

INTERNATIONAL ECONOMIC DEVELOPMENT COUNCIL

AN OVERVIEW OF THE CURRENT ECONOMIC DEVELOPMENT LANDSCAPE

**Background Paper for the
2020 IEDC Board Strategic
Planning Retreat**



International Economic Development Council

The International Economic Development Council (IEDC) is a non-profit membership organization serving economic developers. With 5,000 members, IEDC is the largest organization of its kind. Economic developers promote economic well-being and quality-of-life for their communities, by creating, retaining and expanding jobs that facilitate growth, enhance wealth and provide a stable tax base. From public to private, rural to urban, and local to international, IEDC's members are engaged in the full range of economic development experience. Given the breadth of economic development work, our members are employed in a wide variety of settings including local, state, provincial and federal governments, public private partnerships, chambers of commerce, universities and a variety of other institutions. When we succeed, our members create high-quality jobs, develop vibrant communities, and improve the quality-of-life in their regions.

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Introduction

The International Economic Development Council (IEDC) provides economic development leadership by promoting innovative professional services and programs that disseminate economic development standards and core competencies. IEDC strives to make economic development a priority in communities of all sizes and at every level of government by professionalizing the economic development field, providing world class service to its members, increasing its policy and advocacy efforts, and upholding its stature as the number one source for economic development information and expertise worldwide.

Economic development professionals have been navigating in a complex, and often capricious, economic development landscape since the turn of the 21st century. Shifting global roles, demographic changes, evolutions in the energy market, and rapid technological advances simultaneously converged, offering advantages for some and contributing to challenges for others. For the past twenty years, economic development organizations (EDOs) have been reassessing their role in the community, designing comprehensive strategies focused on broadening economic opportunities and sustaining competitiveness. The recent COVID-19 pandemic has destabilized communities across the globe, creating unprecedented havoc and disruption. Today more than ever, practitioners must intentionally articulate the value of their work, as they try to rebuild local economies. Going forward, enhanced partnerships with policy makers, business leaders and non-profits will be essential to economic recovery.

The ongoing shifts and trends in the global economy impact all communities, and practitioners need to understand these issues so that they can better prepare for the future. The aim of this paper is to explore the most pertinent matters facing the economic development profession today in order to help IEDC's Board of Directors to assess its strategic priorities for moving ahead in this unpredictable economic development landscape.

Executive Summary

The aim of this paper is to explore the most prevalent issues that the profession is facing today and to consider how these matters are influencing the practice of economic development. This analysis is intended to provide a framework to support the IEDC Board of Directors in evaluating the organization's strategic priorities in today's precarious economic landscape.

Overview

Since the turn of the 21st century, economic development practitioners have been navigating in an uneven landscape. Shifting global roles, demographic changes, evolutions in the energy market, and rapid technological advances simultaneously converged, offering advantages for some and contributing to challenges for others.

- The Great Recession cast light on inherent economic and structural problems that had existed in the US for decades that made it more difficult for the economy to recover.
- The nation's deficient infrastructure, fluctuating global competitiveness, transformations in the labor market, as well as wavering entrepreneurship and an increase of disasters were all themes that influenced the practice of economic development.
- The COVID-19 pandemic has laid bare the inequities in America. Today, economic hardship is growing for millions of jobless Americans, civil unrest is on the rise, and any signs that indicate a restoration of economic activity are tempered by the uncertainty over the path of the virus.

Importantly, the nation's competitiveness hinges on the ability to be innovative and resilient in the face of disruptions, and economic development organizations (EDOs) are playing an important role throughout the country.

- EDOs have been deftly appraising the damage in their community, and are tweaking approaches and developing new ones, to support the prosperity of people and regions over the long-term.

These EDOs are not only fighting for their communities, but for the survival of their own organizations, as budgets are strained at all levels of government and business. Concurrently, IEDC must continue to clearly articulate the value and relevance of the economic development profession to ensure that practitioners play a role in catalyzing positive change and stability.

Influencing equitable local growth necessitates an examination of the core issues concerning the uncertain economic landscape that include demographic shifts, the nation's deficient infrastructure, global competitiveness, sustainability, human capital matters, and disaster resilience.

I. The Uncertain Landscape

While the Great Recession was a result of a near collapse of the global financial system, this current recession was triggered by the repercussions of a global health crisis. Significantly, eleven years after the Great Recession, the economic recovery was uneven. Across the US there were people and communities that were still struggling when the COVID-19 pandemic hit, despite a few years of soaring corporate profits and low unemployment figures.

- Economic development practitioners were challenged by reports of low unemployment rates that belied the difficulties of attracting qualified talent, alongside the high levels of long-term unemployed and under-employed in the country.

Disruptive innovation continues to impact business and daily life at a rapid pace, and civil unrest is shaking the foundation of many communities.

- Health questions are no longer confined to medical facilities, and have become a key focus for businesses of all sectors as they seek to ensure the well-being of employees and clients, and maintain solvency.

In the US and beyond, most public and private sector leaders are proceeding with caution, unsure of what new catalytic event is on the horizon. Looking towards the near future, economic development practitioners will need to provide support to local businesses while keeping abreast of transformative technological advances, and continuing to encourage growth and opportunity at the local level.

Demographic Shifts

Demographic shifts perpetually transform local growth. Generational differences, variations in income, the rate of immigration, and regional investment choices influence the composition of the workforce and real estate development decisions. Economic developers will need to understand these demographic aspects when considering new approaches to promote economic opportunity and inclusion in their communities.

Deficient Infrastructure

Infrastructure is the backbone of an economy, but the US lags behind many other developed countries, based on neglected upgrades to aging structures. Today more than ever, local leadership needs to devise innovative programs to facilitate revitalization and boost investment for infrastructure components. Economic developers must understand the challenges surrounding infrastructure issues in order to help uncover opportunities to develop more viable place-making plans.

Global Competitiveness

Globalization significantly impacted the economic development profession at the turn of the 21st century, but today's global economy looks different than it did 20 years ago. It is characterized by an increased level of caution among governments and firms, and the

pandemic exposed the fragility of the modern global supply chain. Practitioners need to understand the complexities of the global marketplace - and how it impacts individual communities - in order to make coherent plans for securing and retaining investment, and to help local firms to thrive.

Sustainability

Today, there is heightened awareness over the negative impacts of climate change, and a region's competitive advantage is intrinsically linked to the energy market, affecting its labor and manufacturing output. As the shifts in energy intensive industries create challenges for local leadership, they additionally can enhance opportunities for innovation and growth. Practitioners will need to be conscious of the trends in the energy market to better capitalize on the greening of businesses and society to meet both residential and investor needs.

Human Capital

Human capital is a valuable asset that can enhance a location's competitiveness. Disruptions and evolutions in the 21st century spotlighted the importance of nurturing a skilled workforce pipeline to support economic mobility for workers and increased revenue for a community. But the US has not kept pace with other nations in terms of training a workforce for the future. EDOs are vital actors in helping to keep entrepreneurs and small businesses afloat, and are essential players in advocating for and facilitating cross-sector strategic partnerships for workforce development. As the economy resets, practitioners will be the critical link in helping workers and firms transition to shifts in the labor market.

Disaster Resilience

Disruptions can instigate unforeseen long-term economic losses. There has been an increase in natural and manmade disasters since the turn of the 21st century. EDOs – that often take the lead in post-disaster economic recovery efforts – face an uncertain future, as revenue streams from all levels of government and businesses are in jeopardy. IEDC has taken a primary role in advocating for federal support for states and localities to enhance economic recovery, and it is imperative for practitioners to persist in raising awareness and disseminating information on preparedness and tools for recovery to all stakeholders. This will improve the path of economic recovery and build resiliency for any future disruption.

II. Summary: 2020 IEDC Strategic Priority Assessment Survey Results

The results of the Spring 2020 IEDC survey assessing the organization's strategic priorities provides an illustration of how practitioners are coping in the uncertain economic development landscape. Importantly, these survey results help IEDC in determining if its strategic directives are in alignment with member needs. Some information gleaned from this year's survey is:

- Board members have been focusing more on disaster and disruption recovery. General membership said that they were focusing more on business retention as their top reply, with strategic partnerships and disaster and disruption recovery vying for second place.

- EDOs are still unsure of how exactly they can effectively initiate new programs to better address issues of inequity and exclusion.
 - Many respondents stated that they wanted IEDC to focus even more on the issues related to equity and inclusivity in economic development.
- The number one issue that Board members would like to see IEDC focus more on going forward was infrastructure development, while general members expressed a stronger desire to see more work on rural development.

I. The Current Economic Development Landscape

At the onset of the 21st century, practitioners became nimbler as they adapted to monumental transformations in the marketplace, from the rise of internet to globalization. The Great Recession taught practitioners to be more strategic in order to maintain a supple local economic base. However, some of the hardest hit by the Great Recession never fully recovered, and economic developers were striving to manage the myriad of challenges before them over the past few years, coping with reports of low unemployment rates that clouded the difficulties of attracting qualified talent. Increased socioeconomic inequality has been disrupting the status quo and testing the resilience of local economies.

The economic development landscape of today is more uneven and precarious than ever before. Change is accelerating at a swift pace, and the future of communities depends on the practitioners' ability to respond and adapt to disruptions. This necessitates a regular reassessment of economic development strategic priorities and the role of the practitioner. The need for this has only been reinforced during the recent COVID-19 crisis. Today, competitiveness hinges on the ability to be innovative and resilient in the face of disruptions, and economic development professionals need to tweak approaches and develop new ones to support the prosperity of people and regions over the long-term.

Ostensibly, the success of recovery today will not only be measured by the ability to re-open the economy, but also the capacity to work together to lift those who have fallen. Importantly, in this time of uncertainty, it is imperative that practitioners continue to clearly articulate the value and relevance of the economic developer to other community stakeholders in order to maintain a leadership role and to catalyze positive change.

Practitioners must help partners keep their focus on the future as they grapple with the present. Influencing meaningful local growth will require an understanding of the core issues that impact the economic development landscape, and that will continue to affect the profession in the near future. The following section of this paper will examine these principal issues more closely:

- The Uncertain Landscape
- Demographic Shifts
- Deficient Infrastructure
- Global Competitiveness
- Sustainability
- Human Capital
- Disaster Resilience

A. The Uncertain Landscape

In the decade following Great Recession, the financial stability of the US had strengthened, corporate profits were soaring and regulatory oversight had improved. However, now eleven years later, the COVID-19 pandemic has created enormous disruption, wreaking havoc on markets across the globe, weakening supply chains, and triggering high levels of unemployment and hardship.

The US economy is deeply linked to the global economy and accounts for 20 percent of the global output. By the end of 2019 the US held the position of the top economy in the world followed by China, Japan, Germany and India. Notably, India overtook the United Kingdom and France in 2019 for fifth place. The five largest economies in the world terms of nominal Gross Domestic Product (GDP) in 2019 contributed 55 percent to the world's total GDP.

Trillion-Dollar Economies		
Country	GDP (2019 Estimates, In trillions)	Projected Growth Rate (2020)
United States	\$21.44	2.0%
China	\$14.14	6.0%
Japan	\$5.15	0.7%
Germany	\$3.86	1.1%
India	\$2.94	5.8%
United Kingdom	\$2.74	1.4%
France	\$2.71	1.3%
Italy	\$1.99	0.5%
Brazil	\$1.85	2.2%
Canada	\$1.73	1.8%
Russia	\$1.64	1.9%
South Korea	\$1.63	2.2%
Spain	\$1.40	1.6%
Australia	\$1.38	2.3%
Mexico	\$1.27	1.0%
Indonesia	\$1.11	5.1%

However, supply chains around the world have been disrupted due to the pandemic, and the outlook going forward for the US remains uncertain. Prior to the pandemic, in December 2019, the Federal Reserve Board Members had already forecasted a slowdown in the US economy, as burgeoning trade disputes stifled global business investment and trade flows.

By April 2020, the International Monetary Fund (IMF) issued a stark warning about economic damage from the coronavirus, saying that the global economy faces its worst downturn since the Great Depression as closed factories, quarantines and national lockdowns led to the collapse of economic output.

- The IMF projected that global trade would fall 11 percent this year, but the World Trade Organization (WTO) predicts a drop ranging from 13 to 32 percent.

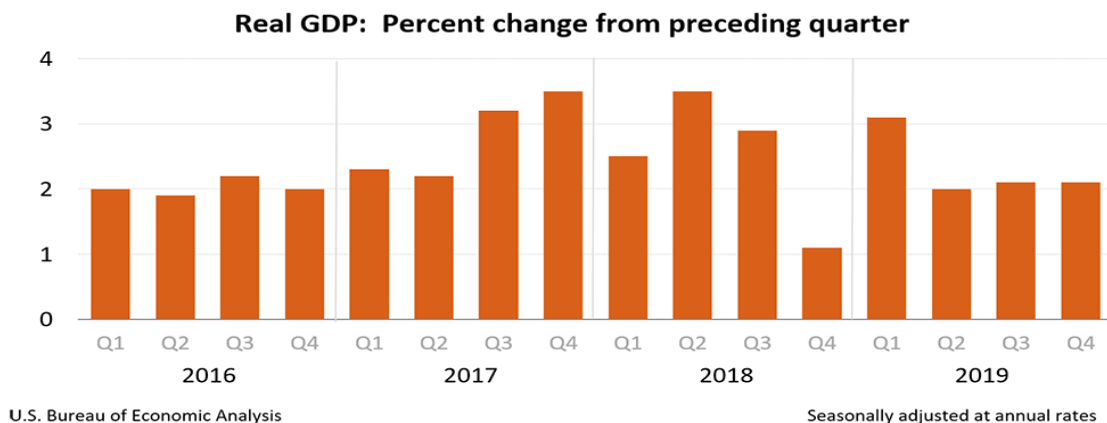
The COVID-19 Recession

The US officially entered a recession in February 2020, according to the National Bureau of Economic Research. In April of 2020, the official unemployment rate was 14.7 percent, but the true number was likely higher if the long-term unemployed – those out of work long before the pandemic – is taken into account. While employers added 2.5 million jobs in May, tens of millions of Americans are still out of work, and the 11.1 percent national unemployment rate for early July 2020 was worse than any point during the Great Recession.

For perspective, during the great Recession, the number of unemployed increased by 8.6 million from 2007 to 2009, while today the Economic Policy Institute (EPI) has expressed concerns that 14 million jobs could be gone by the summer of 2020.

A Glance Back: 2017-2019

Looking back to 2017, the nation's economy grew by 2.9 percent in the last three months of 2017, which was fastest growth in over a decade. Nevertheless, there were inconsistencies in terms of growth between the end of 2017 to 2019, as demonstrated in the chart below. According to the Bureau of Economic Analysis (BEA), real GDP increased 2.1 percent in the fourth quarter of 2019.



Since 2018, there have been some major disruptions on the global stage, including:

- The United Kingdom pulled out of the European Union with Brexit;
- US talks with North Korea about dismantling nuclear weapons stalled;
- The Central American migrant exodus to the US continued;
- The unstable situation in the Middle East became more precarious;
- The negative effects of climate change increased;
- The US House of Representatives impeached the President;
- The anti-reform strikers rocked the streets of France, and pro-democracy rioters shook-up Hong Kong;
- The US relationship with China destabilized power and trade across the globe.

In October 2019, leaders of the IMF and the World Bank summarized that rising trade barriers as well as rising social and political tensions were threatening economies across the globe.

- Lack of education and rapid technological change were driving regional inequality within advanced nations.
- In the US, the top one percent continued to thrive, while the middle-class shriveled.
- In early 2020, researchers at MIT's Sloan School of Management reported that their analysis found that there was a 70 percent chance of a recession in the US over the following 6 months, even without a pandemic.
- The US Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) was -0.4 percent in March 2020, following increases in January and February. It was the largest monthly decline since January 2015.
 - Any decrease in consumer spending, which accounts for 70 percent of economic activity, results in economic contraction.

Significant disruptions tend to expose inequalities that linger below the surface when times are good, and the pre-COVID positive economic figures belied some realities.

- The US failed in recent years to increase the living standards of typical American workers at a pace matching the country's overall economic growth.
 - Many workers across the nation lack both paid leave and the ability to work from home. This notably impacts part-time workers, the youngest and oldest people in the workforce, and workers who fall below the 25th percentile of earnings.

Today, half way into 2020, the ripple effects of business closures continue, and Western governments have injected money into their economies to keep the markets from crashing.

- The US Treasury Department reported that the US budget deficit grew to a record \$1.88 trillion for the first eight months of this fiscal year – a 155 percent increase over FY19 - as the federal government dispatched economic relief money to Americans and delayed tax payments through the CARES Act.¹

While these rescue loans and bailouts have been given out in unprecedented amounts, the World Bank forecasted in its June 2020 Global Economic Prospects Report, that the coronavirus pandemic would shrink the global economy by 5.2 percent this year, marking the deepest recession since World War II.

- The World Bank predicts that the US economy will shrink by 6.1 percent and the Euro Area will wither by 9.1 percent.
 - For China, the Bank anticipates only a one percent decline, due to the draconian containment measures that were taken to combat the virus there.

It is vital to understand that inherent economic and structural problems that existed in the US for decades are now being spotlighted in the current landscape. Disruptions and cutting-

¹ The Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed by Congress with overwhelming, bipartisan support and signed into law by President Trump on March 27th, 2020, providing over \$2 trillion in relief assistance.

edge technology are further displacing the status quo, creating new challenges, as well as options and operating shifts across the labor market. The current downturn has not fallen equally on all Americans, and a recovery depends almost completely on containing and then eradicating the virus.

With this backdrop of slowing global growth, geopolitical uncertainty, civil unrest and the impact of trade tensions, the rest of this paper will expound on notable trends over the past two years, and look cautiously to the future as the current health pandemic - and its economic impacts - unfolds in front of us.

Unemployment

Following the Great Recession - the national unemployment rate hovered between 9.5 percent and 10.1 percent at the peak period between 2009 and 2010. The US employment rate had greatly decreased through 2019, hitting 4.1 percent in March 2018, according to the Bureau of Labor Statistics (BLS).

- Between 2018 and 2019, joblessness fell in most states, while 13 states saw unemployment rise.
 - The biggest increase in unemployment was in Mississippi, where the state's jobless rate jumped from 1 percent in 2018 to 5.7 percent in 2019, due in large part to less employment in energy and trade.

The chart below shows state unemployment rates in 2018 and 2019, and the change year over year.

State unemployment: 2019 vs. 2018

STATE	DEC 2019	DEC. 2018	% CHANGE
South Carolina	2.3%	3.2%	-0.9%
Utah	2.3%	3.2%	-0.9%
Vermont	2.3%	2.6%	-0.3%
North Dakota	2.4%	2.6%	-0.2%
Colorado	2.5%	3.6%	-1.1%
Virginia	2.6%	2.8%	-0.2%
Hawaii	2.6%	2.6%	0%
New Hampshire	2.6%	2.4%	▲ 0.2%
Alabama	2.7%	3.8%	-1.1%
Iowa	2.7%	2.4%	▲ 0.3%
Massachusetts	2.8%	3.1%	-0.3%
Maine	2.9%	3.5%	-0.6%
Idaho	2.9%	2.8%	▲ 0.1%
Florida	3%	3.3%	-0.3%
Nebraska	3.1%	2.8%	▲ 0.3%
Georgia	3.2%	3.7%	-0.5%
Indiana	3.2%	3.5%	-0.3%
Kansas	3.2%	3.3%	-0.1%
South Dakota	3.2%	2.9%	▲ 0.3%
Tennessee	3.3%	3.3%	0%
Missouri	3.3%	3.1%	▲ 0.2%
Minnesota	3.3%	2.9%	▲ 0.4%
Montana	3.4%	3.7%	-0.3%
Oklahoma	3.4%	3.1%	▲ 0.3%
Wisconsin	3.4%	3%	▲ 0.4%
Rhode Island	3.5%	4%	-0.5%
New Jersey	3.5%	3.9%	-0.4%
Maryland	3.5%	3.7%	-0.2%
Texas	3.5%	3.7%	-0.2%
Arkansas	3.6%	3.7%	-0.1%
Illinois	3.7%	4.3%	-0.6%
Oregon	3.7%	4.3%	-0.6%
Wyoming	3.7%	4.1%	-0.4%
Connecticut	3.7%	3.8%	-0.1%
North Carolina	3.7%	3.7%	0%
Nevada	3.8%	4.4%	-0.6%
California	3.9%	4.1%	-0.2%
Michigan	3.9%	4%	-0.1%
Delaware	3.9%	3.6%	▲ 0.3%
New York	4%	3.9%	▲ 0.1%
Ohio	4.2%	4.6%	-0.4%
Washington	4.3%	4.5%	-0.2%
Kentucky	4.3%	4.3%	0%
Pennsylvania	4.5%	4.2%	▲ 0.3%
Arizona	4.6%	4.9%	-0.3%
New Mexico	4.7%	5%	-0.3%
Louisiana	4.9%	4.9%	0%
West Virginia	5%	5.1%	-0.1%
District of Columbia	5.3%	5.4%	-0.1%
Mississippi	5.7%	4.7%	▲ 1%
Alaska	6.1%	6.5%	-0.4%

Note: States in purple are likely swing states in 2020 presidential election

Source: Labor Department

By February of 2020, the national unemployment rate was 3.5 percent, matching its lowest level in more than 50 years. The total national employment level of 158.8 million, was a 160,00 gain over a 12-month period.

- Gains were spread among diverse sectors, with healthcare and social assistance leading the way in job creation with 57,000 new positions.
 - Food services and drinking establishments both added 53,000 jobs.
 - Government employment grew by 45,000, mainly due to Census hiring and state government education.
 - Construction added 42,000 jobs.
 - Professional and technical services contributed 32,000 jobs.
 - Finance grew with 26,000 jobs.
 - The manufacturing sector lost 12,000 jobs in January 2020.

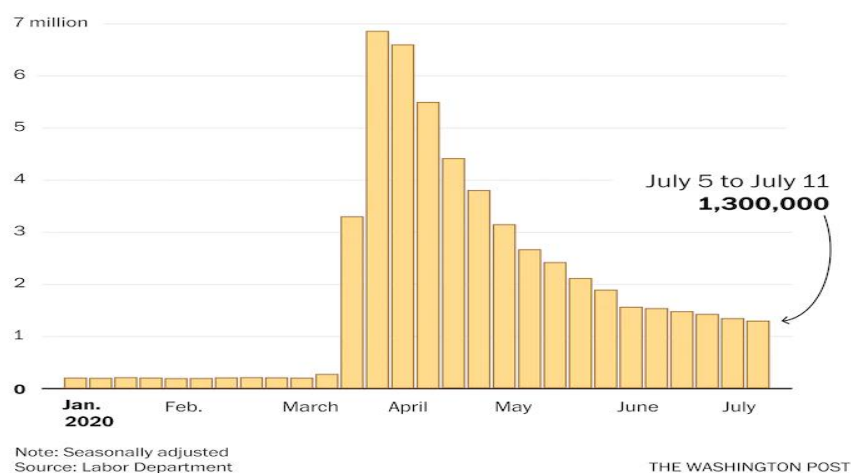
In addition, the Job placement firm Challenger, Gray & Christmas reported that planned layoffs fell 16 percent in February 2020 from January and the Institute for Supply Management also reported that both manufacturing and services companies still had plans to hire in February, prior to the global pandemic announcement.

However, the coronavirus outbreak in China was already disrupting global flows of goods in January 2020 and by mid-March, nonessential businesses were ordered to cease operations in some states, and workers across the country lost their jobs and income.

- Regions that have been reliant on tourism are particularly hard hit, as diversions such as sports, dining out, beaches, libraries and even some parks were largely closed.
- Mid-sized non-profits with 500 to 5,000 employees have had to lay-off or furlough up to 50 percent of staff, according to the Independent Sector.
 - Many of those non-profit organizations address critical needs such as food insecurity, housing or other resources that society relies on to function.

By the first week of April, 40 million jobs were shed. This is approximately the equivalent of the combined populations of Pennsylvania, Ohio, Illinois and Georgia.

U.S. initial claims for unemployment insurance in 2020



The national unemployment rate of 11.1 percent does not take into account undocumented workers, discouraged workers and the millions who were long-term unemployed before the pandemic.

According to BLS, states with the highest unemployment rates in June 2020 were:

- Massachusetts: 17.4 percent
- New Jersey: 16.6 percent
- New York: 15.7 percent

The Federal Reserve expects the unemployment rate to be 9.3 percent at the end of 2020. It could take nearly seven years for the economy to get back to the February 2020 jobless rate of 3.5 percent.

Long-term Unemployed and Underemployed

Before the pandemic, unemployment figures greatly understated the critical issues of the long-term unemployed, the working poor, and the large amount of underemployed that are not counted in the conventional unemployment data.

- In February 2020, there were 1.1 million long-term unemployed, representing 19 percent of the total unemployed.
 - BLS defines long-term unemployment as an ongoing spell of unemployment that has lasted 27 continuous weeks or more.
 - In May 2017, BLS estimated that total percentage of unemployed - including all marginally attached workers and those employed only part-time who do not want to be - was 8.4 percent.²

Economists from the Federal Reserve Bank in New York and Stanford University found that the job-finding rate declines by about 50 percent within eight months of being unemployed. The San Francisco Federal Reserve has also reported that only 10 percent of the long-term unemployed find a job each month, as opposed to approximately 30 percent of the short-term unemployed that find work each month.

- In 2017, the AARP Public Policy Institute noted that 33 percent of job seekers ages 55 and older were long-term unemployed.

Many long-term unemployed face labor market discriminations and/or skill deficits, and are coping with significant decreases of lifetime wages and the stress associated with instability.

- Some people had been out of work for so long that they could never return to the high-paying jobs they had prior, increasing structural unemployment in the US.³

Underemployment was 7.2 percent in June 2019. While it was an improvement from the 17.1 percent figure from October 2009, the 2019 rate was also the nearly double the June 2019 unemployment rate of 3.7 percent, underscoring that while up until February 2020, there was a relatively small percentage of people both out of work and searching for a job, there was still a large amount of underutilized labor that did not have adequate opportunities in the labor market.

² Based on BLS's Alternative Measures of Unemployment & Labor Underutilization U-6 measure.

³ This is the mismatch between the jobs available and the skill levels of the unemployed.

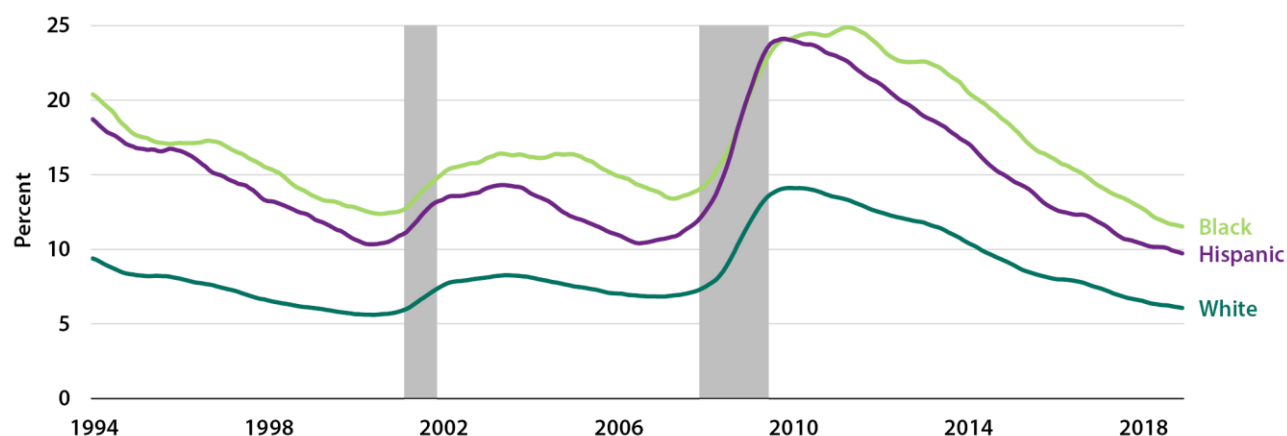
The underemployment figures are marked by racial disparities, with different rates for white, black and Hispanic workers.

- In the first half of 2019, unemployment was 6.6 percent for blacks, 4.4 percent for Hispanics, and 3.3 percent for whites.

The chart below highlights the underemployment data between 1994 and 2018.⁴

FIGURE 2.

Underemployment by Race and Ethnicity, 1994–2018



Source: Current Population Survey, Bureau of Labor Statistics 1994–2019; authors' calculations.

Note: Data are the centered 12-month moving averages of non-seasonally adjusted data. Data in the figure extend through December 2019, calculated using data that extend through June 2019. "White" refers to non-Hispanic whites. "Underemployment (U-6)" includes the unemployed, people working part-time for economic reasons, and the marginally attached, defined by the Bureau of Labor Statistics as "those who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the past 12 months."

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The lay-offs triggered by the pandemic have substantially added to these numbers.

- The Organisation for Economic Co-operation and Development (OECD), ranks the US second to last (before Mexico) among industrialized countries in terms of the amount of GDP utilized for active long-term labor market policies that connect people to jobs.

Investments in human capital are key to adapting to disruptions.

- In 2017, 46 percent of small business employers reported difficulties in finding qualified job applicants, according to the National Federation of Independent Business (NFIB).
- In 2019, the NFIB found that Alabama would have a shortfall of 500,000 qualified workers for jobs available over the next five years.

Wages

Following the Great Recession, job growth grew in positions in the lower-wage retail and food service industries, and any wage gains have been uneven. This excluded many Americans from the post-Great Recession economic recovery. Notably, BLS demonstrated that through 2014, about 44 percent of new jobs added to the economy paid \$10 or less.

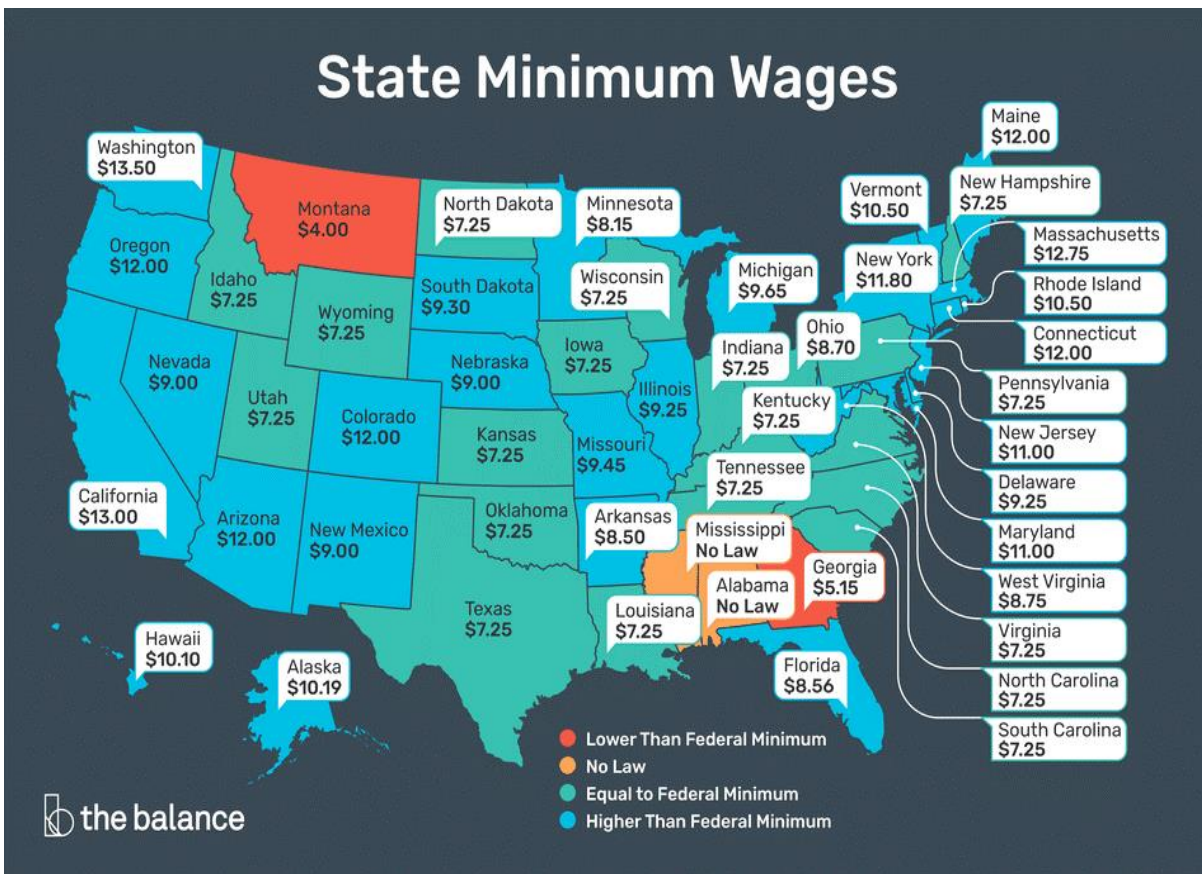
⁴ Brookings Institution, "Race and underemployment in the US labor market", Numm, R., Parsons, J., Shambaugh, J., August, 2019

- Average hourly earnings grew by 3 percent from February 2019 to February 2020, according to the Labor Department.

While wage growth had outpaced inflation, it was still below what economists anticipated, given the strong employment levels through February 2020.

- The current federal minimum wage of \$7.25 an hour is the same as in 2009.
 - 29 states and Washington DC have a minimum wage higher than the federal rate.

The diagram below shows state minimum wages in the beginning of 2020:



Even while state and city minimum wage initiatives have helped in some localities, the American Payroll Association reported in 2019 that 74 percent of Americans lived paycheck to paycheck.

- In January 2020, 53 million in the US earned a median wage of \$10.22 per hour.

Proponents of raising the minimum wage consider it essential for advancing economic opportunity across the nation. Opponents of raising the minimum wage express concerns that it will result in further job losses, and that higher salary costs could compel businesses to relocate to lower-wage areas.

