

ECONOMIC IMPACT OF THE MOTION PICTURE INDUSTRY IN TENNESSEE, 2019

Table of Contents

Economic Impact of Incentivized Projects	1
Economic Impact of Non-Incentivized Projects	2
Tourism Impact from Production Industry	3
Motion Picture and Production Cluster Overview	4
Synergy of Music and Motion Pictures	6

Impacts of the Production Industry in Tennessee

The production industry continues to play a key role in the Tennessee economy while employing thousands of Tennessee workers. These projects generate millions of dollars of spending in the state's economy while creating new incomes, infrastructure growth, and increasing tax revenue. Over the last nine years, production projects purchased \$171.9 million in goods and services from approximately 10,400 Tennessee vendors. In addition to the economic and fiscal impacts to Tennessee, projects like *Nashville, Still the King* and *Sun Records* promote Tennessee internationally, while generating increased tourism spending for the state. The Center for Economic Research in Tennessee (CERT) analyzed recent motion picture production projects that received funding from the Tennessee Entertainment Commission (TEC) to estimate the economic and fiscal impacts these projects had on the state. In addition, CERT completed an overview of the production industry in Tennessee, which includes industry establishments, employment, and wages.

Highlights

- An estimated **\$419.5 million** in new incomes for Tennessee workers were generated from 68 incentivized production projects.
- The projects created **over 7,300 new full-time equivalent Tennessee jobs** while generating **\$655.6 million** in economic output for the state.
- In addition, the Tennessee Entertainment Commission (TEC) has supported **over 250 production projects per year** with non-incentivized assistance. These production activities have supported the creation of **889 Tennessee jobs** and **\$53.2 million** in new incomes for Tennessee workers.
- Overnight visitors to Tennessee where the show *Nashville* was a motivating factor spend approximately **\$157.4 million** in the state each year.
- From 2013 to 2018, Tennessee employment in motion picture and video production grew **135%**.
- Tennessee ranks **No. 6** among all states in the nation for employment in the motion picture production industry cluster; and the sector supports increased economic activity in music and other Tennessee industries.

Economic Impact of Incentivized Production Projects

From 2007 to 2018, the TEC actualized reimbursements or rebated Qualified Tennessee Spend to 68 production projects across Tennessee. These projects operated in the state for 10,166 total production days over the course of the analyzed time period, which includes pre-production, production and post-production operations.

2007 - 2018 Projects Production Days	
Pre-Production	2,478 days
Production	2,989 days
Post-Production	4,699 days
Total Tennessee Production Days	10,166 days

CERT conducted an analysis of these projects to estimate the anticipated economic and fiscal impacts the production projects will have on the state. This includes anticipated growth in jobs and income for Tennessee residents, growth in economic output for the Tennessee economy; as well as fiscal impacts for state and local tax revenues. Each year TEC provides assistance to a variety of other production projects that have an impact on the state's economy. TEC's support for these non-incentivized production projects includes location assistance, permitting and other support. However, for this portion of the analysis CERT included only the 68 production projects receiving funding from TEC.

2007 - 2018 Production Projects			
	Direct Impacts	Indirect and Induced Impacts	Total Impacts
New Tennessee Jobs ¹	2,861	4,466	7,327
New Incomes	\$165.0M	\$254.5M	\$419.5M
Economic Output	\$360.5M	\$295.1M	\$655.6M

¹ Full-time equivalent jobs. To calculate the number of jobs created from these projects, CERT and Impact DataSource calculated the equivalent annualized jobs based on Tennessee payroll and the industry's average wage in the state.

Impacts of the Production Industry in Tennessee

The 68 production projects included in the analysis are estimated to have created 7,327 new jobs for Tennessee residents. This includes 2,861 full-time equivalent jobs created directly through the analyzed production projects, which includes Tennessee cast and crew. An additional 4,466 induced and indirect jobs were created in the regional economy in support of the production activities. This activity indirectly impacts the supplier or vendor network through business-to-business spending. From 2007 to 2018, the productions purchased \$171.9 million in goods and services from approximately 10,400 Tennessee vendors (See Appendix A). The direct and indirect economic impacts induce additional economic activity, supported by workers re-spending parts of their salaries in the state.

