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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:  
**2016 Update**

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## Introduction

Cancer is among the leading causes of premature death, with a tragically high cost both in human and financial terms. Individuals, families, hospitals, state and local governments, insurance providers, and society as a whole bear the cost of suffering, treatment, loss of productivity, and mortality. Through research and prevention/screening, however, 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 productivity 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).

The Cancer Prevention and Research Institute of Texas (CPRIT) has been working to reduce the human and financial cost of cancer since 2010. CPRIT has helped attract leading cancer research scientists to Texas (including members of the prestigious National Academy of Sciences), funded research projects which have resulted in thousands of publications and a number of new patents, and provided grants for screening and related education which are improving access to lifesaving testing for some of the state's most vulnerable populations.

### CPRIT is an Important Resource for Cancer Prevention, Screening, and Research

**In addition to their positive effect on health and wellbeing, these 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.

- **The cost of cancer in Texas as traditionally measured is estimated to be \$34.9 billion in 2016 (about \$3.6 billion higher than in 2015), with total economic losses (including spinoff effects) of an estimated \$83.8 billion in output and over 879,800 jobs.**
- The current total annual impact of all CPRIT operations, prevention/screening and research programs (including initial outlays and multiplier effects) includes \$773.2 million in output (real gross product) in 2016 as well as 11,346 jobs. When all secondary benefits are considered, these values rise to almost \$8.0 billion in output and over 79,000 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 \$361.4 million in 2016; local public entities receive \$166.9 million.** Over the ten-year life of the current commitment, these gross incremental taxes are expected to total just under \$4.8 billion for the

State and almost \$2.3 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 \$4.5 billion to the State and almost \$2.1 billion to local governments.

- If funding for CPRIT is not renewed, the net cumulative economic losses over the initial 10 years of not being funded include an estimated **\$117.2 billion in lost gross product and some 1,100,761 lost person-years of employment, as well as billions in foregone tax receipts to the State and local governments.**
- These results are explained more fully in subsequent sections and the Appendices to this report.

<h2 style="color: #008080;">Summary of Economic Benefits</h2> <h3>Every Dollar Invested Through CPRIT Returns:</h3> <p>(Including Initial Outlays and Secondary (Downstream) Effects)</p>	
<b>\$21.89</b>	<b>In Treatment Cost Savings and Resulting Economic Benefits through Earlier Detection from Prevention/Screening Activity in 2016</b>
<b>\$44.95</b>	<b>In Economic Activity (Total Expenditures) in 2016</b>
<b>\$24.05</b>	<b>In Output (Real Gross Product) in 2016</b>
<b>\$15.96</b>	<b>In Personal Income in 2016</b>
<b>\$6.12</b>	<b>In Retail Sales in 2016</b>
<b>\$1.87</b>	<b>In State Tax Receipts as of the 10<sup>th</sup> Year of Operation (assuming stabilized levels of awards)</b>
<b>\$0.86</b>	<b>In Local Government Tax Receipts as of the 10<sup>th</sup> Year of Operation (assuming stabilized levels of awards)</b>
Source: The Perryman Group	

## Report Approach

An approach consistent to prior years was used where possible in this 2016 update along with some significant additions made possible by the accumulation of information over time. At present, the initial CPRIT grants have been in place for more than six 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 2015 are also given: both of these elements are newer features of the report which were included for the first time in the 2015 edition.

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 last year, 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 also incorporated into the analysis.

Some illustrative scenarios related to **potential economic development and social gains** 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.

### Millions of Americans are Dealing with Cancer

**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 is the aging of the US population, as cancer incidence increases among older age groups.

- The American Cancer Society estimates that there will be about 1,685,210 new cases of cancer (841,390 male and 843,820 female) and 595,690 deaths from cancer (314,290 male and 281,400 female) in the US in 2016. The number of new cases expected in 2016 is higher than the number for 2015 due to a large increase in cases for women as the male estimates are slightly lower than in 2015. The expected cancer deaths shows a modest increase over 2015.<sup>1</sup>
- In Texas, a total of 116,690 new cases of cancer are expected in 2016, with 39,450 cancer deaths projected.<sup>2</sup> Compared to the American Cancer Society estimates for 2015, slightly more cases (about 3,000) and deaths (about 900) are expected in 2016. As with the nation, cancer remains the second leading cause of death in the state after cardiovascular disease.<sup>3</sup>

### Cancer Costs are also Rising

**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 and morbidity and mortality losses (as traditionally measured) in the state totaled an estimated \$34.9 billion in 2016**, up notably from \$31.3 billion in 2015 and \$32.4 billion two years ago (according to TPG's update of existing information from the National Institutes of Health<sup>4</sup> and a study of costs in

<sup>1</sup> *Cancer facts & figures 2016*. (2016). American Cancer Society.

<sup>2</sup> *Cancer facts & figures 2016*. (2016). American Cancer Society.

<sup>3</sup> *Cancer facts & figures 2016*. (2016). American Cancer Society.

<sup>4</sup> 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

Texas.<sup>5</sup> In 2010, cancer treatment costs in Texas were \$11.5 billion in current dollars and \$12.6 billion in constant 2016 dollars. By 2020, treatment costs are expected to be \$18.5 billion in current dollars (a 61.4 % rise) and \$17.0 billion in constant 2016 dollars (a 35.0% increase). The projected rates of increase at the national level are even higher.

## Cancer Treatment Costs Affect both the Private Sector and the Public Sector

**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 2015 was just under \$5.5 billion.
- The cost of treating cancer in Texas paid through Medicaid in 2015 was \$308.9 million.
- The CHIP program spent some \$8.2 million treating cancer in 2015.
- Costs of cancer treatment to Medicare totaled an estimated \$3.7 billion.
- The cost of treating cancer to other third party payers in 2015 was determined to be just over \$2.4 billion.
- The out-of-pocket cost to cancer patients in 2015 was approximately \$1.8 billion.<sup>6</sup>

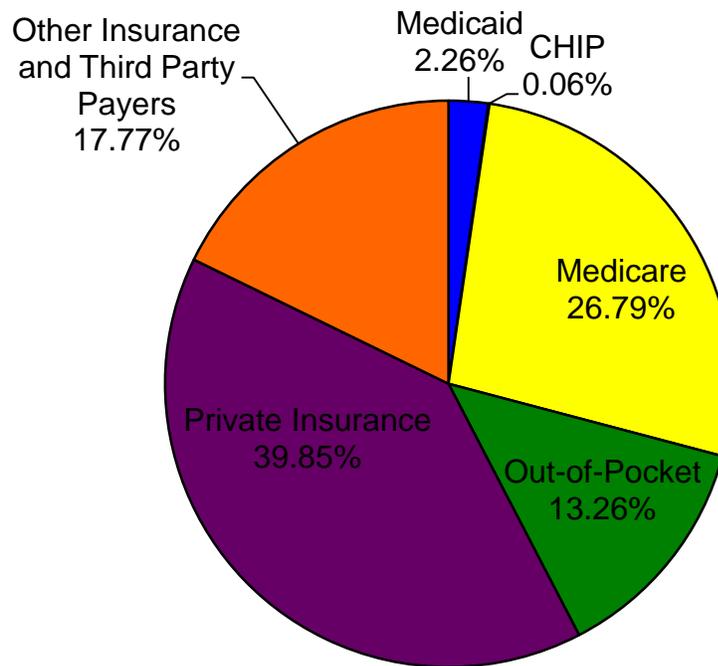
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(the cost of lost productivity due to premature death) of \$140.1 billion. See *Cancer facts & figures 2011*. (2011). American Cancer Society.

<sup>5</sup> 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.

<sup>6</sup> Medicaid and CHIP cancer expenditure data from AHQP Claims Universe, Texas Medicaid and Healthcare Partnership (TMHP); Enc\_Best Picture Universe, TMHP; prepared by Strategic Decision Support, Texas Health and Human Services Commission, August 2016. All other expenditures are approximations by The Perryman Group based on best available data.

### Cancer Treatment Costs by Payer in Texas



Source: Medicaid and CHIP cancer expenditure data from AHQP Claims Universe, Texas Medicaid and Healthcare Partnership (TMHP); Enc\_Best Picture Universe, TMHP; prepared by Strategic Decision Support, Texas Health and Human Services Commission, August 2016. All other expenditures are approximations by The Perryman Group based on best available data.

### The Cost of Cancer Goes 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).

- 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.
- Most studies of cancer costs reflect only the initial effect of direct 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. This more comprehensive measure is quantified in the approach utilized by The Perryman Group.

## 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:

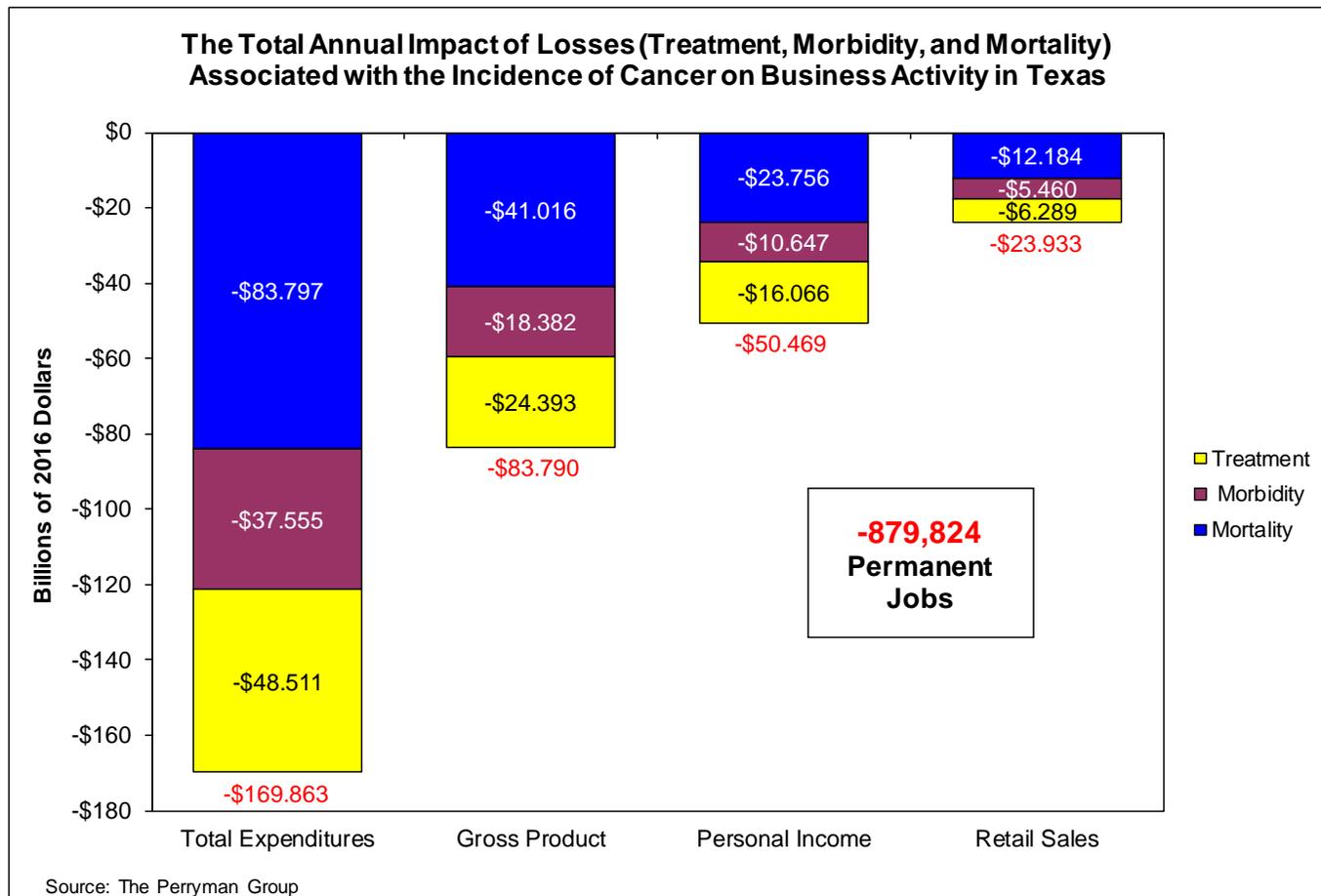
- **Total expenditures** (or total spending) measure the dollars changing hands as a result of the economic stimulus.
- **Gross product** (or output) is production of goods and services that will come about in each area as a result of the activity. This measure is parallel to the gross domestic product 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 revenue reflect tax receipts stemming from the increase in total economic activity. Monetary values were quantified on a constant (2016) basis, which eliminates inflationary effects and allows comparison across various time periods. See the Appendices to this report for additional information regarding the methods and assumptions used in this analysis.

## Cancer Costs the Texas Economy \$169.9 Billion per Year

The Perryman Group’s analysis indicates a total cost to the Texas economy of almost \$169.9 billion in reduced annual spending, \$83.8 billion in output losses per annum, and 879,800 lost jobs from cancer treatment, morbidity, and mortality and the associated spillover effects.

- These amounts represent an increase over last year’s estimated total cost of \$156.8 billion in spending, \$77.3 billion in output, and 818,300 jobs. These totals represent **approximately 5.6% of the total output of the Texas economy and 7.0% of employment**).
- **The yearly loss in State fiscal revenues** (including Medicaid and CHIP and uncompensated care) **is some \$6.7 billion**, while losses to **local governments include about \$2.9 billion per annum**.
- **Losses are spread across all regions of Texas, and are concentrated in the state’s most populous areas.**



## 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		
	<b>GROSS PRODUCT</b>	<b>EMPLOYMENT</b>
	<i>(Billions of 2015 Dollars)</i>	<i>(Permanent Jobs)</i>
Panhandle	(\$1.539)	(16,334)
South Plains	(\$1.432)	(15,908)
Nortex	(\$1.123)	(12,030)
North Central Texas	(\$20.605)	(210,919)
Ark-Tex	(\$1.224)	(14,367)
East Texas	(\$4.122)	(44,302)
West Central Texas	(\$1.588)	(17,095)
Rio Grande	(\$2.624)	(28,404)
Permian Basin	(\$1.451)	(14,779)
Concho Valley	(\$0.667)	(7,116)
Heart of Texas	(\$1.591)	(17,988)
Capital Area	(\$4.351)	(47,910)
Brazos Valley	(\$0.964)	(10,774)
Deep East Texas	(\$1.797)	(20,916)
South East Texas	(\$1.788)	(20,336)
Houston-Galveston Area	(\$19.842)	(189,901)
Golden Crescent	(\$0.830)	(8,966)
Alamo Area	(\$7.956)	(87,631)
South Texas	(\$0.607)	(6,743)
Coastal Bend	(\$2.334)	(24,496)
Lower Rio Grande Valley	(\$2.617)	(30,614)
Texoma	(\$0.917)	(10,665)
Central Texas	(\$1.344)	(16,025)
Middle Rio Grande	(\$0.475)	(5,605)
Border Region	(\$6.326)	(71,397)
<b>TOTAL STATE</b>	<b>(\$83.790)</b>	<b>(879,824)</b>
Note: Border Region includes Rio Grande, Terrell County, Middle Rio Grande, South Texas, and Lower Rio Grande Valley		
Source: The Perryman Group		

## Screening and Prevention Can Yield Substantial Savings

**It is far less expensive to screen for cancer and treat it in its early stages.**

- Detecting and treating cancer in earlier stages not only improves outcomes, but can also cost less compared to treating cancer in its latter 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 \$21.89 in treatment cost savings and resulting economic benefits through earlier detection.**<sup>7</sup>
- The Perryman Group's analysis also estimates that **every \$1 spent on screening/prevention saves \$1.86 in direct health spending.**

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<sup>7</sup> The reported benefits from screening and prevention are slightly lower than last year but still significantly higher than in 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. Some of these benefits are quantified below.

### CPRIT Investments Generate Economic Activity as Well as Progress toward New Discoveries

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, external research funding, and commercialization of findings.

### CPRIT Operations and Spending Were Linked to 11,346 Jobs in Texas in 2016

**The direct outlays and related “multiplier” effects emanating from CPRIT operations and programs generated a sizable increase in business activity in Texas including \$773.2 million in output (gross product) and 11,346 jobs during fiscal year 2016.**

- 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.

<b>The Current Impact of CPRIT Direct Operations, Prevention and Screening, and Research Programs on Texas Business Activity and Tax Receipts</b> (Monetary Values in Millions of Constant 2016 Dollars)				
<b>ECONOMIC BENEFITS</b>				
	Operations	Prevention & Screening	Research	TOTAL
Total Expenditures	\$28.1	\$100.6	\$1,356.2	<b>\$1,484.9</b>
Gross Product	\$14.2	\$54.8	\$704.2	<b>\$773.2</b>
Personal Income	\$9.8	\$38.3	\$487.8	<b>\$535.9</b>
Retail Sales	\$3.7	\$14.3	\$185.5	<b>\$203.6</b>
Employment (Permanent Jobs)	132	708	10,505	<b>11,346</b>
<b>FISCAL BENEFITS</b>				
State (Texas)	\$0.7	\$2.7	\$36.0	\$39.4
Local Governmental Entities Throughout the State	\$0.3	\$1.5	\$21.8	\$23.6
Note: Columns may not add to total due to rounding. Source: The Perryman Group				

## Secondary Benefits Enhance the Positive Effect of the Institute

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 estimated the total annual net outcomes-related benefits from screening and prevention supported by CPRIT to be \$290.9 million in output (gross product) and 3,054 jobs in 2016 (on a net present value basis assuming typical outcomes from available academic studies<sup>8</sup>). Effects over 10 years are included in the Appendices to this report.

<sup>8</sup> As noted above, although slightly less than last year due to somewhat lower direct spending, these estimates are notably higher than in 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.

- The economic benefits of CPRIT-funded research activity compound over time. Current estimates of these secondary effects stemming from research include \$6.9 billion in output and 64,674 jobs in 2016. These gains are expected to continue to grow substantially in future years as programs continue and benefits cumulate (as indicated in the Appendices).

## The Overall Total Current Impact of CPRIT Operations (including Secondary Effects) Includes a Gain of Some 79,075 Jobs in Texas

**Adding the economic benefits of CPRIT operations, prevention/screening programs, research, outcomes-based prevention/screening, and secondary research effects yields a total gross impact of the Institute's operations of over \$14.9 billion in annual spending.**

- The current total annual impact of all operations, prevention/screening, and research programs (including initial outlays and downstream effects) associated with CPRIT on Texas business activity was found to be almost \$8.0 billion in output and 79,075 jobs. Fiscal benefits are also substantial, as noted in the table below.
- 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 substantial multiple of the commitment of public resources (in addition to the notable economic and health benefits).

<b>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)</b> (Monetary Values in Millions of Constant 2016 Dollars)	
<b>ECONOMIC BENEFITS*</b>	
Total Expenditures	\$14,939.3
Gross Product	\$7,972.3
Personal Income	\$5,313.3
Retail Sales	\$2,035.1
Employment (Permanent Jobs)	79,075
<b>FISCAL BENEFITS</b>	
State (Texas)	\$361.4
Local Governmental Entities Throughout the State	\$166.9
*Based on budgeted operations and reported awards in fiscal year 2016. Source: The Perryman Group	

### CPRIT's Benefits Extend Beyond these Economic Effects

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 2040 would include \$12.7 billion in gross product and about 133,850 permanent jobs. Fiscal benefits of such a reduction in cancer incidence include an estimated \$715.0 million to the State each year and \$330.5 million to local government entities (in constant 2016 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.

- As of September 15, 2016, CPRIT had awarded 1070 grants totaling \$1,675,689,754. CPRIT has enjoyed a number of successes and its programs and grants are helping attract key researchers and companies to Texas. CPRIT's investments have played a critical role in connecting universities, researchers, private companies, hospitals, clinics, and physicians across the Texas in the battle against cancer. CPRIT has recruited 129 cancer researchers and their labs to Texas. CPRIT has also funded more than 1,000 college and graduate level medical students. CPRIT's efforts have resulted in 84 new clinical trials with almost 5,600 patients. CPRIT has at least one active prevention project in all but a few Texas counties which helps Texans all across the State. CPRIT has awarded 29 grants for product development totaling just under \$297 million. With matching funds, the total investment for research and development is \$445 million as well as \$1.28 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 3,000 findings and received or applied for hundreds of patents.<sup>9</sup>
- 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 2040 equivalent to that of the US, incremental gains would include \$18.7 billion in annual gross product and 172,770 jobs. If the state's concentration in the biomedical industry in 2040 reached a level equivalent to California, the incremental economic benefits would include \$25.4 billion in gross product each year and about 230,000 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 **\$125.0 billion in lost gross product and some 1,214,220 lost person-years of employment.** The **gross fiscal losses** over ten years of not extending CPRIT and its programs include almost **\$6.3 billion to the State and \$2.9 billion to local governments.** Note that these losses do

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<sup>9</sup> Achievements Report, September 2016, Cancer Prevention & Research Institute of Texas; CPRIT Overview, September 2016, Cancer Prevention & Research Institute of Texas.

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.

- 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 **\$117.2 billion in lost gross product and some 1,100,761 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.

<b>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)</b> (Monetary Values in Billions of Constant 2016 Dollars)	
<b>ECONOMIC LOSSES*</b>	
Total Expenditures	(\$218.8)
Gross Product	(\$117.2)
Personal Income	(\$77.9)
Retail Sales	(\$29.8)
Employment (Person Years)	(1,100,761)
<b>FISCAL LOSSES</b>	
State (Texas)	(\$5.9)
Local Governmental Entities Throughout the State	(\$2.7)
*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 sizable economic stimulus including some \$8.0 billion in output (gross product) and 79,075 jobs in 2016 (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.
- 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.

November 2016

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:  
**2016 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 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 six 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 recently 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, 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 new Medical School under development in Austin), Texas A&M University, University of Texas Medical Branch, Baylor University, University of Texas Health Science Center at San Antonio, 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, while an analysis of the economics of Medicaid expansion under the Affordable Care Act helped frame the debate over participation.

## 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 35 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 more than 30 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 2016, TPG updated these estimates using a projection model based on population growth and composition, overall inflation, and health 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 \$34.9 billion, up from \$31.3 billion last year and an increase of 59.4% since 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 2015 by payer is provided. The cancer expenditures by Medicaid and CHIP were provided by Strategic 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.

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 ACCRA 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 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 this year’s report are slightly lower than last year but still significantly higher than in previous 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). Spinoff firms from these investments were estimated using information from the Association of University Technology Managers (AUTM) which was fully adjusted for attrition, as well as data from the US Department of Commerce regarding typical firm size (excluding large pharmaceutical manufacturers). 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 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. 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. It should be noted that, at the direction of the Texas Legislature, grant activity was suspended for a substantial portion of Fiscal Year 2013. As a result, impacts that year were substantially lower than in prior years. Fiscal Years 2014, 2015, and 2016 saw a return to more normal conditions, which led to a significant rise in the effects in certain categories relative to 2013.

### *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.

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 2040 equivalent to that of the US.
- Scenario II presumes Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2040 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 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.

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 and the Regional Input-Output Modeling System, both of which are 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 2010 and \$1 million in 2011, it is appropriate to say that \$2 million was achieved in the 2010-2011 period. If the same area has 100 people working in 2010 and 100 in 2011, 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 Sectoral 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 Detailed Industrial Category**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	(\$886,437,938)	(\$243,000,018)	(\$159,858,180)	(2,508)
<b>Mining</b>	(\$1,443,077,167)	(\$329,676,453)	(\$169,100,080)	(892)
<b>Construction</b>	(\$1,220,064,388)	(\$621,950,531)	(\$512,526,086)	(7,248)
<b>Nondurable Manufacturing</b>	(\$5,309,565,576)	(\$1,496,641,838)	(\$778,907,581)	(12,284)
<b>Durable Manufacturing</b>	(\$1,848,555,916)	(\$738,112,299)	(\$481,817,358)	(6,255)
<b>Transportation and Utilities</b>	(\$5,618,429,948)	(\$1,931,346,975)	(\$1,159,279,466)	(13,877)
<b>Information</b>	(\$1,175,303,845)	(\$720,573,656)	(\$311,221,937)	(2,891)
<b>Wholesale Trade</b>	(\$1,565,211,882)	(\$1,059,052,710)	(\$610,659,126)	(6,853)
<b>Retail Trade (including Restaurants)</b>	(\$6,289,186,456)	(\$4,719,726,433)	(\$2,744,035,194)	(84,466)
<b>FIRE</b>	(\$9,174,130,207)	(\$3,138,477,860)	(\$1,320,561,388)	(14,425)
<b>Business Services</b>	(\$2,826,727,677)	(\$1,797,955,819)	(\$1,466,671,207)	(17,936)
<b>Health Services</b>	(\$8,230,604,881)	(\$6,087,690,511)	(\$5,147,198,645)	(85,582)
<b>Other Services</b>	(\$2,923,950,637)	(\$1,508,458,744)	(\$1,204,107,688)	(28,794)
<b>TOTAL</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(284,012)</b>

Source: The Perryman Group



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

<b>Economic Region</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Real Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>High Plains</b>	(\$1,654,478,866)	(\$855,305,814)	(\$563,838,189)	(\$243,026,881)	-10,188
<b>Northwest Texas</b>	(\$1,353,887,339)	(\$709,051,137)	(\$472,164,715)	(\$210,556,140)	-8,645
<b>Metroplex</b>	(\$12,620,286,309)	(\$6,328,866,275)	(\$4,127,166,740)	(\$1,552,449,978)	-72,083
<b>Upper East Texas</b>	(\$2,903,737,781)	(\$1,500,763,375)	(\$1,004,219,023)	(\$430,194,308)	-18,266
<b>Southeast Texas</b>	(\$1,975,416,266)	(\$1,031,774,267)	(\$699,590,990)	(\$310,192,520)	-12,769
<b>Gulf Coast</b>	(\$11,772,183,366)	(\$5,584,034,001)	(\$3,653,200,531)	(\$1,250,323,707)	-62,043
<b>Capital</b>	(\$2,616,835,351)	(\$1,383,000,439)	(\$912,466,862)	(\$371,975,214)	-16,244
<b>Central Texas</b>	(\$2,219,711,983)	(\$1,158,385,776)	(\$771,169,676)	(\$332,366,357)	-14,145
<b>Alamo</b>	(\$5,155,089,097)	(\$2,652,713,552)	(\$1,753,961,266)	(\$700,202,953)	-31,377
<b>South Texas</b>	(\$3,522,755,131)	(\$1,819,865,954)	(\$1,215,778,461)	(\$522,622,351)	-22,294
<b>West Texas</b>	(\$1,100,063,081)	(\$554,956,044)	(\$364,893,190)	(\$165,229,842)	-6,617
<b>Upper Rio Grande</b>	(\$1,616,801,948)	(\$813,947,209)	(\$527,494,294)	(\$200,046,205)	-9,341
<b>TOTAL STATE IMPACT</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>-284,012</b>

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



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

<b>COG</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Real Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Panhandle	(\$837,777,763)	(\$425,682,243)	(\$279,806,551)	(\$124,755,131)	-5,071
South Plains	(\$816,701,103)	(\$429,623,571)	(\$284,031,637)	(\$118,271,750)	-5,117
Nortex	(\$542,810,317)	(\$288,732,358)	(\$193,361,893)	(\$87,405,840)	-3,547
North Central Texas	(\$12,101,984,740)	(\$6,054,383,477)	(\$3,942,650,497)	(\$1,471,896,327)	-68,697
Ark-Tex	(\$673,626,276)	(\$352,120,200)	(\$237,868,230)	(\$106,811,560)	-4,374
East Texas	(\$2,230,111,505)	(\$1,148,643,175)	(\$766,350,793)	(\$323,382,748)	-13,891
West Central Texas	(\$811,077,022)	(\$420,318,780)	(\$278,802,822)	(\$123,150,300)	-5,098
Rio Grande	(\$1,616,801,948)	(\$813,947,209)	(\$527,494,294)	(\$200,046,205)	-9,341
Permian Basin	(\$738,488,660)	(\$372,735,106)	(\$246,258,924)	(\$112,541,668)	-4,439
Concho Valley	(\$361,574,421)	(\$182,220,939)	(\$118,634,266)	(\$52,688,174)	-2,178
Heart of Texas	(\$915,062,027)	(\$465,202,718)	(\$306,432,135)	(\$126,945,837)	-5,586
Capital Area	(\$2,616,835,351)	(\$1,383,000,439)	(\$912,466,862)	(\$371,975,214)	-16,244
Brazos Valley	(\$532,882,688)	(\$277,797,269)	(\$184,507,805)	(\$83,579,147)	-3,395
Deep East Texas	(\$1,002,404,855)	(\$529,536,339)	(\$357,958,447)	(\$161,300,975)	-6,596
South East Texas	(\$973,011,410)	(\$502,237,928)	(\$341,632,542)	(\$148,891,545)	-6,173
Houston-Galveston Area	(\$11,772,183,366)	(\$5,584,034,001)	(\$3,653,200,531)	(\$1,250,323,707)	-62,043
Golden Crescent	(\$448,125,152)	(\$229,540,723)	(\$154,253,796)	(\$67,947,699)	-2,801
Alamo Area	(\$4,707,933,042)	(\$2,423,594,374)	(\$1,599,961,535)	(\$632,367,789)	-28,580
South Texas	(\$337,579,931)	(\$180,473,140)	(\$121,947,640)	(\$57,954,469)	-2,283
Coastal Bend	(\$1,309,191,589)	(\$642,341,898)	(\$426,459,669)	(\$184,985,948)	-7,693
Lower Rio Grande Valley	(\$1,611,822,424)	(\$855,108,406)	(\$571,772,950)	(\$236,648,414)	-10,532
Texoma	(\$518,301,569)	(\$274,482,798)	(\$184,516,244)	(\$80,553,650)	-3,386
Central Texas	(\$771,767,268)	(\$415,385,790)	(\$280,229,736)	(\$121,841,373)	-5,164
Middle Rio Grande	(\$263,192,090)	(\$141,520,967)	(\$95,344,138)	(\$42,920,984)	-1,782
<b>Border Region</b>	<b>(\$3,831,284,722)</b>	<b>(\$1,992,089,278)</b>	<b>(\$1,317,254,027)</b>	<b>(\$537,923,764)</b>	<b>-23,951</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>-284,012</b>

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



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

MSA	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Real Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Abilene	(\$396,170,717)	(\$201,221,342)	(\$132,642,722)	(\$53,210,703)	-2,372
Amarillo	(\$554,977,756)	(\$290,284,978)	(\$191,602,753)	(\$79,276,905)	-3,440
Austin-Round Rock	(\$2,252,106,214)	(\$1,198,112,928)	(\$791,066,000)	(\$319,312,778)	-14,035
Beaumont-Port Arthur	(\$989,918,539)	(\$512,331,943)	(\$348,730,151)	(\$152,709,890)	-6,306
Brownsville-Harlingen	(\$652,547,966)	(\$338,728,327)	(\$224,230,994)	(\$92,407,402)	-4,128
College Station-Bryan	(\$343,686,693)	(\$177,982,864)	(\$118,176,554)	(\$51,719,368)	-2,167
Corpus Christi	(\$1,037,676,233)	(\$499,863,611)	(\$330,722,007)	(\$138,787,697)	-5,905
Dallas-Plano-Irving MD*	(\$7,358,262,378)	(\$3,662,933,332)	(\$2,367,861,875)	(\$854,654,750)	-40,720
Fort Worth-Arlington MD*	(\$4,467,285,493)	(\$2,249,859,045)	(\$1,480,179,324)	(\$575,631,423)	-26,230
El Paso	(\$1,571,671,448)	(\$790,182,417)	(\$511,764,079)	(\$192,465,694)	-9,050
Houston-The Woodlands-Sugar Land	(\$11,321,734,469)	(\$5,347,692,739)	(\$3,494,077,429)	(\$1,175,819,381)	-59,072
Killeen-Temple	(\$668,909,993)	(\$361,179,328)	(\$243,534,921)	(\$103,918,359)	-4,478
Laredo	(\$256,342,406)	(\$135,633,818)	(\$90,997,283)	(\$41,807,155)	-1,686
Longview	(\$543,148,739)	(\$281,563,669)	(\$189,618,479)	(\$80,841,549)	-3,425
Lubbock	(\$633,154,835)	(\$336,213,973)	(\$222,845,513)	(\$86,289,934)	-3,971
McAllen-Edinburg-Mission	(\$927,253,434)	(\$498,624,204)	(\$335,710,631)	(\$138,371,292)	-6,180
Midland	(\$230,879,291)	(\$117,122,058)	(\$76,561,642)	(\$33,366,733)	-1,349
Odessa	(\$263,371,874)	(\$134,854,716)	(\$91,121,986)	(\$39,089,290)	-1,639
San Angelo	(\$260,185,171)	(\$130,792,318)	(\$84,806,831)	(\$35,746,198)	-1,553
San Antonio-New Braunfels	(\$4,396,113,689)	(\$2,263,537,446)	(\$1,493,896,160)	(\$585,300,172)	-26,627
Sherman-Denison	(\$320,751,059)	(\$173,712,931)	(\$117,257,975)	(\$50,600,247)	-2,162
Texarkana	(\$223,891,776)	(\$120,853,165)	(\$81,829,776)	(\$34,532,870)	-1,488
Tyler	(\$573,951,151)	(\$290,727,320)	(\$189,521,724)	(\$77,386,420)	-3,407
Victoria	(\$234,512,928)	(\$119,444,306)	(\$80,443,265)	(\$34,372,996)	-1,440
Waco	(\$659,466,901)	(\$334,236,165)	(\$218,773,087)	(\$86,575,242)	-3,951
Wichita Falls	(\$336,960,956)	(\$182,937,442)	(\$123,080,041)	(\$53,829,321)	-2,245
Rural Area	(\$7,036,314,409)	(\$3,642,037,460)	(\$2,434,890,734)	(\$1,121,162,689)	-44,984
<b>TOTAL STATE IMPACT</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>-284,012</b>

\*Metropolitan Division  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Anderson	(\$115,791,558)	(\$63,799,516)	(\$43,374,184)	(\$18,097,272)	(787)
Andrews	(\$23,399,602)	(\$11,551,019)	(\$7,371,215)	(\$3,725,378)	(131)
Angelina	(\$219,011,193)	(\$114,593,647)	(\$76,995,258)	(\$33,333,812)	(1,413)
Aransas	(\$93,633,422)	(\$43,370,338)	(\$27,631,643)	(\$13,829,135)	(508)
Archer	(\$15,060,285)	(\$7,445,591)	(\$4,767,840)	(\$2,624,379)	(90)
Armstrong	(\$5,669,851)	(\$2,942,499)	(\$2,020,593)	(\$608,808)	(35)
Atascosa	(\$91,403,756)	(\$45,268,094)	(\$30,290,516)	(\$12,710,015)	(540)
Austin	(\$64,433,193)	(\$30,295,417)	(\$19,377,034)	(\$8,016,434)	(329)
Bailey	(\$8,866,359)	(\$4,548,478)	(\$2,851,162)	(\$1,600,501)	(52)
Bandera	(\$59,565,277)	(\$29,705,232)	(\$19,222,824)	(\$9,512,527)	(357)
Bastrop	(\$152,601,666)	(\$75,946,601)	(\$49,459,566)	(\$23,421,599)	(914)
Baylor	(\$14,501,488)	(\$7,814,291)	(\$5,277,683)	(\$2,318,179)	(96)
Bee	(\$47,061,066)	(\$25,382,463)	(\$17,288,235)	(\$7,993,720)	(323)
Bell	(\$499,494,659)	(\$272,188,283)	(\$184,118,164)	(\$76,899,586)	(3,364)
Bexar	(\$3,527,145,295)	(\$1,827,903,316)	(\$1,207,942,983)	(\$451,964,924)	(21,305)
Blanco	(\$24,149,453)	(\$11,962,580)	(\$7,735,284)	(\$3,495,116)	(142)
Borden	(\$6,554,832)	(\$2,984,834)	(\$1,789,426)	(\$900,214)	(30)
Bosque	(\$53,818,124)	(\$28,069,228)	(\$18,992,596)	(\$7,036,783)	(341)
Bowie	(\$223,891,776)	(\$120,853,165)	(\$81,829,776)	(\$34,532,870)	(1,488)
Brazoria	(\$496,964,356)	(\$241,420,451)	(\$159,982,153)	(\$77,588,656)	(2,945)
Brazos	(\$257,096,827)	(\$133,125,562)	(\$88,188,961)	(\$35,891,802)	(1,603)
Brewster	(\$20,361,935)	(\$11,320,669)	(\$7,653,797)	(\$3,277,425)	(140)
Briscoe	(\$3,618,145)	(\$1,627,911)	(\$1,001,697)	(\$635,231)	(19)
Brooks	(\$12,225,063)	(\$6,913,635)	(\$4,841,150)	(\$2,398,116)	(92)
Brown	(\$96,117,892)	(\$54,046,636)	(\$36,753,203)	(\$17,186,498)	(699)
Burleson	(\$43,416,953)	(\$22,592,952)	(\$15,027,470)	(\$7,993,720)	(280)
Burnet	(\$114,804,434)	(\$57,316,684)	(\$37,325,501)	(\$16,467,063)	(678)
Caldwell	(\$82,748,450)	(\$42,136,445)	(\$28,692,702)	(\$12,310,329)	(524)
Calhoun	(\$29,636,970)	(\$12,358,444)	(\$7,957,470)	(\$4,014,184)	(145)
Callahan	(\$39,620,185)	(\$19,338,406)	(\$12,687,623)	(\$5,995,290)	(232)
Cameron	(\$652,547,966)	(\$338,728,327)	(\$224,230,994)	(\$92,407,402)	(4,128)
Camp	(\$27,664,528)	(\$14,601,146)	(\$9,984,815)	(\$3,901,412)	(182)
Carson	(\$6,521,338)	(\$2,578,052)	(\$1,510,082)	(\$499,230)	(25)
Cass	(\$75,467,442)	(\$39,259,691)	(\$26,635,277)	(\$13,275,042)	(497)
Castro	(\$7,578,972)	(\$3,470,887)	(\$2,175,370)	(\$1,308,010)	(42)
Chambers	(\$57,420,448)	(\$22,971,161)	(\$14,330,780)	(\$6,634,514)	(255)
Cherokee	(\$115,459,687)	(\$62,030,319)	(\$42,670,575)	(\$18,006,195)	(786)
Childress	(\$15,954,095)	(\$8,333,351)	(\$5,635,236)	(\$2,717,865)	(107)
Clay	(\$26,719,880)	(\$13,561,465)	(\$9,207,936)	(\$3,802,183)	(164)
Cochran	(\$3,480,521)	(\$1,657,383)	(\$1,060,771)	(\$480,468)	(19)
Coke	(\$11,095,023)	(\$5,381,846)	(\$3,473,690)	(\$1,843,478)	(63)
Coleman	(\$29,920,855)	(\$15,695,854)	(\$10,530,550)	(\$4,716,295)	(192)