- The US Census Bureau reports that inequality worsened in 2017, with income growth for the richest 5 percent of Americans increasing by 3 percent, while the poorest 20 percent of the population only saw a 0.5 percent increase.

- A 2019 Bankrate.com report found that half of American workers said that they did not receive a raise in 2018.

Wealth Inequality

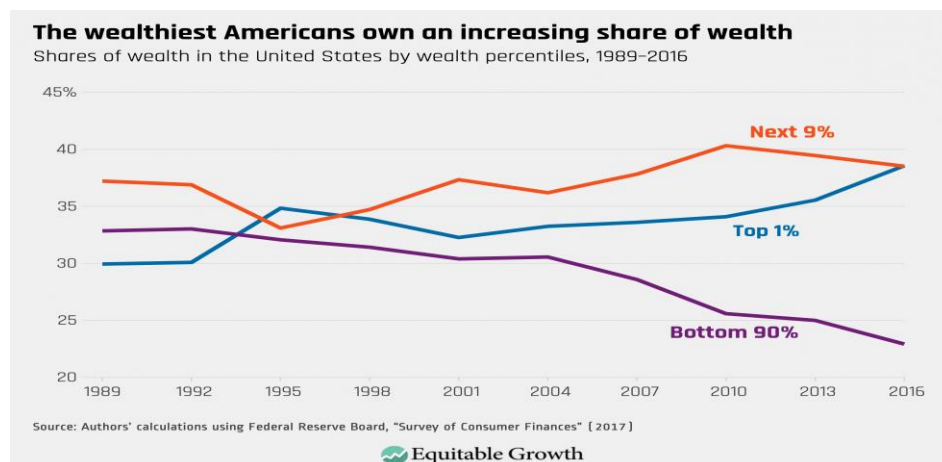
The concept of wealth provides more insight in terms of economic status than income, according to the Institute for Policy Studies. (IPS).⁵ Wealth shows the money that is left over after totaling an individual's assets and deducting their debt. The IPS reported in 2017 that wealth was increasingly becoming concentrated among fewer households in the US.

- The World Inequality Database demonstrates that the top 1 percent of Americans hold almost 40 percent of the nation's wealth, and about 20 percent had zero or negative wealth.

This disparity was not always so large. The bottom 90 percent of the population owned one-fifth of the nation's wealth in the late 1920s; that increased to 35 percent in the mid-1980s, and then declined to 23 percent in 2012.⁶

- Data from the Federal Reserve shows that the bulk of the wealth growth since the Great Recession has occurred in higher wealth brackets.

Post-Great Recession rise and falls in wealth can be seen in the diagram below.



Since the Great Recession, the Federal Reserve has been has included six categories in household assets (or capital), which is a component of wealth. They are:

- Real estate; pensions; corporate equity and mutual funds; consumer goods; private businesses; and everything else.

All of those categories have seen their total value increase since the Great Recession - and this benefited the top 1 percent of earners in the US. Meanwhile, the decline in real estate values at the peak of the Great Recession impacted the bottom 20 percent of earners the hardest, as they earn most of their income through wages.

⁵ Institute Policy Studies, "Billionaire Bonanza 2017", Collins, C., Hoxie, J., October 2017.

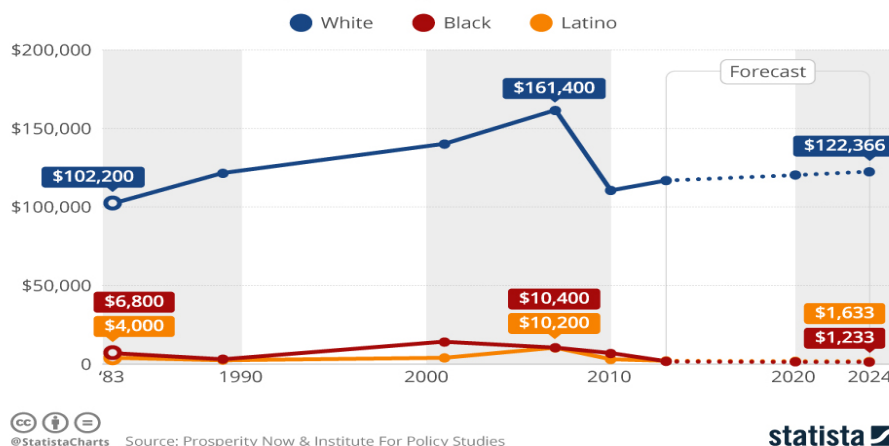
⁶ The Quarterly Journal of Economics. "Wealth Inequality In The United States Since 1913: Evidence From Capitalized Income Tax Data", Saez, E., Zucman, G., Vol. 131, Issue 2, May 2016.

- The EPI found that in 2015, the top 1 percent of families in the US earned 26.3 times as much income as the bottom 99 percent.
- In New York, Florida and Connecticut, the top 1 percent earned average incomes more than 35 times those of the bottom 99 percent.
- In 2017, white households in the middle-income quintile owned nearly eight times as much wealth as middle-income black earners, and ten times as much as middle-income Latino earners.⁷

Moreover, in 2018, economists at the University of California at Berkley found that the labor rate was taxed at a higher rate than capital income, based on the 2017 Tax Cuts and Jobs Act (TCJA), which cut taxes on corporate profits and estates.⁸

Racial Wealth Inequality Is Rampant In The U.S.

Median household wealth by race/ethnicity in the United States (1983–2024)



The EPI estimated that the wealth gap by race would widen by 2024, with median black household wealth falling by 30 percent, and by 20 percent for Latinos. A 5 percent increase was forecasted for white households.

While some ultra-rich individuals have stated that they would agree to pay more in taxes, the idea is not embraced by all policymakers at this time, and expanding opportunity and wealth is more complex. It will involve a re-set of the US tax code, changes in the wage structure, and policies that foster access to quality jobs, as well as changes to the reforms that support affordable housing and healthcare.

Poverty and Hunger in America

The US Census reported that the official poverty rate in 2018 was 11.8 percent, or 38.1 million people, down 0.5 percentage points from 12.3 percent in 2017.

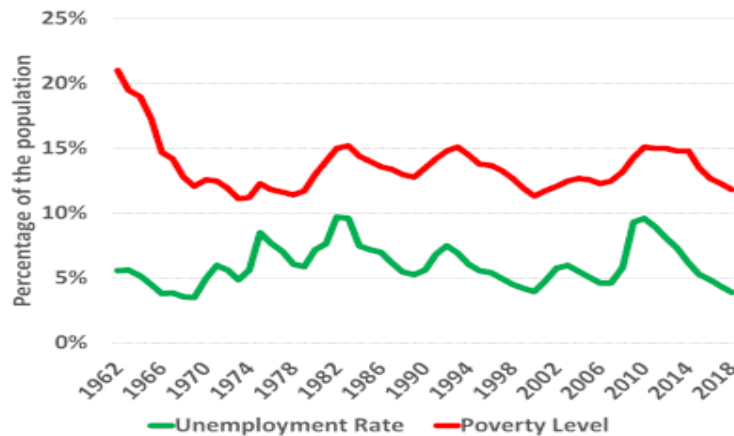
- The EPI reports that the poverty rate for blacks was almost 21 percent compared to about 8 percent for non-Hispanic whites.

⁷ Prosperity Now and the Institute for Policy Studies, "The Road to Zero Wealth: How the Racial Wealth Divide is Hollowing Out America's Middle Class", September 2017.

⁸ *The Triumph of Injustice*, Suez. E., Zucman, G., W. W. Norton & Company, October, 2019.

- Census Bureau data additionally demonstrates that educational level attained by individuals has a dramatic impact on poverty.
 - In 2018, almost 5 percent of adults over 25 years old without a high school diploma were in poverty versus 4.4 percent for those with a college degree.

Underscoring the systemic nature of poverty, Census Bureau data shows that even in times of low unemployment, the US the poverty level has never dropped below 11 percent of the population since 1962.



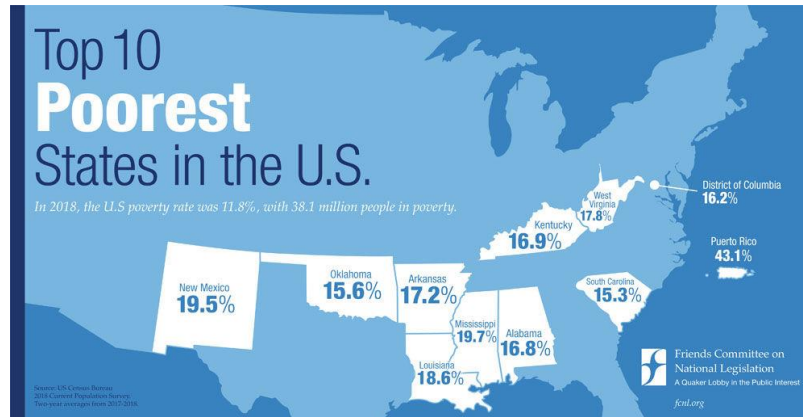
- In 2018, approximately 13.3 million working age adults were in a poverty status and did not work in the year.
 - Their reason for not working ranged from still being in school, retiring early, being disabled or ill, being a care-giver or having some other reason for not working, and there are 6 percent that say that they cannot find work.

The Census Bureau has been releasing supplemental poverty measures along with the official poverty rate, which shows the impact of a range of benefits, including Social Security and tax breaks, in keeping people out of poverty.

- Social Security benefits kept more than 27 million people out of poverty in 2017, and refundable tax credits did the same for almost 8 million people.
- Supplemental Nutrition Assistance Program (SNAP) benefits, known as food stamps, additionally kept an estimated three million people out of poverty.

The Trump Administration's goals of reducing government support of poor households, especially those with immigrants, could greatly influence those numbers.

The images below - based on data from the US Census and the US Department of Agriculture - show the poorest and the hungriest states in 2018, and there was some overlap.



Anti-poverty advocates have argued out that the official poverty measure is outdated, and does not match current realities. It was created in the 1960s, before the advent of the internet, mobile phone bills and surging costs for health care, housing and education in the US.



The demand for food had already increased over the past decade – even before the pandemic - as those with full-time jobs grappled to cover expenses in some communities.

- Feeding America – a provider of groceries to 200 foodbanks across the US – distributed more than twice the amount of food in 2019 than it did in 2009.

With the coronavirus leaving many more out of work, US foodbanks are scrambling to meet the surge in demand.

- Food banks are reported an average increase of 50 percent in demand for food assistance in May 2020.
- The NORC (National Opinion Research Center) of University of Chicago found that about one-third of black and Hispanic Americans said they were worried about running out of food in May 2020

As the pandemic continues in 2020, Feeding America estimates that 17.1 million more people could find themselves without enough food.

Poverty Across the Ages

The Poverty Rate for seniors was 9.8 percent in 2018, lower than the overall rate, mainly due to the fact that the Social Security and Medicare Programs have assisted seniors.

- The Supplemental Poverty Measure, which accounts for expenses such as the rising costs of health care, raises the senior poverty rate to 14.1 percent.
- In 2017, the threshold for poverty under the official Census Bureau measure was \$11,756 for an individual age 65 or older.

Childhood Poverty

Childhood poverty has negative impacts on life outcomes. Feeding America reports that children who do not get enough to eat in the first 3 years of life begin life at a serious disadvantage. They are more likely to be hospitalized and they face higher risks of health conditions like anemia and asthma. As they grow up, they are more likely to have problems in school and other social situations. They are more apt to face homelessness and violence.

In 2018, the child poverty rate was 16.2 percent, or 11.9 million children.

- The OECD has reported that children in the US experience higher poverty rates than most developed nations.

In 2019, the Children's Defense Fund (CDF) found that two-thirds of those living in poverty are children of color.

- The Brookings Institution found that poor African-American and Native-American boys living in communities of concentrated poverty are very likely to experience a life of unemployment or incarceration, or both.

In addition, in the US there were 13 percent of working-age adults living in poverty in 2017 who were also were working full-time year-round.

- According to the USDA, an increasing share of individuals who receive benefits through the SNAP program live in households where at least one person is working.

US Census data demonstrated poverty by ethnicity in 2018:



In early 2020, the Georgetown University's Center on Poverty and Inequality reported that the White House's desire to change the calculations for the official measure of poverty could cut out benefits for needy Americans.

Homelessness

On a single night in 2019, approximately 568,000 people in the US experienced homelessness.

- The 2019 Annual Homeless Assessment Report (AHAR) to Congress shows that there was a three percent increase in the one-night estimates of people experiencing homelessness across the nation between 2018 and 2019.
- Nationally, the number of unsheltered chronically homeless individuals rose by five percent between 2018 and 2019.⁹

Homelessness was growing in California, Texas, Arizona, Florida, New York and Washington prior to the pandemic. California had 53 percent of all unsheltered-homeless people in the country. Florida came in second with 6 percent, or 12,476 people unsheltered.

Homelessness Data in 2019:

- 46% of people were White.
- 40% of people were Black.
- Over 20% of people were Hispanic.
- Unsheltered homelessness rose by 12% among women and girls, outpacing a 7% percent increase among men.
- 60% of children under the age of 18 were experiencing homelessness in families.
- 35,038 unaccompanied youth under the age of 25 were experiencing homelessness.
- Youth identifying as transgender accounted for 3% of the unaccompanied youth population.

Lack of affordable housing and high rents in cities like San Jose, Los Angeles, the Bay Area, Seattle, Portland, Toronto, Vancouver, Washington and New York has led to more employed people are living out of their vehicles today.

Factors that continue to exacerbate homelessness and poverty are:

- Lack of employment opportunities
- Decline in available public assistance
- Lack of affordable healthcare
- Domestic violence
- Mental illness
- Drug and alcohol addiction

⁹ The U.S. Department of Housing and Urban Development, "The 2019 Annual Homeless Assessment Report (AHAR) to Congress", Part I, January 2020.

A June 2019 report from the Journal of the American Heart Association noted that the homeless are more vulnerable to heart disease, diabetes and hepatitis B and C. They are also more susceptible to outbreaks like COVID-19. It is estimated that the coronavirus will result in a phenomenal increase in the nation's homeless population.

Notably, mortality rates due to premature deaths (suicide, opioids, and alcohol poisoning, among others) has been on the rise, which has been primarily increasing among less educated whites.

- Goldman Sachs reports that the use of opioids has become an important factor as to why prime age workers, mostly men, are unable or unwilling to find work.

Technological disruptions also led to the elimination of jobs for millions of low-skill workers, and unemployment leads to a cycle where workers turn to drugs and then find themselves unemployable, or unable to maintain work, because of their substance abuse.

- The Grayken Center for Addiction at Boston Medical Center (BMC) warned in March 2020 that the heightened anxiety from the COVID-19 crisis could push people out of recovery and exacerbate addiction.

The pandemic's impact on homelessness has yet to be fully captured. With historically high unemployment and COVID-19 eviction moratoriums being lifted in some places, a surge in homelessness is a nationwide concern.

- The Urban Institute found that almost a quarter of black renters and 14 percent of white renters deferred or did not pay their rent in May 2020.

Healthcare in America

According to the World Health Organization (WHO), a well-functioning healthcare system requires a steady financing mechanism, a properly-trained and adequately-paid workforce, well-maintained facilities, and access to reliable information to base decisions on. A country that lacks a quality healthcare system will see a poorer quality-of-life and lower life expectancy for their citizens than country with a stable and accessible healthcare system.

- According to WHO, the US ranks 37th in the world in terms of "best" healthcare rankings.
 - Every developed country, except the US, has some sort of universal healthcare coverage for their citizens.

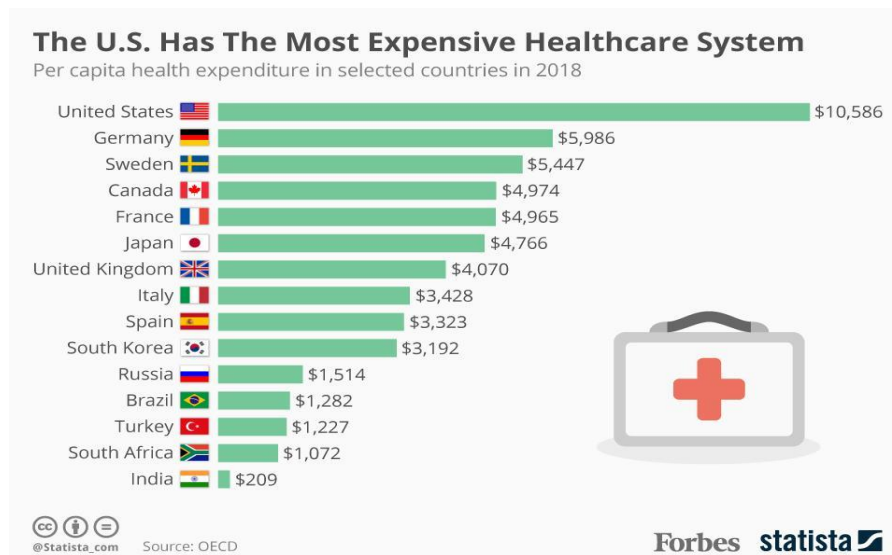
The top five threats to global health in 2019, according to WHO were:

- Air pollution and climate change
- Noncommunicable diseases
- Global influenza pandemic
- Fragile and vulnerable settings
- Antimicrobial resistance

Moreover, OECD data shows that US healthcare spending per capita is higher than other countries, despite the fact that the country lags behind other nations in areas such as life expectancy and health insurance coverage.

- Healthcare prices in the US have continued to outpace economic growth.

According to a 2017 report from the US Department of Health and Human Services, by 2026 healthcare spending will account for almost one-fifth of the American economy. With the highest medical prices in the world, the prices for retail drugs is also projected to increase to 6.3 percent a year on average over the next decade. According to a comprehensive study published in 2017 in the medical journal, The Lancet, these prices are not justified.



The most expensive system is not the most efficient, and when a federal statute signed the Patient Protection and Affordable Care Act (PPACA) into law in March 2010 - better known as the Affordable Care Act (ACA) or Obamacare - it was enacted with the goals of increasing the quality and affordability of health insurance and reducing the costs of healthcare for individuals and the government. However, since its enactment the law and its implementation have continued to face challenges in Congress and federal courts, as well as from certain state governments, advocacy groups, and some small business organizations, and the citizens who are grappling with increased premiums, high out of pocket costs, less choices and less accessibility.

Significantly, the ACA never addressed the long-term structural problems in the American healthcare industry, including pricing and access.

- The Manhattan Institute determined that the average state individual market premium increased 41 percent between 2013 and 2014.
- The S&P Global Institute found that average individual market medical costs increased substantially between 2013 and 2015, by approximately 69 percent.
 - Those same premiums doubled in 2018.

While half of the ACA enrollees receive a government subsidy, the rest pay high monthly premiums that are not affordable.¹⁰

- According to the Kaiser Family Foundation, about 5.3 million Americans in 2017 bought an ACA plan without any financial aid.

The Congressional Budget Office projected that while the number of people getting subsidized coverage would ramp up over time, those who did not qualify for subsidies would simply go without insurance.

- In 2019, 13.7 percent of Americans did not have health insurance. This is higher than the 2017 rate of 8.8 percent.
- The uninsured includes 4.3 million children, according to the Kaiser Family Foundation.

Forecasts that the ACA would trigger entrepreneurship and small business creation have not come to fruition.

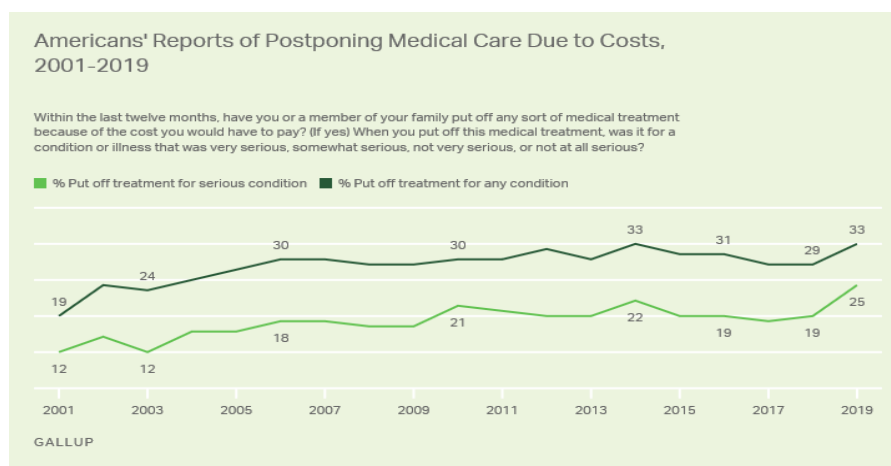
- Indeed, some found that by intentionally working less, they could attain a subsidized healthcare plan.

In addition, under the Affordable Care Act, 37 states and Washington DC expanded Medicaid to low-income adults, helping to fill gaps in coverage. Eligibility remains very restricted for adults in the states that have not yet adopted the expansion.

- Notably, on June 30, 2020, Oklahoma voters approved a ballot measure to expand Medicaid in the state.

The Trump Administration has wanted to repeal the ACA, but as America entered the coronavirus pandemic, there was still no replacement plan presented.

- Already, prior to the pandemic, the US has had a large portion of the population delaying medical treatment due to costs, as the Gallup poll below illustrates.



¹⁰ Individuals whose income is between 100 percent to 400 percent of the Federal poverty level are entitled to taxpayer-funded subsidies from the Federal government to help pay for monthly premiums of plans sold on a health insurance exchange run by either a state or the Federal government.

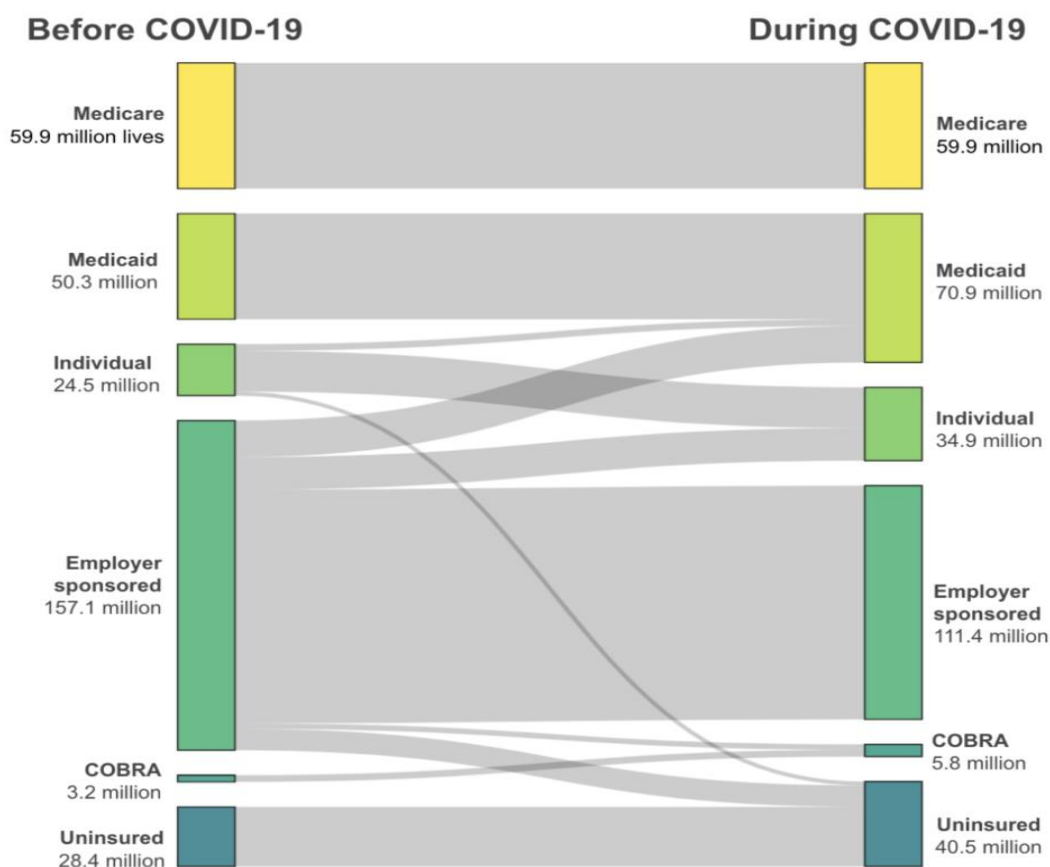
Furthermore, an April 2019 survey from Enterprise Community Partners demonstrated that 54 percent of those surveyed delayed medical care in order to pay rent, underscoring the correlation between lack of affordable healthcare and lack of affordable housing.

- Hence, despite its shortcomings, the elimination of the ACA risks stripping coverage from at least 20 million people, and no alternative is offered at this time.

Due to the impacts of COVID-19, over 25 million people lost their employer-sponsored health insurance.

- The Urban Institute, found that about half of these newly uninsured individuals will be eligible for Medicaid.
 - Another 8 million could buy insurance through the ACA healthcare exchanges.¹¹
 - A small portion could continue their health coverage through COBRA.
 - The remaining percentage of individuals will become uninsured.

The diagram below shows the changes occurring in the health insurance landscape due to the COVID-19 job losses.



¹¹ Twelve states reopened the enrollment period for their health insurance exchange during March and April due to COVID-19. California extended its open enrollment period to June 30th.

With millions unemployed and the number of uninsured increasing exponentially, the issue of healthcare for Americans will be under increased scrutiny as the nation moves forward towards recovery.

Healthcare Inequities

The coronavirus pandemic also exposed the inequities in the US healthcare system, based on race, income and region.

- The APM Research Lab reported in June 2020 that the overall COVID-19 mortality rate for black Americans was about 2.3 times higher than the rate for whites and Asians, and about twice as high as the Latino rate.
- For rural communities, the pandemic came a time where they were trying to fill health care gaps following the closure of 170 hospitals that occurred across the US between 2004 and 2019, according to the Sheps Center for Health Services Research at the University of North Carolina.

Household Debt

The International Institute of Finance reported that debt-to-GDP ratio hit 322 percent globally in the third quarter of 2019.

- In developed markets debt hit 383 percent of GDP. This includes everything from household debt to corporate and sovereign debt.

Credit can make advancement possible for average Americans, but it can also create a spiral for people who cannot pay off their debts. The US was reaching new heights in spending, prior to the pandemic.

- The Federal Reserve Bank of New York reported that household debt increased to \$14.15 trillion in fourth quarter of 2019, thus \$1.5 trillion more than the household debt peak in 2008.
 - Mortgage debt was \$752 billion at that time, the largest portion of debt.

Student Debt

Student debt totaled \$1.5 trillion in 2019 - an increase of more than fivefold since 2004.

- Student loans are deeply impacting debt in American households.
- Graduates and most college students – 63% - take out loans to pay for their education.
 - Many are still paying them back decades later, according the National Center for Education Statistics.
- The 2003-04 class of graduates still owed 78%, 12 years later.
- After 20 years, the 1994-95 graduates owed 22% of their loan amount.

In the beginning of 2019, credit card debt was \$870 billion, reaching the pre-recession peaks of 2008. New auto loans have been marketed heavily in the past few years.

- In early 2019, the Federal Reserve noted an increase in delinquency rates in both credit card balances and auto loans.
- The increase in auto loan delinquencies to sub-prime borrowers has been a concern for the past two years.
 - These loans were not made by traditional banks or credit unions, but by auto finance companies, such as car dealerships.
 - In early 2019, about 7 million Americans were 90 days or more behind on their auto loan payments.

The job losses and uncertainty created by the coronavirus pandemic has led to increased delinquencies across the board.

CARES Act: Debt Assistance

The CARES Act stalls collection actions, wage garnishments, and prohibits negative credit reporting during the COVID-19 national emergency.

- Federal student loans held by the US Department of Education can be paused until September 30, 2020.
- The CARES Act imposed a 60-day foreclosure moratorium for federally backed mortgage loans, including loans purchased or securitized by Fannie Mae or Fannie Mac, FHA-insured loans, loans insured or guaranteed by the Veterans Administration, and loans made, guaranteed, or insured by the Department of Agriculture.

Many credit card issuers also released statements on their websites announcing assistance for consumers during the COVID-19 outbreak, which may include help with credit line increases, collection forbearance, and skipped payments.

A recent Bankrate.com survey demonstrated that credit card usage at grocery stores increased by 70 percent since February, as many Americans are financing these purchases with credit.

- By May 2020, Bankrate.com found that 31 million people - comprised of working or recently unemployed adults with retirement savings - have tapped into or plan to use their retirement funds in the near future as a source of income, due to the pandemic.

Fintech

The landscape for financial services changed significantly after the Great Recession. Between 2010 to the third quarter of 2017, over 3,330 new technology-based firms serving the financial services industry were founded.¹² The 2010 Dodd-Frank legislation overhauled financial regulations, and included a clause that mandated that banks must make consumers' data available to them in an electronic form. This opened the door to

¹² U.S. Department of Treasury, "A Financial System That Creates Economic Opportunities Nonbank Financials, Fintech, and Innovation", July 2018.

Fintech, which is used to describe technology that seeks to improve and automate the delivery and use of financial services.

- Cutting-edge innovations like blockchain and artificial intelligence are ushering in new ways of doing business in the financial industry.

EY's 2017 Fintech Adoption Index reported that one-third of consumers used at least two or more fintech services and those same consumers are increasingly aware of fintech as a part of their daily lives.

- In 2019, digital banking services were used by 46 percent of people who exclusively used digital services for their financial needs, according to Singularity University.
- Investment in fintech has surged, and companies acquired \$111.8 billion globally in investments in 2018, according to KPMG; global investments amounted to \$37.9 billion during the first half of 2019.
- The total global transaction value of digital payments in 2019 was \$4.1 trillion, and is expected to reach almost \$4.8 trillion in 2020.

Digital Finance and Inclusion

Digital tools drive down costs and allow financial institutions to offer previously untenable products, such as free accounts, to the financially underserved. This is critical for economic inclusion; a 2017 Federal Deposit Insurance Corporation (FDIC) survey reported that 25 percent of US households are either unbanked or underbanked.

- S&P Global found that between 2014 and 2018, 1,915 bank branches in lower-income areas shutdown.
 - Large banks like JP Morgan Chase, Bank of America, Wells Fargo reduced traditional banking services and options for those neighborhoods, shifting to automatic and online banking alternatives.

The COVID-19 pandemic has led to greater reliance on online financial apps., but:

- Many unbanked or underbanked do not have access to, or only have limited access to fintech services, which are only available through a computer, internet access or a mobile device.
- While everyone is equally exposed to identify theft and aggressive offers of credit, it could lead to enhanced exploitation of those who are not digitally savvy.

In June 2020, Netflix announced that it would move \$100 million of its cash holdings to financial institutions that work with black communities, in order to provide more capital to black-focused lenders.

Commercial Real Estate

Commercial real estate trends are important in terms of developing place-making strategies. During the Great Recession, business closures and foreclosures increased the amount of

inexpensive inventory on the market. This provided opportunities for firms to move to new locations on flexible lease terms. For economic developers, those low-priced leases gave compelling arguments for expansion or relocation.

Between 2016 and 2018, investment in the commercial real estate market was vibrant, but began to steady as 2018 came to a close.

- In the US, average commercial property cap rates remained stable through the second quarter of 2019; rental growth increased, and vacancy levels steadily decreased across property types.
- In 2019, the Canadian commercial real estate industry outperformed the other G7 countries, based on its welcoming immigration policies, a talented labor pool and stable operating environment.

In January 2020, Avison Young forecasted that the key trends that would impact the commercial real estate market in 2020 were:

- Low interest rates
- Increased local political activism
- A slowing of globalization
- Cities leading the charge in responding to climate change
- Place-making becoming the focus of socially responsible investors.

A 2019 Deloitte survey found that more than 70 percent of commercial real estate executives planned to maintain or increase their overall technology investments in 2020, even if an economic slowdown occurred.

- Deloitte's Outlook for 2020 placed emphasis on technological advances in commercial real estate, observing that innovative and competitive real estate developers were focusing on things like heat mapping to track crowd size, and energy usage and energy savings using a microgrid to enhance the tenant-experience.

The Urban Land Institute and PwC's 2019 report on Emerging Trends in Real Estate 2020, noted that while growth could be slower in 2020, it was still predicted to be stable. The report listed the top US markets for overall investment and development prospects in 2020.

The top 10 included:

- Austin
- Raleigh/Durham
- Nashville
- Charlotte
- Boston
- Dallas/Fort Worth
- Orlando
- Atlanta
- Los Angeles
- Seattle
- Tampa/St. Petersburg

Those predictions were prior to the coronavirus pandemic, which has placed the commercial real estate market in a state of ambiguity. Concerns over commercial-mortgage backed securities increased, and investors began to second-guess financial links to hotels, movie theaters, malls, office buildings and shopping centers.

- By the end of June 2020, one of every 5 loans tied to hotels was delinquent, as were 10 percent of loans for retail properties, according to the data and research firm Trepp.
- Moody's predicts an office vacancy rate of 19.4 percent by the end of 2020, up from 16.8 percent the previous year.
- CBRE forecasts that it will take a year or more for the restaurant market to completely bounce back from the pandemic.

The downturn provides an opportunity for economic developers to develop relationships with real estate developers who are looking to acquire land and build an infrastructure that will enable them to capitalize on pent-up demand when buyers feel more confident.

Industrial RE

Industrial and logistics-oriented real estate grew in the US and globally following the Great Recession. Online retailers have fueled much of the interest in warehouses, distribution centers, and industrial space as operators continue to promote online delivery and push to get products to consumers more quickly.

- In 2019, CBRE reported that light industrial properties outperformed other industrial buildings over the previous five years.
 - Industrial warehouses measuring 70,000 to 120,000 square feet demonstrated the largest decline in availability, down by 3.9 percent, while rents for the same warehouses increased by an average of 33.7 percent over the same period.

Locations with low inventory of industrial buildings are no longer considered by firms that foresee using e-commerce.

- E-commerce represented 30 percent of all industrial space in January, and 2020 was predicted to be a good year for industrial real estate.

In January 2020, spending for shopping centers and religious centers showed gains, and the federal government spending was up by 9.9 percent, according to DOC.

