057,225)	(16,844)
24	($4,027,766,832)	($2,045,884,011)	($1,209,441,326)	($730,375,718)	(22,434)
25	($3,236,290,391)	($1,609,328,744)	($952,619,251)	($525,600,240)	(17,082)
26	($3,552,013,378)	($1,782,313,476)	($1,061,576,348)	($544,955,039)	(18,589)
27	($2,179,191,737)	($1,126,869,120)	($669,785,523)	($396,376,623)	(12,555)
28	($4,298,028,607)	($2,183,593,367)	($1,252,084,837)	($732,101,762)	(22,408)
29	($3,439,040,125)	($1,665,467,710)	($973,335,148)	($512,397,500)	(17,235)
30	($4,165,641,763)	($2,114,725,352)	($1,226,969,231)	($718,158,287)	(21,883)
31	($3,847,736,989)	($1,932,358,540)	($1,093,914,511)	($608,382,773)	(18,701)
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by US Congressional District (Table 1 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($4,343,241,865)	($2,175,102,742)	($1,255,180,022)	($703,231,075)	(21,964)
2	($3,324,557,496)	($1,512,568,861)	($851,527,957)	($308,474,602)	(12,648)
3	($1,578,999,586)	($811,188,563)	($480,430,634)	($256,038,414)	(8,358)
4	($3,791,198,541)	($1,920,906,059)	($1,152,594,916)	($731,896,927)	(21,605)
5	($3,955,235,004)	($1,976,365,723)	($1,142,341,853)	($601,427,324)	(19,815)
6	($3,191,026,187)	($1,556,948,609)	($910,435,783)	($473,061,902)	(15,646)
7	($3,324,557,496)	($1,512,568,861)	($851,527,957)	($308,474,602)	(12,648)
8	($3,530,854,095)	($1,707,674,384)	($981,477,740)	($491,320,231)	(16,469)
9	($3,145,637,443)	($1,437,014,807)	($808,748,952)	($307,294,098)	(12,151)
10	($3,000,521,700)	($1,450,162,876)	($837,384,436)	($403,417,652)	(13,931)
11	($4,227,915,864)	($2,099,813,308)	($1,195,404,688)	($709,142,153)	(21,265)
12	($3,203,662,269)	($1,568,527,111)	($907,917,518)	($463,033,796)	(15,462)
13	($3,936,077,304)	($2,018,482,597)	($1,150,040,018)	($657,508,300)	(20,099)
14	($4,158,079,493)	($1,991,463,623)	($1,195,933,309)	($680,288,294)	(21,080)
15	($1,891,882,338)	($979,857,309)	($579,150,004)	($346,959,273)	(10,714)
16	($2,955,664,241)	($1,430,449,870)	($836,059,371)	($437,943,063)	(14,785)
17	($3,231,576,620)	($1,601,796,876)	($938,787,588)	($538,576,791)	(17,008)
18	($3,324,557,496)	($1,512,568,861)	($851,527,957)	($308,474,602)	(12,648)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Mortality Losses Associated with the Incidence of Cancer on Business Activity in Texas: Results by US Congressional District (Table 2 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
19	($3,597,953,355)	($1,835,690,288)	($1,058,253,566)	($596,106,389)	(18,656)
20	($3,131,882,763)	($1,571,502,205)	($936,013,554)	($480,497,992)	(16,391)
21	($3,126,644,803)	($1,552,498,053)	($913,484,481)	($510,489,422)	(16,452)
22	($2,246,422,595)	($1,053,106,457)	($599,786,841)	($300,209,083)	(9,789)
23	($2,898,613,866)	($1,463,936,554)	($856,555,654)	($491,729,337)	(15,497)
24	($3,024,570,893)	($1,478,928,272)	($847,344,350)	($376,780,136)	(13,760)
25	($2,751,158,579)	($1,374,552,359)	($823,467,322)	($482,053,340)	(15,106)
26	($2,078,705,295)	($1,005,638,486)	($590,545,829)	($299,457,461)	(10,084)
27	($4,299,005,640)	($2,046,726,108)	($1,172,308,472)	($655,895,887)	(20,164)
28	($2,088,898,768)	($1,072,815,236)	($622,210,472)	($361,703,134)	(11,228)
29	($3,324,557,496)	($1,512,568,861)	($851,527,957)	($308,474,602)	(12,648)
30	($3,337,113,366)	($1,626,746,258)	($918,495,934)	($365,631,375)	(14,354)
31	($1,586,544,513)	($846,475,023)	($520,782,679)	($300,511,001)	(9,607)
32	($3,216,548,262)	($1,570,770,116)	($888,401,800)	($358,019,509)	(13,941)
33	($3,240,697,994)	($1,589,135,453)	($909,021,313)	($402,264,197)	(14,732)
34	($2,335,522,477)	($1,199,317,691)	($704,737,833)	($426,569,350)	(13,140)
35	($2,544,062,183)	($1,284,487,250)	($763,664,562)	($402,246,008)	(13,462)
36	($3,895,583,922)	($1,883,064,524)	($1,087,100,213)	($561,423,782)	(18,217)
Texas	**($112,839,731,806)**	**($55,231,420,236)**	**($31,990,173,537)**	**($16,406,625,101)**	**(545,527)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($3,033,018,402)	($878,410,360)	($546,359,178)	(9,284)
Mining	($15,985,264,178)	($7,254,776,735)	($2,547,194,212)	(10,347)
Construction	($7,151,453,239)	($3,517,871,354)	($2,703,789,615)	(40,188)
Manufacturing	($36,459,603,961)	($11,650,718,304)	($6,793,743,191)	(74,026)
Transportation & Utilities	($21,010,739,572)	($7,277,261,138)	($4,159,572,586)	(44,519)
Information	($5,253,720,309)	($3,449,747,146)	($1,497,356,839)	(12,701)
Wholesale Trade	($7,342,454,558)	($5,537,446,043)	($3,127,764,904)	(35,315)
Retail Trade*	($29,960,825,627)	($23,016,768,220)	($13,296,394,302)	(406,778)
Financial Activities*	($42,993,389,676)	($13,262,190,728)	($4,962,612,799)	(48,243)
Business Services	($13,177,714,764)	($9,262,986,423)	($7,512,510,194)	(86,956)
Health Services	($16,053,972,937)	($12,284,985,945)	($10,151,504,938)	(167,732)
Other Services	($13,814,434,279)	($7,251,095,048)	($5,587,872,962)	(128,508)
Total, All Industries	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by Comptroller Region

Comptroller Region	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
High Plains	($7,245,589,881)	($3,714,295,485)	($2,231,390,447)	(1,176,705,422)	(39,072)
Northwest Texas	($6,602,556,183)	($3,410,509,642)	($2,020,725,345)	(1,108,507,288)	(35,507)
Metroplex	($54,343,344,559)	($26,852,940,564)	($16,084,515,458)	(7,261,706,109)	(267,839)
Upper East Texas	($13,227,982,780)	($6,701,667,850)	($4,040,466,352)	(2,173,905,224)	(71,279)
Southeast Texas	($8,843,032,774)	($4,490,175,983)	($2,807,199,720)	(1,561,820,882)	(50,121)
Gulf Coast	($53,280,346,619)	($24,773,877,345)	($14,616,007,694)	(5,811,274,318)	(229,429)
Capital	($10,426,031,439)	($5,402,052,729)	($3,321,221,118)	(1,639,161,349)	(57,643)
Central Texas	($9,594,258,999)	($4,877,104,343)	($2,989,124,760)	(1,644,778,220)	(54,335)
Alamo	($21,831,945,004)	($10,964,722,193)	($6,688,634,404)	(3,343,953,825)	(116,871)
South Texas	($14,834,929,803)	($7,525,519,842)	($4,562,511,952)	(2,455,146,469)	(81,524)
West Texas	($5,332,375,008)	($2,659,256,688)	($1,550,900,671)	(833,039,067)	(26,622)
Upper Rio Grande	($6,674,198,455)	($3,272,134,782)	($1,973,977,797)	(950,827,453)	(34,351)
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by Council of Governments

Council of Governments	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Panhandle	($3,806,911,414)	($1,926,488,943)	($1,140,880,583)	($608,695,944)	(19,813)
South Plains	($3,438,678,467)	($1,787,806,541)	($1,090,509,864)	($568,009,477)	(19,259)
Nortex	($2,688,327,557)	($1,413,285,225)	($837,735,761)	($459,374,424)	(14,667)
North Central Texas	($52,122,710,879)	($25,706,158,965)	($15,369,772,018)	($6,861,265,360)	(254,899)
Ark-Tex	($3,010,825,759)	($1,535,899,125)	($953,821,923)	($555,209,905)	(17,491)
East Texas	($10,217,157,021)	($5,165,768,725)	($3,086,644,428)	($1,618,695,320)	(53,788)
West Central Texas	($3,914,228,626)	($1,997,224,416)	($1,182,989,583)	($649,132,864)	(20,839)
Rio Grande	($6,674,198,455)	($3,272,134,782)	($1,973,977,797)	($950,827,453)	(34,351)
Permian Basin	($3,638,135,434)	($1,822,235,328)	($1,064,916,174)	($565,754,989)	(17,969)
Concho Valley	($1,694,239,574)	($837,021,360)	($485,984,498)	($267,284,078)	(8,653)
Heart of Texas	($4,073,191,986)	($1,994,246,238)	($1,208,987,352)	($651,630,389)	(21,873)
Capital Area	($10,426,031,439)	($5,402,052,729)	($3,321,221,118)	($1,639,161,349)	(57,643)
Brazos Valley	($2,347,164,331)	($1,205,418,061)	($727,038,221)	($404,739,546)	(13,056)
Deep East Texas	($4,348,317,433)	($2,247,782,356)	($1,393,829,421)	($799,175,783)	(25,378)
South East Texas	($4,494,715,342)	($2,242,393,627)	($1,413,370,299)	($762,645,099)	(24,744)
Houston-Galveston Area	($53,280,346,619)	($24,773,877,345)	($14,616,007,694)	($5,811,274,318)	(229,429)
Golden Crescent	($2,076,573,297)	($1,040,311,338)	($626,958,740)	($337,780,923)	(10,883)
Alamo Area	($19,758,617,988)	($9,925,922,443)	($6,062,495,940)	($3,006,524,333)	(106,001)
South Texas	($1,424,381,832)	($755,874,325)	($448,421,052)	($265,508,057)	(8,130)
Coastal Bend	($6,100,879,144)	($2,922,490,731)	($1,733,581,727)	($905,513,733)	(29,711)
Lower Rio Grande Valley	($6,184,894,706)	($3,251,370,617)	($2,015,504,501)	($1,069,740,194)	(36,871)
Texoma	($2,220,633,680)	($1,146,781,599)	($714,743,440)	($400,440,748)	(12,940)
Central Texas	($3,173,902,681)	($1,677,440,044)	($1,053,099,187)	($588,408,286)	(19,406)
Middle Rio Grande	($1,121,527,840)	($594,272,582)	($364,184,396)	($214,033,054)	(6,801)
Border Region	**($15,410,953,451)**	**($7,877,084,481)**	**($4,804,218,894)**	**($2,501,213,542)**	**($86,188)**
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**($1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area. The Border Region includes Rio Grande, Terrell County, Middle Rio Grande, South Texas, and Lower Rio Grande Valley.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by Metropolitan Statistical Area (MSA) and Rural Texas

