



The Montrose Group, LLC

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MONTROSE GROUP 2021 CORPORATE SITE LOCATION TRENDS

A MONTROSE GROUP
WHITE PAPER

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MONTROSE GROUP'S CORPORATE SITE LOCATION PRACTICE DRIVEN BY MULTI-DISCIPLINARY TEAM



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Dave Robinson serves clients based upon 25 years of experience as a corporate site location consultant, economic development lawyer, public relations executive and lobbyist before the federal, state and local governments. Mr. Robinson negotiated \$200 M in economic development incentives, including \$20 M in 2019-20, and co-authored 26 comprehensive economic development, site development, Downtown redevelopment and business incubator feasibility plans. Mr. Robinson is a national economic development author with *The Energy Economy* and *Economic Development from the State & Local Perspective* both published by Palgrave-MacMillan.



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MONTROSE GROUP 2021 CORPORATE SITE LOCATION TRENDS

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MONTROSE GROUP 2021 CORPORATE SITE LOCATION TRENDS EXECUTIVE SUMMARY

Forecasting corporate site location trends is always a tricky business. Montrose Group, based upon negotiating over \$1 B in corporate site location projects and advising communities across the U.S., is providing their 2021 Corporate Site Location Trends White Paper based upon existing economic and demographic data that illustrate what trends will continue and which ones will slow. COVID 19 will remain to have a dramatic impact on corporate site location projects. Montrose Group suggests the following 2021 corporate site location trends:

1. New tax incentive strategies are going to be an even more important focus for companies and communities seeking to ensure good companies are protected for future growth even though 2020 was not a positive economic year;
2. Remote working will grow into potentially a more permanent company model that dictates a need for changes in local and state economic development incentives as well as the need to address the survival of critical quality of life services such as the arts, restaurants and hospitality facilities that make communities attractive to potential companies and talent;
3. California will continue to hemorrhage jobs and companies as the high tax rates and high cost of living drive growth into the Desert Southwest.
4. Technology companies leading the way to disrupt traditional markets like retail, insurance, banking, and retail will remain solid targets for corporate site location projects as COVID 19 dictates new, more efficient approaches to traditional industries but these economic disrupters will continue to be focused on regions with highly skilled IT workers;
5. Data center growth will continue as COVID 19 “throws gasoline on the fire” of e-commerce transactions with a focus on regions with friendly tax policy and incentive programs;
6. Logistics will drive commercial and industrial growth across the United States again driven by the expansion of e-commerce transactions focus on sites with Public-Private-Partnership in place;
7. Food and beverage manufacturing and processing will be a major manufacturing driver supporting additional projects focused on large markets and markets with strong access to agricultural products;
8. Indoor agriculture will be another critical growth sector driven by the explosion of medical and recreational marijuana laws in states across the United States;
9. Rural communities will remain strong locations for manufacturing facilities as a lower cost option compared to urban centers;
10. Supply chains will be drawn back to the United States as a long-term result of COVID 19 as U.S. manufacturers learn critical lessons from the current public health crisis;

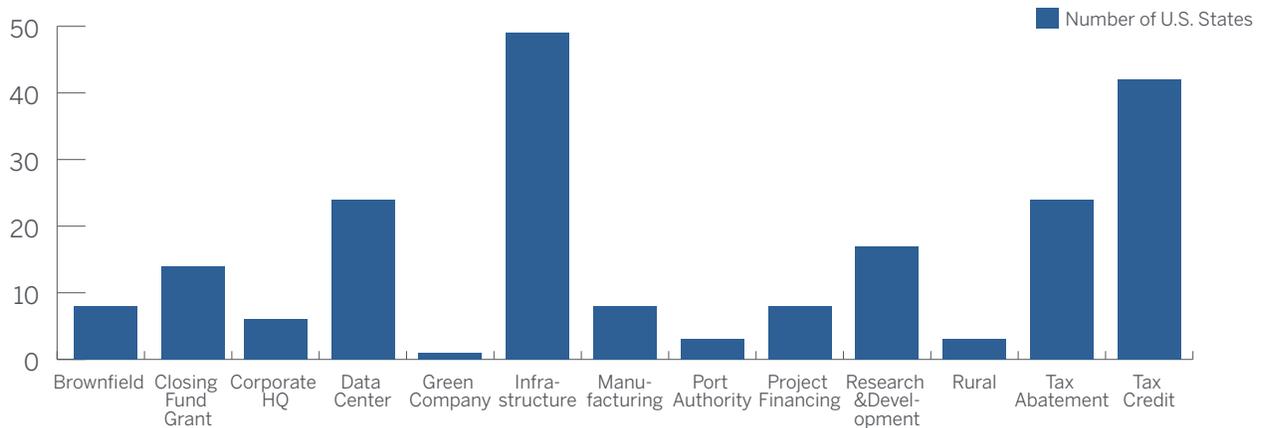
2021 is going to be a challenging year. However, that challenge can be met by regions, states, and nations that focus on smart economic development policies, investments in public infrastructure and use of targeted economic development incentives. Many successful companies and regions give credit for that success to smart decisions made in a crisis. However, regions, states, and nations as well as companies with a thoughtful approach can come out of this crisis in better shape than they entered it.



ECONOMIC DEVELOPMENT INCENTIVE REPORTS CREATE OPPORTUNITIES FOR COMPANIES IN 2021

All fifty U.S. states offer some form of economic development incentives to offset regional cost of business measures. As the chart below outlines, infrastructure incentives are provided by all the states in the union. State economic development tax credits follow closely behind infrastructure program as the second most popular tax incentive program in the nation with efforts to attract data centers and using general tax abatements tying for third. Princeton Economics estimates that state and local governments invest about \$30 B dollars in economic development incentives annually.

Local and State Economic Development Incentive Programs



These tax incentives are awarded on a competitive basis based upon a “but-for” test that mandates the company would not choose a location without the award of the economic development incentives. This legal and policy basis for the tax incentive mandates the government or private economic development organization awarding the incentive require the companies receiving the incentive to file annual reports proving they meet their promised job creation and/or capital investment goals. In Ohio, local and state economic development incentive reports are due in March. COVID 19 is having a dramatic impact on many company’s plans for job growth and capital investment. Thousands of these companies have gained local and state economic development tax incentives which have a tax incentive agreement that award tax credits, tax abatements, loans and/or grants.

Black Swan events like COVID 19 are a major disruption to job creation and capital investment plans even for successful companies. COVID 19 will disrupt the job creation and capital investment plans that companies have committed to in a binding local and/or state economic development incentive agreement. However, well-crafted economic development incentive agreements may have a way to address a COVID 19 based disruption to a company’s job creation and capital investment without harming the company even further.

Many economic development agreements contain a “Market Conditions and Other Factors” provision that gives the government or economic development organization partner the ability to keep the incentive agreement in place if the company does not meet its economic development commitments due to factors outside of their control. “Market Condition” clauses have their roots in the common law legal concept known as Force Majeure. Force Majeure gives the ability of parties to a contract to be excused from their obligations



when certain circumstances arise beyond the party's control making performance inadvisable, commercially impracticable, illegal, or impossible. Force Majeure is triggered through a contract provision that list the extreme events such as epidemics or pandemics, along with war, terrorist attacks, "acts of God," famine, strikes, and fire in the list of events excusing overall performance or delay in performance.

Economic development incentive agreements may give the local and state economic development officials the ability to relieve the company impacted by dramatic events outside of their control from the job creation and capital investment commitments. This flexibility is critical as many economic development incentive agreements permit local and state governments to "claw back" tax incentives previously awarded or terminate the tax incentive agreement even though the company may well pick-up economic production following the dramatic event. Local and state government officials deciding whether to avoid tax incentive penalties for a company under a Market Condition or Force Majeure clause may ask a couple key questions:

- Does the company believe it will survive the event and recover following the event?
- Is there another company in place to implement the company's economic commitments? and
- What is the impact of any federal, state, or local regulatory requirements imposed on company or their project?

Communication is the key to successfully utilizing a Market Condition or Force Majeure clause in an economic development agreement or to renegotiate an existing economic development tax incentive agreement. Corporate site location consultants or competent legal counsel can help negotiate good results for clients that with local and state economic development leaders who are focused on helping company succeed.

Even without a Market Condition of Force Majeure Clause, companies negatively impacted by COVID 19 preparing to file annual economic development incentive reports should work to renegotiate their economic development incentive agreements to address the following changes:

- Reduce job and capital investment commitments without reducing the incentive level;
- Adjust the timeframe that companies must meet job and capital investment commitments without adjusting the incentive level. This should be based on the time the company needs to adjust to a post-COVID-19 world;
- Reduce the job and capital investment commitments and reduce the incentive level;
- Cancel the economic development incentives if the company will not be able to meet job and capital investment commitments; and
- Put the reporting and commitments on hold for one to two years without reducing or adjusting incentive levels.

REMOTE WORKING DEMAND NEW TAX POLICY AND QUALITY OF LIFE STRATEGIES IN 2021

Remote work will be a trend from 2020 that continues well beyond the reduction of COVID 19 infection rates. According to a recent *Forbes* story, the Conference Board conducted two surveys among U.S. HR executives in April and in September. Just five percent of respondents reported that, prior to the pandemic, 40 percent or more of their employees were working primarily from home (at least 3 days per week). But by April, nearly 20 percent of respondents said they expected 40 percent or more of their employees to work primarily from home after the pandemic. By September, that number had risen to over a third of responding companies. Results are even stronger for organizations with primarily professional and office workers. Almost half believe that, a year after the pandemic subsides, at least 40 percent of their employees will work from home three or more days per week. In short, white collar advanced services and technology companies are permitting their staff to not only work from home but to work from another state. Technology is making all this possible with workers growing comfort with connecting via the Internet and video conference.



Regions hoping to attract advanced services and technology companies need to pay attention to their tax policy. The business tax burden is impacted by the amount of government spending, who the government taxes and the rates in which they tax. Look at the example of Elon Musk and his high-profile move from California to Texas. California's highest marginal income tax and capital gains tax rate of over 13% creates a major disincentive for successful tech company leaders to remain when compared to all Desert Southwest states especially Texas and Nevada that do not have either tax at all. A study by the firm 24/7 Wall St. found that Florida, Indiana, Tennessee, Idaho, Arkansas have the lowest local and state government spending on a per capita basis. Alaska, Wyoming, New York, Washington, and California are on the other end of the scale of having the highest per capita spending for local and state governments. Regions and states may tax income, property, sales transactions, or specific activities or industries through insurance premium taxes, tobacco or alcohol or hospitality activities through excise taxes, and utility service excise taxes. Different industries are impacted by local and state tax policy in different ways. Advanced services and technology companies will be focused on states that tax consumption over income.