The Wall Street Journal reports that industrial real-estate operators expect the disruption of consumer supply chains caused by the pandemic to drive a new surge in warehousing demand. In addition to e-commerce, merchants that have shut down brick-and-mortar operations are looking for overflow storage.

Office Space

Following the Great Recession, businesses decreased working space per employee. While vacancy rates remained stagnant between 2015 and 2017, between 2018 and 2019 the average office space per seat in North America declined by 14.3 percent to 195.6 square feet, according to JLL's 2020 Occupancy Benchmarking Report.

- In 2019, both Toronto and Vancouver had the lowest downtown office vacancy rates in all of North America, at 2.4 percent and 2.6 percent respectively.
 - According to CBRE, the tech industry accounted for 17.1 percent of major office leasing activity.

Technology has been reshaping the work space over the past few years, prompting the development of new office environments to promote interaction and dialogue. Using less space per worker allowed companies to reduce their rent bills, and firms focused on the development of high-performance workplaces that included amenities that would attract top talent, allowing for both on-site and remote working.

- In 2018, WeWork intentionally made certain corridors narrower to increase the likelihood that workers physically run into each other.

However, while proximity and features like snack bars and other mingle-spots were viewed positively before the pandemic, today there is heightened awareness that these are locations where germs can be more easily spread.

- Cubicles may make a comeback, as the need for physical barriers overrides the interest for open plans.
- Firms are seeking greener designs, as environmental awareness increases.
- Proximity to food retail will also shape the demand for office space in the future.

Residential Real Estate

Twelve years ago, the collapse of the housing market impacted communities and homeowners across the nation. During the Great Recession, when the supply of homes for sale was about four times what it is today, investors bought millions of properties at bargain prices, and over the past decade, affordability became a prime concern, with the biggest challenges being a lack of inventory and a shortage of sellers in some locations.

- CoreLogic reports that approximately 40 percent of the homes in the nation's top 50 markets were overvalued in March 2019, posing a barrier to entry for a large portion of would-be homebuyers, especially first-time buyers.
- Residential investment construction accounted for 3.1 percent of GDP in late 2019, below the 5.4 percent long-term average, according to the Wall Street Journal.

With home values doubling the pace of wage growth, higher home prices keep more people renting, driving up rent demand and rental prices.

- Between 2014 and 2019, the US median rent rose 11 percent, according to Zillow.

Whether renting or owning, housing costs are placing a greater strain on average people.

- New home sales rose 7.9 percent in January 2020, the fastest pace since July 2007.
 - Half of those sales were based on homes that have yet to be built, which may be explained based on low mortgage rates, the low supply of existing homes, as well as the low unemployment rate at the beginning of 2020.
 - Single family home construction fueled that increase.
- The Department of Commerce reported that the median price of a new home rose to \$348,200 in January 2020, a 14 percent increase from a year prior.

New home listings began to drop the end of March in the US, and CoreLogic reported that pending sales fell 40 percent in the week ending April 25, 2020, compared to 2019. However, by the end of June, home sales nearly bounced back to their pre-pandemic levels, according the National Association of Realtors. Notably, this bounce back is uneven:

- White-collar workers that retained their job are taking advantage of cheap mortgages, while many lower-income workers that have lost their jobs and are struggling to pay their rent and mortgages.

Technology is supporting people's ability to re-finance digitally or make online inquiries about properties.

- Virtual tours, online mortgage applications and remote notarizations are a growing trend, helping some realtors to do open houses, showings and inspections on-line.
 - Seattle-based Redfin reported a 494 percent increase in requests for video home tours in March 2020.

Retail Market

Retail sales account for about half of all consumer spending, which represents approximately 70 percent of total economic activity. The retail industry has been undergoing shifts based on automation and new consumer preferences. The 2018 holiday shopping season was the strongest showing in six years, with consumers spending \$850 billion online and in stores, a 5.1 increase over 2017, according to Mastercard. However, over the past decade - prior to the pandemic - 1.3 million Americans lost jobs in the retail industry, impacting 600,000 retail workers and 700,000 jobs in related industries.

- 8,000 stores closed in 2017 in the US, according to the National Retail Federation.

Traditional stores have struggled or shuttered completely, as more people shopped online. Women and people of color were most affected by retail closures, according to the Center for Popular Democracy.

- Between 2017 and 2019, malls and shopping centers tried to differentiate by becoming experiential destinations, rather than just being places to shop.
 - Non-traditional mall offerings included swim schools, fitness centers, multiplex movie theaters, and fun restaurant concepts.

- Pre-COVID-19, this had high appeal to Millennials and GenZ that wanted to have experiences to get them offline and into the mall.

Some legacy companies were innovating in the face of disruptive technology, providing a blended online and in-store experience for consumers. This included using omnichannel concepts that aimed to offer consumers a seamless experience, whether they made online or in a store purchase.

- Mall owners also began leasing space to tenants like senior living centers, medical clinics, schools and office users.
- Some malls were replaced by e-commerce fulfillment centers, like Amazon.

The COVID-19 crisis has now compromised those options that promote congregating. Furthermore, malls in dense urban locations were generally more profitable than those in sparsely-populated areas, but the absence of foreign tourists and coronavirus induced-closures have impacted them as well.

The lines between physical and digital shopping are increasingly blurring, as customers research items online before buying them in stores, or vice versa.

- Online sales accounted for about 11 percent of retail purchases in 2019, and are forecasted to rise to 17 percent in 2022, according to CBRE.

Bain and Company reported in 2019 that US consumers were slow in embracing online grocery delivery, but the shelter-in place orders triggered by COVID-19 reversed that tendency, with more opting to order groceries online.

- Lower-income populations are less able to shop online due to the continued obstacles of broadband access and digital payment options.

Notably, private equity firms and hedge funds have been buying out retailers since the mid-2000s, and ten of the 14 largest retail bankruptcies since 2012 have been at private equity owned companies, such as Payless ShoeSource, Brookstone, and David's Bridal.

- More than 15.8 million retail workers, as of July 2019, continued to work for private equity backed firms - such as J.Crew, Michael's, and Neiman Marcus - according to the group Americans for Financial Reform.
- Millions of dollars in interest and fees have been going the private equity owners, rather than being invested in tools needed to adapt to the shifting retail environment.

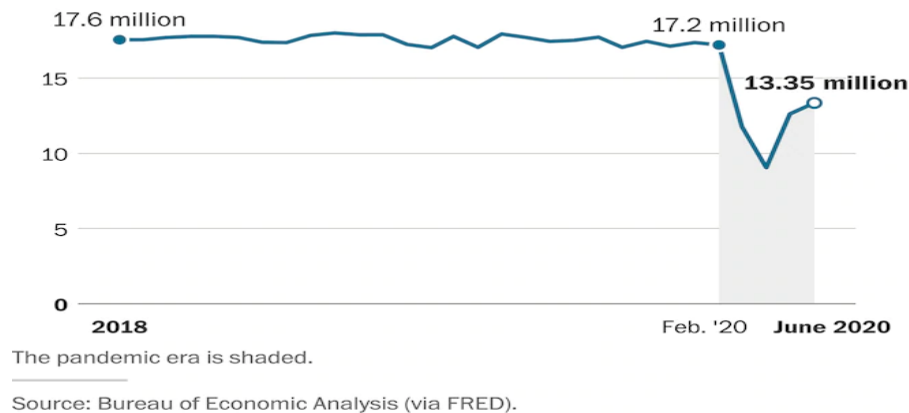
For 2020, retail sales in the US were up 0.6 percent in January, and then fell 0.5 percent in February, according to the Department of Commerce, indicating that the sector was slowing before the coronavirus really hit the country.

- Both auto sales and gasoline stations saw a notable drop in February, 0.9 percent and 2.8 percent, respectively.

- By the end of June, gas consumption recovered roughly 80 percent of the losses, as people started to fill up their tanks again.
- Retail sales jumped 17.7 percent in May over April 2020, as sales rebounded following shutdowns, but auto sales remained sluggish through the end of June.

Total vehicle sales in the United States remain sluggish

As of June, only half the drop in vehicle sales has been recovered



HEATHER LONG/THE WASHINGTON POST

About 100,000 more retail stores are expected to close over the next five years, as e-commerce increases to 25 percent of US retail sales, reports UBS.

- Non-store retailers, such as Amazon and eBay, were up more than 30 percent in June 2020, as compared to 2019.
- Building materials stores and grocers have also posted sizeable year-over-year increases in sales.

The State of States

The Great Recession and the long economic recovery strained state operating and infrastructure budgets, and employment has been down by 71,000 employees since January 2009. In the past ten years, policymakers were forced to make choices between funding capital needs or programs in the operating budget.

- The National Conference of State Legislatures (NCSL) found that 30 states addressed revenue shortfalls in fiscal years 2017 or 2018, or both, at a time when state education and healthcare obligations continued to grow.

However, states benefited from a more promising economic and fiscal environment in 2019 with the ebbs and flows in the economic cycle impacting states differently throughout the nation. Thus, while many states posted budget surpluses in 2019, others had still not fully recovered from the shocks of the Great Recession.

- According to the NCSL, tax collections in 45 states surpassed their recession-era peaks in 2019. The extra revenue allowed some states to add to their rainy-day funds.
- Federal subsidies provided to farmers amid the Administration's trade disputes provided a boost to agricultural states in the third quarter of 2019.

With the pandemic, even those states that fared well in 2019 faced the 2020 challenges of keeping up with demand for key services, such as Medicaid.

- The Pew Charitable Trust reports that Medicaid is the second-biggest expense for many states, after K-12 education.

Other challenges impacting states are:

- Fiscal constraints due to shortfalls in funding for public employees' pension and retiree health care benefits;
- Recurring deficits between annual state revenue and expenses;
- Weak population growth (nine states had fewer residents than a year earlier).

COVID-19 and State Budgets

With the pandemic, a new larger wave of budget cuts are threatening states, forcing many to consider deep cuts to schools, universities, healthcare and other basic functions.

States anticipate a budget drop of between 15 to 20 percent, due to the lockdowns that paralyzed the economy and evaporated tax collections.

In May 2020, the CBPP projected state budget shortfalls of \$765 billion over three years, based on projections from the Congressional Budget Office.

- Washington state cut \$400 million from the budget, over the three years.
- Colorado faces a gap of almost 25% of the state's general budget.
- Oklahoma foresees a gap of a sixth of its spending plan

South Carolina is an exception, reporting minimum cutbacks.

- The \$10 billion budget will be down by about \$1 billion, due to a shortfall of extra money that the state expected to collect in taxes and fees before the pandemic.

Moody's reports that roughly 3 million state and local government employees could lose their jobs in the next year without a relief package.

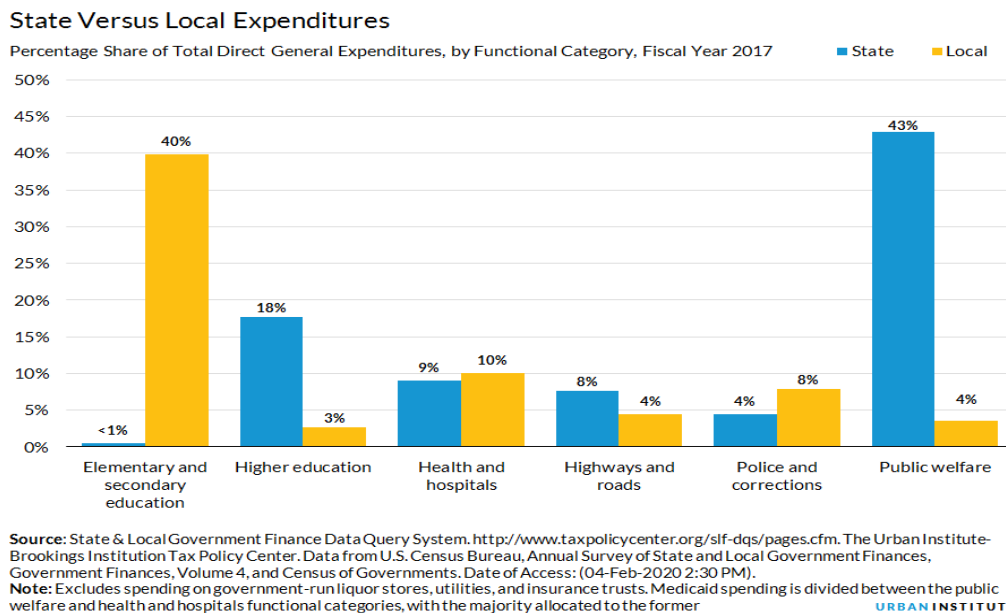
Local Budgets

Since the Great Recession, local governments have been under increased pressure. Tax structures vary, and US cities generate the bulk of their revenue by designing their own tax and fee structures.

- Some cities rely heavily on property taxes, and others primarily on sales taxes, and a small minority of cities rely mostly on income or wage taxes.

Whatever structure they use, municipal revenue amounts to between 70 to 75 percent of what a city can spend to meet the health, safety and welfare needs of its residents and visitors. Federal aid amounts to about 5 percent of total municipal revenue, while state aid is between 20 to 25 percent.

States and local governments provide different mixes of services, which are reflected in their direct general expenditures. The K-12 education system is an important concern for local governments.



Census data demonstrates that state and local governments spent \$3.1 trillion on direct general government expenditures in fiscal year 2017. The Urban Institute reports that states transferred over \$530 billion to local governments in 2017.

The NLC's 2019 City Fiscal Conditions report demonstrated that in 2018, cities were experiencing varying economic realities.

- Some needed to revitalize downtown districts, while others needed to repair general protection services.
- Others needed to decide between reforming retiree healthcare or shrinking the public safety budget.
- Income tax and property tax revenues slowed, while sales tax revenue growth was unchanged from 2017.
- 63 percent of big and medium-sized city finance officers anticipated a recession in 2020 or 2021.

- Midwestern cities were experiencing a severe decline in revenues, while western cities showed strong revenue growth in 2019.

In 2017, the largest budgets were found in New York, San Francisco, Washington, DC, Los Angeles, Chicago, Seattle, Phoenix, Houston, Philadelphia and San Jose, according to the Center for Digital Government.

- In December 2019, Moody's listed Chicago and Detroit as the US cities least prepared withstand another recession, due to high fixed costs and escalating pension obligations.

City Budget Shortfalls

By mid-April 2020, due to the coronavirus, over 2,100 US cities were anticipating major budget shortfalls for 2020, according to the NLC and the US Conference of Mayors.

- San Francisco anticipates a budget shortfall as high as \$1.7 billion over the next two fiscal years, and New York envisions \$1.3 billion worth of budget cuts.
- A smaller city like Ft. Lauderdale, that is largely dependent on the winter tourist season for revenue, is expecting to lose \$19.2 million due to COVID-19.
- Chicago announced in June that the 2020 budget shortfall would be over \$700.
- The City of Vancouver is bracing for a loss of \$189-million CAD in 2020, that could include an additional \$325-million loss, if homeowners' default on their property taxes.
- The City of Ottawa could lose up to \$273-million CAD in revenue for the year.

The federal government committed to providing assistance to cities to meet the immediate needs of residents, households, and small businesses through expansion of funding for Community Development Block Grants.

- In April 2020, the Federal Reserve introduced the Municipal Liquidity Facility initiative to provide credit to local governments that are experiencing budget shortfalls due to the pandemic.
 - They will do so by buying short term municipal notes directly, allowing state and local governments to continue functioning through the crisis.
 - This initiative currently applies to counties with populations of at least 500,000, and cities with populations of at least 250,000.

Public Education

State support for public schools never fully recovered from the Great Recession. In the years following the recession, state colleges responded to funding cuts by increasing tuition, reducing faculty, limiting course offerings and closing campuses.

- According to the Center for Budget and Policy Priorities (CBPP), in 2019 public colleges were still getting 13 percent less in taxpayer funding than they did in 2008, a loss of nearly \$7 billion in inflation-adjusted dollars.

- The CBPP found that between school years 2008 to 2018, after adjusting for inflation, 41 states spent less per student for post-secondary education.
- Per-student funding fell by more than 30 percent in six states, which include Alabama, Arizona, Louisiana, Mississippi, Oklahoma, and Pennsylvania.
- K-12 schools rely heavily on state aid and approximately 47 percent of school revenue comes from state funds.
 - Local revenue from property taxes provides 45 percent of funding and the remainder comes from federal spending.
 - This renders different educational opportunities for low versus hi-income areas.
- The CBPP reported in 2019 that K-12 funding did increase in 26 states in recent years, but 24 states were still less funded than prior to the Great Recession.
 - North Dakota saw a 35 percent increase above 2008 levels, but Indiana increased funding by just 0.11 percent.

The states with the highest declines in funding in 2019, as compared to 2008 were:

- Texas: 20 percent
- Oklahoma: 15 percent
- Alabama: 15 percent
- Kentucky: 13 percent
- Kansas: 12 percent
- Michigan: 9 percent
- West Virginia: 8 percent
- Utah: 8 percent
- North Carolina: 7 percent
- Arizona: 6 percent

Many districts scaled back educational services due to low funding levels, and some localities only increased funding after teacher walkouts.

- Funds were often diverted from other services to bolster school budgets, hence cutting fundamental services like police and fire protection.
 - Continued neglect will greatly reduce the nation's capacity to develop the future workforce and hinder competitiveness.

In response to the spread of the pandemic, governors and legislatures mandated statewide closures schools in 48 states and every US territory by April 10. The widespread closures will have long-term consequences on the entire educational system.

Notably, the pandemic shifted the trajectory of education from the brick and mortar schoolhouse to a virtual landscape.

- Access to internet and devices is crucial: in 2019, the Associated Press found that 17 percent of American students did not have computers in the home, and 18 percent of students lacked access to high-speed internet.

Some school districts have distributed laptops, but children also need the ability to log-into a portal.

- The Federal Communications Commission provides discounts for telecommunications and internet access to eligible schools and libraries through E-Rate.
 - Discounts range from 20 to 90 percent and are based on the poverty level of the schools; rural schools and libraries may receive a higher discount.
 - Recipients must pay some portion of the service costs.

Given the scale of the pandemic and long-term consequences, the E-rate program could be made more flexible so Wi-Fi hotspots could be deployed in needed areas. However, some students are more challenged than others in a non-classroom environment, and will not excel with e-learning.

Outlook for Graduates

Prior to the onset of the Great Recession, the unemployment rate for college graduates under the age of 25 was 3.7 percent, according to BLS. By 2017, following a few rough years, unemployment for young college graduates returned to within one percentage point of their pre-recession levels.

- The National Association of Colleges and Employers (NACE) reported that employers hired almost 11 percent more graduates from the class of 2019, than they did from the class of 2018.
 - Graduates with a STEM degree were highest in demand.

In December 2019, NACE predicted a robust job market for 2020 graduates.

- Employers reported that they were seeking students with a GPA of 3.0 or higher and those who showed problem-solving skills, as well as the ability to work as a team, and a strong work ethic.

NACE's Job Outlook 2020 survey also reported that employers planned to hire 5.8 percent more new college graduates from the Class of 2020 than they did from the Class of 2019, but pandemic changed the outlook 2020 graduates.

- Today, colleges are grappling to close budgetary holes after refunding students for campus housing and amenities, and many schools are losing endowments that impact their ability to pay faculty and campus operations.

Significantly, younger workers usually have more trouble finding and maintaining employment in a recession and during the Great Recession, unemployment peaked for workers between 16 and 24, at 19.2 percent.

- Graduates with a degree in a STEM field will have an advantage over others as the economy rebounds.
- Some may switch their major to a specialized field with a better job outlook, or attain an advanced degree.

A December 2018 US Census report noted an increase in enrollment at 2-year colleges when the Great Recession hit.

- In addition to the lower cost from a four-year college, people also enrolled in two-year colleges to upgrade existing skills quickly, or to acquire new skills during a period of deteriorating labor market conditions.

Technological Advances

Following the Third Industrial Revolution – that ushered in the information age with innovations in computing, the internet and mobile communications at the turn of the 21st century - the Fourth Industrial Revolution, or Industry 4.0, is characterized by the shift from simple digitalization to innovation based on combinations of technologies. Internet led to the world delivering and digesting an enormous and expanding amount of data on a daily basis. Technology continues to advance at a furious pace with more of people, systems and products connected to the Internet. Smart phones, have transformed people's ability to be stay connected and conduct business.

The Internet of Things (IoT) has added innumerable new sources to the big data landscape, transcending across all industries. It has the ability to impact everything from marketing to supply chains.

- Businesses can apply IoT solutions to improve their bottom lines by increasing productivity at lower costs and expanding to new markets or developing new product offerings.
 - For manufacturing this entails having a fully digital supply chain.
- Cities can also apply this technology to regulate waste and improve energy efficiency.

In this Fourth Industrial Revolution, companies and individuals that cannot keep up with major tech trends run the risk of being left behind.

- The ability to use data effectively can offer a competitive advantage to a business, regardless of its size.

Government and business leaders have pivotal roles to play in influencing how technology impacts the world, but a 2018 Deloitte survey found that executives are not sure about the roles they or their organizations can play in influencing society in this era.

- Less than a quarter believed that their organizations held significant influence over key factors such as education, sustainability and social mobility.¹³

¹³ Deloitte Development LLC, "The Fourth Industrial Revolution is here—are you ready?", in cooperation with Forbes Insights, 2018.

Artificial Intelligence (AI) has highlighted the notion that humans and machines can work together.

Forecasts for Technology in 2020

In September 2019, Forbes contributor Bernard Marr predicted that there were a few new technology trends to prepare for in 2020:

- Artificial Intelligence would be used further to improve the customer experience and to streamline business operations.
- 5G Mobil data would become more accessible and affordable.
- Autonomous driving would become more ubiquitous.
- Personalized and predictive medicine would be used to increasingly predict and treat health issues in people, even before they experience any symptoms.
- Computer vision or facial recognition would be more widely used.
- Virtual reality (VR) would become more prevalent; this would be used with augmented reality for training and new ways to interact with customers.
- Blockchain would be adopted by more businesses.

However, there are concerns about the ethics of AI, and in February 2020, the Rome Call for AI Ethics was released by the Pontifical Academy for Life (a Vatican institute).

- The document declares that AI-based technology should not be used to exploit people, but rather be used to help people develop their abilities and to support the planet. Microsoft and IBM are the two first signatories.¹⁴

Significantly, COVID-19 is the first pandemic to unfold online.

- According to COGNITION Smart Data, there were over 1 billion social media posts by the end of March 2020 about COVID-19, compared to 52 million for SARS in 2003.

Especially during disruptions, economic developers must adapt quickly, seizing opportunities, while also tackling challenges. For EDOs, access to relevant and up-to-date data can be valuable, but it also requires more proficiency, as data changes at a rapid pace.

- The pandemic has incited practitioners to take advantage of virtual and augmented reality to show available sites to site selectors.
- Virtual spec building tools additionally provides prospects with the ability to configure a building online for a site that they may be interested in.

¹⁴ Pontifical Academy for Life, Rome Call for AI Ethics”, Vatican City, Italy, February 28, 2020.

B. Demographic Shifts

Demographic shifts continuously impact local growth. Generational differences, variations in income, and the rate of immigration influence the composition of the workforce, consumer spending and real estate development decisions.

- The world population was 7.7 billion in 2019; it is estimated to reach 8.6 billion in 2020 and to increase by 28 percent between now and 2050.
- India will surpass China as the world's most populous country, with an estimated 1.67 billion people, according to the Population Reference Bureau (PRB) 2019 Population Data Sheet.
- East Asia which includes China, Hong Kong, Macau, Mongolia, North Korea, South Korea, Japan, and Taiwan will see a population decline of 51 million through 2050.

Other population highlights include:

- Countries in Asia and Europe have some of the world's oldest populations today, and countries in Africa are home to some of the youngest.
- Nigeria and Ethiopia will be Africa's top two most populous nations in 2050, with Nigeria's population expected to double to 401.3 million people, overtaking the US.
- The PRB reports that fertility rates in the US dropped to their lowest level in recorded history, with women having an average of 1.7 births in their lifetime, as compared to 1.6 in China, 2.2 in India, 2.2; and 3.6 in Kenya.¹⁵

Population growth has been slowing in the US over the last five years. The nation's population was 329 million in 2019, growing by 0.5 percent between 2018 and 2019.

- The South saw the largest growth between 2018 and 2019.
- The Northeast saw population decrease for the first time this decade, declining -0.1 percent.
 - While 134,145 people moved into the Northeast from other countries, 294,331 moved from the region to another domestic location.

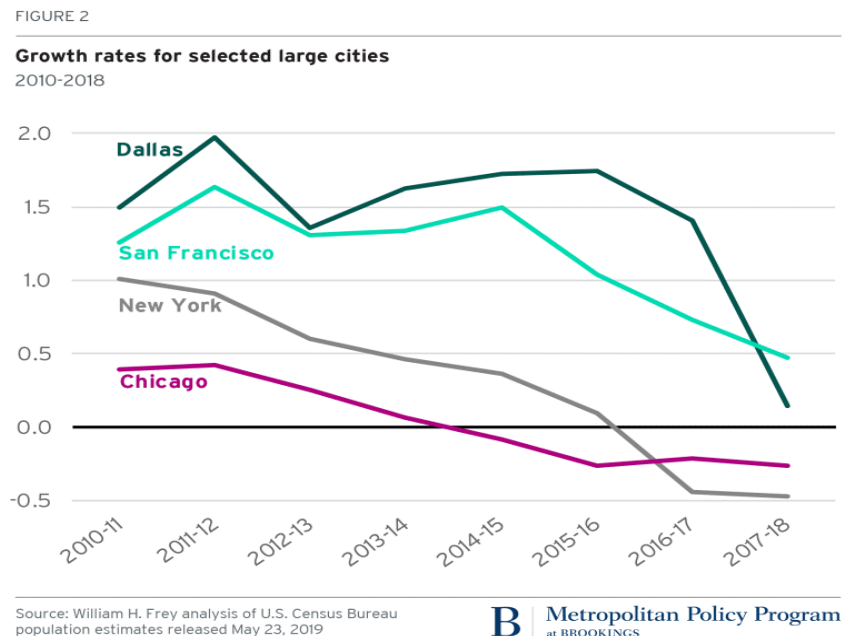
Forty states and the District of Columbia saw population increases between 2018 and 2019. Ten states lost population between 2018 and 2019. The 10 states that lost population were:

- New York
- Illinois
- West Virginia
- Louisiana
- Connecticut
- Mississippi

¹⁵ A country's birthrate is an important measure of demographic well-being, aimed at keeping a population stable.

- Hawaii
- New Jersey
- Alaska
- Vermont

Since the peak “back to the city” movement in 2012, growth of urban cores has halved and exurban county growth has quadrupled. According to the US Census, large cities like New York, San Francisco, Chicago, Boston and Dallas experienced population loss. The graph below illustrates this trend.



In the wake of the COVID-19 pandemic, a Harris Poll concluded that almost a third of Americans are considering moving from cities to less densely populated areas. The Census Bureau reports that about 15 percent of Americans lived permanently in rural areas in 2019.

Decrease in Mobility

Geographical mobility – which was considered to be a vital trait of American workers – decreased in the wake of the Great Recession. The Pew Research Center suggests that the Great Recession’s severity and slow recovery has made people more hesitant to move. Typically, moving from one place to another symbolized that there were enhanced labor options in another location, and a move would improve one’s quality of life.

- Between March 2018 and 2019, only 9.8 percent of Americans moved, according to US Census, which was the lowest since tracking began in 1947, and the first time it fell below 10 percent.
 - For those that did move, the Brookings Institution has reported that the Southeast – as well as Arizona and Nevada – benefited from migration.
- California and New York lost residents in 2018, according to Census data, and higher taxes in those states may be behind those decisions to move.

The Federal Reserve Bank of Minneapolis reported that the decline in migration is widespread among race, age, and income level.

- The post-Great Recession economy led to more job insecurity, as well as delays in marriage and childbearing that pushed relocation rates down for the younger generation.
- Brookings found that those who were moving longer distances - between counties and between states - were mostly college educated.
 - Notably, while young adults have traditionally been the most mobile, the millennial generation has moved much less.

The COVID-19 pandemic and the resulting remote work boom could impact the recent migration trend in the US.

- According to Susquehanna Financial Group, the transition to remote work among white-collar firms during the pandemic has instigated some employers to reevaluate their approach to real estate and workforce location.
 - Some may consider moving from expensive coastal regions and major cities to more affordable states in the South and West.

Further Trends

As income inequality continues to grow, over the past four decades, the American middle class has declined significantly.

- Fifty-two percent of adults were considered middle class in 2016, down from 61 percent in 1971.

The Pew Research Center highlighted these additional trends in 2019:

- Millennials were the largest adult generation in the US, but they are starting to share the spotlight with Generation Z.
- Hispanics were projected to be the largest racial or ethnic minority group in the US electorate when voters cast their ballots next year
- A growing share of parents are unmarried, and in 2019 over half said that they will be less likely to get married.
- The immigrant share of the US population is approaching a record high, but remains below that of many other countries
- The US unauthorized immigrant population is at its lowest level in more than a decade.

Looking ahead, the COVID-19 pandemic is still reshaping the nation and communities across the globe. Focus on having a talented and dynamic workforce will remain a crucial factor for a location's competitiveness, and closing racial gaps throughout cities will be vital to ensure that no group is socially or economically excluded. For economic developers,

understanding how demographic shifts impact the composition of the workforce and life-style choices is critical for developing future plans.

Census 2020

An accurate count of the population serves as the basis for fair political representation and plays a critical role for many factors of public life. The federal government uses data collected during the census to determine how to divide an estimated \$675 billion a year to states for various federal programs.

Census Results Drive Policy

The six key areas where the information collected in the 2020 Census will help drive policymaking and shape the future of the US include:

- **Apportionment:** State population counts from the census are used to reapportion seats in the House of Representatives.
- **Redistricting:** State and local officials use decennial census results to help redraw congressional, state, and local district boundaries
- **Funding:** Census totals help determine the amount of funding that state and local governments receive from the federal government for the next decade
- **Planning:** Data helps determine the need for new roads, hospitals, schools, and other public sector investments, and is critical for businesses
- **Emergency Response:** Detailed population information is critical for emergency response in the wake of disasters.
- **A Base for Federal Surveys:** Census data provides a population base for dozens of federal surveys.

Inaccurate counts could lead to federal funds being inappropriately distributed across the country. In addition, while the attempt by the Trump Administration to add a question on citizenship on the 2020 form was rebuked, the public discussions about it may deter some immigrants from participating in the census.

The 2020 Census kicked off in Alaska indigenous villages in January 2020, and other indigenous areas, as well as areas with known high amounts of senior citizens or neighborhoods with low levels of internet access.

- The 2020 census is the first time that people are being encourage to answer the questions online. Door to door census worker campaigning was scheduled to being in early May, but was curtailed by the pandemic, so workers only dropped off the questionnaires.

According to the CBPP, the Census Bureau's budget has not been sufficient in terms of manpower needed to carry out a successful census count and there were concerns that an accurate census could be compromised if the planning and funding for the census in 2020 was short changed. Many non-profits are still concerned that lack of funding for outreach and educations campaigns will negatively impact the 2020 results.

- The Government Accountability Office has the Census on its list of high-risk programs, as it is relying on technology that has not been used previously.

Some policy makers fear that the online approach will exclude blacks and other minorities.

Generational Trends

Understanding generational tendencies is important for firms and organizations that are hiring and/or managing marketing and consumption, and for real estate developers and local governments for future planning. In the workplace, generational viewpoints and expectations may vary in terms of learning and knowledge sharing, as well as the general culture.

Baby Boomers

By 2020, twenty percent of people in the US will be 65 or older, according to BLS. The Milken Institute estimates that in the US about 10,000 people turn 65 each day.¹⁶

- The Urban Land Institute (ULI) reports that the number of Americans between the ages of 65 and 80 will grow from 43.5 million to 53.5 million in the next decade.
 - ULI also reports that baby boomers are living longer, retiring later and generally have healthy lifestyles, which has implications on the real estate industry, healthcare and workforce trends.
- The average life expectancy for Americans in 2017 was 78.6 years.
 - The Center for Disease Control (CDC), many baby boomers will stay in the workforce, rather than retire, either by necessity or choice.

One of the hardest issues impacting the older generation is making sure their money last as long as they do, according to the World Economic Forum (WEF). In the US, the WEF calculates that those 65 and over only have enough savings to cover 9.7 of retirement income, and the median annual cost for an assisted living facility was \$45,000 in 2017, according to Genworth. One major reason for the savings gap is due to the fact that governments and employers have shifted from traditional pensions to defined contribution plans, or 401(K) plans.

- The US savings gap is the largest compared to other countries in the world, at \$137 trillion, followed by China at \$119 trillion and India at \$85 trillion.

In terms of housing, many boomers are still too young for senior housing products and have different preferences than the generation before them. ULI reports that the majority of baby boomers will not turn 80 until 2044. Moreover, as they retire, they will continue to be consumers of services from both the public and private sectors.

- The Alzheimer's Association reported that 70 percent of people over 65 needed some sort of long-term care in 2017.
- More than 20 percent of residents in Maine and Florida are 65 or older.

¹⁶ The generation before the boomers are those born between 1928 to 1945, and that generation is referred to as the Silent Generation.

Federal programs such as Social Security, Medicare and Medicaid – that aim to improve the health of the older population in the US - are under increased strain and the projections for funding of those programs indicate that they will not be sustainable. Social Security will have insufficient funds to pay out promised benefits by the mid-to late 2030s, according to Forbes.

Localities will need to balance the rising demand for services of senior citizens with those of schools, roads and other necessities. Creating communities that are senior-friendly is increasingly an important topic for local government managers.

- As the generation most vulnerable to COVID-19, many boomers started to use technology-enabled services for the first time, including grocery delivery, tele-medicine and in-home subscription entertainment, which will change their consumption patterns over the long-term.

Gen X

The cohort following the baby boomers are the Gen X-ers. They were born between 1965 to 1980. The Generation X has been adapting to change for decades, and grew up during a shift from a manufacturing economy to a service economy. They were the first generation to grow up with computers.

