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# THE IMPACT OF COLOCATION DATA CENTERS ON THE STATE AND LOCAL ECONOMIES OF TEXAS

PREPARED BY





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## Executive Summary

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This report quantifies the contribution that colocation data centers make to the state of Texas and to the metropolitan statistical areas of Austin-Round Rock, San Antonio, Dallas-Fort Worth-Arlington, and Houston-The Woodlands-Sugarland. The report also estimates the potential impact of expanding Texas' data center incentive program to include colocation data centers.

Texas is the only state that is home to three major colocation data center markets. According to CBRE, by the first half of 2022, the Lone Star State had 664 megawatts (MW) of colocation data center capacity – 57 percent of the total is in the Dallas-Fort Worth area, 23 percent is in the Austin-San Antonio area, and 20 percent is in the Houston area. Statewide, the current value of that amount of investment is \$7.4 billion in real property (the data center facility buildings) and \$12.5 billion in business personal property (the computer equipment housed inside of data center buildings). There are 660 full-time operational jobs in colocation data centers in Texas. That number does not include the hundreds of back-office employees of many colocation data center companies that also have offices in Texas. And Aligned Data Centers, CyrusOne, and Digital Realty Trust have their company headquarters in Texas. Aligned Data Center's headquarters is in Plano, CyrusOne's headquarters is in Dallas, and Digital Realty Trust's headquarters moved to Austin in 2021.

Taking into account the economic ripple effects generated by that direct impact, the statewide total impact on Texas from colocation data centers in 2022 was approximately:

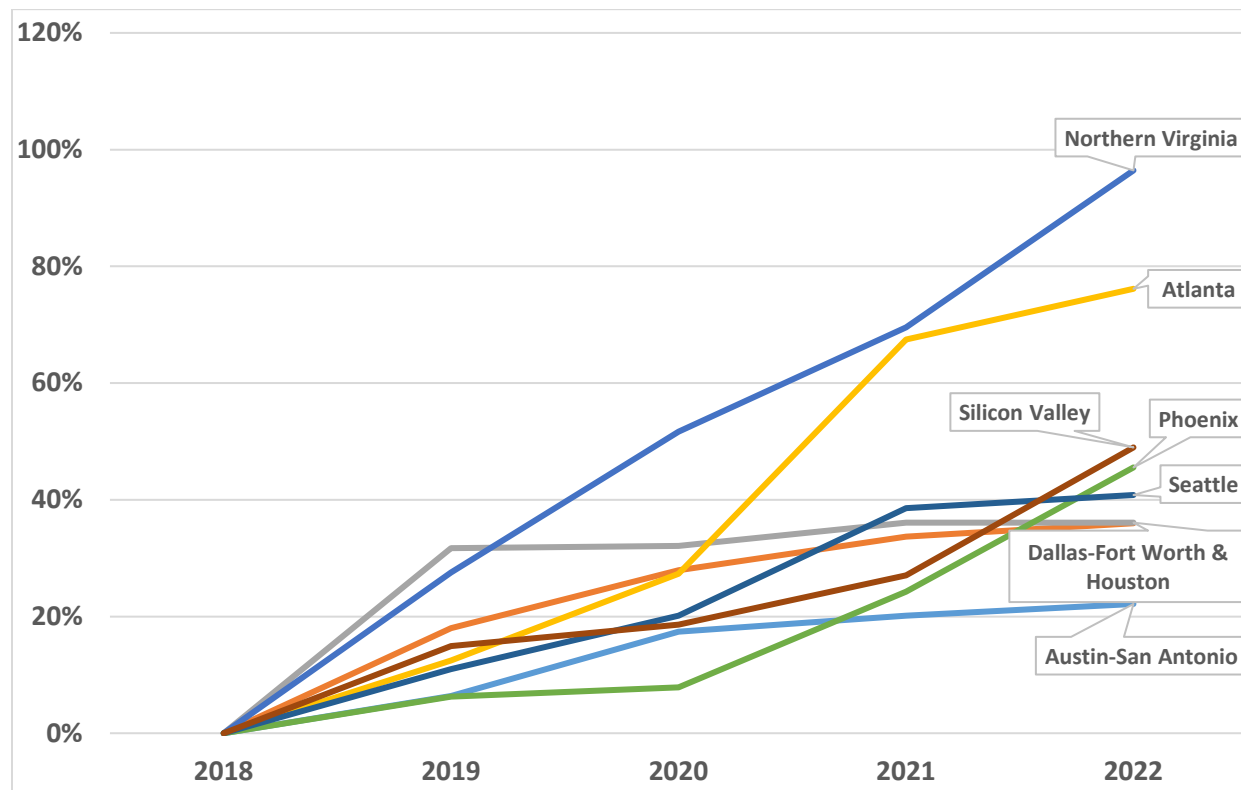
- 4,340 supported jobs,
- \$403 million in associated employee pay and benefits, and
- \$1.9 billion in economic output.

For every job inside a Texas colocation data center, there are 5.6 additional jobs that are supported in the rest of the Texas economy. In 2022, colocation data centers provided the State of Texas with \$391 million in tax revenue, and statewide in 2022, colocation data centers generated \$300 million for local taxing authorities in Texas.