The new jobs created from the incentivized production projects, and their supporting and spinoff economic activity, are projected to have generated \$419.5 million in new income for Tennessee workers. The 2,861 direct jobs created by the projects resulted in \$165.0 million in new income. The 4,466 indirect and induced jobs are estimated to have created \$254.5 million in new income.

The 68 production projects analyzed are estimated to have generated \$655.6 million in economic output for the state of Tennessee. For every \$1 in new economic output the projects create, the state will realize approximately \$0.82 in additional output. Economic output is the value of goods and services produced in the state as a result of the project. Economic output can be thought of as the new revenue generated by the direct business and spin-off businesses. These projects will result in new job creation, infrastructure growth, and other economic activity across many sectors of the economy, including arts, entertainment and recreation; the information sector; retail trade, and health care and social assistance.

CERT estimates various taxable sales and purchases from these projects in the State of Tennessee to total approximately \$218.1 million. The estimated taxable sales and purchase includes the \$171.9 million purchased from Tennessee vendors. Taxable sales and purchases also include activity associated with worker spending in the community. The projects are estimated to have generated \$46.2 million in worker spending in Tennessee on food and other items. Vendor spending in Tennessee accounts for 79% of all taxable sales and purchases made in the state as a result of these projects, with worker spending on food and other items accounting for the remaining 21%. CERT estimates that \$19.6 million in sales tax revenue was generated from these taxable sales and purchases in Tennessee. This includes a projected \$14.7 million in state sales tax collections and \$4.9 million in local sales tax collections.

Economic Impact of Non-Incentivized Production Projects

In addition to supporting production projects through incentives, TEC assists hundreds of other production projects across Tennessee each year. Projects that do not qualify for production incentives may still receive location, permitting and other assistance from the state. TEC began collecting data on these projects in 2014 with estimates of local hires, spending in the state, and the number of production days. From 2014 to 2018, TEC assisted 1,287 production projects across Tennessee. CERT conducted an analysis of these projects to estimate the anticipated economic and fiscal impacts these production projects will have on the state using some assumptions from the state's incentivized production projects. These assumptions include the percentage of Tennessee payroll and vendor spend relative to the overall Tennessee production spend.

2014-2018 Non-Incentivized Production Projects			
	Direct Impacts	Indirect and Induced Impacts	Total Impacts
New Tennessee Jobs ²	444	445	889
New Incomes	\$26.2M	\$27.0M	\$53.2M
Economic Output	\$49.3M	\$40.3M	\$89.6M

² Full-time equivalent jobs. To calculate the number of jobs created from these projects, CERT and Impact DataSource calculated the equivalent annualized jobs based on Tennessee payroll and the industry's average wage in the state.

Impacts of the Production Industry in Tennessee

The non-incentivized production projects included in the analysis are estimated to have created 889 jobs for Tennessee residents. This includes 444 Tennessee full-time equivalent jobs created directly through the analyzed production projects.³ An additional 445 induced and indirect jobs were created in the regional economy in support of the motion picture production activities. The new jobs created from these production projects are estimated to have generated \$53.2 million in new income for Tennessee workers. Total new income created from these projects includes \$26.2 million from the direct job creation and \$27.0 million from the indirect and induced jobs.

The 1,287 non-incentivized production projects included in this analysis are estimated to have generated \$89.6 million in economic output for the State of Tennessee.⁴ In addition, CERT estimates various taxable sales and purchases from these projects to total approximately \$30.3 million in the state. This includes production purchases of \$23.0 million in goods and services from Tennessee vendors between 2014 and 2018. CERT estimates that taxable sales and purchases related to the non-incentivized production projects generated \$2.0 million in state sales tax revenue.

Tourism Impact from Production Industry in Tennessee

Many projects produced in Tennessee promote the state across the world, helping to generate interest and tourism spending in the state. An example of this type of impact is the television show *Nashville*, which was seen by viewers in countries around the globe. A 2014 survey by the Nashville Convention and Visitors Corporation interviewed 426 overnight visitors to the city. The survey found that 18% of overnight visitors who were viewers of the *Nashville* series indicated that the show was their motivating factor to visit Nashville. In addition, 1 in 10 of surveyed visitors who were viewers of the show mentioned that it was also a motivating factor to visit other areas of Tennessee. According to the survey, viewers of the show have a longer length of stay in the city and bring larger groups. In addition, these overnight visitors spend \$44 more per person per day than those who have not seen the show. They are also more likely to visit the city and the state again in the next two years.