Metro Area	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Abilene MSA	($1,916,402,259)	($958,036,574)	($563,813,907)	($280,238,169)	(9,628)
Amarillo MSA	($2,473,297,672)	($1,285,876,629)	($765,627,497)	($387,533,473)	(13,252)
Austin-Round Rock MSA	($8,820,841,468)	($4,607,429,124)	($2,848,486,727)	($1,381,539,996)	(49,207)
Beaumont-Port Arthur MSA	($4,584,046,622)	($2,297,554,761)	($1,449,762,728)	($786,178,015)	(25,416)
Brownsville-Harlingen MSA	($2,499,298,889)	($1,275,113,633)	($786,207,302)	($419,210,211)	(14,449)
College Station-Bryan MSA	($1,481,084,340)	($755,119,974)	($455,134,709)	($244,230,180)	(8,118)
Corpus Christi MSA	($4,888,240,636)	($2,291,186,344)	($1,362,559,140)	($687,775,430)	(23,060)
Dallas-Plano-Irving MD*	($31,718,722,546)	($15,594,644,167)	($9,263,850,602)	($3,937,980,842)	(150,887)
Fort Worth-Arlington MD*	($19,139,706,997)	($9,477,756,862)	($5,717,833,883)	($2,707,984,347)	(96,955)
El Paso MSA	($6,507,834,313)	($3,184,609,186)	($1,920,091,069)	($918,833,357)	(33,359)
Houston-The Woodlands-Sugar Land MSA	($51,509,798,294)	($23,873,525,447)	($14,065,010,295)	($5,490,035,011)	(219,389)
Killeen-Temple MSA	($2,699,667,633)	($1,431,270,720)	($899,971,434)	($494,198,489)	(16,549)
Laredo MSA	($1,079,177,997)	($566,870,117)	($332,746,946)	($188,369,001)	(5,921)
Longview MSA	($2,566,897,758)	($1,321,206,672)	($795,296,498)	($407,346,547)	(13,628)
Lubbock MSA	($2,595,414,087)	($1,358,276,509)	($835,739,753)	($408,655,914)	(14,616)
McAllen-Edinburg-Mission MSA	($3,569,949,825)	($1,911,332,409)	($1,189,853,642)	($625,946,252)	(21,685)
Midland MSA	($1,074,376,652)	($544,257,063)	($315,740,068)	($158,211,637)	(5,204)
Odessa MSA	($1,338,990,816)	($667,444,619)	($398,473,363)	($202,898,057)	(6,664)
San Angelo MSA	($1,200,079,877)	($589,341,994)	($340,327,395)	($180,945,194)	(6,065)
San Antonio-New Braunfels MSA	($18,311,883,163)	($9,210,250,798)	($5,634,835,590)	($2,765,756,015)	(98,251)
Sherman-Denison MSA	($1,339,972,922)	($704,227,670)	($442,632,709)	($253,841,049)	(8,172)
Texarkana MSA	($1,014,645,551)	($537,787,306)	($336,144,963)	($186,283,287)	(6,112)
Tyler MSA	($2,487,150,628)	($1,232,716,298)	($714,791,914)	($357,685,438)	(12,187)
Victoria MSA	($1,091,559,912)	($541,629,028)	($323,980,296)	($166,597,975)	(5,451)
Waco MSA	($2,906,789,558)	($1,418,209,348)	($861,939,561)	($443,458,646)	(15,437)
Wichita Falls MSA	($1,673,156,528)	($899,661,761)	($534,419,766)	($282,549,567)	(9,265)
Rural Texas	($31,747,604,560)	($16,108,922,433)	($9,731,403,962)	($5,596,543,529)	(175,670)
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 1 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Anderson	($667,706,677)	($364,180,788)	($218,518,562)	($117,713,362)	(3,851)
Andrews	($112,149,047)	($57,501,890)	($32,881,991)	($17,426,942)	(544)
Angelina	($889,908,388)	($450,662,089)	($282,442,499)	($157,040,341)	(5,124)
Aransas	($447,219,568)	($206,598,231)	($117,301,386)	($66,393,281)	(2,023)
Archer	($72,129,646)	($36,865,259)	($20,673,737)	($12,489,944)	(371)
Armstrong	($22,722,709)	($11,575,881)	($6,955,010)	($2,638,954)	(113)
Atascosa	($420,008,325)	($204,225,735)	($120,811,217)	($61,367,889)	(2,029)
Austin	($319,015,942)	($151,200,129)	($92,164,444)	($41,765,476)	(1,483)
Bailey	($43,284,784)	($22,306,551)	($13,536,724)	($8,884,990)	(249)
Bandera	($256,297,774)	($123,430,101)	($72,503,154)	($44,022,636)	(1,332)
Bastrop	($641,116,495)	($316,167,963)	($192,136,578)	($110,588,186)	(3,523)
Baylor	($76,708,984)	($40,956,473)	($24,693,921)	($13,882,118)	(441)
Bee	($221,765,179)	($118,137,756)	($70,026,444)	($40,749,515)	(1,270)
Bell	($2,020,709,088)	($1,084,816,881)	($687,033,966)	($368,540,044)	(12,528)
Bexar	($14,654,304,412)	($7,421,380,251)	($4,560,345,465)	($2,145,958,230)	(78,602)
Blanco	($99,637,607)	($47,831,715)	($28,400,088)	($16,561,112)	(528)
Borden	($21,838,276)	($10,540,400)	($5,844,213)	($2,836,914)	(90)
Bosque	($225,912,053)	($113,144,611)	($70,847,795)	($35,449,694)	(1,261)
Bowie	($1,014,645,551)	($537,787,306)	($336,144,963)	($186,283,287)	(6,112)
Brazoria	($2,283,080,771)	($1,093,247,617)	($664,311,089)	($371,625,017)	(11,581)
Brazos	($1,085,288,471)	($551,873,548)	($331,686,116)	($166,212,031)	(5,846)
Brewster	($76,850,207)	($42,343,599)	($26,642,199)	($14,381,181)	(484)
Briscoe	($16,622,853)	($7,734,159)	($4,522,896)	($2,867,406)	(81)
Brooks	($50,010,822)	($27,593,962)	($16,972,359)	($10,395,322)	(312)
Brown	($409,891,230)	($224,474,289)	($141,109,187)	($88,787,585)	(2,711)
Burleson	($202,291,416)	($106,850,092)	($63,565,081)	($38,135,897)	(1,127)
Burnet	($533,981,115)	($258,301,320)	($154,222,657)	($84,623,542)	(2,744)
Caldwell	($385,579,367)	($194,402,730)	($116,754,045)	($62,597,436)	(2,055)
Calhoun	($142,398,604)	($58,679,575)	($34,734,599)	($18,778,085)	(583)
Callahan	($191,401,154)	($92,967,742)	($53,382,140)	($30,692,817)	(945)
Cameron	($2,499,298,889)	($1,275,113,633)	($786,207,302)	($419,210,211)	(14,449)
Camp	($116,377,869)	($58,286,921)	($36,179,563)	($19,665,660)	(659)
Carson	($28,290,812)	($11,716,732)	($5,823,324)	($2,198,807)	(90)
Cass	($331,649,884)	($169,134,246)	($104,704,694)	($67,021,561)	(1,952)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 2 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Castro	($31,409,534)	($14,980,955)	($9,027,868)	($6,175,042)	(173)
Chambers	($272,190,633)	($115,134,092)	($64,533,441)	($29,542,689)	(1,023)
Cherokee	($464,120,024)	($237,908,552)	($151,825,087)	($85,245,035)	(2,754)
Childress	($74,106,032)	($37,495,943)	($22,573,508)	($14,220,742)	(425)
Clay	($124,088,738)	($63,173,258)	($39,132,554)	($18,927,566)	(662)
Cochran	($21,199,946)	($11,115,209)	($6,019,422)	($2,814,360)	(98)
Coke	($67,344,572)	($32,615,077)	($18,772,212)	($10,745,412)	(316)
Coleman	($148,596,612)	($77,144,158)	($45,042,765)	($25,322,887)	(794)
Collin	($3,851,137,554)	($1,987,654,195)	($1,219,654,763)	($600,190,373)	(20,906)
Collingsworth	($36,707,592)	($20,134,835)	($12,390,341)	($7,559,536)	(220)
Colorado	($257,018,851)	($131,406,330)	($79,681,160)	($48,102,090)	(1,523)
Comal	($1,027,716,395)	($505,201,501)	($305,571,787)	($171,760,146)	(5,695)
Comanche	($176,796,931)	($90,979,711)	($56,641,170)	($31,719,990)	(1,027)
Concho	($27,577,448)	($14,849,382)	($9,667,381)	($4,790,175)	(174)
Cooke	($469,648,103)	($232,750,227)	($139,509,238)	($73,153,197)	(2,346)
Coryell	($443,036,453)	($226,390,450)	($139,036,100)	($81,463,540)	(2,612)
Cottle	($22,293,591)	($12,892,234)	($7,992,717)	($3,888,912)	(133)
Crane	($24,061,158)	($13,078,361)	($7,550,337)	($3,573,147)	(127)
Crockett	($29,630,685)	($15,206,691)	($8,612,293)	($6,415,378)	(162)
Crosby	($58,414,549)	($31,785,534)	($18,890,125)	($7,878,621)	(315)
Culberson	($15,920,316)	($9,372,260)	($5,697,887)	($4,508,583)	(115)
Dallam	($36,053,317)	($19,057,294)	($11,517,731)	($5,835,311)	(205)
Dallas	($21,074,955,136)	($10,290,973,592)	($6,011,972,959)	($2,272,337,712)	(94,242)
Dawson	($135,426,271)	($67,708,564)	($37,919,814)	($23,355,631)	(671)
Deaf Smith	($84,842,617)	($41,232,699)	($24,787,538)	($12,410,231)	(439)
Delta	($52,602,501)	($27,581,268)	($17,354,580)	($6,292,048)	(285)
Denton	($3,551,251,797)	($1,725,782,391)	($1,052,923,020)	($499,997,237)	(17,918)
DeWitt	($279,113,699)	($142,025,822)	($87,697,135)	($48,566,709)	(1,582)
Dickens	($32,691,224)	($17,177,163)	($10,562,372)	($6,313,544)	(186)
Dimmit	($63,464,806)	($33,233,107)	($19,771,845)	($12,830,755)	(370)
Donley	($46,527,632)	($26,335,137)	($16,616,375)	($11,268,500)	(327)
Duval	($105,510,373)	($52,010,853)	($29,808,379)	($14,949,580)	(515)
Eastland	($264,014,041)	($131,356,088)	($76,843,744)	($47,527,177)	(1,397)
Ector	($1,338,990,816)	($667,444,619)	($398,473,363)	($202,898,057)	(6,664)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 3 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Edwards	($22,938,895)	($11,250,926)	($6,158,086)	($3,978,799)	(110)
El Paso	($6,500,663,293)	($3,180,952,242)	($1,917,985,315)	($916,657,428)	(33,313)
Ellis	($1,115,128,604)	($521,256,352)	($316,422,103)	($181,631,541)	(5,625)
Erath	($292,781,250)	($159,308,102)	($100,868,723)	($61,035,180)	(1,918)
Falls	($203,252,817)	($108,502,179)	($68,447,345)	($37,175,298)	(1,252)
Fannin	($411,012,654)	($209,803,702)	($132,601,493)	($73,446,501)	(2,422)
Fayette	($389,299,621)	($199,286,867)	($117,487,299)	($58,237,463)	(2,021)
Fisher	($48,454,138)	($25,488,600)	($15,508,350)	($9,740,812)	(292)
Floyd	($43,733,849)	($19,930,381)	($11,853,471)	($5,723,605)	(206)
Foard	($7,100,809)	($4,018,308)	($2,642,047)	($1,301,495)	(48)
Fort Bend	($3,416,088,634)	($1,607,289,062)	($940,179,121)	($446,878,643)	(15,280)
Franklin	($114,108,518)	($57,119,763)	($32,652,443)	($19,281,655)	(586)
Freestone	($232,484,830)	($115,225,746)	($65,574,589)	($42,317,686)	(1,187)
Frio	($131,833,253)	($64,293,271)	($36,951,886)	($20,357,676)	(644)
Gaines	($98,923,861)	($47,145,974)	($25,569,508)	($14,815,465)	(435)
Galveston	($3,428,265,087)	($1,626,101,225)	($984,620,721)	($515,303,363)	(17,191)
Garza	($49,364,199)	($23,934,650)	($13,605,678)	($8,263,005)	(234)
Gillespie	($365,223,667)	($181,201,537)	($111,459,071)	($62,062,882)	(2,044)
Glasscock	($2,851,405)	($1,339,897)	($698,107)	($242,325)	(10)
Goliad	($80,423,238)	($43,172,119)	($25,870,461)	($17,517,523)	(483)
Gonzales	($143,449,864)	($73,954,165)	($45,983,071)	($26,407,385)	(844)
Gray	($305,762,137)	($145,084,088)	($85,714,667)	($48,379,640)	(1,454)
Grayson	($1,339,972,922)	($704,227,670)	($442,632,709)	($253,841,049)	(8,172)
Gregg	($1,501,310,185)	($794,062,754)	($480,834,223)	($237,184,874)	(8,165)
Grimes	($205,147,765)	($103,973,906)	($63,441,519)	($36,295,125)	(1,139)
Guadalupe	($867,593,324)	($430,270,740)	($261,594,528)	($160,996,625)	(4,826)
Hale	($215,612,731)	($116,588,653)	($72,955,984)	($49,155,553)	(1,412)
Hall	($45,165,201)	($22,907,759)	($13,627,986)	($8,093,684)	(248)
Hamilton	($107,669,168)	($53,999,901)	($33,643,712)	($21,687,482)	(641)
Hansford	($27,236,394)	($12,004,812)	($6,091,193)	($2,829,059)	(90)
Hardeman	($41,560,203)	($22,778,976)	($13,915,941)	($10,401,237)	(279)
Hardin	($587,398,259)	($290,231,911)	($171,813,847)	($102,301,504)	(3,062)
Harris	($36,464,677,746)	($16,697,531,585)	($9,784,838,713)	($3,369,069,613)	(147,330)
Harrison	($831,312,696)	($390,298,110)	($232,798,992)	($105,637,477)	(3,753)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 4 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Hartley	($12,538,702)	($6,131,571)	($3,628,598)	($2,184,004)	(70)
Haskell	($81,539,949)	($42,313,108)	($25,713,538)	($13,659,464)	(450)
Hays	($821,390,392)	($420,537,201)	($258,699,790)	($138,762,759)	(4,648)
Hemphill	($18,406,937)	($8,621,571)	($4,668,821)	($2,369,745)	(75)
Henderson	($1,248,373,653)	($612,288,141)	($366,980,621)	($198,704,438)	(6,603)
Hidalgo	($3,569,949,825)	($1,911,332,409)	($1,189,853,642)	($625,946,252)	(21,685)
Hill	($454,836,728)	($215,713,848)	($129,222,940)	($81,855,399)	(2,518)
Hockley	($172,514,404)	($88,562,936)	($51,774,497)	($30,655,790)	(934)
Hood	($682,044,395)	($329,093,505)	($202,057,417)	($114,746,315)	(3,678)
Hopkins	($340,482,220)	($177,920,282)	($110,800,825)	($70,218,700)	(2,076)
Houston	($371,618,009)	($183,491,781)	($114,876,545)	($48,425,805)	(1,863)
Howard	($397,513,016)	($193,119,139)	($113,901,481)	($60,856,996)	(1,942)
Hudspeth	($7,171,020)	($3,656,944)	($2,105,754)	($2,175,929)	(46)
Hunt	($785,461,510)	($398,219,349)	($247,548,377)	($153,072,226)	(4,621)
Hutchinson	($242,518,701)	($112,958,439)	($64,985,736)	($44,739,858)	(1,126)
Irion	($10,315,193)	($4,228,281)	($2,259,075)	($1,302,790)	(36)
Jack	($96,667,468)	($48,077,626)	($27,965,741)	($16,458,803)	(481)
Jackson	($147,455,562)	($75,852,064)	($42,717,681)	($27,053,707)	(763)
Jasper	($407,630,328)	($210,707,795)	($131,120,615)	($79,982,155)	(2,472)
Jeff Davis	($25,628,671)	($12,832,207)	($7,846,076)	($4,449,450)	(142)
Jefferson	($2,966,008,608)	($1,485,616,713)	($949,084,093)	($492,837,344)	(16,501)
Jim Hogg	($54,173,586)	($27,315,849)	($15,175,808)	($10,929,876)	(276)
Jim Wells	($315,635,568)	($174,858,060)	($103,595,000)	($59,805,633)	(1,860)
Johnson	($1,331,131,536)	($664,902,193)	($419,298,310)	($226,765,892)	(7,521)
Jones	($228,173,508)	($116,100,365)	($68,807,097)	($34,648,312)	(1,194)
Karnes	($191,651,326)	($88,709,189)	($51,064,333)	($27,568,306)	(863)
Kaufman	($883,449,988)	($436,375,993)	($270,349,719)	($153,089,971)	(4,969)
Kendall	($355,133,651)	($166,223,675)	($98,841,642)	($55,463,405)	(1,746)
Kenedy	($8,664,278)	($4,330,725)	($2,370,261)	($1,898,016)	(49)
Kent	($7,983,469)	($3,783,150)	($2,145,028)	($1,135,773)	(34)
Kerr	($754,780,299)	($379,956,060)	($227,364,784)	($130,428,023)	(4,186)
Kimble	($77,445,314)	($34,145,117)	($19,280,959)	($11,969,408)	(343)
King	($8,399,608)	($4,274,397)	($2,602,957)	($1,015,416)	(42)
Kinney	($48,166,087)	($22,759,633)	($12,369,365)	($7,454,649)	(222)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 5 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Kleberg	($281,546,727)	($143,199,029)	($84,429,032)	($46,291,715)	(1,496)
Knox	($49,517,761)	($26,165,203)	($15,184,754)	($7,000,572)	(249)
La Salle	($37,426,370)	($20,227,441)	($11,845,466)	($7,799,449)	(226)
Lamar	($572,659,325)	($287,442,566)	($180,782,052)	($108,159,347)	(3,400)
Lamb	($94,840,890)	($44,268,103)	($26,926,387)	($15,914,187)	(472)
Lampasas	($235,922,092)	($120,063,389)	($73,901,367)	($44,194,906)	(1,409)
Lavaca	($272,595,656)	($148,170,684)	($91,845,958)	($50,377,062)	(1,659)
Lee	($177,828,553)	($89,501,024)	($52,632,305)	($28,515,090)	(912)
Leon	($163,526,160)	($86,609,304)	($50,207,399)	($34,827,522)	(934)
Liberty	($866,886,150)	($448,356,767)	($271,826,174)	($139,351,389)	(4,674)
Limestone	($253,168,817)	($131,952,686)	($81,402,468)	($48,548,964)	(1,470)
Lipscomb	($26,794,901)	($12,549,008)	($6,611,408)	($3,092,102)	(106)
Live Oak	($146,052,891)	($69,645,768)	($41,021,663)	($24,925,112)	(717)
Llano	($404,443,074)	($199,702,678)	($119,992,043)	($69,684,147)	(2,232)
Loving	($4,749,137)	($2,115,623)	($967,054)	($350,299)	(13)
Lubbock	($2,501,105,506)	($1,308,970,667)	($806,460,317)	($396,767,853)	(14,133)
Lynn	($35,894,033)	($17,520,307)	($10,389,311)	($4,009,441)	(168)
Madison	($116,983,920)	($60,315,843)	($35,645,049)	($24,283,354)	(692)
Marion	($161,885,705)	($83,144,633)	($50,109,410)	($30,354,193)	(945)
Martin	($42,065,871)	($20,125,049)	($11,598,133)	($5,807,499)	(188)
Mason	($66,782,371)	($33,208,350)	($18,896,710)	($10,573,506)	(336)
Matagorda	($403,916,178)	($186,264,651)	($111,919,498)	($70,726,068)	(1,992)
Maverick	($286,007,316)	($147,868,428)	($89,172,647)	($54,435,703)	(1,695)
McCulloch	($108,792,507)	($56,877,399)	($35,616,499)	($20,285,665)	(643)
McLennan	($2,703,536,742)	($1,309,707,168)	($793,492,216)	($406,283,348)	(14,185)
McMullen	($3,246,281)	($1,511,588)	($820,276)	($351,431)	(13)
Medina	($370,734,018)	($179,252,011)	($106,221,080)	($62,740,130)	(1,981)
Menard	($33,121,471)	($17,199,584)	($9,730,660)	($6,415,378)	(175)
Midland	($1,032,310,781)	($524,132,015)	($304,141,935)	($152,404,137)	(5,016)
Milam	($251,527,298)	($127,311,013)	($78,730,507)	($46,704,982)	(1,435)
Mills	($48,206,203)	($29,058,877)	($18,869,933)	($11,596,591)	(357)
Mitchell	($102,134,726)	($53,242,782)	($31,496,966)	($17,865,059)	(551)
Montague	($306,660,282)	($150,605,331)	($86,537,415)	($49,428,057)	(1,557)
Montgomery	($4,124,762,824)	($1,986,774,835)	($1,179,120,562)	($522,740,365)	(19,299)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 6 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Moore	($137,754,279)	($59,877,239)	($34,086,972)	($18,798,802)	(566)
Morris	($150,961,967)	($66,787,074)	($41,184,667)	($17,498,778)	(667)
Motley	($21,173,000)	($10,110,527)	($5,620,242)	($3,289,654)	(100)
Nacogdoches	($538,934,420)	($288,729,604)	($182,793,355)	($109,922,768)	(3,510)
Navarro	($561,846,769)	($280,992,227)	($174,727,167)	($90,622,108)	(3,151)
Newton	($89,331,280)	($55,161,134)	($36,392,429)	($23,532,916)	(673)
Nolan	($214,063,907)	($112,673,211)	($65,816,608)	($36,443,966)	(1,153)
Nueces	($3,762,119,329)	($1,763,128,461)	($1,052,165,062)	($506,090,268)	(17,587)
Ochiltree	($55,003,642)	($26,177,835)	($14,651,168)	($7,757,361)	(240)
Oldham	($3,841,737)	($2,131,356)	($1,339,709)	($1,165,523)	(29)
Orange	($941,308,475)	($466,545,003)	($292,472,359)	($167,506,250)	(5,181)
Palo Pinto	($409,653,316)	($193,457,607)	($112,491,643)	($63,642,883)	(1,989)
Panola	($288,916,783)	($147,027,525)	($87,522,307)	($46,836,906)	(1,514)
Parker	($1,086,689,562)	($510,224,843)	($302,224,847)	($168,148,401)	(5,355)
Parmer	($25,486,393)	($11,499,175)	($6,861,573)	($2,212,243)	(112)
Pecos	($118,590,746)	($59,443,155)	($34,129,662)	($21,853,836)	(626)
Polk	($769,261,363)	($396,931,018)	($235,045,280)	($138,150,577)	(4,144)
Potter	($1,364,938,827)	($712,602,261)	($422,138,866)	($208,107,548)	(7,224)
Presidio	($47,964,948)	($22,977,529)	($13,700,566)	($8,654,882)	(252)
Rains	($140,246,369)	($65,070,503)	($36,762,514)	($25,361,153)	(674)
Randall	($1,053,503,587)	($547,850,399)	($329,370,589)	($173,422,641)	(5,796)
Reagan	($20,426,688)	($10,468,366)	($5,741,126)	($3,947,352)	(99)
Real	($62,653,154)	($29,030,146)	($16,599,525)	($9,361,705)	(288)
Red River	($208,732,127)	($101,396,370)	($60,713,826)	($34,699,512)	(1,108)
Reeves	($106,134,019)	($54,382,933)	($31,386,026)	($22,026,106)	(587)
Refugio	($83,452,671)	($41,528,234)	($22,799,450)	($18,723,409)	(433)
Roberts	($4,866,839)	($2,180,758)	($1,185,929)	($979,413)	(22)
Robertson	($193,504,453)	($96,396,335)	($59,883,511)	($39,882,252)	(1,145)
Rockwall	($457,337,956)	($234,382,295)	($144,979,662)	($77,661,780)	(2,606)
Runnels	($166,031,668)	($75,041,887)	($42,562,012)	($23,527,249)	(731)
Rusk	($581,845,095)	($284,150,400)	($170,387,831)	($86,583,578)	(2,912)
Sabine	($142,591,176)	($71,476,389)	($46,112,810)	($27,073,500)	(841)
San Augustine	($138,189,779)	($67,252,808)	($39,234,782)	($21,737,194)	(700)
San Jacinto	($290,860,741)	($143,302,659)	($87,147,850)	($52,178,454)	(1,604)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 7 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
San Patricio	($678,901,738)	($321,459,652)	($193,092,692)	($115,291,881)	(3,451)
San Saba	($66,832,379)	($35,799,534)	($21,883,601)	($14,220,742)	(424)
Schleicher	($18,085,541)	($9,379,309)	($5,622,849)	($1,969,671)	(90)
Scurry	($149,428,454)	($80,912,063)	($45,970,929)	($30,670,266)	(837)
Shackelford	($36,948,315)	($18,548,405)	($10,336,867)	($5,816,315)	(178)
Shelby	($222,033,632)	($119,999,760)	($78,367,517)	($46,255,861)	(1,463)
Sherman	($7,815,215)	($3,534,713)	($2,039,818)	($1,080,403)	(37)
Smith	($2,487,150,628)	($1,232,716,298)	($714,791,914)	($357,685,438)	(12,187)
Somervell	($45,609,454)	($21,578,953)	($13,719,183)	($5,039,443)	(235)
Starr	($223,239,638)	($126,434,754)	($79,591,897)	($52,522,993)	(1,545)
Stephens	($110,027,819)	($59,532,974)	($34,796,585)	($23,391,378)	(628)
Sterling	($4,901,546)	($2,791,456)	($1,689,856)	($1,249,307)	(32)
Stonewall	($18,260,486)	($10,213,908)	($6,013,654)	($3,968,452)	(111)
Sutton	($40,051,553)	($20,938,635)	($12,026,558)	($7,977,633)	(217)
Swisher	($45,417,439)	($20,970,433)	($12,528,382)	($7,064,447)	(227)
Tarrant	($15,512,307,099)	($7,702,742,082)	($4,635,275,392)	($2,109,195,309)	(77,620)
Taylor	($1,496,827,597)	($748,968,468)	($441,624,671)	($214,897,040)	(7,489)
Terrell	($5,950,618)	($3,432,176)	($2,131,148)	($1,104,785)	(36)
Terry	($96,163,588)	($49,147,942)	($26,824,356)	($19,119,288)	(487)
Throckmorton	($14,136,861)	($7,318,306)	($3,993,518)	($2,317,750)	(68)
Titus	($224,983,666)	($110,730,250)	($69,483,873)	($45,755,017)	(1,306)
Tom Green	($1,189,764,683)	($585,113,713)	($338,068,319)	($179,642,405)	(6,029)
Travis	($5,556,021,519)	($2,919,207,788)	($1,803,303,435)	($818,465,169)	(30,495)
Trinity	($232,939,724)	($127,310,898)	($77,736,399)	($46,724,890)	(1,467)
Tyler	($255,018,592)	($132,756,423)	($82,559,340)	($48,151,324)	(1,516)
Upshur	($483,742,478)	($242,993,518)	($144,074,444)	($83,578,094)	(2,552)
Upton	($26,571,237)	($13,390,808)	($7,504,900)	($3,905,386)	(125)
Uvalde	($238,064,078)	($124,699,108)	($76,789,686)	($42,656,310)	(1,423)
Val Verde	($310,598,778)	($174,250,981)	($111,043,094)	($61,029,265)	(2,046)
Van Zandt	($557,143,623)	($314,234,817)	($192,659,963)	($114,431,351)	(3,599)
Victoria	($1,011,136,675)	($498,456,908)	($298,109,836)	($149,080,452)	(4,968)
Walker	($642,995,530)	($337,383,929)	($213,099,247)	($118,715,163)	(3,918)
Waller	($334,830,507)	($147,890,136)	($83,416,030)	($53,758,455)	(1,528)
Ward	($106,189,467)	($54,484,381)	($31,414,099)	($20,642,034)	(568)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by County (Table 8 of 8)