The colocation data center markets in Texas have been growing at a fairly moderate rate of 5 to 9 percent compound annual growth rate over the last five years. In comparison, over the same period, the compound annual growth rate in Northern Virginia was 24 percent, 18 percent in the Atlanta area, 12 percent in Silicon Valley, 11 percent in the Phoenix area, and 10 percent in the Seattle area. Figure 1 shows how these major markets have grown since 2018 and the effect of the lag in colocation data center development in all of the Texas markets.



Figure 1: Growth in Major Colocation Data Center Markets, 2018-2022



The significant change in trend in the growth rate in the Atlanta market beginning in 2020. That occurs just after the Georgia legislature expanded Georgia's data center incentive to include colocation data centers.

In addition to the economic impact of colocation data centers in Texas, Texas colocation data centers provide electric utilities in the state with \$300 million of private support for improvements in grid infrastructure. Additionally, when data centers shift to onsite energy storage or generation during power outages, they significantly reduce the demand on the electrical grid at the most critical times. In effect, this returns power to the grid and shortens the duration of outages.

If the Texas data center incentive is expanded to include colocation facilities, then the three Texas colocation markets could see rates of growth equivalent to what has been achieved in Atlanta since the State of Georgia expanded its incentive to include colocation facilities. By 2027, that additional data center development would generate \$161 million in additional State tax revenue and \$207 million in additional local tax revenue in the metropolitan statistical areas of Austin, San Antonio, Dallas, Fort Worth, and Houston.



## An Introduction to Colocation Data Centers

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Data centers are facilities housing collections of interconnected computer equipment. They are used to store, process, and transmit digitized information. Data centers are critical infrastructure for national security, for public health and safety, and for business operations. The most important functions of the buildings housing the computer equipment are security, reliable power, interconnection of the equipment in the facility to other networks, and cooling.

The technology involved with data centers is rapidly changing and that is affecting how data centers are developed and constructed. However, there are two major categories of data centers based on how many businesses they serve – enterprise data centers and colocation data centers. They may be very large (often called, hyperscale) or modest in size, but data center facilities that house the computer equipment of only a single organization, are enterprise data centers.

Other data centers are owned by a third-party company that offers the security, power, and cooling provided by the facility as a service to a number of organizations that lease space in the facility for their computers. These are colocation data centers where different organizations “co-locate” their computer equipment. Colocation data centers allow any type of organization to take advantage of the specialized services offered by the facility without having to individually make the multimillion-dollar investments that the facilities require.

Within the category of colocation data centers, there are multiple business models that different colocation providers offer to tenants. The two major types of colocation data centers are often referred to as “retail” and “wholesale.” Retail colocation data centers lease space to many tenants for cages, racks, or cabinets of computer equipment that is usually owned and serviced by the tenant. Retail colocation data centers often offer a wide range of services, sometimes including the leasing of computer hardware and interconnections to a very large number of network carriers. Retail colocation data centers often serve small and medium-sized enterprises, but they also provide interconnection services to larger enterprises that may mainly operate out of wholesale or enterprise data centers.

Wholesale colocation data centers often serve only a few tenants in a single facility. The wholesale data center facility may be built to suit the primary tenant, or the facility may be built with minimal customization so that the primary tenant can make use of the space as they desire. Wholesale colocation facilities often lease space to large technology companies that need more data center space than they want to own.



## Economic Profile of Colocation Data Centers in Texas

Texas is home to three major colocation data center markets: Austin-San Antonio, Dallas-Fort Worth, and Houston. According to the real estate services firm, CBRE,<sup>1</sup> by the first half of 2022, the Lone Star State had over 660 megawatts (MW) of colocation data center capacity – 57 percent of the total is in the Dallas-Fort Worth area, 23 percent is in the Austin-San Antonio area, and 20 percent is in the Houston area. Table 1 shows the sizes of the colocation data center markets and key economic metrics.

Table 1. Key Economic Metrics of Colocation Data Centers in Texas, 2022<sup>2</sup>

	Austin-San Antonio	Dallas-Fort Worth	Houston	Texas
Colocation Capacity	154 MW	376 MW	134 MW	664 MW
Compound Annual Growth Rate, H1:2018-H1:2022	5%	9%	8%	
Real Estate Value	\$1.7 billion	\$4.2 billion	\$1.5 billion	\$7.4 billion
Cost of Business				
Personal Property Invested	\$2.9 billion	\$7.1 billion	\$2.5 billion	\$12.5 billion
Data Center Operational Jobs	190	340	130	660

We estimate that, statewide, the current value of that amount of investment is \$7.4 billion in real property (the data center facility buildings) and \$12.5 billion in business personal property (the computer equipment housed inside of data center buildings).

We estimate that there are 660 full-time operational jobs in colocation data centers in Texas. That number does not include the hundreds of back-office employees of many colocation data center companies that have offices in Texas. And Aligned Data Centers, CyrusOne, and Digital Realty Trust have their company headquarters in Texas. Aligned Data Center's headquarters is in Plano, CyrusOne's headquarters is in Dallas, and Digital Realty Trust's headquarters moved to Austin in 2021.