Local and state tax policy and incentives need to be negotiated that account for remote workers. Local and state governments generally must have a connection to workers to tax them. This from a legal standpoint is defined as the tax situs which literally defines the jurisdiction (state, county, and city) that has the legal authority to tax a transaction. For sales tax purposes, it is generally the jurisdiction in which a sale of tangible personal property or taxable services occurs. Remote working creates chaos with income and capital gains taxes with workers potentially living in one community but working for a company but not in their office. Traditional state job creation tax credits will need to be adapted to permit the credit to be taken for companies whose workers are not located in the office but remain in the state. Ohio's Job Creation Tax Credit permits its use for remote workers and corporate site location negotiations moving forward will need to push for this approach across all fifty states.

Finally, the growth of remote working will push companies to consider quality of life issues not just in a region but in the state in which they will likely have workers locate. This creates an opportunity for smaller, rural communities who may not have the critical mass of workers to gain a large white collar corporate site location project. However, the workers of those companies may well be able to attract those workers and their buying power and tax receipts.

Transforming rural historic Downtowns to attract younger advanced service workers to live, work and play is a critical step to rural communities to gain from the remote working trend. America's younger generation is more concerned with where they live and what they can do than necessarily where they work. However, rural communities will not be attractive to a younger generation of workers unless they can address critical quality of life issues such as the availability of quality housing, creation of mixed-use developments, and the development of quality, local retail, and entertainment districts. Redeveloping rural Downtowns is the place to start when looking to retain and attract younger workers.

Redeveloping rural Downtowns can be accomplished through creation of a Public-Private-Partnership (PPP) to incentivize retail, residential and office investments. Redeveloping existing sites costs more than building on greenfield sites but the payoff for developers and the community can be substantial. Thus, states and the federal government offer a range of tools to support rural Downtown redevelopment that include Ohio and Michigan offer a Downtown redevelopment districts and many states offer the historic preservation tax credits; entertainment districts designation, state project financing; and the federal governments new market tax credit and opportunity zone programs. This PPP should begin with the creation of a Downtown redevelopment district plan that can ensure the local government has the needed Urban Overlay or mixed use zoning friendly to retail, residential and office redevelopment projects, outlines funding strategies for public infrastructure such as Tax Increment Financing, CDBG grants, and EDA grants, ensures the adoption of a property tax abatement program designed to entice residential and office investments in underutilized rural Downtown markets and reminds the private sector a number of tools such as state and federal Historic Preservation Tax Credits, state grants & loans such as Brownfield revitalization programs, and federal government New Market Tax Credits and Opportunity Zone Funds can often be used to make rural Downtown redevelopment projects profitable. Planning is followed by local government action and marketing to the private sector for the promotion of retail, residential and office projects in rural Downtowns at identified sites.



The redevelopment of historic structures is creating an economic boom in urban, rural, and suburban communities across the United States. In part, this historic building renaissance is driven by a new market—Millennials. The movement of Millennials to the urban core is bringing new light to the economic benefits of historic preservation. There are 77M Millennials between ages of 18-36 and they constitute the largest generation in American—just surpassing the Baby Boomers. Regions attracting Millennials gain workers and consumers that are major drivers of the American economy. However, attracting Millennials is not easy as their wants and needs differ from older generations-- 62% of Millennials want to live in mixed-use development, 40% of Millennials want to live in Urban NOT Suburban areas, 2/3 of Millennials are renters, Millennials own fewer cars as they aspire to live in a mixed use, pedestrian friendly environment. Fortunately for urban, rural, and suburban communities, the older, established Central Business Districts often dominated by historic structures are primed to attract Millennials as they are designed before the car dominated America's development patterns.

CALIFORNIA TO CONTINUE HEMORRHAGING JOBS TO DESERT SOUTHWEST

California's high tax rates and cost of living will continue to drive companies and their executives out of the Golden State to greener pastures in the Desert Southwest and beyond in 2021. The high profile move of Elon Musk, successful serial entrepreneur, from California to Texas due to the tax burden of the Golden State illustrates the danger high-tax states face. California which was a post-World War II success story riding the success of mega cities like Los Angeles and San Francisco and as the home of the world's technology industry is showing its age. Lower cost markets in Arizona, Nevada and Utah have for years been gaining a massive influx of California companies and residents. COVID 19 and a shift by technology companies to a work from home model are dramatically increasing the exit from the California marketplace. Just as the Industrial Midwest has spent the last thirty years losing its manufacturing base to lower cost markets in the South, the Desert Southwest is eating California's lunch with 1/3 of Phoenix's new attraction projects coming from California and Tesla, HP and others expanding in Texas.

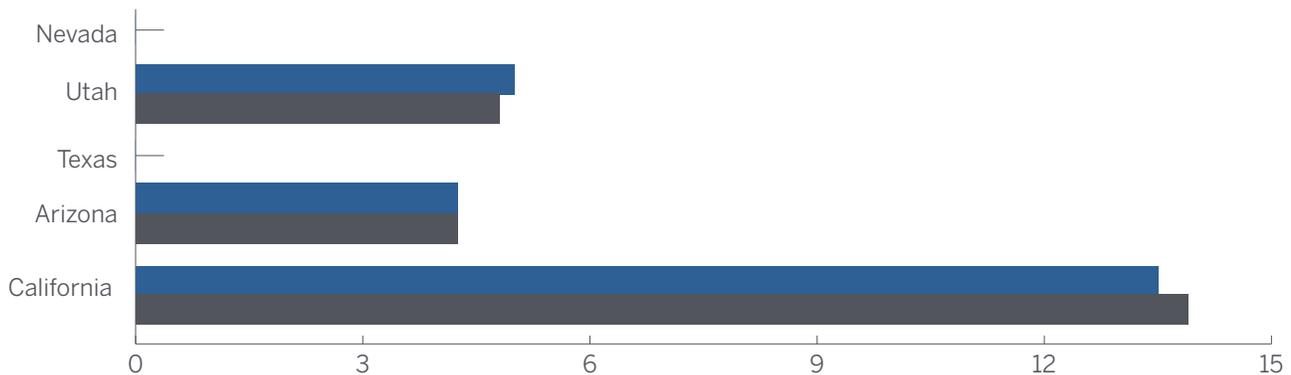
First, let us look at the cost of living in California. Silicon Valley is a global technology powerhouse but the cost of living for workers is unbearable. The Census Bureau reports the average cost of a home in the city of Palo Alto, California (the unofficial capital of Silicon Valley) is over \$2,000,000—ten times the national average. While the median household wage in Palo Alto is three times the national average this simply does not permit the average college educated worker in Northern California to afford to live the American Dream by buying a house. Even more troubling is the average resident rent in Palo Alto is over \$2500 a month which is double the national average. Spurred on by COVID 19, tech companies in Northern California have set their employees loose to work remotely elsewhere in the United States. If their employees move to more affordable regions, why would the companies remain in Northern California.

California's high cost of living is further complicated by the state's incredible tax burden placed on companies and entrepreneurs. All local and state governments enact tax policy to pay for schools, colleges and universities, roads, water, sewer, and social services that create the quality-of-life workers and business owners seek during a corporate site location review. Not all states are created equal when it comes to government spending which impact the overall tax burden companies and individuals face in a region. A study by the firm 24/7 Wall St. found that Florida, Indiana, Tennessee, Idaho, Arkansas have the lowest local and state government spending on a per capita basis. Alaska, Wyoming, New York, Washington, and California are on the other end of the scale of having the highest per capita spending for local and state governments. States and regions that spend less on a per capita basis are generally more attractive to companies considering a corporate site location project.

What a region or state taxes impacts a corporate site location project, and this analysis is generally very industry specific. Regions and states may tax income, property, sales transactions, or specific activities or industries through insurance premium taxes, tobacco or alcohol or hospitality activities through excise taxes, and utility service excise taxes. Different industries are impacted by local and state tax policy in different ways. Successful entrepreneurs will be focused on income tax and capital gains tax at the state level. As the chart below illustrates, California's highest marginal income tax and capital gains tax rate of over 13% creates a major disincentive for successful tech company leaders to remain when compared to all Desert Southwest states especially Texas and Nevada that do not have either tax at all.



State Income & Capital Gain Tax Rate Comparison



Data centers are capital intensive and use a substantial amount of energy and water. Property and sales tax rates are prime drivers for data center corporate site location projects. Logistics and fulfillment centers house business inventory and are property rich from a tax standpoint. Property taxes are going to be a prime concern for this industry. Advanced services and tech companies are people intensive with generally higher than average wage rates. These projects are going to be more sensitive to local and state income tax rates. Local and state policy makers can shape their tax code to focus on the industries they want to locate in their region just as they can with economic development incentives. However, many regions and states fall into the trap of taxing everything that creates a substantial economic disadvantage.

The Council for State Taxation releases an important report about the business tax burden placed on companies by regions and states that is worthy of review. In 2019, according to the most recent COST Business Tax Burden report, business property taxes increased for the ninth year in a row since 2010. Almost half of the \$14.8 billion in increased property tax revenue came from gains in four large states: Texas (\$2.3 billion), California (\$2.0 billion), New York (\$1.4 billion) and Florida (\$1.0 billion). Nationally, business property tax revenue increased by an average of 4.9%, but for 33 states, this revenue grew at a slower rate. Texas had the largest dollar increase in business property tax revenue, collecting \$2.3 billion more than in 2018. Washington had the highest growth rate for business property tax revenue, increasing by 15.4%. Sales tax is another substantial cost center for both the operation and construction of data centers, and many states offer aggressive economic development incentives to address their high sales tax costs which often provide revenue for local and state governments. From 2019 to 2020, the state with the largest gain in sales tax collections on business inputs was California, which saw an increase of over \$3.6 billion. Of the 45 states with a state sales tax, 42 experienced an increase in sales tax collections on business inputs. Washington DC also experienced an increase in sales tax collections on business inputs. Traditional high-cost states like California, New York and Illinois have substantial sales and property taxes in place as well as every other tax government can think of. Texas and Florida's very high sales and property tax illustrates the downside of not having a state or local income tax.

What activity is taxed and how much in taxes a region and state charges businesses all impact the decision by a company as to where to locate through a corporate site location process. Regions cannot build California's mountains, desert or ocean or change their weather, but they can restrain the cost of government, enact a business-friendly tax code focused on the industry they want to recruit and keep business tax rates low to attract new industry. California's unique topography and mild weather cannot simply make up for the high costs imposed by their local and state government as well as the rising cost of living. California companies will continue to turn famous 19th Century newspaper publisher Horace Greeley's advice on its head by "going east" in 2021.