Utilizing the results of this survey, CERT projects that all overnight visitors to Tennessee where the show was a motivating factor spend approximately \$157.4 million in the state each year, generating \$11.0 million in state sales tax collections. Utilizing the assumption that the tourism impact of the show remained constant over its six seasons, the analysis estimates a significant impact of tourism visitor spending occurred in Tennessee as a result of *Nashville*. Assuming all factors were to remain constant, tourism from *Nashville* would have generated an estimated \$836.0 million in visitor spending and \$58.5 million in state sales tax revenue over the five years following the show's premiere.⁵

³ To calculate the number of jobs created from these projects, CERT and Impact DataSource calculated the equivalent annualized jobs based on Tennessee payroll, hires, and the number of production days.

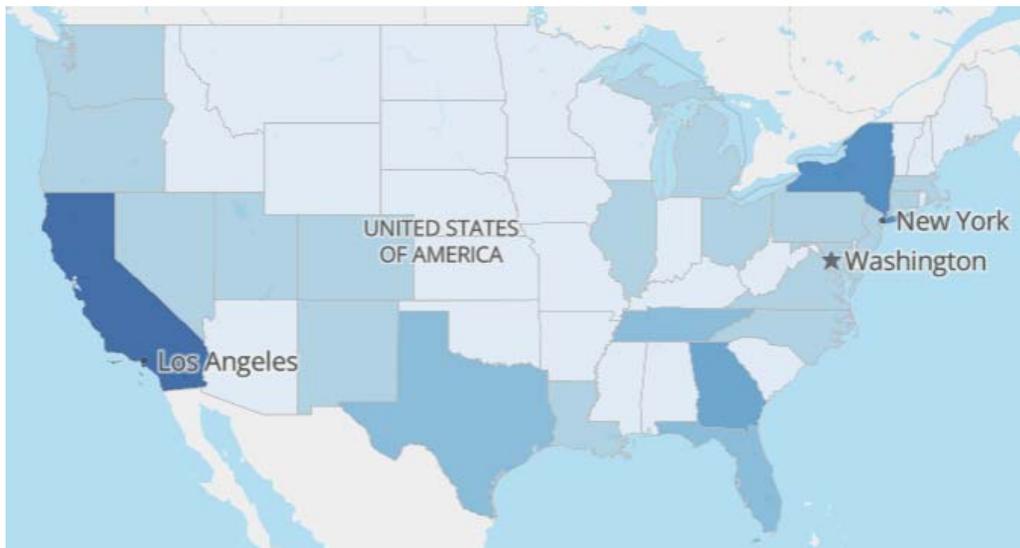
⁴ Economic output is the value of goods and services produced in the state as a result of the project. Economic output can be thought of as the new revenue generated by the direct business and spin-off businesses.

⁵ While it is unrealistic that all factors remained constant in other years; the show's ratings have remained constant, and tourism to Nashville has risen. Because of these reasons, CERT does not find it unrealistic to estimate similar impacts in the last three seasons. The estimated impacts exclude impacts resulting from *Nashville*-generated tourism in future years.

Motion Picture and Production Cluster in Tennessee

The production industry in Tennessee plays an important role in the state’s economy. Tennessee employment in the sector has grown significantly over the last decade, with assistance from TEC helping to strengthen the industry by providing financial, permitting, location, and other assistance to this growing cluster. The cluster is comprised of the Motion Picture and Video Production and Distribution industries, as well as the Teleproduction and Other Postproduction industry. Tennessee’s motion picture and video industries employ 6,016 workers, which **ranks No. 6** among all states for total employment in this industry cluster.⁶ The Nashville Metropolitan Statistical Area (MSA) **ranks No. 5** among 926 MSAs for industry employment with 4,441 residents employed in the industry.⁷ Companies in this cluster have added 2,400 new jobs in Tennessee in the last five years, a growth rate of 67%. Tennessee’s job creation in this cluster was the third highest in the nation behind Georgia and New York. Tennessee workers employed in the sector earn \$54,725 in annual average earnings, which includes salaries, benefits and other supplements. Annual earnings are especially high for the Motion Picture and Video Distribution sector at \$79,027 for the state.