The 5 to 9 percent compound annual growth rate over the last five years may sound strong for many industries. But in the data center market that rate of growth is only moderate. In comparison, over the same period, the compound annual growth rate in Northern Virginia was 24 percent, 12 percent in Silicon Valley, 11 percent in the Phoenix area, and 10 percent in Seattle.<sup>3</sup> Figure 2 shows how these major markets have grown since 2018 and the effect of the lag in colocation data center development in all of the Texas markets.

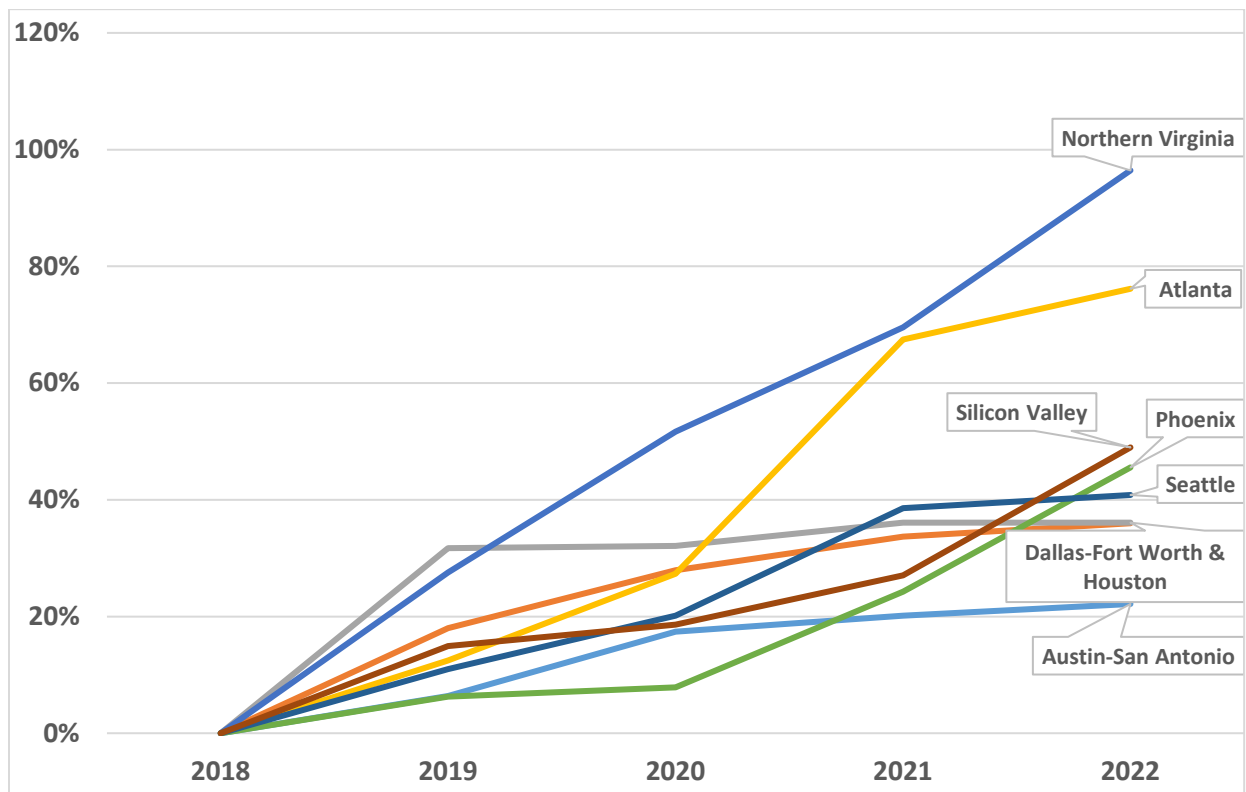
<sup>1</sup> CBRE, *North America Data Center Trends: H1 2022*. October 2022.

<sup>2</sup> Data Sources: CBRE and Mangum Economics modeling and calculations

<sup>3</sup> Data Source: CBRE.



Figure 2: Growth in Major Data Center Markets, 2018-2022



The significant change in trend in the growth rate in the Atlanta market beginning in 2020. That occurs just after the Georgia legislature expanded Georgia's data center incentive to include colocation data centers.



## Economic and Fiscal Impact of Colocation Data Centers in Texas

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The ongoing operation of colocation data centers in Texas has large, broad effects across the state's economy. In this section, we estimate the statewide economic impact that data centers have on Texas, as well as on the metropolitan statistical areas that are home to the three major colocation markets in the state. To empirically evaluate the statewide and regional economic impact attributable to data centers, we employ a commonly used regional economic impact model called IMPLAN.<sup>4</sup>

Regional economic impact modeling measures the ripple effects that an expenditure generates as it makes its way through the economy. Spending by data centers in Texas has a direct economic impact on the state and regional economy in terms of people hired as data center employees, employee pay and benefits, and economic activity in the region for utilities, services, and equipment. That direct spending by the data centers creates the first ripple of economic activity.

As data center employees and businesses (like power companies that supply data centers, and data center equipment suppliers) spend the money that they were paid by data center companies, they create another *indirect* ripple of economic activity that is part of the second-round effects of data center activity.