TECHNOLOGY DISRUPTERS FOCUSED ON SKILLED IT WORKFORCE REMAIN STRONG BETS FOR 2021

Technology based economic disruption will remain a prime driver of company growth in 2021. Creation of new use of technology tied to the adoption of new consumer behavior or the entrance of a major new market competitor create economic disruption. The disruption economy allows companies and communities to redefine how and why they work to create a better way to serve employees who choose to work there because they believe in the company's purpose. Consumer products and the infrastructure upon which they operate increasingly sense their surroundings, communicate with other devices and people, and to draw on the computing and storage power of the cloud with connection to the Internet. IoT is a network which connects multiple smart devices enabled with software and network connectivity which exchanges information between each other and with the server. IoT is a billion-dollar market and is growing, continuously driven by technology's integration into manufacturing, Smart Community development, and connectivity of consumer products to the digital age.

New data from Juniper Research has revealed that the number of IoT (Internet of Things) connected devices will number 38.5 billion in 2020, up from 13.4 billion in 2015: a rise of over 285%. The global autonomous vehicle market demand was estimated to be around 6.5 thousand units in the year 2019 and expected to witness a compound annual growth rate (CAGR) of 63.5% during the forecast period 2020 to 2027 according to Precedence Research. The Global Fintech Market is anticipated to grow at a CAGR of around 20% during the forecast period. The market is expected to witness progressive growth and reach the market value of around \$ 305 billion by 2025 according to a Research & Markets report. Retail IT company growth is expected to be off the charts driven by COVID 19's impact on consumer's use of the e-commerce. COVID-19-related buying shifts added \$153 billion to online retail this year. Ecommerce sales will reach \$839.02 billion by the end of 2020 with an incredible 40.3% growth from 2019, Digital Commerce 360 estimates. That is the highest annual U.S. ecommerce growth in at least two decades.

Illustrating the success of technology based, economic disrupters, employment in computer and information technology occupations is projected to grow 11 percent from 2019 to 2029, much faster than the average for all occupations. These occupations are projected to add about 531,200 new jobs, and demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security.¹ Large states such as California, Texas, Florida, New York, Ohio, and Pennsylvania have the largest share of computer and information systems workers but tech success stories such as Washington state, Virginia and North Carolina are also heavy with IT workers.

The cost of a community's technology workers impacts the region's ability to compete for economic disrupters. A comparison listed in the chart below illustrates how worker wage rates are compared for regions under consideration for a corporate site location project.



Regional Benchmarking IT Worker Wages

Occupation code	Tampa	Indianapolis	Louisville	Detroit	Raleigh	Columbus
Computer and Mathematical Occupations	\$76,910	\$77,600	\$73,130	\$82,950	\$89,210	\$88,700
Computer Systems Analysts	\$80,660	\$85,510	\$74,720	\$86,370	\$92,620	\$92,040
Information Security Analysts	\$83,740	\$81,280	\$84,360	\$94,920	\$105,770	\$87,950
Computer Programmers	\$79,660	\$78,390	\$75,170	\$73,790	\$88,260	\$73,910
Software Developers, Applications	\$91,650	\$87,600	\$80,740	\$94,820	\$98,680	\$105,930
Software Developers, Systems Software	\$95,170	\$84,280	\$89,590	\$89,180	\$107,450	\$102,550
Web Developers	\$64,870	\$61,880	\$67,590	\$69,360	\$75,850	\$64,170
Database Administrators	\$87,200	\$79,500	\$81,040	\$89,730	\$95,530	\$89,370
Network and Computer Systems Administrators	\$78,790	\$79,380	\$72,150	\$83,200	\$91,730	\$79,190
Computer Network Architects	\$88,080	\$90,180	\$84,800	\$107,660	\$106,250	\$101,000
Computer User Support Specialists	\$50,250	\$49,320	\$45,730	\$52,810	\$57,220	\$50,450
Computer Network Support Specialists	\$64,950	\$65,090	\$56,570	\$60,010	\$74,160	\$71,040
Computer Occupations, All Other	\$83,040	\$81,090	\$87,540	\$80,020	\$81,380	\$85,260
Actuaries	\$114,790	\$103,750		\$108,880		\$97,630
Mathematicians				\$83,270		
Operations Research Analysts	\$71,380	\$69,260	\$76,480	\$87,940	\$75,360	\$84,460
Statisticians	\$83,840	\$67,990	\$83,810	\$89,170	\$112,750	\$91,660

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics



Regions looking to attract these growing economic disrupters should consider three strategies:

- *Grow your own.* Companies such as Root Insurance who uses a smart phone app to market and process car insurance customers based in Columbus, Ohio are booming fueled at the start by local venture capitalists at Drive Capital that have raised over \$1 B but now has launched the most successful IPO in the history of the Buckeye State;
- *IT industry based training programs.* Companies such as Amazon, Microsoft and other tech leaders are proactively building educational partnership to develop IT workers with efforts in Arizona planning to develop 5000 cloud computing experts; and
- *IT workforce incentives.* States are using their economic development incentives to not only provide training dollars for technology companies but also to build larger partnerships to develop these workers like JobsOhio's \$50 M workforce initiative.

Technology based economic disrupters will continue to be the focus in 2021 as COVID 19 cannot stop the onward march of technology and is excelling this growth fueled by a larger use of e-commerce.

DATA CENTER GROWTH CONTINUES IN 2021 TRIGGERED BY E-COMMERCE & TAX INCENTIVES

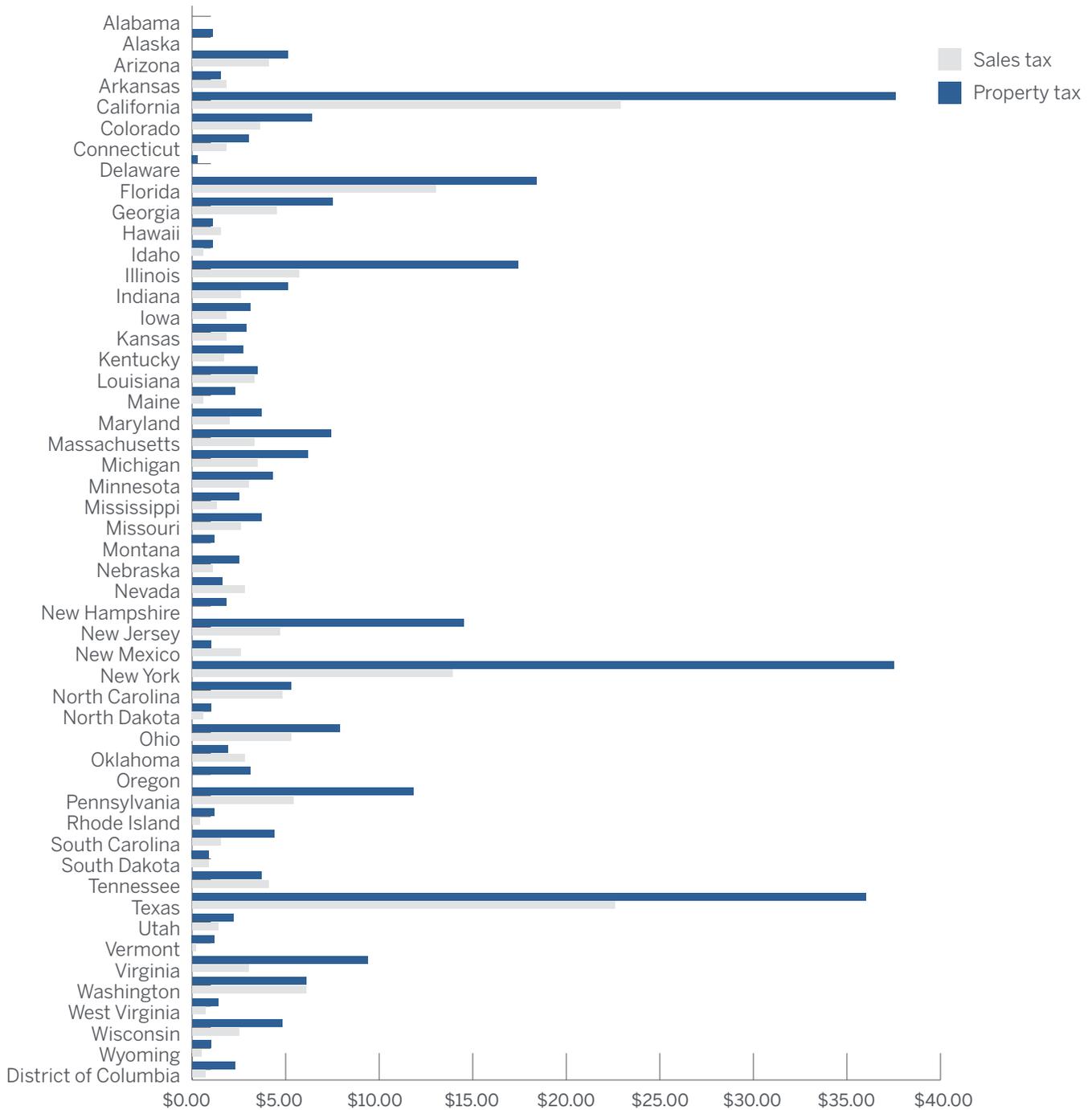
A data center is a physical facility that organizations use to house their critical computer applications and data. Several types of data centers operate including enterprise data centers that a single company houses on corporate campus; managed services data centers run by third party providers; colocation data centers where a company rents space within another's data center; and cloud data centers where off-premises data and applications are hosted by a cloud services provider such as Amazon Web Services (AWS), Microsoft (Azure), or IBM Cloud or others. Data center capex will grow at a 6% CAGR to reach just over \$200 B over the next five years.

Data centers are primarily located in or near major urban centers across the United States. CBRE reports that the U.S. wholesale data center primary markets—Atlanta, Chicago, Dallas/Ft. Worth, New York Tri-State, Northern Virginia, Phoenix and Silicon Valley—accounted for more than 56% of the record annual absorption in 2018 with 60% of construction of data centers in 2019 at one point in Northern Virginia.ⁱⁱ However, the exponential growth of data requirements in the country has been fueling data center construction, but a data center cost index 2019 study suggested that in the United States, Dallas, North Virginia, and Phoenix were the "overheated" markets for Data Center construction in 2019. JLL further reports data center demand remains robust in the first half of 2020, with eight out of the 14 markets in the United States showing a year-over-year increase.ⁱⁱⁱ Last year, these same domestic markets absorbed 171.2 MW, compared to 288.2 MW in H1 2020.^{iv} Total absorption reached 295.2 MW in the United States, including Salt Lake City's 7.0 MW figure, but, again, Northern Virginia leads the way in demand, as absorption increased from 76.1 MW in H1 2019 to 180.0 MW in H1 2020. New Jersey and Northern California increased absorption by 11.8 MW and 10.2 MW, respectively, year-over-year.^{vi}

Few industries are as sensitive to tax policy and incentives as data centers. Other than needing a small number of highly skilled high-tech workers, these facilities need a location safe from natural disaster, with reliable and affordable electric rates and water, and a competitive tax structure. Data centers pay substantial sales and property taxes. There are 11 states that automatically do not assess property taxes on equipment and furniture. These states include Delaware, Illinois, Iowa, Kansas, Minnesota, New Jersey, New York, North Dakota, Ohio, Pennsylvania, and South Dakota, and 19 states offer some form of property tax abatements data centers can attempt to gain through a corporate site location process.^{vii} Sales tax is another substantial cost center for both the operation and construction of data centers, and many states offer aggressive economic development incentives to address their high sales tax costs which often provide revenue for local and state governments. As the table below illustrates, traditional high-cost states like California, New York and Illinois have substantial sales and property taxes in place as well as every other tax government can think of. Texas and Florida's very high sales and property tax illustrates the downside of not having a state or local income tax. This business sales and property tax burden illustrates the needed for data center economic development incentives.