Motion Picture and Production Sector Employment, by State (2018)



Motion Picture and Production Sector Employment, by Industry (2019)

Industry (NAICS)	Employment (2018)	Employment Change (2013-2018)	% Employment Change (2013-2018)	Average Annual Total Earnings ⁸	No. Business Locations (2018)
Motion Picture and Video Production (512110)	3,849	2,213	135%	\$43,125	257
Motion Picture and Video Distribution (512120)	1,958	69	4%	\$79,027	4
Teleproduction and Other Postproduction Services (512191)	209	123	143%	\$40,616	20
Total	6,016	2,406	67%	\$54,725	281

Source: Economic Modeling Specialists Intl. (EMSI)

⁶ The top six states for employment in the motion picture and production cluster of industries are California, New York, Georgia, Florida, Texas, and **Tennessee**, New Jersey, Connecticut, Pennsylvania, and Illinois.

⁷ The top ten MSAs for employment in the motion picture and production cluster of industries are (1) Los Angeles-Long Beach-Anaheim, CA; (2) New York-Newark-Jersey City, NY-NJ-PA; (3) Atlanta-Sandy Springs-Roswell, GA; (4) San Francisco-Oakland-Hayward, CA; (5) **Nashville-Davidson—Murfreesboro—Franklin, TN**; (6) Miami-Fort Lauderdale-West Palm Beach, FL; (7) Bridgeport-Stamford-Norwalk, CT; (8) Chicago-Naperville-Elgin, IL-IN-WI; (9) Salt Lake City, UT; and (10) New Orleans-Metairie, LA.

⁸ Total earnings includes wages and salaries, plus benefits and other supplements.

Impacts of the Production Industry in Tennessee

The motion picture and video production industry is the primary focus of Tennessee’s production incentives program. Since the current program was created, this industry has enjoyed significant growth in total employment in the state. From 2013 to 2018, Tennessee employment in motion picture and video production grew 135% (2,213 net new jobs). Currently, this industry employs 3,849 Tennesseans. In addition, over 250 business locations operate in the industry. Employment growth in this sector is projected to continue over the next decade. Current projections estimate the sector’s employment growth over the next decade to continue outpacing overall employment growth in the state. Motion Picture and Video Production is projected to grow 41% over the next five years, compared to 7% for all industries.

Motion Picture Distribution and Postproduction activities in Tennessee are also flourishing. Tennessee’s concentration of employment in distribution ranks **No. 1** among all states, with industry employment that is 13x the national average. Only California employs more people in the motion picture distribution and postproduction industry than Tennessee. Employment concentration reflects an industry’s employment in a region relative to total employment in the region. A higher percentage of people employed in an industry leads to a higher level of employment concentration. Additionally, teleproduction and other postproduction services employ 209 jobs across 22 Tennessee establishments. Tennessee ranks ninth in the nation for employment concentration in this industry.⁹

Major Motion Picture and Production Sector Occupations in Tennessee (2019)

Major occupations for this cluster in Tennessee include producers and directors, film and video editors, laborers and freight, stock, and material movers, audio and video equipment technicians, and office clerks. Employment in the industry’s major occupations has grown significantly since 2013, indicating an increase in the regional talent pools. Many of the top occupations have median wages above the state’s median wage for all occupations.

Occupation	Employment in Cluster (2018)	Job Growth in Cluster (2013-2018)	Median Hourly Earnings	Employment in All Industries (2018)
Producers and Directors	738	63%	\$26.90	1,916
Film and Video Editors	366	91%	\$23.83	504
Laborers and Freight, Stock, and Material Movers, Hand	346	112%	\$13.00	89,347
Office Clerks, General	335	168%	\$14.52	54,301
Audio and Video Equipment Technicians	324	128%	\$19.54	1,620
Camera Operators, Television, Video, and Motion Picture	231	96%	\$24.07	426
Production, Planning, and Expediting Clerks	200	199%	\$21.32	8,369
Actors	140	(41%)	\$34.35	402
General and Operations Managers	139	76%	\$41.53	41,524
Media and Communication Workers, All Other	114	(14%)	\$21.33	319
Multimedia Artists and Animators	110	(7%)	\$24.88	307
Secretaries and Administrative Assistants, Except Legal,	97	(10%)	\$15.46	52,415
Accountants and Auditors	92	119%	\$29.06	19,109
Writers and Authors	88	54%	\$23.37	765
Bookkeeping, Accounting, and Auditing Clerks	88	49%	\$17.98	29,072
First-Line Supervisors of Office and Administrative Support	86	100%	\$24.33	36,228
Graphic Designers	85	63%	\$21.78	3,540
Business Operations Specialists, All Other	83	60%	\$27.33	15,277

⁹ The top ten states for employment concentration in the teleproduction and other postproduction services industry are California, New York, Utah, Vermont, Washington, Colorado, Illinois, Florida, **Tennessee**, and Arizona.