In addition to the economic effects in the Texas state and local economies of the data center-to-other business transactions, there are also the second-round economic effects associated with data center employee-to-business transactions that ripple through local economies. These effects occur when data center employees buy groceries; pay rent; go out for dinner, entertainment, or other recreation; pay for schooling in Texas; or make other local purchases. Additionally, there are the second-round economic effects of business-to-business transactions between the direct vendors to data centers and their suppliers.

The total impact is simply the sum of the first-round direct and second-round impacts. These categories of impact are then further defined in terms of employment (the jobs that are created), labor income (the pay and benefits associated with those jobs), and economic output (the total amount of economic activity that is created in the economy).

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<sup>4</sup> IMPLAN is produced by IMPLAN Group, LLC.





## TEXAS STATEWIDE ECONOMIC IMPACT

We estimate that in 2022, colocation data centers in Texas directly provided approximately:

- 660 operational jobs,
- \$91 million in associated employee pay and benefits, and
- \$908 million in economic output.

Taking into account the economic ripple effects generated by that direct impact, we estimate that the total impact on Texas from colocation data centers in 2022 was approximately:

- 4,340 supported jobs,
- \$403 million in associated employee pay and benefits, and
- \$1.9 billion in economic output.

For every job inside a Texas colocation data center, there are 5.6 additional jobs that are supported in the rest of the Texas economy.

Table 2. Economic Impact of Colocation Data Centers in Texas in 2022

Direct Effects in Texas	Jobs	Pay & Benefits	Economic Output
Colocation Data Center Operation	660	\$91,200,000	\$907,900,000
Supported Effects in Texas			
Colocation Data Center Operation Supported	3,680	\$311,700,000	\$944,200,000
<b>Total Colocation Data Center Impact in Texas</b>	<b>4,340</b>	<b>\$402,900,000</b>	<b>\$1,852,100,000</b>

### Rapidly Rising Wages in Texas Data Centers

One of the key characteristics of data centers is that they are extremely capital-intensive. In other words, data centers employ a relatively small number of highly skilled and highly paid people to operate and maintain a large amount of expensive equipment. Therefore, it is useful to also look at trends in private-sector, average annual wages in the industry.

Between 2001 and 2021 the average annual private sector wage in the data processing and hosting industry in Texas grew from \$64,915 to \$139,099 – a 114 percent increase.<sup>5</sup> In comparison, over the same period average private wages across all industries in Texas went from \$36,794 to \$67,095 – an increase of 82 percent.<sup>6</sup> In other words, over the 20-year period, the average private sector employee of a Texas data center saw their gross income go up almost 40 percent faster than the average private sector employee in Texas.

<sup>5</sup> Data Source: U.S. Bureau of Labor Statistics.

<sup>6</sup> Data Source: U.S. Bureau of Labor Statistics.



## Austin-Round Rock & San Antonio Area Economic Impact

We estimate that in 2022 colocation data centers in the Austin-San Antonio area directly provided approximately:

- 190 operational jobs,
- \$26 million in associated employee pay and benefits, and
- \$246 million in economic output.

Taking into account the economic ripple effects generated by that direct impact, we estimate that the total impact on the Austin-San Antonio area from colocation data centers in 2022 was approximately:

- 1,280 supported jobs,
- \$97 million in associated employee pay and benefits, and
- \$511 million in economic output.

For every job inside an Austin-San Antonio area colocation data center, there are 5.7 additional jobs that are supported in the rest of the Austin-San Antonio area economy.

Table 3. Economic Impact of Colocation Data Centers on the Austin-San Antonio Area in 2022

Direct Effects in the Austin-San Antonio Area	Jobs	Pay & Benefits	Economic Output
Colocation Data Center Operation	190	\$25,900,000	\$246,000,000
Supported Effects in the Austin-San Antonio Area			
Colocation Data Center Operation Supported	1,090	\$71,000,000	\$264,500,000
<b>Austin-San Antonio Area Impact</b>	<b>1,280</b>	<b>\$96,900,000</b>	<b>\$510,500,000</b>



## DALLAS-FORT WORTH-ARLINGTON AREA ECONOMIC IMPACT

We estimate that in 2022 colocation data centers in the Dallas-Fort Worth area directly provided approximately:

- 340 operational jobs,
- \$47 million in associated employee pay and benefits, and
- \$483 million in economic output.

Taking into account the economic ripple effects generated by that direct impact, we estimate that the total impact on the Dallas-Fort Worth area from colocation data centers in 2022 was approximately:

- 2,210 supported jobs,
- \$182 million in associated employee pay and benefits, and
- \$966 million in economic output.

For every job inside a Dallas-Fort Worth area colocation data center, there are 5.5 additional jobs that are supported in the rest of the Dallas-Fort Worth area economy.