State Business Property & Sales Tax Comparison



Source: Council on State Taxation, 2020 State Business Burden Report

As most data centers are not “worker heavy” traditional state data center tax incentives generally are not focused on the job creation tax credits used for other industries but instead address sales and property taxes, construction, and electricity costs. The list below outlines the existing state data center tax incentive programs.

Survey of State Data Center Tax Incentives

Alabama data processing center projects are eligible for a tax abatement of all state and local non-educational sales and use taxes associated with constructing and equipping a project for an extended time period contingent upon the total capital investment in the project. For these projects, the maximum abatement period is: 10 years for projects that invest up to \$200M within 10 years from the commencement of the project; 20 years for projects that invest over \$200M but less than \$400M within 10 years from the commencement of the project; 30 years for projects that invest over \$200M within 10 years from the commencement of the project and exceed \$400M within 20 years from the commencement of the project.^{viii}

Arizona offers data centers an exemption from the Transaction Privilege Tax and Use Tax exemptions at the state, county, and local levels, on qualifying data center purchases for an owner, operator or qualified co-location tenant of a data center who may receive the exemptions provided by the incentive for up to ten full calendar years following the year certification of the data center is issued. If the data center qualifies as a Sustainable Redevelopment Project, the exemptions are available for up to 20 full calendar years following the year certification of the data center is issued. If the data center is located in either Maricopa or Pima County, a Capital Investment of at least \$50 million is made within five years of the date of the Letter of data center Certification from the Arizona Commerce Authority, if the data center is located in any county other than Maricopa or Pima, a capital investment of at least \$25 million is made within five years of the date of the Letter of data center certification from the Arizona Commerce Authority; or, in the case of an existing data center, regardless of location, a capital investment of at least \$250 million was made during the period between September 1, 2007 and August 31, 2013.^{ix}

Arkansas does not offer a data center specific tax incentive but data centers meeting job creation and capital investment requirements may negotiate sales and use tax exemptions and rebates, tax credits and closing fund contributions.^x

Georgia offers two possible ways for data centers to qualify for sales and use tax exemptions on qualifying purchases: New (signed into law May 2018): Co-located data centers and single-user data centers that invest \$100 million to \$250 million in a new facility may qualify for a full sales and use tax exemption on eligible expenses, which include equipment under current data center exemption and computers, emergency backup generators, air handling units, cooling towers, energy storage or energy efficiency technology and many other items and the minimum required investment in the new facility is tied to the population of the county in which the data center locates; and Georgia also has a full sales and use tax exemption on certain computer equipment purchased by high-tech companies that invest a minimum of \$15 million in qualifying equipment. To be eligible, the company must be classified under certain relevant NAICS codes, which include single-user data centers (but not co-located data centers), software publishers, computer systems design, certain telecommunications firms, financial transaction processing facilities and R&D centers.^{xi}

Idaho offers new data centers a potential sales tax exemption on server equipment as well as construction materials used in the construction of the data center facility for companies that create and maintain at least 30 new jobs in Idaho within the first two years after beginning operations, paying an average wage that is at or above the county average for the county in which the data center is located and make a capital investment of at least \$250,000,000 within 5 years after construction begins and be solely devoted to the purpose of providing the data center, or have a separately operated segment of a business solely devoted to the purpose of providing the data center.^{xii}

Illinois' data centers investment program provides data center owners and operators with a tax credit of 20% of wages paid for construction workers for projects located in underserved areas with new and existing data centers and their tenants collectively making a capital investment of at least \$250 million



over a 60-month period for a term of 20 years, the data center owner/operator and its tenants create at least twenty (20) full-time or full-time equivalent new jobs associated with the operation or maintenance of the data center, total compensation for these jobs must be equal or exceed 120% of the median wage paid to full-time employees in the county where the data center is located, the data center must also be carbon neutral or attain certification under one or more green building standards and located in an underserved area.^{xiii}

Indiana Data Center Gross Retail and Use Tax Exemption provides a sales and use tax exemption on purchases of qualifying data center equipment and energy to operators of a qualified data center for a period not to exceed 25 years for data center investments of less than \$750 million. If the investment exceeds \$750 million, the IEDC may award an exemption for up to 50 years. Indiana local governments may also provide a personal property tax exemption on qualified enterprise information technology equipment to owners of a data center who invest at least \$25 million in real and personal property in the facility.^{xiv}

Iowa data centers may be eligible for 50 or 100 percent refund on sales and use tax for: electricity purchased for use in data centers; power infrastructure equipment; computer purchases; temperature control equipment; cool tower equipment; racking systems, including cabling.^{xv}

Kentucky offers a sales tax refund for computer equipment for data centers investing \$100 M.^{xvi}

Florida offers a data center property tax exemption for a data center's owners and tenants with a \$150 million capital investment, critical IT load of 15 megawatts and a critical IT load of 1 megawatt or higher dedicated to each individual owner or tenant within the data center met within 5 years of construction.^{xvii}

Michigan offers data centers a potential sales tax exemption for data center equipment at qualified data centers and for qualified data centers operating in designated renaissance zones may gain both real and personal property tax exemptions.^{xviii}

Maryland data centers that for a 10-year consecutive benefit period create five jobs over three years paying 150% of state minimum wage and make a minimum investment of at least \$2 million in qualified data center personal property for a business located within a Tier 1 Area, and at least \$5 million in qualified data center personal property for a business located in any other area of the State, and the benefit period expands to 20 years, subject to annual renewal, if the business invests at least \$250 million in qualified data center personal property within the first ten years after submitting an application.^{xix}

Minnesota companies that build data or network operation centers of at least 25,000 square feet and invest at least \$30 million within 48 months may qualify for a sales tax exemptions for up to 20 years on: computers and servers; cooling and energy equipment; energy use; software; and pay no personal property tax, and Minnesota does not tax: personal property, inventories, utilities, internet access, information services, and custom-created software, and companies that substantially refurbish a data or network operations center of at least 25,000 square feet and invest at least \$50 million within 24 months may qualify for the Data Center Sales Tax incentives.^{xx}

Mississippi provides data centers with a sale and use tax exemption for all new and replacement computing equipment and software. Data centers must invest at least \$20 million and must create at least 20 new jobs paying 125 percent of the average state wage to qualify for this program.^{xxi}

Missouri offers a data center company or a consortium of eligible companies who plan to locate at a new or existing data center facility with at least 5 new full time jobs with average wages at 150% of county average wage within 24 months and \$5 million dollars in new investment within 12 months of the project



approval, or at least 10 new full time jobs with average wages at or above 150% of county average wage and \$25 million dollars in new investment within 36 months of the project approval, for an existing facility, an exemption on state and local sales and use taxes used for expanding operations for a specified maximum amount for each year for 10 years or, for new facilities an exemption of 100% of the state and local sales and use taxes for a specified maximum amount for each year for 15 years applied to construction or rehab materials; machinery and equipment purchases; and utility costs over a designated term at the facility, and projects may be eligible for a local government property tax abatement through the Chapter 100 Bond program.^{xxii}

Montana offers Qualified Data Centers with at least 25,000 square feet of new or expanded area, where the total cost of land, improvements, personal property, and software is at least \$50 million invested during a 48-month period with construction commencing after January 1, 2019 a property tax abatement of 75% or 50% of their taxable value in the first five years after a construction permit is issued, with each year thereafter, the percentage must increase by equal percentages until the full taxable value is attained in the tenth year, approved by the corresponding county jurisdiction.

Nebraska offers Tier 2 data centers valued at \$200 million in new investment and 30 new full-time jobs a full refund of the sales tax paid for qualified capital purchases at the project, the full sliding scale wage credit of 3%, 4%, 5%, or 6% depending on wage level, and a 10% investment tax credit.^{xxiii}

Nevada offers a sales and use tax abatement reducing the rate to 2% for 10 or 20 years and requires the Governor's Office of Economic Development Board to approve a reduction to 2% by a two-thirds vote, and if this is not approved, the abatement will be reduced to 4.6%, and a 10 year and a 20 year tax abatement program: 10 year abatements: requires within 5 years creation of 10 jobs for Nevada residents paying 100% of the statewide average wage making \$25 million in capital expenditures; and 20 year abatements: requires within 5 years creation of 50 jobs for Nevada residents paying 100% of the statewide average wage making \$100 million capital expenditures. Co-located tenants must enter into a minimum two-year agreement with the applicant to use or occupy space at the data center and obtain a business license issued by the Secretary of State; and data centers must maintain the business in Nevada for 10 years, register pursuant to the laws of Nevada, offer medical insurance plan, and pay at least 65% of the plan's premium costs, and ensure that 50% or more of all workers engaged in construction of the data center are Nevada residents.^{xxiv}

New York for an Internet data center operator who operates a data center specifically designed and constructed as a high security environment for the location of servers and similar equipment that hosts Internet Web sites; and provides uninterrupted Internet access to customers' Web pages exempts the payment of sales tax on the purchase or use of machinery, equipment, and certain other tangible personal property that includes: computer system hardware, such as servers and routers; pre-written computer software; storage racks and cages for computer equipment; property necessary to maintain the appropriate climate-controlled environment, such as air-filtration equipment, air-conditioning equipment, and vapor barriers; power generators and power conditioners; property that will constitute raised flooring when installed; and other similar equipment, as well as building systems that are designed for an Internet data center, such as interior fiber optic and copper cables; fire control, such as fire suppression equipment and alarms; and maintaining a secure environment, such as protective barriers if the exempt property is placed or installed in the Internet data center for use there; and required for and directly related to providing Internet Web site services for sale, and Internet data center operators may purchase the following services exempt from tax when the services are provided directly to or in relation to exempt Internet data center property: installing, maintaining, servicing, and repairing qualified tangible personal property; installing, maintaining, servicing, and repairing qualified real property; and protective and detective services.^{xxv}