- Gen Xers were derailed by 4 market downturns before COVID 19: the 1987 stock market crash, the 2000 tech stock meltdown, 9/11, and the Great Recession.
- Their childhood was punctuated by Watergate, the Three Mile Island meltdown, and the last throes of the Cold War.
- During the Great Recession, Americans ages 35 to 54 lost between 40 and 55 percent of their net worth in the economic downturn, according to Pew researchers.
- A third of Gen Xers had to tap into their retirement savings already, and many find themselves making healthcare and housing decisions for their children and parents, as well as working full-time.
 - They are also called the Sandwich generation, based on the role they play between generations.
- In 2028, Gen X will overtake the Boomers from a population standpoint, with 64.4 million Gen Xers versus 63.7 projected Boomers.

Millennials

In 2019, the Millennials - those aged 23 to 38 - outnumbered Baby Boomers according to the Census Bureau. They have had significant impacts on the housing market and workforce. They grew up with innovations of the digital era as everyday parts of their social and work lives. Millennials are more racially and ethnically diverse and slower to marry than previous generations were at the same age.

- By 2025, Millennials will dominate the labor force, comprising 75 percent of workers.

- The 2019 Deloitte Millennial study revealed that Millennials have lost trust for corporations.
 - The percentage of Millennials who believe business is having a positive impact on society fell from 76 percent in 2017 to 55 percent in 2019.
- Millennials will leave a job when they experience misalignment with their values or lack of opportunity for high social impact.
 - In 2019, Millennials signed petitions and protested, in growing numbers.
- According to the Pew Research Center, Millennials favor of government doing more to solve societal problems.

Student loan debt has affected their ability to save, and Millennials are likely to be the first generation in modern economic history to end up in a worse financial state than their parents.

- The Atlantic reported in 2014 that Millennial men were earning the same or less than Gen X men when they were the same age, and 10 percent less than Baby Boomers.
- Millennial homeownership rate is 8 percentage points lower than that of the Gen Xers or the Baby Boomers when they were the same age, according to the National Association of Realtors.

The current downturn could further impact the Millennial's ability to start accumulating wealth.

- Reports from Data for Progress indicate that younger workers have been among the most impacted by COVID-19 job losses, and the pandemic could influence them to re-consider job satisfaction in exchange for more stability.

Generation Z

Generation Z refers to those born in the late 1990s through today, after the Millennials. This generation is joining the workforce now, and has an even greater awareness of environmental or ethical aspects of business conduct than Millennials. They grew up in an age of high exposure to social media, where the reputation of a business can be irreversibly damaged by reaching millions in a matter of hours.

- They are the first generation to be raised in the era of smartphones, and spend 41 percent of their time outside of school with computers or mobile devices, according to the Sparks & Honey report.
- Gen Z is racially diverse, often encompassing a mix of ethnicities, and according to the Pew Research Center, almost half of Gen Z'ers are racial or ethnic minorities.
- Socially and politically, their liberal-leaning opinions on key issues are similar to those of Millennials.

This generation is accustomed to instant satisfaction due to internet technology and they have been revolutionizing the educational system in many aspects.

For many in Gen-Z, the economic challenges of COVID-19 will completely reframe their college decision. Some will see their college funds slashed due to collapsing assets, others will fear taking on excessive student loan debt in a recession-shocked economy, according to the marketing agency Acceleration Partners.

Megaregions

Most of the economic and population growth in North America has been occurring within urban megaregions. They produce hundreds of billions of dollars in economic output, harness top talent, and contribute to global technological innovations.

- Increased investment in these regions can lead to challenges such as gridlock, pollution, inequality and polarization, as well as opportunities like a balanced transportation system and walkable neighborhoods with diverse housing choices.

According to the Regional Plan Association (RPA), megaregions not only cover thousands of square miles, but they are also characterized by relationships in terms of environmental systems and topography, infrastructure systems, land use, and economic linkages.

The top 10 megaregions in North America are:

- Boston-Washington, DC
- Chicago-Pittsburgh
- Charlotte- Atlanta
- Southern California
- Toronto-Buffalo-Rochester
- Northern California
- South Florida
- Dallas-Austin
- Houston-New Orleans
- Cascadia (Medford and Portland Oregon; Seattle; Vancouver, British Columbia)

Moreover, the innovation economy, which has been the driver of much of the nation's growth, has become increasingly concentrated in a handful of coastal big metropolitan areas, leaving much of the middle part of the nation struggling to keep pace.

A recent Brookings report calls for a concerted intervention with the federal government to support the emergence of tech stars in new places, since so many Americans live and work far from the opportunities associated with the country's innovation centers, exacerbating economic inclusion.¹⁷

- The concept of these innovation centers suggests top-down investments with matching bottom-up leadership, as well as the capacity to make impactful investments in place-making.

¹⁷ Brookings Institution, "The case for growth centers: How to spread tech innovation across America", Atkinson, R., Muro, M., and Whiton, J., December 9, 2019.

- This approach was used in Boston, Silicon Valley, and the Research Triangle Park, where the government provided significant investments in R&D, contracts and federally funded research institutions.

Innovation Districts

Some places are already collaborating and fostering investments in local innovation districts.

- In Cleveland, a concentration of research-intensive universities and medical institutions - including Case Western Reserve University, University Hospitals, and the Cleveland Clinic - is at the center of an emerging innovation district, the Cleveland Health-Tech Corridor.
- In Pittsburgh, Carnegie Mellon University and the University of Pittsburgh – along with steady philanthropic support – is developing the Pittsburgh Innovation District to become a global leader in robotics, machine learning and immunology.

The coronavirus pandemic has highlighted the importance of these innovation districts and others throughout the world. They have been leveraging their academic research capabilities, innovation infrastructure, and local and global peer networks to work on containing the spread of the coronavirus.

- Nova Scotia's Halifax Innovation District has been collaborating with two universities, a hospital, a health provider, and other actors to develop a vaccine.
- The Midtown Innovation District in Atlanta is working with Georgia Tech engineers to design and produce protective gear using 3D printing and laser cutting.

Regional Inequality

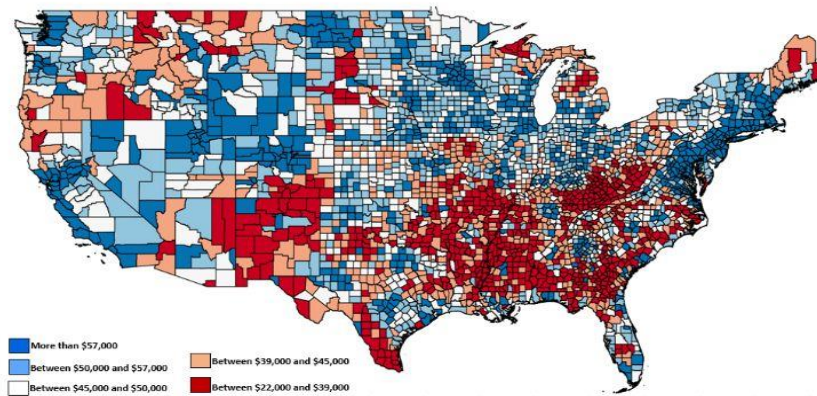
Leading regions throughout the world tend to be urban, educated and specialized in services such as technology, finance, law, design or hospitality, with others being more rural, less educated, and specialized in more traditional occupations like agriculture, mining, manufacturing and construction, according to a 2019 IMF report.¹⁸

Those with lower income levels typically have less access to healthcare and other services. Regions with lower productivity usually also have lower wages and higher unemployment rates, triggering additional social problems. The map below shows regional disparity in the US before the pandemic. Red areas represent the places with the highest issues of inequality.

¹⁸ International Monetary Fund, "World Economic Outlook Reports, Global Manufacturing Downturn, Rising Trade Barriers, October, 2019.

Mapping inequality

Changes in global trade and technology have shifted jobs and industries on the map, but the economic gains are not well shared.



Sources: OECD Regional Database, U.S. Census Bureau, and IMF staff estimates.
Note: Legend represents median household income 2016

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Recent studies by the EIG and the Hamilton Project also reason that rising neighborhood inequality in the US is linked to broader economic geography. Thus, the highest concentrations of prosperous neighborhoods are found in the North and East, and clusters in the West, with the South hosting the largest concentrations of distressed communities.

The EIG report noted that prosperous neighborhoods benefit from higher concentrations of the creative class, and distressed neighborhoods have higher concentrations of blue-collar workers.¹⁹ Distressed neighborhoods also have much larger concentrations of racial minorities.

- The 2018 Hamilton Project report noted that the median household income for the top 20 percent of America's counties was more than twice as high as the median household income of the bottom 20 percent. Meanwhile, the poverty rates were almost three times higher in the poorest counties.²⁰

Housing Trends

Millennials made up the largest group of homebuyers at 34 percent in 2017, according to Nationwide Mortgage Insurance. However, the Stanford Center on Longevity found that homeownership was declining most steeply among people under the age of 30 in 2018, when compared with other generations.

PwC predicted in 2020 that residential real estate will become more specialized, with local and cultural differences influencing this trend.

¹⁹ Economic Innovation Group, "Distressed community Index", Washington, DC, 2018.

²⁰ The Hamilton Project, "Place-Based Policies for Shared Economic Growth", Shambaugh, J., Nunn, R., 2018.

- Real estate developers have been concurrently considering the needs of the younger generation and baby boomers, and have been incorporating designs with wide hallways that can accommodate both baby strollers and/or wheelchairs.
 - Seniors who decide to stay in their homes will need to remodel for accessibility.

The COVID-19 pandemic resulted in more working from home, and it has impacted the way people approach home offices and flexible spaces for home schooling. This is having an effect on designs for connected living with respect to expanding the system of smart home technologies, including home healthcare, tele-medicine, and even fitness apps.

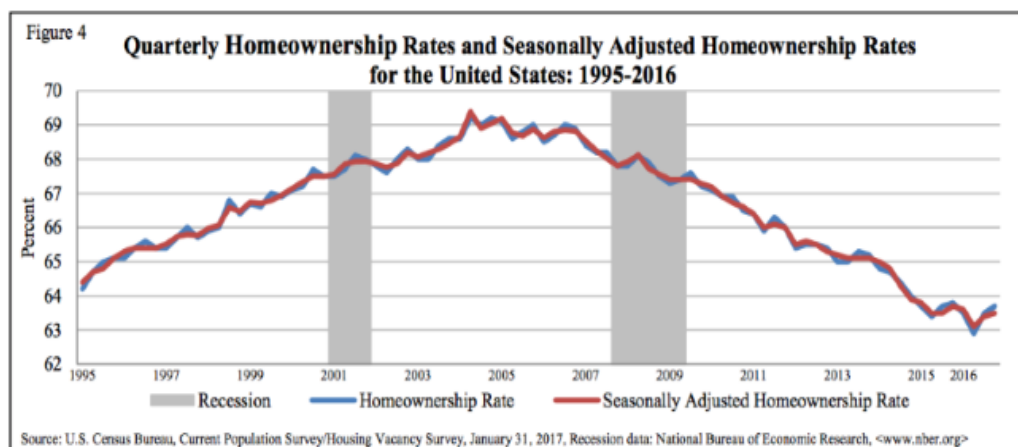
- Common spaces in buildings are being rethought to appeal to people who are concerned about continued social distancing, according to the real estate consulting firm RCLCO.
- For those who live in mixed-use developments, additional green space is replacing some of the retail.

The pandemic has also led to an enhanced interest in the suburbs and rural areas, as urban dwellers can find bigger homes to rent or buy outside of more dense city dwellings, according to Zillow.

- Homebuilder Lennar reports that since March 2020, there has been an increase in inquiries about moving from densely populated downtowns to homes in the suburbs.

Unaffordable Housing

The homeownership rate has been steadily rising since 2016, however it remains historically low. Across the nation, state and local leaders have been challenged by shortfalls of affordable housing.



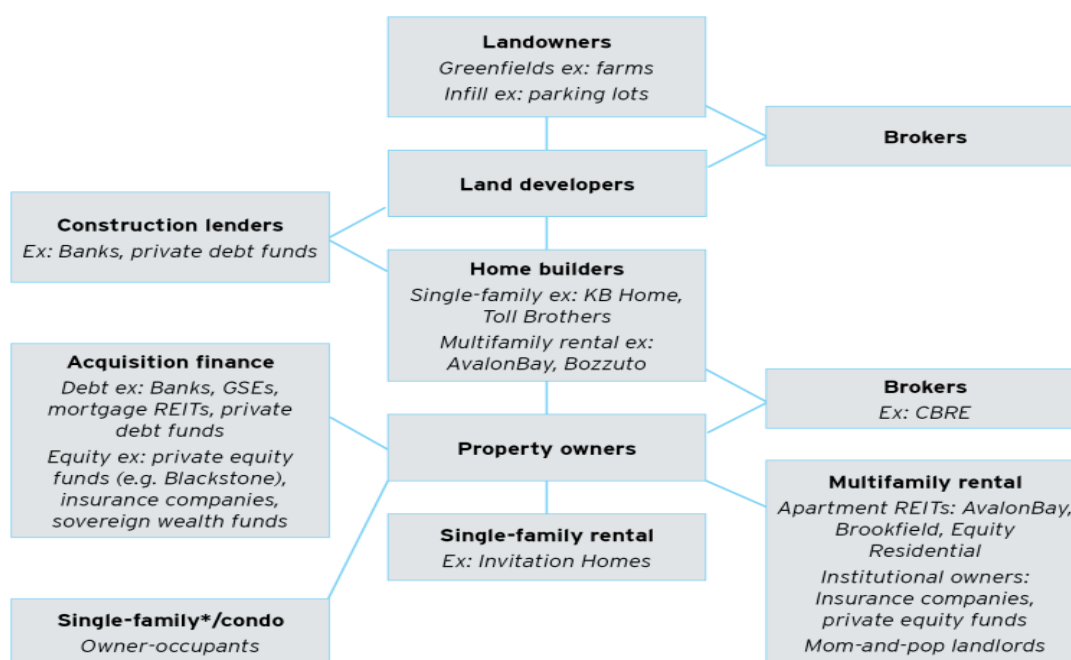
In 2018, the National Low-Income Housing Coalition reported that a renter working 40 hours a week and earning minimum wage could not afford a typical two-bedroom apartment anywhere in the US without being severely burdened by costs.

- Federal government expenditures on housing programs have favored middle-and upper-middle-class homeowners more than lower-income households.

The Great Recession demonstrated that concentrations of foreclosed and vacant homes have negative ripple effects on entire neighborhoods, but the US housing production system is more complicated than is perceived. The Brookings Institute reports that the housing development process is laden with regulatory barriers and costs for lawyers, surveyors, consultants and infrastructure costs, as well as time spent by local public sector officials in reviewing documents, or attending hearings.

FIGURE 1

Housing development ecosystem



* Single-family includes 2-4 family properties with at least one owner-occupant.

Sources: Driscoll 2018, NAREIT, Real Capital Analytics 2019

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Lenders and investors who operate nationally or even internationally, may prefer to invest their capital in less regulated localities. Thus, when national financial institutions make real estate investments in heavily regulated locations, investors expect higher interest rates or returns to equity. In order to meet the higher minimum rates of return, developers and homebuilders charge higher prices for the completed housing product, which invariably makes it more expensive for the renter or homebuyer.

- Places like the Bay Area in California, Greater Boston and the Washington, DC metro area have more complex regulations that discourage smaller, less well-financed or connected competitors from entering the market.
- Nationally, large, single-family builders that can benefit from economies of scale will build in mostly less regulated suburban or exurban areas.²¹

²¹ Brookings, Metropolitan Policy Program, "Who's to blame for high housing costs? It's more complicated than you think", Schuetz, J., January, 2020.

- The cost to purchase a home was still more expensive than renting a home in 84 percent of the nation's larger counties.

The 10 most expensive areas in 2019, based on data from the Council for Community and Economic Research were:

- Manhattan, NY
- San Francisco, CA
- Honolulu, HI
- Brooklyn, NY
- Washington, DC
- Seattle, WA
- Oakland, CA
- Arlington, VA
- Queens, NY
- Boston, MA

According to the National Association of Realtors, the 10 most affordable metros in 2019 were:

- Youngstown, OH
- Akron, OH
- Dayton, OH
- Toledo, OH
- Allentown, PA
- St. Louis, MO
- Scranton, PA
- Pittsburgh, PA/Des Moines, IA (tied)
- Syracuse, NY

The National Low-Income Housing Coalition (NLIHC) estimates that the 2018 two-bedroom Housing Wage is \$22.10 per hour.

- A household must have an annual income of at least \$45,960 to afford a two-bedroom rental home at HUD's average fair-market rent of \$1,149 per month.
 - The average hourly wage of renters in the US is \$16.88, \$5.22 less than the two-bedroom Housing Wage.
- According to the NLIHC, 71 percent of extremely low-income renter households are severely impacted by the housing cost-burden, spending more than half of their incomes on housing, putting them at risk of losing their homes.

The pandemic has spotlighted the need to address the nation's affordable housing crisis. Providing developers with more flexibility for land-use, and reducing regulatory obstacles could be very beneficial this time.

- This entails working with local governments to determine whether renovating or adapting an existing building is more-cost effective than constructing a new structure.

Middle Neighborhoods

Middle neighborhoods are defined as a category of neighborhoods that are adequately serviced by the market and supportive public policies, but they are not thriving, and are not beneficiaries of large-scale philanthropic support.

They exist on the edge between growth and decline, and these middle neighborhoods are generally affordable, stable and safe.

- According to the American Assembly of Columbia University, 48 percent of urban residents in the US live in middle neighborhoods.

Cities and suburbs with weak housing markets - such as Detroit, Baltimore and Cleveland - need interventions to prevent middle neighborhoods from falling into decline. Falling home prices not only expand the wealth gap, but they can lead to losses of property tax revenue and jeopardize city and school budgets.

- Naturally occurring affordable housing (NOAH) - which is existing housing that is currently affordable for modest-income homeowners and renters - is often found in urban and older suburban neighborhoods that are in danger of decline or gentrification.
 - This inventory could provide an affordable housing solution.

The American Assembly reports that African-American middle neighborhoods have experienced a decline since 2000. They have also recovered much less than their white counterparts since the foreclosure crisis and the Great Recession.

- There is a mini-movement underway in some American cities to protect middle neighborhoods from decline or gentrification.
 - Local governments and non-profit groups in Baltimore, Philadelphia, Des Moines, Plano, Cleveland, and elsewhere are learning techniques on how to preserve naturally occurring affordable housing in their middle neighborhoods, but they have limited resources.

High Poverty Neighborhoods

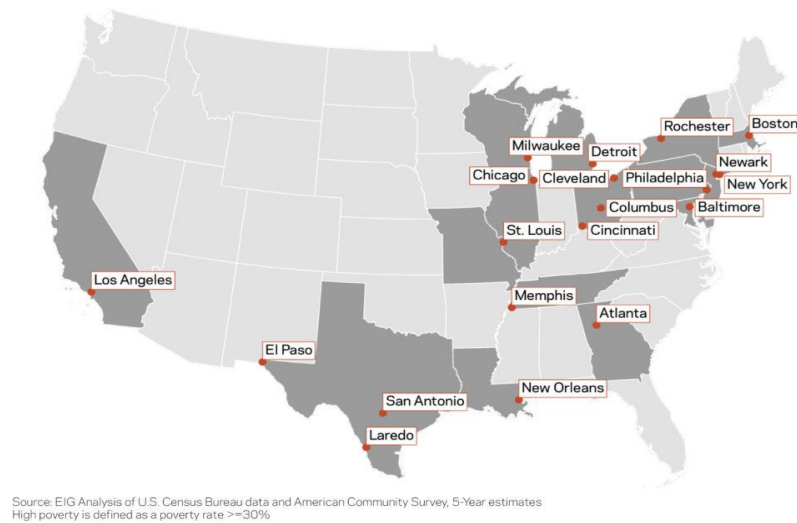
There has been a rise in high poverty neighborhoods in the last 38 years.

- Between 1980 to 2018, almost 4,300 neighborhoods, crossed the high-poverty threshold and the total population residing in high-poverty neighborhoods doubled, rising from 12 million to 24 million, according to the Economic Innovation Group (EIG).
- High-poverty urban neighborhoods are overrepresented in the Northeast and the South and tend to be clustered around central cities.²²

The map below shows cities that have many neighborhoods that remained persistently poor between 1980 and 2018.

²²Economic Innovation Group, "The Persistence of Neighborhood Poverty", May 2020.

20 cities with the most persistently poor (high poverty 1980, high poverty 2018) neighborhoods



Over the past 38 years, only 14 percent of neighborhoods that were high poverty in 1980 flipped to low poverty by 2018. Many of those cases were in New York City.

- The rate of downward neighborhood mobility over the last several decades has been drastic in Rust Belt cities, with Detroit showing that 61 percent of neighborhoods that were low poverty in 1980 became high poverty in 2018.

These high-poverty neighborhoods present great challenges for local leaders as the nation addresses the current pandemic, an economic crisis, and protests over inequity.

Dangerous Cities

The amount of violent crime — murder, rape, armed robbery, aggravated assault, etc. — is viewed as a determinant of how objectively dangerous an area is. Crime hinders economic growth, and research from the World Bank, the IMF and the OECD have long indicated the correlation between inequality and crime.

- Crime places large costs on communities through lower property values, higher insurance premiums, and reduced investment in high-crime areas.

High crime cities suffer from lack of opportunity, which also negatively impacts neighboring areas.

- A 2016 London School of Economics study found that greater income gaps between neighboring US communities led to more property crime in wealthier neighborhoods.

Neighborhood Scout, a provider of local real estate data, identified the 100 most dangerous cities in America in 2019, by comparing the number of violent crimes per 1,000 people in cities with over 25,000 people. The top 10 cities are listed below:

- Bessemer, AL
- East St. Louis, IL

- Monroe, LA
- St. Louis, MO
- Detroit, MI
- Baltimore MO
- Memphis, IL
- Camden, NJ
- Flint, MI
- Pine Bluff, AR

Findings from a University of Illinois report demonstrated that state decisions to expand Medicaid coverage through the Affordable Care Act resulted in decreases in annual crime by about 3 percent.

- Access to substance abuse centers reduces the financial pressures associated with healthcare, which helps in reducing crime. The total annual social cost savings has been almost \$13 billion for the states that expanded Medicaid coverage.
 - That is about one-third of the total expenditures associated with the Medicaid expansion.²³

The protests that erupted around the world to demand racial justice after a white police officer killed a black man, George Floyd, in Minneapolis on May 25, 2020, triggered an increase of violence in some cities.

- The New Jersey Center on Gun Violence Research, a think tank based out of Rutgers University, claims that a sense of lawlessness typically comes after high-profile killings.

However, the George Floyd killing during the COVID-19 pandemic - combined with the financial and emotional toll of job losses and uncertainty - has sparked a more intense reaction, and has heightened awareness on the inequities found in cities throughout the country, and the world.

- According to the Pew Research Center, social media posts from members of Congress referencing “Black Lives Matter” increased dramatically between May 25 and June 14, 2020, more than in the five years prior.

Immigration

In 2018, the US had 44.7 million foreign-born people living in the US accounted for 13.7 percent of the population, according to the Migration Policy Institute (MPI).

- That was the highest share since 1910, when immigrants were 14.7 percent of the total population, according to the Pew Research Center.
- The United Nations data reports that 25 nations and territories have higher shares of immigrants than the US.

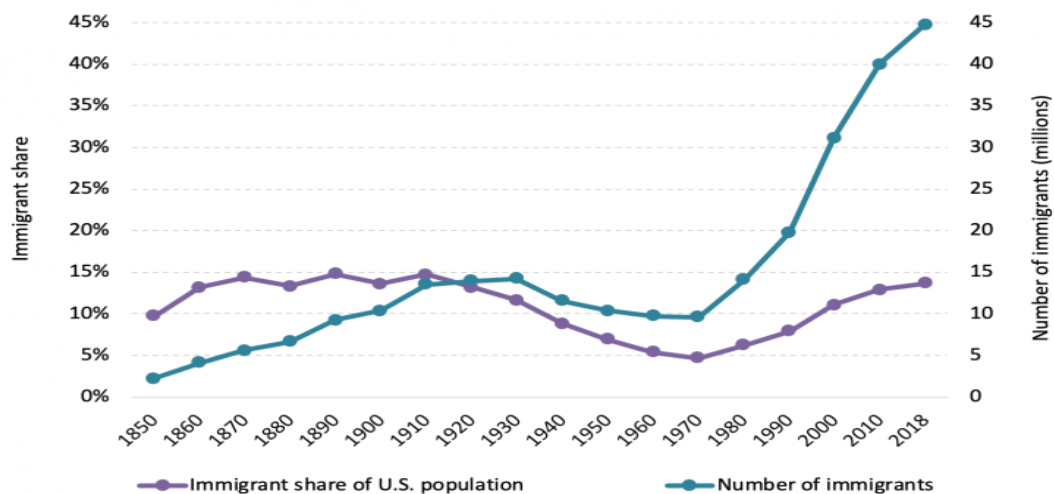
²³ University of Illinois at Urbana-Champaign, “Access to Health Care and Criminal Behavior: Short-Run Evidence from the ACA Medicaid Expansions”, Vogler, J., November 2017.

- They include some Persian Gulf nations with high shares of temporary labor migrants, as well as Australia, New Zealand and Canada.

The foreign-born population of the US did not increase much between 2017 and 2018, with an increase of only 203,000 people, or growth of less than 0.5 percent.

- That was the lowest annual increase since 2010, and a notable decrease from the 1.8 percent increase recorded from 2016 to 2017.

The graph below produced by MPI, with data from US Census Bureau and the American Community Surveys (ACS), demonstrates the size and share of the immigrant population in the US between 1850 and 2018.



Moreover, the makeup of the foreign-born population has been transforming, and new arrivals in the US are more likely to be from Asia and less likely to be from than other world regions. They are on average more educated than previous generations of migrants to the US.

The top ten were immigrant populations in the US represent 57 percent of all immigrants in the country.

- In 2018, Mexicans represented 25 percent of all immigrants although it has dropped 30 percent since 2000.
- Indians were the second-largest immigrant share with about 6 percent, followed by Chinese at 5 percent.
- The rest were comprised of immigrants from El Salvador, Vietnam, Cuba, the Dominican Republic, Korea and Guatemala, or others at very small percentages.

Children with immigrant parents make up a large share of the population of those under the age of 18 in some states. In 2017, the five states with the most children living with immigrant parents were:

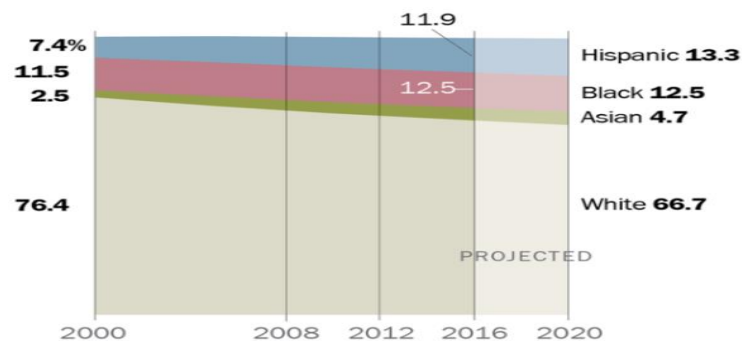
- California with 47%
- New Jersey with 41%
- New York with 37%

- Nevada with 37%
- Texas with 35%

The Pew Research Center reports that the number of eligible voters who are Hispanic – at 32 million - will surpass that of the 30 million black eligible voters for the first time in 2020. However, voter turnout will play an important role and in past elections, black voter turnout substantially surpassed Hispanic voter turnout.

Hispanics projected to become largest minority group in electorate in 2020

% of eligible voters by racial and ethnic group



Note: Figures do not sum to 100% because other single-race categories and multiracial are not shown. Eligible voters are U.S. citizens ages 18 and older. Whites, blacks and Asians are single-race non-Hispanics. Hispanics are of any race. Asians include Pacific Islanders.

Source: Data from 2000 to 2016 from Pew Research Center analysis of 2000 decennial census and 2008, 2012 and 2016 American Community Survey (IPUMS). Data for 2020 from Pew Research Center projections of the electorate based on U.S. Census Bureau 2017 population projections.

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Immigrants are also a source of foreign investment to poorer nations. Remittances sent home by migrants from low- and middle-income countries in 2019 were actually a larger source of funds for poorer nations than foreign direct investment.

- Due to the economic slowdowns caused by the coronavirus pandemic, the World Bank expects to see a 20 percent drop in remittances, which will negatively impact regions.
 - In the Guatemalan town of Joyabaj, half of the 100,000 residents depend on remittances, almost entirely from the US.

Pathways to US Residency

There are four main pathways to obtain a green card in the US: through a family relationship; employment sponsorship; humanitarian protection (refugees and asylees); and the Diversity Visa (DV, or green card lottery) lottery.

- Until 2018, about 50,000 people received green cards through the US Diversity Visa lottery, but there are calls to curtail this program.

- H1-B visas for temporary technical workers accounted for almost a quarter of all temporary visas in 2016, according to the Pew Research Center.
- The number of refugees and asylees admitted fell 24 percent between 2017 and 2018.

Denial rates for the H1-B visas have doubled since 2016. These workers in tech industries, medical research and e-commerce are vital sources of labor for the US economy. Technology firms in the US have long depended on the foreign workers that they can engage through the H-1B program.

- Companies, like Microsoft and Google have pressed for increases in the annual quotas, saying there are not enough Americans with the skills they need.
- In June 2020, the President signed an executive order temporarily suspending work visas and barring hundreds of thousands of foreigners from coming to work in the US, impacting the H-1B visa program for high-skilled workers.
 - The order includes exceptions for some categories of workers, such as health care professionals needed to combat or do research on the coronavirus.

Unauthorized immigrants make up about a quarter of the US foreign-born population, but in no state are they a majority of that population.

- They constitute about a third or more of the population in at least 16 states: Alabama, Arkansas, Colorado, Georgia, Idaho, Kansas, Louisiana, Mississippi, Nebraska, Nevada, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Utah.
 - Inversely, in Maine and Vermont, less than 10 percent of immigrants are unauthorized.

Curbs on Immigration

The federal government's efforts to curb immigration has impacted future projections. Over the past year, efforts to overhaul the nation's legal immigration system and shift America's status as a safe haven for refugees has gained ground. Notably, the majority of changes have been made through executive power, and the President declared a national emergency declaration at the southern border, in order to use Defense Department money to build a border wall.

- In 2018, immigration officials removed 337,000 people from the US. This is less than the 2013 peak of 433,000, but higher than any year before 2007.
- In 2019, 860,000 people were apprehended at the border, almost double the 460,000 apprehended in 2018.
- For much of early 2019, officials at the nation's southern border were overwhelmed by an unprecedented flow of Central American families and unaccompanied children heading north.

A July 2019 Office of the Inspector General of Homeland Security report highlighted overcrowding, filthy conditions and prolonged detention of unaccompanied minors and families with children in Border Patrol stations designed for adult men.

- The "Remain in Mexico" program initiated by the Administration returned about 56,000 asylum-seekers to Mexico to wait for immigration proceedings to be processed.

In addition, the current Administration was trying to phase out the Deferred Action for Childhood Arrivals (DACA) program.

- The Census Bureau and the Pew Research Center estimate that 5.9 million children under 18 are living with at least one undocumented parent, and an estimated 5,000 children in child-welfare custody has a parent who is in detention or was deported, according to the Urban Institute.
- Of the 660,880 DACA recipients active as of June 2019, more than 80 percent were born in Mexico, according to US Citizenship and Immigration Services.
 - California and Texas account for 45 percent of the DACA population.

There have been multiple court orders since 2017, and the Supreme Court heard a series of cases in late 2019 regarding the Administration's decision to end DACA. In June 2020, the Supreme Court rejected the Administration's attempt to dismantle the program.

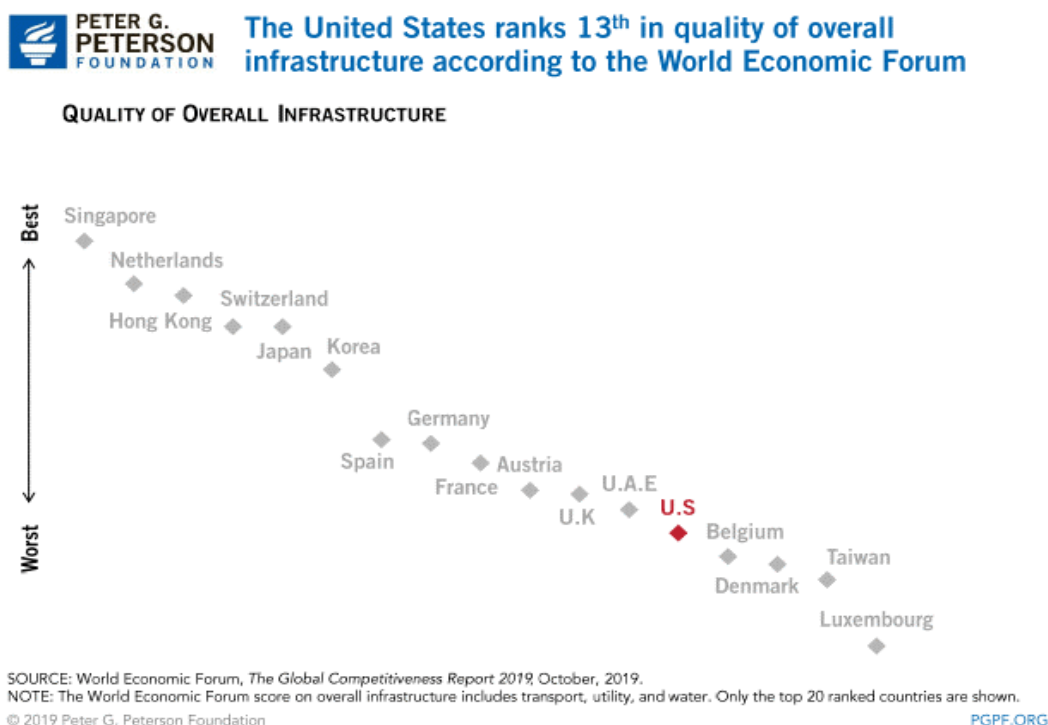
Role for EDOs

Economic development professionals will need to consider these demographic fluctuations when planning for the future. Importantly, this intelligence can be used to promote inclusion among diverse groups, prepare for the growing aging population and tailor plans to the needs of the multi-generational workforce. With today's uncertainties, health and safety issues will be a greater concern for all generations going forward, and economic developers can help a community adapt to change by analyzing how demographic shifts will affect their community's infrastructure demand, and advocate for effective and cohesive locally-driven solutions. Those EDOs that are able to attract diverse talent to their community and promote inclusion will be more apt to adjust to future disruptions. Practitioners will need to be nimbler and even more innovative - working collaboratively across sectors - to create economic opportunities and ensure safety in their communities.