Table 4. Economic Impact of Colocation Data Centers on the Dallas-Fort Worth Area in 2022

Direct Effects in the Dallas-Fort Worth Area	Jobs	Pay & Benefits	Economic Output
Colocation Data Center Operation	340	\$47,100,000	\$483,200,000
Supported Effects in the Dallas-Fort Worth Area			
Colocation Data Center Operation Supported	1,870	\$135,000,000	\$483,000,000
<b>Dallas-Fort Worth Area Impact</b>	<b>2,210</b>	<b>\$182,100,000</b>	<b>\$966,200,000</b>



## HOUSTON-THE WOODLANDS-SUGAR LAND AREA ECONOMIC IMPACT

We estimate that in 2022 colocation data centers in the Houston area directly provided approximately:

- 130 operational jobs,
- \$18 million in associated employee pay and benefits, and
- \$179 million in economic output.

Taking into account the economic ripple effects generated by that direct impact, we estimate that the total impact on the Houston area from colocation data centers in 2022 was approximately:

- 850 supported jobs,
- \$124 million in associated employee pay and benefits, and
- \$375 million in economic output.

For every job inside a Houston area colocation data center, there are 5.5 additional jobs that are supported in the rest of the Houston area economy.

Table 5. Economic Impact of Colocation Data Centers on the Houston Area in 2022

Direct Effects in the Houston Area	Jobs	Pay & Benefits	Economic Output
Colocation Data Center Operation	130	\$18,200,000	\$178,700,000
Supported Effects in the Houston Area			
Colocation Data Center Operation Supported	720	\$105,700,000	\$196,700,000
<b>Houston Area Impact</b>	<b>850</b>	<b>\$123,900,000</b>	<b>\$375,400,000</b>



## FISCAL IMPACT FROM CURRENT COLOCATION DATA CENTERS IN TEXAS

Colocation data centers in Texas generate revenues for the state government and local taxing authorities in a number of ways.

### Inputs and Assumptions

Our tax revenue estimates are based on the following assumptions.

- The 8.25 percent state sales and use tax applies to purchases of business personal property and to purchases of electricity. Of the 8.25 percent,
  - 6.25 percent is state revenue and
  - 2 percent is local revenue.
- Local taxes apply to real and business personal property.
- Business personal property in data centers is replaced on a four-year cycle.
- Business personal property would be taxed at its rendered value.
- The rendered value of business personal property would on average be 62.5 percent of its purchase price.
- The average tax rate levied on real and business personal property by local schools for interest and sinking costs (which stays with the local schools) in the three colocation market areas is
  - Austin-San Antonio – 0.36 percent
  - Dallas-Fort Worth – 0.34 percent
  - Houston – 0.31 percent
- The average tax rate levied on real and business personal property by local schools for maintenance and operations costs (which is subject to recapture by the state) in the three colocation market areas is
  - Austin-San Antonio – 0.91 percent
  - Dallas-Fort Worth – 0.96 percent
  - Houston – 0.95 percent
- All revenue funding maintenance and operations of local schools is recaptured by the state of Texas.
- The average tax rate levied on real and business personal property by local taxing authorities other than schools in the three colocation market areas is
  - Austin-San Antonio – 0.67 percent
  - Dallas-Fort Worth – 0.66 percent
  - Houston – 0.79 percent
- Estimates are not adjusted for any local incentive arrangements on real or business personal property due to the lack of public information relating to that.
- The operational spending by data centers generates state and local tax revenue estimated by IMPLAN.



## STATE AND LOCAL TAX REVENUES FROM COLOCATION DATA CENTERS IN TEXAS

As shown in Table 6, in 2022, colocation data centers provided the State of Texas with \$391 million in tax revenue, and statewide in 2022, colocation data centers generated \$300 million for local taxing authorities in Texas.

Table 6. Fiscal Impacts of Colocation Data Centers in 2022

	Austin-San Antonio	Dallas-Fort Worth	Houston	Statewide Total
State's Share of Sales and Use Tax on Business Personal Property	\$45,400,000	\$111,000,000	\$39,400,000	\$195,800,000
Local School Property Taxes Recaptured by the State	\$32,000,000	\$82,700,000	\$29,100,000	\$143,800,000
State Tax Revenue from Operational Purchases by Data Centers	\$6,300,000	\$20,500,000	\$7,000,000	\$33,800,000
State's Share of Sales and Use Tax on Electricity	\$4,400,000	\$9,200,000	\$4,400,000	\$18,000,000
<b>TOTAL STATE REVENUE</b>	<b>\$88,100,000</b>	<b>\$223,400,000</b>	<b>\$79,900,000</b>	<b>\$391,400,000</b>
Local Non-School Tax Revenue	\$30,900,000	\$74,400,000	\$31,600,000	\$136,900,000
Local Governments' Share of Sales and Use Tax on Business Personal Property	\$14,500,000	\$35,500,000	\$12,600,000	\$62,600,000
Local School Property Taxes Kept Locally	\$12,700,000	\$29,300,000	\$9,500,000	\$51,500,000
Local Tax Revenue from Operational Purchases by Data Centers	\$8,300,000	\$24,100,000	\$10,900,000	\$43,300,000
Local Governments' Share of Sales and Use Tax on Electricity	\$1,400,000	\$2,900,000	\$1,400,000	\$5,700,000
<b>TOTAL LOCAL REVENUE</b>	<b>\$67,800,000</b>	<b>\$166,200,000</b>	<b>\$66,000,000</b>	<b>\$300,000,000</b>



## Data Center's Contributions to the Texas Electrical Grid

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In addition to the economic impact of colocation data centers in the state, data centers make important contributions to building, stabilizing, and supporting the electrical grid in Texas.