County	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
Washington	($380,422,146)	($199,399,033)	($122,609,544)	($65,103,365)	(2,174)
Webb	($1,079,177,997)	($566,870,117)	($332,746,946)	($188,369,001)	(5,921)
Wharton	($466,617,765)	($245,296,988)	($146,297,495)	($83,695,987)	(2,608)
Wheeler	($52,577,385)	($29,143,891)	($17,134,578)	($11,244,942)	(318)
Wichita	($1,476,938,143)	($799,623,243)	($474,613,476)	($251,132,057)	(8,232)
Wilbarger	($186,588,675)	($91,109,904)	($56,805,142)	($32,771,881)	(1,024)
Willacy	($115,645,992)	($64,924,575)	($39,443,557)	($24,583,730)	(736)
Williamson	($1,416,733,696)	($757,113,442)	($477,592,880)	($251,126,445)	(8,485)
Wilson	($360,095,264)	($180,266,783)	($108,946,718)	($63,446,954)	(2,041)
Winkler	($63,819,709)	($32,850,347)	($18,804,404)	($11,655,430)	(328)
Wise	($481,924,951)	($249,215,286)	($145,258,734)	($84,088,988)	(2,546)
Wood	($687,025,237)	($339,405,766)	($203,198,997)	($109,713,760)	(3,620)
Yoakum	($44,286,155)	($22,113,521)	($12,488,022)	($8,204,172)	(223)
Young	($277,591,017)	($143,184,613)	($82,763,071)	($48,692,355)	(1,440)
Zapata	($67,790,611)	($35,253,605)	($20,906,401)	($13,686,188)	(388)
Zavala	($52,208,355)	($30,952,812)	($20,434,682)	($14,486,420)	(421)
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 1 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($1,910,145,521)	($983,746,004)	($610,293,284)	($348,423,801)	(11,206)
2	($1,683,087,352)	($890,374,448)	($551,009,165)	($337,722,278)	(10,295)
3	($1,432,017,418)	($676,372,242)	($397,062,100)	($192,807,392)	(6,661)
4	($1,919,600,119)	($944,575,151)	($574,943,634)	($318,014,655)	(10,450)
5	($1,916,511,258)	($936,132,425)	($558,359,673)	($303,838,873)	(9,850)
6	($1,890,234,477)	($936,864,386)	($543,241,855)	($271,840,933)	(9,262)
7	($1,985,052,663)	($1,037,056,272)	($624,908,667)	($320,762,969)	(10,717)
8	($1,916,875,005)	($976,112,609)	($588,043,258)	($332,508,555)	(10,707)
9	($1,978,389,876)	($981,080,665)	($599,615,730)	($323,179,497)	(10,469)
10	($1,327,352,125)	($625,345,336)	($378,808,809)	($215,411,295)	(6,748)
11	($1,584,899,539)	($810,788,555)	($505,006,272)	($281,751,381)	(9,176)
12	($1,634,633,264)	($818,063,118)	($500,850,767)	($274,085,443)	(9,058)
13	($2,025,791,398)	($1,040,287,041)	($630,795,005)	($338,016,477)	(11,125)
14	($911,642,315)	($463,573,780)	($278,616,338)	($139,618,106)	(4,910)
15	($1,513,787,956)	($729,146,364)	($432,737,246)	($191,845,714)	(7,083)
16	($1,513,787,956)	($729,146,364)	($432,737,246)	($191,845,714)	(7,083)
17	($1,539,625,605)	($762,735,072)	($458,570,331)	($255,676,403)	(8,198)
18	($1,800,742,421)	($929,043,355)	($572,073,271)	($310,245,006)	(10,195)
19	($2,108,639,822)	($1,085,788,280)	($656,931,512)	($392,118,475)	(11,867)
20	($1,097,189,826)	($552,177,290)	($338,023,597)	($186,576,342)	(6,046)
21	($2,009,071,574)	($1,001,367,020)	($634,142,632)	($344,927,694)	(11,121)
22	($1,898,245,509)	($950,794,696)	($607,413,820)	($315,415,900)	(10,561)
23	($1,780,627,271)	($830,618,631)	($497,766,558)	($256,276,169)	(8,587)
24	($1,919,828,448)	($910,616,686)	($551,387,604)	($288,569,883)	(9,627)
25	($1,408,471,717)	($667,293,603)	($404,216,377)	($234,241,075)	(7,088)
26	($929,176,109)	($437,182,625)	($255,728,721)	($121,550,991)	(4,156)
27	($929,176,109)	($437,182,625)	($255,728,721)	($121,550,991)	(4,156)
28	($929,176,109)	($437,182,625)	($255,728,721)	($121,550,991)	(4,156)
29	($1,278,525,232)	($612,218,665)	($372,014,210)	($208,110,010)	(6,485)
30	($2,043,744,455)	($990,460,890)	($586,512,866)	($319,059,459)	(10,072)
31	($1,163,978,556)	($598,221,249)	($357,860,881)	($209,723,399)	(6,418)
32	($1,843,438,471)	($863,932,946)	($515,560,881)	($247,984,231)	(8,617)
33	($919,474,463)	($472,900,799)	($291,338,233)	($149,684,625)	(5,115)
34	($1,918,680,858)	($899,195,515)	($536,604,182)	($258,106,037)	(8,969)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 2 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
35	($881,834,389)	($461,419,866)	($285,956,508)	($151,386,856)	(5,232)
36	($778,249,062)	($416,670,465)	($259,388,094)	($136,456,283)	(4,727)
37	($1,049,705,533)	($535,547,726)	($330,207,067)	($176,068,289)	(6,069)
38	($1,024,712,544)	($522,796,590)	($322,344,994)	($171,876,187)	(5,924)
39	($778,249,062)	($416,670,465)	($259,388,094)	($136,456,283)	(4,727)
40	($778,249,062)	($416,670,465)	($259,388,094)	($136,456,283)	(4,727)
41	($778,249,062)	($416,670,465)	($259,388,094)	($136,456,283)	(4,727)
42	($690,673,918)	($362,796,875)	($212,958,046)	($120,556,160)	(3,789)
43	($1,497,849,212)	($757,654,497)	($451,143,168)	($262,138,745)	(8,076)
44	($1,227,688,589)	($610,537,523)	($370,541,246)	($224,443,578)	(6,867)
45	($921,027,999)	($468,368,917)	($287,099,878)	($155,323,872)	(5,175)
46	($905,631,508)	($475,830,869)	($293,938,460)	($133,409,823)	(4,971)
47	($944,523,658)	($496,265,324)	($306,561,584)	($139,139,079)	(5,184)
48	($944,523,658)	($496,265,324)	($306,561,584)	($139,139,079)	(5,184)
49	($911,187,529)	($478,750,077)	($295,741,763)	($134,228,288)	(5,001)
50	($905,631,508)	($475,830,869)	($293,938,460)	($133,409,823)	(4,971)
51	($944,523,658)	($496,265,324)	($306,561,584)	($139,139,079)	(5,184)
52	($552,526,141)	($295,274,242)	($186,261,223)	($97,939,314)	(3,309)
53	($2,136,964,149)	($1,052,699,608)	($623,008,701)	($365,536,413)	(11,452)
54	($1,205,862,455)	($640,775,492)	($403,677,671)	($221,094,127)	(7,422)
55	($1,050,768,726)	($564,104,778)	($357,257,662)	($191,640,823)	(6,515)
56	($1,892,475,719)	($916,795,018)	($555,444,551)	($284,398,344)	(9,930)
57	($1,913,165,981)	($975,642,723)	($600,142,673)	($333,039,105)	(10,780)
58	($1,557,043,588)	($778,046,804)	($490,146,105)	($262,215,587)	(8,782)
59	($1,289,724,345)	($673,992,927)	($420,278,922)	($247,048,632)	(7,857)
60	($2,252,576,883)	($1,126,574,767)	($676,060,349)	($399,927,356)	(12,319)
61	($1,568,614,513)	($759,440,129)	($447,483,581)	($252,237,388)	(7,901)
62	($1,803,588,078)	($941,612,639)	($592,588,781)	($333,579,599)	(10,878)
63	($887,812,949)	($431,445,598)	($263,230,755)	($124,999,309)	(4,480)
64	($887,812,949)	($431,445,598)	($263,230,755)	($124,999,309)	(4,480)
65	($887,812,949)	($431,445,598)	($263,230,755)	($124,999,309)	(4,480)
66	($847,250,262)	($437,283,923)	($268,324,048)	($132,041,882)	(4,599)
67	($847,250,262)	($437,283,923)	($268,324,048)	($132,041,882)	(4,599)
68	($1,993,716,882)	($1,007,411,063)	($597,724,611)	($339,219,441)	(10,511)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 3 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
69	($1,806,484,082)	($970,801,745)	($576,940,488)	($304,733,751)	(10,003)
70	($847,250,262)	($437,283,923)	($268,324,048)	($132,041,882)	(4,599)
71	($1,939,065,012)	($977,742,044)	($576,248,375)	($285,989,318)	(9,836)
72	($1,886,726,221)	($919,567,198)	($533,359,570)	($286,304,009)	(9,368)
73	($1,748,073,712)	($852,626,713)	($515,872,500)	($289,286,433)	(9,485)
74	($1,053,731,863)	($555,435,467)	($337,191,477)	($202,424,668)	(6,263)
75	($1,300,132,659)	($636,190,448)	($383,597,063)	($183,331,486)	(6,663)
76	($1,300,132,659)	($636,190,448)	($383,597,063)	($183,331,486)	(6,663)
77	($1,300,132,659)	($636,190,448)	($383,597,063)	($183,331,486)	(6,663)
78	($1,300,132,659)	($636,190,448)	($383,597,063)	($183,331,486)	(6,663)
79	($1,300,132,659)	($636,190,448)	($383,597,063)	($183,331,486)	(6,663)
80	($941,865,182)	($492,505,146)	($294,643,400)	($171,830,189)	(5,378)
81	($1,621,149,039)	($812,281,237)	($481,573,857)	($252,622,463)	(8,103)
82	($1,260,435,318)	($638,434,796)	($368,715,118)	($189,045,801)	(6,127)
83	($1,504,825,139)	($782,097,735)	($468,679,410)	($248,023,574)	(8,221)
84	($1,500,663,303)	($785,382,400)	($483,876,190)	($238,060,712)	(8,480)
85	($1,242,633,636)	($616,890,239)	($362,008,134)	($192,975,364)	(6,183)
86	($1,216,266,353)	($627,902,496)	($377,505,737)	($197,229,953)	(6,652)
87	($1,781,317,834)	($900,689,384)	($529,074,716)	($274,925,419)	(9,043)
88	($1,192,509,928)	($593,169,607)	($352,274,753)	($211,050,720)	(6,296)
89	($847,250,262)	($437,283,923)	($268,324,048)	($132,041,882)	(4,599)
90	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
91	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
92	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
93	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
94	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
95	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
96	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
97	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
98	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
99	($1,411,619,946)	($700,949,529)	($421,810,061)	($191,936,773)	(7,063)
100	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
101	($1,396,107,639)	($693,246,787)	($417,174,785)	($189,827,578)	(6,986)
102	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 4 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
103	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
104	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
105	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
106	($887,812,949)	($431,445,598)	($263,230,755)	($124,999,309)	(4,480)
107	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
108	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
109	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
110	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
111	($1,527,934,247)	($746,095,585)	($435,868,040)	($164,744,484)	(6,833)
112	($1,496,321,815)	($730,659,125)	($426,850,080)	($161,335,978)	(6,691)
113	($1,527,934,247)	($746,095,585)	($435,868,040)	($164,744,484)	(6,833)
114	($1,527,934,247)	($746,095,585)	($435,868,040)	($164,744,484)	(6,833)
115	($1,527,934,247)	($746,095,585)	($435,868,040)	($164,744,484)	(6,833)
116	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
117	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
118	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
119	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
120	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
121	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
122	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
123	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
124	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
125	($1,465,430,441)	($742,138,025)	($456,034,546)	($214,595,823)	(7,860)
126	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
127	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
128	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
129	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
130	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
131	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
132	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
133	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
134	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
135	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
136	($552,526,141)	($295,274,242)	($186,261,223)	($97,939,314)	(3,309)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by State House District (Table 5 of 5)