C. Deficient Infrastructure

Infrastructure is the backbone of an economy and plays a vital role in sustaining competitiveness. It is critical to the nation's prosperity as well as the public's health and welfare. The quality of any nation's infrastructure directly impacts its economic growth potential, and physical assets such as roads, bridges, airports, waterways, tunnels, water supply, electrical grids, oil and gas pipelines, as well as telecommunications, schools and hospitals all allow locations to participate and prosper in the global economy. The ability to move goods and people efficiently enhances any location's attractiveness to both business and talent, and is essential to corporate decision-makers.

The US is still in the top 25 percent of countries with the most resilient infrastructure systems, but it falls behind many other developed countries, notably due to the fact that the nation's infrastructure is aging and increasingly vulnerable to disruptive events. For 2019, the US ranked 13th for overall infrastructure quality, according to the World Economic Forum (WEF).



Federal, state and local governments have failed to sufficiently enact formulas, incentives, and procedures to attract the investment needed to enhance and improve the nation's vital physical assets.

- According to the Congressional Budget Office (CBO), spending by federal, state, and local governments for transportation and water infrastructure totaled \$441 billion, or 2.3 percent of GDP, in 2017.²⁴

²⁴ Congressional Budget Office, "Public Spending on Transportation and Water Infrastructure, 1956 to 2017", October 2018.

However, real infrastructure spending nationally has fallen over the past decade, and it was just over \$450 billion in 2007.

- The rising cost of materials has reduced spending power, according to the Brookings Institution.
- The surge in spending in 2009 and 2010 in the wake of the Great Recession from the American Recovery and Reinvestment Act (ARRA) was only a short-term bump.
- Spending on operations and maintenance increased from \$243.3 in 2007 billion to \$266.5 billion in 2017, due maintenance needs for the aged system, while spending on new capital projects fell by 16 percent over the same period.

Any recent efforts by Congress and some states to invest more in infrastructure, have feel short of the close to \$2 trillion in needs. The American Society of Civil Engineers (ASCE) has reported that states must invest an additional \$206 billion each year to prevent negative economic consequences to people, business, and the economy.

Broader Costs

Continued neglect of the nation's infrastructure hinders competitiveness. Area Development's 34th Annual Corporate Survey of Q1 2020 demonstrated that 92.4 percent of survey respondents rated highway accessibility *very important* or *important*, making it a primary issue in site selection. Inadequate infrastructure was also ranked as the second biggest challenge to economic developers in IEDC's 2020 Annual State of the Industry Survey.

In addition to all forms of transportation, local economies require stable electricity supplies, and an intricate telecommunications network that allows for the quick and simple flow of information.

- Without a comprehensive national policy or a unanimous political will to develop a long-term approach to maintaining infrastructure, the US risks further jeopardizing its global standing.

The significant deficiencies stymie the country's potential for growth in terms of attracting and retaining investment and talent, creating quality jobs, and increasing economic opportunity.

- Americans are spending approximately 5.5 hours in traffic each year, hindering opportunities for growth in other activities, according to the US Chamber of Commerce.
- Road congestion leads to broader economic costs that include the threat to human safety due to catastrophic failures like bridge collapses or dam breaches.
- Poorly maintained roads, trains, and waterways cost billions of dollars in lost economic productivity, making it harder to support essential business functions.

In 2017, the ASCE reported that continued disregard could result in high losses by 2025, translating into \$3.9 trillion in losses to the US GDP, as well as \$7 trillion in lost business sales, and 2.5 million lost jobs.

Insufficient infrastructure investment has already cost the US lives and property. Recent examples have included:

- The Edenville Dam broke in Michigan in May 2020, forcing 11,000 residents to flee from the Midland area amid the COVID-19 pandemic.
- The erosion of the Oroville Dam's spillway led to the evacuation of thousands of Californians in 2017.
- Unsafe drinking water from lead supply pipes affected the health of children in Flint, Michigan in 2014.
- Sewer spills during hard rains in Houston, caused a public health hazard in 2009.
- The collapse of Interstate 35W Bridge in Minneapolis killed motorists in 2007.
- The failure of the levees and pump stations in New Orleans, following the Hurricane Katrina in Louisiana in 2005, led to death and destruction.

The nation is in need of an influx of investment to rebuild the frail and deficient infrastructure, and skilled labor is needed to carry out the work. However, the shortage of skilled workers has been a correlating dilemma.

- McKinsey estimated that increasing US infrastructure spending by 1 percent of GDP would add 1.5 million jobs to the economy.²⁵
- A dual strategy that incites comprehensive investments in systems and people would improve physical assets and the quality-of-life for Americans.

As economic developers compete with localities both domestically and internationally for investment dollars and talent, having a fully functioning infrastructure is vital to enhancing local competitiveness. By striving for inclusive infrastructure investments, practitioners can help foster economic growth and generate new jobs within their communities. Understanding the nation's broader infrastructure needs will help in developing successful place-making strategies.

Infrastructure Grades

After decades of neglect, roads and bridges are crumbling or collapsing, airports are out of date, and the majority of American seaports are in danger of becoming obsolete. Across sectors, industry leaders, labor unions, governors, mayors, and congressmen have bemoaned the state of the country's infrastructure and the lack of funding to ameliorate it. There has not been consensus on how to fix the infrastructure problems or where to attain the massive amounts of money needed to repair and upgrade it.

The American Society of Civil Engineers (ASCE) regularly releases Report Cards for America's Infrastructure. Since 1998, ASCE grades have been mediocre at best, averaging only D ratings, due to delayed maintenance and underinvestment across most categories. The grades are determined according to the following criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation.

²⁵ McKinsey Global Institute, "Bridging Global Infrastructure Gaps", Woetzel, J., Garemo, N., Mischke, J., Hjerpe, M., Palter, R., June, 2016.

The nation's overall infrastructure grade in 2017 was a D+.

- Transit fared the worst at D-, and aviation, dams, drinking water, inland waterways, levees and roads, all received a D.
 - The best grade is a B, for rail.








The states that fared the best in the ASCE rankings were:

- Texas
- Indiana
- Georgia
- Ohio
- Tennessee
- Minnesota
- Kentucky
- Nevada
- Florida
- Utah

The ASCE reported that investments from all levels of government and the private sector will need to increase from 2.5 percent to 3.5 percent of GDP by 2025 to improve the nation's infrastructure. The chart below elaborates on how the current outdated infrastructure fails to address the key challenges that communities face.

FIGURE 1

How our outdated infrastructure systems fail to address modern challenges

Infrastructure type → Modern challenges ↓	 Transportation	 Water	 Telecommunications
 Climate insecurity	Rising GhG emissions	Increasing floods and droughts	Limited environmental monitoring
 Income/wealth inequality	Unaffordable, car-centric options	Rapidly rising water rates	Expensive subscriptions and equipment
 Digitalization	Data privacy and access issues	Limited digital innovations	Analog era regulation and guidance
 Economic/fiscal divergence	Unequal local road quality	Fragmented and uncoordinated investments	Persistent broadband gaps

Source: Brookings Metropolitan Policy Program

B | Metropolitan Policy Program
at BROOKINGS

Locations that have endured the disruptions due to natural disasters can see first-hand how lack of investment in infrastructure impacts public health and safety.

- For Puerto Rico, the ASCE 2019 Report Card found that infrastructure investment needs to be increased by \$1.3 billion to \$2.3 billion annually, in order to achieve infrastructure updates that will support economic growth and competitiveness.

Emerging Technology

Similar to other industries, robotics and automation are changing the way that infrastructure is constructed, the way people move around, and the delivery of products. Over the past two years, there has been adaptation of new technologies in cities and regions across the world that have included new construction methods, self-driving cars and drones.

According to McKinsey & Company, modular construction in both European and US markets has the potential to deliver annual savings of up to \$22 billion.

- Modular infrastructure technology is enabling developers, architects, engineers and contractors to design and build space faster and greener.
 - The public sector has a role to play in facilitating modular adoption by modernizing building codes.
 - Both the public and private sectors will be able to capture cost savings and productivity benefits by taking a modular approach with any large-scale project that has replicable components, such as schools and affordable housing.

Emerging technologies can help to advance more efficient and environmentally friendly services.

- Drone delivery shot up during the coronavirus pandemic, as people sought to avoid human contact.
 - It is also a cost-efficient option for delivery in rural areas, as well as in post-disaster areas.

The Federal Aviation Administration (FAA) incorporated regulations for drones, and many states have their own laws. Safety and privacy issues, and the potential loss of jobs, are issues that are being reviewed. The public has different viewpoints regarding usage of drones.

- When a UPS-subsiidiary used drones to deliver prescription medicines to residents in a retirement community, it was viewed positively. But, the use of drones by local enforcement agencies to control social distancing was disputed by civil rights groups as an infringement on privacy.

Water Worries

Water is an essential resource that moves through a cycle of use and reuse in watersheds around the world. However, the planet only has a finite amount of available fresh water and both urban and rural communities are struggling with water scarcity and water quality challenges. Droughts across some US states and tainted water supplies in other areas are placing even greater strain on the water supply.

- In 2016 the US Office of the Director of National Intelligence ranked water scarcity as a major threat to national security.

The nation's water and wastewater systems comprise over 1,000,000 miles of water mains, and the 14,748 wastewater treatment plants located across the nation are critical to for protecting public health and the environment.

- Some pipes that are in use were built from cast iron in the late 1880s, and their life expectancy was about 120 years.
 - Others were built during the post-World War II period and were designed to last about 75 years.
- Moody's Investor Service estimates that the US water system is the most capital-intensive utility sector and future essential investment is significant, based on the high costs of replacing the outdated infrastructure.
- Real spending on the water infrastructure in the US dropped from \$147.4 billion in 2007 to \$141.7 billion in 2017.
 - The American Water Works Association reports that \$1 trillion is necessary to maintain and expand service to meet demands over the next 25 years.
- The Environmental Protection Agency (EPA) estimates that it would need \$263 billion for drinking water and \$270 billion for waste water to address the aging municipal water and wastewater pipe infrastructure.
- Nationwide, wastewater treatment plants account for about 2 percent of all the electricity used, at a cost of nearly \$3 billion, according to the Water Research Foundation.

Businesses are increasingly considering the water supply in business location decisions, and water utility issues rank high in the site selection decision-making process for sectors that consume large quantities of water.

- Food processing, manufacturing, textile and data centers have to consider water issues, as it impacts their on-going operating costs.

The costs of treatment and upgrades are supported by rate payers in American cities and towns, but rising utility bills can present affordability issues for residents and firms. However, water treatment offers environmental and health benefits and can bring economic benefits through reuse in different sectors.

- By-products, like nutrients and biogas can be used for agriculture and energy generation. Additional revenues generated from this process can help cover water utilities' operational and maintenance costs.

Today, over 2 million Americans do not have indoor plumbing according to a 2019 report by DigDeep, in partnership with the US Water Alliance.

- Native American households are 19 times as likely as white households to lack indoor plumbing and blacks and Latinos are twice as likely.²⁶

Drinking Water

While the quality of the overall drinking water in the US remains good, it has consistently declined since 2016 and contamination is an important issue continue that requires close attention.

- There are about 240,000 water main breaks per year in the country wasting over two trillion gallons of treated drinking water.

The Value of Water Campaign, released its Fourth Annual Value of Water Index poll in April 2019. This poll found that there is bipartisan support for water infrastructure investment with 85 percent of American voters supporting it, and 52 percent strongly supporting increasing federal water infrastructure investment. Some states are in more dire shape than others.

- The ASCE reports that over the next 20 years Tennessee needs \$730 million in drinking water infrastructure investments, and Idaho needs \$1.3 billion of investment, while New Mexico will require \$1.36 billion worth of investment.

With the COVID-19 pandemic, many municipalities around the country passed measures to suspend water shutoffs for residents that fell behind on payments. American Water, the largest private water utility company, pledged to cease any shutoffs.

- In some marginalized rural communities across the US, they lack clean water, making it very difficult for residents to shelter at home or wash their hands frequently during the pandemic.
 - Indian reservations rely on water that is delivered by truck; but deliveries fell by 50 percent during the pandemic, making residents there more vulnerable.

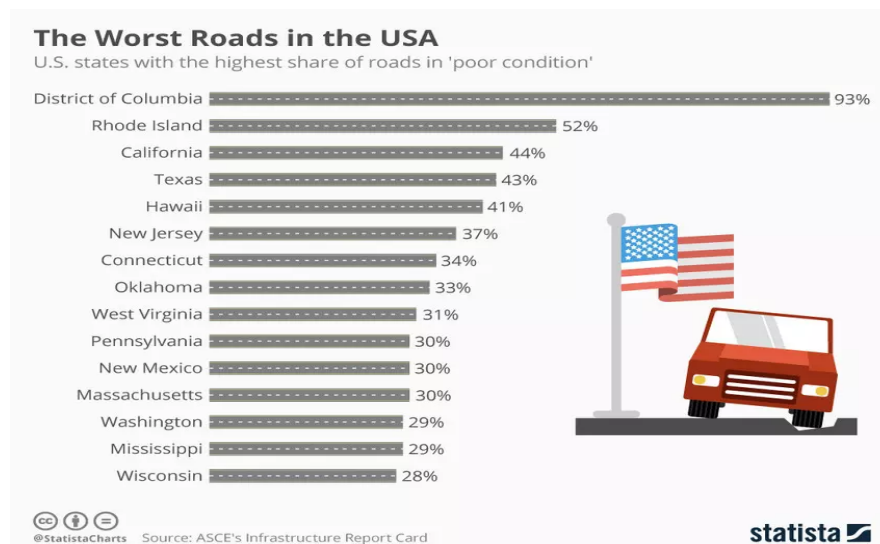
Roads and Bridges

The nation's roads are congested, often in poor condition, and increasingly more dangerous. With over four million miles of roads crisscrossing the US from 15 lane interstates to residential streets, roads are among the most visible and familiar forms of infrastructure.

- In 2016, US roads carried people and goods over 3.2 trillion miles.
- Car usage US continues to grow in the US: from 2005 to 2018, the number of vehicles increased by 12.6 percent, amounting to 25 million extra cars on the road.
- Miles driven equates to more than 300 round trips between Earth and Pluto, and when using a bridge for the route, people are likely crossing a structurally deficient structure, according to the American Road & Transportation Builders Association (ARTBA).
- The ARTBA reports that 230,000 bridges are in need of major repairs or replacement, and that almost a third of that amount should be completely replaced.

²⁶ DigDeep and US Water Alliance, "Closing the Water Access Gap in the United States", 2019.

- According to the FHA and the Governors Highway Safety Association, there are approximately 6 million car accidents in the US each year, averaging 16,438 car crashes per day.
- Almost 1.25 million people are killed in car crashes each year, averaging 3,287 deaths a day. An additional 20-50 million are injured or disabled.
- By 2017, the underfunding of the national highway system had resulted in a \$836 billion backlog of highway and bridge capital needs, according to the ASCE,
- In 2019, the Transportation Research Board estimated that it would take up to \$70 billion annually to rebuild the nation's highway system, which is almost three times as much as the \$25 billion currently spent.²⁷
- The Federal Highway Administration estimates that each dollar spent on road, highway, and bridge improvements returns \$5.20 in the form of lower vehicle maintenance costs, decreased delays, reduced fuel consumption, improved safety, lower road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.



In 2019, the federal government spent \$46.3 billion on transportation, a seven percent increase, following two years of decline, according to the National Association of State Budget Officers (NASBO). However, the Volker Alliance reports that states and local governments have been paying larger portions for public infrastructure – approximately about 80 percent – as federal investment has decreased over the years.

While the economy was growing stronger in fiscal year 2019, the 50 states collectively spent \$113.2 billion on transportation, a 9 percent increase from 2018, according to the NASBO.

²⁷ National Academies of Sciences, Engineering, and Medicine. 2019. Renewing the National Commitment to the Interstate Highway System: A Foundation for the Future. Washington, DC: The National Academies Press.

- Utah almost doubled transportation spending in 2019, recognizing the necessity for economic development and potential job growth.

The ARTBA had predicted a 6 percent increase in overall state spending in 2020 to speed up traffic-clogged highways and modernize aging infrastructure, but the pandemic impacted those plans.

- COVID-19 shutdowns lightened the load on the nation's roadways, making it easier to fix potholes, but it made it more difficult in the long-run for states to be able to afford forthcoming repairs, due to reduced state revenue from fuel taxes and tolls.
 - North Carolina reduced intended 2020 road construction projects from 131 to 38 in April 2020, and projects on interstate highways in Columbus and Cincinnati were delayed until 2021.
 - Missouri has postponed \$46 million for 18 road and bridge projects.

Going forward, strategic road and bridge improvements can be vital to recovery, with increased investments also supporting job creation and retention.

The Rail Network

The rail network has been a critical component of the nation's transportation system and economy.

- The US rail network is comprised of nearly 140,000 miles of track and over 100,000 bridges.
- The system is divided into private freight railroads and intercity passenger rail.

While the network also faces the challenges of an aging infrastructure and insufficient funding, the US rail network is transporting approximately one-third of the nation's exports and approximately 85,000 passengers each day, delivering 5 million tons of freight.

- The nation's freight rail network is considered one of the most dynamic systems in the world and provides over 150,000 jobs, according to the Association of American Railroads (AAR).

The private freight rail industry owns the vast majority of the nation's rail infrastructure and the industry has made significant capital investment to maintain the system.

- From 1980 to 2019, America's freight railroads, the vast majority of which are privately owned, spent more than \$710 billion - averaging approximately \$25 billion a year over the past five years - on capital expenditures and maintenance expenses related to locomotives, freight cars, tracks, bridges, tunnels and other infrastructure and equipment.
- In 2017, US freight railroads helped spur \$219 billion in economic activity and supported approximately 1.1 million jobs across the country, according to the AAR.

Forecasts from the Federal Highway Administration indicate that total US freight shipments will rise from to 24.2 billion tons in 2040, a 37 percent increase from 2016. US agriculture and manufacturing industries will increasingly rely on a consistent and dependable rail service to meet market demand, moving goods from production to processing in the most cost-efficient way possible. Investments from the biggest freight companies in the US – such as BNSF, CSX, Kansas City Southern, Norfolk Southern, and Union Pacific – are noteworthy.

- In 2018, BNSF announced a \$3.4 billion investment plan, with projects in California, Illinois, Kansas, Minnesota, Montana, Nebraska, New Mexico, Oklahoma, Texas and Washington.
- CSX has a partnered with the federal government and individual states to create the National Gateway, to provide Midwest states easier access to East Coast ports.
- Norfolk Southern has collaborated with 13 states to build the Crescent Corridor, a 2,500-mile network connecting the Gulf Coast and East Coast.

Despite those significant investments by the freight rail firms, most freight moving across the nation today requires more than just rail and is also reliant on roads, barges or ships to complete the transporting process. It is at those hand-off points where the system risks disruption.

- Freight firms are focusing more on multimodal/intermodal infrastructure strategies so they can better connect locations; reaching the middle of the country is a concern for many ports that can be ameliorated through the rail system.

Intermodal Transportation

Transportation logistics include online delivery, overseas freight, and air cargo.

- In 2018, strong economic growth drove an 11.4 percent increase in transportation and logistics services, according to the Council of Supply Chain Management Professionals.

This growth took place despite the uncertainty that was created by tariff disputes and trade wars, but in 2019 there was a notable 4.1 percent decline in North American volume, in both domestic and international freight, according to the Intermodal Association of North America (IANA). IEDC's 2020 Annual State of the Industry Survey, demonstrated that EDOs were focusing 12 percent less on logistics in 2019 than 2 years prior.

- CSX railroad, reported a 7 percent decline in freight hauled in the final months of 2019.

The rapidly expanding e-commerce sector has driven logistic firms to seek more efficient ways to move goods to market. Ports play an important role and have been expanding so they can accommodate larger containers. Rail growth has been pivotal in for enhancing intermodal cargo delivery.

- The Intermodal Association of North America estimates that railcars generally move 17 million worth of intermodal loads across the nation each year, generating more than \$20 billion in revenue for the 10 largest rail carriers.

- The Mason Mega Rail project that has been underway since 2018 at the Port of Savannah, will deliver the largest on-dock intermodal rail facility for a port authority in North America.
 - The project aims to increase the Port's rail lift capacity to 1 million containers per year, and open new markets from Memphis to St. Louis, and from Chicago to Cincinnati to support 439,000 jobs, according to a University of Georgia study.

Trucks are also essential for distribution centers.

- Arkansas is home to 10 major trucking companies and 80 distribution centers that employ about 55,000 people in the state.
- Kentucky also employs almost 68,000 people at 532 logistics and distribution facilities, after having developed over 130 facilities since 2014.
 - The 3-million square foot Amazon air-hub that is scheduled to open in 2021 in the Cincinnati/Northern Kentucky International Airport will foreseeably employ 10,000 more people in the region, at all levels of the logistics supply chain.

In the first quarter of 2020, coronavirus fears, as well as ongoing trade and tariff feuds between the US and China, impacted the multimodal system. To reduce the spread of the virus, several shipping companies curtailed the number of vessels going in and out of China, which rippled throughout the entire supply chain.

- According to a March 2020 Institute for Supply Management (ISM) survey, almost 75 percent of US businesses experienced disruptions in their supply chains as a result of the COVID-19 outbreak, from seaports to air cargo, to railroads to trucking.
- The Association of American Railroads reported that rail traffic for the week ending April 11, 2020 – including carloads and intermodal units - was down by 21.9 percent as compared with the same week in 2019.

Passenger Rail

Passenger rail provides an alternative to cars on the nation's congested roadways, and greatly facilitates connections between rural and urban communities. The National Railroad Passenger Corporation, known as Amtrak, was created by Congress in 1971. While Amtrak uses 97 percent of the track that the freight railroads own, it lacks the adequate funding to meet maintenance needs.

- Along with operating revenues and funds from states, local governments, and other entities, Amtrak relies on federal funds for a wide range of its operating and capital activities, including a portion of operating expenses, maintenance of fleet and infrastructure, capital expansion and investment programs, and capital debt repayment.

Unlike Europe, where passenger rail receives significant government subsidies, the federal government has made minimal investments in Amtrak. The Federal Railroad Administration

(FRA) budget dropped 37 percent in 2017, and grants to Amtrak were cut by almost 45 percent, from \$1.4 billion to \$774 million and have continuously decreased. The current \$2 billion in grants for Amtrak in the 2020 budget is projected to fall to less than \$1.5 billion in 2021.

- In 2019 Amtrak reported a record of 32.5 million passengers and Amtrak ridership was growing on routes near congested highways that connect dense urban areas like San Diego to Los Angeles and Milwaukee to Chicago.
 - The most heavily traveled portion of the Amtrak passenger rail system is the Northeast Corridor, or NEC, stretching from Washington, DC to Boston.

The budget cuts are damaging, making it difficult for Amtrak to comply with safety requirements and meet demand in high services regions

Challenges to High-Speed Rail

In recent years, regions have jumped on the idea of developing high-speed rail in the US, but challenges of lack of investment and compatibility with older systems remains.

In 2018 in South Florida, the privately funded high-speed rail system, Brightline, opened its first rail line between Miami and West Palm Beach and committed to expanding its service north to Tampa and Orlando.

- Despite the ability of the train to run at high speeds (200 mph), the tracks are not compatible, and replacing them is an expensive and lengthy process.
- Hence the trains can run at a maximum of 125 mph, but only 79 mph between Miami and West Palm Beach, underscoring the deficiencies and complexities of implementing a high-speed rail system in the US.

In 2019, the Federal Railroad Administration terminated a 2010 agreement with the California High-Speed Rail Authority and will pull a \$929 million federal grant, which was envisioned to connect San Francisco and Los Angeles. This has resulted in lawsuits between the state and the Trump Administration.

- California still wishes to forge ahead with high-speed rail in the San Francisco area, despite lack of funds.

Transit Systems

A location's accessibility is influenced by its proximity to people and activities, as well as by the quality of the transportation system serving it. Having greater access to transit is vital for the functioning of safe, equitable and environmentally-friendly cities.

- Quality transit services can leverage additional economic benefits, such as small business development and business retention and expansion.

Most major cities view transit as key to serving their growing populations, as well as reducing congestion and improving air quality, by taking vehicles off the road. Light rail (LRT) remains the most appealing mode of public transportation for many cities and is used throughout

North America. It is a relatively affordable way to bring rail transit to a city, and can fill the niche between buses and subway systems.

- The rate of public transit is two to three times higher in Canadian cities than comparably sized US cities.
 - In 2016, 12.4 percent of Canadians used public transit to commute to work, compared to 5.4 percent of Americans.

Lower-income areas of cities that rely on transit need consistent transportation choices in order to get to jobs and schools, but 2017 was considered a bleak year for transit ridership in the US.

- Usage decreased in many metro areas, according the TransitCenter, due to increases in tele-working, higher car ownership, and more use of ride sharing services.
 - By 2018, the trend began to shift, and some cities were seeing ridership gains.

In 2018, Metro Vancouver's transit system grew more than any other in North America, according to the American Public Transit Association, and transit usage was also increasing in Seattle, Pittsburgh, Houston, Austin, San Antonio, Detroit and Las Vegas.

- Important LRT projects were completed in Charlotte, North Carolina, Northern California, and El Paso, Texas

There were 129 miles of lines under construction in cities across North America in 2019, representing an investment of more than \$28 billion.

- However, the Trump Administration has delayed funding for dozens of LRT projects, causing delays and risks, and shifting cost burdens on to local governments, according to the American Public Transportation Association.
- Federal Transportation Authority (FTA) delays in funding have resulted in at least \$845 million in extra costs for transit agencies, including \$650 million resulting from changes to how the FTA assesses risks and \$195 million due to delayed approvals.

Re-orienting bus routes to align with light rail options has proven to be a successful model for enhancing public transit usage.

- In 2015, Houston redesigned its bus network to deliver frequent service to more neighborhoods. At the same time. it began work on light rail routes. By 2018, bus service accounted for the bulk of the region's ridership growth.

The COVID-19 pandemic's impact on public transit could be disastrous, presenting new obstacles to millions of low-income commuters. During the shelter-in-place orders and business closures that kept millions of workers at home, the most-used transit systems were carrying 70 percent less riders than usual in April 2020, according to the American Public Transportation Association.

- The TransitCenter has reported that the approximately 2.8 million people that continued to use public transit were workers in essential industries that had to go to work during the shelter-in-place orders.

The decrease of revenue from fares, parking, fees, and other sources of income is predicted to deeply impact the nation's transit systems.

- Washington, DC's Metro was losing \$2.5 million each weekday during the lockdown.

While relief from the federal aid package helped to cover short-term losses, many systems cut back on operations.

- Miami Miami-Dade Transit, which operates the city's public bus line Metrobus, partnered with Uber and Lyft to provide late-night transit service on nine routes with low ridership.

Micromobility Options

Innovative transit systems are moving beyond traditional buses and trains. Across North America, localities are employing schemes to implement mobility options to provide access to education, jobs and community facilities for those unable to - or do not wish to - drive a car. Transportation upgrades and installations also have ripple effects, generating air and water quality improvements.

- Some places have integrated projects supporting car-sharing, bike-sharing, e-scooters and electric-vehicle infrastructure during the coronavirus pandemic.
 - These micromobility options offer an approach for cities striving to improve their resilience for a future public health crises and other disasters.

Due to the pandemic, bikeshare ridership saw an initial surge in March 2020 in cities like New York City, Philadelphia, and others as commuter sought options to mass transit.

- Non-profit bikeshare systems in Kansas City and Detroit began offering free bike and scooter rides to all residents during the pandemic, and a company in New York began loaning scooters directly to health care providers.
- In San Jose and Oakland, California the electric scooter company GRUV began providing free e-scooter rides essential workers, including health-care and grocery-store workers.
- Lyft also began providing free bikeshare access for people who work in healthcare, public transportation, or as first responders in Boston, Chicago, and New York City.

Toronto and Seattle relaxed freight rules and provided dedicated curb space for delivery drivers, due to the increase of pickups and deliveries during the pandemic. To comply with the health-related concerns, many transportation companies are sanitizing their vehicles more regularly and providing their field service staff with protective gloves.

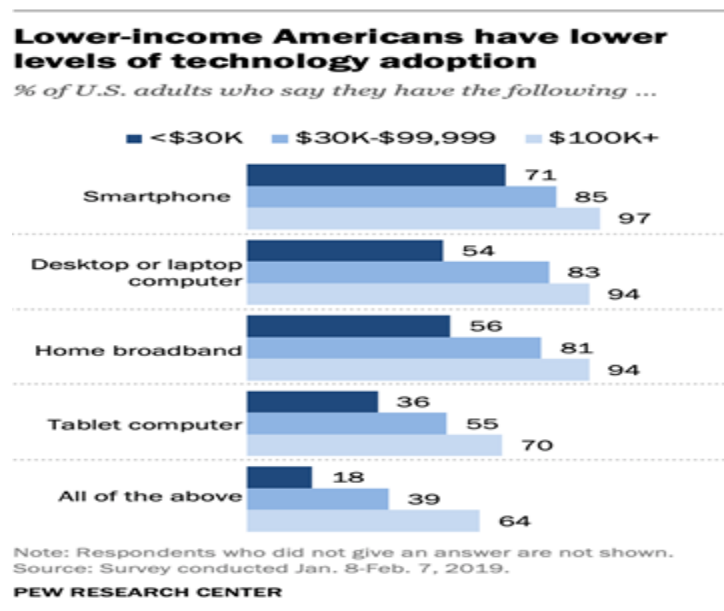
Going forward residents will continue to need transportation alternatives for when mass transit systems are inaccessible.

The Digital Divide

The information infrastructure is critical for competitiveness. Access to broadband is an important factor for economic development, impacts economic development the ability to attract a new facility, or developing new school programs and attracting talent. Today, broadband is an essential quality-of-life amenity like electricity and water, and cloud computing and e-commerce are considered indispensable to most business operations.

Since the turn of the 21st century, broadband quality in the US has improved, and internet providers invested \$1.5 trillion in American internet infrastructure between 1996 and 2015, according to the United States Telecom Association. Smartphone access increased by 20 percent among Latinos and 10 percent among blacks in the US since 2009. Pew Research shows that 77 percent of American adults own a smartphone, but owning a device is not enough.

- Pew Research reports that 10 percent of Americans were not online in 2019, meaning that 32.8 million people were not connected to the internet.
- Approximately 30 percent of adults with household incomes below \$30,000 a year do not own a smartphone, and 44 percent do not have broadband at home.
- Higher-income Americans are also more likely to have multiple devices that enable them to go online.
 - 64 percent of higher-income households with home broadband service, also have a smartphone, a desktop or laptop computer and a tablet, compared with 18 percent of those living in lower-income households.
- For children in lower-income households, home schooling without a device or broadband is not feasible.

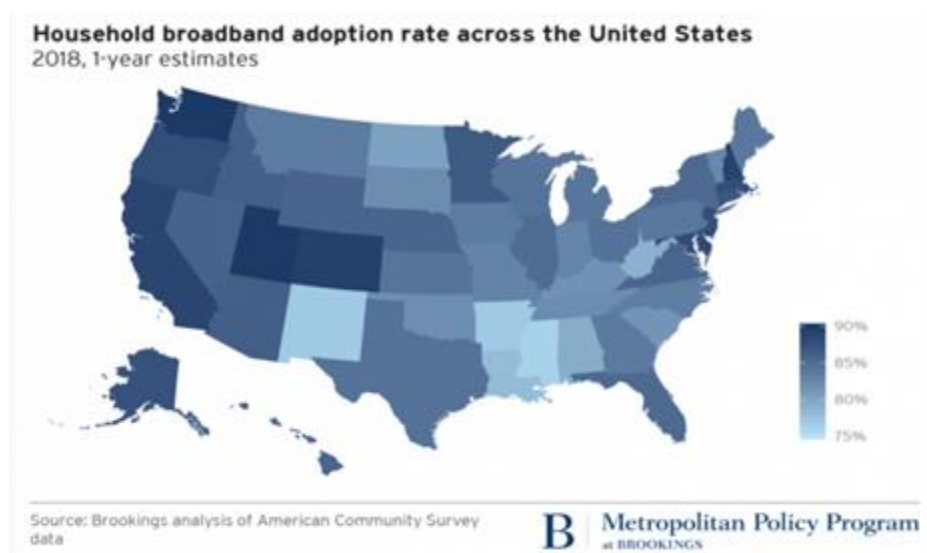


Data shows that lack of connectivity disproportionately affects rural communities, as well as blacks and Latinos. According to the Federal Communications Commission, at the end of 2017, more than 26 percent of rural residents lacked access to fixed broadband, such as cable or fiber-optic service, at the FCC's benchmark of at least 25 megabits per second for downloads. Improvement was slow over the following two years.

- A March 2020 report from the Institute for Southern Studies revealed that about 25 percent of residents in rural areas, as opposed to two percent in urban areas, lacked access to high-speed internet service.²⁸
 - Many residents cannot afford monthly fees ranging from \$50 to over \$100.