North Carolina provides three sales and use tax exemptions for purchase of electricity and support equipment providing service or function included in the business of an owner, user or tenant of the data



center, the generation, transformation, transmission, distribution or management of electricity, including exterior substations, generators, transformers, unit substations, uninterruptible power supply systems, batteries, power distribution units, remote power panels and other capital equipment for these purposes; HVAC and mechanical systems, including chillers, cooling towers, air handlers, pumps and other capital equipment used for these purposes; and hardware and software for distributed and mainframe computers and servers, data storage devices, network connectivity equipment and peripheral components and equipment, or providing related computer engineering or computer science research purchased for a “Qualifying Data Center investing \$75 M within 5 years paying the county wage standard and providing health insurance, certain business property purchased for an “Eligible Internet Data Center” in Tier 1 or 2 North Carolina counties for projects investing \$250M within 5 years focused on software publishing; and computer software, defined as a set of coded instructions designed to cause a computer or automatic data-processing equipment to perform a task, at a “Data Center” that is defined as a facility that provides infrastructure for hosting or data-processing services and is concurrently maintainable, the power and cooling systems serving the computer equipment must include redundant capacity components and multiple distribution paths, and, although the facility must have multiple distribution paths serving the computer equipment, a single distribution path may serve the computer equipment at any one time.^{xxvi}

Ohio provides a sales-tax exemption on the purchase of eligible data center equipment including equipment cooling systems to manage the performance of computer data center equipment, to generate, transform, transmit, distribute, or manage electricity necessary to operate the tangible personal property used or to be used in conducting a computer data center business, and building and construction materials sold to construction contractors for incorporation into a computer data center with \$100M investment and \$1.5M in payroll, and data centers are eligible for property tax abatements negotiated at the local government level.^{xxvii}

North Dakota owners, operators, and tenants of a qualified, 16,000 square foot data center may be granted a sales tax exemption on information technology equipment and computer software, including replacement equipment and software, purchased between January 1, 2015, and December 31, 2020. The exemption is limited to the first four qualified data centers approved by the Tax Commissioner and 4 data centers have been awarded the incentive. To qualify, a data center must be a newly constructed or substantially refurbished facility of at least sixteen thousand square feet located in North Dakota.^{xxviii}

Oklahoma computer services and data processing facilities in NAICS codes Numbers 5112 and 5415 may be eligible for a 5 year exemption from Ad Valorem Tax if they derive at least 50% of their annual gross revenues from the sale of a product or service to an out of state customer or buyer, invest \$250,000 or more in construction, acquisition or expansion cost of the manufacturing facility and; have a net increase in annualized payroll of at least \$250,000 if the facility is located in a county with a population of fewer than 75,000, or at least \$ 1 million dollars if the facility is located in a county with a population of 75,000 or more in the initial application year. Establishments in NAICS codes 5142 must meet the following qualifications: 80% of annual gross revenues from the sale of a product or service to an out of state customer or buyer; invest \$7 million dollars or more in capital improvements and; have a net increase in annualized payroll of at least \$250,000 if the facility is located in a county with a population of fewer than 75,000, or at least \$1 million dollars if the facility is located in a county with a population of 75,000 or more in the initial application year.^{xxix}

Oregon data centers may gain an enterprise zone property tax abatement on the new plant and equipment for 3-5 years in rural communities.^{xxx}

Pennsylvania provides up to a \$5M tax refund on sales and use taxes for data center equipment.^{xxxii}

South Carolina may exempt from some sales and use taxes when a data center is expanding and/ or new facility is certified by the South Carolina Department of Commerce as a qualifying datacenter and invests



at least \$50 million (or a combined \$75 million with one or more other companies) in real or personal property at a single facility over a five-year period, create at least 25 new jobs within a five-year period with an average wage that is at least 150% of the state or county per capita wage, whichever is lower, and maintain the 25 jobs for at least three years. The items that may be exempt from sales and use tax are computer equipment, software and electricity directly used in datacenter operations, and once qualified for this exemption, all future computer equipment purchases are exempt.^{xxxii}

Tennessee offers data centers a sales tax exemption for certain hardware and software purchased for a qualified data center with a minimum capital investment of \$100M and 15 new full-time positions paying at least 150% of the state's avg. occupational wage; investment must be made during a 3 yr. period but can be extended to 5 yrs. for investments under \$1B or 7 yrs. for investments exceeding \$1B with the state's permission.^{xxxiii}

Texas offers data centers with 100,000 sq. ft. creating 20 and \$200M in capital investment over a 5-year period that are constructed or refurbished for use primarily as a facility to house servers and related equipment and support staff in the processing, storage and distribution of data, have, or will have, an uninterruptible power source, generator backup power, a sophisticated fire suppression and prevention system, and enhanced physical security that includes restricted access, video surveillance and electronic systems, not be used primarily by a telecommunications provider to deliver telecommunications services; and not be subject to an agreement limiting the appraised value of the data center's property can qualify for a 100% exemption on sales and use tax.^{xxxiv}

Virginia offers data centers equipment sales tax exemption for projects with \$150M investment creating 50 jobs paying 150% of average wage or 25 jobs in underserved markets in Virginia Enterprise Zones and permits end users at the data centers to gain access to the incentive.^{xxxv}

Washington offers data centers a retail-sales and use tax exemption for purchases and labor installation costs for eligible server equipment and power infrastructure.^{xxxvi}

West Virginia values tangible personal property, including servers, directly used in a high-technology business or in an Internet advertising business, for property tax purposes at 5% of the original cost of the property, and eliminates the sales tax from all purchases of prewritten computer software, computers, computer hardware, servers, building materials and tangible personal property for direct use in a high-technology business or internet advertising business.^{xxxvii}

Wyoming offers several data center incentives including a \$2.25M max grant for Managed Data Center Cost Reduction Grant Program Is a \$2.25 Million to reimburse accrued utility expenses for power or broadband over 3 years and for each grant the business must create a match of at least 125% of the grant amount in payroll and capital expenditure with the caveat that 50% of the match will be in payroll creation, and have a payroll must be greater than 150% of the county's median wage, a Data Center Permit Exemption for a mega-data center project which exceeds \$178.3 Million in capital investment, would be exempt from the requirement of applying for an Industrial Siting Permit through the Wyoming Department of Environmental Quality providing a cost savings of approximately \$500,000 associated with permit application preparation, wildlife studies, economic analyses, public meetings, permit hearings, attorney fees, etc., a Data Center Sales Tax Exemption that requires a \$5 Million investment in capital infrastructure (building, walls, engineering, dirt work, etc.) in a Wyoming location in addition to a \$2 Million or larger investment in data center equipment (servers, peripheral equipment and data center containers) and software purchases, and the Wyoming Legislature approved a \$15,000,000 appropriation to assist Wyoming cities, towns and counties to build necessary public infrastructure for the recruitment and operation of data centers.^{xxxviii}

Data centers will continue to be a hot item in 2021 and prime locations and solid tax policy are the keys to recruiting them.



LOGISTICS DRIVEN BY E-COMMERCE GROWTH WILL FOCUS ON REGIONS WITH PPP IN 2021

Shifts in consumer behavior to more e-commerce, increased industrial production and increased imports are all driving tremendous growth in the U.S. logistics, distribution, and fulfillment center industry. Today's fulfillment center is replacing the job losses in the manufacturing industry as automation driven by technological advances and reduced costs of Artificial Intelligence and robotics. COVID 19 has not slowed the growth of industrial development tied directly to the changing consumer behavior to shop via e-commerce rather than in person. Logistics is a booming industry driven by the growth of the \$340 B e-commerce industry expected to grow to \$476 B by 2024^{xxxxix} transforming the retail industry into the fulfillment center industry which will drive annual net industrial absorption to more than 333 million sq. ft. by 2022 continuing the expansion of the logistics industry. Based upon this expansion of a 10-year trend, CBRE estimates 2021 will see the absorption of 300M square feet of new industrial space driven by e-commerce. These logistics facilities will locate in regions with a clear strategy to capitalize on this boom through the development a Public-Private-Partnership to prepare sites for development, develop infrastructure and prepare the regional workforce.

First, develop sites. Nothing new here—communities have been developing industrial parks for decades in the hope that “if you build it, they will come.” The difference is the capital markets are interested in capitalizing on the logistics boom as well and national industrial developers are building industrial centers, often with million square foot buildings designed for modern logistics centers, as fast as they can. Communities interested in recruiting these industrial developers to town need to create a smooth land use process, provide competitive tax rates or abatements, tools for funding schools and local governments as well as the infrastructure needed to enhance the regional transportation system. This capital market interest in developing logistics space also likely means communities should not build their own speculative space. Instead, get land under control—these industrial parks typically located in rural communities often range in size from 100 to 1000 acres and everything in between. Understanding construction, transportation, and infrastructure costs to prepare the site for development. Zoning for the logistics industry is often specifically created and a public-private-partnership developed to eliminate the property tax but capitalize on other taxes such as income or sales to build a local government and school district revenue stream.

Second, build infrastructure. Logistics parks do not exist without the roads, rail, airport, water, and sewer service need to let them operate. The fewer logistical challenges the better for communities wishing to capitalize on the logistics boom. 49 states have Tax Increment Financing or TIF programs that capture the future growth or increment of property and potentially other taxes spurred by development to fund the infrastructure needed for a site to development. States with income taxes often have programs know as Joint Economic Development Districts that permit townships to jointly capture income taxes created by economic development projects that can fund public infrastructure. Infrastructure for the logistics industry is not just located at the industrial park. Interstate highway access, major rail links and logistics-based airports are often at the center of a logistics park operation. Many successful logistics centers create an intermodal, defined as the movement of containerized (unitized) cargo over air, land, or sea using different transport modes (aircraft, truck, rail, boats, ships, barges, etc.) capable of handling containers. Railroads are usually at the center of intermodals.

Third, but certainly not last, is workforce. Logistics parks cannot succeed without a skilled workforce ready and available. A DHL funded study found the U.S. Bureau of Labor Statistics reports that jobs in logistics are estimated to grow by 26 percent between 2010 and 2020 while one global study estimates that demand for supply chain professionals exceeds supply by a ratio of six to one, and that some studies assert that 25 to 33 percent of the current supply chain workforce is at or beyond retirement age, and the backfill pipeline is inadequate to satisfy replenishment demand. The logistics industry is not alone with workforce development challenges. Full employment and a demographic shift with Baby Boomers retiring and Millennials struggling somewhat to fill this substantial workforce gap create workforce skills gap in nearly every occupation. Regional workforce development programs are working in overdrive to address this economic challenge but it may take more than a village to take care of this issue. Regions looking to capitalize on the logistics industry growth need to create customized workforce development programs for this industry.