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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Collin	(\$1,028,314,012)	(\$535,759,181)	(\$353,437,314)	(\$144,975,782)	(6,241)
Collingsworth	(\$6,937,467)	(\$3,742,179)	(\$2,499,639)	(\$1,302,782)	(46)
Colorado	(\$65,843,679)	(\$34,070,276)	(\$22,989,148)	(\$10,618,045)	(437)
Comal	(\$256,144,825)	(\$130,576,630)	(\$85,785,237)	(\$37,010,923)	(1,594)
Comanche	(\$40,161,919)	(\$21,302,097)	(\$14,393,659)	(\$5,961,609)	(260)
Concho	(\$6,871,197)	(\$3,754,828)	(\$2,639,494)	(\$1,006,210)	(48)
Cooke	(\$97,985,479)	(\$47,809,200)	(\$31,600,471)	(\$15,268,005)	(576)
Coryell	(\$109,237,492)	(\$57,540,536)	(\$38,351,591)	(\$17,426,309)	(718)
Cottle	(\$5,728,906)	(\$3,273,118)	(\$2,213,896)	(\$930,845)	(39)
Crane	(\$4,555,304)	(\$2,472,768)	(\$1,716,686)	(\$632,583)	(31)
Crockett	(\$5,632,906)	(\$2,818,657)	(\$1,796,854)	(\$1,278,995)	(36)
Crosby	(\$12,911,158)	(\$7,146,666)	(\$4,901,769)	(\$1,506,313)	(86)
Culberson	(\$3,467,672)	(\$1,971,270)	(\$1,321,452)	(\$879,309)	(27)
Dallam	(\$8,888,976)	(\$4,516,564)	(\$2,832,413)	(\$1,304,784)	(52)
Dallas	(\$4,671,387,351)	(\$2,291,871,765)	(\$1,465,745,880)	(\$477,644,755)	(24,578)
Dawson	(\$26,781,743)	(\$12,890,767)	(\$7,921,547)	(\$4,610,796)	(149)
Deaf Smith	(\$19,427,577)	(\$9,296,156)	(\$5,919,216)	(\$2,496,892)	(106)
Delta	(\$12,521,403)	(\$6,621,281)	(\$4,583,353)	(\$1,262,260)	(78)
Denton	(\$908,874,687)	(\$455,701,644)	(\$297,570,276)	(\$116,068,813)	(5,252)
DeWitt	(\$59,255,666)	(\$31,328,887)	(\$21,191,267)	(\$8,952,966)	(387)
Dickens	(\$6,478,065)	(\$3,342,580)	(\$2,194,636)	(\$1,161,044)	(40)
Dimmit	(\$13,901,619)	(\$7,380,657)	(\$5,101,799)	(\$2,557,990)	(97)
Donley	(\$11,595,473)	(\$6,601,769)	(\$4,581,552)	(\$2,318,179)	(89)
Duval	(\$21,163,465)	(\$10,768,294)	(\$7,343,506)	(\$2,820,152)	(133)
Eastland	(\$50,710,949)	(\$25,606,761)	(\$17,064,640)	(\$8,713,155)	(325)
Ector	(\$263,371,874)	(\$134,854,716)	(\$91,121,986)	(\$39,089,290)	(1,639)
Edwards	(\$3,814,701)	(\$1,835,230)	(\$1,099,450)	(\$650,920)	(20)
El Paso	(\$1,569,213,639)	(\$788,970,734)	(\$511,046,635)	(\$191,769,341)	(9,035)
Ellis	(\$246,428,545)	(\$118,518,784)	(\$76,466,470)	(\$37,067,385)	(1,415)
Erath	(\$68,924,607)	(\$38,133,404)	(\$26,142,539)	(\$12,070,517)	(493)
Falls	(\$46,710,527)	(\$25,396,417)	(\$17,313,103)	(\$6,957,791)	(313)
Fannin	(\$99,565,031)	(\$52,960,666)	(\$35,657,798)	(\$14,685,398)	(648)
Fayette	(\$90,547,486)	(\$46,650,473)	(\$30,890,806)	(\$12,470,203)	(557)
Fisher	(\$10,580,143)	(\$5,796,720)	(\$3,900,052)	(\$1,747,616)	(72)
Floyd	(\$10,797,393)	(\$5,071,000)	(\$3,224,575)	(\$1,243,709)	(57)
Foard	(\$2,730,749)	(\$1,557,006)	(\$1,099,302)	(\$414,952)	(20)
Fort Bend	(\$830,519,490)	(\$393,168,199)	(\$252,758,007)	(\$108,491,520)	(4,430)
Franklin	(\$21,141,010)	(\$10,847,729)	(\$7,285,936)	(\$3,285,861)	(134)
Freestone	(\$45,145,836)	(\$22,537,789)	(\$14,747,146)	(\$7,993,720)	(278)
Frio	(\$29,618,889)	(\$14,712,008)	(\$9,706,756)	(\$4,268,618)	(176)
Gaines	(\$17,373,879)	(\$7,805,674)	(\$4,803,938)	(\$2,624,680)	(87)
Galveston	(\$761,575,196)	(\$378,366,849)	(\$250,487,244)	(\$103,039,050)	(4,485)

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County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Garza	(\$9,269,706)	(\$4,324,161)	(\$2,745,769)	(\$1,607,987)	(51)
Gillespie	(\$86,010,042)	(\$44,196,854)	(\$29,527,000)	(\$12,789,952)	(543)
Glasscock	(\$881,935)	(\$377,516)	(\$224,137)	(\$76,817)	(4)
Goliad	(\$15,684,455)	(\$8,453,779)	(\$5,841,952)	(\$3,277,425)	(113)
Gonzales	(\$33,631,065)	(\$17,798,476)	(\$12,133,777)	(\$5,318,676)	(224)
Gray	(\$65,034,799)	(\$32,220,198)	(\$21,784,431)	(\$10,191,571)	(398)
Grayson	(\$320,751,059)	(\$173,712,931)	(\$117,257,975)	(\$50,600,247)	(2,162)
Gregg	(\$322,988,292)	(\$171,984,557)	(\$116,693,625)	(\$47,722,508)	(2,102)
Grimes	(\$40,104,080)	(\$20,781,746)	(\$13,993,540)	(\$6,806,317)	(261)
Guadalupe	(\$204,317,951)	(\$102,091,759)	(\$66,454,028)	(\$35,412,179)	(1,266)
Hale	(\$52,261,201)	(\$28,855,583)	(\$19,488,146)	(\$10,000,797)	(372)
Hall	(\$10,091,906)	(\$5,180,407)	(\$3,340,208)	(\$1,532,644)	(60)
Hamilton	(\$21,898,502)	(\$11,524,668)	(\$7,830,574)	(\$3,757,048)	(147)
Hansford	(\$5,598,371)	(\$2,258,323)	(\$1,323,093)	(\$663,529)	(23)
Hardeman	(\$9,971,644)	(\$5,427,789)	(\$3,610,851)	(\$2,158,304)	(72)
Hardin	(\$123,835,438)	(\$62,411,046)	(\$41,057,477)	(\$20,304,049)	(758)
Harris	(\$7,943,229,399)	(\$3,704,564,665)	(\$2,413,683,034)	(\$721,473,877)	(39,857)
Harrison	(\$172,831,673)	(\$83,515,030)	(\$56,151,291)	(\$21,003,391)	(976)
Hartley	(\$2,411,627)	(\$1,152,426)	(\$740,790)	(\$349,027)	(14)
Haskell	(\$15,655,556)	(\$8,321,218)	(\$5,751,894)	(\$2,342,182)	(103)
Hays	(\$216,209,086)	(\$113,870,703)	(\$75,386,572)	(\$32,614,377)	(1,379)
Hemphill	(\$3,870,855)	(\$1,775,421)	(\$1,130,552)	(\$524,851)	(20)
Henderson	(\$276,116,940)	(\$140,629,700)	(\$92,914,324)	(\$39,568,914)	(1,697)
Hidalgo	(\$927,253,434)	(\$498,624,204)	(\$335,710,631)	(\$138,371,292)	(6,180)
Hill	(\$100,917,101)	(\$50,624,904)	(\$33,348,936)	(\$15,667,691)	(636)
Hockley	(\$35,175,784)	(\$17,957,018)	(\$12,125,785)	(\$5,966,045)	(229)
Hood	(\$162,770,138)	(\$82,786,964)	(\$55,232,507)	(\$24,380,846)	(1,009)
Hopkins	(\$78,056,096)	(\$40,450,364)	(\$26,850,064)	(\$14,148,884)	(506)
Houston	(\$77,929,431)	(\$39,495,238)	(\$26,694,611)	(\$8,994,232)	(457)
Howard	(\$82,269,845)	(\$41,266,134)	(\$27,672,425)	(\$12,230,391)	(504)
Hudspeth	(\$2,457,809)	(\$1,211,683)	(\$717,444)	(\$696,353)	(16)
Hunt	(\$188,547,182)	(\$98,189,068)	(\$65,517,265)	(\$31,735,068)	(1,225)
Hutchinson	(\$45,488,958)	(\$20,668,024)	(\$13,277,090)	(\$9,219,000)	(256)
Irion	(\$3,049,390)	(\$1,198,488)	(\$692,807)	(\$413,956)	(12)
Jack	(\$16,670,018)	(\$7,985,801)	(\$5,170,956)	(\$2,947,184)	(96)
Jackson	(\$27,698,899)	(\$13,911,766)	(\$8,957,272)	(\$5,133,766)	(169)
Jasper	(\$93,288,527)	(\$50,121,180)	(\$34,151,861)	(\$15,771,239)	(639)
Jeff Davis	(\$7,220,428)	(\$3,756,751)	(\$2,518,075)	(\$1,105,599)	(46)
Jefferson	(\$648,428,968)	(\$337,202,923)	(\$230,837,631)	(\$95,524,953)	(4,128)
Jim Hogg	(\$9,053,131)	(\$4,498,414)	(\$2,829,714)	(\$1,918,493)	(55)
Jim Wells	(\$72,989,703)	(\$40,508,938)	(\$27,394,813)	(\$12,470,203)	(506)
Johnson	(\$311,565,140)	(\$160,940,788)	(\$108,519,289)	(\$46,283,638)	(1,990)

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Jones	(\$51,370,478)	(\$26,556,421)	(\$17,873,889)	(\$7,166,876)	(324)
Karnes	(\$38,974,038)	(\$18,626,468)	(\$12,270,425)	(\$5,515,667)	(222)
Kaufman	(\$203,157,591)	(\$104,622,787)	(\$70,120,659)	(\$31,015,633)	(1,306)
Kendall	(\$80,447,201)	(\$39,128,235)	(\$25,480,902)	(\$11,910,643)	(467)
Kenedy	(\$2,170,333)	(\$1,013,079)	(\$644,439)	(\$611,698)	(16)
Kent	(\$2,486,105)	(\$1,133,745)	(\$694,506)	(\$361,051)	(12)
Kerr	(\$156,247,287)	(\$82,100,053)	(\$54,307,129)	(\$24,380,846)	(1,007)
Kimble	(\$14,146,601)	(\$6,416,174)	(\$3,976,356)	(\$2,158,304)	(74)
King	(\$3,034,907)	(\$1,428,565)	(\$886,428)	(\$321,846)	(15)
Kinney	(\$11,173,492)	(\$5,320,013)	(\$3,315,102)	(\$1,721,839)	(62)
Kleberg	(\$61,087,543)	(\$31,394,767)	(\$21,081,466)	(\$9,352,652)	(389)
Knox	(\$9,600,567)	(\$5,090,342)	(\$3,437,429)	(\$1,282,706)	(60)
La Salle	(\$9,035,709)	(\$4,899,702)	(\$3,335,955)	(\$1,678,681)	(64)
Lamar	(\$137,963,073)	(\$71,380,485)	(\$48,403,372)	(\$21,647,249)	(896)
Lamb	(\$20,584,608)	(\$9,857,925)	(\$6,433,416)	(\$3,073,165)	(116)
Lampasas	(\$60,177,842)	(\$31,450,510)	(\$21,065,166)	(\$9,592,464)	(397)
Lavaca	(\$63,389,624)	(\$34,698,844)	(\$23,570,745)	(\$10,155,111)	(436)
Lee	(\$37,633,351)	(\$18,785,649)	(\$12,314,674)	(\$5,601,547)	(223)
Leon	(\$35,921,243)	(\$18,360,493)	(\$11,572,777)	(\$7,451,958)	(223)
Liberty	(\$178,665,081)	(\$93,686,273)	(\$63,743,672)	(\$26,629,380)	(1,145)
Limestone	(\$55,714,065)	(\$29,734,632)	(\$20,570,370)	(\$9,672,401)	(381)
Lipscomb	(\$6,182,510)	(\$2,697,349)	(\$1,632,185)	(\$707,412)	(29)
Live Oak	(\$38,917,473)	(\$18,727,141)	(\$12,325,830)	(\$6,714,725)	(231)
Llano	(\$97,594,413)	(\$50,172,126)	(\$33,134,596)	(\$14,628,507)	(610)
Loving	(\$1,028,964)	(\$339,191)	(\$214,128)	(\$112,296)	(4)
Lubbock	(\$611,710,295)	(\$324,902,225)	(\$215,327,842)	(\$83,934,059)	(3,841)
Lynn	(\$8,533,382)	(\$4,165,082)	(\$2,615,901)	(\$849,562)	(44)
Madison	(\$25,995,898)	(\$13,711,112)	(\$9,154,416)	(\$4,476,483)	(173)
Marion	(\$34,102,025)	(\$17,693,159)	(\$11,976,761)	(\$5,595,604)	(227)
Martin	(\$7,349,540)	(\$3,619,801)	(\$2,430,061)	(\$949,277)	(42)
Mason	(\$15,047,848)	(\$7,572,092)	(\$4,967,510)	(\$2,238,242)	(91)
Matagorda	(\$80,949,657)	(\$37,895,363)	(\$24,875,297)	(\$14,338,295)	(469)
Maverick	(\$68,977,136)	(\$36,332,369)	(\$24,287,319)	(\$11,191,208)	(460)
McCulloch	(\$25,301,330)	(\$13,450,814)	(\$9,151,302)	(\$4,076,797)	(167)
McLennan	(\$612,756,374)	(\$308,839,748)	(\$201,459,984)	(\$79,617,450)	(3,637)
McMullen	(\$969,096)	(\$421,544)	(\$254,065)	(\$112,535)	(4)
Medina	(\$90,560,982)	(\$44,784,447)	(\$29,169,935)	(\$13,589,324)	(546)
Menard	(\$6,465,754)	(\$3,282,141)	(\$2,069,802)	(\$1,278,995)	(39)
Midland	(\$223,529,751)	(\$113,502,258)	(\$74,131,581)	(\$32,417,455)	(1,307)
Milam	(\$54,956,195)	(\$28,005,963)	(\$18,947,990)	(\$9,359,379)	(352)
Mills	(\$11,035,999)	(\$6,564,151)	(\$4,553,835)	(\$2,088,722)	(85)
Mitchell	(\$19,831,117)	(\$10,614,726)	(\$7,183,756)	(\$3,244,816)	(131)

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Montague	(\$62,554,117)	(\$31,402,717)	(\$20,789,501)	(\$9,352,652)	(387)
Montgomery	(\$923,025,308)	(\$453,990,892)	(\$301,740,760)	(\$113,554,114)	(5,281)
Moore	(\$29,066,044)	(\$12,356,415)	(\$7,770,401)	(\$4,000,508)	(140)
Morris	(\$30,899,134)	(\$14,103,069)	(\$9,452,696)	(\$3,355,632)	(165)
Motley	(\$4,606,303)	(\$2,237,417)	(\$1,414,286)	(\$686,955)	(26)
Nacogdoches	(\$129,740,489)	(\$70,546,204)	(\$48,391,528)	(\$22,142,604)	(918)
Navarro	(\$125,453,206)	(\$64,131,874)	(\$43,172,645)	(\$17,229,308)	(786)
Newton	(\$16,907,129)	(\$10,094,015)	(\$7,097,608)	(\$3,818,345)	(133)
Nolan	(\$43,736,061)	(\$22,861,561)	(\$15,021,328)	(\$6,949,775)	(275)
Nueces	(\$803,862,731)	(\$387,569,126)	(\$256,418,890)	(\$102,159,740)	(4,526)
Ochiltree	(\$11,152,178)	(\$5,091,307)	(\$3,229,292)	(\$1,688,090)	(58)
Oldham	(\$1,313,278)	(\$708,001)	(\$463,999)	(\$371,597)	(10)
Orange	(\$200,747,004)	(\$102,623,959)	(\$69,737,435)	(\$33,062,543)	(1,287)
Palo Pinto	(\$82,059,056)	(\$39,325,822)	(\$25,294,114)	(\$12,310,329)	(468)
Panola	(\$58,688,168)	(\$29,677,527)	(\$20,122,884)	(\$8,894,590)	(365)
Parker	(\$239,303,994)	(\$113,894,855)	(\$72,487,371)	(\$35,092,430)	(1,336)
Parmer	(\$6,354,161)	(\$2,750,968)	(\$1,784,994)	(\$477,192)	(30)
Pecos	(\$22,504,136)	(\$11,335,150)	(\$7,434,782)	(\$4,076,797)	(142)
Polk	(\$171,266,986)	(\$90,101,629)	(\$59,945,497)	(\$29,177,078)	(1,100)
Potter	(\$289,960,489)	(\$152,136,455)	(\$101,233,201)	(\$39,808,725)	(1,800)
Presidio	(\$14,080,465)	(\$6,716,103)	(\$4,236,891)	(\$2,318,179)	(79)
Rains	(\$24,115,254)	(\$11,000,068)	(\$6,661,651)	(\$4,441,322)	(126)
Randall	(\$251,512,800)	(\$131,919,972)	(\$86,374,878)	(\$37,988,545)	(1,569)
Reagan	(\$3,213,477)	(\$1,572,851)	(\$960,882)	(\$687,491)	(18)
Real	(\$13,536,020)	(\$6,534,294)	(\$4,272,179)	(\$1,918,493)	(77)
Red River	(\$43,740,432)	(\$22,726,592)	(\$15,155,389)	(\$6,286,213)	(278)
Reeves	(\$20,901,996)	(\$10,406,917)	(\$6,798,227)	(\$4,156,734)	(133)
Refugio	(\$15,900,710)	(\$7,769,971)	(\$4,818,223)	(\$3,836,986)	(98)
Roberts	(\$1,348,245)	(\$584,620)	(\$348,843)	(\$313,290)	(7)
Robertson	(\$43,172,913)	(\$22,264,349)	(\$14,960,122)	(\$7,833,846)	(284)
Rockwall	(\$111,553,009)	(\$58,270,102)	(\$39,004,011)	(\$16,147,314)	(703)
Runnels	(\$32,522,703)	(\$14,927,150)	(\$9,558,927)	(\$4,451,392)	(176)
Rusk	(\$118,146,457)	(\$58,101,893)	(\$39,189,289)	(\$16,651,978)	(706)
Sabine	(\$35,375,508)	(\$18,251,607)	(\$12,714,377)	(\$5,889,866)	(236)
San Augustine	(\$30,199,427)	(\$15,253,347)	(\$10,215,845)	(\$4,188,428)	(185)
San Jacinto	(\$66,504,326)	(\$33,481,314)	(\$22,111,718)	(\$10,871,459)	(411)
San Patricio	(\$140,180,080)	(\$68,924,147)	(\$46,671,474)	(\$22,798,821)	(871)
San Saba	(\$14,966,578)	(\$8,111,679)	(\$5,362,414)	(\$2,717,865)	(102)
Schleicher	(\$4,558,977)	(\$2,413,990)	(\$1,692,007)	(\$454,970)	(29)
Scurry	(\$30,688,724)	(\$16,184,983)	(\$10,251,737)	(\$6,361,598)	(198)
Shackelford	(\$6,073,485)	(\$3,017,721)	(\$1,976,765)	(\$1,014,690)	(37)
Shelby	(\$52,656,645)	(\$28,587,820)	(\$19,877,537)	(\$8,960,919)	(369)



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Sherman	(\$1,496,481)	(\$626,661)	(\$378,656)	(\$187,798)	(7)
Smith	(\$573,951,151)	(\$290,727,320)	(\$189,521,724)	(\$77,386,420)	(3,407)
Somervell	(\$10,425,914)	(\$5,158,855)	(\$3,577,311)	(\$1,042,836)	(63)
Starr	(\$55,590,275)	(\$31,584,924)	(\$22,181,886)	(\$11,031,333)	(427)
Stephens	(\$20,702,316)	(\$11,252,401)	(\$7,488,780)	(\$4,450,821)	(144)
Sterling	(\$1,578,583)	(\$881,633)	(\$589,407)	(\$399,686)	(12)
Stonewall	(\$3,494,069)	(\$1,935,728)	(\$1,314,903)	(\$729,899)	(25)
Sutton	(\$7,477,554)	(\$3,883,596)	(\$2,510,129)	(\$1,518,807)	(48)
Swisher	(\$10,482,056)	(\$4,824,627)	(\$3,020,438)	(\$1,468,966)	(56)
Tarrant	(\$3,644,861,483)	(\$1,837,143,372)	(\$1,207,717,839)	(\$451,884,986)	(21,228)
Taylor	(\$305,180,054)	(\$155,326,515)	(\$102,081,210)	(\$40,048,537)	(1,816)
Terrell	(\$1,888,329)	(\$1,039,556)	(\$695,006)	(\$353,691)	(13)
Terry	(\$19,341,991)	(\$9,558,383)	(\$5,861,730)	(\$3,982,579)	(114)
Throckmorton	(\$2,623,844)	(\$1,309,793)	(\$837,971)	(\$425,494)	(15)
Titus	(\$49,945,910)	(\$25,877,825)	(\$17,672,368)	(\$9,017,549)	(333)
Tom Green	(\$257,135,780)	(\$129,593,830)	(\$84,114,024)	(\$35,332,242)	(1,541)
Travis	(\$1,426,051,532)	(\$765,541,818)	(\$504,096,301)	(\$190,122,761)	(8,792)
Trinity	(\$51,003,137)	(\$27,935,987)	(\$18,847,248)	(\$8,695,548)	(352)
Tyler	(\$58,522,058)	(\$31,074,352)	(\$20,915,359)	(\$9,457,445)	(383)
Upshur	(\$102,013,990)	(\$51,477,219)	(\$33,735,564)	(\$16,467,063)	(616)
Upton	(\$6,040,820)	(\$3,003,489)	(\$1,952,380)	(\$872,393)	(35)
Uvalde	(\$54,664,182)	(\$28,936,574)	(\$19,485,293)	(\$8,393,406)	(362)
Val Verde	(\$75,506,410)	(\$42,817,055)	(\$29,129,517)	(\$12,310,329)	(536)
Van Zandt	(\$131,607,141)	(\$74,172,633)	(\$50,630,655)	(\$23,021,913)	(947)
Victoria	(\$218,828,473)	(\$110,990,527)	(\$74,601,313)	(\$31,095,570)	(1,328)
Walker	(\$204,263,868)	(\$110,978,647)	(\$74,815,209)	(\$33,014,063)	(1,386)
Waller	(\$65,901,998)	(\$29,228,831)	(\$17,974,745)	(\$10,391,836)	(346)
Ward	(\$19,656,939)	(\$10,057,988)	(\$6,558,779)	(\$3,757,048)	(125)
Washington	(\$87,174,773)	(\$46,961,054)	(\$31,610,519)	(\$13,125,020)	(572)
Webb	(\$256,342,406)	(\$135,633,818)	(\$90,997,283)	(\$41,807,155)	(1,686)
Wharton	(\$99,391,695)	(\$53,396,977)	(\$36,443,448)	(\$16,533,922)	(678)
Wheeler	(\$10,221,109)	(\$5,621,701)	(\$3,797,701)	(\$2,070,606)	(73)
Wichita	(\$295,180,790)	(\$161,930,386)	(\$109,104,265)	(\$47,402,759)	(1,991)
Wilbarger	(\$42,607,719)	(\$21,838,197)	(\$14,711,908)	(\$6,474,913)	(268)
Willacy	(\$32,021,025)	(\$17,755,875)	(\$11,831,325)	(\$5,869,720)	(224)
Williamson	(\$374,495,480)	(\$200,617,361)	(\$133,430,859)	(\$60,843,712)	(2,425)
Wilson	(\$86,528,401)	(\$44,079,734)	(\$29,549,735)	(\$13,189,638)	(553)
Winkler	(\$10,399,171)	(\$5,227,329)	(\$3,422,620)	(\$1,955,826)	(64)
Wise	(\$98,358,823)	(\$49,934,210)	(\$32,645,007)	(\$16,946,686)	(605)
Wood	(\$156,634,640)	(\$79,233,087)	(\$52,723,450)	(\$22,624,166)	(968)
Yoakum	(\$9,649,430)	(\$4,571,107)	(\$2,899,421)	(\$1,856,720)	(56)
Young	(\$51,084,720)	(\$26,495,996)	(\$17,407,755)	(\$8,979,489)	(323)



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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Zapata	(\$16,594,120)	(\$8,755,984)	(\$5,938,756)	(\$3,197,488)	(114)
Zavala	(\$12,582,821)	(\$7,465,073)	(\$5,317,522)	(\$2,498,118)	(103)
<b>TEXAS</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>(284,012)</b>

NOTE: Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.  
 SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	(\$426,736,291)	(\$225,807,971)	(\$152,674,473)	(\$65,752,193)	-2,796
2	(\$398,210,419)	(\$212,812,065)	(\$142,997,983)	(\$68,905,866)	-2,679
3	(\$311,426,730)	(\$149,990,408)	(\$98,237,787)	(\$40,597,230)	-1,750
4	(\$432,334,652)	(\$221,345,438)	(\$147,239,548)	(\$63,857,831)	-2,714
5	(\$427,007,742)	(\$214,589,751)	(\$141,980,193)	(\$61,912,822)	-2,592
6	(\$436,202,875)	(\$220,952,763)	(\$144,036,510)	(\$58,813,679)	-2,589
7	(\$425,002,282)	(\$223,461,776)	(\$150,429,189)	(\$64,189,571)	-2,718
8	(\$387,307,701)	(\$201,094,083)	(\$134,642,911)	(\$58,987,991)	-2,485
9	(\$429,121,461)	(\$216,984,835)	(\$147,478,127)	(\$63,619,411)	-2,669
10	(\$293,368,425)	(\$142,425,833)	(\$92,261,905)	(\$43,794,100)	-1,703
11	(\$363,346,632)	(\$190,678,416)	(\$130,251,393)	(\$56,800,778)	-2,410
12	(\$370,559,909)	(\$191,347,412)	(\$127,391,824)	(\$54,091,961)	-2,326
13	(\$454,909,788)	(\$236,050,763)	(\$157,459,261)	(\$69,184,850)	-2,872
14	(\$215,961,335)	(\$111,825,472)	(\$74,078,728)	(\$30,149,114)	-1,347
15	(\$338,750,288)	(\$166,614,657)	(\$110,738,859)	(\$41,674,360)	-1,938
16	(\$338,750,288)	(\$166,614,657)	(\$110,738,859)	(\$41,674,360)	-1,938
17	(\$345,588,570)	(\$173,293,639)	(\$114,871,144)	(\$52,167,818)	-2,107
18	(\$449,433,274)	(\$238,146,234)	(\$160,670,600)	(\$70,514,903)	-2,943
19	(\$463,820,138)	(\$243,802,222)	(\$163,167,801)	(\$78,528,155)	-3,013
20	(\$252,149,635)	(\$129,458,466)	(\$85,628,280)	(\$39,212,059)	-1,564
21	(\$434,181,432)	(\$224,017,011)	(\$152,838,982)	(\$67,451,526)	-2,773
22	(\$414,994,540)	(\$215,809,871)	(\$147,736,084)	(\$61,135,970)	-2,642
23	(\$392,513,534)	(\$189,452,575)	(\$124,545,167)	(\$51,971,696)	-2,228
24	(\$426,482,109)	(\$211,885,435)	(\$140,272,857)	(\$57,701,868)	-2,512
25	(\$299,613,973)	(\$144,120,361)	(\$95,267,445)	(\$48,477,304)	-1,765
26	(\$225,901,301)	(\$106,941,750)	(\$68,750,178)	(\$29,509,694)	-1,205
27	(\$225,901,301)	(\$106,941,750)	(\$68,750,178)	(\$29,509,694)	-1,205
28	(\$225,901,301)	(\$106,941,750)	(\$68,750,178)	(\$29,509,694)	-1,205
29	(\$278,300,039)	(\$135,195,452)	(\$89,590,006)	(\$43,449,647)	-1,649
30	(\$432,939,696)	(\$214,271,946)	(\$142,041,869)	(\$65,006,267)	-2,579
31	(\$272,549,327)	(\$141,850,701)	(\$95,878,386)	(\$45,865,468)	-1,786
32	(\$393,892,738)	(\$189,908,872)	(\$125,645,256)	(\$50,058,273)	-2,218
33	(\$234,950,691)	(\$122,561,204)	(\$81,416,489)	(\$33,544,408)	-1,452
34	(\$409,969,993)	(\$197,660,254)	(\$130,773,634)	(\$52,101,468)	-2,308
35	(\$229,621,594)	(\$121,407,714)	(\$81,090,230)	(\$33,420,784)	-1,493
36	(\$202,141,249)	(\$108,700,076)	(\$73,184,917)	(\$30,164,942)	-1,347
37	(\$274,070,146)	(\$142,265,897)	(\$94,177,018)	(\$38,811,109)	-1,734
38	(\$267,544,666)	(\$138,878,614)	(\$91,934,708)	(\$37,887,035)	-1,692
39	(\$202,141,249)	(\$108,700,076)	(\$73,184,917)	(\$30,164,942)	-1,347
40	(\$202,141,249)	(\$108,700,076)	(\$73,184,917)	(\$30,164,942)	-1,347
41	(\$202,141,249)	(\$108,700,076)	(\$73,184,917)	(\$30,164,942)	-1,347



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
42	(\$164,059,140)	(\$86,805,643)	(\$58,238,261)	(\$26,756,579)	-1,079
43	(\$321,318,392)	(\$166,210,315)	(\$112,435,988)	(\$52,615,396)	-2,090
44	(\$290,846,352)	(\$146,171,492)	(\$96,003,762)	(\$48,601,817)	-1,819
45	(\$240,358,539)	(\$125,833,283)	(\$83,121,857)	(\$36,109,494)	-1,520
46	(\$232,446,400)	(\$124,783,316)	(\$82,167,697)	(\$30,990,010)	-1,433
47	(\$242,428,760)	(\$130,142,109)	(\$85,696,371)	(\$32,320,869)	-1,495
48	(\$242,428,760)	(\$130,142,109)	(\$85,696,371)	(\$32,320,869)	-1,495
49	(\$233,872,451)	(\$125,548,858)	(\$82,671,793)	(\$31,180,133)	-1,442
50	(\$232,446,400)	(\$124,783,316)	(\$82,167,697)	(\$30,990,010)	-1,433
51	(\$242,428,760)	(\$130,142,109)	(\$85,696,371)	(\$32,320,869)	-1,495
52	(\$146,053,237)	(\$78,240,771)	(\$52,038,035)	(\$23,729,048)	-946
53	(\$474,648,320)	(\$241,518,033)	(\$158,218,772)	(\$73,608,929)	-2,935
54	(\$299,935,279)	(\$162,100,886)	(\$109,441,885)	(\$46,504,265)	-2,011
55	(\$259,737,223)	(\$141,537,907)	(\$95,741,445)	(\$39,987,784)	-1,749
56	(\$428,929,462)	(\$216,187,824)	(\$141,021,989)	(\$55,732,215)	-2,546
57	(\$440,060,330)	(\$229,349,824)	(\$153,480,155)	(\$67,140,462)	-2,803
58	(\$365,383,264)	(\$189,010,016)	(\$127,511,885)	(\$53,320,422)	-2,331
59	(\$301,952,341)	(\$161,786,203)	(\$109,363,225)	(\$49,141,704)	-2,034
60	(\$487,974,877)	(\$251,070,565)	(\$167,028,181)	(\$78,767,922)	-3,107
61	(\$337,662,818)	(\$163,829,066)	(\$105,132,378)	(\$52,039,117)	-1,940
62	(\$432,837,494)	(\$233,294,879)	(\$157,499,126)	(\$66,547,906)	-2,888
63	(\$227,218,672)	(\$113,925,411)	(\$74,392,569)	(\$29,017,203)	-1,313
64	(\$227,218,672)	(\$113,925,411)	(\$74,392,569)	(\$29,017,203)	-1,313
65	(\$227,218,672)	(\$113,925,411)	(\$74,392,569)	(\$29,017,203)	-1,313
66	(\$226,229,083)	(\$117,867,020)	(\$77,756,209)	(\$31,894,672)	-1,373
67	(\$226,229,083)	(\$117,867,020)	(\$77,756,209)	(\$31,894,672)	-1,373
68	(\$411,744,430)	(\$209,158,051)	(\$138,644,913)	(\$65,869,386)	-2,549
69	(\$363,793,760)	(\$197,399,080)	(\$132,894,455)	(\$57,845,158)	-2,422
70	(\$226,229,083)	(\$117,867,020)	(\$77,756,209)	(\$31,894,672)	-1,373
71	(\$400,286,593)	(\$204,744,497)	(\$134,976,427)	(\$54,165,188)	-2,415
72	(\$398,617,934)	(\$198,954,274)	(\$129,925,793)	(\$56,441,665)	-2,376
73	(\$422,602,068)	(\$213,901,719)	(\$140,793,140)	(\$61,711,518)	-2,605
74	(\$249,568,772)	(\$132,566,727)	(\$88,321,740)	(\$42,199,759)	-1,656
75	(\$313,842,728)	(\$157,794,147)	(\$102,209,327)	(\$38,353,868)	-1,807
76	(\$313,842,728)	(\$157,794,147)	(\$102,209,327)	(\$38,353,868)	-1,807
77	(\$313,842,728)	(\$157,794,147)	(\$102,209,327)	(\$38,353,868)	-1,807
78	(\$313,842,728)	(\$157,794,147)	(\$102,209,327)	(\$38,353,868)	-1,807
79	(\$313,842,728)	(\$157,794,147)	(\$102,209,327)	(\$38,353,868)	-1,807
80	(\$219,644,897)	(\$116,078,470)	(\$78,309,149)	(\$35,966,196)	-1,460
81	(\$316,827,586)	(\$161,691,052)	(\$108,474,600)	(\$48,527,543)	-1,960
82	(\$268,257,158)	(\$135,489,082)	(\$88,152,255)	(\$39,482,504)	-1,563
83	(\$347,008,042)	(\$181,274,572)	(\$118,637,626)	(\$51,537,073)	-2,140



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
84	(\$367,026,177)	(\$194,941,335)	(\$129,196,705)	(\$50,360,435)	-2,305
85	(\$279,906,180)	(\$139,651,691)	(\$91,908,194)	(\$41,630,128)	-1,662
86	(\$289,908,419)	(\$150,344,087)	(\$98,116,290)	(\$42,988,037)	-1,781
87	(\$372,533,311)	(\$188,365,607)	(\$124,169,431)	(\$53,715,261)	-2,229
88	(\$262,149,359)	(\$131,542,405)	(\$87,106,747)	(\$43,405,632)	-1,619
89	(\$226,229,083)	(\$117,867,020)	(\$77,756,209)	(\$31,894,672)	-1,373
90	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
91	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
92	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
93	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
94	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
95	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
96	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
97	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
98	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
99	(\$331,682,395)	(\$167,180,047)	(\$109,902,323)	(\$41,121,534)	-1,932
100	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
101	(\$328,037,534)	(\$165,342,904)	(\$108,694,605)	(\$40,669,649)	-1,910
102	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
103	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
104	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
105	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
106	(\$227,218,672)	(\$113,925,411)	(\$74,392,569)	(\$29,017,203)	-1,313
107	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
108	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
109	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
110	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
111	(\$338,675,583)	(\$166,160,703)	(\$106,266,576)	(\$34,629,245)	-1,782
112	(\$331,668,502)	(\$162,722,895)	(\$104,067,957)	(\$33,912,778)	-1,745
113	(\$338,675,583)	(\$166,160,703)	(\$106,266,576)	(\$34,629,245)	-1,782
114	(\$338,675,583)	(\$166,160,703)	(\$106,266,576)	(\$34,629,245)	-1,782
115	(\$338,675,583)	(\$166,160,703)	(\$106,266,576)	(\$34,629,245)	-1,782
116	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
117	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
118	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
119	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
120	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
121	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
122	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
123	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
124	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130
125	(\$352,714,529)	(\$182,790,332)	(\$120,794,298)	(\$45,196,492)	-2,130



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
126	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
127	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
128	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
129	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
130	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
131	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
132	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
133	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
134	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
135	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
136	(\$146,053,237)	(\$78,240,771)	(\$52,038,035)	(\$23,729,048)	-946
137	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
138	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
139	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
140	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
141	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
142	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
143	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
144	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
145	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
146	(\$333,615,635)	(\$155,591,716)	(\$101,374,687)	(\$30,301,903)	-1,674
147	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
148	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
149	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
150	(\$325,672,405)	(\$151,887,151)	(\$98,961,004)	(\$29,580,429)	-1,634
<b>TOTAL</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>-284,012</b>

NOTE: 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.