Remarkably, for the FCC, only one household in a census block needs to report that they have access to high-speed internet service for providers to be able to claim that they serve the entire population of that particular census block.

- In almost a quarter of neighborhoods, broadband is available, but less than 40 percent of households are connected, for either financial or other reasons.



Studies show that publicly-owned broadband increases access and affordability, but 25 states - with 9 located in the South - have banned it or prevented it in some manner.

- The telecom industry has invested over \$174 million into lobbying against publicly-owned broadband on a state level.²⁹

The COVID-19 pandemic placed the nation's internet and wireless networks under huge pressure to deliver reliable connectivity, as schools and businesses shifted their operations out of the workplace and into homes. There has been unprecedented use of digital conferencing platforms like Zoom and Webex, which require an internet connection.

²⁸ This is a number that the Federal Communications Commission calculates by using self-reported data from providers.

²⁹ Those state are Alabama, Arkansas, Florida, Louisiana, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

- Lower income people and those in rural areas have been hit the hardest by the shelter-in-place rules, and limited or non-existent broadband service exacerbates their hardship.

Moreover, most employers only accept online job applications today, which places those without connectivity at an additional disadvantage.

Rural Challenges

Investments for the broadband infrastructure are essential for the nation's competitive advantage and supporting innovation. This would allow all sectors and communities to have an equitable chance to grow and prosper. However, attracting investment for broadband in rural areas remains a challenge, with the low population density of rural areas remaining a key factor.

- Lack of internet access or low speed impedes digital learning tools, job searches, online medical treatment, the ability to trade goods and services, or do remote repairs for agricultural equipment.

In 2017, the Interagency Task Force on Agriculture and Rural Prosperity was established to identify legislative, regulatory and policy changes that could promote agriculture and prosperity in rural communities.

- The findings of the interagency task force included 31 recommendations to align the federal government with state, local and tribal governments to take advantage of opportunities that exist in rural America.
 - The Report identified Achieving e-Connectivity in Rural America as a cornerstone recommendation, which has been a long-term concern.

Notably, since its establishment in 2017, the Federal Communications Commission Rural Broadband Auctions Task Force has made some headway. The Task Force aims to accelerate the process of getting government subsidy money into the pipeline for broadband coverage to rural and tribal areas.

In June 2019, the FCC authorized \$166.8 million in funding over the next decade to expand broadband to 60,850 unserved rural homes and businesses in 22 states. This was the second round of funding. Some examples of approved funding included:

- \$28.6 million to Central Virginia Services, an electric coop, to deploy gigabit connections to nearly 11,000 locations in rural Virginia.
- \$28.4 million to NTUA Wireless to serve over 7,000 homes and small businesses in Tribal areas of Arizona, New Mexico, and Utah.
- \$22 million to Co-Mo Comm, an electric coop, to deploy gigabit connections to over 8,350 rural locations in Missouri.
- \$23.6 million to Commnet of Nevada to provide service to over 12,800 homes and businesses in 11 counties in rural Nevada.

Access: Impact of COVID-19

The COVID-19 pandemic has highlighted the importance of internet access for all people, from senior citizens to veterans to children to teachers to businesses and communities of all sizes.

- For those that do have internet access, the FCC quickly announced the Keep Americans Connected Initiative to ensure that Americans do not lose their broadband or telephone connectivity as a result of these exceptional circumstances.
 - The FCC asked broadband and telephone service providers to take the Keep Americans Connected Pledge, which includes: not terminating service to any residential or small business customers due to their inability to pay their bills due the pandemic; a waiver of any late fees; and the opening of Wi-Fi hotspots to any American who needs them.
- In Michigan, providers were awarded \$22.5 million from the US Department of Agriculture's Broadband ReConnect Program to expand broadband access to unserved rural areas.
 - The state has made Wi-Fi hotspot locations easily available as a bridge to increasing the accessibility of internet services during the pandemic.

The digital divide will also impact the gathering of census data from those un-connected households. The federal government could help to decrease the divide by creating public-private partnerships or by using community block grants to provide Wi-Fi hotspots to vulnerable communities. Local governments can assist residents by:

- Partnering with telecom cooperatives to build out broadband networks in rural communities, if commercial providers will not provide service.
- Using city and regional libraries and community, cultural and recreation centers to offer free digital literacy courses.
- Allotting a portion of cable and telecommunication franchise fees to offer discounted broadband services to lower-income residents.

Opportunity Zones

Opportunity Zones (OZ) were created under the 2017 Tax Cuts and Jobs Act, to stimulate economic development and job creation, by incentivizing long-term investments in low-income neighborhoods. There are more than 8,760 designated Qualified Opportunity Zones located in all 50 States, the District of Columbia, and five US territories. Investors can defer tax on any prior gains invested in a Qualified Opportunity Fund (QOF) until the earlier of the date on which the investment in a QOF is sold or exchanged or until December 31, 2026.

Since Opportunity Zones are not a government grant program, but a tax incentive, many public sector leaders have struggled to understand how they fit into their traditional economic development toolkit, and what the public sector's role is.

- The program has also experienced some controversy, as critics claim that the tax incentives have benefited wealthy and connected investors more than local residents.

A major concern is that historically under-invested communities may lack connections to prospective investors or developers, or even lawyers and accountants that are needed to develop an OZ. However, over the past year, many online OZ marketplaces and landing pages have been created to address this need.

- The marketplaces allow developers and EDOs to market OZ projects to investors and other stakeholders. Some EDOs, including Louisiana Economic Development, have created their own OZ landing pages to attract investors and developers

Opportunity Zones could assist lower-income neighborhoods who are currently dealing with the repercussions of a pandemic. The Economic Development Administration (EDA) has encouraged economic developers to think of OZ investment as a way to promote public-private partnerships and direct private investment to distressed areas.

- EDA worked with the Indiana University and its Kelley School of Business to create [Statsamerica.org/opportunity](https://statsamerica.org/opportunity), a web portal to link Opportunity Zones with economic and demographic data that intersects EDA's Economic Development District, University Center programs, and Revolving Loan Funds, and other work.

Funding Infrastructure Projects

Currently in the US, there is no single funding solution that will solve all of the infrastructure investment challenges. State and local governments have had to increase their contributions to infrastructure funding as federal dollars have diminished, but meeting the enormous needs has been difficult. While no one has denied that America's infrastructure is crumbling, there is little consensus on the path to fixing it.

- The World Economic Forum recommends that the US establish a federal infrastructure agency to create a long-term vision for infrastructure, and to centralize some of the decision-making processes required to execute it.

Notably, the Bureau of Economic Analysis (BEA) reports that about 87 percent of the America's public infrastructure assets are owned by state and local governments, with the federal government claiming 13 percent ownership. While not as widely used as in other countries, throughout the globe public-private partnerships (PPPs) are increasingly important for the rebuilding of the nation's infrastructure.

- PPPs have the potential of improving the outcomes of infrastructure investments and enhancing the nation's competitiveness.

The Fixing America's Surface Transportation Act (FAST), that was passed by Congress in December 2015, was intended to provide \$305 billion of funding to infrastructure projects, allowing states to use federal highway funds to create and operate dedicated PPP offices. Reauthorizing the FAST Act will be vital to maintaining and improving the country's infrastructure.

- In recent years, states like Florida, California, Ohio, Maryland and Pennsylvania have used PPPs to develop and repair infrastructure.

- Maryland used a public-private partnership in 2017 to pursue the widening of the Beltway and other highways. The project includes a \$1 billion effort to rebuild and widen notorious bottleneck between Virginia and Maryland (the American Legion Bridge).

PPPs are complex and require significant public engagement to ensure that the deal is in the best interests of the community.

- The cost savings from PPPs generally materialize in several different forms, such as lower construction costs, reduced life-cycle maintenance costs, and lower costs of associated risks.
- The transfer of risks associated with delivering a project from the public sector to the private sector is also a benefit of PPP.

Barriers may include lack of effective state legislation in some states to authorize the use of public-private partnerships to deliver projects, as well investor concerns over the ability of the public sector to administer fair and competitive procurements.

Additional financing tools for infrastructure may include infrastructure exchanges, infrastructure banks, state revolving loan funds, general obligation bonds (GO) value capture techniques – such as TIFs and Business Improvement Districts - green bonds, and bundling, as well as New Markets Tax Credits (NMTC).

- Local communities have issued public finance bonds for decades to fund the construction of roads, bridges, hospitals and other infrastructure projects.
 - As public funding options dissipate, state and local bond finance could also be an effective tool for clean energy investment.

Infrastructure investment has a history of creating jobs and stimulating the economy.

- With the COVID-19 pandemic's impact on jobs and economic activity, in March 2020 the provincial government in Quebec announced it would spend \$11 toward various infrastructure projects, including schools, roads and public transportation to boost the province's economy amid the pandemic.

In the US, federal, state and local leaders can look at ways to improve the nation's infrastructure, while also providing jobs and training. An aligned approach could foster a win-win solution to fixing the nation's infrastructure, as well as preparing a new generation of workers in much needed long-term careers. Going forward, any new infrastructure project should consider equity issues, as well as health and safety measures.

Role for EDOs

Economic developers will need to consciously consider the unique needs in their community when working with partners to leverage public, private and community resources to achieve infrastructure improvements. Economic development professionals can educate community leadership and stakeholders about the importance of prioritizing a community's infrastructure improvements as a means of achieving economic growth and remaining competitive. They

can also advocate for viable transportation options and enhanced access to information technology.

Importantly, EDOs play a crucial role in attracting investments that can help existing and targeted businesses to thrive. As public funding wanes, stakeholders will need to be more innovative in devising programs and tools to facilitate revitalization and investment, and can look into Opportunity Zones more at this time. By working with local planning officials, practitioners can facilitate connections between private sector developers and the public sector to create effective PPPs that can boost local economic activity. This will support long-term growth and help to maintain resiliency in the face of a crises.

D. Global Competitiveness

The concept of globalization significantly impacted the economic development field at the turn of the 21st century. Globalization created unprecedented economic opportunities and a riskier world economy. Through 2008 the notion of going global was appealing to many US firms due to the low-wage labor and low operating costs available overseas. Economic development practitioners deftly learned how to adjust to economic and social shifts in the same way that business leaders learned how to balance global challenges in order to better serve customers and shareholders. As the economy transformed, some industry sectors grew exponentially, while others contracted or became obsolete, placing more pressure on practitioners in terms of attracting and retaining business and nurturing the local economy.

The evolutions over the past 20 years have left us with a very different landscape than at the onset of the century. Contrary to the openness in global exchanges that were at the forefront of globalization, over the past four years there has more selectivity, as well as an increased level of caution among governments and firms.

For the past two years, uncertainties have been threatening growth for the global economy in terms of trade, global alliances and changes in the US tax code. Alliances underwent scrutiny and allies questioned American intentions.

- Tension with China had worldwide implications, and retaliatory actions by each side shook up global trade and investment.
- In 2019 the US-Mexico-Canada Agreement (USMCA), which replaced the North American Free Trade Agreement (NAFTA), was finalized.

While the current COVID-19 pandemic has enhanced uncertainty and trade concerns, manufacturers were questioning the wisdom of relying on globalized supply chains prior to the global health crisis. The pandemic has exposed the fragility of the modern global supply chain, and decision-makers and business leaders today are grappling with disruptions in trade and travel. Although the longer-term implications of the pandemic are still largely unknown, manufacturers are considering the consolidation of operations and decreased reliance on overseas operations, as firms seek to lower costs while remaining solvent.

- Global trade is expected to fall by between 13 percent to 32 percent in 2020, and estimates of the expected recovery in 2021 are equally uncertain, according to the World Trade Organization.
- The unpredictability of the virus could further upset global supply chains, which would in turn impact local economies and livelihoods.
- As the future unfolds, firms will seek to leverage investments in new technology, while also boosting services to customers and maintaining workers.

Investment decisions are now further impacted by the pandemic, and firms will be more diligent about choosing a location for their business to thrive.

- Both firms and communities will need to demonstrate that they are willing to go beyond the minimum standards to provide additional confidence and safety for customers and employees.

For economic developers that are tasked with retaining business, strengthening local competitiveness, attracting a qualified workforce, and keeping pace with the fast rate of technological change, the challenges brought on by the pandemic have heightened the importance of understanding the complexities of the global marketplace. This insight will help in securing new investment going forward as firms in various sectors consider how to re-engage in the post-pandemic economy. Partnerships and alliances will be more important than ever, and EDOs that collaborate with local business throughout a crisis will have better success in maintaining a competitive advantage in the long-term.

Poor Balance of Trade

Since 1976, the US has run a negative balance of trade. Trade imbalances have a negative impact on the economy, as more goods are being imported than exported, leading to losses of expertise and business to foreign locations.

- According to the US Department of Commerce, the US trade deficit fell for the first time in six years in 2019, decreasing 1.7 percent to \$616.8, compared to the year prior.
 - The Trump Administration's "America First" agenda decreased the flow of goods in 2019, with exports decreasing for the first time since 2016.
- In 2019, the US imported \$2.568 trillion worth of goods, which amounts to about \$7,800 in annual product demand from each US resident.

The top five US trading partners in 2019 were China, Canada, Mexico, Japan, and the United Kingdom. Most of US imports (43.4 percent) were purchased from providers in Asia.

- Canada and Mexico supplied 26.8 percent of import sales to the US, and 23.5 percent of imports came from Europe.

The top 10 import purchases in 2019 were:

1. Machinery, including computers
2. Electrical machinery, equipment
3. Vehicles
4. Mineral fuels, including oil
5. Pharmaceuticals
6. Optical, technical, medical apparatus
7. Furniture, bedding, lighting, signs, prefab buildings
8. Plastics, plastic articles
9. Gems, precious metals
10. Organic chemicals

Imports of pharmaceuticals increased by over 10 percent in 2019, while imports of mineral fuels, including oil, fell by 13.1 percent.

- The highest trade deficit was with China, at \$365.8 billion.
- The trade deficit with Canada was \$34.8 billion; a 31 percent increase from 2018.
- There were trade surpluses with Hong Kong of \$26 billion, and with the United Arab Emirates of \$15.5 billion.

Overall, the European Union (EU) exports exceeded imports by over \$200 billion in 2019.

- The EU had a positive a trade balance with the US, which accounted for 18 percent of its exports and 12 percent of its imports.
- The EU had a negative balance of trade with China, which accounted for 9 percent of exports and 19 percent of imports.

Exports

Exports play a critical role in bringing economic prosperity to local economies by increasing jobs, generating wealth and helping to grow local industry. With two-thirds of global purchasing power existing outside of the US, exports present a significant opportunity to expand a business of any size. Firms that export bring increased stability to their operations in times of economic downturns, and connections to global supply chains have become fundamental for the success of local firms.

- The International trade Administration (ITA) reports that for every \$1 billion the US exports, 5,279 jobs are created or supported in the manufacturing sector.

US manufacturers exported \$1.645 trillion worth of goods around the globe in 2019. That was a 9.5 percent increase since 2015, but a 1.2 percent decline from 2018 to 2019. Small businesses comprised 96.6 percent of all exporters in the US. Over a third of US exports (33.4 percent) were delivered to North American trade partners. The top five export markets for the US were:

- Canada
- Mexico
- China
- Japan
- United Kingdom

The top 10 export product groups that represent the highest dollar value in American global shipments were:

- Machinery including computers
- Mineral fuels including oil
- Electrical machinery, equipment
- Aircraft, spacecraft
- Vehicles
- Optical, technical, medical apparatus
- Plastics, plastic articles
- Gems, precious metals
- Pharmaceuticals
- Organic chemicals

The five leading export states in 2019 were Texas, California, New York, Louisiana and Washington.

- The fastest-growing exporting states from 2018 to 2019 were South Carolina, Arizona, Oregon, North Carolina, and Texas.

Since the pandemic, automotive exports have been down by almost 18 percent and industrial supply shipments dropped 7.5 percent.

Food and Agriculture

The food and agriculture sectors are critical to the economy. Worldwide, food and agriculture represent a \$7.8 trillion industry. Investments in the sector increased three-fold since 2004, according to McKinsey & Company.

- The USDA reports that agriculture, food and related industries contributed \$1.053 trillion to US GDP in 2017, a 5.4 percent share.
- Farms across the nation contributed \$132.8 billion of that total, or about one percent of GDP.

Agricultural products are important exports, but US farm exports have been dropping due to the trade war.

- American agricultural exports to China fell from \$15.8 billion in 2017 to \$5.9 billion in 2018, according to the US International Trade Administration.
- Exports of milk powders, cheese, butterfat, whey products and lactose were down 14 percent in 2019 from 2018, and exports of those products to China were down 54 percent.

The USDA reported in February 2019 that soybean exports were down 13.5 million metric tonnes from the same time in 2018.

- With the pandemic, exports of US goods fell by approximately 9.6 percent in March 2020, according to BEA, which was the largest decline the 2008 financial crisis.

Impact of Corporate Tax Cuts

The Trump Administration cut the corporate tax rate from 35 percent to 21 percent through the Tax Cuts and Jobs Act of 2017 (TCJA). It was argued that the change in the tax rate would increase the average household income in the US by \$4,000.

- By the end of 2019, there was little indication that the tax cut was trickling down in the ways its proponents claimed.

In 2018, JPMorgan predicted that companies would buy back a record amount of their own shares, with nearly half the purchases funded with the savings in taxes. Such buybacks keep money in the hands of shareholders, and often come at the expense of innovation.

- In 2018, business investment did increase, but the IMF found that it was driven by strong aggregate demand in the economy, rather than supply-side factors.³⁰

Importantly, in 2019 revenues from corporate taxes fell over 40 percent, adding to the burgeoning federal budget deficit, before the COVID-19 pandemic.

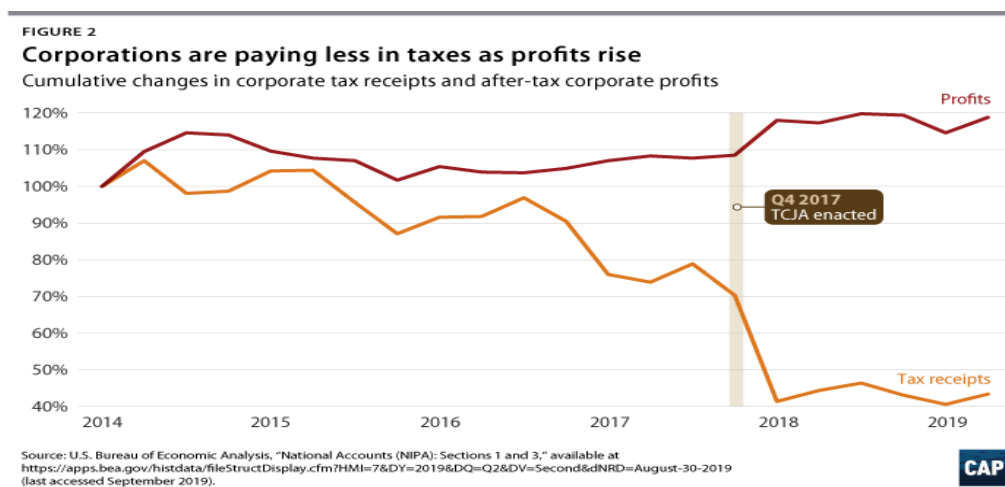
- The US Treasury reported that from FY 2017 to FY 2018, the federal budget deficit increased by \$113 billion.
 - At the same time, corporate tax receipts fell by about \$90 billion.
- The budget deficit was \$1.02 trillion in 2019, a 17.1 percent increase from 2018.
 - For reference, the deficit reached a peak of \$1.4 trillion in 2009, as stimulus measures were initiated to combat the Great Recession.
- In addition, rather than spurring domestic investment, provisions within the TCJA incentivized some multinational firms to increase investment overseas.³¹

American workers were less productive in the third quarter of 2019, with productivity falling 0.3 percent.

- The Labor Department reported that between 2018 and 2019, productivity only increased by 1.4 percent, which is about two-thirds of what was viewed as average.

Moreover, despite high expectations for investments in Opportunity Zones - that were created as part of the tax reform law - only a fifth of corporate survey respondents in Area Development's 34th Annual Corporate survey, Q1 2020, were considering locating a domestic facility in one of those OZ areas.

The diagram below from the Center for American Progress demonstrates the difference between the rise in corporate profits vs. corporate tax contributions.



The figures illustrate that tax cuts and spending were simply not boosting long-term growth for the US, as corporate tax receipts fell dramatically as compared to profits.

³⁰ International Monetary Fund, IMF Working Paper, WP/19/119, "U.S. Investment Since the Tax Cuts and Jobs Act of 2017", May 2019.

³¹ Ibid

The business tax breaks included in the CARES Act were intended to infuse corporations with money to maintain business and keep people employed. However, the Act includes a host of tax breaks that will further impact the drop in federal tax revenue.

- For instance, a corporate tax break in the CARES Act allows corporations to amend tax returns and reduce taxable profits for pre-2018 tax years, when the corporate income tax rate was 35 percent, rather than the current 21 percent.

Sino-American Trade War

Trade enhances competition, promotes innovation and fosters efficiency. It increases knowledge-sharing, while also expanding the array of available goods. In the years following the Great Recession, there was a notable slump in trade. While weaker local economies were a factor, the increase of protectionist measures by national governments was also responsible for the drop.

- Increased protectionism - as governments sought to balance imports and exports - began to reach a critical point in 2018.
 - The steel tariffs that were enforced in 2018 triggered ire from farmers to aviation manufacturers, and led to an 18-month trade war with China.
 - The trade war led to a 0.4 percent decrease in global trade in 2019; it was the first drop in global trade since 2009.

The United Nations Conference on Trade and Development (UNCTAD) concluded that US consumers have been affected the most by tariffs on Chinese imports.

- Tariffs cost the American consumers almost \$69 billion in 2019, according to the National Bureau of Economic Research.
- The increase in the tariff rate to 25 percent on \$200 billion worth of nearly 6,000 imported Chinese goods, imposed by the Administration in 2019, added an average of \$500 to \$1,000 to US consumers' annual costs, as imports on less expensive Chinese goods declined.

The Administration also insinuated that other trading partners - including the European Union, Brazil and Argentina - devalued their currencies at the expense of US manufacturers. Hence, the Administration took steps aimed at shrinking the trade deficit by shutting out what it considered to be unfairly traded imports and renegotiating free trade agreements.

- The basis of the premise was that cutting the trade deficit would boost annual economic growth to 3 percent on a sustainable basis, but the US economy did not achieve that mark in 2019, growing just 2.3 percent.
 - That was the lowest in three years, following a 2.9 percent expansion in 2018.

These trade disputes ostensibly influence the types of jobs available and the standard of living in US communities.

- In December 2019, the Federal Reserve reported that the costs of the trade war with China included higher prices for firms that imported components from China.

Historically, trade wars have stalled the global economy.

- The 1930 Smoot-Hawley tariff act, which increased tariffs on more than 20,000 goods, led to retaliation from foreign governments, the failure of some overseas banks and a loss of confidence on Wall Street. Global trade declined, isolationism increased, and the Great Depression of the era worsened.³²

The growing US trade deficit was highlighting the fact that any significant global disruption could destabilize global supply chains, investments and restrain overall growth.

- In January 2020, the 18-month trade war reached a compromise as the US and China signed Phase One of a trade deal.
 - The deal included provisions to eliminate intellectual property theft, force technology transfers and increase Chinese purchases of US goods.

Further negotiation on the next phase of the trade agreement has stalled, as the health crisis heightened tensions in the Sino-American relationship.

Reshoring

The Great Recession's negative impact on manufacturing instigated a re-evaluation of corporate decisions to remain based overseas. Reshoring encompasses the notion of manufacturers bringing jobs back to the US from low-wage locations abroad, whereby enhancing the nation's ability to revitalize manufacturing, create quality jobs and increase exports.

Since 2009, there has been a slight flow of reshoring. This coincided with the decline in trade of manufactured goods since 2011, which was influenced by rising wages in China and elsewhere, as well as technological advances that facilitated automation.

- Growth in online commerce spotlighted the importance for immediate replenishment of stock and being closer to the consumer.

While reshoring can bring back jobs, the amount gained may be less than those that were lost; automation and technology have decreased the job creation potential of reshoring.

- The Reshoring Initiative estimated that only 120,000 jobs of the over 720,000 gained between the end of the Great Recession and 2013 were reshored.

The COVID-19 pandemic has re-ignited the reshoring discussion, as the nation's inability to domestically supply personal protective equipment (PPE) placed communities and people across the country in a dire situation.

- The shutdown of Chinese factories in early 2020 emphasized the need to diversify supply chains and reduce manufacturers' heavy reliance on China.

³² The Guardian, "Smoot and Hawley, the Ghosts of Tariffs Past, Haunt the White House", January 29, 2017.

- Reliance on foreign goods for health and safety reasons has triggered alarms for decision-makers across the country.

Job Benefits of Domestic Production

Currently, the US imports the majority of its generic drugs, importing \$128 billion worth of pharmaceuticals in 2019.

- The Coalition for a Prosperous America found that reducing the nation's pharmaceutical imports in half, and sourcing them through domestic production, would generate 804,000 new jobs and add \$200 billion to the nation's GDP.
 - In terms of medical supplies, reshoring production for half of those supplies could generate an additional 302,000 direct and indirect jobs and add an additional \$54 billion to GDP.
- In May 2020, the federal government awarded a contract worth up to \$812 million over 10 years to Phlow Corp., a Virginia company developed to ensure against drug shortages by producing ingredients and generics.

Communities that can lure a new or expanding manufacturer to their community can greatly enhance local economic recovery. EDOs will need to engage and connect with available resources, and establish new programs where needed.

- In addition, corporate leaders have been facing pressure to use new sourcing metrics, such as total cost of ownership (TCO), supply chain resiliency, cybersecurity and intellectual property protection.

Tools already exist for firms to evaluate the costs of reshoring:

- The Department of Commerce offers the Assess Costs Everywhere (ACE) tool. ACE outlines the range of costs and risks associated with offshore production, and provides links to public and private resources, so that firms can more accurately assess the total cost of operating overseas.
- The Reshoring Initiative has a free online tool to help companies determine the total cost of ownership (TCO), which factors in labor costs, materials, quality, waste, logistics and shipping, that can assist in the decision-making.

A company's decision to reshore can be encouraged through the creation of favorable business conditions.

- EDOs striving to recruit firms back to US shores will have a competitive advantage if they can spotlight the existence of a quality workforce and a resilient and adaptable local economy. Other concerns for firms are shipping costs and a stable supply chain.

Assets to Bring them Back

In Spring 2020, Brand Acceleration interviewed site location professionals asking them which industries they believed were most the important to bring back to the US, and what assets a community would need to have in order to be attractive to these industries. Below is a summary of the replies:

Medical Products

- ➔ Needs: proximity to medical research institutions; employers in durable goods and manufacturing; lower costs of labor, real estate, and construction; cost advantages (right-to-work status); available existing buildings; low-cost electricity; excellent transportation assets.

Pharmaceuticals

- ➔ Needs: access to a highly skilled STEM workforce, and support fields like government affairs, regulation and compliance; proximity to research institutions; existing pharma and/or animal science companies; available existing buildings; buildings with clean environments or buildings that could be easily converted.

Electronics, automation, and communications equipment

- ➔ Needs: access to rare earth inputs; quick access to consumer markets; access to skilled talent and educational facilities.

Food and Beverage

- ➔ Needs: food programs in schools; plenty of excess available water; available sites; access to consumer markets.

Despite the real desire to diversify, China continues to have appeal. The country has 1.3 consumers, and auto manufacturers are still spending billions of dollars to expand Chinese production.

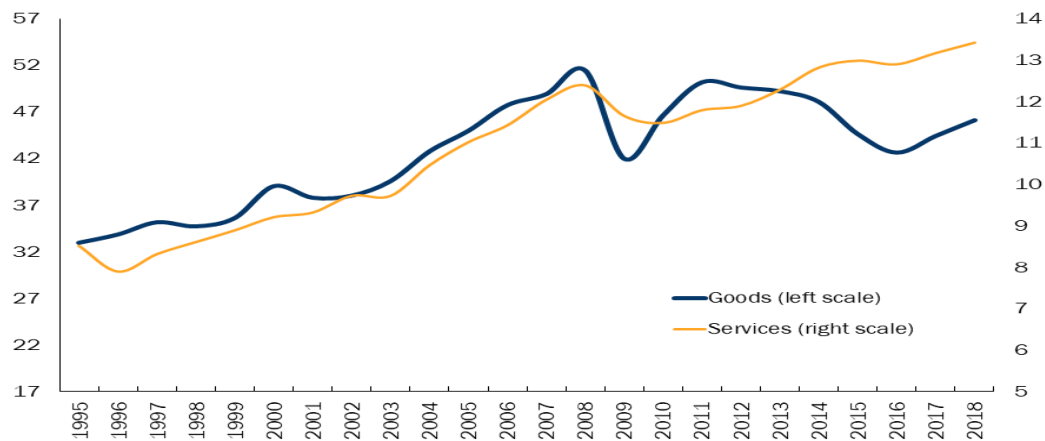
- In May 2020, Volkswagen AG committed to spending \$2.2 billion to buy control of a Chinese electric vehicle and a controlling stake in a battery producer.

Moreover, moving factories or finding non-Chinese suppliers to mitigate risk disruption equates to new investments for a company.

Trade of Services

While the trade of manufactured goods has decreased since 2011, trade of services has been on an upward path, as illustrated in the figure below.

Figure 1. Global trade in goods and services as a percentage of GDP



Source: World Bank World Development Indicators

BROOKINGS

The service sector accounts for 75 percent of GDP and 80 percent of employment in OECD countries. Services include tradeable activities like information and communications technology services, as well as financial, insurance, professional, scientific, and technical services.

Looking ahead, new technologies will make outsourcing services easier and more affordable, allowing companies to remain local while also coordinating production globally. Technologies for teleworking, and tele-medicine have been advancing during the pandemic, enabling more workers to offer services from a distance.

- The advent of 5G networks and wider adoption of cloud computing technologies will further enhance these capabilities.
 - The growth of cross-border trade services could compensate for some US manufacturing losses.

EDOs and Technology

The Fourth Industrial Revolution, or Industry 4.0, is characterized by the shift from simple digitalization to innovation based on combinations of technologies. It is paving the way for transformative changes in the way people live, and is disrupting almost every business sector. Government and business leaders have pivotal roles to play in influencing how the Fourth Industrial Revolution impacts the world.

- The Centre for the Fourth Industrial Revolution, which opened in San Francisco in 2017, is a hub for global multi-stakeholder cooperation to develop policy frameworks and advance collaborations that accelerate the benefits of science and technology.

Digital maps, artificial intelligence, and cybersecurity are all impacting businesses and the practice of economic development, as data-driven innovation is making economic development more complex and competitive.

Geographic Information Systems (GIS)

Across North America, economic developers, planners, and urban designers depend on smart maps and spatial analytics. Geographic information systems (GIS) systems are meant to capture store, analyze and present both spatial and geographic data. GIS has been widely used in the US, and is now being employed in other parts of the world as well. Communities of all sizes, from rural to urban, are gaining a boost in the site selection process due to technology that is helping to put their region on the map in location decisions.

As manufacturers rely more on advanced technologies to assist them in determining network design and site selection, the economic development community needs to keep pace with them, and firms are developing new applications for the economic development industry to more accurately match properties with investors.

- Esri's CityEngine uses 3D visualization power to see the relationships of projects, assess their feasibility, and plan their implementation. Building proposals can be analyzed from every angle, and users can see where a proposed building blocks the view, casts shadows, and reflects heat, to save on future energy costs.

In urban areas, digital maps of public transportation supply services allow local leaders to better understand how a mobility system is serving an area. In addition, epidemiologists use GIS and datasets to link the interactions people infected with COVID-19, mapping things like credit card transactions and mobile phone locations to see where an infected person has been and who they may have come in contact with.

Artificial Intelligence

While the use of artificial intelligence is already streamlining some business operations, there is potential for greater adoption. In 2016, the research firm Forrester reported that 58 percent of business and technology professionals were researching AI systems, but only 12 percent were actively using them.

- For 2020, Forrester forecasted that 25 percent of the Fortune 500 will add AI building blocks - such as text analytics and machine learning - to their Robotic Process Automation (RPA).
- A 2019 McKinsey study found that the world's most advanced economies including the US, Europe and China, had only achieved about 20 percent of their digital potential.³³
- The federal government has been moving to implement AI more broadly, and spent over \$2 billion during the 2017 fiscal year to research and develop AI technology.
 - In 2020, the Internal Revenue Service (IRS) began moving to employ more AI to help with tax compliance.

³³ McKinsey Global Institute, "Twenty-five years of digitization: Ten insights into how to play it right", Briefing note, May 2019.

States with heavy manufacturing, such as Wisconsin, Michigan, Indiana, Kentucky, Alabama and Georgia will employ more AI applications in terms of machine learning, according to a recent Brookings Institution report.

- Cities that are involved in the high-tech and managerial sectors, like those within the Boston and Washington DC area, and the states of Washington and California, will also undertake significant AI exposure.
- AI adoption is not consistent across all companies, and there is a new digital divide emerging between the “AI haves and the AI have-nots”, i.e., those with or without the required highly-skilled engineers to implement and maintain the technology.

AI in Site Selection

In the site selection process, digitalization is a valuable tool, enabling locations to attract the attention of businesses and site selectors that may have previously not considered the location at all.

- Artificial intelligence and predictive analytics will likely play a bigger role in site selection in the future, and retailers and real estate professionals have long used predictive models to incorporate information about their customers and market factors.
- For site selection, the AI will take a more prominent place in the early stages of the process, when examining the first round of potential locations for the relocation or expansion of new offices and operations of corporate clients.

AI’s ability to replace personal connections is limited, thus visits with local leaders and establishing relationships will still rely on human contact.

Cybersecurity

The proliferation of the Internet of Things (IoT) invariably exposes the general public, business and government to increases in security breaches. As devices become more interconnected with one another, weaknesses in the global internet-infrastructure grow as well.