Impacts of the Production Industry in Tennessee

Occupation	Employment in Cluster (2018)	Job Growth in Cluster (2013-2018)	Median Hourly Earnings	Employment in All Industries (2018)
Photographic Process Workers and Processing Machine	79	119%	\$11.40	1,486
Electricians	77	133%	\$22.36	11,996
Editors	72	67%	\$22.04	1,357
Sales Representatives, Services, All Other	65	67%	\$21.39	17,247
Managers, All Other	64	121%	\$38.43	10,704
Media and Communication Equipment Workers, All Other	62	44%	\$31.50	160
Sound Engineering Technicians	60	36%	\$23.41	451

Source: Economic Modeling Specialists Intl. (EMSI)

As employment opportunities have increased in Tennessee's production industry, completions of Tennessee students in several relevant entertainment programs at the state's higher education institutions have continued to increase over the last few years. Major programs include Acting, Drama and Dramatics/Theatre Arts, Dramatic/Theatre Arts and Stagecraft, Cinematography and Film/Video Production, Graphic Design, and Recording Arts Technology/Technicians. In 2017, Tennessee institutions awarded 1,097 certificates and degrees in the relevant production programs listed below. Institutions offering programs relevant to the industry include Belmont University (Nashville), East Tennessee State University (Johnson City), Middle Tennessee State University (Murfreesboro), Chattanooga State Community College, and Pellissippi State Community College (Knoxville). Belmont University, which has a motion pictures and media studies program, recently established the nation's first College of Entertainment and Music Business.

Relevant Program Completions at Tennessee Higher Education Institutions (2015-2017)

Program	Completions (2015-2017)
Recording Arts Technology/Technician	541
Drama and Dramatics/Theatre Arts, General	409
Commercial and Advertising Art	361
Graphic Design	314
Web Page, Digital/Multimedia and Information Resources Design	271
Cinematography and Film/Video Production	248
Communications Technology/Technician	221
Animation, Interactive Technology, Video Graphics and Special Effects	156
Acting	149
Design and Visual Communications, General	137
Digital Communication and Media/Multimedia	125
Photographic and Film/Video Technology/Technician and Assistant	103
Intermedia/Multimedia	92
Film/Cinema/Video Studies	39
Music Technology	37
Dramatic/Theatre Arts and Stagecraft, Other	27
Directing and Theatrical Production	15

Source: Economic Modeling Specialists Intl. (EMSI)

Synergy Music and Film/Television

The music and production industry make a dynamic combination in the state. As motion pictures and television shows produced in Tennessee are distributed worldwide, so is the state's music. Tennessee's music cluster is defined by the industries provided in the table below. The music cluster comprises 16,330 Tennessee jobs that include thousands of self-employed music sector jobs and those employed at 1,133 business locations across

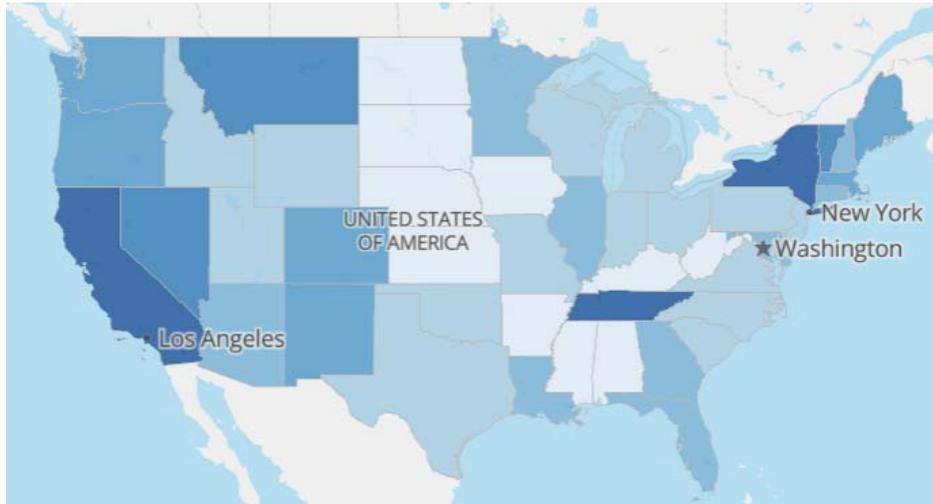
Impacts of the Production Industry in Tennessee