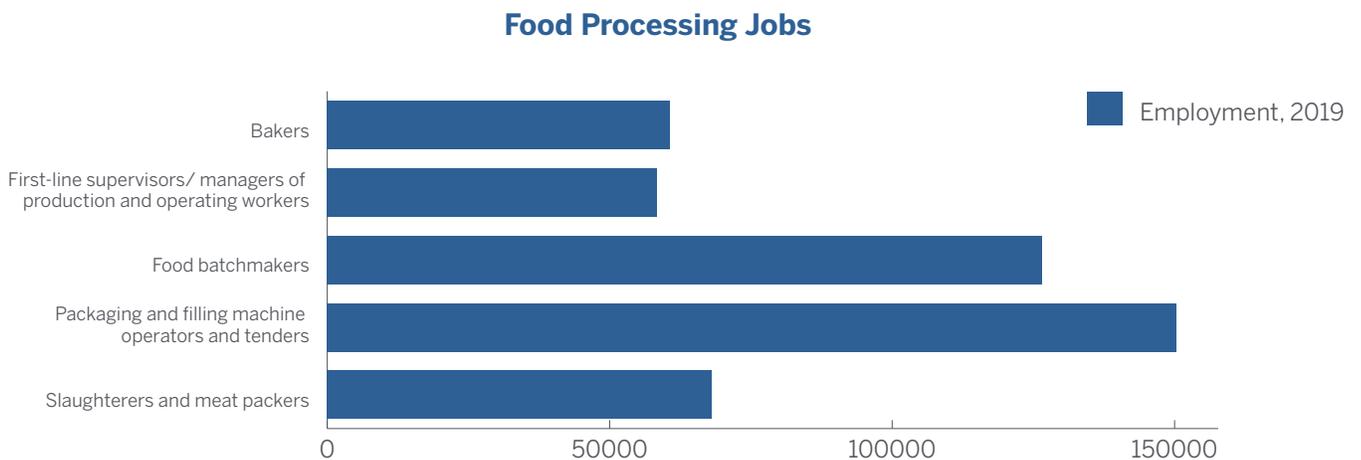


Communities like Columbus, Ohio have become a logistics leader hosting 83,000 logistics jobs built around three hubs in rural counties just outside of Ohio's largest city that is home to nearly 1 M people. The Columbus logistics industry was created based upon a Public-Private-Partnership that provides a 100% 15-year property tax abatement of industrial or logistics companies that often includes the use of Tax Increment Financing and Joint Economic Development District and state of Ohio funding for infrastructure development as well as negotiating compensation agreements with local governments and school districts to provide funding through Payments in Lieu of Taxes from the developers to assume companies as well as communities win when jobs are created. The result has put Central Ohio on the logistics map to compete with regions across the Midwest for logistics jobs.

FOOD AND BEVERAGE MANUFACTURING TO GROW IN 2021 DRIVEN BY LARGE MARKETS AND AG PRODUCT ACCESS

Food manufacturing or food processing is a growing industry whose prospects are even brighter for U.S. production as the “eat local movement” and COVID 19 creates food security issues has the potential to drive additional production of this industry to domestic locations but is in regions with easy access to agriculture products. Industries in the Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption.^{xii} The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products, and the food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers, but establishments primarily engaged in retailing bakery and candy products made on the premises not for immediate consumption are included.^{xiii} The food manufacturing subsector consists of these industry groups:

- Animal Food Manufacturing;
- Grain and Oilseed Milling;
- Sugar and Confectionery Product Manufacturing;
- Fruit and Vegetable Preserving and Specialty Food Manufacturing;
- Dairy Product Manufacturing;
- Animal Slaughtering and Processing;
- Seafood Product Preparation and Packaging;
- Bakeries and Tortilla Manufacturing; and
- Other Food Manufacturing.^{xliii}



Source: U.S. Bureau of Labor Statistics



These occupations nearly all paid near the median average wage as outlined below:

- Bakers median annual wage is \$28,300;
- First-line supervisors/managers of production and operating workers in food manufacturing median annual wage is \$56,910;
- Food batch makers median annual wage is \$31,560.
- Packaging and filling machine operators and tenders median annual wage is \$32,140; and
- Slaughterers and meat packers median annual wage is \$29,420.^{xliv}

The U.S. Bureau of Labor Statistics found there are over 35,000 establishments or companies in the food manufacturing industry, and, as the chart below illustrates, food manufacturing facilities in the United States have continued to illustrate strong and steady growth.^{xlv} A recent study suggested the global food processing solutions industry generated revenues worth USD 58,250.45 million in the year 2019 and is expected to register commendable growth between 2020 and 2026.^{xlvi} The growth is primarily attributed to focus among major companies towards adopting efficient and fast food processing and distribution systems.^{xlvii} In 2018, the U.S. food and beverage manufacturing sector employed more than 1.7 million people or just over 1 percent of all U.S. nonfarm employment.^{xlviii} In thousands of food and beverage manufacturing plants located throughout the country, these employees were engaged in transforming raw agricultural materials into products for intermediate or final consumption. Meat and poultry plants employed the largest percentage of food and beverage manufacturing workers, followed by bakeries, and beverage plants.

The U.S. Bureau of Labor Statistics further defines food processing workers to number of 42,000 across the United States covering a range of industries and occupations. According to the U.S. Department of Agriculture, while food and beverage processing plants are located throughout the United States, they are more numerous in some States than others. Five States—California, New York, Texas, Pennsylvania, and Illinois—accounted for 38 percent of the 34,661 U.S. food and beverage processing plants operating in 2015. These States also have the highest populations and lead in agricultural production and manufacturing. California, New York, Texas, Pennsylvania, and Illinois accounted for 35 percent of both the U.S. population and all manufacturing establishments in 2015. The value of cash receipts for all agricultural commodities produced in these States represented 26 percent of the U.S. total in 2015.

However, food processing workers are not only located in the larger states which house facilities to serve large population bases but also in many states more rural in nature with larger access to agriculture products. As an example, the state leading the growth of food manufacturing jobs from 2014-18 according to Emsi is Washington state. The state best known for its apples also produces and exports milk, potatoes, and frozen food products. Washington's largest industries in the food processing and manufacturing cluster are frozen fruit, juice, and vegetable manufacturing (over 6,000 jobs, down 3% the last five years). More than a third of the state's food manufacturing jobs are in the Seattle-Tacoma-Bellevue metro area. Since 2014, food processing and manufacturing cluster jobs shot up 30% in Seattle, the second-fastest growth rate among the 10 largest metros behind Phoenix (33%). The Kennewick-Richland MSA houses 5,200 jobs in this cluster but saw just 5% growth since 2014. While employment growth has been strong, the cluster made up just 1% of the state's \$487 billion gross regional product (GRP) in 2017. This point is further illustrated by the fact that Arkansas, Louisiana, Mississippi, and Iowa are among the top states with the highest concentration of food processing jobs.



INDOOR AGRICULTURE TO BE A 2021 GROWTH MARKET DRIVEN BY STATE MARIJUANA LAWS

Agriculture, food, and related industries contributed \$1.109 trillion to the U.S. GDP in 2019, a 5.2-percent share, and, the output of America's farms contributed \$136.1 billion of this sum—about 0.6 percent of GDP.^{xlix} The overall contribution of agriculture to GDP is actually larger than 0.6 percent because sectors related to agriculture rely on agricultural inputs in order to contribute added value to the economy. Sectors related to agriculture include: food and beverage manufacturing; food and beverage stores; food services and eating and drinking places; textiles, apparel, and leather products; and forestry and fishing.^{li}

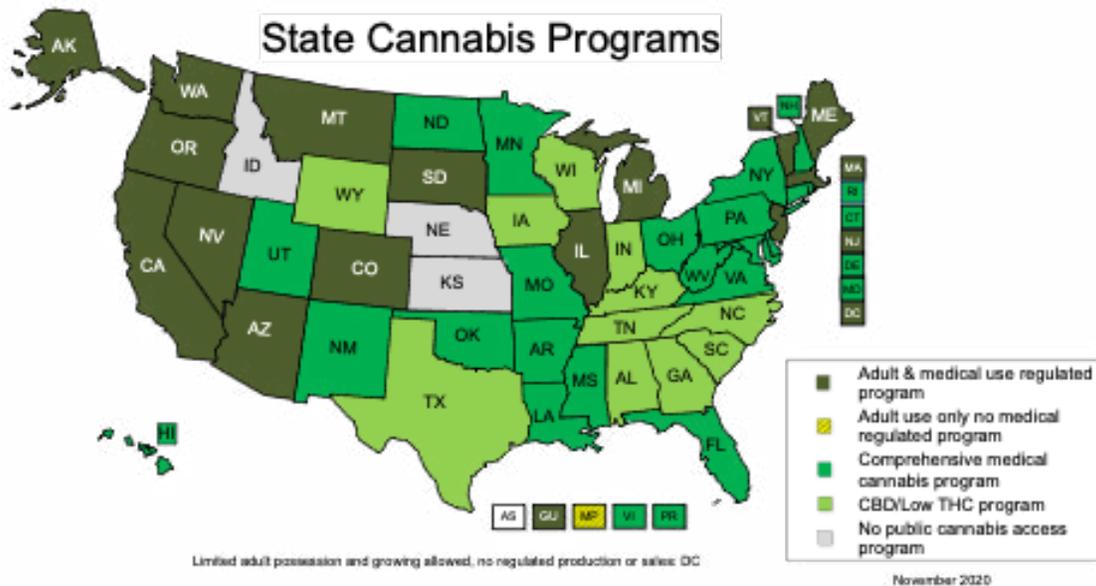
The global indoor farming market size was valued at USD 26.8 billion in 2018 and is expected to expand at a CAGR of 9.19% from 2019 to 2025.^{lii} Increasing consumer awareness regarding the advantages of consuming fresh and high-quality food and the expansion of medical marijuana and the legalization of marijuana across the United States with regulatory requirements about where this crop is grown.^{liii} A University of Missouri report found, based on the average production and the distribution of growers—indoor and outdoor— in Colorado, states like Missouri who recently adopted a medical marijuana law will need between 10 and 14 cultivators in 2020, 18 to 24 cultivators in 2021, and 24 to 29 cultivators in 2022, and, based on the growth of qualified patients over time, Missouri will support 85 infused-product manufacturers, perhaps in the first year of medical marijuana sales.

Many governments are encouraging indoor agriculture as a way to deal with changing climatic conditions impacting soil degradation and groundwater depletion, affecting the food and agriculture production systems.^{liv} Also, development is overtaking traditional farmland and encouraging vertical farming.^{lv} The World Bank Group estimates the overall arable land per capita has declined from 0.197 hectares in 2013 to 0.192 hectares in 2016.^{lvi} Indoor farms grow the total crop yield per unit area by using the stacked layers of potted seeds and these facilities are in small and large scale, use farming implements methods such as aquaponics and hydroponics and utilizes artificial lighting for adequate light levels and nutrients.^{lvii} However, initial capital and energy costs need to be factored in when considering the overall economic benefit of an indoor agriculture corporate site location project.^{lviii} Greenhouses are the prime indoor agriculture facility taking up 70% of the market in 2018.^{lix}

The vertical farm segment is expected to exhibit the fastest CAGR of over 18% from 2019 to 2025, owing to the growing adoption of environmentally friendly production of fruits and vegetables and higher demand for locally grown and organic food.^{lx} Indoor agriculture facilities require hardware and software to control the climate, lighting, sensors, and irrigation.^{lxi} The fruits, vegetables, and herbs segment dominated the market for indoor farming and is estimated to continue leading over the forecast period but the flowers and ornamentals segment is expected to contribute significantly to market growth over the forecast period with a more than 25% market share.