House District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
137	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
138	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
139	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
140	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
141	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
142	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
143	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
144	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
145	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
146	($1,531,516,465)	($701,296,327)	($410,963,226)	($141,500,924)	(6,188)
147	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
148	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
149	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
150	($1,495,051,788)	($684,598,795)	($401,178,387)	($138,131,854)	(6,041)
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by State Senate District

Senate District	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($10,815,320,970)	($5,469,665,818)	($3,315,885,292)	($1,688,941,771)	(57,666)
2	($8,443,072,094)	($4,256,068,778)	($2,607,882,299)	($1,233,394,585)	(44,768)
3	($9,164,358,847)	($4,649,420,114)	($2,824,170,960)	($1,584,322,590)	(50,588)
4	($7,123,329,055)	($3,465,844,657)	($2,083,065,481)	($995,364,289)	(34,584)
5	($3,929,561,219)	($2,024,207,646)	($1,226,527,536)	($700,935,481)	(22,199)
6	($5,441,672,224)	($2,477,435,715)	($1,395,580,031)	($506,057,866)	(20,545)
7	($5,430,577,476)	($2,471,355,364)	($1,391,373,668)	($505,321,226)	(20,477)
8	($3,530,282,656)	($1,782,041,484)	($1,056,561,938)	($502,981,245)	(17,651)
9	($7,388,890,168)	($3,632,520,077)	($2,159,869,402)	($912,285,822)	(35,188)
10	($6,098,849,255)	($3,008,151,779)	($1,772,281,670)	($821,413,631)	(29,385)
11	($7,527,647,687)	($3,547,576,349)	($2,108,918,376)	($962,281,712)	(34,726)
12	($3,942,020,463)	($1,918,478,897)	($1,131,030,087)	($563,224,500)	(19,079)
13	($6,032,083,115)	($2,797,480,276)	($1,618,627,505)	($613,034,905)	(24,701)
14	($3,357,429,327)	($1,734,195,856)	($1,038,786,984)	($527,813,057)	(17,849)
15	($5,168,801,309)	($2,353,343,569)	($1,325,712,763)	($481,797,284)	(19,525)
16	($5,402,290,022)	($2,634,082,470)	($1,488,653,704)	($593,668,072)	(23,070)
17	($5,208,380,198)	($2,413,050,339)	($1,385,281,160)	($573,871,924)	(21,379)
18	($10,269,411,763)	($5,039,731,375)	($3,062,675,981)	($1,493,513,644)	(52,420)
19	($10,581,356,347)	($5,196,730,530)	($3,249,398,411)	($1,414,790,748)	(55,200)
20	($9,159,854,343)	($4,386,418,419)	($2,705,317,682)	($1,127,513,939)	(44,905)
21	($6,712,048,224)	($3,424,433,322)	($2,112,052,044)	($1,081,052,970)	(37,352)
22	($7,373,281,533)	($3,602,820,635)	($2,203,684,445)	($1,206,207,694)	(39,514)
23	($5,437,778,950)	($2,652,631,266)	($1,501,025,400)	($598,774,852)	(23,286)
24	($6,495,000,177)	($3,305,589,826)	($1,996,048,896)	($1,150,585,730)	(36,502)
25	($4,994,771,756)	($2,493,741,421)	($1,495,798,179)	($811,562,531)	(26,551)
26	($4,888,550,593)	($2,452,740,998)	($1,460,902,559)	($751,090,179)	(25,346)
27	($3,876,339,951)	($2,015,149,185)	($1,227,405,130)	($671,992,066)	(22,415)
28	($12,154,999,185)	($6,127,777,443)	($3,796,702,553)	($1,892,355,190)	(66,625)
29	($4,849,753,287)	($2,355,332,793)	($1,382,605,184)	($728,192,561)	(24,289)
30	($10,833,129,090)	($5,486,102,347)	($3,386,289,871)	($1,632,331,667)	(58,718)
31	($10,605,750,220)	($5,470,138,697)	($3,376,560,527)	($1,634,151,898)	(58,093)
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by US Congressional District (Table 1 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
1	($8,033,222,542)	($4,050,677,918)	($2,437,164,926)	($1,263,558,374)	(42,336)
2	($6,198,995,217)	($2,838,580,369)	($1,663,422,581)	($572,741,834)	(25,046)
3	($3,427,512,423)	($1,769,012,233)	($1,085,492,739)	($534,169,432)	(18,606)
4	($6,949,459,931)	($3,556,082,435)	($2,205,029,754)	($1,276,290,872)	(40,395)
5	($7,197,243,330)	($3,616,156,169)	($2,167,993,545)	($1,055,333,969)	(37,215)
6	($6,020,421,362)	($2,959,016,362)	($1,789,026,380)	($862,828,336)	(30,510)
7	($6,198,995,217)	($2,838,580,369)	($1,663,422,581)	($572,741,834)	(25,046)
8	($6,781,647,794)	($3,312,014,296)	($1,987,348,979)	($931,023,832)	(33,311)
9	($5,959,077,043)	($2,739,476,687)	($1,604,922,200)	($583,389,407)	(24,446)
10	($5,706,429,902)	($2,781,729,085)	($1,665,971,141)	($751,035,410)	(27,613)
11	($7,561,608,044)	($3,782,870,685)	($2,242,982,152)	($1,239,178,523)	(39,525)
12	($6,083,455,494)	($2,995,268,850)	($1,795,811,125)	($854,793,652)	(30,410)
13	($7,054,086,821)	($3,620,779,724)	($2,146,911,147)	($1,155,404,072)	(37,316)
14	($7,512,983,272)	($3,647,409,271)	($2,259,217,248)	($1,190,236,966)	(39,366)
15	($3,766,776,363)	($1,959,246,375)	($1,203,059,684)	($660,643,004)	(21,855)
16	($5,655,577,065)	($2,767,428,450)	($1,668,647,224)	($797,491,962)	(28,982)
17	($6,001,799,520)	($3,007,532,245)	($1,824,018,380)	($961,584,426)	(32,463)
18	($6,198,995,217)	($2,838,580,369)	($1,663,422,581)	($572,741,834)	(25,046)

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Total Annual Impact of Losses (Treatment, Morbidity, and Mortality) Associated with the Incidence of Cancer on Business Activity in Texas: Results by US Congressional District (Table 2 of 2)