- According to Zion Market Research, the cyber security market was valued at \$105.5 billion in 2015 and is expected to reach \$181.7 billion in 2021.
- The Center for Strategic and International Studies (CSIS) reported that cybercrime is a growing industry that damages trade, competitiveness and innovation.

Cybercrime and its prevention are expensive, and the costs and the damage to businesses from hacking and the theft of intellectual property is extensive.

- Cybercrime damages will cost the world \$6 trillion annually by 2021, according to Cybersecurity Ventures.

Cybersecurity threats impacts business of all sizes, and for small businesses the extra costs could be prohibitive to remaining open. Notably, 43 percent of cyberattacks are aimed at small businesses, according to Accenture.

- The insurance carrier Hiscox reports that these incidents cost businesses of all sizes \$200,000 on average.

More state governments are focusing on cybersecurity, and it is of particular importance to states with military installations and defense contracts.

- On the federal level, the vulnerability was highlighted in 2019 when government contractor Miracle Systems - that provides IT and engineering services to over 20 federal agencies - was hacked.
 - The firm incurred losses suffered losses of \$500,000 to \$1 million due to the security breach.

Technology will continue to have a major impact on the future of work. During the COVID-19 pandemic local businesses have been adopting more digital services to reduce obstacles caused by physical barriers. While this can simplify supply chains and provide for faster delivery of goods and services, it also increases opportunities for security breaches.

- As these new technologies are proliferated across industries and regions, the need for talent in these fields is growing.
 - Firms will need engineers to develop and maintain AI systems, and the demand outpaces the supply.

Economic developers will be better equipped to assist local businesses in employing these new technologies if they also have an understanding of the benefits and risks involved. This can include visiting manufacturers and small business in the community to learn of their needs and by taking advantage of the Manufacturing Extension Partnership Program network, community colleges and technical departments at higher educational institutions for technical assistance. EDOs will need also to harness these new technologies to remain competitive in the increasingly complex site selection process.

Global Business Rankings

In late 2019, the World Bank's Doing Business 2020 report assessed the business environment of economies in 190 locations to determine the best countries to do business in. The top countries in the world to do business, according to the study, were:

- New Zealand
- Singapore
- Hong Kong SAR
- China
- Denmark
- Republic of Korea
- United States
- Georgia
- United Kingdom
- Norway
- Sweden

The Republic of Korea and the US tied for 6th place. The criteria included opening a business, attaining a location, accessing finance, dealing with daily operations, and operating in a secure business environment. Mexico came in 60th place.

- China notably made many improvements since 2017 in acquiring electricity, dealing with construction permits, taxes, trading across borders and resolving insolvency.
- Economies of the Caribbean made progress in carrying out reforms focused on starting a business, getting electricity, paying taxes and enforcing contracts.
- Latin America lagged other regions of the world in smoothing the path for domestic small and medium-size enterprises to do business.

In terms of manufacturing prowess, the 2018/2019 fDi Magazine's Manufacturing Locations for the Future rankings reported that the US received the top spot for overall manufacturing. The US was followed by:

- China
- Singapore
- United Kingdom
- Germany

When looking at of a country's economic protentional, the US again received the number one position, followed by China, India, Singapore and the United Kingdom.

- Singapore received the top spot in terms of connectivity, and Kazakhstan received the top ranking in terms of cost effectiveness.
- Neither the US nor China were in the top 10 counties listed for cost-effectiveness.

State Business Climate Rankings

In 2019, for the seventh straight year, Georgia took first place in Site Selection's annual ranking of state business climates based on the available workforce, infrastructure, business costs, as well as the responsiveness of the governor's office, the legislature, and local and regional leaders around the state, and the ability for businesses to find the resources and pro-business programs that help ensure success and predictability.³⁴

- The Hartsfield-Jackson Airport is an asset that provides global connectivity to America's Southeast and is a key factor cited by site selectors in their pick of a Georgia as a location for their capital investment. In 2019 the state formed a Rural Strike Force to help all of Georgia benefit from the strong business climate.

The list of the top 12 states in the 2019 ranking include:

³⁴ The Business Climate Ranking is based on a survey of corporate site selectors. an index of seven criteria: performance in Site Selection's annual Prosperity Cup ranking; projects; and state tax burdens on mature firms and on new firms according to this year's Tax Foundation and KPMG Location Matters analysis.

- Georgia
- North Carolina
- Ohio
- Texas
- South Carolina
- Virginia
- Tennessee
- Indiana
- Alabama
- Louisiana
- Arizona
- Nebraska

Regionally, the Southeast was considered the most improved region in the US in 2019 for site selection consultants.

- The Midwest and Southwest came in second and third place repetitively, in terms of improved business climates.
- North Carolina was viewed as the state where the business climate had most improved in recent years, followed by Arizona and Tennessee that tied for second place.
- Texas and Virginia, Michigan and Ohio also had improved business climates, according to survey takers.

The sectors that were showing the most activity across the US in 2019 were:

- Distribution and logistics
- Advanced manufacturing
- Food processing
- Biomedical and healthcare
- Datacenters

Site sectors place high value on customer services; lack of responsiveness to queries and poor government leadership are major gripes. They also request ease in finding contact information on an EDO webpage, as well as accurate and current data.

According to the Site Selection 2019 survey of corporate real executives, the most important location criteria were:

- Workforce skills
- Transportation infrastructure
- State and local tax scheme
- Ease of permitting and regulatory procedures
- Workforce development
- Land/building prices and supply
- Utilities (cost, reliability)
- Right-to-work state
- Higher education resources
- Quality of life

Having a skilled workforce has been a prime challenge for economic developers, and IEDC members have ranked the lack of a skilled workforce among their top three concerns since 2012. Developing the local workforce and investing in education should be a priority in all communities.

Foreign Direct Investment

Foreign direct investment (FDI) is essential to sustaining global competitiveness. When a foreign investor starts a new operation or contributes capital to established business, it contributes to the development of an innovative workforce, enhanced R&D, and increased compensation and benefits for employees. Since 2007, global FDI has been wavering due to policy uncertainty and economic slowdowns.

- According to the OECD, global FDI flows decreased by 27 percent in 2018, largely due to the US tax reform.
- FDI levels decreased for the fourth straight year in 2019, by 1 percent, hitting its lowest level since 2010 when firms canceled projects in the aftermath of the financial crisis, according to UNCTAD.

The volume of international data flows has been growing faster than trade or financial flows, and its positive contribution to global GDP has been offsetting the lower growth rates of trade and FDI.

- Cross-border data flows comprise a range of activities involving both goods and services, including e-commerce, social media, tele-medicine, big data analytics, cybersecurity and data storage. Digital commerce also includes the movement of data to facilitate the Internet of Things, additive manufacturing and the tracking of global supply chains.

Today, it is not certain of how long digital commerce will continue fueling trade growth, as many countries look into creating barriers to the free exchange of data.

The core factors that have influenced global corporate leaders in making cross-border location decisions have been:

- Labor availability and wage rates;
- Complexity of tax codes;
- Effectiveness of the political systems;
- Strength of the public education systems;
- Macroeconomic policies;
- Transparency of the regulatory environment;
- Condition of infrastructure and the ongoing commitment to maintain it.

Even before the pandemic, firms stalled in expanding their global operations, due to regulatory uncertainty and trade tensions.

- Firms placed more focus on restructuring their global value chains by relocating some segments for geopolitical risk aversion.

The pandemic has fiercely disrupted global FDI and supply chains.

- In February 2020, the completion rate of cross-border acquisitions dropped below \$10 billion from previous monthly values of between \$40 and \$50 billion.
- In March 2020, UNCTAD reported that of the 100 biggest multinational companies that they track, 41 issued profit alerts or signaled increased risks; 10 anticipated lower sales; 12 expected negative effects on production or supply chain disruptions; and 19 expected to be affected by both.
 - At that stage, the automotive sector supply chain, as well as the electronics and equipment sectors, were the most impacted.

UNCTAD predicts that the downward pressure on investment caused by COVID-19 will further impact global FDI.

- For 2020-2021, the drop could range between 30 to 40 percent, depending on when economic activity becomes more dynamic.
 - For reference, FDI flows fell by 37 percent in 2009 down to \$1.1 trillion in the wake of the Great Recession.
 - At the present time, the pandemic has diminished about \$500 billion worth of in foreign investment.

Adapting to Less Travel

Significantly, FDI transactions typically require making site visits and building relationships with the local community. The social distancing enforced during the pandemic became an obstacle, threatening the success of projects.

- In the near future, investment attraction will likely include less travel and fewer trade shows, with a substantial increase in digital marketing.

Digital services have been growing rapidly throughout a number of sectors and activities, including virtual meetings, augmented reality, site tours, an increase in online orders, the potential of drone deliveries and automated factories.

- Digitalization could dramatically transform the traditional ways of conducting business, and can increasingly connect EDOs to corporate leaders in locations that they may not have typically traveled to.

The pandemic has re-enforced the importance of relationships and flexibility.

- Health and safety issues have moved to the forefront of concerns, thus trusting the EDO is vital.
- Communities will need to harness their legacy advantages to remain competitive in the global marketplace.

Keeping abreast of technological advances - as well investments in human and physical capital - will be vital to attracting investment dollars in the future.

FDI in the US

Globalization brought new challenges, as communities competed with emerging countries for FDI due to their lower-cost labor and emerging middle class. The Great Recession and subsequent uneven recovery put even more pressure on US communities to diversify their industries and continue to attract foreign investors in order to create quality jobs and foster economic growth.

- After hitting a high of \$440 billion in 2015, overall FDI into the US fell each of following two years, and then increased up to \$296 billion in 2018.

Despite a general slowdown in global investment, the US remains the largest single recipient of FDI in the world. However, with investments slipping, the US must actively compete to retain and attract new investment.

- FDI plays an enormous role in the US economy and over 7 billion people worked in US affiliates of majority owned foreign firms in 2017.
- Foreign owned firms contribute over \$62 billion to innovative R&D, according to the ITA.

Over the past several years, EDOs have worked diligently to maintain US prowess in FDI attraction. The efforts have rendered positive results, and the AT Kearney's FDI Confidence Index for 2019 ranked the US in first place for the sixth consecutive year.

- Canada moved up three spots to 2nd place, its highest ranking in the history of the Index.
 - China came in at fifth place, which was its lowest ranking in the Index in 6 years.

The largest sources of FDI to the US in 2018 were the United Kingdom, Canada, Japan, Germany, Ireland, while the fastest growing sources for FDI to the US were Argentina, China, Thailand, Ireland, and Chile in 2018, according to SelectUSA.

- The qualities that have drawn investors to the US have been an advantageous energy market, a huge consumer base, a pro-business environment, and economic growth.
 - The emergence of large manufacturing firms in Asia, that want to build plants in the US, also factors into the US ability to attract FDI.

In order to better meet the demands of the foreign investor, US-based EDOs must enhance their community's human and physical assets and sustain a competitive local economic base.

- EDOs have often offered incentive programs that may include cash grants and tax burden reductions, infrastructure improvement, or services like employee recruiting support and training, that can facilitate the implementation process for companies that are new to the US market.
 - At the state level, EDOs have been bolstering their efforts to attract FDI through targeted marketing and business development.

EDOs today may be coping with pre-COVID-19 contracts that are no longer realistic in terms of timelines for hiring, or relocation and expansion expectations.

- To sustain agreements and retain the investment, EDOs will need to coordinate with states and municipalities, as well as the firms, to determine viable new terms.

For EDOs in the US and elsewhere, communication is crucial.

- EDOs should maintain regular contact with clients and targets, and provide assistance to firms located in the community to help them to recover and thrive.

Fostering Sister Cities

With the increased competition for FDI, some locations are turning to their sister cities programs to incite foreign investors. These sister city relationships typically begin as connections based on business interests, culture, sports, or education, but can also have a positive impact on future investment.

- In Indianapolis, the mayor signed a memorandum of understanding to create a sister city relationship during a trip to Hyderabad, India in 2010.
 - In 2017, when Hyderabad-based Infosys was looking to expand into the American market, the Sister City Committee in Indianapolis engaged with Hyderabad and the firm to set-up mutual visits. This led to a deal that included the creation of 3,000 jobs and an investment of \$245 million to establish a US Education Center, in addition to a Technology and Innovation Hub.

Sister city relationships proved to be vital during the COVID-19 pandemic. The Sister Cities International Chairman reported that there have been many examples of cooperation between US and Chinese sister cities. Connections forged over time with China enabled American officials to acquire assistance from Chinese companies or cities to secure scarce equipment.

- In Norfolk, VA, its sister city Ningbo Beilun District in China, donated 2,000 masks, 500 protective gowns and 500 goggles.
- Wuxi, which forged a sister-city relationship with San Antonio in 2012, received letters of support from students in San Antonio as the virus closed down China in early 2020.
 - Two months later, students in Wuxi shipped more than 4,000 masks to San Antonio schools involved with the non-profit Summer of Service.

Tourism Setbacks

In 2019, the US travel industry generated 2.6 trillion in economic output and supported 15.8 million jobs. Over the last decade, the US travel industry has witnessed increased demand, driven by a strong economy and relatively inexpensive jet fuel.

- One out of ten US jobs depended on travel and tourism in 2019, and the industry represented 2.9 percent of US GDP
- Direct spending on leisure travel by domestic and international travelers totaled \$792.4 billion in 2019, according to the US Travel Association.

- This spending contributed \$179.7 billion in tax revenue for federal, state and local governments.

Before the COVID-19 pandemic, tourist destinations globally were predicted to hit 1.6 billion international arrivals in 2020. The impacts from pandemic have been felt worldwide with travel restrictions, lockdowns and cancellations of major events.

- In April 2020, air travel was down by almost 90 percent from the year prior; airlines do not expect passenger numbers to return to pre-coronavirus levels until 2022.
- By the 2020 Memorial Day weekend, over than half of the 15.8 million travel-related jobs in the US had disappeared due to COVID-19, and industry related unemployment was 51 percent.
- Travel spending in the US is expected to drop 45 percent in 2020, according to Tourism Economics.
 - Hilton Hotels said that it would lay off over 20 percent of its corporate workforce in June 2020.
 - CBRE reports that it will likely take four years for US hotels to return to 2019 revenue.

Pent-up demand for travel could trigger more traveling as the economy re-opens, but businesses will need to adhere to new practices.

- As shelter-in-place orders lifted in late May some countries established special travel corridors or travel bubbles. This allowed people from countries with low levels of infection to travel freely, with no requirement to have a 14-day quarantine at their destination.
- Other countries are focusing on domestic tourism. For example, the French government has launched a #ThisSummerIAmVisitingFrance hashtag.

The European Union opened its external borders to nonessential non-EU passport holders on July 1st. Due to the high number of infections in the US, Americans are not permitted entry.

Overall, the travel industry will need to adapt in order to provide a safe environment for their customers and employees. The US Travel Association has proposed some measure to help support the industry in the near future. They include:

- Create a temporary travel tax credit that will allow businesses to fully deduct food and entertainment expenses, provide tax breaks for personal protective equipment (PPE) and the sterilization of facilities, and enact tax measures to help revitalize trade shows.
- Provide \$10 billion in EDA grants for Destination Marketing Organizations (DMOs) and small businesses to promote healthy travel practices and encourage visitation to businesses, attractions and communities where it is safe to travel.
- Offer limited, temporary and immediate safe harbor for businesses that follow proper health and safety guidelines to protect against COVID-19, which is a top priority for

businesses to safely reopen in a way that protects the health of their employees and customers.

The American Society of Travel Advisors has stated that future travel will depend upon the industry having effective safety systems in place, and looking ahead in the US, travel will likely be domestic, closer to home.

- There may be a preference for driving over flying, and home rentals will be more attractive than hotel stays.

Notably, Guesty – a property management software - found that as of May 2020, reservations for Thanksgiving and Christmas stays were up by 38 to 40 percent compared to the same time in 2019, highlighting that people were optimistic about the future.

Role for EDOs

Understanding each community's unique place in the larger global business sphere is crucial, as the policy decisions regarding trade and travel continue to affect regions across the globe.

- Technology and innovation are transforming both companies and the practice of economic development.
- More digital tools will be used to capitalize on international opportunities, promote partnerships and navigate through the complexities of site selection process.

EDOs will need to follow current events closely in order to provide clarity and support to local businesses. Sustaining meaningful relationships with local businesses and other stakeholders is imperative, and an effective BRE strategy is vital in these times of transition. The pandemic has transformed the way that long-distance relationships are managed, and EDOs need to adapt in order to facilitate new partnerships and develop incentives to enhance investment flows from the sectors that can improve their region's quality-of-life. Looking ahead, EDOs must continue to assist firms with any hurdles they face in the path to recovery, and demonstrate innovation and flexibility in meeting investor needs.

E. Sustainability

The concept of sustainability implies fostering a growing economy, while also reducing the social and environmental costs of economic growth. Issues surrounding sustainability have been transforming the economic development profession and the businesses and communities that they support throughout the 21st century. From the business perspective, sustainable development leans towards an approach based on capturing system dynamics, building resilient and adaptive systems, anticipating and managing risk, as well as earning a profit.³⁵ IEDC defines sustainable development as the investment in business, social, built and natural environments that creates increasing prosperity for all, now and into the future.

Sustainable development also contributes to place-making strategies and a community's quality-of-life. Climate change has been altering the physical landscape impacting people's livelihoods, and the World Bank reported in 2018 that climate change could displace 143 million people by 2050. According to the bank's World Economic Forum's Global Risks Report, the top environmental risks include:

- Extreme weather
- Biodiversity loss and ecosystem collapse
- Major natural disasters
- Man-made environmental disasters
- Failure of climate-change mitigation and adaptation

These risks have been in the forefront of discussions with global leaders over the past several years, and extreme weather has been a growing concern in the US.

- Texas A&M University reports that in coastal southeast Texas, seasonal temperatures are about 1.5 to 2 degrees Fahrenheit warmer than they were in the early part of the 20th century. These small increases - not just in Texas, but in other parts of the world as well - lead to more extreme weather changes that negatively impact many workers who make a living outside, and poorer communities and citizens that may not have access to appropriate cooling devices.
- In a 2019 Defense Department report to Congress, it was emphasized that flooding, drought and wildfires driven by climate change pose threats to two-thirds of the US military's installations.

However, in the past three years, the federal government has taken a different stance than other industrialized nations, and notably withdrew from the Paris Climate Accord, the landmark 2015 international agreement signed by 195 nations as a unified effort to combat global warming.³⁶ Over the same recent three-year period, the Environmental Protection Agency (EPA) has also been dismantling plans to regulate carbon dioxide emissions and weakened regulations to keep water clean.

³⁵ Based on the definition used by the U.S. Environmental Protection Agency.

³⁶ Under the Obama Administration, the US had pledged to cut its greenhouse gas emissions by 26 to 28 percent below 2005 levels by 2025.

- These EPA initiatives range from dismissing regulations dealing with fuel efficiency and mercury emissions, and waiving enforcement on a range of public health and environmental mandates.

Despite the posture of the federal government, many corporate and city leaders across the US remain committed to following the guidelines of the Paris Climate agreement, and aim to reduce carbon emissions.

- Walmart announced plans to obtain 50 percent of its energy from renewable sources by 2025, and in 2018 the company also announced a goal to reduce greenhouse gas emissions in its China value chain by 50 million metric tons (MMT) by 2030.
- Coca-Cola aims to reduce its carbon footprint by 25 percent by 2025, and US automakers have expressed their committed to improving the fuel economy and reducing emissions.
- Recognizing that cities account for 80 percent of greenhouse gas emissions worldwide, Portland, San Francisco and New York are among the many cities that are striving to reduce their carbon footprint.

Across the globe, a region's competitive advantage is intrinsically linked to the energy market, affecting its labor and manufacturing output. Shifts in energy intensive industries are perpetually reshaping communities, and while these shifts create challenges for local leadership, they additionally can enhance opportunities for innovation and growth. Over the past ten years, the US has fundamentally overhauled how it produces, delivers and consumes energy.

Looking ahead, as practitioners work on recovering from the impacts of the pandemic, they will need to understand the trends in sustainable development, including transformations in the energy market, building development and sustainable business practices. This insight will help economic developers to capitalize on the greening of businesses and society to meet both residential and investor demands and maintain competitive, healthy and safe communities.

The Energy Market

Global shifts in demand and regulatory policies impact all energy sectors, and the consequences of carbon emissions have also affected costs of production for many firms, altering the competitive position of the regions where they are located. However, the pace that firms and regions modify their practices is uneven, and while more US companies are taking steps to address environmental issues, the sustainability advocacy firm CERES reports that progress is inconsistent. This is also true for communities across the nation. Thus, while some places will only embrace sustainable practices based on regulations, others will eagerly tap into the opportunities available to them – such as green jobs, industries and buildings - to enhance economic growth with cleaner fuels.

The energy sector provides power and jobs.

- In 2019, traditional energy and energy efficiency sectors employed approximately 6.8 million, representing 4.6 percent of the American workforce, according to the 2020 US Energy and Employment Report (USEER).

The power and utilities sector faces radical transformation, and distributed renewable generation, new digital technologies and changing consumer expectations are creating more challenges for the sector.

- Utilities will need to rapidly adapt to new capabilities and different business models to succeed. It will require more collaboration with local leaders to effectively enable change.

Oil and Gas

In the years following the Great Recession, oil and gas rich areas in and near the Great Plains states were some of the fastest-growing population areas in the nation due to the draw of jobs in the oil industry. However there have been ebbs and flows in the sector:

- In 2014, disruptions in US production impacted both prices and jobs. Firms cut capital expenditures by about 40 percent between 2014 and 2016.
 - This massive cost-cutting effort led to the lay-offs of about 400,000 workers in the US.
- Prices rose in 2016, and according to Forbes, US producers activated almost 300 additional rigs in the first quarter of 2017.
- Later in 2017, refineries in the Gulf of Mexico, were impacted by Hurricanes Harvey and Irma, but by 2018 investment rebounded.

In terms of jobs, the US oil and natural gas firms employed 18,000 people, with 615,000 in the oil industry in 2019.

- Mining and extraction provided 7,000 jobs in 2019, mainly driven by natural oil and gas production.
- In 2018 Canada's oil, gas and coal sectors sector directly employed over 269,000 people and indirectly supported 550,000 jobs.

The US had been a net importer of energy since 1953, but natural gas/shale greatly reduced American dependence on foreign energy producers, while increasing employment and revenues for domestic producers.

- The US was predicted to become a net oil and gas exporter in 2020, according to the US Energy Information Administration (EIA).

The COVID-19 pandemic has had a devastating impact of the industry, causing a global glut in the oil supply, and a steep decline in prices.

- The American industry lost 51,000 jobs in March 2020.

- In Canada, the government announced in May 2020 that it would create a \$10 billion (USD) package to keep the country's oil industry afloat during the pandemic.

In the US, state governments that depend on revenues from royalty fees paid to the government from oil and gas companies are also being impacted by the decision of the Trump Administration to vastly lower the rate of royalty fees.

- Royalty fees amounted to \$3 billion in 2019, and half of those fees are returned to the states where the oil and gas were extracted.
- The royalty fee is typically 12.5 percent and the Administration has dropped the fee to as low as 0.5 percent in Utah, Wyoming and Colorado.

By the end of May 2020, oil consumption began to rise in those parts of the world emerging from coronavirus lockdowns, and a rebound was noted in June.

- The IEA foresees a rebalancing of oil markets, but 2020 will still likely be the worst year on record, as the decrease of travelers by air and land significantly lowers the demand for oil.

Some experts view the decline in oil usage due to COVID-19 as an opportunity to decrease reliance on oil and fossil fuels and invest in carbon capture, storage and utilization (CCSU), and focus on clean energy solutions. The challenge will be transitioning the energy sector to good paying jobs in the green economy faster than the oil industry is shedding current positions.

Prior to the pandemic, there was interest in increasing investment in clean energy:

- In February 2020, BP said it wanted to eliminate or offset all carbon emissions from its operations by 2050. Achieving this would require a shift to cleaner energy sources, and trillions of dollars in investments to develop new technology for processing.
- BlackRock, the world's largest investment fund manager, also announced that it would begin to divest its investments in oil companies - such as Exxon Mobil, BP and Shell - in favor of renewable energy.

Coal Industry

The coal industry has been on a steady decline since the 1980s with the collapse of the US steel industry. Changes in the world's approach to energy, as well as concerns about climate change, are driving policy that leans towards cleaner energy sources. American coal companies are continuously losing ground, as natural gas and renewable energy are being preferred over coal for energy needs.

- While coal supplied around half of the country's electricity as recently as 2008, by 2019 it had plunged to less than 23 percent, according to the Business Council for Sustainable Energy.
- Coal is the least expensive among the fuels used to produce electricity, but it is also the largest source of carbon dioxide and air pollutants.

- Coal emits 2.1 pounds of carbon dioxide per kilowatt-hour, compared to 1.2 pounds for natural gas, and zero for solar.
 - In 2019 alone, 8 coal producers filed for bankruptcy.
- In 2016, Oregon became the first state to sign a bill to remove coal from its energy supply, phasing it out through 2030.
 - The state will also require its two largest utilities - Portland General Electric and Pacific Power - to supply at least half of their electricity from renewable sources by 2040.
 - The legislation was developed with the cooperation of the utilities, consumer advocates and environmental groups.

As with other sectors of the economy, technological change drives growth, while also disrupting the status quo and instigating job loss within specific subsectors.

- Coal mining and support employment declined by 39 percent between March 2009 to March 2016, according to the USEER.
- In 2019, jobs in the coal industry increased by 612 jobs - less than one percent - totaling about 75,000 jobs.

The coal industry needs robust and sustained support from the federal government to help drive community-led solutions that include worker training, community economic development, focused infrastructure development and environmental cleanup to decrease dependence on the industry, and provide new jobs.

- Coal miners have skills in areas like hydraulics, mechanics and electrical engineering, which can be transferred to aerospace and manufacturing. Retraining the workforce is crucial to sustaining livelihoods in these communities.

The Trump Administration has focused efforts on bailing out retired mine workers' pensions, and has cut back on environmental regulation inspections to make it easier for mines to operate, but this does little to help those communities to revitalize and diversify.

- The Energy Information Administration (EIA) forecasted that coal consumption would decline by 23 percent in 2020 from 2019 levels, as consumers are lean towards cleaner energy.
 - Coal consumption could increase in 2021, based on increases in gas prices as the economy recovers, but it would be a short-term bump.

Local stakeholder groups will need to collaborate in order to find the best approach for diversifying employment opportunities in these regions for future resiliency.

Nuclear Power

While nuclear power was part of the nation's long-term energy strategy, there has been a shift in some nuclear programs as a result of greater emphasis on alternative sources of energy. Nuclear reactors are aging, and require costly renovations and monitoring.

- In 2018, the largest nuclear plant operations investor, Exelon, announced that it does not intend to build any new plants in the US, due to their high operating costs.
- According to the US Energy Information Agency (EIA), by December 2019, the US had 96 operating commercial nuclear reactors at 58 nuclear power plants, in 29 states.
 - That was a decrease from 2017 when there were 61 commercially operating nuclear power plants with 99 nuclear reactors in 30 states.

The average age of these nuclear reactors is about 38 years old. For cost and technical reasons, nuclear power plants are generally used more intensively than coal or natural gas-fired power plants.

- In 2019, the nuclear share of total US electricity generating capacity was 9 percent, while the nuclear share of total electricity generation was about 20 percent.

The US has more private sector participation in the production of civilian nuclear power than any other nation, according to the World Nuclear Association, but the federal government is heavily involved through safety and environmental regulations.

- The CBO found that renewables received 94 times more in federal subsidies in 2016 than nuclear.

According to BLS, nuclear power workers earn two or three times the state average wage, but employment in the industry has been on the decline.

- Most of the nation's existing nuclear plants are located in rural areas, where they are a primary employer.
- Technology has made it easier to operate the plants with less people, and nuclear employers reported a decline in growth of 2.1 percent between 2015 and 2016.
 - The 70,323 employed in the industry in 2019 represented a 2.5 percent decrease from 2018.

As more plants are decommissioned, the local economies will also face the hit of more lost jobs. In addition, the storage of radioactive waste makes any redevelopment on the site almost impossible. Small nuclear plants remain at highest risk of closure, due to costs, according to Bloomberg New Energy Finance.

- Recent reactor closures include Indian-Point 2, NY in 2020, Three-Mile Island, PA in 2019, Pilgrim, MA in 2019.

In 2012, the US Nuclear Regulatory Commission (NRC) approved Southern Company's application to build and operate two new reactors that are now under construction in Georgia.

- They are expected to come online between 2021 and 2022.

Renewable Energy

There has been greater interest in renewable energy across the globe, and investments in renewable energy have been increasing since 2006, reaching a global peak of \$312.2 billion in

2015. While remaining high, investments decreased somewhat in 2018, to \$288.9 billion. However, that figure still exceeded fossil fuel investment according to the United Nations Environment Program (UNEP).

- Investments in renewable energy were three times higher than the amount invested in new coal and gas-fired generators in 2018.

The UNEP reports that China accounted for 32 per cent of the global total investment in 2018, followed by Europe and the US.

- In 2018, the US investment in renewable energy increased by 1 per cent to 48.5 billion, the highest level since 2011.
 - Many pension funds and other financial institutions announced that they would cease funding any new fossil fuel projects.

By 2040, renewable energy may account for half of all US electricity capacity.

- The financial advisory firm Lazard has found that the average lifetime cost for utility scale wind and solar generation is now less expensive than coal, and comparable to natural gas in the US.

States have different legislated clean energy goals.

- New York State increased its renewable portfolio standard to 70 percent by 2030; Nevada boosted its goal to 50 percent by 2030.

Renewables Are More Accessible

For consumers, renewable energy is more accessible, driven by technological advances and incentives that have driven down costs and increased supplies.

In the US, clean energy tax breaks have been widely used.

- In December 2019, Congress passed the extension of the US Production Tax Credit, benefitting wind, hydropower, biomass, geothermal and waste-to-energy secured extensions.

In 2019, funding grew for key federal research, development and deployment programs.

- The Department of Energy - including the Office of Energy Efficiency and Renewable Energy and the Advanced Research Projects Agency (ARPA-E) - are using funds to support projects related to carbon capture and electric engines.

On a regional scale, the Knoxville-Oak Ridge Innovation Valley is East Tennessee's regional economic development partnership. Clean energy is integrated in their strategic blueprint.

- Home to the Oak Ridge National Laboratory (ORNL), the lab aims to accelerate clean energy innovation, provide affordable and reliable energy, and foster economic growth. The staff of 4,500 focuses on cutting-edge technologies in sustainable transportation, renewable power, and energy efficiency.

Renewables generated more than coal every day across the globe in April 2020, according to the Institute for Energy Economic and Financial Analysis (IEEFA). Data from a new tool from the EIA demonstrate that the trend has continued, and transitioning to renewable energy can revitalize a region in the long-term.

Renewables and Jobs

Businesses have been considering energy access in their site location decisions, and communities that met this demand have had a competitive advantage for investment attraction. The US, China, India, Brazil, Germany and Japan provided 70 percent of the sector's employment.

- In 2018, the International Renewable Energy Agency (IRENA) predicted that the global energy system could create up to 28 million jobs in the sector by 2050, with solar and wind power dominating the field.
 - The global renewable energy employed 11 million people at the end of 2018, up from 10.3 million in 2017, according to IRENA.

However, the pandemic has hindered global growth in renewable power capacity.

- For 2020, the IEA predicts that the number of new renewable power installations worldwide will decrease by 13 percent in 2020 over 2019, the biggest decline in 20 years.
 - The decline reflects delays in construction activity due to supply chain disruption, social-distancing guidelines, and unexpected financing challenges.
- In March and April of 2020, the US shed almost 600,000 clean energy jobs, according to the American Council on Renewable Energy and DOL.
- Trade tariffs on imports could also negatively impact clean energy manufactures that rely on imported material.

Solar Power

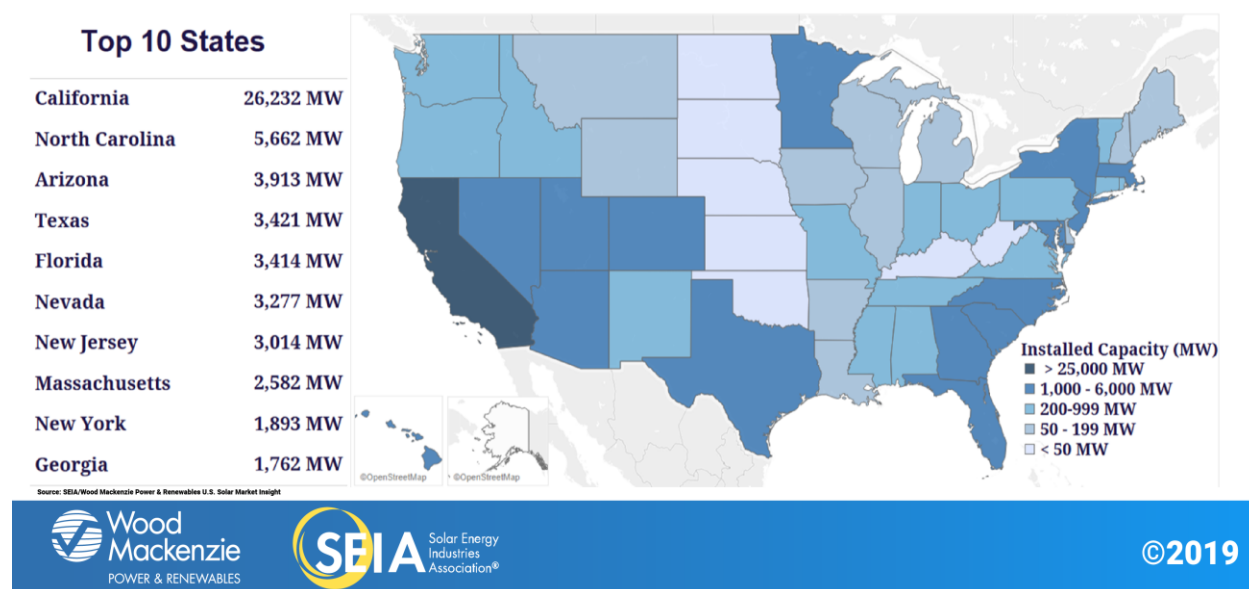
Solar power has experienced extraordinary growth in the past several years. It has become more accessible since 2008 and is embraced by utilities.