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



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

Senate District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	(\$2,150,069,701)	(\$1,102,059,494)	(\$736,534,217)	(\$311,647,548)	-13,340
2	(\$1,643,258,558)	(\$835,905,170)	(\$548,202,255)	(\$217,657,402)	-9,718
3	(\$2,142,244,107)	(\$1,118,275,877)	(\$753,699,820)	(\$332,866,903)	-13,795
4	(\$1,745,563,815)	(\$865,526,860)	(\$579,580,828)	(\$222,490,612)	-10,165
5	(\$1,136,866,406)	(\$600,117,653)	(\$400,381,390)	(\$183,343,682)	-7,366
6	(\$1,588,645,880)	(\$740,912,933)	(\$482,736,607)	(\$144,294,775)	-7,971
7	(\$1,588,645,880)	(\$740,912,933)	(\$482,736,607)	(\$144,294,775)	-7,971
8	(\$1,107,636,278)	(\$569,988,892)	(\$373,709,011)	(\$147,111,652)	-6,534
9	(\$1,659,677,766)	(\$830,897,205)	(\$542,541,194)	(\$196,628,923)	-9,429
10	(\$1,676,636,282)	(\$845,085,951)	(\$555,550,206)	(\$207,867,094)	-9,765
11	(\$1,652,890,907)	(\$800,482,818)	(\$527,327,869)	(\$206,048,003)	-9,262
12	(\$1,301,095,213)	(\$653,803,871)	(\$428,141,005)	(\$164,119,863)	-7,543
13	(\$1,508,147,701)	(\$704,477,951)	(\$458,350,137)	(\$143,263,948)	-7,617
14	(\$1,207,879,799)	(\$642,447,547)	(\$422,490,829)	(\$164,112,442)	-7,421
15	(\$1,509,213,586)	(\$703,867,286)	(\$458,599,776)	(\$137,080,037)	-7,573
16	(\$1,611,628,636)	(\$790,695,759)	(\$505,682,329)	(\$164,787,440)	-8,479
17	(\$1,452,445,009)	(\$682,247,570)	(\$444,255,824)	(\$152,561,374)	-7,512
18	(\$1,687,377,538)	(\$834,131,779)	(\$548,759,247)	(\$246,100,023)	-9,913
19	(\$1,558,073,370)	(\$807,493,362)	(\$535,251,710)	(\$215,769,529)	-9,611
20	(\$1,418,845,861)	(\$720,318,045)	(\$480,802,830)	(\$196,261,811)	-8,664
21	(\$1,184,570,091)	(\$614,894,114)	(\$411,560,656)	(\$186,046,858)	-7,571
22	(\$1,853,088,143)	(\$936,324,731)	(\$618,468,733)	(\$257,877,978)	-11,251
23	(\$1,611,628,636)	(\$790,695,759)	(\$505,682,329)	(\$164,787,440)	-8,479
24	(\$1,716,010,590)	(\$904,526,146)	(\$603,030,224)	(\$260,439,516)	-11,050
25	(\$1,541,156,177)	(\$794,717,747)	(\$523,637,714)	(\$212,901,388)	-9,419
26	(\$1,640,122,562)	(\$849,975,042)	(\$561,693,487)	(\$210,163,689)	-9,907
27	(\$1,137,273,309)	(\$598,314,214)	(\$398,786,689)	(\$166,357,415)	-7,352
28	(\$1,727,281,536)	(\$894,805,564)	(\$590,056,879)	(\$257,504,259)	-10,738
29	(\$1,596,440,013)	(\$802,626,541)	(\$519,840,497)	(\$196,768,780)	-9,202
30	(\$1,683,408,628)	(\$869,465,536)	(\$575,478,274)	(\$258,874,927)	-10,520
31	(\$1,473,424,539)	(\$746,669,496)	(\$492,374,761)	(\$219,156,367)	-8,875
<b>TOTAL</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>-284,012</b>

NOTE: 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.

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



**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 in Texas**

US Congressional District in Texas	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	(\$1,804,734,504)	(\$927,305,463)	(\$620,366,295)	(\$259,876,489)	-11,235
2	(\$1,350,348,998)	(\$629,775,993)	(\$410,326,116)	(\$122,650,559)	-6,776
3	(\$915,199,471)	(\$476,825,671)	(\$314,559,210)	(\$129,028,446)	-5,554
4	(\$1,601,729,718)	(\$840,854,581)	(\$564,877,911)	(\$252,528,989)	-10,385
5	(\$1,593,240,624)	(\$815,241,516)	(\$537,603,360)	(\$210,607,176)	-9,564
6	(\$1,392,442,966)	(\$697,050,803)	(\$457,800,110)	(\$180,824,489)	-8,144
7	(\$1,350,348,998)	(\$629,775,993)	(\$410,326,116)	(\$122,650,559)	-6,776
8	(\$1,562,418,346)	(\$781,994,031)	(\$520,376,001)	(\$203,896,997)	-9,210
9	(\$1,319,681,988)	(\$616,931,103)	(\$401,105,126)	(\$128,129,223)	-6,687
10	(\$1,309,501,921)	(\$651,356,273)	(\$426,570,909)	(\$161,335,275)	-7,440
11	(\$1,616,270,805)	(\$825,964,154)	(\$546,433,186)	(\$245,912,952)	-9,983
12	(\$1,407,570,995)	(\$702,883,643)	(\$459,611,454)	(\$181,785,984)	-8,152
13	(\$1,501,701,360)	(\$774,143,832)	(\$512,569,106)	(\$230,964,236)	-9,331
14	(\$1,653,516,698)	(\$833,865,793)	(\$559,716,130)	(\$236,582,444)	-10,056
15	(\$938,374,779)	(\$492,728,786)	(\$329,362,776)	(\$145,554,416)	-6,104
16	(\$1,365,215,866)	(\$686,404,538)	(\$444,610,573)	(\$166,839,326)	-7,860
17	(\$1,377,989,611)	(\$709,057,844)	(\$467,641,456)	(\$196,291,388)	-8,477
18	(\$1,350,348,998)	(\$629,775,993)	(\$410,326,116)	(\$122,650,559)	-6,776
19	(\$1,446,228,380)	(\$750,455,376)	(\$495,349,682)	(\$210,327,875)	-8,943
20	(\$1,446,129,571)	(\$749,440,359)	(\$495,256,623)	(\$185,305,619)	-8,735
21	(\$1,437,307,266)	(\$744,509,941)	(\$490,720,530)	(\$199,803,474)	-8,820
22	(\$1,035,206,027)	(\$492,091,872)	(\$319,433,064)	(\$135,368,332)	-5,622
23	(\$1,291,274,559)	(\$667,787,889)	(\$440,988,381)	(\$183,802,875)	-7,978
24	(\$1,323,454,921)	(\$657,823,271)	(\$426,337,613)	(\$150,343,507)	-7,330
25	(\$1,265,798,921)	(\$662,305,962)	(\$441,119,286)	(\$185,068,283)	-8,020
26	(\$1,050,626,296)	(\$527,495,706)	(\$345,066,502)	(\$132,965,559)	-6,082
27	(\$1,656,717,414)	(\$813,821,679)	(\$540,374,169)	(\$236,162,909)	-9,747
28	(\$976,200,658)	(\$511,887,460)	(\$342,910,292)	(\$145,365,620)	-6,254
29	(\$1,350,348,998)	(\$629,775,993)	(\$410,326,116)	(\$122,650,559)	-6,776
30	(\$1,373,387,881)	(\$673,810,299)	(\$430,929,289)	(\$140,427,558)	-7,226
31	(\$819,045,727)	(\$442,864,932)	(\$297,296,025)	(\$129,284,343)	-5,419
32	(\$1,341,658,975)	(\$660,118,415)	(\$422,820,610)	(\$139,573,210)	-7,109
33	(\$1,393,231,785)	(\$692,838,006)	(\$449,328,271)	(\$157,504,861)	-7,720
34	(\$1,127,916,493)	(\$591,946,758)	(\$395,200,322)	(\$169,252,180)	-7,299
35	(\$1,229,964,975)	(\$642,305,128)	(\$424,230,881)	(\$165,297,684)	-7,535
36	(\$1,536,111,022)	(\$759,448,789)	(\$504,074,331)	(\$202,572,503)	-8,889
<b>TOTAL</b>	<b>(\$48,511,246,517)</b>	<b>(\$24,392,663,846)</b>	<b>(\$16,065,943,936)</b>	<b>(\$6,289,186,456)</b>	<b>-284,012</b>

NOTE: In cases in which a county is 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.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

## 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 Detailed Industrial Category**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	(\$481,784,142)	(\$143,433,562)	(\$86,736,669)	(1,584)
<b>Mining</b>	(\$3,456,865,396)	(\$1,661,309,003)	(\$568,132,965)	(2,295)
<b>Construction</b>	(\$1,383,256,580)	(\$674,245,182)	(\$508,409,838)	(7,861)
<b>Nondurable Manufacturing</b>	(\$4,581,442,837)	(\$1,266,469,996)	(\$667,971,611)	(7,003)
<b>Durable Manufacturing</b>	(\$2,204,105,433)	(\$916,820,662)	(\$617,195,018)	(6,034)
<b>Transportation and Utilities</b>	(\$3,485,902,395)	(\$1,211,537,018)	(\$676,765,030)	(7,082)
<b>Information</b>	(\$972,924,423)	(\$648,111,444)	(\$285,746,855)	(2,595)
<b>Wholesale Trade</b>	(\$1,331,367,339)	(\$1,038,572,515)	(\$583,083,481)	(6,773)
<b>Retail Trade (including Restaurants)</b>	(\$5,460,386,017)	(\$4,226,602,484)	(\$2,436,654,006)	(76,479)
<b>FIRE</b>	(\$7,793,169,065)	(\$2,316,275,150)	(\$825,190,886)	(7,845)
<b>Business Services</b>	(\$2,384,442,131)	(\$1,729,815,886)	(\$1,400,511,848)	(16,382)
<b>Health Services</b>	(\$1,544,401,739)	(\$1,241,682,586)	(\$992,868,637)	(17,424)
<b>Other Services</b>	(\$2,474,811,586)	(\$1,307,020,416)	(\$997,572,172)	(23,296)
<b>TOTAL</b>	<b>(\$37,554,859,084)</b>	<b>(\$18,381,895,905)</b>	<b>(\$10,646,839,017)</b>	<b>(182,654)</b>
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				



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

<b>Economic Region</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>High Plains</b>	(\$1,253,112,905)	(\$640,135,465)	(\$370,801,227)	(\$211,178,722)	-6,620
<b>Northwest Texas</b>	(\$1,059,774,775)	(\$545,331,040)	(\$310,177,491)	(\$182,898,883)	-5,531
<b>Metroplex</b>	(\$9,732,423,933)	(\$4,785,762,908)	(\$2,769,979,488)	(\$1,347,293,754)	-46,741
<b>Upper East Texas</b>	(\$2,202,360,159)	(\$1,106,533,750)	(\$640,370,035)	(\$373,857,100)	-11,499
<b>Southeast Texas</b>	(\$1,462,739,111)	(\$735,084,587)	(\$444,781,251)	(\$269,546,252)	-8,128
<b>Gulf Coast</b>	(\$9,816,602,104)	(\$4,534,628,694)	(\$2,569,440,956)	(\$1,085,615,991)	-40,317
<b>Capital</b>	(\$1,960,892,058)	(\$1,010,070,786)	(\$602,491,277)	(\$322,487,240)	-10,708
<b>Central Texas</b>	(\$1,601,108,195)	(\$807,410,234)	(\$478,544,645)	(\$288,685,938)	-8,948
<b>Alamo</b>	(\$3,791,899,019)	(\$1,886,264,914)	(\$1,112,536,641)	(\$607,925,139)	-19,891
<b>South Texas</b>	(\$2,615,674,018)	(\$1,321,006,545)	(\$768,962,026)	(\$453,739,732)	-14,071
<b>West Texas</b>	(\$907,972,514)	(\$451,539,980)	(\$252,273,732)	(\$143,490,939)	-4,363
<b>Upper Rio Grande</b>	(\$1,150,300,294)	(\$558,127,002)	(\$326,480,248)	(\$173,666,326)	-5,837
<b>TOTAL STATE IMPACT</b>	<b>(\$37,554,859,084)</b>	<b>(\$18,381,895,905)</b>	<b>(\$10,646,839,017)</b>	<b>(\$5,460,386,017)</b>	<b>-182,654</b>

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



**The Total Annual Impact of Morbidity Losses Associated with the Incidence  
of Cancer on Business Activity in Texas:  
Council of Governments (COG) Region Results**

<b>COG</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Panhandle	(\$660,959,844)	(\$333,494,896)	(\$189,804,573)	(\$108,411,741)	-3,343
South Plains	(\$592,153,060)	(\$306,640,569)	(\$180,996,654)	(\$102,766,982)	-3,276
Nortex	(\$434,430,566)	(\$227,626,535)	(\$129,453,068)	(\$75,889,971)	-2,296
North Central Texas	(\$9,364,522,827)	(\$4,597,593,939)	(\$2,656,367,337)	(\$1,277,346,148)	-44,630
Ark-Tex	(\$476,921,396)	(\$241,149,408)	(\$145,050,518)	(\$92,833,705)	-2,742
East Texas	(\$1,725,438,763)	(\$865,384,342)	(\$495,319,517)	(\$281,023,395)	-8,757
West Central Texas	(\$625,344,208)	(\$317,704,505)	(\$180,724,423)	(\$107,008,912)	-3,235
Rio Grande	(\$1,150,300,294)	(\$558,127,002)	(\$326,480,248)	(\$173,666,326)	-5,837
Permian Basin	(\$626,201,420)	(\$313,119,651)	(\$175,242,179)	(\$97,742,776)	-2,966
Concho Valley	(\$281,771,094)	(\$138,420,328)	(\$77,031,552)	(\$45,748,163)	-1,397
Heart of Texas	(\$655,851,947)	(\$316,872,293)	(\$185,922,359)	(\$110,282,431)	-3,460
Capital Area	(\$1,960,892,058)	(\$1,010,070,786)	(\$602,491,277)	(\$322,487,240)	-10,708
Brazos Valley	(\$408,025,356)	(\$208,557,450)	(\$120,998,776)	(\$72,605,989)	-2,219
Deep East Texas	(\$728,185,470)	(\$372,877,892)	(\$223,050,967)	(\$140,263,123)	-4,173
South East Texas	(\$734,553,641)	(\$362,206,695)	(\$221,730,283)	(\$129,283,129)	-3,955
Houston-Galveston Area	(\$9,816,602,104)	(\$4,534,628,694)	(\$2,569,440,956)	(\$1,085,615,991)	-40,317
Golden Crescent	(\$356,270,956)	(\$176,782,456)	(\$102,194,209)	(\$59,046,670)	-1,793
Alamo Area	(\$3,436,567,132)	(\$1,709,934,868)	(\$1,010,574,643)	(\$548,976,015)	-18,102
South Texas	(\$262,228,656)	(\$138,767,702)	(\$77,831,134)	(\$50,312,055)	-1,437
Coastal Bend	(\$1,058,784,579)	(\$503,489,478)	(\$286,120,237)	(\$160,618,982)	-4,958
Lower Rio Grande Valley	(\$1,108,306,729)	(\$580,726,794)	(\$347,384,342)	(\$205,443,051)	-6,567
Texoma	(\$367,901,106)	(\$188,168,968)	(\$113,612,151)	(\$69,947,606)	-2,111
Central Texas	(\$537,230,893)	(\$281,980,491)	(\$171,623,510)	(\$105,797,518)	-3,270
Middle Rio Grande	(\$185,414,985)	(\$97,570,161)	(\$57,394,103)	(\$37,268,098)	-1,105
<b>Border Region</b>	<b>(\$2,707,909,135)</b>	<b>(\$1,376,173,364)</b>	<b>(\$809,673,180)</b>	<b>(\$466,996,229)</b>	<b>-14,956</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$37,554,859,084)</b>	<b>(\$18,381,895,905)</b>	<b>(\$10,646,839,017)</b>	<b>(\$5,460,386,017)</b>	<b>-182,654</b>

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



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

<b>MSA</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Abilene	(\$306,509,804)	(\$152,508,595)	(\$86,187,927)	(\$46,212,744)	-1,491
Amarillo	(\$423,095,493)	(\$219,432,464)	(\$125,607,181)	(\$68,856,791)	-2,215
Austin-Round Rock	(\$1,686,988,890)	(\$875,508,150)	(\$525,576,493)	(\$276,760,586)	-9,302
Beaumont-Port Arthur	(\$746,719,138)	(\$369,787,961)	(\$226,638,768)	(\$132,627,924)	-4,047
Brownsville-Harlingen	(\$445,224,937)	(\$225,567,710)	(\$134,492,800)	(\$80,221,704)	-2,561
College Station-Bryan	(\$263,756,268)	(\$133,794,356)	(\$77,465,343)	(\$44,899,172)	-1,410
Corpus Christi	(\$839,982,728)	(\$390,239,047)	(\$223,012,383)	(\$120,514,833)	-3,811
Dallas-Plano-Irving MD*	(\$5,756,772,487)	(\$2,820,317,860)	(\$1,620,746,596)	(\$741,475,545)	-26,733
Fort Worth-Arlington MD*	(\$3,404,832,150)	(\$1,676,236,812)	(\$975,745,254)	(\$499,719,319)	-16,780
El Paso	(\$1,117,617,625)	(\$541,096,861)	(\$316,381,331)	(\$167,085,067)	-5,644
Houston-The Woodlands-Sugar Land	(\$9,476,835,604)	(\$4,363,547,503)	(\$2,468,886,644)	(\$1,020,903,287)	-38,429
Killeen-Temple	(\$461,697,556)	(\$243,017,743)	(\$148,151,113)	(\$90,214,720)	-2,820
Laredo	(\$202,173,883)	(\$105,964,803)	(\$58,725,103)	(\$36,294,076)	-1,061
Longview	(\$432,124,879)	(\$222,055,549)	(\$128,337,204)	(\$70,209,925)	-2,221
Lubbock	(\$448,792,674)	(\$233,581,773)	(\$139,223,501)	(\$74,913,413)	-2,500
McAllen-Edinburg-Mission	(\$640,667,787)	(\$342,494,550)	(\$205,549,675)	(\$120,124,369)	-3,864
Midland	(\$194,978,044)	(\$98,765,809)	(\$54,824,420)	(\$28,963,962)	-908
Odessa	(\$221,819,360)	(\$109,706,707)	(\$62,787,947)	(\$33,934,614)	-1,053
San Angelo	(\$199,287,042)	(\$97,048,639)	(\$53,604,000)	(\$31,036,498)	-974
San Antonio-New Braunfels	(\$3,198,860,524)	(\$1,593,876,848)	(\$943,927,851)	(\$508,117,059)	-16,865
Sherman-Denison	(\$216,566,462)	(\$112,523,342)	(\$68,602,083)	(\$43,927,629)	-1,310
Texarkana	(\$154,085,377)	(\$81,175,451)	(\$49,233,758)	(\$29,979,045)	-923
Tyler	(\$454,654,451)	(\$223,696,941)	(\$123,536,945)	(\$67,192,649)	-2,128
Victoria	(\$193,319,846)	(\$94,984,754)	(\$54,295,214)	(\$29,840,253)	-918
Waco	(\$467,155,280)	(\$224,799,495)	(\$132,632,849)	(\$75,185,714)	-2,444
Wichita Falls	(\$271,319,165)	(\$145,429,532)	(\$82,773,488)	(\$46,742,203)	-1,451
<b>Rural Area</b>	<b>(\$5,329,021,630)</b>	<b>(\$2,684,736,651)</b>	<b>(\$1,559,893,145)</b>	<b>(\$974,432,917)</b>	<b>-28,792</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$37,554,859,084)</b>	<b>(\$18,381,895,905)</b>	<b>(\$10,646,839,017)</b>	<b>(\$5,460,386,017)</b>	<b>-182,654</b>

\*Metropolitan Division

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

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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Anderson	-\$86,548,522	-\$47,074,099	-\$27,264,746	-\$15,737,085	-488
Andrews	-\$21,039,381	-\$10,908,945	-\$6,012,553	-\$3,250,074	-100
Angelina	-\$154,575,452	-\$77,300,718	-\$46,971,148	-\$28,938,106	-877
Aransas	-\$80,445,384	-\$37,163,380	-\$20,257,818	-\$12,005,497	-351
Archer	-\$13,108,355	-\$6,773,956	-\$3,631,741	-\$2,270,514	-66
Armstrong	-\$4,405,268	-\$2,226,121	-\$1,255,737	-\$528,496	-20
Atascosa	-\$74,141,236	-\$35,818,673	-\$20,206,444	-\$11,033,954	-342
Austin	-\$52,352,554	-\$24,870,017	-\$14,927,988	-\$6,997,746	-243
Bailey	-\$6,518,888	-\$3,360,554	-\$2,018,152	-\$1,391,362	-38
Bandera	-\$46,695,619	-\$22,193,812	-\$12,515,923	-\$8,258,117	-237
Bastrop	-\$112,634,475	-\$55,364,575	-\$32,702,623	-\$20,333,010	-618
Baylor	-\$10,742,914	-\$5,717,885	-\$3,327,730	-\$2,012,482	-61
Bee	-\$36,764,350	-\$19,508,005	-\$10,980,930	-\$6,939,594	-203
Bell	-\$342,395,456	-\$182,818,930	-\$112,517,298	-\$66,758,892	-2,121
Bexar	-\$2,543,337,144	-\$1,276,172,802	-\$760,098,722	-\$392,364,634	-13,413
Blanco	-\$17,279,918	-\$8,192,994	-\$4,686,967	-\$3,029,571	-91
Borden	-\$6,277,053	-\$3,122,622	-\$1,660,848	-\$792,236	-26
Bosque	-\$36,728,635	-\$18,107,675	-\$10,965,429	-\$6,158,611	-201
Bowie	-\$154,085,377	-\$81,175,451	-\$49,233,758	-\$29,979,045	-923
Brazoria	-\$407,410,489	-\$194,246,996	-\$114,278,086	-\$67,536,237	-2,013
Brazos	-\$195,672,875	-\$98,885,957	-\$57,034,778	-\$31,158,776	-1,026
Brewster	-\$14,242,661	-\$7,818,223	-\$4,752,221	-\$2,845,233	-89
Briscoe	-\$3,189,809	-\$1,501,443	-\$863,151	-\$548,146	-16
Brooks	-\$9,794,715	-\$5,344,722	-\$3,095,477	-\$2,081,878	-58
Brown	-\$64,368,330	-\$34,912,318	-\$21,241,071	-\$14,920,127	-423
Burleson	-\$36,469,465	-\$19,355,168	-\$11,060,292	-\$6,939,594	-198
Burnet	-\$87,023,312	-\$41,662,143	-\$24,086,005	-\$14,295,563	-438
Caldwell	-\$63,889,031	-\$32,110,174	-\$18,397,643	-\$10,686,974	-329
Calhoun	-\$26,527,173	-\$10,895,247	-\$6,263,174	-\$3,478,032	-105
Callahan	-\$31,820,458	-\$15,435,724	-\$8,454,986	-\$5,204,695	-152
Cameron	-\$445,224,937	-\$225,567,710	-\$134,492,800	-\$80,221,704	-2,561
Camp	-\$18,926,991	-\$9,281,509	-\$5,517,796	-\$3,410,191	-104
Carson	-\$5,538,125	-\$2,336,047	-\$1,089,845	-\$434,445	-17
Cass	-\$54,455,013	-\$27,557,660	-\$16,445,146	-\$11,537,906	-316
Castro	-\$5,524,196	-\$2,679,663	-\$1,591,446	-\$1,143,377	-31
Chambers	-\$54,008,353	-\$23,254,068	-\$12,576,885	-\$5,745,903	-197
Cherokee	-\$80,339,414	-\$40,372,359	-\$24,875,756	-\$15,717,223	-464
Childress	-\$11,822,946	-\$5,916,403	-\$3,406,739	-\$2,359,462	-66
Clay	-\$21,210,268	-\$10,809,860	-\$6,476,056	-\$3,319,897	-111
Cochran	-\$3,188,382	-\$1,708,253	-\$889,338	-\$419,431	-14
Coke	-\$10,128,600	-\$4,902,965	-\$2,737,944	-\$1,604,770	-46



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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Coleman	-\$23,449,495	-\$12,131,986	-\$6,751,535	-\$4,094,360	-121
Collin	-\$769,516,457	-\$395,684,255	-\$234,352,519	-\$125,924,471	-4,114
Collingsworth	-\$5,366,524	-\$2,954,218	-\$1,773,598	-\$1,134,841	-32
Colorado	-\$46,355,456	-\$23,599,244	-\$13,608,285	-\$9,222,766	-270
Comal	-\$181,239,509	-\$87,778,970	-\$51,122,985	-\$32,130,319	-988
Comanche	-\$27,170,088	-\$13,825,817	-\$8,330,893	-\$5,194,530	-156
Concho	-\$4,696,454	-\$2,512,449	-\$1,580,205	-\$870,901	-29
Cooke	-\$84,788,500	-\$42,247,816	-\$24,481,072	-\$13,254,624	-412
Coryell	-\$77,716,017	-\$39,249,510	-\$23,237,424	-\$15,128,315	-453
Cottle	-\$4,497,160	-\$2,613,175	-\$1,556,787	-\$811,164	-26
Crane	-\$3,627,825	-\$1,973,427	-\$1,073,282	-\$549,939	-18
Crockett	-\$5,200,159	-\$2,686,883	-\$1,468,084	-\$1,110,335	-28
Crosby	-\$9,258,511	-\$5,009,417	-\$2,812,357	-\$1,311,167	-47
Culberson	-\$2,600,315	-\$1,548,299	-\$909,374	-\$763,355	-19
Dallam	-\$6,708,415	-\$3,600,475	-\$2,145,018	-\$1,131,565	-39
Dallas	-\$3,751,685,612	-\$1,829,073,426	-\$1,032,502,254	-\$414,073,611	-16,267
Dawson	-\$23,150,214	-\$11,710,573	-\$6,373,927	-\$4,007,240	-114
Deaf Smith	-\$14,134,588	-\$6,907,125	-\$4,065,152	-\$2,166,613	-74
Delta	-\$8,638,469	-\$4,517,941	-\$2,732,134	-\$1,104,211	-46
Denton	-\$684,552,451	-\$328,199,792	-\$193,956,327	-\$100,762,902	-3,366
DeWitt	-\$42,690,364	-\$21,440,528	-\$12,793,530	-\$7,772,345	-237
Dickens	-\$5,111,450	-\$2,698,657	-\$1,625,582	-\$1,011,280	-29
Dimmit	-\$10,651,561	-\$5,549,856	-\$3,112,628	-\$2,220,670	-60
Donley	-\$7,732,688	-\$4,368,423	-\$2,641,718	-\$2,012,482	-54
Duval	-\$16,978,655	-\$8,287,693	-\$4,460,640	-\$2,452,785	-78
Eastland	-\$41,409,342	-\$20,513,373	-\$11,499,700	-\$7,564,157	-211
Ector	-\$221,819,360	-\$109,706,707	-\$62,787,947	-\$33,934,614	-1,053
Edwards	-\$3,254,582	-\$1,605,544	-\$859,686	-\$569,289	-16
El Paso	-\$1,115,711,329	-\$540,103,401	-\$315,819,424	-\$166,480,856	-5,632
Ellis	-\$191,657,308	-\$88,739,190	-\$52,648,896	-\$32,220,769	-951
Erath	-\$47,162,619	-\$25,502,100	-\$15,628,986	-\$10,478,787	-308
Falls	-\$30,976,259	-\$16,415,895	-\$10,040,800	-\$6,067,359	-190
Fannin	-\$66,546,143	-\$33,397,810	-\$20,528,997	-\$12,765,353	-389
Fayette	-\$70,081,533	-\$35,795,939	-\$20,115,288	-\$10,825,766	-350
Fisher	-\$7,107,125	-\$3,685,178	-\$2,156,432	-\$1,519,736	-42
Floyd	-\$7,882,732	-\$3,550,039	-\$2,050,459	-\$1,085,821	-37
Foard	-\$1,732,115	-\$973,820	-\$600,809	-\$362,310	-11
Fort Bend	-\$716,750,375	-\$336,457,522	-\$188,878,414	-\$94,227,381	-3,074
Franklin	-\$16,521,952	-\$8,222,291	-\$4,466,035	-\$2,863,643	-82
Freestone	-\$37,773,688	-\$18,684,344	-\$10,158,982	-\$6,939,594	-186
Frio	-\$23,381,973	-\$11,329,898	-\$6,158,030	-\$3,703,979	-109



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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Gaines	-\$15,257,605	-\$7,382,104	-\$3,873,392	-\$2,284,767	-66
Galveston	-\$572,667,566	-\$267,244,495	-\$156,169,135	-\$89,451,364	-2,785
Garza	-\$8,417,929	-\$4,128,348	-\$2,272,094	-\$1,400,211	-39
Gillespie	-\$62,077,432	-\$30,402,032	-\$18,058,448	-\$11,103,350	-342
Glasscock	-\$807,909	-\$398,802	-\$193,443	-\$67,717	-3
Goliad	-\$12,913,915	-\$6,918,168	-\$3,953,631	-\$2,845,233	-75
Gonzales	-\$23,941,808	-\$12,215,604	-\$7,307,212	-\$4,653,110	-138
Gray	-\$55,732,079	-\$26,060,276	-\$14,606,022	-\$8,862,350	-248
Grayson	-\$216,566,462	-\$112,523,342	-\$68,602,083	-\$43,927,629	-1,310
Gregg	-\$255,811,972	-\$134,999,901	-\$78,356,205	-\$41,429,375	-1,341
Grimes	-\$33,129,863	-\$16,679,855	-\$9,851,583	-\$5,949,784	-180
Guadalupe	-\$160,820,371	-\$79,580,186	-\$47,067,469	-\$30,742,401	-886
Hale	-\$35,766,871	-\$19,192,795	-\$11,623,126	-\$8,711,198	-234
Hall	-\$7,045,953	-\$3,558,059	-\$2,053,255	-\$1,334,673	-39
Hamilton	-\$15,436,426	-\$7,622,883	-\$4,606,324	-\$3,261,609	-91
Hansford	-\$5,832,003	-\$2,639,833	-\$1,280,448	-\$579,226	-18
Hardeman	-\$7,102,625	-\$3,903,364	-\$2,302,189	-\$1,873,690	-48
Hardin	-\$99,027,950	-\$48,627,375	-\$27,703,960	-\$17,626,568	-502
Harris	-\$6,710,050,663	-\$3,053,531,930	-\$1,718,291,804	-\$626,061,764	-25,711
Harrison	-\$141,555,247	-\$65,863,027	-\$37,594,742	-\$18,295,945	-607
Hartley	-\$1,655,098	-\$815,907	-\$471,561	-\$303,987	-9
Haskell	-\$11,816,420	-\$6,086,597	-\$3,545,108	-\$2,043,965	-63
Hays	-\$159,014,110	-\$80,435,691	-\$47,739,146	-\$28,313,543	-883
Hemphill	-\$3,631,013	-\$1,711,514	-\$874,727	-\$459,236	-14
Henderson	-\$207,822,032	-\$100,573,265	-\$58,013,747	-\$34,350,989	-1,071
Hidalgo	-\$640,667,787	-\$342,494,550	-\$205,549,675	-\$120,124,369	-3,864
Hill	-\$71,852,420	-\$33,407,785	-\$19,266,546	-\$13,601,604	-391
Hockley	-\$28,724,867	-\$14,778,802	-\$8,219,971	-\$5,185,398	-150
Hood	-\$120,208,393	-\$56,798,182	-\$33,614,521	-\$21,165,761	-632
Hopkins	-\$56,852,346	-\$29,807,273	-\$18,120,465	-\$12,283,081	-349
Houston	-\$57,970,285	-\$28,372,973	-\$17,281,615	-\$7,868,153	-283
Howard	-\$68,554,837	-\$32,969,882	-\$18,549,892	-\$10,617,579	-318
Hudspeth	-\$1,906,296	-\$993,460	-\$561,907	-\$604,212	-13
Hunt	-\$133,656,092	-\$67,091,640	-\$40,470,198	-\$27,550,187	-780
Hutchinson	-\$44,647,613	-\$20,950,764	-\$11,661,946	-\$8,022,939	-201
Irion	-\$2,989,579	-\$1,253,402	-\$642,415	-\$363,494	-10
Jack	-\$15,132,443	-\$7,594,499	-\$4,293,498	-\$2,556,341	-74
Jackson	-\$24,388,475	-\$12,620,775	-\$6,825,953	-\$4,462,140	-123
Jasper	-\$66,331,808	-\$33,790,820	-\$20,254,683	-\$13,702,152	-395
Jeff Davis	-\$5,210,610	-\$2,559,569	-\$1,486,246	-\$960,187	-28
Jefferson	-\$478,486,647	-\$236,524,359	-\$147,146,045	-\$82,928,146	-2,610

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County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Jim Hogg	-\$8,351,912	-\$4,225,128	-\$2,272,515	-\$1,665,503	-42
Jim Wells	-\$54,997,420	-\$30,450,222	-\$17,084,150	-\$10,825,766	-313
Johnson	-\$223,995,840	-\$110,509,628	-\$67,783,537	-\$40,180,248	-1,245
Jones	-\$39,856,057	-\$20,163,696	-\$11,352,325	-\$6,240,683	-200
Karnes	-\$33,026,212	-\$15,137,196	-\$8,300,988	-\$4,788,320	-141
Kaufman	-\$148,211,366	-\$72,093,936	-\$43,239,623	-\$26,925,624	-817
Kendall	-\$64,717,190	-\$29,884,641	-\$17,126,845	-\$10,339,995	-308
Kenedy	-\$2,721,670	-\$1,397,737	-\$717,672	-\$524,537	-14
Kent	-\$2,249,198	-\$1,088,947	-\$590,286	-\$316,799	-10
Kerr	-\$118,281,922	-\$58,736,484	-\$33,897,115	-\$21,165,761	-641
Kimble	-\$12,036,074	-\$5,268,811	-\$2,894,081	-\$1,873,690	-52
King	-\$2,144,254	-\$1,151,796	-\$692,951	-\$283,779	-12
Kinney	-\$9,607,259	-\$4,528,678	-\$2,325,708	-\$1,492,109	-42
Kleberg	-\$48,099,286	-\$24,392,276	-\$13,687,439	-\$8,119,325	-246
Knox	-\$7,794,591	-\$4,115,041	-\$2,272,298	-\$1,122,812	-37
La Salle	-\$6,691,451	-\$3,614,832	-\$1,980,416	-\$1,457,315	-39
Lamar	-\$93,098,797	-\$46,171,738	-\$28,108,252	-\$18,799,883	-550
Lamb	-\$15,408,619	-\$7,125,779	-\$4,222,525	-\$2,686,726	-76
Lampasas	-\$41,586,084	-\$20,949,303	-\$12,396,391	-\$8,327,513	-246
Lavaca	-\$45,403,289	-\$24,625,549	-\$14,709,127	-\$8,840,791	-272
Lee	-\$29,651,548	-\$14,961,338	-\$8,464,137	-\$4,876,296	-149
Leon	-\$30,017,937	-\$16,100,320	-\$9,064,973	-\$6,468,002	-172
Liberty	-\$140,238,159	-\$72,221,464	-\$42,031,286	-\$23,128,816	-732
Limestone	-\$42,341,924	-\$21,872,995	-\$12,898,554	-\$8,396,909	-238
Lipscomb	-\$5,351,693	-\$2,573,169	-\$1,288,035	-\$621,605	-21
Live Oak	-\$34,281,257	-\$16,284,432	-\$9,069,817	-\$5,829,259	-159
Llano	-\$69,866,858	-\$33,950,222	-\$19,562,386	-\$12,699,457	-378
Loving	-\$1,577,303	-\$764,932	-\$318,611	-\$97,159	-4
Lubbock	-\$433,214,666	-\$225,491,128	-\$134,625,607	-\$72,865,735	-2,423
Lynn	-\$6,319,497	-\$3,081,229	-\$1,785,537	-\$736,512	-29
Madison	-\$17,583,380	-\$9,005,988	-\$5,074,623	-\$3,886,173	-103
Marion	-\$24,823,012	-\$12,713,951	-\$7,348,190	-\$4,857,716	-142
Martin	-\$5,910,592	-\$2,806,544	-\$1,546,031	-\$831,174	-25
Mason	-\$11,982,189	-\$5,935,374	-\$3,189,651	-\$1,943,086	-58
Matagorda	-\$71,266,437	-\$32,707,383	-\$19,075,073	-\$12,459,585	-343
Maverick	-\$48,054,160	-\$24,683,936	-\$14,236,489	-\$9,715,431	-280
McCulloch	-\$17,993,836	-\$9,350,327	-\$5,660,843	-\$3,539,193	-105
McLennan	-\$436,179,020	-\$208,383,600	-\$122,592,049	-\$69,118,354	-2,253
McMullen	-\$939,069	-\$452,410	-\$232,210	-\$97,546	-3
Medina	-\$66,454,372	-\$31,857,080	-\$18,108,341	-\$11,797,309	-349
Menard	-\$5,762,640	-\$3,011,109	-\$1,646,759	-\$1,110,335	-30