### INVESTMENT IN TEXAS RENEWABLE GENERATION AND GRID INFRASTRUCTURE

Colocation data centers in Texas have commitments to using renewable energy sources. One of the ways that they are following through on these commitments is by buying power from renewable generation facilities in the state. A few examples include:

- CyrusOne's purchase of 40MW of power from Gexa Energy's Texas facilities (April 2022)<sup>7</sup>
- Digital Realty's purchase of 89MW of wind energy from the Bearkat Wind Energy II project in Glasscock County (April 2020)<sup>8</sup>
- Element Critical's agreement with NextEra Energy to purchase enough wind energy to supply 100 percent of the needs of their Texas data centers (February 2022)<sup>9</sup>

Additionally, because Texas data centers spend large amounts on electricity, they provide electric utilities in the state with significant private support for improvements in grid infrastructure. We estimate that in 2022, colocation data centers and their tenants in Texas paid almost \$300 million for electricity. That is millions of dollars to help Texas power companies improve the state's power grid.

### RELIABLE AND PREDICTABLE BASE LOAD

One of the fundamental services that data centers provide to their clients is 100 percent uptime. Data centers have relatively stable demand for electricity 24/7/365. The predictability of the power load helps utility companies to predict and meet the demand for power with the supply of power generation.

### EMERGENCY SUPPORT

Because data centers must be able to operate continuously, even in the event of power outages, they maintain significant onsite generation and energy storage capabilities. When they shift to using power from onsite energy storage or generation during power outages, they significantly reduce the demand on the electrical grid at the most critical times. In effect, this returns power to the grid and shortens the duration of outages. During the 2021 winter storm in Texas, data centers removed their power loads from the grid so that the imbalance between the demand and supply of power was reduced by hundreds of megawatts.<sup>10</sup> Some data centers went beyond that by providing diesel fuel to others that were running low on the scarce resource.<sup>11</sup>

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<sup>7</sup> [CyrusOne signs 40MW wind and solar PPA with Gexa Energy in Texas - DCD \(datacenterdynamics.com\)](#)

<sup>8</sup> [Digital Realty to Power Texas Data Centers with Wind Energy \(environmentalleader.com\)](#)

<sup>9</sup> [Element Critical signs PPA with NextEra Energy in Texas - DCD \(datacenterdynamics.com\)](#)

<sup>10</sup> [Texas Data Centers Rely on Generators Amid Power Emergency | Data Center Frontier](#)

<sup>11</sup> [How data centers survived the Texas storm - DCD \(datacenterdynamics.com\)](#)



## The Impact of Extending the Texas Incentive to Colocation Data Centers

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Texas' current data center incentive is not available to colocation data centers operating in the state. The state's existing data center incentive is only available to single-facility enterprise data centers. Expanding the Texas data center incentive will have a significant impact on data center development in the state, as similar legislation had in Georgia.

For many years, Georgia has had a data center incentive that applied only to enterprise data centers (like the current Texas data center incentive). Data from CBRE shows that the compound annual rate of growth in the data center market in Atlanta was 1 percent from 2013 through 2018. In 2018, Georgia expanded its data center incentive to apply to colocation data centers. Data from CBRE shows that from 2019 through the first half of 2022, the compound annual rate of growth in the data center market in Atlanta has now become 18 percent.

For comparison, from 2019 through the first half of 2022, the compound annual rates of growth in the data center markets in Texas have been: 9 percent in Dallas-Fort Worth; 5 percent in Austin-San Antonio; and 8 percent in Houston.

If expanding the Texas data center incentive increases the rate of growth in the major Texas markets to 18 percent, then those markets will grow 2 to 3.6 times faster than they have been growing. This would appear to be a conservative assumption, given that expanding the incentive in Georgia resulted in a rate of growth in the Atlanta market that was 18 times faster than the market had been growing before the change in the incentive.

If the major data center markets in Texas grow an 18 percent compound annual growth rate, then by 2027, *over and above the growth that can be expected at the current rate*, in

- Austin-San Antonio – 155 MW of additional data center inventory will be added.
- Dallas-Fort Worth – 282 MW of additional data center inventory will be added.
- Houston – 109 MW of additional data center inventory will be added.

The additional data center development means more construction jobs, more construction spending that affects the local and state economies, and more economic activity that generates additional local and state tax revenue. Once the data centers are operational, they create additional operational jobs, spending in the local and state economies, and additional local and state tax revenue.

Table 7 shows how, if the Texas data center incentive is expanded to include colocation facilities, then by 2027, the additional data center development will generate \$161 million in additional State tax revenue and \$207 million in additional local tax revenue in the metropolitan statistical areas of Austin, San Antonio, Dallas, Fort Worth, and Houston.