The growth in indoor agriculture is tied directly to the expansion of state's that permit the use of marijuana for medical or recreational use. According to the National Council of State Legislators, California voters passed Proposition 215 in 1996, making the Golden State the first in the union to allow for the medical use of marijuana. Since then, 35 more states, the District of Columbia, Guam, Puerto Rico, and U.S. Virgin Islands have enacted similar laws. As of November 4, 2020, voters in Mississippi and South Dakota approved a measure to regulate cannabis for medical use, bringing the total to 36 states and 4 territories, and voters in Arizona, Montana, New Jersey, and South Dakota approved measures to regulate cannabis for adult-use. This brings the total to 15 states and 3 territories. A total of 36 states, District of Columbia, Guam, Puerto Rico, and U.S. Virgin Islands have approved comprehensive, publicly available medical marijuana/cannabis programs. The map below illustrates the status of state marijuana laws.





Source: NCSL

State public policy decisions clearly impact regional opportunities for indoor agriculture projects tied to the marijuana industry.

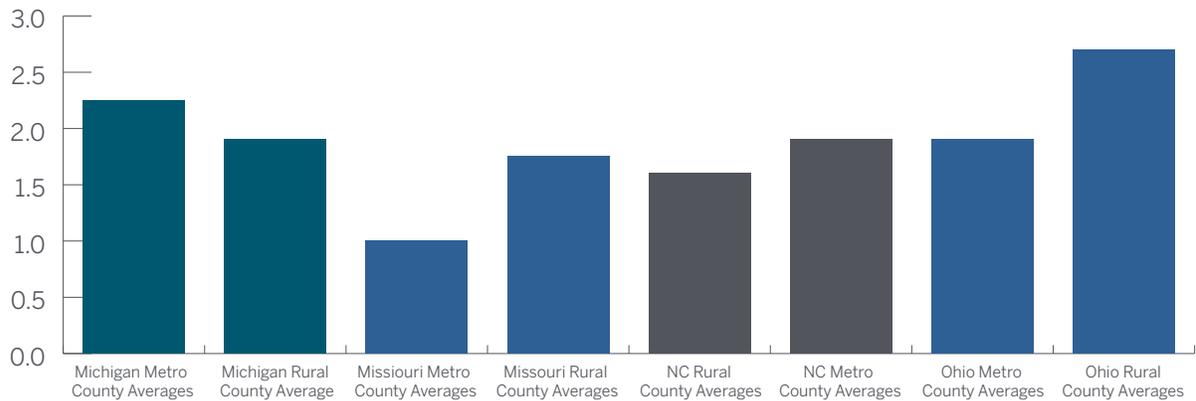
RURAL COMMUNITIES PRIMED FOR MANUFACTURING GROWTH IN 2021

Rural communities are primed for the location of manufacturing facilities. Manufacturers in the United States account for 11.39% of the total output in the economy, employing 8.51% of the workforce according to the National Association of Manufacturers. The Bureau of Labor Statistics found that total output from manufacturing was \$2,334.60 billion, there were an average of 12.8 million manufacturing employees in the United States in 2018 with an average annual compensation of \$84,832.13 in 2017. The percentage of the American economy manufacturing makes up has been declining steadily since the 1950s but it remains a substantial component of the nation's' economy with its high-wage jobs.

Whether it is the attraction of a skilled and ready workforce, fewer labor unions and flat, ready land primed for development, rural communities are often the choice for manufacturing corporate site location projects. The table below illustrates that rural counties in Ohio, North Carolina and Missouri all have a higher concentration of manufacturing workforce wages than their metro counterparts and Rural Michigan is only slightly behind metro Michigan centers. All these markets are strong manufacturing centers as they are above a location quotient of 1. Measures of location quotients are a statistical tool to indicate whether a particular industry cluster is strong or weak in a region. Based upon national averages, a location quotient of 1 defines the region as meeting the national average for that industry. A location quotient below 1 indicates the region does not have a particular industry cluster strength in that market and above 1 illustrates the industries relative strength.



Concentration of Manufacturing Wages Rural v. Metro



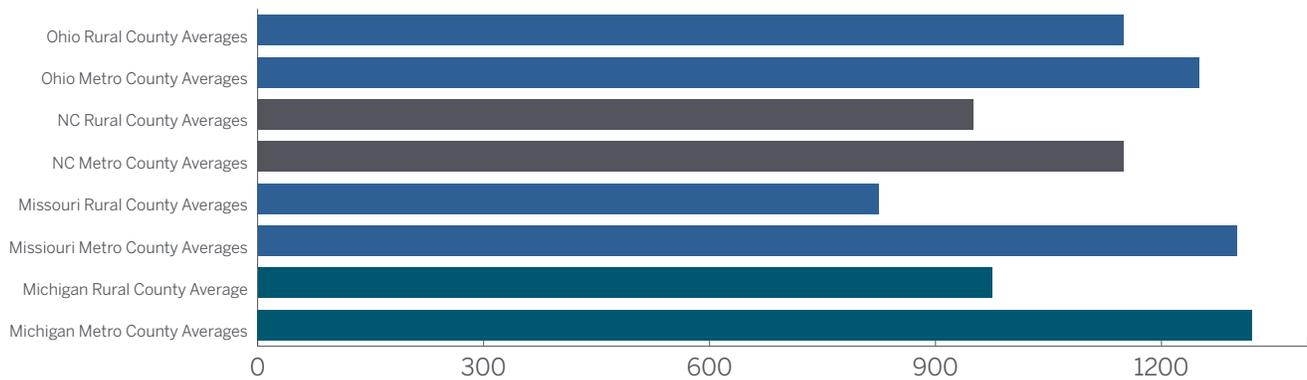
Source: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages*

Michigan, Missouri, Ohio, and North Carolina all are manufacturing centers with location quotients at or above one for all four states. The Detroit region as home to the American auto industry is the only metro center to have more manufacturing than the state's rural counterparts. Rural Missouri, North Carolina and Ohio all have a larger concentration of manufacturing compared to their urban counterparts. Ohio is the leader among these four states when it comes to manufacturing strength in rural markets with a location quotient double the national average but Michigan, Missouri and North Carolina all are strong manufacturing centers.

Rural communities' cost of doing business are substantially lower than their urban counterparts. The largest cost for nearly every company is labor. Paying workers, unless it is a data center or some other energy intensive, capital intensive business, will be the largest cost facing any company. Regions with competitive wage rates are highly attractive for corporate site location projects. As the table below illustrates, rural counties in Michigan, Missouri, North Carolina, and Ohio pay manufacturing workers a substantially lower wage compared to their metro urban counterparts in the same states. The same factor in an urban setting costs substantially more to operated. As an example, the average manufacturing worker in Ohio earns over \$54,000 in a rural community and a factor with 100 worker spends \$5.4M on worker wages. That same worker in an Ohio metro area earns over \$65,000 a year and 100 workers costs that same company over \$6.5 M in payroll. This million-dollar wage differential adds up to tens of millions of dollars over a period. More importantly from a public policy standpoint, a \$54,000 job in a rural community creates substantially higher economic opportunity for that worker in a community that lacks many high-wage, advanced services, and technology jobs. Rural Missouri has the lowest average manufacturing worker weekly wage compared to Ohio, Michigan, and North Carolina.



Manufacturing Average Weekly Wage



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

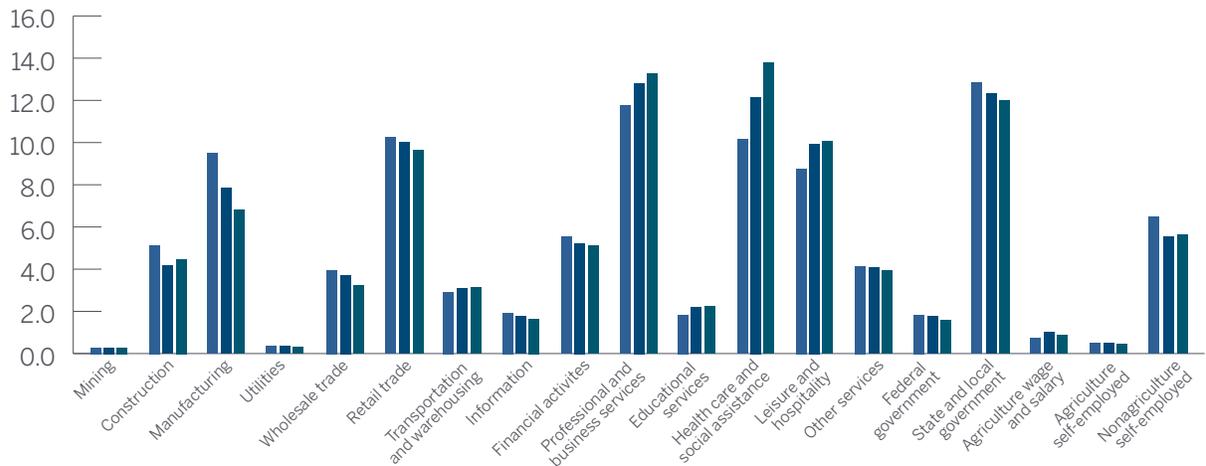
Workforce costs are not the only factor impacting rural communities lower cost of doing business. Lower real estate costs are another important factor making rural markets attractive for corporate site location projects. First, real estate is all driven by local factors impacting the site in question. So, generalizations can be challenging but the laws of supply and demand and the rapid growth of urban and suburban markets have driven up prices in these urban markets. Second, many urban sites are complex compared to rural greenfield sites. Urban sites in many cases involve a reuse of land which has benefits from an infrastructure standpoint but may have environmental issues as well as be in a struggling neighborhood with residents who may or may not wish development. An example is telling for how rural real estate costs compare to urban or suburban counterparts.

Two parcels being marketed on AEP Quality Sites website are both certified by AEP as primed and ready for food processing and industrial development, they are of similar size and both are greenfield developments. Rural Eagle Park Business Park in Tiffin, Ohio is listed for \$15,000 an acre and its suburban competitor, Central Ohio Aerospace and Tech Center II in Heath, Ohio is listed for \$66,000 an acre. Heath is in ex-urban Licking County just east of the growing Columbus, Ohio market surrounded by a large cluster of industrial development. Tiffin is in Northwest Ohio in a rural community that is strongly connected to regional agriculture and the site is certified for a food processing manufacturing facility. Both are good prospects for development.