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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Midland	-\$189,067,452	-\$95,959,265	-\$53,278,389	-\$28,132,787	-883
Milam	-\$42,603,668	-\$21,499,340	-\$12,856,488	-\$8,141,943	-240
Mills	-\$6,988,202	-\$4,235,703	-\$2,683,300	-\$1,819,785	-53
Mitchell	-\$15,785,823	-\$8,163,288	-\$4,615,140	-\$2,817,849	-82
Montague	-\$49,110,801	-\$23,971,409	-\$13,097,390	-\$8,119,325	-239
Montgomery	-\$767,687,489	-\$367,137,802	-\$208,240,674	-\$98,732,603	-3,424
Moore	-\$25,489,320	-\$11,160,528	-\$6,139,171	-\$3,474,045	-102
Morris	-\$24,702,017	-\$10,827,885	-\$6,485,525	-\$2,931,455	-105
Motley	-\$3,796,283	-\$1,802,944	-\$954,385	-\$599,552	-17
Nacogdoches	-\$88,104,617	-\$46,961,199	-\$28,741,344	-\$19,222,675	-574
Navarro	-\$87,945,730	-\$43,647,921	-\$26,322,649	-\$14,985,523	-488
Newton	-\$12,165,497	-\$7,581,266	-\$4,908,485	-\$3,344,795	-93
Nolan	-\$34,663,269	-\$18,280,985	-\$10,257,929	-\$6,037,978	-182
Nueces	-\$644,659,712	-\$299,323,051	-\$171,854,598	-\$88,688,009	-2,900
Ochiltree	-\$10,666,845	-\$5,138,206	-\$2,761,327	-\$1,470,723	-45
Oldham	-\$1,021,640	-\$577,614	-\$353,134	-\$324,461	-8
Orange	-\$157,039,044	-\$77,054,961	-\$46,880,278	-\$28,728,415	-843
Palo Pinto	-\$67,809,842	-\$31,889,247	-\$17,923,851	-\$10,686,974	-321
Panola	-\$46,845,823	-\$23,882,663	-\$13,597,959	-\$7,759,260	-238
Parker	-\$192,540,621	-\$90,033,734	-\$51,925,594	-\$30,464,817	-935
Parmer	-\$4,522,051	-\$2,073,759	-\$1,195,061	-\$415,110	-20
Pecos	-\$19,088,018	-\$9,552,177	-\$5,257,623	-\$3,539,193	-98
Polk	-\$138,328,300	-\$70,870,835	-\$40,072,725	-\$25,329,517	-717
Potter	-\$218,714,411	-\$114,020,884	-\$64,742,168	-\$34,559,177	-1,125
Presidio	-\$10,629,084	-\$5,104,050	-\$2,951,077	-\$2,012,482	-56
Rains	-\$21,388,326	-\$9,968,757	-\$5,532,567	-\$3,863,439	-103
Randall	-\$193,416,050	-\$100,271,799	-\$58,166,297	-\$33,010,212	-1,045
Reagan	-\$3,179,693	-\$1,644,987	-\$879,786	-\$599,616	-15
Real	-\$10,926,292	-\$4,993,827	-\$2,708,967	-\$1,665,503	-48
Red River	-\$31,551,222	-\$14,986,994	-\$8,613,302	-\$5,492,045	-162
Reeves	-\$17,166,367	-\$8,866,865	-\$4,919,168	-\$3,608,589	-93
Refugio	-\$15,164,497	-\$7,585,344	-\$4,011,728	-\$3,331,005	-76
Roberts	-\$1,460,847	-\$664,679	-\$345,200	-\$272,049	-6
Robertson	-\$31,613,928	-\$15,553,232	-\$9,370,273	-\$6,800,802	-185
Rockwall	-\$77,493,200	-\$39,435,620	-\$23,576,780	-\$14,017,980	-438
Runnels	-\$27,025,403	-\$12,169,166	-\$6,631,497	-\$3,880,956	-114
Rusk	-\$95,566,950	-\$46,567,226	-\$26,811,355	-\$14,484,987	-462
Sabine	-\$25,690,668	-\$12,733,650	-\$7,934,193	-\$5,140,230	-149
San Augustine	-\$22,314,613	-\$10,723,268	-\$5,922,343	-\$3,660,120	-108
San Jacinto	-\$50,767,751	-\$24,825,278	-\$14,609,085	-\$9,437,848	-276
San Patricio	-\$114,877,632	-\$53,752,616	-\$30,899,968	-\$19,821,327	-560



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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
San Saba	-\$10,505,041	-\$5,604,822	-\$3,326,284	-\$2,359,462	-67
Schleicher	-\$3,496,728	-\$1,795,989	-\$997,369	-\$394,236	-16
Scurry	-\$26,952,526	-\$14,717,648	-\$8,066,431	-\$5,525,910	-148
Shackelford	-\$5,685,868	-\$2,861,807	-\$1,528,211	-\$883,006	-26
Shelby	-\$35,002,860	-\$18,895,879	-\$12,030,371	-\$7,833,382	-232
Sherman	-\$1,151,168	-\$532,372	-\$303,567	-\$164,229	-6
Smith	-\$454,654,451	-\$223,696,941	-\$123,536,945	-\$67,192,649	-2,128
Somervell	-\$7,861,468	-\$3,653,888	-\$2,240,006	-\$901,316	-39
Starr	-\$38,204,662	-\$21,601,237	-\$12,942,231	-\$9,576,639	-261
Stephens	-\$18,212,694	-\$9,843,633	-\$5,523,646	-\$3,866,887	-100
Sterling	-\$1,355,939	-\$780,983	-\$443,505	-\$346,980	-8
Stonewall	-\$2,889,342	-\$1,620,702	-\$912,060	-\$635,616	-17
Sutton	-\$6,651,739	-\$3,481,813	-\$1,929,324	-\$1,318,523	-35
Swisher	-\$7,916,944	-\$3,656,685	-\$2,145,848	-\$1,277,975	-40
Tarrant	-\$2,776,475,219	-\$1,371,686,511	-\$795,750,804	-\$392,295,238	-13,497
Taylor	-\$234,833,289	-\$116,909,175	-\$66,380,617	-\$34,767,365	-1,139
Terrell	-\$1,658,470	-\$981,705	-\$583,352	-\$306,700	-10
Terry	-\$17,564,928	-\$9,071,823	-\$4,770,424	-\$3,462,334	-87
Throckmorton	-\$2,254,893	-\$1,179,425	-\$614,258	-\$371,482	-11
Titus	-\$37,016,203	-\$17,882,175	-\$10,845,901	-\$7,842,436	-210
Tom Green	-\$196,297,463	-\$95,795,237	-\$52,961,585	-\$30,673,005	-964
Travis	-\$1,066,013,741	-\$555,167,610	-\$332,925,950	-\$164,606,357	-5,759
Trinity	-\$35,718,486	-\$19,514,857	-\$11,485,328	-\$7,560,696	-224
Tyler	-\$41,215,131	-\$21,307,149	-\$12,839,646	-\$8,225,449	-244
Upshur	-\$80,745,957	-\$40,488,421	-\$23,169,643	-\$14,295,563	-418
Upton	-\$5,138,961	-\$2,601,344	-\$1,374,480	-\$760,690	-23
Uvalde	-\$38,505,612	-\$20,094,455	-\$11,942,400	-\$7,286,574	-228
Val Verde	-\$50,693,108	-\$28,329,066	-\$17,560,427	-\$10,686,974	-335
Van Zandt	-\$91,856,200	-\$51,835,733	-\$30,402,075	-\$19,986,030	-586
Victoria	-\$180,405,932	-\$88,066,586	-\$50,341,582	-\$26,995,020	-843
Walker	-\$144,003,633	-\$74,010,074	-\$44,772,238	-\$28,660,522	-858
Waller	-\$55,669,957	-\$24,583,209	-\$13,492,372	-\$9,021,472	-250
Ward	-\$16,681,581	-\$8,563,381	-\$4,756,103	-\$3,261,609	-87
Washington	-\$63,537,907	-\$32,976,930	-\$19,542,254	-\$11,402,859	-355
Webb	-\$202,173,883	-\$105,964,803	-\$58,725,103	-\$36,294,076	-1,061
Wharton	-\$78,140,974	-\$40,764,490	-\$23,098,717	-\$14,369,831	-417
Wheeler	-\$8,282,558	-\$4,598,931	-\$2,584,403	-\$1,800,317	-49
Wichita	-\$237,000,542	-\$127,845,717	-\$72,665,691	-\$41,151,791	-1,274
Wilbarger	-\$30,439,186	-\$14,592,332	-\$8,810,127	-\$5,621,071	-163
Willacy	-\$22,414,005	-\$12,664,535	-\$7,341,868	-\$5,096,977	-142
Williamson	-\$285,437,533	-\$152,430,100	-\$93,811,132	-\$52,820,702	-1,713



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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Wilson</b>	-\$61,455,084	-\$30,590,683	-\$17,681,122	-\$11,450,330	-343
<b>Winkler</b>	-\$9,378,491	-\$4,850,376	-\$2,683,138	-\$1,700,709	-47
<b>Wise</b>	-\$83,750,609	-\$43,554,868	-\$24,430,793	-\$14,711,939	-432
<b>Wood</b>	-\$118,553,866	-\$58,066,489	-\$33,297,791	-\$19,642,944	-605
<b>Yoakum</b>	-\$8,835,184	-\$4,489,007	-\$2,434,145	-\$1,616,477	-44
<b>Young</b>	-\$44,354,157	-\$22,830,519	-\$12,691,049	-\$7,791,385	-222
<b>Zapata</b>	-\$13,498,199	-\$6,976,534	-\$3,891,284	-\$2,775,838	-74
<b>Zavala</b>	-\$7,030,960	-\$4,169,966	-\$2,667,383	-\$2,174,234	-58
<b>TEXAS</b>	<b>-\$37,554,859,084</b>	<b>-\$18,381,895,905</b>	<b>-\$10,646,839,017</b>	<b>-\$5,460,386,017</b>	<b>-182,654</b>

NOTE: Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.  
 SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$295,257,347	-\$150,556,473	-\$90,421,347	-\$57,134,616	-1,716
2	-\$282,364,638	-\$148,734,646	-\$88,992,738	-\$59,819,299	-1,716
3	-\$259,874,829	-\$122,241,864	-\$68,884,391	-\$35,284,344	-1,161
4	-\$320,703,653	-\$155,569,746	-\$91,391,033	-\$55,436,945	-1,705
5	-\$329,704,472	-\$159,714,083	-\$91,328,447	-\$53,816,700	-1,638
6	-\$345,537,383	-\$170,009,675	-\$93,888,078	-\$51,066,413	-1,617
7	-\$336,557,929	-\$175,488,323	-\$101,525,848	-\$55,724,938	-1,759
8	-\$284,120,360	-\$142,814,148	-\$83,012,922	-\$51,263,805	-1,553
9	-\$328,372,623	-\$161,646,829	-\$94,950,601	-\$55,424,438	-1,684
10	-\$226,987,053	-\$105,836,645	-\$62,511,233	-\$38,060,438	-1,134
11	-\$264,010,981	-\$133,900,784	-\$80,428,456	-\$49,424,884	-1,500
12	-\$267,093,478	-\$132,178,955	-\$78,212,806	-\$46,985,980	-1,453
13	-\$347,330,067	-\$177,902,702	-\$103,814,817	-\$60,179,306	-1,868
14	-\$164,365,215	-\$83,064,204	-\$47,909,213	-\$26,173,372	-862
15	-\$281,741,309	-\$134,739,573	-\$76,424,327	-\$36,234,865	-1,256
16	-\$281,741,309	-\$134,739,573	-\$76,424,327	-\$36,234,865	-1,256
17	-\$263,143,073	-\$129,788,887	-\$75,172,603	-\$45,337,710	-1,374
18	-\$335,009,542	-\$171,056,817	-\$101,412,608	-\$61,227,186	-1,867
19	-\$357,068,687	-\$182,177,445	-\$105,779,500	-\$68,228,482	-1,951
20	-\$192,423,238	-\$96,696,105	-\$57,580,942	-\$34,058,060	-1,055
21	-\$329,294,237	-\$162,203,730	-\$99,852,854	-\$58,582,548	-1,782
22	-\$306,231,454	-\$151,375,590	-\$94,173,469	-\$53,074,013	-1,670
23	-\$305,982,082	-\$140,841,646	-\$81,291,304	-\$45,104,503	-1,423
24	-\$320,693,837	-\$149,656,917	-\$87,454,716	-\$50,092,764	-1,560
25	-\$250,527,052	-\$118,176,061	-\$69,357,431	-\$42,175,529	-1,228
26	-\$194,956,102	-\$91,516,446	-\$51,374,929	-\$25,629,848	-836
27	-\$194,956,102	-\$91,516,446	-\$51,374,929	-\$25,629,848	-836
28	-\$194,956,102	-\$91,516,446	-\$51,374,929	-\$25,629,848	-836
29	-\$228,149,874	-\$108,778,318	-\$63,995,728	-\$37,820,293	-1,127
30	-\$358,147,265	-\$172,069,254	-\$97,621,463	-\$56,427,132	-1,687
31	-\$214,518,632	-\$109,691,399	-\$62,319,290	-\$39,816,393	-1,137
32	-\$315,883,259	-\$146,668,295	-\$84,208,753	-\$43,457,124	-1,421
33	-\$169,835,175	-\$86,917,731	-\$51,699,082	-\$29,128,916	-932
34	-\$328,776,453	-\$152,654,756	-\$87,645,845	-\$45,230,885	-1,479
35	-\$157,693,716	-\$82,185,813	-\$49,174,134	-\$29,013,609	-930
36	-\$139,665,578	-\$74,663,812	-\$44,809,829	-\$26,187,112	-842
37	-\$186,994,473	-\$94,738,438	-\$56,486,976	-\$33,693,116	-1,076
38	-\$182,542,224	-\$92,482,761	-\$55,142,048	-\$32,890,899	-1,050
39	-\$139,665,578	-\$74,663,812	-\$44,809,829	-\$26,187,112	-842
40	-\$139,665,578	-\$74,663,812	-\$44,809,829	-\$26,187,112	-842
41	-\$139,665,578	-\$74,663,812	-\$44,809,829	-\$26,187,112	-842
42	-\$129,391,285	-\$67,817,474	-\$37,584,066	-\$23,228,208	-679
43	-\$254,738,689	-\$128,103,120	-\$72,652,488	-\$45,706,012	-1,321



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
44	-\$222,275,455	-\$110,170,869	-\$64,748,590	-\$42,192,730	-1,229
45	-\$176,294,028	-\$88,628,684	-\$52,426,113	-\$31,343,114	-974
46	-\$173,760,240	-\$90,492,320	-\$54,266,930	-\$26,830,836	-939
47	-\$181,222,336	-\$94,378,494	-\$56,597,411	-\$27,983,081	-979
48	-\$181,222,336	-\$94,378,494	-\$56,597,411	-\$27,983,081	-979
49	-\$174,826,253	-\$91,047,488	-\$54,599,856	-\$26,995,443	-945
50	-\$173,760,240	-\$90,492,320	-\$54,266,930	-\$26,830,836	-939
51	-\$181,222,336	-\$94,378,494	-\$56,597,411	-\$27,983,081	-979
52	-\$111,320,638	-\$59,447,739	-\$36,586,341	-\$20,600,074	-668
53	-\$360,609,174	-\$175,516,948	-\$99,777,688	-\$63,905,641	-1,887
54	-\$205,935,902	-\$108,702,389	-\$66,404,694	-\$40,371,781	-1,264
55	-\$178,045,637	-\$95,065,843	-\$58,508,995	-\$34,714,624	-1,103
56	-\$305,325,314	-\$145,868,520	-\$85,814,434	-\$48,382,848	-1,577
57	-\$318,180,155	-\$161,018,124	-\$95,800,031	-\$58,381,249	-1,767
58	-\$260,724,476	-\$128,617,303	-\$78,748,965	-\$46,338,859	-1,446
59	-\$210,833,695	-\$109,045,051	-\$65,714,060	-\$42,682,995	-1,272
60	-\$372,964,420	-\$184,386,270	-\$106,537,522	-\$68,385,968	-1,987
61	-\$276,291,231	-\$133,588,602	-\$76,356,387	-\$45,176,756	-1,367
62	-\$291,751,075	-\$150,439,093	-\$91,863,213	-\$57,797,193	-1,745
63	-\$171,138,113	-\$82,049,948	-\$48,489,082	-\$25,190,726	-841
64	-\$171,138,113	-\$82,049,948	-\$48,489,082	-\$25,190,726	-841
65	-\$171,138,113	-\$82,049,948	-\$48,489,082	-\$25,190,726	-841
66	-\$169,293,621	-\$87,050,536	-\$51,557,554	-\$27,703,384	-905
67	-\$169,293,621	-\$87,050,536	-\$51,557,554	-\$27,703,384	-905
68	-\$330,870,988	-\$166,782,774	-\$95,276,079	-\$57,236,301	-1,694
69	-\$291,588,785	-\$156,236,278	-\$88,974,326	-\$50,239,807	-1,560
70	-\$169,293,621	-\$87,050,536	-\$51,557,554	-\$27,703,384	-905
71	-\$309,352,615	-\$155,353,856	-\$87,990,870	-\$47,046,026	-1,520
72	-\$315,035,878	-\$152,427,873	-\$84,620,273	-\$49,025,017	-1,508
73	-\$308,034,131	-\$148,065,643	-\$86,308,278	-\$53,573,664	-1,638
74	-\$182,433,651	-\$95,730,960	-\$55,862,203	-\$36,631,625	-1,067
75	-\$223,142,266	-\$108,020,680	-\$63,163,885	-\$33,296,171	-1,126
76	-\$223,142,266	-\$108,020,680	-\$63,163,885	-\$33,296,171	-1,126
77	-\$223,142,266	-\$108,020,680	-\$63,163,885	-\$33,296,171	-1,126
78	-\$223,142,266	-\$108,020,680	-\$63,163,885	-\$33,296,171	-1,126
79	-\$223,142,266	-\$108,020,680	-\$63,163,885	-\$33,296,171	-1,126
80	-\$165,850,903	-\$86,268,038	-\$48,912,762	-\$31,227,161	-911
81	-\$268,918,813	-\$134,029,409	-\$76,239,741	-\$42,147,006	-1,286
82	-\$226,895,043	-\$115,051,153	-\$63,646,109	-\$34,281,831	-1,063
83	-\$261,443,299	-\$135,735,164	-\$78,622,015	-\$44,765,901	-1,407
84	-\$259,928,799	-\$135,294,677	-\$80,775,364	-\$43,719,441	-1,454
85	-\$234,411,518	-\$115,293,448	-\$64,678,298	-\$36,169,809	-1,106
86	-\$221,457,842	-\$114,246,679	-\$66,396,224	-\$37,351,948	-1,195



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
87	-\$295,540,637	-\$149,000,595	-\$83,936,697	-\$46,654,835	-1,450
88	-\$209,886,196	-\$103,875,200	-\$59,060,915	-\$37,786,255	-1,069
89	-\$169,293,621	-\$87,050,536	-\$51,557,554	-\$27,703,384	-905
90	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
91	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
92	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
93	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
94	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
95	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
96	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
97	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
98	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
99	-\$252,659,245	-\$124,823,473	-\$72,413,323	-\$35,698,867	-1,228
100	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
101	-\$249,882,770	-\$123,451,786	-\$71,617,572	-\$35,306,571	-1,215
102	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
103	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
104	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
105	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
106	-\$171,138,113	-\$82,049,948	-\$48,489,082	-\$25,190,726	-841
107	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
108	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
109	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
110	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
111	-\$271,997,207	-\$132,607,823	-\$74,856,413	-\$30,020,337	-1,179
112	-\$266,369,678	-\$129,864,213	-\$73,307,660	-\$29,399,226	-1,155
113	-\$271,997,207	-\$132,607,823	-\$74,856,413	-\$30,020,337	-1,179
114	-\$271,997,207	-\$132,607,823	-\$74,856,413	-\$30,020,337	-1,179
115	-\$271,997,207	-\$132,607,823	-\$74,856,413	-\$30,020,337	-1,179
116	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
117	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
118	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
119	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
120	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
121	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
122	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
123	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
124	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
125	-\$254,333,714	-\$127,617,280	-\$76,009,872	-\$39,236,463	-1,341
126	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
127	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
128	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
129	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
130	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
131	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
132	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
133	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
134	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
135	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
136	-\$111,320,638	-\$59,447,739	-\$36,586,341	-\$20,600,074	-668
137	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
138	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
139	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
140	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
141	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
142	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
143	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
144	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
145	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
146	-\$281,822,128	-\$128,248,341	-\$72,168,256	-\$26,294,594	-1,080
147	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
148	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
149	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
150	-\$275,112,077	-\$125,194,809	-\$70,449,964	-\$25,668,532	-1,054
<b>TOTAL</b>	<b>-\$37,554,859,084</b>	<b>-\$18,381,895,905</b>	<b>-\$10,646,839,017</b>	<b>-\$5,460,386,017</b>	<b>-182,654</b>

NOTE: 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.

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



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

Senate District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$1,648,914,850	-\$822,384,322	-\$473,428,545	-\$270,815,041	-8,392
2	-\$1,242,428,696	-\$619,091,193	-\$360,128,222	-\$188,888,420	-6,273
3	-\$1,606,676,838	-\$810,200,708	-\$478,974,434	-\$289,374,784	-8,753
4	-\$1,399,734,436	-\$669,795,340	-\$391,920,356	-\$193,260,454	-6,550
5	-\$860,178,430	-\$444,722,205	-\$264,893,622	-\$159,223,206	-4,901
6	-\$1,342,010,133	-\$610,706,386	-\$343,658,361	-\$125,212,353	-5,142
7	-\$1,342,010,133	-\$610,706,386	-\$343,658,361	-\$125,212,353	-5,142
8	-\$841,673,269	-\$427,785,288	-\$250,824,754	-\$127,739,481	-4,310
9	-\$1,281,653,280	-\$630,990,022	-\$363,480,476	-\$170,647,006	-6,053
10	-\$1,277,178,601	-\$630,975,795	-\$366,045,370	-\$180,455,810	-6,208
11	-\$1,317,757,674	-\$612,349,712	-\$353,739,749	-\$178,981,178	-5,947
12	-\$984,649,817	-\$478,158,804	-\$280,346,372	-\$142,477,495	-4,818
13	-\$1,276,891,184	-\$583,027,357	-\$327,996,505	-\$124,333,702	-4,955
14	-\$901,484,643	-\$466,188,606	-\$279,067,826	-\$142,141,714	-4,879
15	-\$1,274,909,626	-\$580,171,067	-\$326,475,443	-\$118,951,735	-4,885
16	-\$1,294,331,536	-\$631,030,332	-\$356,213,278	-\$142,855,396	-5,612
17	-\$1,227,963,958	-\$564,842,127	-\$319,245,234	-\$132,477,025	-4,950
18	-\$1,380,161,455	-\$669,537,634	-\$381,300,048	-\$213,818,002	-6,588
19	-\$1,136,141,736	-\$572,240,571	-\$336,891,453	-\$187,321,141	-6,066
20	-\$1,074,592,567	-\$530,771,603	-\$309,534,490	-\$170,380,907	-5,483
21	-\$917,695,632	-\$464,882,847	-\$267,134,390	-\$161,484,030	-4,850
22	-\$1,346,228,834	-\$648,248,089	-\$385,261,972	-\$224,014,307	-7,065
23	-\$1,294,331,536	-\$631,030,332	-\$356,213,278	-\$142,855,396	-5,612
24	-\$1,236,895,150	-\$629,387,501	-\$372,713,547	-\$226,094,220	-6,974
25	-\$1,127,690,255	-\$561,266,294	-\$332,299,687	-\$184,795,081	-6,010
26	-\$1,182,651,772	-\$593,420,353	-\$353,445,906	-\$182,449,555	-6,237
27	-\$787,540,369	-\$407,869,969	-\$242,570,642	-\$144,414,779	-4,586
28	-\$1,308,996,151	-\$666,198,752	-\$382,692,548	-\$223,741,839	-6,898
29	-\$1,136,057,633	-\$550,308,779	-\$321,728,027	-\$170,821,092	-5,747
30	-\$1,304,336,604	-\$660,723,670	-\$383,973,258	-\$224,752,387	-6,895
31	-\$1,201,092,285	-\$602,883,862	-\$340,982,866	-\$190,396,129	-5,871
<b>TOTAL</b>	<b>-\$37,554,859,084</b>	<b>-\$18,381,895,905</b>	<b>-\$10,646,839,017</b>	<b>-\$5,460,386,017</b>	<b>-182,654</b>

NOTE: 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.

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



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

US Congressional District in Texas	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$1,390,204,370	-\$696,241,148	-\$401,332,356	-\$225,852,671	-7,076
2	-\$1,140,708,613	-\$519,100,428	-\$292,109,607	-\$106,430,500	-4,371
3	-\$684,869,647	-\$352,158,987	-\$208,573,742	-\$112,072,779	-3,661
4	-\$1,130,512,155	-\$573,283,261	-\$344,331,808	-\$219,386,361	-6,503
5	-\$1,213,516,916	-\$604,020,896	-\$348,990,892	-\$182,865,882	-6,078
6	-\$1,057,016,099	-\$516,459,333	-\$301,781,770	-\$157,048,959	-5,218
7	-\$1,140,708,613	-\$519,100,428	-\$292,109,607	-\$106,430,500	-4,371
8	-\$1,253,369,255	-\$607,218,597	-\$349,397,620	-\$177,268,894	-5,932
9	-\$1,118,594,686	-\$511,608,851	-\$287,780,456	-\$111,205,492	-4,368
10	-\$1,033,950,683	-\$501,565,131	-\$289,990,008	-\$139,998,487	-4,863
11	-\$1,270,754,418	-\$631,183,635	-\$359,222,068	-\$213,554,553	-6,433
12	-\$1,085,910,677	-\$532,242,951	-\$308,136,353	-\$157,813,997	-5,288
13	-\$1,198,944,876	-\$613,577,731	-\$349,549,845	-\$200,643,356	-6,152
14	-\$1,250,785,353	-\$598,949,882	-\$359,311,443	-\$205,472,267	-6,382
15	-\$684,119,940	-\$354,711,033	-\$209,862,823	-\$126,364,784	-3,913
16	-\$970,668,856	-\$469,889,959	-\$274,762,899	-\$144,838,344	-4,900
17	-\$1,019,648,492	-\$507,213,942	-\$297,422,549	-\$170,395,734	-5,417
18	-\$1,140,708,613	-\$519,100,428	-\$292,109,607	-\$106,430,500	-4,371
19	-\$1,095,038,085	-\$559,546,835	-\$323,174,066	-\$182,742,230	-5,747
20	-\$1,042,768,229	-\$523,230,849	-\$311,640,476	-\$160,869,500	-5,499
21	-\$1,058,614,715	-\$526,583,158	-\$310,213,067	-\$173,370,777	-5,619
22	-\$879,543,143	-\$412,479,748	-\$234,306,471	-\$117,635,252	-3,846
23	-\$941,995,977	-\$475,012,026	-\$278,010,066	-\$159,578,603	-5,062
24	-\$1,034,068,119	-\$505,729,429	-\$289,960,506	-\$130,435,406	-4,755
25	-\$917,155,331	-\$460,353,013	-\$275,984,912	-\$160,602,409	-5,082
26	-\$794,048,238	-\$383,969,821	-\$225,676,318	-\$115,430,901	-3,890
27	-\$1,339,953,487	-\$637,896,571	-\$365,323,522	-\$205,116,357	-6,328
28	-\$723,820,268	-\$372,364,755	-\$215,777,520	-\$126,196,211	-3,924
29	-\$1,140,708,613	-\$519,100,428	-\$292,109,607	-\$106,430,500	-4,371
30	-\$1,102,995,570	-\$537,747,587	-\$303,555,663	-\$121,737,642	-4,783
31	-\$590,169,489	-\$315,138,948	-\$193,951,527	-\$112,236,116	-3,601
32	-\$1,074,132,845	-\$524,907,174	-\$296,966,769	-\$121,011,638	-4,704
33	-\$1,090,283,133	-\$534,981,451	-\$306,067,991	-\$136,647,137	-5,004
34	-\$799,702,240	-\$411,276,092	-\$241,982,200	-\$146,948,183	-4,553
35	-\$899,711,045	-\$454,960,904	-\$270,631,590	-\$143,406,536	-4,809
36	-\$1,245,158,294	-\$598,990,492	-\$344,731,293	-\$175,916,557	-5,780
<b>TOTAL</b>	<b>-\$37,554,859,084</b>	<b>-\$18,381,895,905</b>	<b>-\$10,646,839,017</b>	<b>-\$5,460,386,017</b>	<b>-182,654</b>

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

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 Detailed Industrial Category**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	(\$1,075,013,486)	(\$320,045,847)	(\$193,537,066)	(3,583)
<b>Mining</b>	(\$7,713,364,959)	(\$3,706,908,190)	(\$1,267,685,144)	(5,190)
<b>Construction</b>	(\$3,086,484,896)	(\$1,504,455,211)	(\$1,134,423,872)	(17,781)
<b>Nondurable Manufacturing</b>	(\$10,222,654,513)	(\$2,825,896,923)	(\$1,490,456,882)	(15,841)
<b>Durable Manufacturing</b>	(\$4,918,059,475)	(\$2,045,718,175)	(\$1,377,158,170)	(13,648)
<b>Transportation and Utilities</b>	(\$7,778,155,728)	(\$2,703,323,997)	(\$1,510,077,793)	(16,019)
<b>Information</b>	(\$2,170,903,490)	(\$1,446,142,538)	(\$637,592,016)	(5,870)
<b>Wholesale Trade</b>	(\$2,970,703,514)	(\$2,317,385,240)	(\$1,301,044,495)	(15,320)
<b>Retail Trade (including Restaurants)</b>	(\$12,183,855,991)	(\$9,430,892,952)	(\$5,436,949,223)	(172,994)
<b>FIRE</b>	(\$17,389,036,107)	(\$5,168,345,750)	(\$1,841,263,034)	(17,745)
<b>Business Services</b>	(\$5,320,447,942)	(\$3,859,768,811)	(\$3,124,986,882)	(37,056)
<b>Health Services</b>	(\$3,446,050,944)	(\$2,770,588,337)	(\$2,215,405,367)	(39,413)
<b>Other Services</b>	(\$5,522,090,906)	(\$2,916,377,795)	(\$2,225,900,448)	(52,696)
<b>TOTAL</b>	<b>(\$83,796,821,951)</b>	<b>(\$41,015,849,768)</b>	<b>(\$23,756,480,391)</b>	<b>(413,157)</b>
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				



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

<b>Economic Region</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>High Plains</b>	(\$2,886,502,652)	(\$1,475,328,366)	(\$854,226,565)	(\$484,738,227)	-15,434
<b>Northwest Texas</b>	(\$2,833,343,001)	(\$1,456,826,701)	(\$828,597,484)	(\$486,135,111)	-14,949
<b>Metroplex</b>	(\$21,185,007,760)	(\$10,406,928,132)	(\$6,021,227,984)	(\$2,908,518,536)	-102,760
<b>Upper East Texas</b>	(\$5,443,262,346)	(\$2,739,593,329)	(\$1,587,429,722)	(\$925,574,990)	-28,904
<b>Southeast Texas</b>	(\$3,617,015,282)	(\$1,817,934,100)	(\$1,101,361,317)	(\$663,191,449)	-20,354
<b>Gulf Coast</b>	(\$21,064,968,473)	(\$9,723,395,147)	(\$5,512,358,079)	(\$2,314,411,444)	-87,541
<b>Capital</b>	(\$3,815,264,538)	(\$1,958,103,333)	(\$1,165,117,124)	(\$622,331,953)	-20,958
<b>Central Texas</b>	(\$3,845,727,938)	(\$1,934,165,156)	(\$1,145,701,677)	(\$689,402,664)	-21,694
<b>Alamo</b>	(\$8,535,674,392)	(\$4,246,577,295)	(\$2,503,973,495)	(\$1,362,636,547)	-45,318
<b>South Texas</b>	(\$5,749,977,461)	(\$2,893,160,410)	(\$1,682,708,108)	(\$986,808,503)	-31,103
<b>West Texas</b>	(\$2,238,821,952)	(\$1,112,018,718)	(\$621,839,996)	(\$354,156,356)	-10,915
<b>Upper Rio Grande</b>	(\$2,581,256,157)	(\$1,251,819,081)	(\$731,938,842)	(\$385,950,210)	-13,226
<b>TOTAL STATE IMPACT</b>	<b>(\$83,796,821,951)</b>	<b>(\$41,015,849,768)</b>	<b>(\$23,756,480,391)</b>	<b>(\$12,183,855,991)</b>	<b>-413,157</b>

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



**The Total Annual Impact of Mortality Losses Associated with the Incidence  
of Cancer on Business Activity in Texas:  
Council of Governments (COG) Region Results**

<b>COG</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Panhandle	(\$1,541,938,345)	(\$779,619,045)	(\$443,966,850)	(\$252,281,557)	-7,919
South Plains	(\$1,344,564,307)	(\$695,709,320)	(\$410,259,715)	(\$232,456,670)	-7,515
Nortex	(\$1,158,550,086)	(\$606,758,707)	(\$344,870,412)	(\$201,247,946)	-6,187
North Central Texas	(\$20,296,608,306)	(\$9,952,562,831)	(\$5,746,693,911)	(\$2,740,074,871)	-97,593
Ark-Tex	(\$1,248,282,013)	(\$631,171,237)	(\$379,169,370)	(\$241,279,081)	-7,251
East Texas	(\$4,194,980,334)	(\$2,108,422,091)	(\$1,208,260,351)	(\$684,295,909)	-21,653
West Central Texas	(\$1,674,792,915)	(\$850,067,995)	(\$483,727,072)	(\$284,887,166)	-8,762
Rio Grande	(\$2,581,256,157)	(\$1,251,819,081)	(\$731,938,842)	(\$385,950,210)	-13,226
Permian Basin	(\$1,532,373,547)	(\$765,477,619)	(\$429,034,000)	(\$239,994,506)	-7,374
Concho Valley	(\$706,448,405)	(\$346,541,099)	(\$192,805,995)	(\$114,161,850)	-3,541
Heart of Texas	(\$1,676,537,797)	(\$809,394,247)	(\$474,569,327)	(\$280,685,575)	-8,943
Capital Area	(\$3,815,264,538)	(\$1,958,103,333)	(\$1,165,117,124)	(\$622,331,953)	-20,958
Brazos Valley	(\$935,998,120)	(\$477,922,530)	(\$277,478,168)	(\$166,767,353)	-5,160
Deep East Texas	(\$1,743,996,140)	(\$894,585,576)	(\$535,749,333)	(\$335,143,174)	-10,146
South East Texas	(\$1,873,019,142)	(\$923,348,524)	(\$565,611,984)	(\$328,048,275)	-10,208
Houston-Galveston Area	(\$21,064,968,473)	(\$9,723,395,147)	(\$5,512,358,079)	(\$2,314,411,444)	-87,541
Golden Crescent	(\$852,396,182)	(\$424,056,634)	(\$245,320,457)	(\$142,049,965)	-4,372
Alamo Area	(\$7,684,056,051)	(\$3,822,896,068)	(\$2,258,845,820)	(\$1,220,667,587)	-40,949
South Texas	(\$543,367,744)	(\$287,513,479)	(\$161,349,443)	(\$104,421,492)	-3,023
Coastal Bend	(\$2,500,614,552)	(\$1,187,700,504)	(\$675,407,451)	(\$376,379,085)	-11,844
Lower Rio Grande Valley	(\$2,257,445,932)	(\$1,181,537,673)	(\$706,617,690)	(\$415,678,230)	-13,516
Texoma	(\$888,399,454)	(\$454,365,301)	(\$274,534,073)	(\$168,443,666)	-5,167
Central Texas	(\$1,233,192,021)	(\$646,848,379)	(\$393,654,182)	(\$241,949,736)	-7,591
Middle Rio Grande	(\$447,771,391)	(\$236,033,347)	(\$139,140,742)	(\$90,248,690)	-2,717
<b>Border Region</b>	<b>(\$5,831,222,142)</b>	<b>(\$2,957,722,246)</b>	<b>(\$1,739,533,841)</b>	<b>(\$996,553,307)</b>	<b>-32,491</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$83,796,821,951)</b>	<b>(\$41,015,849,768)</b>	<b>(\$23,756,480,391)</b>	<b>(\$12,183,855,991)</b>	<b>-413,157</b>