US Congressional District in Texas	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Retail Sales (2018 Dollars)	Employment (Permanent Jobs)
19	($6,533,469,214)	($3,349,150,750)	($2,005,113,523)	($1,049,545,280)	(34,996)
20	($6,008,264,809)	($3,042,765,903)	($1,869,741,641)	($879,842,874)	(32,227)
21	($6,010,554,117)	($3,021,754,296)	($1,840,271,623)	($940,982,367)	(32,515)
22	($4,455,731,224)	($2,096,973,713)	($1,239,629,771)	($592,069,133)	(20,313)
23	($5,479,281,755)	($2,784,826,538)	($1,688,554,317)	($887,851,163)	(30,003)
24	($5,747,004,474)	($2,822,794,174)	($1,675,623,655)	($700,686,491)	(27,201)
25	($5,273,848,736)	($2,672,450,418)	($1,653,333,185)	($880,817,815)	(29,681)
26	($4,209,598,515)	($2,058,909,725)	($1,250,760,111)	($586,005,669)	(21,176)
27	($7,758,349,258)	($3,723,097,366)	($2,219,656,589)	($1,164,949,810)	(38,043)
28	($4,053,058,314)	($2,094,645,771)	($1,268,714,814)	($674,974,721)	(22,552)
29	($6,198,995,217)	($2,838,580,369)	($1,663,422,581)	($572,741,834)	(25,046)
30	($6,196,036,810)	($3,025,546,236)	($1,767,520,050)	($668,067,287)	(27,707)
31	($3,215,164,784)	($1,722,600,466)	($1,089,053,110)	($579,127,085)	(19,635)
32	($6,005,605,961)	($2,938,986,016)	($1,720,459,876)	($658,631,956)	(27,077)
33	($6,108,581,619)	($3,007,167,034)	($1,782,498,268)	($741,597,765)	(28,884)
34	($4,563,604,559)	($2,359,141,137)	($1,442,263,115)	($791,335,219)	(26,327)
35	($5,004,956,283)	($2,552,798,972)	($1,567,644,539)	($758,367,048)	(27,193)
36	($7,106,199,301)	($3,451,626,669)	($2,068,550,582)	($998,044,373)	(34,531)
Texas	**($212,236,591,503)**	**($104,644,257,445)**	**($62,886,675,719)**	**($29,960,825,627)**	**(1,064,595)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. In cases in which a county was part of more than one district, allocations are based on the percentage of the population residing in a district. This convention is adopted because of a lack of subcounty data sufficient for allocation purposes. In some instances, this approach will result in districts which reflect the same proportion of a large urban county reporting identical results. Allocations reflect district maps as currently defined.

The Impact of Losses (Treatment, Morbidity, and Mortality) Associated with Lung and Bronchus Cancer, Colorectal Cancer, Breast Cancer, and Pancreatic Cancer Deaths in 2018 on Business Activity in Texas

The Impact of Direct Medical Expenses and Related Outlays Associated with Lung and Bronchus Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($101,174,712)	($26,490,430)	($18,041,463)	(276)
Mining	($170,035,570)	($38,845,271)	($19,924,803)	(101)
Construction	($143,758,316)	($73,283,477)	($60,390,163)	(822)
Manufacturing	($843,430,481)	($263,317,654)	($148,549,287)	(2,104)
Transportation & Utilities	($662,010,987)	($227,567,653)	($136,596,122)	(1,575)
Information	($134,903,882)	($83,059,823)	($35,460,901)	(300)
Wholesale Trade	($184,426,516)	($124,786,557)	($71,953,029)	(778)
Retail Trade*	($741,045,198)	($556,118,129)	($323,325,460)	(9,584)
Financial Activities*	($1,080,973,697)	($369,802,034)	($155,599,724)	(1,637)
Business Services	($333,068,988)	($211,850,378)	($172,815,620)	(2,035)
Health Services	($969,799,554)	($717,303,239)	($606,486,525)	(9,711)
Other Services	($348,104,988)	($179,583,647)	($143,088,065)	(3,296)
Total, All Industries	**($5,712,732,889)**	**($2,872,008,293)**	**($1,892,231,160)**	**(32,218)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Morbidity Losses Associated with Lung and Bronchus Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($21,278,217)	($6,321,143)	($3,960,599)	(69)
Mining	($164,912,493)	($79,254,057)	($27,103,232)	(105)
Construction	($65,989,347)	($32,165,399)	($24,254,093)	(360)
Manufacturing	($323,709,937)	($104,155,604)	($61,309,889)	(596)
Transportation & Utilities	($166,297,726)	($57,797,330)	($32,285,610)	(324)
Information	($45,107,380)	($30,254,249)	($13,199,819)	(109)
Wholesale Trade	($63,513,930)	($49,545,922)	($27,816,458)	(310)
Retail Trade*	($260,492,026)	($201,633,408)	($116,242,503)	(3,498)
Financial Activities*	($371,779,283)	($110,499,735)	($39,366,383)	(359)
Business Services	($113,751,694)	($82,522,232)	($66,812,523)	(749)
Health Services	($73,676,904)	($59,235,448)	($47,365,582)	(797)
Other Services	($119,369,588)	($63,016,860)	($48,021,928)	(1,075)
Total, All Industries	**($1,789,878,525)**	**($876,401,388)**	**($507,738,618)**	**(8,351)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Mortality Losses Associated with Lung and Bronchus Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($166,218,142)	($49,378,606)	($30,938,842)	(560)
Mining	($1,288,239,869)	($619,105,532)	($211,721,156)	(850)
Construction	($515,486,162)	($251,265,070)	($189,464,659)	(2,912)
Manufacturing	($2,528,711,075)	($813,627,882)	($478,931,835)	(4,829)
Transportation & Utilities	($1,299,060,834)	($451,492,931)	($252,204,119)	(2,623)
Information	($352,363,391)	($236,335,824)	($103,112,465)	(884)
Wholesale Trade	($496,149,051)	($387,035,758)	($217,292,634)	(2,509)
Retail Trade*	($2,034,874,419)	($1,575,091,074)	($908,046,590)	(28,330)
Financial Activities*	($2,904,212,326)	($863,186,052)	($307,516,688)	(2,906)
Business Services	($888,589,247)	($644,635,395)	($521,916,532)	(6,068)
Health Services	($575,538,723)	($462,727,017)	($370,003,693)	(6,454)
Other Services	($932,474,309)	($492,266,109)	($375,130,840)	(8,707)
Total, All Industries	**($13,981,917,546)**	**($6,846,147,250)**	**($3,966,280,055)**	**(67,633)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Total Impact of Losses (Treatment, Morbidity, and Mortality) Associated with Lung and Bronchus Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($288,671,071)	($82,190,180)	($52,940,904)	(905)
Mining	($1,623,187,931)	($737,204,861)	($258,749,190)	(1,056)
Construction	($725,233,825)	($356,713,946)	($274,108,914)	(4,094)
Manufacturing	($3,695,851,493)	($1,181,101,140)	($688,791,011)	(7,529)
Transportation & Utilities	($2,127,369,546)	($736,857,914)	($421,085,852)	(4,522)
Information	($532,374,653)	($349,649,896)	($151,773,186)	(1,293)
Wholesale Trade	($744,089,497)	($561,368,237)	($317,062,120)	(3,596)
Retail Trade*	($3,036,411,642)	($2,332,842,612)	($1,347,614,553)	(41,413)
Financial Activities*	($4,356,965,305)	($1,343,487,821)	($502,482,795)	(4,902)
Business Services	($1,335,409,929)	($939,008,005)	($761,544,675)	(8,853)
Health Services	($1,619,015,181)	($1,239,265,704)	($1,023,855,800)	(16,963)
Other Services	($1,399,948,886)	($734,866,617)	($566,240,833)	(13,078)
Total, All Industries	**($21,484,528,960)**	**($10,594,556,931)**	**($6,366,249,833)**	**(108,203)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Direct Medical Expenses and Related Outlays Associated with Colorectal Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($44,846,671)	($12,293,858)	($8,087,546)	(122)
Mining	($73,008,165)	($16,678,992)	($8,555,112)	(43)
Construction	($61,725,501)	($31,465,723)	($25,929,721)	(353)
Manufacturing	($362,143,706)	($113,060,688)	($63,782,600)	(903)
Transportation & Utilities	($284,247,626)	($97,710,712)	($58,650,270)	(676)
Information	($57,923,674)	($35,663,392)	($15,225,846)	(129)
Wholesale Trade	($79,187,205)	($53,579,598)	($30,894,468)	(334)
Retail Trade*	($318,182,541)	($238,780,415)	($138,826,237)	(4,115)
Financial Activities*	($464,137,625)	($158,781,882)	($66,809,846)	(703)
Business Services	($143,009,816)	($90,962,187)	($74,201,834)	(874)
Health Services	($416,402,789)	($307,988,458)	($260,407,090)	(4,170)
Other Services	($149,465,822)	($77,107,822)	($61,437,716)	(1,415)
Total, All Industries	**($2,454,281,140)**	**($1,234,073,728)**	**($812,808,287)**	**(13,837)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Morbidity Losses Associated with Colorectal Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($33,128,014)	($9,862,651)	($5,964,110)	(104)
Mining	($237,697,911)	($114,233,456)	($39,065,455)	(151)
Construction	($95,114,262)	($46,361,849)	($34,958,826)	(518)
Manufacturing	($466,581,850)	($150,125,495)	($88,369,487)	(859)
Transportation & Utilities	($239,694,528)	($83,306,634)	($46,535,117)	(467)
Information	($65,015,875)	($43,607,199)	($19,025,663)	(157)
Wholesale Trade	($91,546,300)	($71,413,402)	($40,093,469)	(447)
Retail Trade*	($375,462,219)	($290,625,890)	($167,547,041)	(5,042)
Financial Activities*	($535,866,977)	($159,269,657)	($56,741,044)	(517)
Business Services	($163,956,894)	($118,944,065)	($96,300,753)	(1,080)
Health Services	($106,194,782)	($85,379,476)	($68,270,752)	(1,149)
Other Services	($172,054,290)	($90,829,844)	($69,216,781)	(1,550)
Total, All Industries	**($2,582,313,901)**	**($1,263,959,617)**	**($732,088,498)**	**(12,042)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Mortality Losses Associated with Colorectal Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($51,777,389)	($15,414,819)	($9,321,598)	(169)
Mining	($371,509,666)	($178,541,043)	($61,057,306)	(245)
Construction	($148,658,722)	($72,461,196)	($54,638,856)	(840)
Manufacturing	($729,243,545)	($234,638,463)	($138,116,985)	(1,393)
Transportation & Utilities	($374,630,276)	($130,204,003)	($72,732,005)	(757)
Information	($101,616,484)	($68,155,819)	($29,736,137)	(255)
Wholesale Trade	($143,082,180)	($111,615,491)	($62,664,039)	(724)
Retail Trade*	($586,828,226)	($454,233,388)	($261,867,447)	(8,170)
Financial Activities*	($837,532,651)	($248,930,320)	($88,683,346)	(838)
Business Services	($256,256,232)	($185,903,485)	($150,513,147)	(1,750)
Health Services	($165,977,008)	($133,443,750)	($106,703,691)	(1,861)
Other Services	($268,912,047)	($141,962,396)	($108,182,286)	(2,511)
Total, All Industries	**($4,036,024,425)**	**($1,975,504,173)**	**($1,144,216,844)**	**(19,512)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Total Impact of Losses (Treatment, Morbidity, and Mortality) Associated with Colorectal Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($129,752,074)	($37,571,328)	($23,373,254)	(396)
Mining	($682,215,742)	($309,453,491)	($108,677,873)	(440)
Construction	($305,498,485)	($150,288,769)	($115,527,403)	(1,711)
Manufacturing	($1,557,969,100)	($497,824,647)	($290,269,073)	(3,155)
Transportation & Utilities	($898,572,429)	($311,221,349)	($177,917,392)	(1,900)
Information	($224,556,032)	($147,426,410)	($63,987,646)	(541)
Wholesale Trade	($313,815,684)	($236,608,491)	($133,651,977)	(1,504)
Retail Trade*	($1,280,472,986)	($983,639,693)	($568,240,726)	(17,327)
Financial Activities*	($1,837,537,253)	($566,981,859)	($212,234,236)	(2,058)
Business Services	($563,222,942)	($395,809,736)	($321,015,735)	(3,704)
Health Services	($688,574,579)	($526,811,685)	($435,381,533)	(7,180)
Other Services	($590,432,159)	($309,900,062)	($238,836,783)	(5,476)
Total, All Industries	**($9,072,619,466)**	**($4,473,537,518)**	**($2,689,113,629)**	**(45,392)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Direct Medical Expenses and Related Outlays Associated with Breast Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($23,087,659)	($6,329,041)	($4,163,575)	(63)
Mining	($37,585,569)	($8,586,566)	($4,404,285)	(22)
Construction	($31,777,104)	($16,198,970)	($13,348,963)	(182)
Manufacturing	($186,436,369)	($58,205,138)	($32,836,126)	(465)
Transportation & Utilities	($146,334,437)	($50,302,767)	($30,193,935)	(348)
Information	($29,819,873)	($18,359,986)	($7,838,467)	(66)
Wholesale Trade	($40,766,620)	($27,583,486)	($15,904,881)	(172)
Retail Trade*	($163,804,580)	($122,927,315)	($71,469,583)	(2,119)
Financial Activities*	($238,944,188)	($81,743,013)	($34,394,592)	(362)
Business Services	($73,623,344)	($46,828,537)	($38,200,086)	(450)
Health Services	($214,369,662)	($158,556,531)	($134,061,014)	(2,147)
Other Services	($76,946,982)	($39,696,127)	($31,628,949)	(728)
Total, All Industries	**($1,263,496,389)**	**($635,317,476)**	**($418,444,456)**	**(7,124)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Morbidity Losses Associated with Breast Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($7,736,086)	($2,303,136)	($1,392,745)	(24)
Mining	($55,507,446)	($26,675,907)	($9,122,603)	(35)
Construction	($22,211,174)	($10,826,464)	($8,163,619)	(121)
Manufacturing	($108,956,644)	($35,057,451)	($20,636,128)	(201)
Transportation & Utilities	($55,973,698)	($19,453,846)	($10,866,925)	(109)
Information	($15,182,570)	($10,183,195)	($4,442,891)	(37)
Wholesale Trade	($21,377,980)	($16,676,527)	($9,362,666)	(104)
Retail Trade*	($87,678,300)	($67,867,239)	($39,125,747)	(1,177)
Financial Activities*	($125,136,174)	($37,192,804)	($13,250,223)	(121)
Business Services	($38,287,372)	($27,775,933)	($22,488,245)	(252)
Health Services	($24,798,708)	($19,937,898)	($15,942,652)	(268)
Other Services	($40,178,284)	($21,210,673)	($16,163,570)	(362)
Total, All Industries	**($603,024,437)**	**($295,161,071)**	**($170,958,013)**	**(2,812)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Mortality Losses Associated with Breast Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($36,796,955)	($10,954,944)	($6,624,638)	(120)
Mining	($264,023,053)	($126,884,858)	($43,391,970)	(174)
Construction	($105,648,206)	($51,496,443)	($38,830,531)	(597)
Manufacturing	($518,255,983)	($166,751,956)	($98,156,445)	(990)
Transportation & Utilities	($266,240,796)	($92,532,878)	($51,688,900)	(538)
Information	($72,216,410)	($48,436,714)	($21,132,763)	(181)
Wholesale Trade	($101,685,090)	($79,322,466)	($44,533,837)	(514)
Retail Trade*	($417,044,815)	($322,812,828)	($186,102,945)	(5,806)
Financial Activities*	($595,214,466)	($176,908,837)	($63,025,138)	(596)
Business Services	($182,115,188)	($132,117,170)	($106,966,101)	(1,244)
Health Services	($117,955,898)	($94,835,289)	($75,831,766)	(1,323)
Other Services	($191,109,374)	($100,889,287)	($76,882,568)	(1,784)
Total, All Industries	**($2,868,306,234)**	**($1,403,943,668)**	**($813,167,602)**	**(13,867)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Total Impact of Losses (Treatment, Morbidity, and Mortality) Associated with Breast Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($67,620,700)	($19,587,120)	($12,180,958)	(208)
Mining	($357,116,068)	($162,147,331)	($56,918,858)	(232)
Construction	($159,636,484)	($78,521,877)	($60,343,113)	(900)
Manufacturing	($813,648,996)	($260,014,544)	($151,628,699)	(1,655)
Transportation & Utilities	($468,548,931)	($162,289,490)	($92,749,760)	(995)
Information	($117,218,853)	($76,979,895)	($33,414,121)	(284)
Wholesale Trade	($163,829,691)	($123,582,478)	($69,801,384)	(790)
Retail Trade*	($668,527,695)	($513,607,382)	($296,698,275)	(9,102)
Financial Activities*	($959,294,828)	($295,844,654)	($110,669,953)	(1,078)
Business Services	($294,025,905)	($206,721,639)	($167,654,432)	(1,946)
Health Services	($357,124,269)	($273,329,718)	($225,835,432)	(3,738)
Other Services	($308,234,640)	($161,796,086)	($124,675,087)	(2,875)
Total, All Industries	**($4,734,827,059)**	**($2,334,422,215)**	**($1,402,570,072)**	**(23,803)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Direct Medical Expenses and Related Outlays Associated with Pancreatic Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($28,972,611)	($7,942,287)	($5,224,854)	(79)
Mining	($47,165,979)	($10,775,247)	($5,526,919)	(28)
Construction	($39,876,960)	($20,328,023)	($16,751,560)	(228)
Manufacturing	($233,958,248)	($73,041,393)	($41,205,922)	(584)
Transportation & Utilities	($183,634,495)	($63,124,739)	($37,890,247)	(437)
Information	($37,420,839)	($23,039,872)	($9,836,460)	(83)
Wholesale Trade	($51,157,867)	($34,614,405)	($19,958,971)	(216)
Retail Trade*	($205,557,707)	($154,260,993)	($89,686,892)	(2,659)
Financial Activities*	($299,850,098)	($102,578,977)	($43,161,635)	(454)
Business Services	($92,389,638)	($58,764,942)	($47,937,134)	(565)
Health Services	($269,011,625)	($198,971,952)	($168,232,626)	(2,694)
Other Services	($96,560,458)	($49,814,509)	($39,691,040)	(914)
Total, All Industries	**($1,585,556,524)**	**($797,257,339)**	**($525,104,260)**	**(8,939)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Morbidity Losses Associated with Pancreatic Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($4,250,073)	($1,265,303)	($765,150)	(13)
Mining	($30,494,837)	($14,655,285)	($5,011,801)	(19)
Construction	($12,202,437)	($5,947,873)	($4,484,952)	(66)
Manufacturing	($59,858,908)	($19,259,961)	($11,337,134)	(110)
Transportation & Utilities	($30,750,988)	($10,687,608)	($5,970,102)	(60)
Information	($8,341,043)	($5,594,472)	($2,440,848)	(20)
Wholesale Trade	($11,744,695)	($9,161,797)	($5,143,688)	(57)
Retail Trade*	($48,168,951)	($37,285,094)	($21,495,013)	(647)
Financial Activities*	($68,747,663)	($20,433,087)	($7,279,445)	(66)
Business Services	($21,034,424)	($15,259,620)	($12,354,655)	(139)
Health Services	($13,623,984)	($10,953,538)	($8,758,619)	(147)
Other Services	($22,073,259)	($11,652,779)	($8,879,987)	(199)
Total, All Industries	**($331,291,262)**	**($162,156,420)**	**($93,921,394)**	**(1,545)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Impact of Mortality Losses Associated with Pancreatic Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($52,116,065)	($15,515,647)	($9,382,571)	(170)
Mining	($373,939,707)	($179,708,878)	($61,456,681)	(247)
Construction	($149,631,097)	($72,935,164)	($54,996,248)	(845)
Manufacturing	($734,013,519)	($236,173,231)	($139,020,407)	(1,402)
Transportation & Utilities	($377,080,728)	($131,055,666)	($73,207,744)	(761)
Information	($102,281,156)	($68,601,625)	($29,930,641)	(257)
Wholesale Trade	($144,018,079)	($112,345,567)	($63,073,924)	(728)
Retail Trade*	($590,666,663)	($457,204,524)	($263,580,320)	(8,223)
Financial Activities*	($843,010,944)	($250,558,570)	($89,263,423)	(844)
Business Services	($257,932,401)	($187,119,477)	($151,497,652)	(1,761)
Health Services	($167,062,662)	($134,316,605)	($107,401,638)	(1,874)
Other Services	($270,670,998)	($142,890,970)	($108,889,905)	(2,527)
Total, All Industries	**($4,062,424,020)**	**($1,988,425,926)**	**($1,151,701,154)**	**(19,640)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Total Impact of Losses (Treatment, Morbidity, and Mortality) Associated with Pancreatic Cancer Deaths in 2018 on Business Activity in Texas: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	($85,338,748)	($24,723,238)	($15,372,575)	(263)
Mining	($451,600,523)	($205,139,410)	($71,995,402)	(294)
Construction	($201,710,495)	($99,211,060)	($76,232,760)	(1,140)
Manufacturing	($1,027,830,675)	($328,474,584)	($191,563,463)	(2,096)
Transportation & Utilities	($591,466,211)	($204,868,014)	($117,068,093)	(1,258)
Information	($148,043,038)	($97,235,970)	($42,207,949)	(360)
Wholesale Trade	($206,920,641)	($156,121,769)	($88,176,583)	(1,001)
Retail Trade*	($844,393,322)	($648,750,611)	($374,762,224)	(11,529)
Financial Activities*	($1,211,608,705)	($373,570,635)	($139,704,503)	(1,364)
Business Services	($371,356,464)	($261,144,039)	($211,789,441)	(2,465)
Health Services	($449,698,271)	($344,242,095)	($284,392,883)	(4,715)
Other Services	($389,304,714)	($204,358,259)	($157,460,932)	(3,640)
Total, All Industries	**($5,979,271,805)**	**($2,947,839,684)**	**($1,770,726,809)**	**(30,124)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Medical costs based on estimated costs per site for cancer cases over the diagnosis period as estimated by the National Institutes of Health (adjusted to reflect current dollars based on the Medical Services CPI for Texas areas as maintained by the US Bureau of Labor Statistics), (2) estimated deaths by cancer site in Texas as compiled by the Texas Cancer Registry, and (3) estimated patterns following diagnosis based on patterns of incidence and death by site. Morbidity and mortality effects are estimated based on patterns relative to medical costs in Texas and approximate cost allocations over the disease cycle (which provides a reasonable proxy for morbidity and mortality patterns).