Finally, automation may well benefit rural manufacturing site locations. Automation of nearly all industries has been impacting companies and communities for decades by making companies more productive with fewer workers making higher wages. COVID 19 will likely expedite this economic trend as a robot cannot contract a human virus. Current economic projections see overall job growth in professional services, educational services, and health care while most other industry job growth remains steady or declines. Large declines are anticipated to continue in manufacturing, financial services, and government jobs as outlined by the table below.



American Industry Sectors Projected 2006-2026



Source: U.S. Bureau of Labor Statistics

Automation is a major driver in changes for the American economic landscape. Technology advances are expected to have a major impact on a range of American industries as illustrated by the table below. Automation has been making America's manufacturing industry the most competitive and productive in the world but it is also played a large part in dropping the number of manufacturing jobs in the U.S. About 9% of the US workforce is in manufacturing and this total has dropped from over 30% in the 1950s. However, recent advances in machine learning, robotics and artificial intelligence are driving major changes in the economic marketplace all of which impact a region's economic development strategy. Employment in production occupations is projected to decline 4 %, with a loss of about 423,200 jobs from 2019 to 2029.

Technological advancements are expected to continue to replace many of the manufacturing workers that make up a large share of the production occupations. Fewer workers are expected to be needed in the manufacturing sector as many processes have become computer controlled. While this may appear to be bad economic development news, automation of the manufacturing industry actually increases the wages of the workers that remain but also will create an opportunity for rural markets that simply have a workforce pool too small for a 3000 worker manufacturer. Advanced manufacturing facilities with fewer, highly skilled workers may well be a good fit for rural markets.

DOMESTIC SUPPLY CHAIN GROWTH EXPECTED FOR SITES PRIMED FOR DEVELOPMENT IN 2021

COVID 19 has illustrated the challenges created by a global supply chain for thousands of American companies but these challenges spell opportunities for supply chain related U.S. corporate site location projects in 2021. A supply chain is a network between a company and its suppliers to produce and distribute a specific product to the final buyer.^{lxii} This network includes different activities, people, entities, information, and resources.^{lxiii} The supply chain also represents the steps it takes to get the product or service from its original state to the customer.^{lxiv} Companies develop supply chains so they can reduce their costs and remain competitive in the business landscape.^{lxv}

Supply chain management is the key to many companies' economic success. As noted by the graphic below, an Accenture survey of companies found major disruption of the supply chain created by COVID 19 that is generating negative economic results from companies that in many cases were not forced to close due to government regulation.



COVID 19 Supply Chain Opportunities

- **Accenture survey found**

- **94% of Fortune 1000 companies are seeing supply chain disruptions from COVID-19**
- **75% of companies have had negative or strongly negative impacts on their businesses**
- **55% of companies plan to downgrade their growth outlooks (or have already done so)**

Again, the survey by Thomas of over 1000 North American manufacturers found that 64% of manufacturers report they are likely to bring manufacturing production and sourcing back to North America — a 10% increase from the same sentiment reported in the March 2020 survey.^{lxvi}

Companies with a supply chain impacted by COVID 19 should focus on contracting their supply chain closer to U.S. domestic facilities to address these short term and long-term economic challenges. Companies considering a supply chain location contraction near domestic U.S. sites need to educate their supply chain on the regional site development process and opportunity for economic development incentives as many of these facilities will be new investments. The decision to move the supply chain closer to domestic production facilities needs to make financial sense and utilizing an effective site development process can make that happen. The site development process for a company's supply chain partner involves measuring the region's potential for economic growth, availability of skilled workers and cost of doing business, negotiating the land purchase/lease process, developing a project pro-forma, negotiating the land use land use entitlements such as zoning, and negotiations of tax incentives. The first step in the site development process is to understand the region's potential for economic growth, availability of a skilled workforce and the costs of doing business as compared to other regions and states of equal business value. Measures of economic growth will center on a comparison of GDP growth, personal income, COVID 19 infections, demographic measures such as population growth, poverty rates, median home values and other measures that define the equity of a region for a wide range of potential workers. Cost of doing business measures should also be created to better understand the wages key workers will require, the costs of real estate, taxes, utilities, and other major cost factors for competing regions.

Supply Chain Site Development Process



Once the region survives the economic, workforce and cost of doing business comparison, a company's supply chain partner needs to move to negotiate local real estate options. If the company wishes to purchase a site, before they gain control of the site, the company needs to complete due diligence on the site such as confirming the zoning, determining if environmental contamination exists, if the title of the land is marketable, and if the project has tax incentives.^{lxvii} Prior to final land purchase, the potential buyer needs to gain all the necessary governmental approvals such as zoning, tax incentives, and Brownfield remediation protection. With buying, building, or renting, a company considering a site for an economic development project needs a pro forma to determine whether the project makes or loses money and what economic development incentives can address potential project costs to make the site more attractive for investment. The pro forma is based upon both expenses and revenues. The development cost budget addresses the expenses of the project and includes all the costs directly related to a project. Hard costs are those expenses directly incurred in connection with the construction of the building, tenant space and other site improvements. They include the contractor, legal, engineer, appraiser, insurer and developer and commercial realtor fees and the cost of all labor and materials provided to the project. Financing and utility charges, impact fees, marketing and operating costs are also included. A contingency reserve is needed to cover any unexpected costs incurred during the development process.

Zoning Process



No company can locate at a site without local government permission through the land use regulation process. Local government manages design, growth, and development typically through a comprehensive plan that can serve as a legally binding document that sets the overall goals, objectives, and policies to guide the local legislative body's decision making in regarding to the development of a region or community. Zoning is a key component of the basic system of land use regulation. Unincorporated land and rural communities operate with less zoning authority. Thus, these communities have few powers to regulate land use through the zoning process. Traditional zoning divides land within a jurisdiction into districts, or zones, with varying restrictions on uses that may be established and conducted in the different zones and standards (such as size and location of buildings, yard areas and intensity) such uses must meet. Zoning regulations provide for orderly growth, generally in furtherance of comprehensive plans, limit the interaction of incompatible uses, and protect the public health, safety, and welfare.

Working in conjunction with the negotiations of local and state incentives and land use regulations, supply chain partner projects may also involve the negotiations of local, state, and federal financing to prepare a site for development. Federal funding can be a source of financing for public infrastructure associated with economic development projects creating jobs and making capital investments. The Coronavirus Aid, Relief, and Economic Security (CARES) Act, signed into law on March 27, 2020, provides the Economic Development Administration (EDA) with \$1.5 B for economic development assistance programs that help communities prevent, prepare for, and respond to the impacts of coronavirus. EDA has determined that all communities throughout the United States are eligible for CARES Act funding, the EDA created an approximate tenfold increase in the funding ceiling for EAA awards, taking the ceiling up to a maximum of \$30 M for projects, but public works infrastructure funding from the EDA will still likely require a company end user to gain funding. Local and state governments are the central provider of site development infrastructure used by the companies during a corporate site location project. Forty-nine states with New Jersey being the lone holdout offer infrastructure finance programs implemented at the local or state level tied to economic development projects. Tax Increment Financing (TIF) is the prime local public finance program that can support site-based infrastructure development.



TIF Example

Step	Description	Value
Base Value	Market value of real property prior to TIF	\$1,000,000
New Value	New market value after TIF and investment	\$11,000,000
Growth in Market Value	Base Value minus New Value	\$10,000,000
Assessed Value	35% of new market value	\$3,500,000
Annual Tax Increment/PILOT	Assessed value times tax rate on an annual basis	\$262,500

While TIF program rules vary by state, they all primarily operate to capture future property tax gains created by a capital investment in a defined district. That increment or growth in the property tax is captured over a period and the funding is spent on legislatively defined uses. In most states, that defined TIF funding use is limited to public infrastructure within a statutorily defined district. Some states permit the TIF funding to use for more than public infrastructure, and Illinois offers an interesting example of such as program. Illinois Tax Increment Financing captures future property tax growth in a defined district for the redevelopment of substandard, obsolete, or vacant buildings, financing general public infrastructure improvements, including streets, sewer, water in declining areas, cleaning up polluted areas, administration of a TIF redevelopment project, property acquisition, rehabilitation or renovation of existing public or private buildings, construction of public works or improvements, job training, relocation, financing costs, including interest assistance, studies, surveys and plans, marketing sites within the TIF, professional services, such as architectural, engineering, legal and financial planning, and demolition and site preparation.

Other economic development incentives such as the tax credits, tax abatements, grants or loans discussed earlier are prime opportunities for a company's supply chain considering an economic investment in the United States.

FOOTNOTES

- ⁱ <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>
- ⁱⁱ <https://www.cbre.com/research-and-reports/2020-US-Real-Estate-Market-Outlook-Data-Centers#:~:text=New%20deliveries%20will%20increase%20the,between%20certain%20markets%20in%202020.&text=Adding%20momentum%20headed%20into%202020,IT%20and%20real%20estate%20decisions.>
- ⁱⁱⁱ <https://www.us.jll.com/content/dam/jll-com/documents/pdf/research/data-center-outlook-h1-2020.pdf>
- ^{iv} Ibid.
- ^v Ibid.
- ^{vi} Ibid.
- ^{vii} [https://f.tlcollect.com/fr2/813/17870/Impact_of_Taxes_and_Incentives_on_Data_Center_Locations_\(2013\).pdf](https://f.tlcollect.com/fr2/813/17870/Impact_of_Taxes_and_Incentives_on_Data_Center_Locations_(2013).pdf)
- ^{viii} https://revenue.alabama.gov/wp-content/uploads/2017/05/TaxIncentives_Summary.pdf
- ^{ix} <https://www.azcommerce.com/incentives/computer-data-center-program/>
- ^x <https://www.arkansasedc.com/why-arkansas/business-climate/incentives/pages/job-creation-incentives>
- ^{xi} <https://www.georgia.org/competitive-advantages/incentives/tax-exemptions>
- ^{xii} <https://commerce.idaho.gov/incentives-and-financing/incentives/data-center-sales-tax-exemption/>
- ^{xiii} <https://www2.illinois.gov/dceo/ExpandRelocate/Incentives/Pages/DataCenters.aspx>
- ^{xiv} <https://iedc.in.gov/incentives/data-center-sales-tax-exemption/home>
- ^{xv} https://www.iowaeda.com/userdocs/media/FS_DataCenter.pdf
- ^{xvi} <https://lasvegassun.com/news/2015/sep/30/state-by-state-look-at-incentives-for-computer-dat/>



- lxi Ibid.
- lxii <https://www.investopedia.com/terms/s/supplychain.asp>
- lxiii Ibid.
- lxiv Ibid.
- lxv Ibid.
- lxvi Ibid.
- lxvii The Ten Steps to Real Estate Purchase discussion comes in large part from Ohio State University Law Professor Rick Daley's class material developed for his real estate development class.