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



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

<b>MSA</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Abilene	(\$820,503,085)	(\$408,019,058)	(\$230,704,052)	(\$122,936,356)	-4,037
Amarillo	(\$997,753,603)	(\$517,658,795)	(\$296,081,039)	(\$160,887,048)	-5,273
Austin-Round Rock	(\$3,171,101,213)	(\$1,642,139,451)	(\$984,466,760)	(\$515,305,326)	-17,615
Beaumont-Port Arthur	(\$1,914,406,578)	(\$949,148,653)	(\$582,329,503)	(\$339,388,282)	-10,528
Brownsville-Harlingen	(\$913,380,212)	(\$462,256,295)	(\$275,446,325)	(\$163,425,458)	-5,306
College Station-Bryan	(\$578,867,198)	(\$293,296,065)	(\$169,931,997)	(\$98,598,732)	-3,135
Corpus Christi	(\$2,020,439,010)	(\$938,149,617)	(\$536,322,793)	(\$288,616,122)	-9,280
Dallas-Plano-Irving MD*	(\$12,308,048,710)	(\$6,020,262,424)	(\$3,454,637,776)	(\$1,557,036,777)	-57,465
Fort Worth-Arlington MD*	(\$7,461,008,778)	(\$3,669,914,517)	(\$2,136,603,975)	(\$1,089,768,323)	-37,195
El Paso	(\$2,524,490,172)	(\$1,221,834,629)	(\$714,113,546)	(\$374,322,891)	-12,882
Houston-The Woodlands-Sugar Land	(\$20,428,020,577)	(\$9,404,427,746)	(\$5,326,321,177)	(\$2,195,116,942)	-84,030
Killeen-Temple	(\$1,034,090,189)	(\$544,001,900)	(\$331,635,194)	(\$200,691,121)	-6,384
Laredo	(\$408,245,650)	(\$213,781,340)	(\$118,471,198)	(\$72,978,589)	-2,169
Longview	(\$1,070,012,153)	(\$549,305,180)	(\$317,555,905)	(\$173,100,902)	-5,566
Lubbock	(\$998,685,518)	(\$519,488,553)	(\$309,472,174)	(\$165,375,892)	-5,617
McAllen-Edinburg-Mission	(\$1,304,916,175)	(\$697,177,745)	(\$418,358,412)	(\$243,391,359)	-7,960
Midland	(\$432,929,514)	(\$219,175,704)	(\$121,706,925)	(\$64,093,414)	-2,041
Odessa	(\$578,581,847)	(\$286,011,983)	(\$163,765,378)	(\$88,117,765)	-2,779
San Angelo	(\$497,097,450)	(\$242,169,520)	(\$133,795,543)	(\$77,161,955)	-2,464
San Antonio-New Braunfels	(\$7,081,051,799)	(\$3,528,383,501)	(\$2,089,678,914)	(\$1,117,193,510)	-37,767
Sherman-Denison	(\$533,654,039)	(\$277,063,393)	(\$168,880,953)	(\$107,526,964)	-3,262
Texarkana	(\$428,956,516)	(\$225,865,165)	(\$136,951,380)	(\$83,071,373)	-2,598
Tyler	(\$965,025,540)	(\$474,219,332)	(\$261,881,121)	(\$141,766,112)	-4,566
Victoria	(\$443,910,252)	(\$218,368,353)	(\$124,883,399)	(\$68,708,565)	-2,142
Waco	(\$1,191,565,253)	(\$573,085,172)	(\$338,007,875)	(\$190,743,785)	-6,302
Wichita Falls	(\$721,030,082)	(\$386,556,732)	(\$220,081,551)	(\$123,669,171)	-3,903
<b>Rural Area</b>	<b>(\$12,969,050,837)</b>	<b>(\$6,534,088,945)</b>	<b>(\$3,794,395,529)</b>	<b>(\$2,360,863,258)</b>	<b>-70,893</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$83,796,821,951)</b>	<b>(\$41,015,849,768)</b>	<b>(\$23,756,480,391)</b>	<b>(\$12,183,855,991)</b>	<b>-413,157</b>

Metropolitan Division  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Anderson	-\$322,256,482	-\$175,313,001	-\$101,571,994	-\$58,431,386	-1,843
Andrews	-\$45,227,191	-\$23,477,006	-\$12,946,143	-\$6,966,133	-217
Angelina	-\$340,171,688	-\$169,874,564	-\$103,186,103	-\$63,273,990	-1,950
Aransas	-\$182,968,494	-\$84,423,213	-\$46,016,411	-\$27,172,879	-808
Archer	-\$29,433,933	-\$15,200,872	-\$8,147,722	-\$5,081,767	-150
Armstrong	-\$8,233,755	-\$4,162,641	-\$2,349,089	-\$985,431	-39
Atascosa	-\$169,992,201	-\$82,133,140	-\$46,346,164	-\$25,231,959	-794
Austin	-\$136,793,987	-\$64,998,894	-\$39,020,161	-\$18,154,174	-642
Bailey	-\$18,942,421	-\$9,779,053	-\$5,872,866	-\$4,035,125	-113
Bandera	-\$99,208,725	-\$47,135,254	-\$26,576,363	-\$17,468,279	-509
Bastrop	-\$248,521,661	-\$122,108,379	-\$72,111,348	-\$44,641,158	-1,379
Baylor	-\$35,305,559	-\$18,802,904	-\$10,943,270	-\$6,599,128	-202
Bee	-\$92,800,994	-\$49,228,566	-\$27,712,057	-\$17,468,279	-519
Bell	-\$777,726,484	-\$414,837,021	-\$255,221,851	-\$150,615,386	-4,867
Bexar	-\$5,672,665,074	-\$2,846,404,653	-\$1,695,367,228	-\$870,308,496	-30,277
Blanco	-\$38,434,010	-\$18,213,977	-\$10,411,649	-\$6,708,938	-204
Borden	-\$5,235,371	-\$2,605,033	-\$1,386,197	-\$657,053	-22
Bosque	-\$90,015,152	-\$44,350,603	-\$26,848,001	-\$15,022,280	-498
Bowie	-\$428,956,516	-\$225,865,165	-\$136,951,380	-\$83,071,373	-2,598
Brazoria	-\$920,261,743	-\$438,359,561	-\$257,928,984	-\$151,653,355	-4,597
Brazos	-\$417,576,203	-\$210,768,521	-\$121,550,901	-\$65,991,278	-2,212
Brewster	-\$27,362,874	-\$15,012,692	-\$9,122,589	-\$5,434,576	-174
Briscoe	-\$6,513,092	-\$3,064,280	-\$1,761,092	-\$1,115,554	-32
Brooks	-\$18,260,189	-\$9,978,350	-\$5,784,702	-\$3,881,840	-110
Brown	-\$166,560,581	-\$90,271,033	-\$54,913,780	-\$38,430,215	-1,107
Burleson	-\$81,766,063	-\$43,408,060	-\$24,819,639	-\$15,527,359	-451
Burnet	-\$223,412,596	-\$106,878,932	-\$61,767,324	-\$36,489,295	-1,138
Caldwell	-\$160,572,479	-\$80,680,199	-\$46,243,938	-\$26,784,695	-838
Calhoun	-\$57,647,693	-\$23,658,607	-\$13,600,291	-\$7,526,403	-231
Callahan	-\$80,889,461	-\$39,224,677	-\$21,483,567	-\$13,198,256	-392
Cameron	-\$913,380,212	-\$462,256,295	-\$275,446,325	-\$163,425,458	-5,306
Camp	-\$46,417,782	-\$22,763,424	-\$13,529,539	-\$8,340,805	-258
Carson	-\$10,675,945	-\$4,493,037	-\$2,093,182	-\$833,034	-33
Cass	-\$134,786,241	-\$68,242,476	-\$40,728,059	-\$28,514,951	-793
Castro	-\$12,080,889	-\$5,850,017	-\$3,471,905	-\$2,485,790	-69
Chambers	-\$106,750,712	-\$45,960,752	-\$24,874,957	-\$11,332,650	-395
Cherokee	-\$176,565,166	-\$88,703,856	-\$54,661,231	-\$34,415,936	-1,032
Childress	-\$31,199,611	-\$15,613,733	-\$8,990,411	-\$6,210,944	-177
Clay	-\$51,053,690	-\$26,017,694	-\$15,596,798	-\$7,954,969	-270
Cochran	-\$10,033,393	-\$5,375,989	-\$2,798,941	-\$1,319,113	-46
Coke	-\$31,838,512	-\$15,413,969	-\$8,614,161	-\$5,025,777	-148

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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Coleman	-\$64,583,361	-\$33,421,959	-\$18,600,901	-\$11,257,336	-337
Collin	-\$1,317,520,897	-\$676,857,608	-\$400,872,430	-\$213,639,043	-7,113
Collingsworth	-\$16,707,223	-\$9,210,478	-\$5,533,289	-\$3,525,659	-101
Colorado	-\$94,551,714	-\$48,071,738	-\$27,704,943	-\$18,724,377	-557
Comal	-\$387,754,932	-\$187,645,954	-\$109,212,071	-\$68,320,381	-2,137
Comanche	-\$73,470,732	-\$37,384,955	-\$22,519,366	-\$13,998,962	-427
Concho	-\$10,546,678	-\$5,644,786	-\$3,551,310	-\$1,949,142	-67
Cooke	-\$192,185,639	-\$95,708,146	-\$55,504,534	-\$29,890,167	-946
Coryell	-\$168,536,492	-\$85,009,003	-\$50,305,805	-\$32,607,455	-992
Cottle	-\$7,786,510	-\$4,527,192	-\$2,698,632	-\$1,395,690	-46
Crane	-\$10,851,998	-\$5,900,116	-\$3,209,325	-\$1,640,457	-55
Crockett	-\$12,729,470	-\$6,580,651	-\$3,596,972	-\$2,717,288	-69
Crosby	-\$24,351,951	-\$13,168,925	-\$7,393,374	-\$3,437,196	-126
Culberson	-\$6,616,942	-\$3,941,906	-\$2,315,928	-\$1,940,920	-49
Dallam	-\$13,393,555	-\$7,192,769	-\$4,283,508	-\$2,246,218	-79
Dallas	-\$8,429,253,847	-\$4,109,017,479	-\$2,320,039,668	-\$923,552,584	-36,977
Dawson	-\$57,792,552	-\$29,215,622	-\$15,904,166	-\$9,961,510	-287
Deaf Smith	-\$34,203,999	-\$16,717,989	-\$9,834,754	-\$5,220,919	-181
Delta	-\$20,895,766	-\$10,917,239	-\$6,598,125	-\$2,645,436	-112
Denton	-\$1,270,268,841	-\$608,819,583	-\$359,668,461	-\$185,551,945	-6,311
DeWitt	-\$119,780,726	-\$60,159,801	-\$35,909,510	-\$21,738,303	-672
Dickens	-\$14,339,287	-\$7,576,979	-\$4,566,023	-\$2,827,630	-83
Dimmit	-\$26,070,160	-\$13,586,617	-\$7,621,861	-\$5,434,576	-148
Donley	-\$17,951,792	-\$10,134,234	-\$6,127,305	-\$4,658,208	-127
Duval	-\$45,653,023	-\$22,280,055	-\$11,989,058	-\$6,584,700	-212
Eastland	-\$117,096,579	-\$58,006,056	-\$32,534,805	-\$21,350,119	-606
Ector	-\$578,581,847	-\$286,011,983	-\$163,765,378	-\$88,117,765	-2,779
Edwards	-\$10,977,698	-\$5,407,728	-\$2,893,032	-\$1,909,478	-53
El Paso	-\$2,522,907,614	-\$1,221,009,078	-\$713,646,876	-\$373,821,178	-12,871
Ellis	-\$452,410,786	-\$209,283,556	-\$124,120,601	-\$75,525,955	-2,268
Erath	-\$117,744,703	-\$63,651,618	-\$38,993,637	-\$26,008,327	-778
Falls	-\$84,212,458	-\$44,653,535	-\$27,305,980	-\$16,449,176	-524
Fannin	-\$162,559,776	-\$81,593,763	-\$50,148,586	-\$31,026,535	-960
Fayette	-\$151,338,444	-\$77,278,424	-\$43,430,461	-\$23,291,039	-766
Fisher	-\$20,792,822	-\$10,780,853	-\$6,305,960	-\$4,434,680	-125
Floyd	-\$16,447,569	-\$7,399,701	-\$4,269,971	-\$2,254,906	-77
Foard	-\$1,438,335	-\$809,090	-\$499,152	-\$300,687	-10
Fort Bend	-\$1,211,259,248	-\$568,458,860	-\$319,297,942	-\$158,196,034	-5,256
Franklin	-\$52,440,692	-\$26,059,557	-\$14,146,816	-\$9,050,960	-262
Freestone	-\$101,586,264	-\$50,238,579	-\$27,312,248	-\$18,632,831	-508
Frio	-\$52,454,660	-\$25,409,576	-\$13,808,849	-\$8,287,995	-247

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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Gaines	-\$45,511,139	-\$22,011,431	-\$11,549,294	-\$6,796,528	-200
Galveston	-\$1,401,265,200	-\$653,377,118	-\$381,708,577	-\$217,771,216	-6,892
Garza	-\$21,512,873	-\$10,540,033	-\$5,803,097	-\$3,559,276	-102
Gillespie	-\$144,129,329	-\$70,511,366	-\$41,868,306	-\$25,620,143	-802
Glasscock	-\$670,621	-\$331,270	-\$160,674	-\$56,155	-2
Goliad	-\$35,211,371	-\$18,883,926	-\$10,799,871	-\$7,763,680	-208
Gonzales	-\$57,111,447	-\$29,148,426	-\$17,434,493	-\$11,068,640	-334
Gray	-\$123,592,899	-\$57,779,680	-\$32,400,024	-\$19,604,781	-557
Grayson	-\$533,654,039	-\$277,063,393	-\$168,880,953	-\$107,526,964	-3,262
Gregg	-\$618,607,208	-\$326,438,185	-\$189,563,754	-\$99,763,284	-3,283
Grimes	-\$89,577,838	-\$45,095,594	-\$26,643,441	-\$16,026,285	-492
Guadalupe	-\$331,183,247	-\$163,727,799	-\$96,820,169	-\$62,885,806	-1,843
Hale	-\$84,531,487	-\$45,312,280	-\$27,429,757	-\$20,474,172	-558
Hall	-\$18,827,662	-\$9,508,576	-\$5,484,528	-\$3,554,222	-104
Hamilton	-\$47,908,025	-\$23,654,679	-\$14,290,139	-\$10,092,784	-285
Hansford	-\$10,451,763	-\$4,731,204	-\$2,295,430	-\$1,036,328	-33
Hardeman	-\$16,207,931	-\$8,907,572	-\$5,253,512	-\$4,270,024	-110
Hardin	-\$245,136,109	-\$120,306,225	-\$68,541,212	-\$43,476,606	-1,258
Harris	-\$14,522,802,441	-\$6,607,417,312	-\$3,719,764,904	-\$1,347,522,401	-56,349
Harrison	-\$347,865,005	-\$161,752,714	-\$92,367,679	-\$44,782,541	-1,509
Hartley	-\$5,819,615	-\$2,863,830	-\$1,652,946	-\$1,062,476	-33
Haskell	-\$36,986,110	-\$19,058,926	-\$11,104,452	-\$6,386,442	-201
Hays	-\$288,011,982	-\$145,505,390	-\$86,313,913	-\$50,852,102	-1,615
Hemphill	-\$7,247,559	-\$3,418,448	-\$1,747,330	-\$916,835	-28
Henderson	-\$511,904,803	-\$247,671,565	-\$142,817,646	-\$84,235,925	-2,669
Hidalgo	-\$1,304,916,175	-\$697,177,745	-\$418,358,412	-\$243,391,359	-7,960
Hill	-\$189,475,436	-\$88,012,263	-\$50,712,574	-\$35,712,927	-1,042
Hockley	-\$73,337,041	-\$37,709,630	-\$20,976,946	-\$13,212,455	-388
Hood	-\$263,693,133	-\$124,537,045	-\$73,677,409	-\$46,193,894	-1,403
Hopkins	-\$137,076,635	-\$71,842,046	-\$43,663,026	-\$29,501,983	-852
Houston	-\$159,371,768	-\$78,015,504	-\$47,528,723	-\$21,517,329	-787
Howard	-\$165,939,970	-\$79,765,448	-\$44,888,075	-\$25,620,143	-779
Hudspeth	-\$1,582,558	-\$825,552	-\$466,670	-\$501,713	-11
Hunt	-\$306,727,118	-\$153,802,331	-\$92,738,272	-\$62,885,806	-1,810
Hutchinson	-\$102,974,532	-\$48,285,784	-\$26,897,317	-\$18,454,188	-469
Irion	-\$2,493,021	-\$1,043,391	-\$534,519	-\$301,525	-9
Jack	-\$44,554,546	-\$22,368,045	-\$12,656,314	-\$7,507,814	-221
Jackson	-\$64,887,263	-\$33,609,147	-\$18,184,490	-\$11,870,064	-332
Jasper	-\$165,703,779	-\$84,412,991	-\$50,592,754	-\$34,147,171	-1,000
Jeff Davis	-\$8,363,674	-\$4,105,608	-\$2,383,494	-\$1,534,535	-46
Jefferson	-\$1,235,671,443	-\$610,723,536	-\$380,027,886	-\$213,113,008	-6,820



**The Total Annual Impact of Mortality Losses Associated with the Incidence  
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County Results**

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Jim Hogg	-\$25,328,721	-\$12,817,793	-\$6,895,512	-\$5,046,392	-128
Jim Wells	-\$124,600,673	-\$68,977,777	-\$38,705,510	-\$24,455,591	-718
Johnson	-\$528,873,264	-\$260,691,373	-\$159,862,991	-\$94,328,708	-2,970
Jones	-\$91,207,743	-\$46,141,531	-\$25,984,173	-\$14,244,840	-463
Karnes	-\$80,627,976	-\$36,933,655	-\$20,255,439	-\$11,645,520	-348
Kaufman	-\$354,543,565	-\$172,330,551	-\$103,332,506	-\$64,050,358	-1,975
Kendall	-\$139,276,310	-\$64,244,581	-\$36,809,612	-\$22,126,487	-670
Kenedy	-\$2,258,611	-\$1,160,208	-\$596,186	-\$435,995	-12
Kent	-\$1,873,690	-\$907,208	-\$492,053	-\$262,808	-8
Kerr	-\$325,014,444	-\$161,282,563	-\$93,041,530	-\$57,839,414	-1,782
Kimble	-\$35,077,701	-\$15,341,027	-\$8,422,485	-\$5,434,576	-154
King	-\$1,791,903	-\$962,096	-\$578,590	-\$235,319	-10
Kinney	-\$17,964,899	-\$8,462,921	-\$4,343,308	-\$2,782,589	-80
Kleberg	-\$115,453,963	-\$58,498,563	-\$32,828,823	-\$19,409,199	-597
Knox	-\$21,860,906	-\$11,539,170	-\$6,372,124	-\$3,138,164	-106
La Salle	-\$14,299,412	-\$7,715,427	-\$4,225,582	-\$3,105,472	-84
Lamar	-\$226,836,292	-\$112,468,261	-\$68,453,094	-\$45,671,035	-1,357
Lamb	-\$39,551,164	-\$18,298,669	-\$10,842,522	-\$6,884,131	-197
Lampasas	-\$87,827,213	-\$44,155,876	-\$26,107,539	-\$17,468,279	-525
Lavaca	-\$109,058,800	-\$59,112,299	-\$35,308,273	-\$21,137,990	-660
Lee	-\$74,362,261	-\$37,530,261	-\$21,244,439	-\$12,199,924	-378
Leon	-\$64,927,594	-\$34,798,730	-\$19,587,150	-\$13,938,595	-376
Liberty	-\$370,297,382	-\$190,662,542	-\$111,005,856	-\$60,858,290	-1,958
Limestone	-\$103,895,692	-\$53,707,630	-\$31,688,630	-\$20,573,751	-592
Lipscomb	-\$10,016,993	-\$4,808,193	-\$2,405,717	-\$1,157,847	-39
Live Oak	-\$45,762,767	-\$21,727,037	-\$12,104,579	-\$7,763,680	-215
Llano	-\$156,616,014	-\$76,062,287	-\$43,796,491	-\$28,337,431	-858
Loving	-\$1,306,504	-\$633,780	-\$264,180	-\$80,697	-3
Lubbock	-\$960,421,953	-\$499,526,214	-\$298,142,957	-\$160,319,986	-5,426
Lynn	-\$13,911,615	-\$6,793,414	-\$3,935,844	-\$1,618,710	-66
Madison	-\$49,450,277	-\$25,277,687	-\$14,228,694	-\$10,869,152	-291
Marion	-\$69,652,457	-\$35,647,460	-\$20,601,419	-\$13,586,439	-405
Martin	-\$19,870,662	-\$9,433,804	-\$5,196,499	-\$2,787,608	-86
Mason	-\$26,418,078	-\$13,077,957	-\$7,024,550	-\$4,270,024	-129
Matagorda	-\$169,573,256	-\$77,836,181	-\$45,416,271	-\$29,565,511	-826
Maverick	-\$111,920,882	-\$57,413,679	-\$33,094,135	-\$22,514,671	-660
McCulloch	-\$43,629,014	-\$22,662,616	-\$13,718,670	-\$8,540,048	-258
McLennan	-\$1,107,352,795	-\$528,431,637	-\$310,701,894	-\$174,294,610	-5,779
McMullen	-\$777,842	-\$375,407	-\$192,782	-\$81,005	-3
Medina	-\$140,580,846	-\$67,330,916	-\$38,248,172	-\$24,843,775	-746
Menard	-\$14,123,522	-\$7,384,373	-\$4,039,536	-\$2,717,288	-74

**The Total Annual Impact of Mortality Losses Associated with the Incidence  
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<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Midland	-\$413,058,852	-\$209,741,901	-\$116,510,426	-\$61,305,805	-1,955
Milam	-\$103,118,420	-\$52,082,157	-\$31,155,133	-\$19,691,265	-588
Mills	-\$20,310,696	-\$12,301,036	-\$7,790,153	-\$5,263,623	-155
Mitchell	-\$45,308,815	-\$23,433,203	-\$13,252,865	-\$8,073,178	-238
Montague	-\$131,976,059	-\$64,344,572	-\$35,144,026	-\$21,738,303	-651
Montgomery	-\$1,614,114,784	-\$771,480,823	-\$437,769,162	-\$206,337,783	-7,284
Moore	-\$55,567,077	-\$24,327,350	-\$13,386,538	-\$7,557,062	-225
Morris	-\$64,436,173	-\$28,213,732	-\$16,899,250	-\$7,609,231	-278
Motley	-\$8,521,454	-\$4,044,435	-\$2,139,531	-\$1,340,892	-39
Nacogdoches	-\$213,153,086	-\$113,489,971	-\$69,426,217	-\$46,193,894	-1,402
Navarro	-\$234,041,962	-\$116,118,509	-\$70,017,487	-\$39,700,380	-1,313
Newton	-\$41,387,436	-\$25,800,129	-\$16,717,519	-\$11,340,007	-320
Nolan	-\$91,744,590	-\$48,398,750	-\$27,169,794	-\$15,937,705	-488
Nueces	-\$1,551,932,247	-\$720,209,831	-\$413,540,973	-\$212,336,640	-7,063
Ochiltree	-\$22,172,736	-\$10,689,797	-\$5,747,422	-\$3,054,765	-95
Oldham	-\$850,515	-\$480,752	-\$293,968	-\$269,275	-7
Orange	-\$392,211,590	-\$192,318,763	-\$117,042,886	-\$71,458,661	-2,130
Palo Pinto	-\$175,764,153	-\$82,615,764	-\$46,441,037	-\$27,561,063	-842
Panola	-\$124,071,497	-\$63,267,219	-\$36,037,309	-\$20,515,623	-639
Parker	-\$436,766,750	-\$204,040,139	-\$117,655,587	-\$68,708,565	-2,144
Parmer	-\$9,591,155	-\$4,400,536	-\$2,536,130	-\$878,452	-43
Pecos	-\$52,428,374	-\$26,244,597	-\$14,450,225	-\$9,704,600	-272
Polk	-\$305,855,463	-\$156,732,834	-\$88,647,724	-\$55,898,494	-1,608
Potter	-\$577,256,997	-\$300,851,678	-\$170,879,484	-\$90,835,053	-3,006
Presidio	-\$14,422,494	-\$6,924,246	-\$4,003,284	-\$2,717,288	-77
Rains	-\$65,175,798	-\$30,366,618	-\$16,849,425	-\$11,719,282	-318
Randall	-\$400,736,391	-\$207,670,688	-\$120,465,317	-\$67,964,256	-2,189
Reagan	-\$9,699,431	-\$5,022,431	-\$2,687,433	-\$1,828,788	-47
Real	-\$25,556,028	-\$11,670,071	-\$6,328,323	-\$3,881,840	-113
Red River	-\$90,390,712	-\$42,904,092	-\$24,642,411	-\$15,678,938	-468
Reeves	-\$46,186,883	-\$23,871,266	-\$13,251,917	-\$9,704,600	-255
Refugio	-\$35,385,321	-\$17,700,331	-\$9,363,743	-\$7,763,680	-181
Roberts	-\$1,212,997	-\$552,081	-\$286,891	-\$225,884	-5
Robertson	-\$79,524,932	-\$39,119,485	-\$23,561,457	-\$17,080,095	-472
Rockwall	-\$177,323,656	-\$90,151,316	-\$53,865,838	-\$31,831,087	-1,012
Runnels	-\$72,262,558	-\$32,500,272	-\$17,707,011	-\$10,333,919	-309
Rusk	-\$248,877,702	-\$121,277,002	-\$69,860,602	-\$37,624,691	-1,221
Sabine	-\$53,485,398	-\$26,478,666	-\$16,498,567	-\$10,656,518	-313
San Augustine	-\$57,563,597	-\$27,643,731	-\$15,257,625	-\$9,419,188	-283
San Jacinto	-\$115,407,263	-\$56,392,004	-\$33,176,215	-\$21,350,119	-636
San Patricio	-\$285,538,269	-\$133,516,572	-\$76,765,408	-\$49,106,603	-1,408

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County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
San Saba	-\$27,764,691	-\$14,808,608	-\$8,783,562	-\$6,210,944	-179
Schleicher	-\$6,521,114	-\$3,353,195	-\$1,863,121	-\$735,203	-30
Scurry	-\$61,593,910	-\$33,625,277	-\$18,430,904	-\$12,592,581	-342
Shackelford	-\$17,372,021	-\$8,741,918	-\$4,670,290	-\$2,693,624	-81
Shelby	-\$89,595,364	-\$48,328,007	-\$30,767,256	-\$19,964,109	-602
Sherman	-\$3,532,845	-\$1,631,811	-\$929,903	-\$500,775	-17
Smith	-\$965,025,540	-\$474,219,332	-\$261,881,121	-\$141,766,112	-4,566
Somervell	-\$18,182,361	-\$8,460,232	-\$5,188,799	-\$2,076,796	-92
Starr	-\$85,246,790	-\$48,223,456	-\$28,901,444	-\$21,350,119	-590
Stephens	-\$48,375,372	-\$26,139,112	-\$14,675,326	-\$10,245,314	-270
Sterling	-\$1,125,771	-\$648,943	-\$368,803	-\$288,105	-7
Stonewall	-\$8,089,418	-\$4,537,229	-\$2,553,883	-\$1,777,272	-49
Sutton	-\$17,641,663	-\$9,241,629	-\$5,123,412	-\$3,493,656	-95
Swisher	-\$17,944,268	-\$8,297,595	-\$4,869,294	-\$2,892,990	-92
Tarrant	-\$6,011,646,094	-\$2,967,200,287	-\$1,721,314,145	-\$843,135,617	-29,531
Taylor	-\$648,405,882	-\$322,652,850	-\$183,236,312	-\$95,493,260	-3,182
Terrell	-\$1,380,918	-\$818,666	-\$487,123	-\$254,685	-8
Terry	-\$39,809,531	-\$20,552,134	-\$10,806,125	-\$7,820,522	-200
Throckmorton	-\$6,318,363	-\$3,303,018	-\$1,719,506	-\$1,038,489	-30
Titus	-\$92,462,985	-\$44,658,669	-\$27,087,210	-\$19,535,174	-531
Tom Green	-\$494,604,429	-\$241,126,129	-\$133,261,023	-\$76,860,429	-2,456
Travis	-\$1,987,975,065	-\$1,034,442,798	-\$620,202,389	-\$303,910,170	-10,840
Trinity	-\$98,537,018	-\$53,807,088	-\$31,654,485	-\$20,772,590	-625
Tyler	-\$103,764,281	-\$53,610,089	-\$32,296,145	-\$20,609,766	-620
Upshur	-\$202,527,243	-\$101,589,993	-\$58,131,549	-\$35,712,927	-1,062
Upton	-\$10,152,889	-\$5,142,606	-\$2,717,396	-\$1,501,244	-46
Uvalde	-\$96,811,332	-\$50,508,559	-\$30,011,515	-\$18,244,647	-580
Val Verde	-\$122,273,623	-\$68,291,748	-\$42,323,769	-\$25,620,143	-816
Van Zandt	-\$221,901,315	-\$125,179,414	-\$73,407,265	-\$48,134,814	-1,433
Victoria	-\$408,698,881	-\$199,484,427	-\$114,083,528	-\$60,944,886	-1,934
Walker	-\$178,540,684	-\$91,665,302	-\$55,436,339	-\$35,324,743	-1,076
Waller	-\$144,475,078	-\$63,711,884	-\$34,950,634	-\$23,291,039	-656
Ward	-\$47,720,822	-\$24,505,501	-\$13,618,405	-\$9,316,416	-252
Washington	-\$153,175,213	-\$79,454,453	-\$47,086,887	-\$27,334,589	-865
Webb	-\$408,245,650	-\$213,781,340	-\$118,471,198	-\$72,978,589	-2,169
Wharton	-\$194,282,243	-\$101,394,180	-\$57,479,350	-\$35,679,871	-1,052
Wheeler	-\$23,182,480	-\$12,881,865	-\$7,244,076	-\$5,034,611	-138
Wichita	-\$640,542,459	-\$345,338,166	-\$196,337,031	-\$110,632,436	-3,483
Wilbarger	-\$75,867,271	-\$36,371,194	-\$21,961,640	-\$13,974,623	-412
Willacy	-\$39,149,545	-\$22,103,634	-\$12,812,953	-\$8,861,413	-250
Williamson	-\$486,020,027	-\$259,402,685	-\$159,595,172	-\$89,117,200	-2,944



**The Total Annual Impact of Mortality Losses Associated with the Incidence  
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<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Wilson</b>	-\$140,390,464	-\$69,761,203	-\$40,299,134	-\$26,008,327	-791
<b>Winkler</b>	-\$30,456,952	-\$15,767,592	-\$8,728,578	-\$5,523,109	-155
<b>Wise</b>	-\$201,847,175	-\$104,985,441	-\$58,905,044	-\$35,324,743	-1,055
<b>Wood</b>	-\$274,132,336	-\$134,232,308	-\$76,979,819	-\$45,266,143	-1,416
<b>Yoakum</b>	-\$17,060,665	-\$8,669,769	-\$4,703,172	-\$3,117,237	-85
<b>Young</b>	-\$124,383,792	-\$64,071,404	-\$35,632,316	-\$21,792,505	-632
<b>Zapata</b>	-\$24,546,583	-\$12,690,891	-\$7,081,289	-\$5,046,392	-136
<b>Zavala</b>	-\$21,897,357	-\$12,976,598	-\$8,299,217	-\$6,755,275	-183
<b>TEXAS</b>	<b>-\$83,796,821,951</b>	<b>-\$41,015,849,768</b>	<b>-\$23,756,480,391</b>	<b>-\$12,183,855,991</b>	<b>-413,157</b>

NOTE: Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.  
 SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$798,624,212	-\$407,297,075	-\$244,193,700	-\$153,472,306	-4,684
2	-\$665,705,069	-\$350,823,791	-\$209,808,563	-\$140,522,603	-4,095
3	-\$573,829,611	-\$268,925,782	-\$151,397,231	-\$78,176,890	-2,593
4	-\$779,424,552	-\$377,897,950	-\$221,871,152	-\$133,966,175	-4,190
5	-\$774,231,202	-\$374,047,391	-\$214,196,712	-\$126,494,502	-3,896
6	-\$733,419,410	-\$360,406,692	-\$199,029,652	-\$107,742,245	-3,470
7	-\$821,134,451	-\$428,028,178	-\$247,695,304	-\$135,476,211	-4,345
8	-\$847,360,145	-\$429,682,351	-\$249,614,303	-\$152,477,524	-4,706
9	-\$819,455,963	-\$403,716,541	-\$237,000,289	-\$138,020,182	-4,261
10	-\$539,434,602	-\$251,387,722	-\$148,399,601	-\$89,846,063	-2,722
11	-\$638,595,955	-\$323,470,829	-\$193,948,050	-\$118,234,521	-3,655
12	-\$666,651,113	-\$329,733,104	-\$195,214,780	-\$116,950,010	-3,675
13	-\$816,262,059	-\$417,419,462	-\$244,013,804	-\$140,195,813	-4,434
14	-\$350,764,010	-\$177,045,557	-\$102,102,757	-\$55,432,673	-1,858
15	-\$592,380,126	-\$283,133,462	-\$160,661,282	-\$75,725,967	-2,673
16	-\$592,380,126	-\$283,133,462	-\$160,661,282	-\$75,725,967	-2,673
17	-\$621,195,825	-\$306,400,920	-\$177,289,658	-\$106,339,936	-3,277
18	-\$664,245,329	-\$338,719,847	-\$199,618,409	-\$117,533,152	-3,669
19	-\$861,847,068	-\$440,862,268	-\$256,795,353	-\$165,472,044	-4,806
20	-\$433,455,422	-\$216,029,680	-\$128,033,394	-\$75,786,344	-2,374
21	-\$837,053,310	-\$412,179,236	-\$253,852,925	-\$148,179,344	-4,585
22	-\$790,829,724	-\$390,863,063	-\$243,217,847	-\$136,392,325	-4,365
23	-\$723,307,400	-\$333,446,684	-\$192,826,731	-\$107,151,985	-3,428
24	-\$784,708,512	-\$365,891,186	-\$213,756,803	-\$121,951,881	-3,860
25	-\$574,488,423	-\$270,714,388	-\$158,905,024	-\$96,292,988	-2,849
26	-\$329,462,515	-\$154,620,810	-\$86,849,040	-\$43,029,321	-1,430
27	-\$329,462,515	-\$154,620,810	-\$86,849,040	-\$43,029,321	-1,430
28	-\$329,462,515	-\$154,620,810	-\$86,849,040	-\$43,029,321	-1,430
29	-\$515,346,576	-\$245,481,354	-\$144,440,231	-\$84,925,879	-2,574
30	-\$839,692,486	-\$404,310,306	-\$229,773,355	-\$132,909,830	-4,035
31	-\$446,729,100	-\$228,514,506	-\$129,848,962	-\$82,342,575	-2,398
32	-\$760,446,801	-\$352,902,817	-\$202,635,077	-\$104,044,954	-3,461
33	-\$335,426,163	-\$171,374,229	-\$101,970,530	-\$57,467,772	-1,866
34	-\$791,485,446	-\$367,307,014	-\$210,905,896	-\$108,291,686	-3,602
35	-\$322,303,906	-\$167,822,321	-\$100,375,752	-\$58,936,422	-1,921
36	-\$284,471,726	-\$151,984,748	-\$91,202,134	-\$53,059,316	-1,735
37	-\$383,619,689	-\$194,147,644	-\$115,687,457	-\$68,638,692	-2,229
38	-\$374,485,887	-\$189,525,081	-\$112,932,993	-\$67,004,438	-2,176
39	-\$284,471,726	-\$151,984,748	-\$91,202,134	-\$53,059,316	-1,735
40	-\$284,471,726	-\$151,984,748	-\$91,202,134	-\$53,059,316	-1,735
41	-\$284,471,726	-\$151,984,748	-\$91,202,134	-\$53,059,316	-1,735

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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
42	-\$261,277,216	-\$136,820,057	-\$75,821,567	-\$46,706,297	-1,388
43	-\$618,393,899	-\$310,221,478	-\$176,011,798	-\$110,439,672	-3,243
44	-\$471,573,711	-\$233,489,002	-\$137,119,303	-\$88,894,133	-2,634
45	-\$326,445,991	-\$163,719,367	-\$96,725,562	-\$57,561,040	-1,818
46	-\$324,039,936	-\$168,614,176	-\$101,092,989	-\$49,537,358	-1,767
47	-\$337,955,761	-\$175,855,276	-\$105,434,406	-\$51,664,729	-1,843
48	-\$337,955,761	-\$175,855,276	-\$105,434,406	-\$51,664,729	-1,843
49	-\$326,027,911	-\$169,648,619	-\$101,713,192	-\$49,841,268	-1,778
50	-\$324,039,936	-\$168,614,176	-\$101,092,989	-\$49,537,358	-1,767
51	-\$337,955,761	-\$175,855,276	-\$105,434,406	-\$51,664,729	-1,843
52	-\$189,547,810	-\$101,167,047	-\$62,242,117	-\$34,755,708	-1,148
53	-\$870,465,303	-\$423,867,654	-\$240,953,987	-\$153,648,251	-4,612
54	-\$461,135,926	-\$243,277,646	-\$148,614,027	-\$89,763,665	-2,861
55	-\$404,417,772	-\$215,715,251	-\$132,715,362	-\$78,320,001	-2,531
56	-\$775,146,957	-\$369,902,146	-\$217,491,326	-\$122,006,227	-4,045
57	-\$770,021,942	-\$389,417,304	-\$231,442,780	-\$139,790,844	-4,314
58	-\$618,888,417	-\$305,041,976	-\$186,710,992	-\$109,350,989	-3,468
59	-\$517,546,714	-\$267,932,746	-\$161,590,132	-\$104,798,938	-3,165
60	-\$934,334,661	-\$462,957,564	-\$266,997,114	-\$170,929,820	-5,038
61	-\$638,613,925	-\$309,025,580	-\$176,560,631	-\$104,033,308	-3,200
62	-\$717,109,581	-\$369,574,394	-\$225,627,664	-\$141,198,935	-4,334
63	-\$317,567,210	-\$152,204,896	-\$89,917,115	-\$46,387,986	-1,578
64	-\$317,567,210	-\$152,204,896	-\$89,917,115	-\$46,387,986	-1,578
65	-\$317,567,210	-\$152,204,896	-\$89,917,115	-\$46,387,986	-1,578
66	-\$289,854,597	-\$148,908,674	-\$88,191,935	-\$47,000,589	-1,565
67	-\$289,854,597	-\$148,908,674	-\$88,191,935	-\$47,000,589	-1,565
68	-\$843,904,167	-\$425,792,179	-\$243,029,717	-\$146,449,473	-4,387
69	-\$779,634,882	-\$417,707,897	-\$237,896,097	-\$133,707,150	-4,221
70	-\$289,854,597	-\$148,908,674	-\$88,191,935	-\$47,000,589	-1,565
71	-\$831,358,214	-\$417,193,131	-\$236,390,279	-\$125,675,806	-4,133
72	-\$789,180,992	-\$381,496,638	-\$211,773,009	-\$122,263,984	-3,823
73	-\$671,160,572	-\$322,401,901	-\$187,889,989	-\$116,067,012	-3,609
74	-\$411,810,626	-\$216,546,659	-\$126,506,625	-\$82,791,015	-2,449
75	-\$504,581,523	-\$244,201,816	-\$142,729,375	-\$74,764,236	-2,574
76	-\$504,581,523	-\$244,201,816	-\$142,729,375	-\$74,764,236	-2,574
77	-\$504,581,523	-\$244,201,816	-\$142,729,375	-\$74,764,236	-2,574
78	-\$504,581,523	-\$244,201,816	-\$142,729,375	-\$74,764,236	-2,574
79	-\$504,581,523	-\$244,201,816	-\$142,729,375	-\$74,764,236	-2,574
80	-\$368,748,527	-\$192,133,523	-\$109,472,362	-\$70,041,177	-2,076
81	-\$701,986,812	-\$349,762,082	-\$199,058,503	-\$109,923,422	-3,403
82	-\$511,726,954	-\$259,434,048	-\$143,537,812	-\$77,196,624	-2,429



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
83	-\$595,539,163	-\$308,830,977	-\$178,618,410	-\$101,686,568	-3,238
84	-\$576,253,172	-\$299,715,729	-\$178,885,774	-\$96,191,992	-3,255
85	-\$482,041,208	-\$239,599,757	-\$134,414,662	-\$76,658,005	-2,351
86	-\$464,595,229	-\$239,326,564	-\$139,066,623	-\$77,641,596	-2,532
87	-\$750,007,396	-\$379,589,660	-\$214,186,424	-\$118,180,112	-3,750
88	-\$480,874,914	-\$238,633,559	-\$136,085,703	-\$87,176,646	-2,504
89	-\$289,854,597	-\$148,908,674	-\$88,191,935	-\$47,000,589	-1,565
90	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
91	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
92	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
93	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
94	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
95	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
96	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
97	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
98	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
99	-\$547,059,795	-\$270,015,226	-\$156,639,587	-\$76,725,341	-2,687
100	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
101	-\$541,048,148	-\$267,048,026	-\$154,918,273	-\$75,882,205	-2,658
102	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
103	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
104	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
105	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
106	-\$317,567,210	-\$152,204,896	-\$89,917,115	-\$46,387,986	-1,578
107	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
108	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
109	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
110	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
111	-\$611,120,904	-\$297,903,767	-\$168,202,876	-\$66,957,562	-2,681
112	-\$598,477,023	-\$291,740,241	-\$164,722,816	-\$65,572,233	-2,625
113	-\$611,120,904	-\$297,903,767	-\$168,202,876	-\$66,957,562	-2,681
114	-\$611,120,904	-\$297,903,767	-\$168,202,876	-\$66,957,562	-2,681
115	-\$611,120,904	-\$297,903,767	-\$168,202,876	-\$66,957,562	-2,681
116	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
117	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
118	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
119	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
120	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
121	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
122	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
123	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
124	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
125	-\$567,266,507	-\$284,640,465	-\$169,536,723	-\$87,030,850	-3,028
126	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
127	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
128	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
129	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
130	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
131	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
132	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
133	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
134	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
135	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
136	-\$189,547,810	-\$101,167,047	-\$62,242,117	-\$34,755,708	-1,148
137	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
138	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
139	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
140	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
141	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
142	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
143	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
144	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
145	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
146	-\$609,957,703	-\$277,511,527	-\$156,230,126	-\$56,595,941	-2,367
147	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
148	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
149	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
150	-\$595,434,900	-\$270,904,110	-\$152,510,361	-\$55,248,418	-2,310
<b>TOTAL</b>	<b>-\$83,796,821,951</b>	<b>-\$41,015,849,768</b>	<b>-\$23,756,480,391</b>	<b>-\$12,183,855,991</b>	<b>-413,157</b>

NOTE: 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.