Table 7. Economic & Fiscal Impacts of Additional Colocation Data Center Development Induced by an Expanded Data Center Incentive by 2027

	Austin-San Antonio	Dallas-Fort Worth	Houston	Statewide Total
Total Additional Colocation Data Center Capacity by 2027	155 MW	282 MW	109 MW	546 MW
Total Additional Colocation Data Center Operational Jobs by 2027	190	340	130	660
Total Additional Colocation Data Center Operational Jobs by 2027	1,090	1,870	720	3,680
Additional Annual Construction Jobs Building Colocation Data Centers	980	1,720	690	3,390
Additional Annual Non-Construction Jobs Building Colocation Data Centers	930	1,750	580	3,260
Annual Local School Property Taxes Recaptured by the State	\$32,200,000	\$62,000,000	\$23,700,000	\$117,900,000
Annual State Tax Revenue from Operational Purchases by Data Centers	\$6,300,000	\$15,400,000	\$5,700,000	\$27,400,000
Annual State Tax Revenue Generated by the Construction of Data Centers	\$4,400,000	\$8,900,000	\$2,600,000	\$15,900,000
<b>ANNUAL TOTAL STATE REVENUE ON ADDITIONAL COLOCATION DATA CENTERS INDUCED BY AN EXPANDED INCENTIVE</b>	<b>\$42,900,000</b>	<b>\$86,300,000</b>	<b>\$32,000,000</b>	<b>\$161,200,000</b>
Annual Local Non-School Tax Revenue	\$31,100,000	\$55,800,000	\$25,700,000	\$112,600,000
Annual Local School Property Taxes Kept Locally	\$12,800,000	\$22,000,000	\$7,700,000	\$42,500,000
Annual Local Tax Revenue from Operational Purchases by Data Centers	\$8,400,000	\$18,100,000	\$8,900,000	\$35,400,000
Annual Local Tax Revenue Generated by the Construction of Data Centers	\$4,600,000	\$8,400,000	\$3,300,000	\$16,300,000
<b>ANNUAL TOTAL LOCAL REVENUE ON ADDITIONAL COLOCATION DATA CENTERS INDUCED BY AN EXPANDED INCENTIVE</b>	<b>\$56,900,000</b>	<b>\$104,300,000</b>	<b>\$45,600,000</b>	<b>\$206,800,000</b>



## FISCAL IMPACTS IN CONTEXT

To put the additional tax revenues that would be generated by the additional colocation data center development induced by an expanded data center incentive could fund expenditures like the following. These items are only illustrative. Our estimates of local tax revenues are not specific to a single county but estimate the local revenues collected throughout the entirety of the relevant metropolitan statistical areas.

### Schools

- The \$12.8 million generated by additional colocation data centers in the Austin-San Antonio area could cover the school bond issuance for interest and sinking expenses on
  - a new football stadium;<sup>12</sup>
  - land for future school facilities, tennis courts, and baseball and softball fields;<sup>13</sup>
  - technology devices for students and staff;<sup>14</sup> or
  - sound and lighting upgrades in performing arts facilities.<sup>15</sup>
- The \$22 million generated by additional colocation data centers in the Dallas-Fort Worth area could cover the school bond issuance for interest and sinking expenses on
  - a performing arts center;<sup>16</sup>
  - an indoor activity center;<sup>17</sup>
  - new baseball and softball fields;<sup>18</sup>
  - new classrooms and a storm shelter;<sup>19</sup>
  - new girl's locker room, new gym, and tennis court;<sup>20</sup> or
  - new schools and school buses.<sup>21</sup>
- The \$7.7 million generated by additional colocation data centers in the Houston area could cover the school bond issuance for interest and sinking expenses on
  - upgrades to classroom technology;<sup>22</sup>
  - technology devices for students and staff;<sup>23</sup> or
  - upgrades to servers, switches, and routers.<sup>24</sup>

<sup>12</sup> Harlandale ISD, Bexar County. [FB Live Presentation \(harlandale.net\)](https://www.harlandale.net). Proposition C, \$9.5 million.

<sup>13</sup> Lago Vista ISD, Travis County. [Bond 2022 Quick Facts.pdf \(lagovistaisd.net\)](https://www.lagovistaisd.net). Proposition B, \$9.175 million.

<sup>14</sup> Boerne ISD, Kendall County. [Propositions \(boerneschoolbonds.com\)](https://www.boerneschoolbonds.com). Proposition B, \$3 million.

<sup>15</sup> Pflugerville ISD, Travis County. [Election 2022 / 2022 Bond \(pfisd.net\)](https://www.pfisd.net). Proposition E, \$3 million.

<sup>16</sup> Crandall ISD, Kaufman County. [Bond Overview — Crandall ISD 2022 Bond \(crandallisd.com\)](https://www.crandallisd.com). Proposition C, \$20 million.

<sup>17</sup> Argyle ISD, Denton County. [Bond 2022 / Proposition C \(argyleisd.com\)](https://www.argyleisd.com). Proposition C, \$19.885 million.

<sup>18</sup> Alvarado ISD, Johnson County. [Proposed Projects — Alvarado ISD Bond Election](https://www.alvaradoisd.com). Proposition B, \$17.55 million.

<sup>19</sup> Rio Vista ISD, Johnson County. [rio\\_vista\\_bond\\_handout\\_1.pdf](https://www.riovistaisd.com), \$12 million.