The Annual and Cumulative Ten-Year Impact of Operations Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Annual Impact of Operations Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas (Based on Staffing for Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$496,692	$138,007	$91,088	1
Mining	$367,071	$85,783	$47,791	0
Construction	$501,922	$265,444	$218,747	2
Manufacturing	$3,870,727	$1,239,998	$694,284	7
Transportation & Utilities	$2,390,360	$968,840	$565,965	5
Information	$771,735	$476,707	$203,518	1
Wholesale Trade	$939,737	$636,184	$366,830	3
Retail Trade*	$4,152,616	$3,082,144	$1,785,976	46
Financial Activities*	$4,140,342	$1,064,900	$423,970	3
Business Services	$11,068,461	$6,420,222	$5,237,252	53
Health Services	$944,852	$660,929	$558,822	8
Other Services	$1,867,726	$945,243	$758,706	14
Total, All Industries	**$31,512,243**	**$15,984,400**	**$10,952,949**	**142**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on staffing for fiscal year 2018.

The Cumulative Ten-Year Impact of Operations Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas (Based on Historical and Projected Budget Levels and Staffing)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$3,786,811	$1,052,173	$694,464	7
Mining	$2,798,572	$654,012	$364,359	0
Construction	$3,826,688	$2,023,759	$1,667,738	17
Manufacturing	$29,510,663	$9,453,823	$5,293,267	55
Transportation & Utilities	$18,224,252	$7,386,499	$4,314,952	37
Information	$5,883,758	$3,634,441	$1,551,635	9
Wholesale Trade	$7,164,616	$4,850,305	$2,796,733	23
Retail Trade*	$31,659,798	$23,498,460	$13,616,391	349
Financial Activities*	$31,566,226	$8,118,861	$3,232,374	21
Business Services	$84,386,630	$48,948,167	$39,929,135	403
Health Services	$7,203,613	$5,038,964	$4,260,492	57
Other Services	$14,239,662	$7,206,593	$5,784,418	107
Total, All Industries	**$240,251,289**	**$121,866,057**	**$83,505,957**	**1,085**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on historical and projected budget levels and staffing.

The Annual and Cumulative Ten-Year Impact of Outlays for Prevention and Screening Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Annual Impact of Outlays for Prevention and Screening Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Outlays for Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$1,982,201	$550,143	$363,223	6
Mining	$1,536,299	$359,833	$199,963	1
Construction	$2,100,886	$1,105,447	$910,957	13
Manufacturing	$14,330,722	$4,471,875	$2,484,254	39
Transportation & Utilities	$8,187,781	$3,215,586	$1,862,488	20
Information	$2,488,346	$1,536,149	$655,832	6
Wholesale Trade	$3,644,795	$2,466,352	$1,422,120	16
Retail Trade*	$16,686,378	$12,544,906	$7,297,246	218
Financial Activities*	$17,572,300	$4,450,993	$1,671,525	17
Business Services	$4,393,579	$2,674,277	$2,181,524	26
Health Services	$37,163,835	$26,774,591	$22,638,165	365
Other Services	$6,888,531	$3,571,628	$2,867,810	68
Total, All Industries	**$116,975,652**	**$63,721,782**	**$44,555,107**	**794**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on outlays for fiscal year 2018 and typical results of screening and prevention measures determined in various studies. Includes effects of leveraged external funds for screening and prevention purposes.

The Cumulative Ten-Year Impact of Outlays for Prevention and Screening Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Reported Outlays for Fiscal Year 2010-2018 with Outlays for Future Fiscal Years and Beyond Reflecting Budgeted and Stabilized Levels)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$17,982,592	$4,990,921	$3,295,168	51
Mining	$13,937,358	$3,264,421	$1,814,073	11
Construction	$19,059,305	$10,028,656	$8,264,237	113
Manufacturing	$130,008,801	$40,569,007	$22,537,237	351
Transportation & Utilities	$74,279,827	$29,171,910	$16,896,553	183
Information	$22,574,361	$13,936,000	$5,949,726	52
Wholesale Trade	$33,065,701	$22,374,827	$12,901,524	143
Retail Trade*	$151,379,390	$113,807,818	$66,200,863	1,978
Financial Activities*	$159,416,502	$40,379,563	$15,164,131	156
Business Services	$39,858,698	$24,261,130	$19,790,864	235
Health Services	$337,151,577	$242,899,999	$205,374,200	3,315
Other Services	$62,492,988	$32,401,927	$26,016,872	613
Total, All Industries	**$1,061,207,098**	**$578,086,177**	**$404,205,448**	**7,200**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on reported outlays for fiscal year 2010-2018 with outlays for future fiscal years reflecting budgeted and stabilized levels. Assumes percentage leveraging of external funds remains constant over time.

The Annual and Cumulative Ten-Year Impact of Outlays for Research and Product Development Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Annual Impact of Outlays for Research and Product Development Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Outlays for Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$20,250,262	$6,057,525	$4,008,988	62
Mining	$17,613,240	$4,079,440	$2,242,614	13
Construction	$32,003,410	$17,171,289	$14,150,211	194
Manufacturing	$146,113,078	$45,463,385	$25,464,908	401
Transportation & Utilities	$96,689,427	$38,240,775	$22,292,657	244
Information	$26,134,568	$16,114,346	$6,879,731	60
Wholesale Trade	$36,745,512	$24,867,956	$14,339,085	159
Retail Trade*	$168,639,349	$126,579,572	$73,595,959	2,204
Financial Activities*	$197,897,674	$53,582,280	$17,866,360	180
Business Services	$44,564,908	$27,424,434	$22,371,312	266
Health Services	$39,080,377	$27,352,244	$23,126,576	373
Other Services	$407,066,449	$253,165,587	$217,105,888	5,039
Total, All Industries	**$1,232,798,252**	**$640,098,833**	**$443,444,289**	**9,196**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on outlays for fiscal year 2018. Includes effects of leveraged external funds for research purposes.

The Cumulative Ten-Year Impact of Outlays for Research and Product Development Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Reported Outlays for Fiscal Year 2010-2018 with Outlays for Future Fiscal Years and Beyond Reflecting Budgeted and Stabilized Levels)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$174,546,338	$52,212,601	$34,555,317	533
Mining	$151,816,633	$35,162,577	$19,330,122	110
Construction	$275,852,139	$148,007,251	$121,967,193	1,674
Manufacturing	$1,259,415,961	$391,869,867	$219,493,783	3,460
Transportation & Utilities	$833,410,734	$329,614,861	$192,150,685	2,104
Information	$225,265,885	$138,896,975	$59,299,574	519
Wholesale Trade	$316,726,508	$214,348,372	$123,595,182	1,371
Retail Trade*	$1,453,580,274	$1,091,047,676	$634,357,494	18,996
Financial Activities*	$1,705,771,266	$461,850,367	$153,998,389	1,551
Business Services	$384,125,486	$236,383,839	$192,828,646	2,292
Health Services	$336,851,779	$235,761,601	$199,338,617	3,217
Other Services	$3,508,693,345	$2,182,150,882	$1,871,335,713	43,435
Total, All Industries	**$10,626,056,349**	**$5,517,306,869**	**$3,822,250,715**	**79,264**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on reported outlays for fiscal year 2010-2018 with outlays for future fiscal years reflecting budgeted and stabilized levels.