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



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

Senate District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$3,987,486,381	-\$1,989,599,588	-\$1,147,861,010	-\$656,490,228	-20,645
2	-\$2,879,176,783	-\$1,434,716,250	-\$835,009,787	-\$438,799,240	-14,758
3	-\$3,988,343,742	-\$2,017,568,843	-\$1,192,677,840	-\$716,907,267	-22,056
4	-\$3,180,257,595	-\$1,524,914,087	-\$896,794,355	-\$444,499,536	-15,239
5	-\$1,674,217,931	-\$862,156,369	-\$510,759,163	-\$307,245,196	-9,552
6	-\$2,904,560,488	-\$1,321,483,462	-\$743,952,981	-\$269,504,480	-11,270
7	-\$2,904,560,488	-\$1,321,483,462	-\$743,952,981	-\$269,504,480	-11,270
8	-\$1,541,355,455	-\$780,779,841	-\$456,743,549	-\$227,770,816	-7,895
9	-\$2,802,592,518	-\$1,378,659,671	-\$794,050,379	-\$369,785,842	-13,369
10	-\$2,765,357,203	-\$1,364,912,132	-\$791,804,507	-\$387,842,384	-13,584
11	-\$3,038,829,322	-\$1,411,830,656	-\$816,246,033	-\$414,560,887	-13,940
12	-\$1,956,070,052	-\$950,400,297	-\$556,721,944	-\$280,478,457	-9,668
13	-\$2,699,015,672	-\$1,231,268,126	-\$693,026,643	-\$259,136,055	-10,578
14	-\$1,719,623,209	-\$887,596,050	-\$531,061,116	-\$269,534,684	-9,400
15	-\$2,759,332,464	-\$1,255,409,289	-\$706,755,332	-\$256,029,256	-10,706
16	-\$2,908,092,577	-\$1,417,611,030	-\$800,413,685	-\$318,625,641	-12,757
17	-\$2,560,848,417	-\$1,176,762,550	-\$665,702,764	-\$272,813,183	-10,432
18	-\$3,025,332,634	-\$1,471,685,366	-\$839,642,445	-\$473,869,054	-14,764
19	-\$2,578,261,234	-\$1,299,534,111	-\$764,956,746	-\$425,207,519	-13,963
20	-\$2,436,125,168	-\$1,196,326,952	-\$696,543,655	-\$379,717,693	-12,437
21	-\$1,963,367,322	-\$991,983,535	-\$569,395,327	-\$344,385,678	-10,478
22	-\$3,268,839,653	-\$1,572,898,768	-\$934,501,443	-\$541,461,507	-17,365
23	-\$2,908,092,577	-\$1,417,611,030	-\$800,413,685	-\$318,625,641	-12,757
24	-\$2,991,092,363	-\$1,519,310,402	-\$898,152,963	-\$542,390,194	-16,991
25	-\$2,403,327,670	-\$1,195,116,579	-\$707,432,253	-\$390,320,227	-12,937
26	-\$2,637,789,259	-\$1,323,578,164	-\$788,345,761	-\$404,693,450	-14,079
27	-\$1,618,307,125	-\$836,833,352	-\$497,394,821	-\$294,356,436	-9,509
28	-\$3,191,793,637	-\$1,621,575,855	-\$929,820,804	-\$543,671,985	-16,971
29	-\$2,553,893,282	-\$1,236,806,389	-\$722,816,253	-\$380,515,634	-13,053
30	-\$3,093,480,776	-\$1,570,433,224	-\$911,169,502	-\$533,317,309	-16,573
31	-\$2,857,398,952	-\$1,435,004,337	-\$812,360,664	-\$451,796,031	-14,163
<b>TOTAL</b>	<b>-\$83,796,821,951</b>	<b>-\$41,015,849,768</b>	<b>-\$23,756,480,391</b>	<b>-\$12,183,855,991</b>	<b>-413,157</b>

NOTE: 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.

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



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

US Congressional District in Texas	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$3,225,369,818	-\$1,615,270,564	-\$932,119,344	-\$522,232,092	-16,635
2	-\$2,468,876,415	-\$1,123,260,943	-\$632,360,034	-\$229,078,808	-9,579
3	-\$1,172,593,598	-\$602,403,271	-\$356,776,462	-\$190,138,748	-6,330
4	-\$2,815,412,480	-\$1,426,499,518	-\$855,937,793	-\$543,519,871	-16,363
5	-\$2,937,228,918	-\$1,467,684,865	-\$848,323,683	-\$446,630,789	-15,007
6	-\$2,369,713,654	-\$1,156,218,145	-\$676,106,048	-\$351,304,308	-11,850
7	-\$2,468,876,415	-\$1,123,260,943	-\$632,360,034	-\$229,078,808	-9,579
8	-\$2,622,075,994	-\$1,268,149,827	-\$728,863,088	-\$364,863,273	-12,473
9	-\$2,336,007,154	-\$1,067,153,139	-\$600,591,572	-\$228,202,145	-9,203
10	-\$2,228,241,583	-\$1,076,917,132	-\$621,856,800	-\$299,585,232	-10,550
11	-\$3,139,726,648	-\$1,559,359,270	-\$887,729,102	-\$526,621,765	-16,106
12	-\$2,379,097,437	-\$1,164,816,549	-\$674,235,939	-\$343,857,256	-11,711
13	-\$2,923,002,065	-\$1,498,961,616	-\$854,040,479	-\$488,277,533	-15,222
14	-\$3,087,864,898	-\$1,478,896,839	-\$888,121,665	-\$505,194,368	-15,965
15	-\$1,404,945,979	-\$727,659,727	-\$430,087,248	-\$257,658,220	-8,114
16	-\$2,194,929,624	-\$1,062,277,898	-\$620,872,782	-\$325,224,425	-11,198
17	-\$2,399,827,138	-\$1,189,523,278	-\$697,160,611	-\$399,956,848	-12,881
18	-\$2,468,876,415	-\$1,123,260,943	-\$632,360,034	-\$229,078,808	-9,579
19	-\$2,671,905,116	-\$1,363,216,748	-\$785,878,203	-\$442,679,366	-14,129
20	-\$2,325,792,680	-\$1,167,025,908	-\$695,100,563	-\$356,826,483	-12,414
21	-\$2,321,902,877	-\$1,152,913,082	-\$678,370,067	-\$379,098,661	-12,460
22	-\$1,668,233,974	-\$782,055,867	-\$445,412,536	-\$222,940,685	-7,413
23	-\$2,152,562,986	-\$1,087,145,714	-\$636,093,692	-\$365,167,083	-11,737
24	-\$2,246,100,949	-\$1,098,278,834	-\$629,253,212	-\$279,803,731	-10,421
25	-\$2,043,060,028	-\$1,020,767,397	-\$611,521,700	-\$357,981,513	-11,441
26	-\$1,543,684,079	-\$746,805,295	-\$438,549,994	-\$222,382,516	-7,637
27	-\$3,192,519,199	-\$1,519,935,758	-\$870,577,435	-\$487,080,127	-15,272
28	-\$1,551,253,937	-\$796,691,962	-\$462,064,730	-\$268,607,277	-8,504
29	-\$2,468,876,415	-\$1,123,260,943	-\$632,360,034	-\$229,078,808	-9,579
30	-\$2,478,200,631	-\$1,208,051,139	-\$682,091,662	-\$271,524,460	-10,871
31	-\$1,178,196,597	-\$628,607,634	-\$386,742,619	-\$223,164,894	-7,276
32	-\$2,388,666,808	-\$1,166,482,246	-\$659,743,215	-\$265,871,750	-10,558
33	-\$2,406,600,835	-\$1,180,120,676	-\$675,055,638	-\$298,728,655	-11,157
34	-\$1,734,401,155	-\$890,634,969	-\$523,351,037	-\$316,778,100	-9,952
35	-\$1,889,266,506	-\$953,883,421	-\$567,111,090	-\$298,715,147	-10,195
36	-\$2,892,930,948	-\$1,398,397,710	-\$807,300,244	-\$416,923,436	-13,797
<b>TOTAL</b>	<b>-\$83,796,821,951</b>	<b>-\$41,015,849,768</b>	<b>-\$23,756,480,391</b>	<b>-\$12,183,855,991</b>	<b>-413,157</b>

NOTE: 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.

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

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 Detailed Industrial Category**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	(\$2,443,235,567)	(\$706,479,428)	(\$440,131,915)	(7,675)
<b>Mining</b>	(\$12,613,307,523)	(\$5,697,893,646)	(\$2,004,918,190)	(8,378)
<b>Construction</b>	(\$5,689,805,864)	(\$2,800,650,924)	(\$2,155,359,795)	(32,889)
<b>Nondurable Manufacturing</b>	(\$20,113,662,926)	(\$5,589,008,757)	(\$2,937,336,075)	(35,128)
<b>Durable Manufacturing</b>	(\$8,970,720,824)	(\$3,700,651,136)	(\$2,476,170,545)	(25,937)
<b>Transportation and Utilities</b>	(\$16,882,488,071)	(\$5,846,207,990)	(\$3,346,122,290)	(36,978)
<b>Information</b>	(\$4,319,131,758)	(\$2,814,827,638)	(\$1,234,560,808)	(11,357)
<b>Wholesale Trade</b>	(\$5,867,282,735)	(\$4,415,010,465)	(\$2,494,787,102)	(28,946)
<b>Retail Trade (including Restaurants)</b>	(\$23,933,428,464)	(\$18,377,221,869)	(\$10,617,638,423)	(333,939)
<b>FIRE</b>	(\$34,356,335,379)	(\$10,623,098,760)	(\$3,987,015,309)	(40,015)
<b>Business Services</b>	(\$10,531,617,751)	(\$7,387,540,515)	(\$5,992,169,937)	(71,374)
<b>Health Services</b>	(\$13,221,057,564)	(\$10,099,961,435)	(\$8,355,472,648)	(142,420)
<b>Other Services</b>	(\$10,920,853,129)	(\$5,731,856,955)	(\$4,427,580,308)	(104,786)
<b>TOTAL</b>	<b>(\$169,862,927,553)</b>	<b>(\$83,790,409,518)</b>	<b>(\$50,469,263,345)</b>	<b>(879,824)</b>

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



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

<b>Economic Region</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>High Plains</b>	(\$5,794,094,423)	(\$2,970,769,646)	(\$1,788,865,980)	(\$938,943,831)	-32,242
<b>Northwest Texas</b>	(\$5,247,005,115)	(\$2,711,208,879)	(\$1,610,939,690)	(\$879,590,135)	-29,125
<b>Metroplex</b>	(\$43,537,718,002)	(\$21,521,557,316)	(\$12,918,374,212)	(\$5,808,262,268)	-221,584
<b>Upper East Texas</b>	(\$10,549,360,286)	(\$5,346,890,453)	(\$3,232,018,780)	(\$1,729,626,398)	-58,669
<b>Southeast Texas</b>	(\$7,055,170,659)	(\$3,584,792,954)	(\$2,245,733,557)	(\$1,242,930,221)	-41,251
<b>Gulf Coast</b>	(\$42,653,753,944)	(\$19,842,057,842)	(\$11,734,999,567)	(\$4,650,351,142)	-189,901
<b>Capital</b>	(\$8,392,991,946)	(\$4,351,174,559)	(\$2,680,075,262)	(\$1,316,794,407)	-47,910
<b>Central Texas</b>	(\$7,666,548,116)	(\$3,899,961,166)	(\$2,395,415,998)	(\$1,310,454,959)	-44,787
<b>Alamo</b>	(\$17,482,662,507)	(\$8,785,555,762)	(\$5,370,471,402)	(\$2,670,764,640)	-96,586
<b>South Texas</b>	(\$11,888,406,609)	(\$6,034,032,910)	(\$3,667,448,595)	(\$1,963,170,585)	-67,468
<b>West Texas</b>	(\$4,246,857,546)	(\$2,118,514,742)	(\$1,239,006,917)	(\$662,877,138)	-21,895
<b>Upper Rio Grande</b>	(\$5,348,358,399)	(\$2,623,893,292)	(\$1,585,913,385)	(\$759,662,741)	-28,404
<b>TOTAL STATE IMPACT</b>	<b>(\$169,862,927,553)</b>	<b>(\$83,790,409,518)</b>	<b>(\$50,469,263,345)</b>	<b>(\$23,933,428,464)</b>	<b>-879,824</b>
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group					



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

<b>COG</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Panhandle	(\$3,040,675,952)	(\$1,538,796,184)	(\$913,577,974)	(\$485,448,429)	-16,334
South Plains	(\$2,753,418,471)	(\$1,431,973,461)	(\$875,288,006)	(\$453,495,402)	-15,908
Nortex	(\$2,135,790,970)	(\$1,123,117,599)	(\$667,685,373)	(\$364,543,757)	-12,030
North Central Texas	(\$41,763,115,873)	(\$20,604,540,248)	(\$12,345,711,745)	(\$5,489,317,346)	-210,919
Ark-Tex	(\$2,398,829,684)	(\$1,224,440,845)	(\$762,088,119)	(\$440,924,345)	-14,367
East Texas	(\$8,150,530,602)	(\$4,122,449,609)	(\$2,469,930,661)	(\$1,288,702,053)	-44,302
West Central Texas	(\$3,111,214,146)	(\$1,588,091,280)	(\$943,254,317)	(\$515,046,377)	-17,095
Rio Grande	(\$5,348,358,399)	(\$2,623,893,292)	(\$1,585,913,385)	(\$759,662,741)	-28,404
Permian Basin	(\$2,897,063,627)	(\$1,451,332,376)	(\$850,535,104)	(\$450,278,950)	-14,779
Concho Valley	(\$1,349,793,919)	(\$667,182,366)	(\$388,471,813)	(\$212,598,187)	-7,116
Heart of Texas	(\$3,247,451,771)	(\$1,591,469,258)	(\$966,923,821)	(\$517,913,842)	-17,988
Capital Area	(\$8,392,991,946)	(\$4,351,174,559)	(\$2,680,075,262)	(\$1,316,794,407)	-47,910
Brazos Valley	(\$1,876,906,163)	(\$964,277,248)	(\$582,984,749)	(\$322,952,489)	-10,774
Deep East Texas	(\$3,474,586,465)	(\$1,796,999,807)	(\$1,116,758,748)	(\$636,707,272)	-20,916
South East Texas	(\$3,580,584,193)	(\$1,787,793,148)	(\$1,128,974,810)	(\$606,222,949)	-20,336
Houston-Galveston Area	(\$42,653,753,944)	(\$19,842,057,842)	(\$11,734,999,567)	(\$4,650,351,142)	-189,901
Golden Crescent	(\$1,656,792,290)	(\$830,379,813)	(\$501,768,462)	(\$269,044,335)	-8,966
Alamo Area	(\$15,828,556,224)	(\$7,956,425,310)	(\$4,869,381,997)	(\$2,402,011,391)	-87,631
South Texas	(\$1,143,176,331)	(\$606,754,321)	(\$361,128,216)	(\$212,688,017)	-6,743
Coastal Bend	(\$4,868,590,720)	(\$2,333,531,880)	(\$1,387,987,357)	(\$721,984,016)	-24,496
Lower Rio Grande Valley	(\$4,977,575,085)	(\$2,617,372,873)	(\$1,625,774,982)	(\$857,769,695)	-30,614
Texoma	(\$1,774,602,129)	(\$917,017,068)	(\$572,662,468)	(\$318,944,922)	-10,665
Central Texas	(\$2,542,190,181)	(\$1,344,214,659)	(\$845,507,427)	(\$469,588,627)	-16,025
Middle Rio Grande	(\$896,378,466)	(\$475,124,475)	(\$291,878,983)	(\$170,437,772)	-5,605
<b>Border Region</b>	<b>(\$12,370,416,000)</b>	<b>(\$6,325,984,888)</b>	<b>(\$3,866,461,047)</b>	<b>(\$2,001,473,299)</b>	<b>-71,397</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$169,862,927,553)</b>	<b>(\$83,790,409,518)</b>	<b>(\$50,469,263,345)</b>	<b>(\$23,933,428,464)</b>	<b>-879,824</b>

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



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

<b>MSA</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Abilene	(\$1,523,183,606)	(\$761,748,995)	(\$449,534,701)	(\$222,359,802)	-7,899
Amarillo	(\$1,975,826,852)	(\$1,027,376,238)	(\$613,290,973)	(\$309,020,743)	-10,928
Austin-Round Rock	(\$7,110,196,317)	(\$3,715,760,529)	(\$2,301,109,253)	(\$1,111,378,690)	-40,951
Beaumont-Port Arthur	(\$3,651,044,255)	(\$1,831,268,557)	(\$1,157,698,422)	(\$624,726,096)	-20,881
Brownsville-Harlingen	(\$2,011,153,114)	(\$1,026,552,331)	(\$634,170,119)	(\$336,054,565)	-11,995
College Station-Bryan	(\$1,186,310,159)	(\$605,073,285)	(\$365,573,894)	(\$195,217,272)	-6,712
Corpus Christi	(\$3,898,097,972)	(\$1,828,252,275)	(\$1,090,057,183)	(\$547,918,652)	-18,996
Dallas-Plano-Irving MD*	(\$25,423,083,575)	(\$12,503,513,616)	(\$7,443,246,247)	(\$3,153,167,073)	-124,918
Fort Worth-Arlington MD*	(\$15,333,126,421)	(\$7,596,010,373)	(\$4,592,528,553)	(\$2,165,119,065)	-80,206
El Paso	(\$5,213,779,245)	(\$2,553,113,907)	(\$1,542,258,956)	(\$733,873,652)	-27,576
Houston-The Woodlands-Sugar Land	(\$41,226,590,650)	(\$19,115,667,988)	(\$11,289,285,250)	(\$4,391,839,610)	-181,531
Killeen-Temple	(\$2,164,697,739)	(\$1,148,198,971)	(\$723,321,229)	(\$394,824,199)	-13,682
Laredo	(\$866,761,938)	(\$455,379,961)	(\$268,193,585)	(\$151,079,820)	-4,916
Longview	(\$2,045,285,771)	(\$1,052,924,399)	(\$635,511,588)	(\$324,152,376)	-11,212
Lubbock	(\$2,080,633,027)	(\$1,089,284,299)	(\$671,541,188)	(\$326,579,239)	-12,088
McAllen-Edinburg-Mission	(\$2,872,837,396)	(\$1,538,296,498)	(\$959,618,717)	(\$501,887,019)	-18,004
Midland	(\$858,786,849)	(\$435,063,571)	(\$253,092,987)	(\$126,424,108)	-4,298
Odessa	(\$1,063,773,082)	(\$530,573,406)	(\$317,675,311)	(\$161,141,669)	-5,471
San Angelo	(\$956,569,663)	(\$470,010,477)	(\$272,206,374)	(\$143,944,651)	-4,991
San Antonio-New Braunfels	(\$14,676,026,012)	(\$7,385,797,795)	(\$4,527,502,924)	(\$2,210,610,741)	-81,259
Sherman-Denison	(\$1,070,971,560)	(\$563,299,666)	(\$354,741,011)	(\$202,054,840)	-6,734
Texarkana	(\$806,933,669)	(\$427,893,780)	(\$268,014,913)	(\$147,583,288)	-5,008
Tyler	(\$1,993,631,142)	(\$988,643,593)	(\$574,939,790)	(\$286,345,181)	-10,101
Victoria	(\$871,743,027)	(\$432,797,413)	(\$259,621,878)	(\$132,921,814)	-4,500
Waco	(\$2,318,187,433)	(\$1,132,120,831)	(\$689,413,811)	(\$352,504,741)	-12,697
Wichita Falls	(\$1,329,310,203)	(\$714,923,706)	(\$425,935,080)	(\$224,240,695)	-7,599
<b>Rural Area</b>	<b>(\$25,334,386,876)</b>	<b>(\$12,860,863,056)</b>	<b>(\$7,789,179,409)</b>	<b>(\$4,456,458,863)</b>	<b>-144,669</b>
<b>TOTAL STATE IMPACT</b>	<b>(\$169,862,927,553)</b>	<b>(\$83,790,409,518)</b>	<b>(\$50,469,263,345)</b>	<b>(\$23,933,428,464)</b>	<b>-879,824</b>

\*Metropolitan Division  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Anderson	-\$524,596,562	-\$286,186,615	-\$172,210,924	-\$92,265,743	-3,117
Andrews	-\$89,666,173	-\$45,936,970	-\$26,329,911	-\$13,941,585	-449
Angelina	-\$713,758,334	-\$361,768,929	-\$227,152,510	-\$125,545,908	-4,241
Aransas	-\$357,047,300	-\$164,956,932	-\$93,905,873	-\$53,007,512	-1,668
Archer	-\$57,602,574	-\$29,420,419	-\$16,547,303	-\$9,976,660	-306
Armstrong	-\$18,308,874	-\$9,331,260	-\$5,625,419	-\$2,122,734	-94
Atascosa	-\$335,537,193	-\$163,219,907	-\$96,843,124	-\$48,975,928	-1,676
Austin	-\$253,579,734	-\$120,164,329	-\$73,325,183	-\$33,168,353	-1,214
Bailey	-\$34,327,668	-\$17,688,085	-\$10,742,180	-\$7,026,987	-203
Bandera	-\$205,469,621	-\$99,034,299	-\$58,315,110	-\$35,238,923	-1,102
Bastrop	-\$513,757,802	-\$253,419,555	-\$154,273,537	-\$88,395,768	-2,910
Baylor	-\$60,549,962	-\$32,335,080	-\$19,548,683	-\$10,929,789	-359
Bee	-\$176,626,410	-\$94,119,035	-\$55,981,222	-\$32,401,593	-1,044
Bell	-\$1,619,616,599	-\$869,844,233	-\$551,857,313	-\$294,273,864	-10,352
Bexar	-\$11,743,147,512	-\$5,950,480,771	-\$3,663,408,933	-\$1,714,638,053	-64,994
Blanco	-\$79,863,381	-\$38,369,550	-\$22,833,900	-\$13,233,626	-436
Borden	-\$18,067,256	-\$8,712,488	-\$4,836,471	-\$2,349,504	-77
Bosque	-\$180,561,912	-\$90,527,507	-\$56,806,025	-\$28,217,674	-1,040
Bowie	-\$806,933,669	-\$427,893,780	-\$268,014,913	-\$147,583,288	-5,008
Brazoria	-\$1,824,636,587	-\$874,027,007	-\$532,189,222	-\$296,778,249	-9,555
Brazos	-\$870,345,904	-\$442,780,039	-\$266,774,640	-\$133,041,856	-4,842
Brewster	-\$61,967,470	-\$34,151,583	-\$21,528,608	-\$11,557,234	-403
Briscoe	-\$13,321,046	-\$6,193,634	-\$3,625,940	-\$2,298,931	-67
Brooks	-\$40,279,967	-\$22,236,707	-\$13,721,329	-\$8,361,834	-260
Brown	-\$327,046,803	-\$179,229,987	-\$112,908,054	-\$70,536,839	-2,229
Burleson	-\$161,652,482	-\$85,356,180	-\$50,907,401	-\$30,460,673	-929
Burnet	-\$425,240,342	-\$205,857,760	-\$123,178,830	-\$67,251,921	-2,254
Caldwell	-\$307,209,960	-\$154,926,819	-\$93,334,282	-\$49,781,998	-1,691
Calhoun	-\$113,811,837	-\$46,912,299	-\$27,820,935	-\$15,018,618	-481
Callahan	-\$152,330,104	-\$73,998,807	-\$42,626,176	-\$24,398,241	-776
Cameron	-\$2,011,153,114	-\$1,026,552,331	-\$634,170,119	-\$336,054,565	-11,995
Camp	-\$93,009,301	-\$46,646,080	-\$29,032,150	-\$15,652,409	-544
Carson	-\$22,735,408	-\$9,407,136	-\$4,693,110	-\$1,766,709	-75
Cass	-\$264,708,696	-\$135,059,828	-\$83,808,482	-\$53,327,899	-1,606
Castro	-\$25,184,058	-\$12,000,568	-\$7,238,720	-\$4,937,177	-143
Chambers	-\$218,179,512	-\$92,185,982	-\$51,782,622	-\$23,713,067	-847
Cherokee	-\$372,364,267	-\$191,106,535	-\$122,207,563	-\$68,139,354	-2,282
Childress	-\$58,976,652	-\$29,863,487	-\$18,032,386	-\$11,288,270	-349
Clay	-\$98,983,838	-\$50,389,019	-\$31,280,790	-\$15,077,048	-545
Cochran	-\$16,702,296	-\$8,741,624	-\$4,749,051	-\$2,219,012	-80
Coke	-\$53,062,135	-\$25,698,780	-\$14,825,795	-\$8,474,026	-256



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

County	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
Coleman	-\$117,953,711	-\$61,249,799	-\$35,882,986	-\$20,067,991	-651
Collin	-\$3,115,351,366	-\$1,608,301,045	-\$988,662,263	-\$484,539,296	-17,467
Collingsworth	-\$29,011,214	-\$15,906,874	-\$9,806,527	-\$5,963,283	-179
Colorado	-\$206,750,848	-\$105,741,258	-\$64,302,375	-\$38,565,189	-1,265
Comal	-\$825,139,266	-\$406,001,554	-\$246,120,294	-\$137,461,624	-4,719
Comanche	-\$140,802,739	-\$72,512,869	-\$45,243,918	-\$25,155,101	-843
Concho	-\$22,114,328	-\$11,912,063	-\$7,771,009	-\$3,826,253	-144
Cooke	-\$374,959,618	-\$185,765,162	-\$111,586,076	-\$58,412,796	-1,934
Coryell	-\$355,490,000	-\$181,799,049	-\$111,894,820	-\$65,162,079	-2,162
Cottle	-\$18,012,576	-\$10,413,486	-\$6,469,314	-\$3,137,699	-111
Crane	-\$19,035,126	-\$10,346,311	-\$5,999,293	-\$2,822,979	-104
Crockett	-\$23,562,535	-\$12,086,191	-\$6,861,911	-\$5,106,618	-133
Crosby	-\$46,521,620	-\$25,325,007	-\$15,107,500	-\$6,254,675	-259
Culberson	-\$12,684,929	-\$7,461,475	-\$4,546,754	-\$3,583,584	-94
Dallam	-\$28,990,945	-\$15,309,809	-\$9,260,939	-\$4,682,568	-170
Dallas	-\$16,852,326,811	-\$8,229,962,671	-\$4,818,287,802	-\$1,815,270,950	-77,822
Dawson	-\$107,724,509	-\$53,816,961	-\$30,199,639	-\$18,579,546	-550
Deaf Smith	-\$67,766,164	-\$32,921,270	-\$19,819,122	-\$9,884,424	-361
Delta	-\$42,055,639	-\$22,056,461	-\$13,913,612	-\$5,011,908	-235
Denton	-\$2,863,695,979	-\$1,392,721,019	-\$851,195,064	-\$402,383,660	-14,928
DeWitt	-\$221,726,756	-\$112,929,216	-\$69,894,307	-\$38,463,615	-1,296
Dickens	-\$25,928,802	-\$13,618,216	-\$8,386,241	-\$4,999,954	-152
Dimmit	-\$50,623,340	-\$26,517,130	-\$15,836,288	-\$10,213,236	-305
Donley	-\$37,279,952	-\$21,104,425	-\$13,350,575	-\$8,988,869	-270
Duval	-\$83,795,143	-\$41,336,042	-\$23,793,204	-\$11,857,637	-423
Eastland	-\$209,216,871	-\$104,126,190	-\$61,099,145	-\$37,627,431	-1,142
Ector	-\$1,063,773,082	-\$530,573,406	-\$317,675,311	-\$161,141,669	-5,471
Edwards	-\$18,046,981	-\$8,848,503	-\$4,852,168	-\$3,129,687	-89
El Paso	-\$5,207,832,582	-\$2,550,083,213	-\$1,540,512,935	-\$732,071,374	-27,537
Ellis	-\$890,496,639	-\$416,541,529	-\$253,235,967	-\$144,814,110	-4,634
Erath	-\$233,831,929	-\$127,287,122	-\$80,765,162	-\$48,557,631	-1,579
Falls	-\$161,899,244	-\$86,465,847	-\$54,659,884	-\$29,474,326	-1,027
Fannin	-\$328,670,950	-\$167,952,239	-\$106,335,381	-\$58,477,286	-1,997
Fayette	-\$311,967,463	-\$159,724,837	-\$94,436,555	-\$46,587,009	-1,673
Fisher	-\$38,480,090	-\$20,262,751	-\$12,362,444	-\$7,702,032	-239
Floyd	-\$35,127,694	-\$16,020,740	-\$9,545,005	-\$4,584,436	-171
Foard	-\$5,901,199	-\$3,339,917	-\$2,199,263	-\$1,077,950	-41
Fort Bend	-\$2,758,529,113	-\$1,298,084,581	-\$760,934,363	-\$360,914,935	-12,760
Franklin	-\$90,103,654	-\$45,129,577	-\$25,898,787	-\$15,200,464	-478
Freestone	-\$184,505,788	-\$91,460,711	-\$52,218,375	-\$33,566,145	-972
Frio	-\$105,455,522	-\$51,451,482	-\$29,673,636	-\$16,260,592	-533



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Gaines	-\$78,142,624	-\$37,199,208	-\$20,226,624	-\$11,705,975	-354
Galveston	-\$2,735,507,962	-\$1,298,988,462	-\$788,364,956	-\$410,261,630	-14,163
Garza	-\$39,200,509	-\$18,992,542	-\$10,820,960	-\$6,567,474	-192
Gillespie	-\$292,216,804	-\$145,110,252	-\$89,453,753	-\$49,513,445	-1,688
Glasscock	-\$2,360,465	-\$1,107,587	-\$578,254	-\$200,689	-9
Goliad	-\$63,809,740	-\$34,255,874	-\$20,595,454	-\$13,886,338	-396
Gonzales	-\$114,684,320	-\$59,162,505	-\$36,875,482	-\$21,040,425	-696
Gray	-\$244,359,777	-\$116,060,155	-\$68,790,476	-\$38,658,702	-1,203
Grayson	-\$1,070,971,560	-\$563,299,666	-\$354,741,011	-\$202,054,840	-6,734
Gregg	-\$1,197,407,472	-\$633,422,644	-\$384,613,585	-\$188,915,167	-6,726
Grimes	-\$162,811,781	-\$82,557,194	-\$50,488,563	-\$28,782,387	-932
Guadalupe	-\$696,321,569	-\$345,399,744	-\$210,341,666	-\$129,040,385	-3,995
Hale	-\$172,559,559	-\$93,360,658	-\$58,541,028	-\$39,186,167	-1,165
Hall	-\$35,965,521	-\$18,247,042	-\$10,877,991	-\$6,421,540	-203
Hamilton	-\$85,242,953	-\$42,802,230	-\$26,727,038	-\$17,111,441	-523
Hansford	-\$21,882,138	-\$9,629,360	-\$4,898,972	-\$2,279,082	-75
Hardeman	-\$33,282,201	-\$18,238,725	-\$11,166,552	-\$8,302,019	-230
Hardin	-\$467,999,497	-\$231,344,646	-\$137,302,648	-\$81,407,223	-2,518
Harris	-\$29,176,082,504	-\$13,365,513,908	-\$7,851,739,742	-\$2,695,058,043	-121,916
Harrison	-\$662,251,925	-\$311,130,770	-\$186,113,712	-\$84,081,877	-3,091
Hartley	-\$9,886,340	-\$4,832,163	-\$2,865,298	-\$1,715,490	-57
Haskell	-\$64,458,085	-\$33,466,742	-\$20,401,454	-\$10,772,588	-367
Hays	-\$663,235,178	-\$339,811,783	-\$209,439,631	-\$111,780,022	-3,877
Hemphill	-\$14,749,427	-\$6,905,384	-\$3,752,609	-\$1,900,922	-62
Henderson	-\$995,843,775	-\$488,874,530	-\$293,745,716	-\$158,155,828	-5,436
Hidalgo	-\$2,872,837,396	-\$1,538,296,498	-\$959,618,717	-\$501,887,019	-18,004
Hill	-\$362,244,957	-\$172,044,952	-\$103,328,056	-\$64,982,222	-2,068
Hockley	-\$137,237,693	-\$70,445,449	-\$41,322,702	-\$24,363,898	-767
Hood	-\$546,671,664	-\$264,122,191	-\$162,524,437	-\$91,740,501	-3,044
Hopkins	-\$271,985,078	-\$142,099,683	-\$88,633,555	-\$55,933,948	-1,707
Houston	-\$295,271,484	-\$145,883,714	-\$91,504,949	-\$38,379,713	-1,527
Howard	-\$316,764,652	-\$154,001,464	-\$91,110,392	-\$48,468,113	-1,600
Hudspeth	-\$5,946,663	-\$3,030,695	-\$1,746,021	-\$1,802,278	-39
Hunt	-\$628,930,391	-\$319,083,038	-\$198,725,734	-\$122,171,061	-3,815
Hutchinson	-\$193,111,104	-\$89,904,572	-\$51,836,354	-\$35,696,127	-926
Irion	-\$8,531,991	-\$3,495,281	-\$1,869,741	-\$1,078,976	-31
Jack	-\$76,357,007	-\$37,948,346	-\$22,120,768	-\$13,011,339	-391
Jackson	-\$116,974,637	-\$60,141,688	-\$33,967,716	-\$21,465,970	-625
Jasper	-\$325,324,114	-\$168,324,991	-\$104,999,298	-\$63,620,562	-2,035
Jeff Davis	-\$20,794,711	-\$10,421,928	-\$6,387,815	-\$3,600,321	-119
Jefferson	-\$2,362,587,059	-\$1,184,450,819	-\$758,011,563	-\$391,566,107	-13,558