<sup>20</sup> Paradise ISD, Wise County. [RTownsend Paradise Meeting 9-29-22 - Google Slides](https://www.paradiseisd.com). Proposition B, \$9 million.

<sup>21</sup> Peaster ISD, Parker County. [Notice of bond.pdf \(peaster.net\)](https://www.peaster.net). Proposition A, \$3.5 million.

<sup>22</sup> Sheldon ISD, Harris County. [Bond Election 2022 — Bond 2022 — Sheldon ISD](https://www.sheldonschools.org). Proposition B, \$6.9 million.

<sup>23</sup> Montgomery ISD, Montgomery County. [Bond Poster- Vertical Info.png \(582x900\) \(sharpschool.com\)](https://www.sharpschool.com). Proposition C, \$5.4 million.

<sup>24</sup> Galveston ISD, Galveston County. [Bond 2022 FAQs — GISD Bond 2022](https://www.galvestonisd.com). Proposition D, \$4.535 million.



## Counties

- The \$31.1 million generated by additional colocation data centers in the Austin-San Antonio area could cover local government expenses such as
  - a long-range transportation plan;<sup>25</sup>
  - 20 new positions for expansion of jail operations;<sup>26</sup>
  - municipal and volunteer fire departments;<sup>27</sup> or
  - child safety<sup>28</sup>.
- The \$55.8 million generated by additional colocation data centers in the Dallas-Fort Worth area could cover local government expenses such as
  - juvenile residential treatment centers;<sup>29</sup>
  - public transportation;<sup>30</sup>
  - court security bailiffs<sup>31</sup>.
- The \$25.7 million generated by additional colocation data centers in the Houston area could cover local government expenses such as
  - public libraries;<sup>32</sup>
  - public safety expenses;<sup>33</sup> or
  - road and bridge expenses.<sup>34</sup>

<sup>25</sup> Williamson County. [FY2023 Expenditure Recommendations \(wilco.org\)](#). \$7 million.

<sup>26</sup> Hays County. [Hays County Judge Proposes FY 2022 Budget | Hays County \(hayscountytexas.com\)](#). \$0.918 million.

<sup>27</sup> Guadalupe County. [FY23 PROPOSED BUDGET.pdf \(guadalupe.tx.us\)](#). \$0.952 million.

<sup>28</sup> Comal County. [Microsoft Word - Comal County Approved Budget Title Page with CCT Pictures.docx](#). \$0.485 million.

<sup>29</sup> Dallas County. [00120.5119 - Juvenile Letot Residential Treatment Center \(opengov.com\)](#). \$2.2 million.

<sup>30</sup> Collin County. [A91mtugm2\\_1h0m82z\\_j1s.tmp \(collincountytexas.gov\)](#). \$23.9 million.

<sup>31</sup> Tarrant County. [FY23RecommendedBudget.pdf \(tarrantcountytexas.com\)](#). \$21.1 million.

<sup>32</sup> Fort Bend County. [LIBRARIES AND EDUCATION | FY 2023 Annual Operating Budget Copy \(cleargov.com\)](#). \$21.2 million.

<sup>33</sup> Liberty County. [FY 2023 Adopted Budget.pdf \(liberty.tx.us\)](#). \$24.8 million.

<sup>34</sup> Chambers County. [2023 Proposed Budget Title Page \(chambers.tx.us\)](#). \$12.9 million.



## About Mangum Economics, LLC

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Mangum Economics is a Glen Allen, Virginia based firm that was founded in 2003. Since then, we have become known as a leader in industry analysis, economic impact assessment, policy and program evaluation, and economic and workforce strategy development. The Mangum Team specializes in producing objective and actionable quantitative economic research that our clients use for strategic decision making in a variety of industries and environments. We know that our clients are unique, and that one size does not fit all. As a result, we have a well-earned reputation for tailoring our analyses to meet the specific needs of specific clients, with a specific audience.

Most of our research falls into four general categories:

- **Information Technology:** Working with some of the largest names in the industry, to date the Mangum Team has produced analyses of the economic and fiscal impact of the data center industry in Virginia, home to the largest concentration of data centers in the world, and in five other states.
- **Energy:** The Mangum Team has produced analyses of the economic and fiscal impact of over 17 GW of proposed solar, wind, battery storage, and hydro projects in more than 15 states. Among those projects was Dominion Energy's 2.6 GW Coastal Virginia Offshore Wind project off of Virginia Beach. In addition, the Mangum Team has also performed economic and fiscal impact analyses for the natural gas, nuclear, oil, and pipeline industries.
- **Economic Development and Special Projects:** The Mangum Team has performed hundreds of analyses of proposed economic development projects. Most recently, we were called upon by Henrico County to provide an analysis of the proposed \$2.3 billion Green City "net-zero eco district." The Mangum Team has also authored multiple economic development plans, including identifying industries that were likely recruitment targets because of the high-speed MAREA and BRUSA sub-sea cable landings in Virginia Beach.
- **Education and Workforce:** The Mangum Team has worked with multiple post-secondary and secondary education institutions to quantify their economic contribution to their host communities as well as their impact on regional and statewide workforce needs.

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