The Annual and Cumulative Ten-Year Impact of All Direct Outlays for Operations and Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Annual Impact of All Direct Outlays for Operations and Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Operations and Awards in Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$22,729,154	$6,745,675	$4,463,299	68
Mining	$19,516,610	$4,525,056	$2,490,368	14
Construction	$34,606,218	$18,542,180	$15,279,915	209
Manufacturing	$164,314,527	$51,175,258	$28,643,447	447
Transportation & Utilities	$107,267,567	$42,425,201	$24,721,110	269
Information	$29,394,649	$18,127,202	$7,739,081	67
Wholesale Trade	$41,330,044	$27,970,491	$16,128,035	178
Retail Trade*	$189,478,342	$142,206,623	$82,679,181	2,468
Financial Activities*	$219,610,316	$59,098,173	$19,961,855	200
Business Services	$60,026,948	$36,518,933	$29,790,088	345
Health Services	$77,189,064	$54,787,764	$46,323,562	746
Other Services	$415,822,706	$257,682,458	$220,732,403	5,121
Total, All Industries	**$1,381,286,147**	**$719,805,015**	**$498,952,344**	**10,132**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on operations and awards in fiscal year 2018.

The Cumulative Ten-Year Impact of All Direct Outlays for Operations and Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Actual Operations and Awards in Fiscal Years 2010-2018 and Future Budgeted and Stabilized Levels)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$196,315,741	$58,255,694	$38,544,949	591
Mining	$168,552,562	$39,081,010	$21,508,555	120
Construction	$298,738,132	$160,059,666	$131,899,168	1,805
Manufacturing	$1,418,935,426	$441,892,697	$247,324,287	3,866
Transportation & Utilities	$925,914,813	$366,173,270	$213,362,190	2,324
Information	$253,724,003	$156,467,416	$66,800,935	580
Wholesale Trade	$356,956,825	$241,573,503	$139,293,438	1,537
Retail Trade*	$1,636,619,461	$1,228,353,953	$714,174,748	21,323
Financial Activities*	$1,896,753,994	$510,348,791	$172,394,894	1,729
Business Services	$508,370,813	$309,593,136	$252,548,645	2,930
Health Services	$681,206,969	$483,700,565	$408,973,308	6,589
Other Services	$3,585,425,995	$2,221,759,402	$1,903,137,003	44,154
Total, All Industries	**$11,927,514,736**	**$6,217,259,103**	**$4,309,962,119**	**87,549**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on actual operations and awards in fiscal years 2010-2018 and future budgeted and stabilized levels. Includes effects of leveraged external funds for prevention and research and assumes stabilized funding based on 2010-2018 actual and future budgeted levels.

Annual and Cumulative Ten-Year Impact of Outlays for Prevention and Screening (Downstream) Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Annual Impact of Outlays for Prevention and Screening (Downstream) Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Outlays for Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$10,425,863	$3,019,496	$1,878,085	32
Mining	$54,948,621	$24,937,966	$8,755,865	36
Construction	$24,582,796	$12,092,523	$9,294,154	138
Manufacturing	$125,328,237	$40,048,816	$23,353,184	254
Transportation & Utilities	$72,223,465	$25,015,255	$14,298,342	153
Information	$18,059,426	$11,858,350	$5,147,096	44
Wholesale Trade	$25,239,355	$19,034,720	$10,751,550	121
Retail Trade*	$102,988,981	$79,119,098	$45,705,753	1,398
Financial Activities*	$147,787,829	$45,588,180	$17,058,757	166
Business Services	$45,297,797	$31,841,096	$25,823,913	299
Health Services	$55,184,805	$42,229,083	$34,895,338	577
Other Services	$47,486,492	$24,925,311	$19,208,060	442
Total, All Industries	**$729,553,667**	**$359,709,894**	**$216,170,099**	**3,659**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on outlays for fiscal year 2018 and typical results of screening and prevention measures determined in various studies. Includes effects of leveraged external funds.

The Cumulative Ten-Year Impact of Outlays for Prevention and Screening (Downstream) Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas
(Based on Reported Outlays for Fiscal Year 2010-2018 with Outlays for Future Fiscal Years Reflecting Budgeted and Stabilized Levels)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$94,583,787	$27,392,969	$17,038,050	290
Mining	$498,495,765	$226,238,080	$79,433,503	323
Construction	$223,015,967	$109,703,784	$84,316,884	1,253
Manufacturing	$1,136,982,032	$363,324,226	$211,860,884	2,308
Transportation & Utilities	$655,213,737	$226,939,249	$129,715,048	1,388
Information	$163,835,724	$107,579,351	$46,694,633	396
Wholesale Trade	$228,972,287	$172,683,627	$97,538,429	1,101
Retail Trade*	$934,319,540	$717,771,151	$414,644,148	12,685
Financial Activities*	$1,340,736,219	$413,577,519	$154,757,621	1,504
Business Services	$410,943,161	$288,863,509	$234,275,422	2,712
Health Services	$500,638,427	$383,103,676	$316,571,697	5,231
Other Services	$430,799,072	$226,123,268	$174,256,176	4,007
Total, All Industries	**$6,618,535,720**	**$3,263,300,408**	**$1,961,102,497**	**33,199**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on reported outlays for fiscal year 2010-2018 with outlays for future fiscal years reflecting budgeted and stabilized levels and typical results of screening and prevention measures determined in various studies. Includes effects of leveraged external funds for screening and prevention purposes.

The Anticipated Benefits of the Research and Related Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Anticipated Annual Benefits of the Research and Related Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Benefits in 2018 Based on Research Awards in Fiscal Years 2010-2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$283,260,925	$106,837,950	$79,649,034	862
Mining	$1,336,778,600	$621,911,424	$236,446,553	870
Construction	$617,494,889	$319,971,018	$253,312,619	3,487
Manufacturing	$4,096,931,770	$2,065,537,975	$1,667,840,584	8,795
Transportation & Utilities	$1,863,338,614	$738,818,018	$483,536,372	4,030
Information	$474,613,861	$326,901,467	$167,036,425	1,143
Wholesale Trade	$686,132,689	$538,335,519	$341,026,725	3,266
Retail Trade*	$2,683,646,082	$2,115,054,839	$1,319,134,074	36,387
Financial Activities*	$3,760,068,150	$1,325,626,963	$646,043,392	4,204
Business Services	$1,168,787,172	$848,242,550	$704,910,577	7,655
Health Services	$1,366,466,845	$1,057,855,773	$883,162,716	14,240
Other Services	$1,815,848,417	$1,278,431,027	$1,142,243,571	11,533
Total, All Industries	**$20,153,368,015**	**$11,343,524,525**	**$7,924,342,641**	**96,473**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Benefits in 2018 based on research awards in fiscal years 2010-2018. Based on typical annual rate of return to health-related research, the location of additional researchers to the state, and standard patterns in spinoff companies from research outlays (fully adjusted for attrition and verified for reasonableness with available data). Includes effects of leveraged external research funding.

The Anticipated Annual Benefits of the Research and Related Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Impact in Year 10 Assuming Sustainable Level of Research Funding Achieved through Conclusion of Program)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$319,351,523	$120,450,295	$89,797,208	972
Mining	$1,507,099,089	$701,149,870	$266,572,478	980
Construction	$696,170,618	$360,738,891	$285,587,469	3,931
Manufacturing	$4,618,926,530	$2,328,710,530	$1,880,342,059	9,916
Transportation & Utilities	$2,100,748,716	$832,951,667	$545,144,294	4,544
Information	$535,084,956	$368,552,357	$188,318,727	1,289
Wholesale Trade	$773,553,639	$606,925,463	$384,477,330	3,682
Retail Trade*	$3,025,572,497	$2,384,536,394	$1,487,206,454	41,023
Financial Activities*	$4,239,142,731	$1,494,526,609	$728,356,519	4,740
Business Services	$1,317,703,681	$956,318,103	$794,724,039	8,630
Health Services	$1,540,569,947	$1,192,638,386	$995,687,487	16,054
Other Services	$2,047,207,739	$1,441,317,385	$1,287,778,130	13,002
Total, All Industries	**$22,721,131,666**	**$12,788,815,949**	**$8,933,992,193**	**108,765**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Impact in year 10 assuming sustainable level of research funding achieved through conclusion of program. Based on typical annual rate of return to health-related research, the location of additional researchers to the state at the current rate, and standard patterns in spinoff companies from research outlays (fully adjusted for attrition and verified for reasonableness with available data). Includes effects of leveraged external research funding.

The Anticipated Cumulative Ten-Year Benefits of the Research and Related Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas
(Cumulative Impact Over Ten Years Assuming Sustainable Level of Research Funding Achieved through Conclusion of Program)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$2,825,816,150	$1,065,817,337	$794,580,215	8,602
Mining	$13,335,727,693	$6,204,199,712	$2,358,795,122	8,676
Construction	$6,160,140,270	$3,192,036,707	$2,527,051,305	34,787
Manufacturing	$40,871,066,058	$20,605,844,512	$16,638,408,083	87,744
Transportation & Utilities	$18,588,699,995	$7,370,462,026	$4,823,767,665	40,204
Information	$4,734,756,536	$3,261,175,001	$1,666,358,423	11,407
Wholesale Trade	$6,844,872,222	$5,370,444,957	$3,402,088,828	32,585
Retail Trade*	$26,772,102,259	$21,099,825,652	$13,159,705,580	363,001
Financial Activities*	$37,510,508,441	$13,224,478,756	$6,444,940,658	41,940
Business Services	$11,659,842,142	$8,462,083,153	$7,032,200,768	76,366
Health Services	$13,631,898,163	$10,553,188,484	$8,810,447,360	142,058
Other Services	$18,114,936,928	$12,753,651,240	$11,395,042,695	115,053
Total, All Industries	**$201,050,366,858**	**$113,163,207,537**	**$79,053,386,702**	**962,421**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Note: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Cumulative impact over ten years assuming sustainable level of research funding achieved through conclusion of program. Based on typical annual rate of return to health-related research, the location of additional researchers to the state at the current rate, and standard patterns in spinoff companies from research outlays (fully adjusted for attrition and verified for reasonableness with available data). Includes effects of leveraged external research funding.

The Anticipated Gross Benefits of All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Anticipated Gross Annual Benefits of the All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Operations and Awards in Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$316,415,942	$116,603,121	$85,990,418	963
Mining	$1,411,243,831	$651,374,447	$247,692,785	919
Construction	$676,683,903	$350,605,721	$277,886,689	3,834
Manufacturing	$4,386,574,534	$2,156,762,050	$1,719,837,215	9,497
Transportation & Utilities	$2,042,829,647	$806,258,475	$522,555,824	4,452
Information	$522,067,936	$356,887,019	$179,922,602	1,254
Wholesale Trade	$752,702,089	$585,340,730	$367,906,310	3,566
Retail Trade*	$2,976,113,405	$2,336,380,560	$1,447,519,008	40,253
Financial Activities*	$4,127,466,296	$1,430,313,315	$683,064,003	4,570
Business Services	$1,274,111,917	$916,602,579	$760,524,578	8,299
Health Services	$1,498,840,713	$1,154,872,620	$964,381,616	15,563
Other Services	$2,279,157,616	$1,561,038,796	$1,382,184,034	17,095
Total, All Industries	**$22,264,207,829**	**$12,423,039,434**	**$8,639,465,083**	**110,265**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on operations and awards in fiscal year 2018.

The Anticipated Gross Annual Benefits of the All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Impact in Year 10 Based Upon Attaining Sustainable Levels of Prevention and Research Funding through Conclusion of Program)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$352,055,851	$130,084,588	$96,052,057	1,072
Mining	$1,581,191,165	$730,526,116	$277,770,800	1,030
Construction	$754,744,674	$391,045,515	$309,891,182	4,279
Manufacturing	$4,905,291,129	$2,418,910,673	$1,931,766,649	10,618
Transportation & Utilities	$2,278,177,043	$899,575,952	$583,688,713	4,966
Information	$581,951,298	$398,175,313	$201,050,101	1,400
Wholesale Trade	$839,298,570	$653,372,710	$411,035,188	3,982
Retail Trade*	$3,314,272,472	$2,603,035,871	$1,613,948,423	44,889
Financial Activities*	$4,602,324,740	$1,598,097,979	$764,986,201	5,106
Business Services	$1,421,191,107	$1,023,582,635	$849,444,396	9,271
Health Services	$1,669,704,096	$1,287,333,475	$1,074,943,320	17,360
Other Services	$2,504,487,401	$1,720,244,188	$1,524,580,189	18,592
Total, All Industries	**$24,804,689,547**	**$13,853,985,015**	**$9,639,157,218**	**122,564**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Impact in year 10 based upon attaining sustainable levels of prevention and research funding through conclusion of program.

The Anticipated Gross Cumulative Ten-Year Benefits of the All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Cumulative Impact Over Ten Years Assuming Sustainable Level of Prevention and Research Funding Achieved through Conclusion of Program)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$3,116,715,679	$1,151,466,000	$850,163,214	9,482
Mining	$14,002,776,020	$6,469,518,802	$2,459,737,180	9,119
Construction	$6,681,894,370	$3,461,800,157	$2,743,267,358	37,846
Manufacturing	$43,426,983,516	$21,411,061,435	$17,097,593,254	93,918
Transportation & Utilities	$20,169,828,545	$7,963,574,546	$5,166,844,903	43,916
Information	$5,152,316,263	$3,525,221,768	$1,779,853,991	12,383
Wholesale Trade	$7,430,801,334	$5,784,702,087	$3,638,920,695	35,223
Retail Trade*	$29,343,041,261	$23,045,950,756	$14,288,524,476	397,009
Financial Activities*	$40,747,998,654	$14,148,405,067	$6,772,093,173	45,173
Business Services	$12,579,156,117	$9,060,539,797	$7,519,024,835	82,008
Health Services	$14,813,743,559	$11,419,992,725	$9,535,992,366	153,878
Other Services	$22,131,161,995	$15,201,533,910	$13,472,435,873	163,214
Total, All Industries	**$219,596,417,313**	**$122,643,767,048**	**$85,324,451,318**	**1,083,170**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Cumulative impact over ten years assuming sustainable level of prevention and research funding achieved through conclusion of program.