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Jim Hogg	-\$42,733,764	-\$21,541,334	-\$11,997,741	-\$8,630,387	-225
Jim Wells	-\$252,587,796	-\$139,936,936	-\$83,184,474	-\$47,751,560	-1,538
Johnson	-\$1,064,434,245	-\$532,141,789	-\$336,165,817	-\$180,792,595	-6,205
Jones	-\$182,434,279	-\$92,861,648	-\$55,210,386	-\$27,652,399	-986
Karnes	-\$152,628,227	-\$70,697,319	-\$40,826,852	-\$21,949,506	-711
Kaufman	-\$705,912,523	-\$349,047,275	-\$216,692,789	-\$121,991,615	-4,098
Kendall	-\$284,440,701	-\$133,257,456	-\$79,417,359	-\$44,377,125	-1,445
Kenedy	-\$7,150,614	-\$3,571,024	-\$1,958,296	-\$1,572,230	-42
Kent	-\$6,608,994	-\$3,129,900	-\$1,776,845	-\$940,657	-30
Kerr	-\$599,543,653	-\$302,119,101	-\$181,245,774	-\$103,386,021	-3,430
Kimble	-\$61,260,376	-\$27,026,012	-\$15,292,922	-\$9,466,571	-280
King	-\$6,971,065	-\$3,542,458	-\$2,157,969	-\$840,945	-36
Kinney	-\$38,745,650	-\$18,311,612	-\$9,984,119	-\$5,996,537	-184
Kleberg	-\$224,640,793	-\$114,285,607	-\$67,597,729	-\$36,881,176	-1,233
Knox	-\$39,256,064	-\$20,744,553	-\$12,081,851	-\$5,543,682	-204
La Salle	-\$30,026,572	-\$16,229,961	-\$9,541,952	-\$6,241,468	-187
Lamar	-\$457,898,162	-\$230,020,484	-\$144,964,718	-\$86,118,166	-2,803
Lamb	-\$75,544,390	-\$35,282,373	-\$21,498,463	-\$12,644,022	-388
Lampasas	-\$189,591,139	-\$96,555,688	-\$59,569,096	-\$35,388,256	-1,168
Lavaca	-\$217,851,713	-\$118,436,692	-\$73,588,145	-\$40,133,892	-1,368
Lee	-\$141,647,159	-\$71,277,247	-\$42,023,250	-\$22,677,767	-749
Leon	-\$130,866,775	-\$69,259,544	-\$40,224,900	-\$27,858,556	-770
Liberty	-\$689,200,622	-\$356,570,280	-\$216,780,814	-\$110,616,486	-3,836
Limestone	-\$201,951,681	-\$105,315,257	-\$65,157,553	-\$38,643,061	-1,211
Lipscomb	-\$21,551,196	-\$10,078,710	-\$5,325,936	-\$2,486,864	-88
Live Oak	-\$118,961,497	-\$56,738,610	-\$33,500,225	-\$20,307,663	-604
Llano	-\$324,077,285	-\$160,184,635	-\$96,493,473	-\$55,665,395	-1,846
Loving	-\$3,912,772	-\$1,737,902	-\$796,919	-\$290,152	-11
Lubbock	-\$2,005,346,913	-\$1,049,919,567	-\$648,096,406	-\$317,119,780	-11,690
Lynn	-\$28,764,494	-\$14,039,725	-\$8,337,282	-\$3,204,783	-139
Madison	-\$93,029,556	-\$47,994,788	-\$28,457,732	-\$19,231,807	-567
Marion	-\$128,577,494	-\$66,054,571	-\$39,926,370	-\$24,039,759	-774
Martin	-\$33,130,794	-\$15,860,148	-\$9,172,591	-\$4,568,060	-153
Mason	-\$53,448,115	-\$26,585,424	-\$15,181,711	-\$8,451,352	-278
Matagorda	-\$321,789,349	-\$148,438,927	-\$89,366,641	-\$56,363,391	-1,638
Maverick	-\$228,952,177	-\$118,429,984	-\$71,617,943	-\$43,421,310	-1,400
McCulloch	-\$86,924,180	-\$45,463,756	-\$28,530,815	-\$16,156,038	-530
McLennan	-\$2,156,288,190	-\$1,045,654,985	-\$634,753,927	-\$323,030,414	-11,670
McMullen	-\$2,686,007	-\$1,249,362	-\$679,057	-\$291,086	-11
Medina	-\$297,596,200	-\$143,972,443	-\$85,526,448	-\$50,230,408	-1,641
Menard	-\$26,351,916	-\$13,677,624	-\$7,756,097	-\$5,106,618	-143

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Midland	-\$825,656,056	-\$419,203,423	-\$243,920,395	-\$121,856,048	-4,145
Milam	-\$200,678,283	-\$101,587,460	-\$62,959,611	-\$37,192,587	-1,180
Mills	-\$38,334,897	-\$23,100,890	-\$15,027,289	-\$9,172,130	-292
Mitchell	-\$80,925,755	-\$42,211,217	-\$25,051,761	-\$14,135,844	-451
Montague	-\$243,640,977	-\$119,718,699	-\$69,030,918	-\$39,210,280	-1,277
Montgomery	-\$3,304,827,582	-\$1,592,609,517	-\$947,750,596	-\$418,624,500	-15,989
Moore	-\$110,122,441	-\$47,844,293	-\$27,296,110	-\$15,031,615	-467
Morris	-\$120,037,323	-\$53,144,686	-\$32,837,470	-\$13,896,318	-547
Motley	-\$16,924,040	-\$8,084,795	-\$4,508,202	-\$2,627,399	-82
Nacogdoches	-\$430,998,192	-\$230,997,373	-\$146,559,089	-\$87,559,173	-2,893
Navarro	-\$447,440,898	-\$223,898,304	-\$139,512,780	-\$71,915,211	-2,587
Newton	-\$70,460,062	-\$43,475,410	-\$28,723,613	-\$18,503,147	-545
Nolan	-\$170,143,919	-\$89,541,296	-\$52,449,050	-\$28,925,459	-945
Nueces	-\$3,000,454,691	-\$1,407,102,008	-\$841,814,461	-\$403,184,389	-14,489
Ochiltree	-\$43,991,760	-\$20,919,310	-\$11,738,041	-\$6,213,578	-198
Oldham	-\$3,185,432	-\$1,766,366	-\$1,111,101	-\$965,332	-25
Orange	-\$749,997,638	-\$371,997,683	-\$233,660,599	-\$133,249,619	-4,260
Palo Pinto	-\$325,633,050	-\$153,830,833	-\$89,659,002	-\$50,558,366	-1,631
Panola	-\$229,605,488	-\$116,827,409	-\$69,758,151	-\$37,169,473	-1,242
Parker	-\$868,611,366	-\$407,968,728	-\$242,068,553	-\$134,265,813	-4,415
Parmer	-\$20,467,368	-\$9,225,263	-\$5,516,185	-\$1,770,753	-93
Pecos	-\$94,020,528	-\$47,131,924	-\$27,142,631	-\$17,320,590	-512
Polk	-\$615,450,749	-\$317,705,298	-\$188,665,946	-\$110,405,089	-3,426
Potter	-\$1,085,931,896	-\$567,009,017	-\$336,854,852	-\$165,202,955	-5,932
Presidio	-\$39,132,044	-\$18,744,398	-\$11,191,253	-\$7,047,949	-212
Rains	-\$110,679,378	-\$51,335,444	-\$29,043,644	-\$20,024,044	-547
Randall	-\$845,665,241	-\$439,862,459	-\$265,006,492	-\$138,963,013	-4,802
Reagan	-\$16,092,601	-\$8,240,268	-\$4,528,101	-\$3,115,896	-80
Real	-\$50,018,340	-\$23,198,192	-\$13,309,469	-\$7,465,835	-238
Red River	-\$165,682,366	-\$80,617,677	-\$48,411,102	-\$27,457,197	-908
Reeves	-\$84,255,246	-\$43,145,048	-\$24,969,312	-\$17,469,923	-481
Refugio	-\$66,450,528	-\$33,055,645	-\$18,193,694	-\$14,931,670	-356
Roberts	-\$4,022,089	-\$1,801,380	-\$980,935	-\$811,223	-19
Robertson	-\$154,311,773	-\$76,937,066	-\$47,891,853	-\$31,714,743	-941
Rockwall	-\$366,369,865	-\$187,857,038	-\$116,446,629	-\$61,996,381	-2,153
Runnels	-\$131,810,664	-\$59,596,587	-\$33,897,436	-\$18,666,267	-599
Rusk	-\$462,591,109	-\$225,946,122	-\$135,861,246	-\$68,761,656	-2,389
Sabine	-\$114,551,573	-\$57,463,923	-\$37,147,137	-\$21,686,614	-698
San Augustine	-\$110,077,637	-\$53,620,346	-\$31,395,814	-\$17,267,736	-576
San Jacinto	-\$232,679,339	-\$114,698,596	-\$69,897,018	-\$41,659,426	-1,323
San Patricio	-\$540,595,981	-\$256,193,335	-\$154,336,849	-\$91,726,751	-2,839

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San Saba	-\$53,236,310	-\$28,525,109	-\$17,472,261	-\$11,288,270	-348
Schleicher	-\$14,576,820	-\$7,563,175	-\$4,552,498	-\$1,584,409	-76
Scurry	-\$119,235,160	-\$64,527,908	-\$36,749,072	-\$24,480,089	-689
Shackelford	-\$29,131,374	-\$14,621,447	-\$8,175,265	-\$4,591,320	-145
Shelby	-\$177,254,869	-\$95,811,705	-\$62,675,165	-\$36,758,409	-1,203
Sherman	-\$6,180,494	-\$2,790,844	-\$1,612,126	-\$852,802	-30
Smith	-\$1,993,631,142	-\$988,643,593	-\$574,939,790	-\$286,345,181	-10,101
Somervell	-\$36,469,743	-\$17,272,976	-\$11,006,115	-\$4,020,947	-194
Starr	-\$179,041,727	-\$101,409,617	-\$64,025,561	-\$41,958,092	-1,278
Stephens	-\$87,290,382	-\$47,235,146	-\$27,687,752	-\$18,563,022	-515
Sterling	-\$4,060,294	-\$2,311,558	-\$1,401,716	-\$1,034,771	-27
Stonewall	-\$14,472,829	-\$8,093,659	-\$4,780,846	-\$3,142,788	-91
Sutton	-\$31,770,956	-\$16,607,038	-\$9,562,865	-\$6,330,985	-178
Swisher	-\$36,343,269	-\$16,778,906	-\$10,035,580	-\$5,639,932	-187
Tarrant	-\$12,432,982,796	-\$6,176,030,170	-\$3,724,782,788	-\$1,687,315,841	-64,255
Taylor	-\$1,188,419,224	-\$594,888,540	-\$351,698,139	-\$170,309,162	-6,137
Terrell	-\$4,927,718	-\$2,839,928	-\$1,765,481	-\$915,075	-31
Terry	-\$76,716,450	-\$39,182,339	-\$21,438,278	-\$15,265,436	-401
Throckmorton	-\$11,197,100	-\$5,792,236	-\$3,171,735	-\$1,835,465	-56
Titus	-\$179,425,098	-\$88,418,669	-\$55,605,479	-\$36,395,158	-1,074
Tom Green	-\$948,037,672	-\$466,515,196	-\$270,336,632	-\$142,865,676	-4,960
Travis	-\$4,480,040,337	-\$2,355,152,226	-\$1,457,224,640	-\$658,639,288	-25,391
Trinity	-\$185,258,641	-\$101,257,932	-\$61,987,062	-\$37,028,834	-1,202
Tyler	-\$203,501,470	-\$105,991,590	-\$66,051,149	-\$38,292,660	-1,247
Upshur	-\$385,287,190	-\$193,555,633	-\$115,036,756	-\$66,475,553	-2,096
Upton	-\$21,332,671	-\$10,747,439	-\$6,044,256	-\$3,134,327	-104
Uvalde	-\$189,981,127	-\$99,539,587	-\$61,439,208	-\$33,924,627	-1,171
Val Verde	-\$248,473,141	-\$139,437,868	-\$89,013,714	-\$48,617,446	-1,686
Van Zandt	-\$445,364,656	-\$251,187,780	-\$154,439,995	-\$91,142,758	-2,967
Victoria	-\$807,933,286	-\$398,541,540	-\$239,026,424	-\$119,035,476	-4,104
Walker	-\$526,808,185	-\$276,654,022	-\$175,023,786	-\$96,999,328	-3,320
Waller	-\$266,047,033	-\$117,523,924	-\$66,417,750	-\$42,704,347	-1,251
Ward	-\$84,059,342	-\$43,126,870	-\$24,933,286	-\$16,335,073	-463
Washington	-\$303,887,892	-\$159,392,437	-\$98,239,660	-\$51,862,468	-1,792
Webb	-\$866,761,938	-\$455,379,961	-\$268,193,585	-\$151,079,820	-4,916
Wharton	-\$371,814,912	-\$195,555,646	-\$117,021,515	-\$66,583,624	-2,147
Wheeler	-\$41,686,147	-\$23,102,498	-\$13,626,180	-\$8,905,534	-260
Wichita	-\$1,172,723,790	-\$635,114,268	-\$378,106,987	-\$199,186,986	-6,749
Wilbarger	-\$148,914,177	-\$72,801,722	-\$45,483,675	-\$26,070,608	-843
Willacy	-\$93,584,575	-\$52,524,043	-\$31,986,146	-\$19,828,111	-615
Williamson	-\$1,145,953,040	-\$612,450,146	-\$386,837,162	-\$202,781,614	-7,082



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

<b>County</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Retail Sales (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Wilson</b>	-\$288,373,949	-\$144,431,621	-\$87,529,991	-\$50,648,295	-1,687
<b>Winkler</b>	-\$50,234,614	-\$25,845,296	-\$14,834,336	-\$9,179,644	-266
<b>Wise</b>	-\$383,956,608	-\$198,474,520	-\$115,980,844	-\$66,983,368	-2,093
<b>Wood</b>	-\$549,320,842	-\$271,531,884	-\$163,001,059	-\$87,533,252	-2,989
<b>Yoakum</b>	-\$35,545,279	-\$17,729,882	-\$10,036,738	-\$6,590,434	-184
<b>Young</b>	-\$219,822,669	-\$113,397,919	-\$65,731,119	-\$38,563,379	-1,177
<b>Zapata</b>	-\$54,638,902	-\$28,423,409	-\$16,911,330	-\$11,019,717	-324
<b>Zavala</b>	-\$41,511,138	-\$24,611,637	-\$16,284,122	-\$11,427,627	-344
<b>TEXAS</b>	-\$169,862,927,553	-\$83,790,409,518	-\$50,469,263,345	-\$23,933,428,464	-879,824

NOTE: Allocations reflect best available evidence regarding incidence and industrial structure and composition of each area.  
 SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	-\$1,520,617,851	-\$783,661,518	-\$487,289,521	-\$276,359,115	-9,196
2	-\$1,346,280,125	-\$712,370,502	-\$441,799,284	-\$269,247,767	-8,490
3	-\$1,145,131,170	-\$541,158,055	-\$318,519,409	-\$154,058,464	-5,505
4	-\$1,532,462,856	-\$754,813,135	-\$460,501,734	-\$253,260,952	-8,610
5	-\$1,530,943,416	-\$748,351,224	-\$447,505,352	-\$242,224,024	-8,126
6	-\$1,515,159,668	-\$751,369,131	-\$436,954,240	-\$217,622,337	-7,677
7	-\$1,582,694,662	-\$826,978,277	-\$499,650,341	-\$255,390,720	-8,822
8	-\$1,518,788,205	-\$773,590,582	-\$467,270,135	-\$262,729,320	-8,745
9	-\$1,576,950,047	-\$782,348,205	-\$479,429,017	-\$257,064,031	-8,614
10	-\$1,059,790,080	-\$499,650,199	-\$303,172,739	-\$171,700,600	-5,558
11	-\$1,265,953,568	-\$648,050,029	-\$404,627,898	-\$224,460,183	-7,564
12	-\$1,304,304,499	-\$653,259,471	-\$400,819,410	-\$218,027,951	-7,455
13	-\$1,618,501,914	-\$831,372,927	-\$505,287,882	-\$269,559,970	-9,173
14	-\$731,090,560	-\$371,935,233	-\$224,090,697	-\$111,755,159	-4,067
15	-\$1,212,871,722	-\$584,487,693	-\$347,824,469	-\$153,635,192	-5,868
16	-\$1,212,871,722	-\$584,487,693	-\$347,824,469	-\$153,635,192	-5,868
17	-\$1,229,927,467	-\$609,483,446	-\$367,333,405	-\$203,845,464	-6,758
18	-\$1,448,688,146	-\$747,922,898	-\$461,701,617	-\$249,275,240	-8,479
19	-\$1,682,735,892	-\$866,841,935	-\$525,742,654	-\$312,228,681	-9,770
20	-\$878,028,295	-\$442,184,252	-\$271,242,617	-\$149,056,463	-4,993
21	-\$1,600,528,979	-\$798,399,977	-\$506,544,761	-\$274,213,417	-9,141
22	-\$1,512,055,717	-\$758,048,524	-\$485,127,400	-\$250,602,309	-8,677
23	-\$1,421,803,016	-\$663,740,905	-\$398,663,202	-\$204,228,184	-7,079
24	-\$1,531,884,459	-\$727,433,539	-\$441,484,375	-\$229,746,513	-7,931
25	-\$1,124,629,447	-\$533,010,810	-\$323,529,899	-\$186,945,821	-5,842
26	-\$750,319,919	-\$353,079,006	-\$206,974,147	-\$98,168,862	-3,471
27	-\$750,319,919	-\$353,079,006	-\$206,974,147	-\$98,168,862	-3,471
28	-\$750,319,919	-\$353,079,006	-\$206,974,147	-\$98,168,862	-3,471
29	-\$1,021,796,489	-\$489,455,124	-\$298,025,965	-\$166,195,819	-5,351
30	-\$1,630,779,448	-\$790,651,506	-\$469,436,686	-\$254,343,229	-8,301
31	-\$933,797,059	-\$480,056,606	-\$288,046,637	-\$168,024,435	-5,321
32	-\$1,470,222,798	-\$689,479,984	-\$412,489,086	-\$197,560,351	-7,100
33	-\$740,212,029	-\$380,853,164	-\$235,086,101	-\$120,141,096	-4,249
34	-\$1,530,231,892	-\$717,622,024	-\$429,325,375	-\$205,624,039	-7,390
35	-\$709,619,216	-\$371,415,848	-\$230,640,116	-\$121,370,814	-4,344
36	-\$626,278,552	-\$335,348,637	-\$209,196,880	-\$109,411,370	-3,925
37	-\$844,684,308	-\$431,151,979	-\$266,351,450	-\$141,142,917	-5,038
38	-\$824,572,777	-\$420,886,456	-\$260,009,749	-\$137,782,371	-4,918
39	-\$626,278,552	-\$335,348,637	-\$209,196,880	-\$109,411,370	-3,925
40	-\$626,278,552	-\$335,348,637	-\$209,196,880	-\$109,411,370	-3,925
41	-\$626,278,552	-\$335,348,637	-\$209,196,880	-\$109,411,370	-3,925



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
42	-\$554,727,641	-\$291,443,175	-\$171,643,894	-\$96,691,085	-3,147
43	-\$1,194,450,980	-\$604,534,912	-\$361,100,275	-\$208,761,081	-6,654
44	-\$984,695,518	-\$489,831,364	-\$297,871,656	-\$179,688,680	-5,682
45	-\$743,098,559	-\$378,181,334	-\$232,273,531	-\$125,013,648	-4,313
46	-\$730,246,575	-\$383,889,813	-\$237,527,616	-\$107,358,204	-4,139
47	-\$761,606,857	-\$400,375,878	-\$247,728,189	-\$111,968,679	-4,317
48	-\$761,606,857	-\$400,375,878	-\$247,728,189	-\$111,968,679	-4,317
49	-\$734,726,615	-\$386,244,965	-\$238,984,841	-\$108,016,843	-4,164
50	-\$730,246,575	-\$383,889,813	-\$237,527,616	-\$107,358,204	-4,139
51	-\$761,606,857	-\$400,375,878	-\$247,728,189	-\$111,968,679	-4,317
52	-\$446,921,686	-\$238,855,557	-\$150,866,493	-\$79,084,829	-2,762
53	-\$1,705,722,797	-\$840,902,635	-\$498,950,447	-\$291,162,822	-9,433
54	-\$967,007,107	-\$514,080,920	-\$324,460,606	-\$176,639,711	-6,137
55	-\$842,200,631	-\$452,319,001	-\$286,965,803	-\$153,022,409	-5,383
56	-\$1,509,401,733	-\$731,958,489	-\$444,327,749	-\$226,121,290	-8,169
57	-\$1,528,262,427	-\$779,785,253	-\$480,722,966	-\$265,312,555	-8,884
58	-\$1,244,996,156	-\$622,669,295	-\$392,971,842	-\$209,010,269	-7,245
59	-\$1,030,332,750	-\$538,764,000	-\$336,667,418	-\$196,623,637	-6,471
60	-\$1,795,273,958	-\$898,414,400	-\$540,562,816	-\$318,083,711	-10,133
61	-\$1,252,567,973	-\$606,443,247	-\$358,049,397	-\$201,249,180	-6,508
62	-\$1,441,698,149	-\$753,308,367	-\$474,990,003	-\$265,544,034	-8,966
63	-\$715,923,995	-\$348,180,255	-\$212,798,766	-\$100,595,915	-3,732
64	-\$715,923,995	-\$348,180,255	-\$212,798,766	-\$100,595,915	-3,732
65	-\$715,923,995	-\$348,180,255	-\$212,798,766	-\$100,595,915	-3,732
66	-\$685,377,301	-\$353,826,230	-\$217,505,698	-\$106,598,645	-3,843
67	-\$685,377,301	-\$353,826,230	-\$217,505,698	-\$106,598,645	-3,843
68	-\$1,586,519,586	-\$801,733,005	-\$476,950,709	-\$269,555,160	-8,630
69	-\$1,435,017,427	-\$771,343,255	-\$459,764,878	-\$241,792,116	-8,203
70	-\$685,377,301	-\$353,826,230	-\$217,505,698	-\$106,598,645	-3,843
71	-\$1,540,997,422	-\$777,291,484	-\$459,357,576	-\$226,887,020	-8,069
72	-\$1,502,834,804	-\$732,878,785	-\$426,319,075	-\$227,730,666	-7,707
73	-\$1,401,796,771	-\$684,369,263	-\$414,991,406	-\$231,352,194	-7,852
74	-\$843,813,049	-\$444,844,346	-\$270,690,568	-\$161,622,399	-5,172
75	-\$1,041,566,516	-\$510,016,643	-\$308,102,587	-\$146,414,275	-5,507
76	-\$1,041,566,516	-\$510,016,643	-\$308,102,587	-\$146,414,275	-5,507
77	-\$1,041,566,516	-\$510,016,643	-\$308,102,587	-\$146,414,275	-5,507
78	-\$1,041,566,516	-\$510,016,643	-\$308,102,587	-\$146,414,275	-5,507
79	-\$1,041,566,516	-\$510,016,643	-\$308,102,587	-\$146,414,275	-5,507
80	-\$754,244,327	-\$394,480,030	-\$236,694,274	-\$137,234,534	-4,446
81	-\$1,287,733,211	-\$645,482,543	-\$383,772,844	-\$200,597,971	-6,649
82	-\$1,006,879,155	-\$509,974,283	-\$295,336,175	-\$150,960,959	-5,056



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
83	-\$1,203,990,504	-\$625,840,713	-\$375,878,050	-\$197,989,542	-6,786
84	-\$1,203,208,148	-\$629,951,740	-\$388,857,844	-\$190,271,868	-7,014
85	-\$996,358,906	-\$494,544,896	-\$291,001,153	-\$154,457,942	-5,119
86	-\$975,961,490	-\$503,917,330	-\$303,579,137	-\$157,981,580	-5,508
87	-\$1,418,081,343	-\$716,955,861	-\$422,292,552	-\$218,550,208	-7,429
88	-\$952,910,469	-\$474,051,163	-\$282,253,364	-\$168,368,533	-5,192
89	-\$685,377,301	-\$353,826,230	-\$217,505,698	-\$106,598,645	-3,843
90	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
91	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
92	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
93	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
94	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
95	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
96	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
97	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
98	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
99	-\$1,131,401,434	-\$562,018,745	-\$338,955,234	-\$153,545,742	-5,847
100	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
101	-\$1,118,968,452	-\$555,842,715	-\$335,230,451	-\$151,858,426	-5,783
102	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
103	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
104	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
105	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
106	-\$715,923,995	-\$348,180,255	-\$212,798,766	-\$100,595,915	-3,732
107	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
108	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
109	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
110	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
111	-\$1,221,793,694	-\$596,672,294	-\$349,325,866	-\$131,607,144	-5,642
112	-\$1,196,515,204	-\$584,327,350	-\$342,098,434	-\$128,884,237	-5,525
113	-\$1,221,793,694	-\$596,672,294	-\$349,325,866	-\$131,607,144	-5,642
114	-\$1,221,793,694	-\$596,672,294	-\$349,325,866	-\$131,607,144	-5,642
115	-\$1,221,793,694	-\$596,672,294	-\$349,325,866	-\$131,607,144	-5,642
116	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
117	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
118	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
119	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
120	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
121	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
122	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
123	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499



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

House District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
124	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
125	-\$1,174,314,751	-\$595,048,077	-\$366,340,893	-\$171,463,805	-6,499
126	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
127	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
128	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
129	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
130	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
131	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
132	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
133	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
134	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
135	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
136	-\$446,921,686	-\$238,855,557	-\$150,866,493	-\$79,084,829	-2,762
137	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
138	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
139	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
140	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
141	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
142	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
143	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
144	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
145	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
146	-\$1,225,395,465	-\$561,351,584	-\$329,773,069	-\$113,192,438	-5,120
147	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
148	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
149	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
150	-\$1,196,219,383	-\$547,986,070	-\$321,921,329	-\$110,497,380	-4,999
<b>TOTAL</b>	<b>-\$169,862,927,553</b>	<b>-\$83,790,409,518</b>	<b>-\$50,469,263,345</b>	<b>-\$23,933,428,464</b>	<b>-879,824</b>

NOTE: 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.

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



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

Senate District	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	(\$7,786,470,932)	(\$3,914,043,405)	(\$2,357,823,772)	(\$1,238,952,816)	-42,377
2	(\$5,764,864,037)	(\$2,889,712,613)	(\$1,743,340,264)	(\$845,345,062)	-30,749
3	(\$7,737,264,687)	(\$3,946,045,428)	(\$2,425,352,094)	(\$1,339,148,955)	-44,603
4	(\$6,325,555,846)	(\$3,060,236,287)	(\$1,868,295,539)	(\$860,250,602)	-31,954
5	(\$3,671,262,767)	(\$1,906,996,228)	(\$1,176,034,176)	(\$649,812,084)	-21,818
6	(\$5,835,216,501)	(\$2,673,102,782)	(\$1,570,347,948)	(\$539,011,609)	-24,383
7	(\$5,835,216,501)	(\$2,673,102,782)	(\$1,570,347,948)	(\$539,011,609)	-24,383
8	(\$3,490,665,002)	(\$1,778,554,021)	(\$1,081,277,313)	(\$502,621,949)	-18,738
9	(\$5,743,923,564)	(\$2,840,546,898)	(\$1,700,072,050)	(\$737,061,772)	-28,851
10	(\$5,719,172,086)	(\$2,840,973,878)	(\$1,713,400,082)	(\$776,165,287)	-29,557
11	(\$6,009,477,903)	(\$2,824,663,186)	(\$1,697,313,652)	(\$799,590,068)	-29,149
12	(\$4,241,815,082)	(\$2,082,362,972)	(\$1,265,209,321)	(\$587,075,814)	-22,029
13	(\$5,484,054,557)	(\$2,518,773,435)	(\$1,479,373,285)	(\$526,733,705)	-23,150
14	(\$3,828,987,651)	(\$1,996,232,202)	(\$1,232,619,771)	(\$575,788,841)	-21,700
15	(\$5,543,455,676)	(\$2,539,447,642)	(\$1,491,830,551)	(\$512,061,028)	-23,164
16	(\$5,814,052,750)	(\$2,839,337,121)	(\$1,662,309,292)	(\$626,268,478)	-26,849
17	(\$5,241,257,384)	(\$2,423,852,246)	(\$1,429,203,822)	(\$557,851,582)	-22,894
18	(\$6,092,871,627)	(\$2,975,354,779)	(\$1,769,701,740)	(\$933,787,079)	-31,265
19	(\$5,272,476,341)	(\$2,679,268,044)	(\$1,637,099,910)	(\$828,298,190)	-29,641
20	(\$4,929,563,596)	(\$2,447,416,600)	(\$1,486,880,974)	(\$746,360,411)	-26,584
21	(\$4,065,633,045)	(\$2,071,760,496)	(\$1,248,090,373)	(\$691,916,565)	-22,898
22	(\$6,468,156,630)	(\$3,157,471,588)	(\$1,938,232,148)	(\$1,023,353,792)	-35,681
23	(\$5,814,052,750)	(\$2,839,337,121)	(\$1,662,309,292)	(\$626,268,478)	-26,849
24	(\$5,943,998,103)	(\$3,053,224,048)	(\$1,873,896,734)	(\$1,028,923,929)	-35,015
25	(\$5,072,174,102)	(\$2,551,100,620)	(\$1,563,369,654)	(\$788,016,696)	-28,367
26	(\$5,460,563,593)	(\$2,766,973,558)	(\$1,703,485,154)	(\$797,306,695)	-30,222
27	(\$3,543,120,803)	(\$1,843,017,534)	(\$1,138,752,152)	(\$605,128,630)	-21,446
28	(\$6,228,071,324)	(\$3,182,580,171)	(\$1,902,570,231)	(\$1,024,918,083)	-34,607
29	(\$5,286,390,929)	(\$2,589,741,708)	(\$1,564,384,777)	(\$748,105,506)	-28,002
30	(\$6,081,226,008)	(\$3,100,622,430)	(\$1,870,621,033)	(\$1,016,944,623)	-33,988
31	(\$5,531,915,775)	(\$2,784,557,695)	(\$1,645,718,291)	(\$861,348,527)	-28,909
<b>TOTAL</b>	<b>(\$169,862,927,553)</b>	<b>(\$83,790,409,518)</b>	<b>(\$50,469,263,345)</b>	<b>(\$23,933,428,464)</b>	<b>-879,824</b>

NOTE: 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.

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



**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 in Texas**

US Congressional District in Texas	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Retail Sales (2016 Dollars)	Employment (Permanent Jobs)
1	(\$6,420,308,692)	(\$3,238,817,175)	(\$1,953,817,996)	(\$1,007,961,252)	-34,946
2	(\$4,959,934,026)	(\$2,272,137,364)	(\$1,334,795,756)	(\$458,159,867)	-20,726
3	(\$2,772,662,716)	(\$1,431,387,930)	(\$879,909,414)	(\$431,239,974)	-15,546
4	(\$5,547,654,353)	(\$2,840,637,360)	(\$1,765,147,512)	(\$1,015,435,221)	-33,251
5	(\$5,743,986,459)	(\$2,886,947,277)	(\$1,734,917,936)	(\$840,103,847)	-30,649
6	(\$4,819,172,720)	(\$2,369,728,281)	(\$1,435,687,928)	(\$689,177,756)	-25,212
7	(\$4,959,934,026)	(\$2,272,137,364)	(\$1,334,795,756)	(\$458,159,867)	-20,726
8	(\$5,437,863,596)	(\$2,657,362,455)	(\$1,598,636,709)	(\$746,029,164)	-27,615
9	(\$4,774,283,829)	(\$2,195,693,092)	(\$1,289,477,155)	(\$467,536,860)	-20,258
10	(\$4,571,694,188)	(\$2,229,838,536)	(\$1,338,417,717)	(\$600,918,994)	-22,854
11	(\$6,026,751,871)	(\$3,016,507,060)	(\$1,793,384,356)	(\$986,089,269)	-32,522
12	(\$4,872,579,109)	(\$2,399,943,143)	(\$1,441,983,746)	(\$683,457,237)	-25,150
13	(\$5,623,648,301)	(\$2,886,683,179)	(\$1,716,159,430)	(\$919,885,125)	-30,705
14	(\$5,992,166,949)	(\$2,911,712,514)	(\$1,807,149,238)	(\$947,249,079)	-32,403
15	(\$3,027,440,698)	(\$1,575,099,546)	(\$969,312,848)	(\$529,577,420)	-18,131
16	(\$4,530,814,347)	(\$2,218,572,395)	(\$1,340,246,254)	(\$636,902,096)	-23,957
17	(\$4,797,465,241)	(\$2,405,795,063)	(\$1,462,224,616)	(\$766,643,971)	-26,775
18	(\$4,959,934,026)	(\$2,272,137,364)	(\$1,334,795,756)	(\$458,159,867)	-20,726
19	(\$5,213,171,581)	(\$2,673,218,959)	(\$1,604,401,951)	(\$835,749,471)	-28,820
20	(\$4,814,690,480)	(\$2,439,697,116)	(\$1,501,997,662)	(\$703,001,602)	-26,648
21	(\$4,817,824,858)	(\$2,424,006,181)	(\$1,479,303,664)	(\$752,272,912)	-26,900
22	(\$3,582,983,144)	(\$1,686,627,487)	(\$999,152,071)	(\$475,944,269)	-16,881
23	(\$4,385,833,522)	(\$2,229,945,628)	(\$1,355,092,140)	(\$708,548,561)	-24,777
24	(\$4,603,623,988)	(\$2,261,831,534)	(\$1,345,551,331)	(\$560,582,644)	-22,506
25	(\$4,226,014,279)	(\$2,143,426,372)	(\$1,328,625,898)	(\$703,652,204)	-24,543
26	(\$3,388,358,613)	(\$1,658,270,822)	(\$1,009,292,814)	(\$470,778,976)	-17,609
27	(\$6,189,190,100)	(\$2,971,654,008)	(\$1,776,275,126)	(\$928,359,393)	-31,347
28	(\$3,251,274,863)	(\$1,680,944,177)	(\$1,020,752,542)	(\$540,169,108)	-18,682
29	(\$4,959,934,026)	(\$2,272,137,364)	(\$1,334,795,756)	(\$458,159,867)	-20,726
30	(\$4,954,584,082)	(\$2,419,609,025)	(\$1,416,576,614)	(\$533,689,659)	-22,880
31	(\$2,587,411,813)	(\$1,386,611,514)	(\$877,990,171)	(\$464,685,353)	-16,295
32	(\$4,804,458,628)	(\$2,351,507,834)	(\$1,379,530,593)	(\$526,456,598)	-22,371
33	(\$4,890,115,753)	(\$2,407,940,133)	(\$1,430,451,900)	(\$592,880,652)	-23,882
34	(\$3,662,019,888)	(\$1,893,857,819)	(\$1,160,533,560)	(\$632,978,463)	-21,804
35	(\$4,018,942,526)	(\$2,051,149,453)	(\$1,261,973,561)	(\$607,419,368)	-22,539
36	(\$5,674,200,264)	(\$2,756,836,992)	(\$1,656,105,867)	(\$795,412,496)	-28,466
<b>TOTAL</b>	<b>(\$169,862,927,553)</b>	<b>(\$83,790,409,518)</b>	<b>(\$50,469,263,345)</b>	<b>(\$23,933,428,464)</b>	<b>-879,824</b>

NOTE: In cases in which a county is 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.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$442,410	\$122,925	\$81,134	1
<b>Mining</b>	\$326,955	\$76,408	\$42,568	0
<b>Construction</b>	\$447,069	\$236,434	\$194,841	2
<b>Nondurable Manufacturing</b>	\$2,719,618	\$795,622	\$421,377	5
<b>Durable Manufacturing</b>	\$728,092	\$308,861	\$197,032	1
<b>Transportation and Utilities</b>	\$2,129,126	\$862,959	\$504,113	5
<b>Information</b>	\$701,161	\$431,788	\$185,986	1
<b>Wholesale Trade</b>	\$837,037	\$566,658	\$326,740	3
<b>Retail Trade (including Restaurants)</b>	\$3,698,792	\$2,745,308	\$1,590,793	43
<b>FIRE</b>	\$3,687,860	\$948,521	\$377,636	3
<b>Business Services</b>	\$9,858,830	\$5,718,579	\$4,664,892	49
<b>Health Services</b>	\$841,593	\$588,699	\$497,750	7
<b>Other Services</b>	\$1,649,844	\$834,762	\$671,080	13
<b>TOTAL</b>	\$28,068,387	\$14,237,524	\$9,755,941	132
<b>SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group</b>				

**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)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$3,591,954	\$998,031	\$658,729	7
<b>Mining</b>	\$2,654,566	\$620,359	\$345,611	0
<b>Construction</b>	\$3,629,779	\$1,919,623	\$1,581,922	17
<b>Nondurable Manufacturing</b>	\$22,080,723	\$6,459,701	\$3,421,180	42
<b>Durable Manufacturing</b>	\$5,911,414	\$2,507,658	\$1,599,712	12
<b>Transportation and Utilities</b>	\$17,286,489	\$7,006,413	\$4,092,918	37
<b>Information</b>	\$5,692,762	\$3,505,713	\$1,510,030	10
<b>Wholesale Trade</b>	\$6,795,947	\$4,600,723	\$2,652,822	22
<b>Retail Trade (including Restaurants)</b>	\$30,030,684	\$22,289,302	\$12,915,734	346
<b>FIRE</b>	\$29,941,927	\$7,701,090	\$3,066,046	21
<b>Business Services</b>	\$80,044,358	\$46,429,447	\$37,874,507	398
<b>Health Services</b>	\$6,832,938	\$4,779,675	\$4,041,260	57
<b>Other Services</b>	\$13,395,169	\$6,777,476	\$5,448,532	105
<b>TOTAL</b>	<b>\$227,888,709</b>	<b>\$115,595,211</b>	<b>\$79,209,002</b>	<b>1,074</b>
NOTE: Assumes staffing level stabilizes in fiscal 2016 in line with current budget projections.				
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				