the state¹⁰. Employment in the cluster has grown 23% since 2013 and is projected to grow 10% over the next five years.

Tennessee’s employment concentration in the music cluster relative to total workforce size ranks **No. 1** in the nation and is nearly 2x the national average. Tennessee also ranks fifth in the nation for employment in this cluster.¹¹ For all six of Tennessee’s music cluster industries, the state ranks among the top 10 states nationally for total employment and for employment concentration quotient. This includes the following rankings:

- **No. 1** for employment and for workforce concentration in music publishing
- **No. 1** for workforce concentration and **No. 3** for total employment in record production and distribution
- **No. 1** for workforce concentration and **No. 4** for employment in the musical groups and artists industry

Music Cluster, Employment Concentration Quotient (2018)



Tennessee’s Music Cluster (2018)¹²

Industry (NAICS)	Employment (2018)	Employment Change (2013-2018)	% Employment Change (2013-2018)	Average Annual Earnings ¹³	Average Annual Wages	No. Business Locations (2018)
Music Publishers (512230)	1,861	430	30%	\$81,495	\$68,645	129
Sound Recording Studios (512240)	621	114	22%	\$37,156	\$35,352	60
Record Production and Distribution (512250)	1,174	206	21%	\$100,751	\$84,633	83
Other Sound Recording Industries (512290)	165	35	27%	\$49,329	\$43,767	11
Musical Groups and Artists (711130)	3,553	520	17%	\$130,972	\$117,412	426
Independent Artists, Writers, and Performers (711510)	8,956	1,721	24%	\$38,539	\$36,300	425
Total	16,330	3,027	23%	\$68,072	\$61,146	1,133

Source: Economic Modeling Specialists Intl. (EMSI)

¹⁰ Employment figures include QCEW Employees and self-employed workers in these sectors.

¹¹ The top ten states for employment in music industries are California, New York, Texas, Florida, **Tennessee**, Illinois, Pennsylvania, Massachusetts, Georgia, and Washington.

¹² Employment figures include QCEW Employees and self-employed workers in these sectors.

¹³ Including benefits and other supplements.

Impacts of the Production Industry in Tennessee

TEC data shows that the 68 incentivized production projects alone have spent more than **\$12.9 million** on music created in Tennessee since 2007. The spending only helps to strengthen the state's robust music industry and to support the growth of the Tennessee entertainment sector.

Conclusion

State incentivized production projects help generate new incomes for Tennessee workers, grow infrastructure, increase economic output, and raise state and local sales tax collections. Production projects across the state employ thousands of Tennesseans while generating spending from Tennessee vendors. In addition to spending generated directly from production projects, the productions promote Tennessee globally. This exposure leads to increased tourism and a substantial economic and fiscal impact for the state.

From 2007-2018, TEC provided \$69.1 million in reimbursements or rebates for qualified Tennessee spend to 68 production projects across Tennessee. CERT estimates that the production projects generated taxable sales and purchases in Tennessee, resulting in \$19.6 million in sales tax revenue. This includes a projected \$14.7 million in state sales tax collections and \$4.9 million in local sales tax collections.

In addition, tourism has made a significant impact on the state. CERT estimates that tourism spending from *Nashville* generated \$11.0 million in state sales tax collections in 2014. Utilizing the assumption that the tourism impact of the show remained constant over its six seasons, *Nashville*-related tourism would have generated \$58.5 million in state sales tax revenues for the State of Tennessee in the five years since the show's premiere. This figure excludes unidentified tourism impacts related to other productions in Tennessee.

When tourism impacts are combined with the \$14.7 million in state tax revenues generated by the productions, their supplier network and workforce; the 68 incentivized production projects have generated an estimated \$73.2 million in state sales tax collections over the life of the TEC program.