The Anticipated Net Benefits of All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Anticipated Net Annual Benefits of the All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Based on Operations and Awards in Fiscal Year 2018)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$293,686,788	$109,857,446	$81,527,119	894
Mining	$1,391,727,221	$646,849,391	$245,202,417	905
Construction	$642,077,685	$332,063,541	$262,606,773	3,625
Manufacturing	$4,222,260,007	$2,105,586,792	$1,691,193,768	9,050
Transportation & Utilities	$1,935,562,079	$763,833,274	$497,834,714	4,183
Information	$492,673,287	$338,759,817	$172,183,521	1,187
Wholesale Trade	$711,372,044	$557,370,239	$351,778,275	3,388
Retail Trade*	$2,786,635,063	$2,194,173,937	$1,364,839,827	37,786
Financial Activities*	$3,907,855,979	$1,371,215,142	$663,102,148	4,370
Business Services	$1,214,084,969	$880,083,647	$730,734,490	7,954
Health Services	$1,421,651,649	$1,100,084,856	$918,058,054	14,816
Other Services	$1,863,334,909	$1,303,356,338	$1,161,451,631	11,975
Total, All Industries	**$20,882,921,682**	**$11,703,234,419**	**$8,140,512,739**	**100,133**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Based on operations and awards in fiscal year 2018.

The Anticipated Net Annual Benefits of the All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Impact in Year 10 Based Upon Attaining Sustainable Levels of Prevention and Research Funding through Conclusion of Program)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$329,777,386	$123,469,791	$91,675,293	1,004
Mining	$1,562,047,711	$726,087,836	$275,328,343	1,016
Construction	$720,753,415	$372,831,414	$294,881,623	4,070
Manufacturing	$4,744,254,766	$2,368,759,346	$1,903,695,243	10,171
Transportation & Utilities	$2,172,972,182	$857,966,922	$559,442,636	4,697
Information	$553,144,381	$380,410,707	$193,465,823	1,333
Wholesale Trade	$798,792,994	$625,960,183	$395,228,880	3,804
Retail Trade*	$3,128,561,477	$2,463,655,492	$1,532,912,207	42,422
Financial Activities*	$4,386,930,560	$1,540,114,789	$745,415,275	4,906
Business Services	$1,363,001,479	$988,159,199	$820,547,952	8,929
Health Services	$1,595,754,752	$1,234,867,469	$1,030,582,825	16,631
Other Services	$2,094,694,231	$1,466,242,696	$1,306,986,190	13,444
Total, All Industries	**$23,450,685,334**	**$13,148,525,843**	**$9,150,162,292**	**112,425**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. Impact in year 10 based upon attaining sustainable levels of prevention and research funding through conclusion of program.

The Anticipated Net Cumulative Ten-Year Benefits of the All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas
(Cumulative Impact Over Ten Years Assuming Sustainable Level of Prevention and Research Funding Achieved through Conclusion of Program)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	$2,920,399,937	$1,093,210,306	$811,618,265	8,892
Mining	$13,834,223,457	$6,430,437,792	$2,438,228,625	8,999
Construction	$6,383,156,237	$3,301,740,491	$2,611,368,190	36,041
Manufacturing	$42,008,048,090	$20,969,168,738	$16,850,268,968	90,052
Transportation & Utilities	$19,243,913,733	$7,597,401,276	$4,953,482,713	41,592
Information	$4,898,592,260	$3,368,754,352	$1,713,053,056	11,803
Wholesale Trade	$7,073,844,509	$5,543,128,584	$3,499,627,257	33,686
Retail Trade*	$27,706,421,800	$21,817,596,803	$13,574,349,728	375,686
Financial Activities*	$38,851,244,660	$13,638,056,275	$6,599,698,280	43,445
Business Services	$12,070,785,304	$8,750,946,661	$7,266,476,190	79,078
Health Services	$14,132,536,590	$10,936,292,160	$9,127,019,057	147,288
Other Services	$18,545,736,000	$12,979,774,508	$11,569,298,870	119,060
Total, All Industries	**$207,668,902,577**	**$116,426,507,946**	**$81,014,489,199**	**995,620**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Cumulative impact over ten years assuming sustainable level of prevention and research funding achieved through conclusion of program.

The Potential Annual Impact of a Substantial Reduction in Cancer Incidence as a Consequence of the Catalytic Effect Resulting from the Initiatives of the Cancer Prevention and Research Institute of Texas (CPRIT) (as of 2045)

The Potential Annual Impact of a Substantial Reduction In Cancer Incidence as a Consequence of the Catalytic Effect Resulting from the Initiatives of Cancer Prevention and Research Institute of Texas on Business Activity in Texas as of 2045: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$456,527,068	$132,217,498	$82,237,468	1,397
Mining	$2,406,086,880	$1,091,982,148	$383,401,269	1,557
Construction	$1,076,429,993	$529,506,677	$406,971,861	6,049
Manufacturing	$5,487,865,184	$1,753,655,125	$1,022,587,814	11,142
Transportation & Utilities	$3,162,516,694	$1,095,366,479	$626,094,941	6,701
Information	$790,785,023	$519,252,685	$225,380,738	1,912
Wholesale Trade	$1,105,179,331	$833,491,153	$470,788,222	5,316
Retail Trade*	$4,509,675,201	$3,464,462,233	$2,001,360,723	61,228
Financial Activities*	$6,471,324,444	$1,996,212,434	$746,967,796	7,262
Business Services	$1,983,497,191	$1,394,255,975	$1,130,775,945	13,088
Health Services	$2,416,428,857	$1,849,124,492	$1,527,994,944	25,247
Other Services	$2,079,335,612	$1,091,427,984	$841,081,365	19,343
Total, All Industries	**$31,945,651,479**	**$15,750,954,884**	**$9,465,643,087**	**160,242**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. This scenario assumes that the incidence of and death rate from cancer in Texas over time is reduced to the average of current levels observed in the five states with the lowest incidence and death rates.

The Potential Annual Impact of a Substantial Reduction In Cancer Incidence as a Consequence of the Catalytic Effect Resulting from the Initiatives of Cancer Prevention and Research Institute of Texas on Business Activity in the United States as of 2045: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$4,834,756,891	$1,409,500,513	$864,928,939	14,690
Mining	$21,901,263,369	$9,916,555,538	$3,513,035,433	14,451
Construction	$10,061,801,645	$4,970,252,264	$3,816,268,970	56,778
Manufacturing	$83,026,461,827	$24,542,005,935	$13,903,605,467	155,932
Transportation & Utilities	$35,235,613,893	$11,781,369,003	$6,631,715,076	68,798
Information	$7,495,899,108	$4,922,027,636	$2,136,397,663	18,121
Wholesale Trade	$10,285,581,639	$7,757,059,019	$4,381,488,644	49,470
Retail Trade*	$42,209,928,701	$32,397,400,703	$18,710,005,464	573,296
Financial Activities*	$59,797,306,936	$18,706,172,443	$7,169,162,527	69,573
Business Services	$18,568,712,918	$13,052,470,684	$10,585,875,288	122,529
Health Services	$22,243,011,249	$17,021,025,366	$14,065,056,632	232,395
Other Services	$20,011,870,013	$10,463,165,609	$8,087,203,757	186,487
Total, All Industries	**$335,672,208,190**	**$156,939,004,713**	**$93,864,743,862**	**1,562,519**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. This scenario assumes that the incidence of and death rate from cancer in the US over time is reduced to the average of current levels observed in the five states with the lowest incidence and death rates.

Incremental Impact Associated with Becoming a Major Center of Biomedical Production as a Partial Consequence of the Catalytic Effect Resulting from the Initiatives of the Cancer Prevention and Research Institute of Texas (CPRIT) and Other Initiatives on Business Activity in Texas

The Potential Annual Incremental Impact Associated with Becoming a Major Center of Biomedical Production as a Partial Consequence of the Catalytic Effect Resulting from the Initiatives of Cancer Prevention and Research Institute of Texas and Other Initiatives on Business Activity in Texas: Scenario I* -- As of 2045: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$618,754,984	$173,967,674	$114,735,946	1,639
Mining	$530,674,047	$126,177,186	$70,144,917	385
Construction	$596,578,869	$318,369,191	$262,356,045	3,333
Manufacturing	$20,878,850,866	$8,605,725,046	$5,026,006,665	52,546
Transportation & Utilities	$2,724,629,167	$1,092,292,490	$637,819,556	6,525
Information	$810,576,165	$495,445,251	$211,521,486	1,685
Wholesale Trade	$1,640,209,078	$1,108,929,306	$639,418,517	6,441
Retail Trade*	$4,375,154,734	$3,247,533,635	$1,881,856,303	52,738
Financial Activities*	$4,501,888,378	$1,185,103,310	$462,344,687	4,272
Business Services	$1,577,006,913	$952,196,086	$776,748,011	8,514
Health Services	$994,008,997	$694,998,522	$587,627,686	8,744
Other Services	$1,921,581,589	$994,278,419	$798,770,524	17,211
Total, All Industries	**$41,169,913,788**	**$18,995,016,115**	**$11,469,350,345**	**164,034**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. This scenario assumes that Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2045 equivalent to that of the US. Only incremental gains above baseline projections are included.

The Potential Annual Incremental Impact Associated with Becoming a Major Center of Biomedical Production as a Partial Consequence of the Catalytic Effect Resulting from the Initiatives of Cancer Prevention and Research Institute of Texas and Other Initiatives on Business Activity in Texas: Scenario II* -- As of 2045: Results by Industry

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Permanent Jobs)
Agriculture	$887,698,899	$250,223,684	$164,936,434	2,355
Mining	$751,885,670	$178,933,115	$99,363,608	545
Construction	$839,093,001	$447,808,712	$369,022,269	4,688
Manufacturing	$29,386,213,016	$12,190,654,551	$6,935,548,610	70,712
Transportation & Utilities	$3,823,725,245	$1,534,359,223	$896,362,896	9,178
Information	$1,157,687,050	$706,835,719	$301,770,860	2,404
Wholesale Trade	$2,295,523,450	$1,552,081,052	$894,943,760	9,016
Retail Trade*	$6,131,256,685	$4,547,293,830	$2,634,417,891	73,916
Financial Activities*	$6,339,501,264	$1,679,182,040	$653,194,109	6,028
Business Services	$2,273,639,764	$1,371,768,913	$1,119,011,926	12,266
Health Services	$1,388,007,953	$970,547,870	$820,607,214	12,211
Other Services	$2,697,977,450	$1,396,757,293	$1,122,369,535	24,171
Total, All Industries	**$57,972,209,447**	**$26,826,446,002**	**$16,011,549,114**	**227,491**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in permanent jobs. Retail Trade includes restaurants, Financial Activities includes Real Estate. This scenario assumes that Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2045 equivalent to that of California. Only incremental gains above baseline projections are included.

Losses from Failing to Extend the Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas

The Anticipated Gross Cumulative Ten-Year Losses of Failing to Extend The Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Cumulative Impact Over Ten Years Assuming Loss of Current Level of Prevention and Research Funding)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	($3,771,369,426)	($1,400,558,808)	($1,036,996,907)	(11,473)
Mining	($16,943,357,000)	($7,834,551,342)	($2,983,464,495)	(11,034)
Construction	($8,079,340,057)	($4,190,057,824)	($3,322,055,840)	(45,759)
Manufacturing	($52,801,682,301)	($26,212,366,200)	($21,003,007,198)	(114,244)
Transportation & Utilities	($24,400,672,566)	($9,659,482,024)	($6,283,189,134)	(53,133)
Information	($6,234,520,185)	($4,270,677,900)	($2,163,328,915)	(14,984)
Wholesale Trade	($8,997,933,186)	($7,012,107,402)	($4,420,960,818)	(42,650)
Retail Trade*	($35,488,501,081)	($27,890,059,499)	($17,320,111,562)	(480,178)
Financial Activities*	($49,278,256,670)	($17,164,123,414)	($8,256,052,863)	(54,644)
Business Services	($15,232,837,432)	($10,980,613,756)	($9,117,053,993)	(99,292)
Health Services	($17,888,132,510)	($13,796,530,153)	($11,522,592,053)	(185,836)
Other Services	($26,800,795,303)	($18,484,346,763)	($16,408,111,742)	(195,572)
Total, All Industries	**($265,917,397,718)**	**($148,895,475,085)**	**($103,836,925,518)**	**(1,308,799)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Cumulative impact over ten years assuming loss of current level of prevention and research funding.

The Anticipated Net Cumulative Ten-Year Losses of Failing to Extend The Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas on Business Activity in Texas (Cumulative Impact Over Ten Years Assuming Loss of Current Level of Prevention and Research Funding)

Industry	Total Expenditures (2018 Dollars)	Gross Product (2018 Dollars)	Personal Income (2018 Dollars)	Employment (Person-Years)
Agriculture	($3,544,077,882)	($1,333,102,054)	($992,363,915)	(10,789)
Mining	($16,748,190,901)	($7,789,300,778)	($2,958,560,817)	(10,895)
Construction	($7,733,277,880)	($4,004,636,028)	($3,169,256,686)	(43,668)
Manufacturing	($51,158,537,029)	($25,700,613,616)	($20,716,572,730)	(109,771)
Transportation & Utilities	($23,327,996,891)	($9,235,230,010)	($6,035,978,037)	(50,441)
Information	($5,940,573,694)	($4,089,405,880)	($2,085,938,106)	(14,312)
Wholesale Trade	($8,584,632,742)	($6,732,402,490)	($4,259,680,469)	(40,872)
Retail Trade*	($33,593,717,660)	($26,467,993,268)	($16,493,319,751)	(455,502)
Financial Activities*	($47,082,153,508)	($16,573,141,685)	($8,056,434,317)	(52,645)
Business Services	($14,632,567,950)	($10,615,424,429)	($8,819,153,109)	(95,845)
Health Services	($17,116,241,869)	($13,248,652,510)	($11,059,356,431)	(178,374)
Other Services	($22,642,568,240)	($15,907,522,184)	($14,200,787,707)	(144,365)
Total, All Industries	**($252,104,536,246)**	**($141,697,424,933)**	**($98,847,402,075)**	**(1,207,479)**

Source: US Multi-Regional Impact Assessment System, The Perryman Group
Notes: Monetary values given in 2018 US dollars, employment given in person-years. Retail Trade includes restaurants, Financial Activities includes Real Estate. Cumulative impact over ten years assuming loss of current level of prevention and research funding.