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 (CPRIT) on Business Activity in Texas (Based on Outlays for Fiscal Year 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
Agriculture	\$1,703,901	\$472,904	\$312,226	5
Mining	\$1,320,604	\$309,313	\$171,889	1
Construction	\$1,805,923	\$950,243	\$783,060	11
Nondurable Manufacturing	\$9,881,200	\$2,892,943	\$1,513,293	26
Durable Manufacturing	\$2,437,502	\$951,085	\$622,174	9
Transportation and Utilities	\$7,038,223	\$2,764,121	\$1,600,996	18
Information	\$2,185,635	\$1,344,850	\$579,744	6
Wholesale Trade	\$3,133,069	\$2,120,078	\$1,222,456	14
Retail Trade (including Restaurants)	\$14,343,625	\$10,783,612	\$6,272,719	195
FIRE	\$15,105,164	\$3,826,078	\$1,436,844	15
Business Services	\$3,776,724	\$2,298,811	\$1,875,240	23
Health Services	\$31,946,064	\$23,015,461	\$19,459,786	326
Other Services	\$5,874,737	\$3,045,799	\$2,449,181	60
<b>TOTAL</b>	<b>\$100,552,370</b>	<b>\$54,775,298</b>	<b>\$38,299,608</b>	<b>708</b>
NOTE: Includes effects of leveraged external funds for screening and prevention purposes.				
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				

**The 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 (Based on Reported Outlays for Fiscal Year 2010-2016 with Outlays for Fiscal Year 2017 and Beyond Reflecting Budgeted and Stabilized Levels)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$16,226,447	\$4,503,517	\$2,973,368	48
<b>Mining</b>	\$12,576,262	\$2,945,624	\$1,636,914	10
<b>Construction</b>	\$17,198,010	\$9,049,277	\$7,457,168	106
<b>Nondurable Manufacturing</b>	\$94,099,789	\$27,549,830	\$14,411,259	246
<b>Durable Manufacturing</b>	\$23,212,604	\$9,057,286	\$5,925,036	83
<b>Transportation and Utilities</b>	\$67,025,803	\$26,323,037	\$15,246,469	171
<b>Information</b>	\$20,814,046	\$12,807,161	\$5,520,968	53
<b>Wholesale Trade</b>	\$29,836,569	\$20,189,744	\$11,641,586	134
<b>Retail Trade (including Restaurants)</b>	\$136,595,972	\$102,693,567	\$59,735,815	1,853
<b>FIRE</b>	\$143,848,195	\$36,436,174	\$13,683,231	146
<b>Business Services</b>	\$35,966,174	\$21,891,835	\$17,858,127	220
<b>Health Services</b>	\$304,226,007	\$219,178,856	\$185,317,753	3,106
<b>Other Services</b>	\$55,945,790	\$29,005,494	\$23,323,833	570
<b>TOTAL</b>	<b>\$957,571,669</b>	<b>\$521,631,401</b>	<b>\$364,731,527</b>	<b>6,747</b>

NOTE: Assumes percentage leveraging of external funds remains constant over time.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

**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 (CPRIT)  
on Business Activity in Texas (Based on Outlays for Fiscal Year 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$22,277,829	\$6,664,038	\$4,410,390	71
<b>Mining</b>	\$19,376,775	\$4,487,896	\$2,467,157	15
<b>Construction</b>	\$35,207,767	\$18,890,573	\$15,567,008	222
<b>Nondurable Manufacturing</b>	\$127,492,646	\$36,977,409	\$19,620,561	339
<b>Durable Manufacturing</b>	\$33,250,078	\$13,038,021	\$8,394,035	120
<b>Transportation and Utilities</b>	\$106,370,505	\$42,069,651	\$24,524,721	279
<b>Information</b>	\$29,380,485	\$18,054,533	\$7,782,914	74
<b>Wholesale Trade</b>	\$40,424,676	\$27,357,872	\$15,774,793	182
<b>Retail Trade (including Restaurants)</b>	\$185,524,449	\$139,253,416	\$80,964,792	2,518
<b>FIRE</b>	\$217,712,279	\$58,947,233	\$19,655,238	206
<b>Business Services</b>	\$49,026,992	\$30,170,320	\$24,611,251	304
<b>Health Services</b>	\$42,993,319	\$30,090,902	\$25,442,136	426
<b>Other Services</b>	\$447,195,003	\$278,187,190	\$238,629,379	5,751
<b>TOTAL</b>	<b>\$1,356,232,803</b>	<b>\$704,189,053</b>	<b>\$487,844,373</b>	<b>10,505</b>
NOTE: Includes effects of leveraged external funds for research purposes.				
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				

**The 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 (Based on Reported Outlays for Fiscal Year 2010-2016 with Outlays for Fiscal Year 2017 and Beyond Reflecting Budgeted and Stabilized Levels)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$183,350,417	\$54,846,193	\$36,298,280	582
<b>Mining</b>	\$159,474,231	\$36,936,170	\$20,305,130	120
<b>Construction</b>	\$289,766,062	\$155,472,704	\$128,119,192	1,826
<b>Nondurable Manufacturing</b>	\$1,049,286,694	\$304,330,517	\$161,480,633	2,788
<b>Durable Manufacturing</b>	\$273,653,934	\$107,305,182	\$69,084,369	986
<b>Transportation and Utilities</b>	\$875,447,791	\$346,240,563	\$201,842,724	2,295
<b>Information</b>	\$241,806,510	\$148,591,953	\$64,054,739	610
<b>Wholesale Trade</b>	\$332,702,125	\$225,160,057	\$129,829,296	1,496
<b>Retail Trade (including Restaurants)</b>	\$1,526,898,547	\$1,146,079,884	\$666,354,348	20,720
<b>FIRE</b>	\$1,791,809,999	\$485,145,999	\$161,766,034	1,692
<b>Business Services</b>	\$403,500,692	\$248,306,989	\$202,554,881	2,500
<b>Health Services</b>	\$353,842,510	\$247,653,365	\$209,393,213	3,509
<b>Other Services</b>	\$3,680,492,813	\$2,289,529,054	\$1,963,961,374	47,335
<b>TOTAL</b>	<b>\$11,162,032,326</b>	<b>\$5,795,598,630</b>	<b>\$4,015,044,211</b>	<b>86,460</b>

NOTE: Assumes percentage leveraging of external funds based on 2010-2016 actual and future budgeted levels.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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 (CPRIT)  
on Business Activity in Texas (Based on Operations and Awards  
in Fiscal Year 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$24,424,141	\$7,259,866	\$4,803,750	77
<b>Mining</b>	\$21,024,334	\$4,873,617	\$2,681,613	16
<b>Construction</b>	\$37,460,760	\$20,077,250	\$16,544,909	235
<b>Nondurable Manufacturing</b>	\$140,093,464	\$40,665,974	\$21,555,230	370
<b>Durable Manufacturing</b>	\$36,415,671	\$14,297,966	\$9,213,241	130
<b>Transportation and Utilities</b>	\$115,537,854	\$45,696,732	\$26,629,829	301
<b>Information</b>	\$32,267,280	\$19,831,172	\$8,548,644	81
<b>Wholesale Trade</b>	\$44,394,781	\$30,044,608	\$17,323,989	199
<b>Retail Trade (including Restaurants)</b>	\$203,566,865	\$152,782,337	\$88,828,304	2,755
<b>FIRE</b>	\$236,505,303	\$63,721,831	\$21,469,718	224
<b>Business Services</b>	\$62,662,546	\$38,187,710	\$31,151,383	376
<b>Health Services</b>	\$75,780,977	\$53,695,061	\$45,399,672	760
<b>Other Services</b>	\$454,719,584	\$282,067,751	\$241,749,640	5,824
<b>TOTAL</b>	<b>\$1,484,853,560</b>	<b>\$773,201,876</b>	<b>\$535,899,923</b>	<b>11,346</b>

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

**The 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 (Based on Actual Operations and Awards in Fiscal Years 2010-2016 and Future Budgeted and Stabilized Levels)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$203,168,818	\$60,347,741	\$39,930,377	636
<b>Mining</b>	\$174,705,059	\$40,502,153	\$22,287,655	130
<b>Construction</b>	\$310,593,850	\$166,441,604	\$137,158,281	1,950
<b>Nondurable Manufacturing</b>	\$1,165,467,207	\$338,340,047	\$179,313,071	3,076
<b>Durable Manufacturing</b>	\$302,777,952	\$118,870,126	\$76,609,116	1,081
<b>Transportation and Utilities</b>	\$959,760,082	\$379,570,014	\$221,182,110	2,503
<b>Information</b>	\$268,313,318	\$164,904,827	\$71,085,737	672
<b>Wholesale Trade</b>	\$369,334,640	\$249,950,525	\$144,123,704	1,652
<b>Retail Trade (including Restaurants)</b>	\$1,693,525,203	\$1,271,062,753	\$739,005,897	22,919
<b>FIRE</b>	\$1,965,600,121	\$529,283,262	\$178,515,311	1,859
<b>Business Services</b>	\$519,511,224	\$316,628,271	\$258,287,515	3,119
<b>Health Services</b>	\$664,901,455	\$471,611,896	\$398,752,227	6,672
<b>Other Services</b>	\$3,749,833,773	\$2,325,312,024	\$1,992,733,740	48,010
<b>TOTAL</b>	<b>\$12,347,492,704</b>	<b>\$6,432,825,242</b>	<b>\$4,458,984,740</b>	<b>94,280</b>

NOTE: Includes effects of leveraged external funds for prevention and research and assumes stabilized funding based on 2010-2016 actual and future budgeted levels.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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 (CPRIT) on Business Activity in Texas  
(Based on Outlays for Fiscal Year 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$8,481,726	\$2,452,553	\$1,527,924	27
<b>Mining</b>	\$43,787,273	\$19,780,317	\$6,960,101	29
<b>Construction</b>	\$19,752,240	\$9,722,499	\$7,482,362	114
<b>Nondurable Manufacturing</b>	\$69,824,861	\$19,402,322	\$10,197,003	122
<b>Durable Manufacturing</b>	\$31,141,982	\$12,846,862	\$8,596,061	90
<b>Transportation and Utilities</b>	\$58,607,793	\$20,295,193	\$11,616,110	128
<b>Information</b>	\$14,993,926	\$9,771,713	\$4,285,795	39
<b>Wholesale Trade</b>	\$20,368,354	\$15,326,770	\$8,660,688	100
<b>Retail Trade (including Restaurants)</b>	\$83,085,231	\$63,796,782	\$36,859,280	1,159
<b>FIRE</b>	\$119,268,497	\$36,878,236	\$13,840,979	139
<b>Business Services</b>	\$36,560,658	\$25,645,950	\$20,801,902	248
<b>Health Services</b>	\$45,897,086	\$35,062,157	\$29,006,140	494
<b>Other Services</b>	\$37,911,894	\$19,898,221	\$15,370,407	364
<b>TOTAL</b>	<b>\$589,681,522</b>	<b>\$290,879,575</b>	<b>\$175,204,752</b>	<b>3,054</b>
NOTE: Based on typical results of screening and prevention measures determined in various studies. Includes effects of leveraged external funds for screening and prevention purposes.				
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				

**The 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 (Based on Reported Outlays for Fiscal Year 2010-2016 with Outlays for Future Fiscal Years Reflecting Budgeted and Stabilized Levels)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$80,772,445	\$23,355,943	\$14,550,595	254
<b>Mining</b>	\$416,991,185	\$188,370,213	\$66,281,838	277
<b>Construction</b>	\$188,102,834	\$92,588,462	\$71,255,381	1,087
<b>Nondurable Manufacturing</b>	\$664,950,102	\$184,770,519	\$97,107,222	1,161
<b>Durable Manufacturing</b>	\$296,568,644	\$122,342,129	\$81,861,263	857
<b>Transportation and Utilities</b>	\$558,128,682	\$193,273,429	\$110,621,540	1,222
<b>Information</b>	\$142,788,865	\$93,057,139	\$40,814,114	375
<b>Wholesale Trade</b>	\$193,970,152	\$145,958,579	\$82,476,720	957
<b>Retail Trade (including Restaurants)</b>	\$791,230,109	\$607,544,017	\$351,015,118	11,040
<b>FIRE</b>	\$1,135,807,476	\$351,195,634	\$131,809,221	1,323
<b>Business Services</b>	\$348,171,307	\$244,229,300	\$198,098,876	2,360
<b>Health Services</b>	\$437,083,171	\$333,900,912	\$276,228,771	4,708
<b>Other Services</b>	\$361,039,281	\$189,493,027	\$146,374,133	3,464
<b>TOTAL</b>	<b>\$5,615,604,253</b>	<b>\$2,770,079,303</b>	<b>\$1,668,494,791</b>	<b>29,087</b>
NOTE: Based on typical results of screening and prevention measures determined in various studies. Includes effects of leveraged external funds for screening and prevention purposes.				
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				

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 (CPRIT) on Business Activity in Texas  
(Benefits in 2016 Based on Research Awards in Fiscal Years 2010-2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$183,040,470	\$62,849,912	\$44,417,585	573
<b>Mining</b>	\$884,038,182	\$405,463,537	\$149,894,680	589
<b>Construction</b>	\$406,520,617	\$206,579,395	\$161,922,636	2,356
<b>Nondurable Manufacturing</b>	\$1,726,930,353	\$721,765,465	\$538,258,977	3,098
<b>Durable Manufacturing</b>	\$730,251,959	\$365,541,795	\$280,802,779	2,241
<b>Transportation and Utilities</b>	\$1,225,488,507	\$461,733,232	\$288,717,177	2,716
<b>Information</b>	\$316,994,591	\$212,890,654	\$103,529,790	831
<b>Wholesale Trade</b>	\$439,992,622	\$339,489,499	\$206,602,266	2,156
<b>Retail Trade (including Restaurants)</b>	\$1,748,410,250	\$1,363,898,253	\$826,903,655	24,364
<b>FIRE</b>	\$2,473,433,379	\$830,997,293	\$371,753,444	2,873
<b>Business Services</b>	\$764,724,007	\$547,141,130	\$450,575,835	5,157
<b>Health Services</b>	\$935,717,567	\$719,725,076	\$598,999,387	10,062
<b>Other Services</b>	\$1,029,196,089	\$670,096,540	\$579,835,314	7,660
<b>TOTAL</b>	<b>\$12,864,738,594</b>	<b>\$6,908,171,780</b>	<b>\$4,602,213,525</b>	<b>64,674</b>
<b>NOTE: 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.</b>				
<b>SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group</b>				

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

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$288,031,505	\$98,900,285	\$69,895,275	901
<b>Mining</b>	\$1,391,117,757	\$638,035,254	\$235,873,467	927
<b>Construction</b>	\$639,698,670	\$325,072,232	\$254,800,594	3,707
<b>Nondurable Manufacturing</b>	\$2,717,488,370	\$1,135,766,276	\$847,001,447	4,874
<b>Durable Manufacturing</b>	\$1,149,120,579	\$575,214,614	\$441,869,752	3,527
<b>Transportation and Utilities</b>	\$1,928,422,162	\$726,580,945	\$454,323,806	4,273
<b>Information</b>	\$498,820,993	\$335,003,595	\$162,913,923	1,307
<b>Wholesale Trade</b>	\$692,370,037	\$534,218,861	\$325,108,222	3,392
<b>Retail Trade (including Restaurants)</b>	\$2,751,289,021	\$2,146,222,999	\$1,301,211,170	38,339
<b>FIRE</b>	\$3,892,181,540	\$1,307,652,897	\$584,989,232	4,520
<b>Business Services</b>	\$1,203,365,609	\$860,978,357	\$709,023,725	8,115
<b>Health Services</b>	\$1,472,440,161	\$1,132,555,531	\$942,582,233	15,833
<b>Other Services</b>	\$1,619,537,463	\$1,054,460,332	\$912,425,750	12,054
<b>TOTAL</b>	<b>\$20,243,883,867</b>	<b>\$10,870,662,177</b>	<b>\$7,242,018,596</b>	<b>101,771</b>

NOTE: 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.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$2,278,403,524	\$782,326,776	\$552,889,659	7,129
<b>Mining</b>	\$11,004,100,402	\$5,047,023,486	\$1,865,819,984	7,330
<b>Construction</b>	\$5,060,181,537	\$2,571,405,232	\$2,015,538,446	29,327
<b>Nondurable Manufacturing</b>	\$21,496,034,192	\$8,984,204,300	\$6,699,999,998	38,558
<b>Durable Manufacturing</b>	\$9,089,840,279	\$4,550,096,015	\$3,495,303,751	27,900
<b>Transportation and Utilities</b>	\$15,254,316,887	\$5,747,442,753	\$3,593,818,534	33,804
<b>Information</b>	\$3,945,802,766	\$2,649,964,873	\$1,288,691,171	10,342
<b>Wholesale Trade</b>	\$5,476,825,642	\$4,225,809,034	\$2,571,689,920	26,834
<b>Retail Trade (including Restaurants)</b>	\$21,763,406,065	\$16,977,177,701	\$10,292,916,101	303,268
<b>FIRE</b>	\$30,788,160,269	\$10,343,871,826	\$4,627,415,769	35,756
<b>Business Services</b>	\$9,518,932,467	\$6,810,560,957	\$5,608,560,613	64,193
<b>Health Services</b>	\$11,647,381,599	\$8,958,806,478	\$7,456,068,671	125,246
<b>Other Services</b>	\$12,810,959,212	\$8,341,053,307	\$7,217,523,112	95,351
<b>TOTAL</b>	<b>\$160,134,344,841</b>	<b>\$85,989,742,738</b>	<b>\$57,286,235,729</b>	<b>805,038</b>

NOTE: 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.

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

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 All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas (Based on Operations and Awards in Fiscal Year 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$215,946,338	\$72,562,331	\$50,749,260	676
<b>Mining</b>	\$948,849,789	\$430,117,471	\$159,536,394	634
<b>Construction</b>	\$463,733,617	\$236,379,144	\$185,949,906	2,705
<b>Nondurable Manufacturing</b>	\$1,936,848,678	\$781,833,761	\$570,011,210	3,589
<b>Durable Manufacturing</b>	\$797,809,612	\$392,686,623	\$298,612,080	2,461
<b>Transportation and Utilities</b>	\$1,399,634,154	\$527,725,156	\$326,963,117	3,145
<b>Information</b>	\$364,255,797	\$242,493,539	\$116,364,229	951
<b>Wholesale Trade</b>	\$504,755,757	\$384,860,878	\$232,586,944	2,455
<b>Retail Trade (including Restaurants)</b>	\$2,035,062,346	\$1,580,477,372	\$952,591,239	28,278
<b>FIRE</b>	\$2,829,207,179	\$931,597,360	\$407,064,142	3,235
<b>Business Services</b>	\$863,947,212	\$610,974,790	\$502,529,120	5,781
<b>Health Services</b>	\$1,057,395,630	\$808,482,294	\$673,405,199	11,316
<b>Other Services</b>	\$1,521,827,567	\$972,062,512	\$836,955,361	13,848
<b>TOTAL</b>	<b>\$14,939,273,676</b>	<b>\$7,972,253,232</b>	<b>\$5,313,318,200</b>	<b>79,075</b>
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group				

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

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$320,937,372	\$108,612,705	\$76,226,949	1,004
<b>Mining</b>	\$1,455,929,363	\$662,689,188	\$245,515,181	971
<b>Construction</b>	\$696,911,670	\$354,871,981	\$278,827,865	4,057
<b>Nondurable Manufacturing</b>	\$2,927,406,695	\$1,195,834,572	\$878,753,681	5,366
<b>Durable Manufacturing</b>	\$1,216,678,232	\$602,359,442	\$459,679,053	3,747
<b>Transportation and Utilities</b>	\$2,102,567,809	\$792,572,869	\$492,569,746	4,703
<b>Information</b>	\$546,082,200	\$364,606,480	\$175,748,363	1,428
<b>Wholesale Trade</b>	\$757,133,172	\$579,590,240	\$351,092,899	3,691
<b>Retail Trade (including Restaurants)</b>	\$3,037,941,118	\$2,362,802,117	\$1,426,898,754	42,253
<b>FIRE</b>	\$4,247,955,340	\$1,408,252,964	\$620,299,930	4,883
<b>Business Services</b>	\$1,302,588,813	\$924,812,016	\$760,977,010	8,739
<b>Health Services</b>	\$1,594,118,223	\$1,221,312,749	\$1,016,988,044	17,087
<b>Other Services</b>	\$2,112,168,941	\$1,356,426,305	\$1,169,545,797	18,242
<b>TOTAL</b>	<b>\$22,318,418,949</b>	<b>\$11,934,743,628</b>	<b>\$7,953,123,271</b>	<b>116,172</b>

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

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

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$2,562,344,788	\$866,030,460	\$607,370,631	8,019
<b>Mining</b>	\$11,595,796,646	\$5,275,895,851	\$1,954,389,477	7,737
<b>Construction</b>	\$5,558,878,221	\$2,830,435,298	\$2,223,952,108	32,364
<b>Nondurable Manufacturing</b>	\$23,326,451,501	\$9,507,314,867	\$6,976,420,291	42,795
<b>Durable Manufacturing</b>	\$9,689,186,875	\$4,791,308,270	\$3,653,774,130	29,839
<b>Transportation and Utilities</b>	\$16,772,205,651	\$6,320,286,196	\$3,925,622,183	37,529
<b>Information</b>	\$4,356,904,950	\$2,907,926,839	\$1,400,591,022	11,389
<b>Wholesale Trade</b>	\$6,040,130,434	\$4,621,718,138	\$2,798,290,344	29,443
<b>Retail Trade (including Restaurants)</b>	\$24,248,161,376	\$18,855,784,470	\$11,382,937,115	337,227
<b>FIRE</b>	\$33,889,567,866	\$11,224,350,723	\$4,937,740,301	38,938
<b>Business Services</b>	\$10,386,614,998	\$7,371,418,529	\$6,064,947,004	69,672
<b>Health Services</b>	\$12,749,366,226	\$9,764,319,286	\$8,131,049,669	136,627
<b>Other Services</b>	\$16,921,832,266	\$10,855,858,358	\$9,356,630,985	146,825
<b>TOTAL</b>	<b>\$178,097,441,798</b>	<b>\$95,192,647,283</b>	<b>\$63,413,715,260</b>	<b>928,405</b>

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

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 All Prevention and Research Programs Associated with the Cancer Prevention and Research Institute of Texas (CPRIT) on Business Activity in Texas (Based on Operations and Awards in Fiscal Year 2016)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$191,522,196	\$65,302,465	\$45,945,509	599
<b>Mining</b>	\$927,825,455	\$425,243,854	\$156,854,781	618
<b>Construction</b>	\$426,272,858	\$216,301,894	\$169,404,998	2,470
<b>Nondurable Manufacturing</b>	\$1,796,755,215	\$741,167,786	\$548,455,980	3,220
<b>Durable Manufacturing</b>	\$761,393,942	\$378,388,657	\$289,398,840	2,331
<b>Transportation and Utilities</b>	\$1,284,096,300	\$482,028,425	\$300,333,287	2,844
<b>Information</b>	\$331,988,517	\$222,662,367	\$107,815,585	870
<b>Wholesale Trade</b>	\$460,360,976	\$354,816,270	\$215,262,955	2,256
<b>Retail Trade (including Restaurants)</b>	\$1,831,495,481	\$1,427,695,035	\$863,762,935	25,523
<b>FIRE</b>	\$2,592,701,876	\$867,875,529	\$385,594,424	3,011
<b>Business Services</b>	\$801,284,665	\$572,787,080	\$471,377,737	5,405
<b>Health Services</b>	\$981,614,653	\$754,787,233	\$628,005,527	10,556
<b>Other Services</b>	\$1,067,107,983	\$689,994,761	\$595,205,721	8,024
<b>TOTAL</b>	<b>\$13,454,420,116</b>	<b>\$7,199,051,356</b>	<b>\$4,777,418,277</b>	<b>67,729</b>

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

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

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$296,513,231	\$101,352,839	\$71,423,199	928
<b>Mining</b>	\$1,434,905,030	\$657,815,571	\$242,833,568	956
<b>Construction</b>	\$659,450,910	\$334,794,731	\$262,282,956	3,822
<b>Nondurable Manufacturing</b>	\$2,787,313,232	\$1,155,168,598	\$857,198,451	4,996
<b>Durable Manufacturing</b>	\$1,180,262,561	\$588,061,476	\$450,465,812	3,617
<b>Transportation and Utilities</b>	\$1,987,029,955	\$746,876,138	\$465,939,916	4,402
<b>Information</b>	\$513,814,919	\$344,775,308	\$167,199,719	1,347
<b>Wholesale Trade</b>	\$712,738,391	\$549,545,632	\$333,768,910	3,493
<b>Retail Trade (including Restaurants)</b>	\$2,834,374,252	\$2,210,019,781	\$1,338,070,450	39,498
<b>FIRE</b>	\$4,011,450,038	\$1,344,531,133	\$598,830,211	4,659
<b>Business Services</b>	\$1,239,926,267	\$886,624,307	\$729,825,627	8,363
<b>Health Services</b>	\$1,518,337,246	\$1,167,617,688	\$971,588,373	16,328
<b>Other Services</b>	\$1,657,449,357	\$1,074,358,554	\$927,796,157	12,418
<b>TOTAL</b>	<b>\$20,833,565,389</b>	<b>\$11,161,541,752</b>	<b>\$7,417,223,348</b>	<b>104,826</b>

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

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

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	\$2,359,175,969	\$805,682,719	\$567,440,254	7,383
<b>Mining</b>	\$11,421,091,586	\$5,235,393,698	\$1,932,101,822	7,607
<b>Construction</b>	\$5,248,284,371	\$2,663,993,694	\$2,086,793,827	30,414
<b>Nondurable Manufacturing</b>	\$22,160,984,294	\$9,168,974,819	\$6,797,107,220	39,719
<b>Durable Manufacturing</b>	\$9,386,408,923	\$4,672,438,144	\$3,577,165,014	28,758
<b>Transportation and Utilities</b>	\$15,812,445,569	\$5,940,716,182	\$3,704,440,073	35,026
<b>Information</b>	\$4,088,591,631	\$2,743,022,012	\$1,329,505,285	10,717
<b>Wholesale Trade</b>	\$5,670,795,794	\$4,371,767,613	\$2,654,166,640	27,791
<b>Retail Trade (including Restaurants)</b>	\$22,554,636,174	\$17,584,721,718	\$10,643,931,218	314,308
<b>FIRE</b>	\$31,923,967,745	\$10,695,067,461	\$4,759,224,990	37,079
<b>Business Services</b>	\$9,867,103,774	\$7,054,790,257	\$5,806,659,489	66,553
<b>Health Services</b>	\$12,084,464,771	\$9,292,707,390	\$7,732,297,443	129,955
<b>Other Services</b>	\$13,171,998,494	\$8,530,546,334	\$7,363,897,245	98,815
<b>TOTAL</b>	<b>\$165,749,949,094</b>	<b>\$88,759,822,041</b>	<b>\$58,954,730,520</b>	<b>834,124</b>

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

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 2040)

**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) on Business Activity in Texas (as of 2040)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$371,695,327	\$107,478,421	\$66,958,331	1,168
<b>Mining</b>	\$1,918,892,932	\$866,834,320	\$305,013,046	1,274
<b>Construction</b>	\$865,603,906	\$426,069,788	\$327,900,090	5,004
<b>Nondurable Manufacturing</b>	\$3,059,940,111	\$850,269,399	\$446,864,030	5,344
<b>Durable Manufacturing</b>	\$1,364,737,421	\$562,988,994	\$376,705,804	3,946
<b>Transportation and Utilities</b>	\$2,568,373,678	\$889,397,739	\$509,053,664	5,626
<b>Information</b>	\$657,079,944	\$428,226,526	\$187,816,717	1,728
<b>Wholesale Trade</b>	\$892,603,891	\$671,666,203	\$379,537,986	4,404
<b>Retail Trade (including Restaurants)</b>	\$3,641,050,267	\$2,795,771,140	\$1,615,286,973	50,803
<b>FIRE</b>	\$5,226,712,265	\$1,616,117,667	\$606,554,267	6,088
<b>Business Services</b>	\$1,602,200,440	\$1,123,884,378	\$911,603,282	10,858
<b>Health Services</b>	\$2,011,351,413	\$1,536,531,522	\$1,271,138,231	21,667
<b>Other Services</b>	\$1,661,415,758	\$872,001,240	\$673,578,484	15,941
<b>TOTAL</b>	<b>\$25,841,657,353</b>	<b>\$12,747,237,337</b>	<b>\$7,678,010,906</b>	<b>133,850</b>

NOTE: 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.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

**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) on Business Activity in the United States (as of 2040)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$4,235,925,433	\$1,233,370,512	\$758,077,627	13,212
<b>Mining</b>	\$18,804,115,499	\$8,474,649,186	\$3,009,150,429	12,733
<b>Construction</b>	\$8,711,716,141	\$4,305,841,450	\$3,310,547,563	50,565
<b>Nondurable Manufacturing</b>	\$55,123,773,209	\$14,466,871,119	\$7,488,041,305	91,862
<b>Durable Manufacturing</b>	\$16,986,894,186	\$6,838,266,544	\$4,574,641,614	48,178
<b>Transportation and Utilities</b>	\$30,778,078,892	\$10,292,296,840	\$5,801,720,908	62,161
<b>Information</b>	\$6,697,507,643	\$4,365,871,096	\$1,914,046,179	17,573
<b>Wholesale Trade</b>	\$8,942,429,557	\$6,728,995,664	\$3,802,349,218	44,118
<b>Retail Trade (including Restaurants)</b>	\$36,685,774,400	\$28,143,433,162	\$16,255,462,755	512,059
<b>FIRE</b>	\$51,991,369,697	\$16,304,298,605	\$6,266,192,743	62,783
<b>Business Services</b>	\$16,146,102,664	\$11,325,894,123	\$9,186,640,958	109,424
<b>Health Services</b>	\$19,930,040,162	\$15,225,153,968	\$12,595,430,029	214,690
<b>Other Services</b>	\$17,223,009,244	\$9,003,718,836	\$6,975,356,404	165,530
<b>TOTAL</b>	<b>\$292,256,736,727</b>	<b>\$136,708,661,104</b>	<b>\$81,937,657,733</b>	<b>1,404,887</b>

NOTE: 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.

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

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 the Cancer Prevention and Research Institute of Texas (CPRIT) and Other Initiatives on Business Activity in Texas (Scenario I\* as of 2040)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$609,583,407	\$171,389,015	\$113,035,258	1,727
<b>Mining</b>	\$522,808,061	\$124,306,908	\$69,105,185	405
<b>Construction</b>	\$587,736,001	\$313,650,122	\$258,467,238	3,511
<b>Nondurable Manufacturing</b>	\$12,703,164,638	\$5,203,488,027	\$2,530,965,046	24,961
<b>Durable Manufacturing</b>	\$7,866,206,710	\$3,274,677,525	\$2,420,542,973	30,383
<b>Transportation and Utilities</b>	\$2,684,242,993	\$1,076,101,840	\$628,365,392	6,873
<b>Information</b>	\$814,008,425	\$496,086,830	\$213,624,868	1,898
<b>Wholesale Trade</b>	\$1,615,896,863	\$1,092,492,056	\$629,940,652	6,784
<b>Retail Trade (including Restaurants)</b>	\$4,310,303,426	\$3,199,396,640	\$1,853,962,240	55,547
<b>FIRE</b>	\$4,435,158,544	\$1,167,536,960	\$455,491,522	4,499
<b>Business Services</b>	\$1,553,631,521	\$938,082,034	\$765,234,562	8,968
<b>Health Services</b>	\$979,275,167	\$684,696,815	\$578,917,497	9,210
<b>Other Services</b>	\$1,877,651,562	\$971,555,215	\$781,691,956	18,005
<b>TOTAL</b>	<b>\$40,559,667,317</b>	<b>\$18,713,459,986</b>	<b>\$11,299,344,388</b>	<b>172,770</b>

\*This scenario assumes that Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2040 equivalent to that of the US. Only incremental gains above baseline projections are included.

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

**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 the Cancer Prevention and Research Institute of Texas (CPRIT) and Other Initiatives on Business Activity in Texas (Scenario II\* as of 2040)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Permanent Jobs)</b>
<b>Agriculture</b>	\$839,569,462	\$236,657,007	\$155,993,877	2,382
<b>Mining</b>	\$711,119,782	\$169,231,684	\$93,976,292	551
<b>Construction</b>	\$793,598,888	\$423,529,330	\$349,014,546	4,740
<b>Nondurable Manufacturing</b>	\$18,555,440,819	\$7,682,055,547	\$3,726,273,604	35,840
<b>Durable Manufacturing</b>	\$9,237,504,613	\$3,847,643,654	\$2,833,242,042	35,659
<b>Transportation and Utilities</b>	\$3,616,409,744	\$1,451,169,028	\$847,763,713	9,280
<b>Information</b>	\$1,115,687,817	\$679,234,572	\$292,443,530	2,596
<b>Wholesale Trade</b>	\$2,171,064,300	\$1,467,930,011	\$846,421,520	9,116
<b>Retail Trade (including Restaurants)</b>	\$5,798,830,982	\$4,300,747,742	\$2,491,584,495	74,739
<b>FIRE</b>	\$5,995,784,914	\$1,588,139,812	\$617,779,100	6,095
<b>Business Services</b>	\$2,150,367,108	\$1,297,394,071	\$1,058,341,113	12,403
<b>Health Services</b>	\$1,312,752,659	\$917,926,511	\$776,115,368	12,347
<b>Other Services</b>	\$2,530,929,494	\$1,310,305,413	\$1,054,482,536	24,275
<b>TOTAL</b>	<b>\$54,829,060,583</b>	<b>\$25,371,964,380</b>	<b>\$15,143,431,737</b>	<b>230,024</b>

\*This scenario assumes that Texas achieves a concentration in the biomedical industry (pharmaceuticals and medical equipment) by 2040 equivalent to that of California. Only incremental gains above baseline projections are included.  
SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

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 (CPRIT) on Business Activity in Texas (Cumulative Impact Over Ten Years Assuming Loss of Current Level of Prevention and Research Funding)**

<b>Category</b>	<b>Total Expenditures (2016 Dollars)</b>	<b>Gross Product (2016 Dollars)</b>	<b>Personal Income (2016 Dollars)</b>	<b>Employment (Person Years)</b>
<b>Agriculture</b>	(\$3,357,969,747)	(\$1,137,149,900)	(\$798,328,604)	(10,509)
<b>Mining</b>	(\$15,276,974,034)	(\$6,956,055,530)	(\$2,576,839,401)	(10,192)
<b>Construction</b>	(\$7,299,138,506)	(\$3,716,425,217)	(\$2,919,730,776)	(42,481)
<b>Nondurable Manufacturing</b>	(\$30,676,024,572)	(\$12,544,289,788)	(\$9,224,506,527)	(56,176)
<b>Durable Manufacturing</b>	(\$12,759,615,895)	(\$6,320,348,773)	(\$4,824,752,010)	(39,291)
<b>Transportation and Utilities</b>	(\$22,020,554,897)	(\$8,300,573,239)	(\$5,160,084,006)	(49,236)
<b>Information</b>	(\$5,718,164,732)	(\$3,818,893,812)	(\$1,841,531,240)	(14,951)
<b>Wholesale Trade</b>	(\$7,928,526,788)	(\$6,071,506,961)	(\$3,678,652,965)	(38,664)
<b>Retail Trade (including Restaurants)</b>	(\$31,798,806,617)	(\$24,735,261,858)	(\$14,940,284,951)	(442,305)
<b>FIRE</b>	(\$44,487,537,551)	(\$14,757,150,354)	(\$6,504,796,397)	(51,159)
<b>Business Services</b>	(\$13,646,706,828)	(\$9,692,300,599)	(\$7,975,556,840)	(91,577)
<b>Health Services</b>	(\$16,700,817,018)	(\$12,797,415,129)	(\$10,656,160,479)	(179,042)
<b>Other Services</b>	(\$21,957,211,986)	(\$14,108,261,218)	(\$12,166,180,213)	(188,639)
<b>TOTAL</b>	<b>(\$233,628,049,172)</b>	<b>(\$124,955,632,378)</b>	<b>(\$83,267,404,409)</b>	<b>(1,214,220)</b>

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

**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 (CPRIT) on Business Activity in Texas (Cumulative Impact Over Ten Years Assuming Loss of Current Level of Prevention and Research Funding)**

Category	Total Expenditures (2016 Dollars)	Gross Product (2016 Dollars)	Personal Income (2016 Dollars)	Employment (Person Years)
<b>Agriculture</b>	(\$3,113,728,336)	(\$1,064,551,238)	(\$750,291,100)	(9,744)
<b>Mining</b>	(\$15,066,730,698)	(\$6,907,319,356)	(\$2,550,023,270)	(10,036)
<b>Construction</b>	(\$6,924,530,910)	(\$3,515,652,713)	(\$2,754,281,688)	(40,129)
<b>Nondurable Manufacturing</b>	(\$29,275,089,935)	(\$12,137,630,043)	(\$9,008,954,227)	(52,478)
<b>Durable Manufacturing</b>	(\$12,395,459,187)	(\$6,177,369,113)	(\$4,732,619,602)	(37,991)
<b>Transportation and Utilities</b>	(\$20,865,176,354)	(\$7,843,605,922)	(\$4,893,785,712)	(46,222)
<b>Information</b>	(\$5,395,491,931)	(\$3,620,582,097)	(\$1,756,044,800)	(14,142)
<b>Wholesale Trade</b>	(\$7,484,578,978)	(\$5,771,060,881)	(\$3,505,413,073)	(36,678)
<b>Retail Trade (including Restaurants)</b>	(\$29,763,137,964)	(\$23,207,438,492)	(\$14,052,001,911)	(414,757)
<b>FIRE</b>	(\$42,122,484,524)	(\$14,119,932,041)	(\$6,290,099,215)	(48,923)
<b>Business Services</b>	(\$13,020,081,364)	(\$9,310,423,502)	(\$7,664,043,008)	(87,817)
<b>Health Services</b>	(\$15,943,007,252)	(\$12,260,464,514)	(\$10,202,163,761)	(171,447)
<b>Other Services</b>	(\$17,410,016,142)	(\$11,287,583,706)	(\$9,748,683,814)	(130,398)
<b>TOTAL</b>	<b>(\$218,779,513,573)</b>	<b>(\$117,223,613,619)</b>	<b>(\$77,908,405,183)</b>	<b>(1,100,761)</b>

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