- Solar electricity is now economically-competitive with conventional energy sources in several states, including California, Hawaii, Texas, and Minnesota, according to the DOE Office of Energy Efficiency and Renewable Energy.

In 2019, the solar industry generated over \$18 billion of investment in the American economy, according to the Solar Energy Industry Association (SEIA) and it is growing as a concept in affordable housing schemes.

- Installations have grown from 1.2 gigawatts (GW) to an estimated 78 gigawatts (GW) of solar capacity installed nationwide, enough to power 14.5 million homes.

The DOE's Natural Renewable Energy Laboratory (NREL) has reported that PV panels on just 0.6 percent of the nation's total land area could supply enough electricity to power the entire nation. The map below shows the installed capacity in the US in 2019.



Despite declines in solar hardware costs, market barriers and grid integration, challenges such as permitting, financing, and customer acquisition - that are a larger portion of the total costs - hinder greater deployment, according to the NREL.

- Technological advances and innovative solutions are still needed to increase efficiency, drive down costs, and enable utilities to rely on solar for baseload power.

The solar workforce increased by 168 percent in the past nine years. Solar energy firms employed 248,000 people full-time in 2019, according to the USEER.

- An additional 97,400 employees spent half their time on solar-related work.

Solar jobs vary widely by state, according to the Solar Foundation.

- States with significant job gains included Utah, Minnesota, Arizona, Colorado, Pennsylvania, New Jersey, New York and Tennessee.
- California remains the state with the largest number of solar jobs nationwide, and in 2018 it became the first state to require all new homes to have solar power.
 - However, it will add thousands of dollars to the cost of home at a time when a shortage of affordable housing is one of California's most pressing issues.

Due to the COVID-19 pandemic, the IEA forecasts that solar PV expansion will decline by 18 percent globally in 2020. In the US, the decline could be even greater - over 30 percent - based on supply chain delays and the fact that individuals and small business are reprioritizing investment decisions. The extension of the federal solar tax credit, also known

as the Investment Tax Credit (ITC), at 30 percent for three years, would benefit the solar industry.³⁷

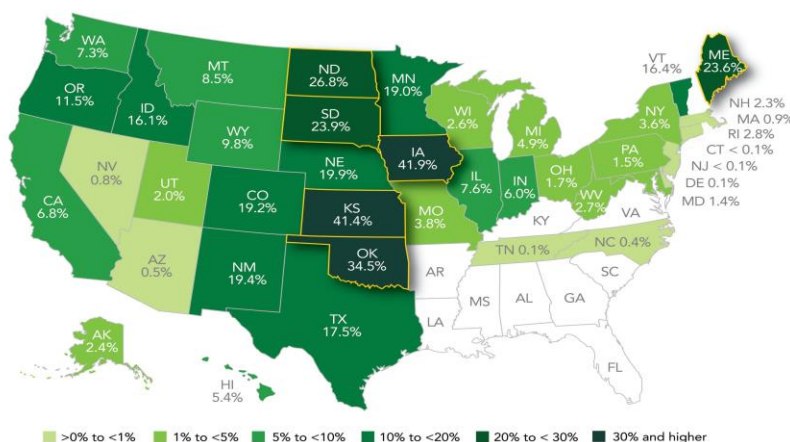
Wind Power

In 2019, wind energy became the largest source of renewable electricity in the US, supplying 7.2 percent of the nation's electricity. Six states now generate more than 20 percent of electricity from wind power.

- The third quarter of 2019 was the highest third quarter on record for wind installations, pushing, overall capacity above the landmark figure of 100 GW.³⁸
 - Texas leads the nation with more than 27 GW of cumulative capacity.

The American Wind Energy Association (AWEA) reports that wind now supplies clean and efficient power to the equivalent of 32 million American homes, powers 500 US factories, and delivers more than one billion dollars a year in new revenue to rural communities and states.

Wind Energy's Share of Electricity Generation, 2019



In urban areas, wind turbines can be installed on a vertical axis rather than on rooftops. They only represent a small amount of power, but they meet the desire for clean energy among residents and businesses there.

- San Francisco and New York have invested in wind energy as a way to mitigate climate change, allowing residents to save on energy costs while also increasing their property values.

Many rural electric co-ops are also turning to wind power as a clean, reliable source of energy, and as wind turbines proliferate, communities need to consider zoning and ordinances that could hinder development.

³⁷ It is currently 26 percent. The ITC has helped the US solar industry grow by more than 10,000 percent since it was implemented in 2006, according to the SEIA.

³⁸ Capacity refers to the maximum amount that installations can produce, not what they are currently generating.

Wind investments can provide stable career opportunities as well as property, state, and local tax revenue to fund schools, roads and public services in rural communities.

Powering Investment

The US has four major turbine manufacturers: Vestas, General Electric (GE), Siemens Gamesa Renewable Energy (SGRE), and Nordex Acciona.

- GE and Vestas accounted for 82% of manufacturing capacity in 2018.
- The wind energy sector employed 114,800 in 2018, an increase of 3.2% from 2017, according to the USEER.

The Production Tax Credit (PTC) has been vital for attracting investors to the wind industry, and the 2019 extension could help domestic manufacturers that wish to invest in wind power at reduced costs.

- PTC helped wind energy in Iowa attract 19 billion in cumulative investment.
 - The state employed over 9,000 in direct wind industry jobs in 2019.
- In 2019, Texas had over \$53 billion in cumulative investment by 2019, and employed over 25,000 people.

Offshore wind is vital, as it can deliver power to densely populated coastal areas where there is little room for onshore wind or solar. Compared to other countries, the US offshore market is still in the infant stage.

In the US, the first offshore wind farm, the 30 MW Block Island Wind Farm off Rhode Island, began commercial operations in late 2016. According to Bloomberg NEF, the US offshore wind sector has been poised for rapid growth, but projects have been waiting for federal permits.

- Vineyard Wind, which is projected to become the first large-scale project in US waters, experienced permitting delays through late 2019.
- The Bureau of Ocean Energy Management (BOEM) is charged with issuing leases for commercial-scale projects three or more miles from shore.
 - By the end of 2019, there were 14 leases for sites off Massachusetts, Delaware, Maryland, New Jersey, New York, North Carolina and Virginia.
 - In anticipation of these projects, the states have established offshore wind targets, boosting activity around this market.

Looking ahead to the near future, the EIA expects wind expansion for 2020 to decline 12 percent compared to 2019.

Biofuels

Biomass can be converted directly into liquid fuels, called "biofuels," to help meet transportation fuel needs. The two most common types of biofuels in use today are ethanol and biodiesel, both of which represent the first generation of biofuel technology, according to the DOE.

Biofuel use is gaining ground, and Innovators Magazine reported in 2018 that an increasing number of passenger and cargo transportation businesses are using biofuels to power their planes, ships, buses and trucks. Biofuels are made from items like waste, wood, and even whisky. Importantly, converting to biofuel incurs no major infrastructure changes.

- Fedex agreed to obtain 30 percent of its jet fuel from alternative fuels by 2030.
 - The company entered into an eight-year agreement with Colorado-based Red Rock Biofuels to blend bio fuels from woodland waste generated through forest management.

In 2018, the Trump Administration scaled back the use of biofuels waivers for small refineries and counted ethanol exports toward federal biofuels usage quotas, drawing praise from the US biofuels industry.

- There were 775 jobs in the biofuels sector in 2019, which represented a 2 percent increase from 2018, according to the USEER.

The COVID-19 crisis has radically changed the global context for biofuels, and transport biofuel production is anticipated to contract by 13 percent in 2020, the first decrease in output in two decades, according to the EIA.

- This drop is based on the decline in fuel demand, as the US Renewable Fuel Standard sets the percentage of biofuels that oil refiners may blend into their fuel; the decrease of gasoline invariably lowers the biofuel usage rate.

A rebound in transport fuel demand in 2021 would allow biofuel production to return to 2019 levels. However, this would still be 5 percent lower than the EIA's original forecast, prior to the pandemic.

Energy Efficiency

Across the globe, countries are incorporating energy efficient measures. These measures are cost effective ways to reduce energy costs for both consumers and firms. Energy efficiency can lessen the effects of climate change, according to the EIA. Such efforts can also promote technological innovation, stimulate economic growth, and create new jobs in energy and related industries, in addition to attracting crucial investment.

In the short-term, these projects create local jobs in terms of construction or upgrades. In the long-term, the energy savings due to the investment creates a ripple effect of more jobs in the economy, as people have more to spend.

- The USEER reports that 2.38 million people were employed in the design, installation, and manufacturing of energy efficiency products and services in the US in 2019, a 3.4 percent increase from 2018.
 - 78 percent of employers are involved in the construction sector, and there were 1.3 million employed in energy efficient construction in 2019.

For small and medium-sized manufacturers seeking to manage their energy and cut costs, options exist through the DOE's Industrial Assessment Centers (IAC). Firms may be eligible to receive a no-cost assessment provided by an IAC center.

- IAC teams are located at 31 universities around the country and students conduct the energy assessments to identify opportunities to improve productivity and competitiveness, reduce waste, and save energy.
 - At this date, over 18,000 IAC assessments have been conducted, and Oklahoma State University has one of the most successful IAC centers, having carried out more than 1,000 industrial assessment/energy audits since 1982.

Fuel Efficiency

Energy efficiency is at the heart of the Corporate Average Fuel Economy (CAFE) Standards that have redefined the US Motor Vehicles' industry.³⁹

- The USEER reports that 44 percent of the motor vehicles parts' industry had jobs that contributed to producing vehicles that helped achieve the 2012 fuel efficiency standards mandated by the Obama Administration.
 - Twenty-two percent of these companies made 100 percent of their profits from fuel efficiency.
- The US auto manufacturing sector US added over 220,000 jobs that provided energy efficient products and services in the years between the Great Recession and 2019.

In late March 2020, the Trump Administration released weaker fuel economy efficiency standards for new cars and trucks, hindering the effort to combat climate change. The new rule from the EPA and DOT is challenged by environmental groups and states with stricter standards.

- If the new policy remains in place, it will release the obligation of automakers from meeting the gas mileage and emissions requirements put in place in 2012, under the Obama Administration.

The new rule requires automakers to increase fuel economy across their fleets by 1.5 percent a year, achieving an average of about 40 miles per gallon by 2026.

- Almost 900 million more tons of carbon dioxide will be released under the new rule.
- Environmentalists and public health advocates believe that this rule change could contribute to thousands of premature deaths and asthma attacks.
- Proponents of the new rule argue that this will lower the cost of a new car, allow cost savings for automakers, enable more Americans to replace aging vehicles with newer ones, and make the roads safer.
- Consumer Reports projects that even with lower gas prices, a vehicle would cost \$2,100 more per owner with this new rule.
- These vehicles would not be eligible to be sold in countries with higher standards.

California is working with some automakers to preserve more ambitious standards.

³⁹ First enacted by Congress in 1975, the purpose of CAFE is to reduce energy consumption by increasing the fuel economy of cars and light trucks. The CAFE standards are fleet-wide averages that must be achieved by each automaker for its car and truck fleet, each year, since 1978.

Green Manufacturing

The manufacturing of green products - such as those used in renewable energy systems and for clean technology equipment, as well as the greening of manufacturing process, from reducing pollution and waste by minimizing natural resource use, recycling and reducing emissions – encompasses the notion of green manufacturing. Across the nation, original equipment manufacturers, policymakers, customers and regulators have been increasing pressure on domestic manufacturers to go green.

The benefits of incorporating sustainable initiatives into production has become clearer for a number of years, and can notably allow for reduced costs and higher efficiency.

- A recent DOE report highlights that combining flexible energy-efficient tools in manufacturing can collectively reduce waste by over 85 percent.
- In addition to boosting a firm's reputation, green products generally outperformed the growth rate of total products in their respective categories, according to a 2018 Nielsen report.⁴⁰

Challenges to going green may include the costs, as well as competition with firms overseas that do not adhere to the same standards. The transition to green manufacturing also requires the implementation of new manufacturing processes, and the ability to design and build the technology and machinery to support green manufacturing.

Companies may also need to find new talent and train current employees on how to work in the green manufacturing environment.

- Jobs range from highly technical R&D positions, to jobs that involve the design and installation of renewable energy systems.

NIST-MEP Provides Support

The National Institute of Standards and Technology's (NIST) Hollings Manufacturing Extension Partnership (MEP) also works with small and mid-sized US manufacturers to help them create and retain jobs, increase profits, and save time and money. The nationwide network provides a host of services, from innovation strategies to process improvements to green manufacturing.

The MEP has shared ways that a firm can embrace sustainability and go green to positively impact their organization:

- Reduce Energy-Related Costs (i.e., embracing renewables and energy efficiency).
- Use marketing and social media to promote green practices.
- Refer to the Database of State Incentives for Renewables & Efficiency (DSIRE) to find out about any tax credits and rebates on both the federal and state level for manufacturers who implement sustainable improvements.
- Internally communicate the importance of sustainability and convey the values as part of the corporate culture.

⁴⁰ The Nielsen Company LLC, "What's Sustainability Have to Do with It", New York, October 2020.

Sustainable Food Sector

Food-related energy use accounts for nearly 16 percent of the national energy budget, according to the USDA.

- Reliance on fossil fuels in the industry makes the food system increasingly vulnerable to oil price fluctuations.
- Moreover, the clustering of farms, food processing operations, and distribution warehouses often translates to increased distances between food sources and consumers.

Improving the food and agricultural sector will require innovation across the supply chain, which may include promoting more sustainable practices, providing better market access, and supporting efficiencies in food safety and access.

While producers and transportation and logistics providers have been incrementally incorporating sustainable practices in the supply chain to meet consumer preferences and improve the carbon footprint, the COVID-19 pandemic highlighted inequities in the industry and the rigidity of the supply chain. Census data reveals that the top four food retailers in the US sold almost 45 percent of America's food in 2016, compared to only 17 percent in 1993.

- Four main firms control 85 percent of the beef packing market.
- 82 percent of soybean processing is controlled another group of 4 firms.

The result is a fragile supply chain, and closure of a single plant can cause havoc at every step, from the production line to the supermarket.

- During the pandemic, the nation's bigger food processors - beef and pork - decreased capacity by 40 percent in April and May 2020; they are currently running at about 10 to 15 percent lower than 2019, according to Perdue University.

The pandemic boosted the farm-to-table movement, as some producers could not rely on the complexity of the supply chain to get food to customers.

- For some producers, it provided an opportunity to acquire new customers based on a new demand for home delivery.

For farmers that could switch to selling meat products elsewhere, it has involved a lot of tedious work, requiring label changes and preparing and packaging portions differently from selling in bulk to distributors.

- As restaurants re-open more widely, these producers will need to switch back to packaging in bulk, as well as trying to keep direct customers, to maintain some diversity in their business.

Vertical Farming

Vertical farming is a growing trend that allows for food production on vertically inclined surfaces. The vertically stacked layers are integrated into other structures like a skyscraper, shipping container or repurposed warehouse.

Using Controlled Environment Agriculture (CEA) technology, indoor farming techniques allow for the artificial control of temperature, light, humidity and gases. The process maximizes crop output in a limited space.

- In Newark New Jersey, an abandoned steel mill was converted into AeroFarms in 2016. The 70,000 square-foot facility is the largest vertical farm in the world based on annual growing capacity.
 - AeroFarms uses 95 percent less water than field farmed-food and harvests about 2 million pounds of produce a year.

Managing Food Waste

Wasted food has increased as a concern. In 2017 alone, more than 40 million tons of food waste was generated, but only 6.3 percent was diverted from landfills and combustion facilities for composting. The EPA estimates that more food reaches landfills and combustion facilities than any other single material in our everyday trash, making up 22 percent of discarded municipal solid waste.

The hardships brought on by the COVID-19 pandemic have ramped up hunger and food insecurity and the EPA's Excess Food Opportunities Map could provide opportunities for communities and people in need.

The Excess Food Opportunities Map supports nationwide diversion of excess food from landfills, and identifies facility-specific information about potential generators and recipients of excess food in the industrial, commercial and institutional sectors. The map displays the locations of nearly 1.2 million potential excess food generators, which include:

- Correctional facilities
- Educational institutions
- Food banks
- Healthcare facilities
- Hospitality industry
- Food manufacturing and processing facilities
- Food wholesale and retail
- Restaurants and food services.

The map also displays the locations of communities with source separated organics programs, as well as potential recipients of excess food. These include:

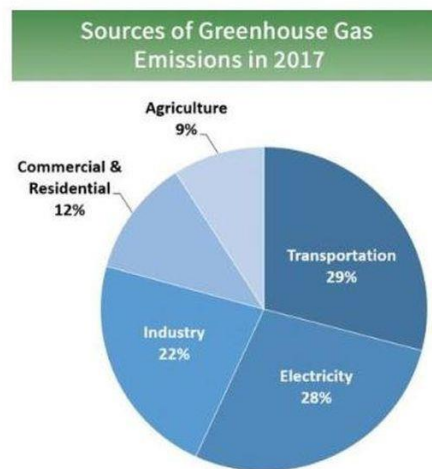
- Anaerobic digestion facilities
- Composting facilities
- Food banks

Sustainable Buildings

Sustainability has flourished in the property industry. Globally, Research and Markets forecasted that the green building market would experience a 13 percent growth through 2020, according to a report from, but the COVID-pandemic will invariably lower those results.

- In the US, commercial and residential buildings produce 12 percent greenhouse gas emission (GHG) emissions, according to the EPA.
- In Canada, buildings represent 11 per cent of GHG emissions according to the Canadian federal government's 2019 expert panel on sustainable finance.

Importantly, the green building market is driven by policy, increased consumer and business demand in energy-efficiency, and advances in building automation systems.



The building sector could play a significant role in stabilizing atmospheric concentration of carbon dioxide (CO₂), and the next generation of buildings could provide many important collateral benefits such as improved affordability, health, safety and resale value.

- The PwC Real Estate 2020 Building for the Future report forecasted that all buildings in advanced economies will need to have sustainability ratings in the future.

Investors today assume that Leadership in Energy and Environmental Design (LEED) Buildings are more valuable.

- LEED-certified and Energy Star-rated office buildings financially outperform their non-green peers in terms of rental rates and occupancy rates.

Today, most new buildings are being built to meet tough environmental standards and policy-makers are increasingly putting pressure on owners to make existing buildings more energy efficient.

- The USGBC estimates that green buildings reduce energy consumption by 30 percent.

The focus of the green building industry is shifting from new buildings to the greening of existing buildings.

- The LEED for Existing Buildings Operations and Maintenance (LEED O+M) has seen a consistent increase in certifications.
- The Business Council for Sustainable Energy reports that 74 percent of Americans currently live in a state with a building energy code that promotes energy efficiency.
- In 2019, 13 percent of all building floor space was required to meet an efficiency or disclosure requirement, with New York, Denver, Atlanta and Los Angeles taking the lead on the issue.

Technological advances will continue to make eco-efficient building more practical.

- The technologies behind smart appliances, smart meters, smart building management systems, integrated distribution management systems and city-wide energy management systems are continually becoming more advanced and affordable.
 - This is significant, as low-income families spend three times as much on energy bills as a percentage of their income than other households.
- Retrofitting an existing building can often be more cost-effective than building a new facility.
 - The result will be a building that is less costly to operate, will last longer, and contribute to a healthier and more secure environment for people to live and work.

Policies that encourage or even require buildings to be energy efficient and use renewable energy can reduce greenhouse gas (GHG) emissions and help the country transition to a low carbon, clean energy economy that generates new businesses and jobs across the US.

- Retrofit costs and health and safety risks must be evaluated, and equity issues need to be considered when designing and implementing building decarbonization policies.
 - Disadvantaged communities, and low and middle-income residents should not bear disproportionate costs, and should have the opportunity to reap the benefits of sustainable building.

Building Electrification

US commercial and residential buildings consume more than 70 percent of total US electricity, according to the Environmental and Energy Study Institute (EESI).

- Thirty percent of the electricity that buildings use is generated from coal-burning power plants, which release greenhouse gases.

Building electrification implies swapping out fossil-fuel-powered appliances for electric appliances in buildings.

- The think tank Energy Innovation reports that current state building energy codes only address energy efficiency, but could also incorporate electrification measures.
- The Rocky Mountain Institute, has also found that building electrification is more cost-effective than using fossil fuels over an appliance's lifetime.

States can play a vital role in incentivizing building electrification, as they set codes and standards, regulate utilities, and determine incentive programs.

- California requires that at least 50 percent of the state's electricity come from non-carbon-producing sources by 2030.
 - In 2019, Berkeley, California became the first US city to ban natural gas infrastructure in new buildings. PG&E, the second-largest US utility, publicly supported the move.

Net Zero Energy

Net Zero Energy buildings are highly efficient buildings in which energy use is equal to or less than the energy supplied to the building by renewable sources on an annual basis. The net zero energy building (NZEB) movement has become more mainstream in the past several years, after decades of being considered a fringe goal.

Net Zero Energy buildings are designed and built with a broad range of energy-efficient features, like dense walls and windows that are triple paned to collect and create energy, resulting in a zero net energy bill.

The US Office of Energy Efficiency and Renewable Energy reports that federal government agencies, as well as state and local governments, have started to move toward targets for zero energy buildings. However, definitions of what it means to have a zero energy building varies from region to region, and from one building professional to another.

The Electric Power Research Institute reports that by combining energy efficiency measures and solar power, the overall cost of owning a home is reduced

- The use of solar panels alone can save up to 50 to 75 percent on the costs of heating and cooling.
- The air circulation in net-zero buildings is purer and healthier, as there are no poisonous materials used during the construction stage.

States have been leading the way in reducing energy bills for residential and commercial building owners.

- New York leads the Northeast region in the number of documented net zero energy projects.

Resilient Buildings

Due to changes in weather patterns and rising sea levels, communities need to develop effective resilient building strategies to keep homes and buildings safe and protected. The Federal Emergency Management Agency (FEMA) reports that buildings that are designed and assembled with extreme weather vulnerabilities in mind, inevitably perform better when a crisis strikes.

- Green Builder Media research found that elevated building techniques can help eliminate flooding as a potential hazard.

Retrofitting existing buildings that cannot be elevated can also improve disaster resilience, and basement infills and flood openings can help manage storm water.

- Coastal building codes have proven to be very effective, and after Hurricane Charley, FEMA found that not one home built to the 2001 Florida Building Code failed structurally.

More Green Funding

Green banks - a public or quasi-public financing institution that provides low-cost, long-term financing support to clean, low-carbon projects - have emerged as a financing option at the state or local level. These banks leverage public funds through the use of diverse financial mechanisms to attract private investment, so that each public dollar supports multiple dollars of private investment.

- In New York, the NY Green Bank seeks transactions that contribute to the progression of clean energy financing markets.

In 2019, green bond issuances grew throughout the world, and accounted for 58 percent of total global sustainability-themed debt.

- Europe was the top-issuing region, but the US contributed \$70 billion, with almost \$24 billion coming from corporate and financial bonds.
- The Federal National Mortgage Association, Fannie Mae, was the largest 2019 issuer in the US, issuing almost \$23 billion in green bonds.
 - Other issuers were MidAmerican Energy, Apple and Bank of America.

Green tariff programs are also offered by regulated utilities. According to BloombergNEF and the World Resources Institute, utilities in 18 states offered these programs in 2019.⁴¹ Program conditions vary by state, and big companies have been leveraging green tariffs in certain locations.

- Google purchased 783 MW of clean energy through green tariff programs in 2019, the most of any corporation.
- Facebook also leveraged programs in Utah, Georgia and Montana. General Motors and Walmart have also leveraged green tariffs.

However, legal disputes have added some apprehension among buyers of green tariffs. Corporate buyers and utilities have been disputing over access to clean energy. This has occurred with Dominion Energy and its customers in Virginia, as well as between Facebook and PNM Resources over transmission line payments in New Mexico.

For green building developers, the Property Assessed Clean Energy (PACE) loans have been gaining ground over the past few years.

⁴¹ BloombergNEF with the Business Council for Sustainable Development, "2020 Sustainable Energy in America Factbook", New York, 2020.

- PACE loans to help create more energy-efficient buildings and meet tougher environmental standards, providing an innovative way to finance clean energy projects on commercial, multi-family, and non-profit buildings.
- 36 states and the District of Columbia have passed legislation to allow the use of PACE financing for commercial properties.

Using PACE for New Construction

PACE's original mission was to finance green upgrades in existing buildings, but developers are increasingly using the programs to fund new construction and the renovation of old buildings.

The PACE model was used to finance \$660 million of sustainable building improvements from 2016 through 2018 after funding only \$208 million in the six previous years. Developers can borrow up to 20 percent of a project's cost in PACE funds.

If a bank finances about 60 percent of a project's cost, a PACE loan can help bridge the gap. Additionally, PACE is replacing more costly financing, such as mezzanine debt.

- In 2019, New York City approved a PACE ordinance to help landlords comply with its Climate Mobilization Act, requiring owners of buildings of over 25,000 square feet to curb their greenhouse gas emissions.
- In Omaha, the developers of the \$205 million downtown mixed-use entertainment development Capitol District used a PACE loan to pay for LED lighting and low-flow water fixtures, and other building materials and equipment to increase energy and water efficiency.

Role for EDOS

Energy provides power, but it also can be used to build healthy and sustainable communities. As the energy market transitions, and the nation recovers from the consequences of the pandemic, EDOs have a key role to play in advocating for clean energy jobs a part of any federal stimulus legislation.

- This could take many forms, including the offer of grants and loans to help companies and households do energy-saving projects.

Renewable energy and energy efficiency provide long-term advantages that can have quick returns on investments and creates jobs. As the lockdowns are alleviated and the economy cautiously reopens, EDOs can assist firms to leverage green technology and take advantage of energy efficiency assessments and upgrades to buildings, connecting them to programs at the local and federal level. Practitioners should also cooperate with local stakeholders in the financial market to uncover innovative new ways to fund clean energy projects. Having a green infrastructure can be valuable in many ways, including improved health and safety, affordability, and economic opportunities. EDOs are essential catalysts and can help to raise awareness on the benefits of sustainable practices.

F. Human Capital

Human capital is a valuable asset that can enhance a location's competitiveness. Having a qualified labor force renders economic mobility for workers and increases revenues and the quality-of-life for a community. The Brookings Institute reported that the collective knowledge of the US population is worth approximately \$240 trillion, exceeding the value of other inputs to economic growth.

- Creating jobs that also create wealth has been one of the greatest challenges for economic developers in recent years.

Since the turn of the 21st century, human capital has been tested by globalization, offshoring, and rapid advances in technology, which have led to a decrease of jobs, but also an increase in productivity.

- Demographic shifts have indicated that there would be a labor shortage as baby boomers left the workforce, and technology changed the workplace, but few communities were prepared for change and did not have blueprints in place for the workforce of the new economy.

Labor imbalances have been negatively affecting growth, and BLS data has demonstrated that the US labor force participation (LFP) rate has steadily declined since the Great Recession.⁴²

- The LFP rate was 67.3 percent in 2000, and 62.5 percent in 2015. By November 2018, it rose by a fraction, to 62.9 percent.



Technology has continued to change the way people work, increasing demands for specific skills for certain jobs, while eliminating opportunities in others.

- Since the 1970s, the amount of men aged 25 to 54 who were neither working nor were looking for work doubled by 2018, equating to almost 10 million people.

⁴² The LFP rate refers to the number of people available for work as a percentage of the total population.

Educational attainment is one of the best predictors of economic success for an individual, an organization, or community.

- US labor force has been impaired by a lack of appropriate education and job-training programs that would better align with employers' needs and respond to shifts in the labor market.

Businesses and communities need to be able to maintain skilled personnel in order to sustain competitive edge, but have been grappling to find qualified talent.

- In 2017 BLS reported that the nation had 6.6 million unemployed, while at the same time 6.1 million jobs remained unfilled due to the shortage of work-ready employees.
 - EDOs have been increasingly challenged by this dilemma since 2012.

EDOs have taken a pro-active role to cope with workforce-related challenges since the Great Recession.

- Local EDO initiatives have included cooperating with business, workforce entities and educational institutions to develop and retain local talent.

However, the impact of the coronavirus pandemic is unprecedented in scope, and resulted in a public health crisis, a recession, civil unrest and uncertainty on how to fully re-start the economy.

- McKinsey & Company has reported that for every recession in the US since 1991, it has taken longer to regain lost jobs; following the Great Recession, it took until 2014 to replace the number of lost jobs.

The pandemic drastically changed the way consumers behave, and a recovery will be contingent on containment of the virus.

- Some sectors may never recover to full employment, and economic developers will need to consider a new playbook that includes rapid innovation, increased flexibility and adaption.

Today more than ever, it is imperative for EDOs to form strategic partnerships with community stakeholders from all sectors to develop plans to help displaced workers, close the skills gap, and keep local businesses solvent. In this period of extraordinary uncertainty, it is evident that developing sustainable long-term workforce strategies is crucial for building resiliency against future shifts and disruptions.

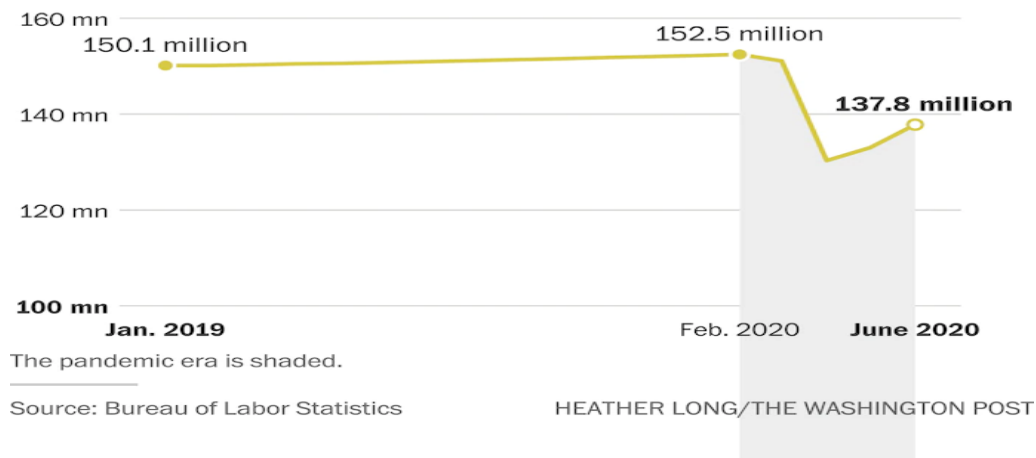
Job Losses and Gains

The public health measures put in place due to the coronavirus pandemic led to widespread business closures and layoffs. The Brookings Institution has reported that temporary layoffs tend to be quite short in duration, with half of them lasting four weeks or less. However, shelter-in place orders lasted over two months in some locations, and after an initial re-opening, other places have had to scale back operations.

- In early May, the Becker Friedman Institute at the University of Chicago estimated that as many as 40 percent of the temporary layoffs could become permanent.

A third of U.S. jobs lost during the pandemic have returned

Total number of Americans employed (seasonally adjusted)



Significantly, tourism and travel suffered immense losses. In 2019, the sector employed 16.7 million workers, and was a vibrant industry. However, pre-COVID-19 employers were predicting that there could be a decrease in the workforce as more tasks became automated, and the industry was being advised to adjust its workplace training and technology investment to drive more productivity per worker.

- The May BLS jobs report demonstrated that the leisure and hospitality industry lost 7.7 million jobs over March and April, which was half of the workforce.
- Leisure and hospitality jobs increased by 1.2 million in the month of May, as business re-opened, but unemployment remained extremely high at 36 percent, compared to 5 percent in May 2019.

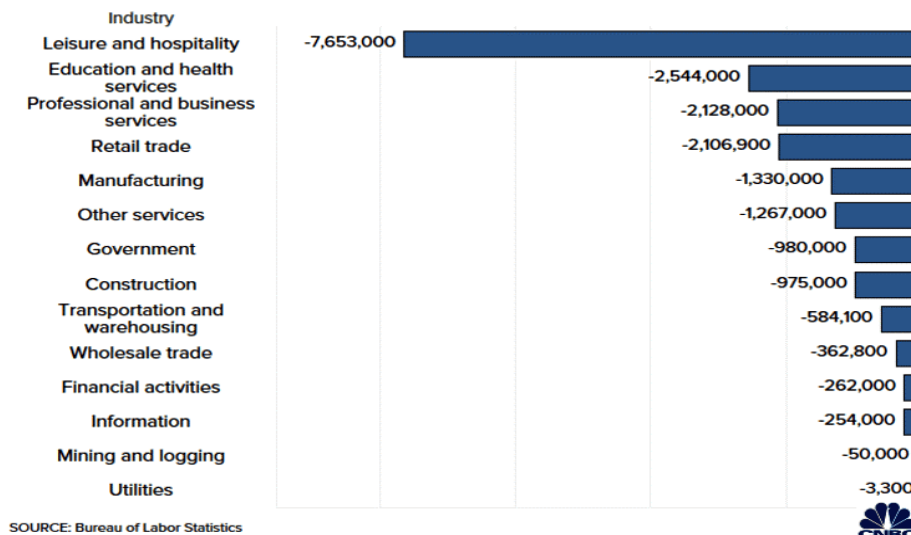
BLS reported that food and drinking establishments were the most-impacted in April.

- Restaurants and bars lost 5.5 million jobs, representing 71 percent of the total losses in leisure and hospitality employment.
- Nationwide, restaurants are expected to lose \$240 billion by the end of 2020, according to the National Restaurant Association.
- The US Travel Association estimated that total spending on domestic transportation, retail, lodging, attractions and restaurants could drop by \$355 billion in 2020, or 31 percent

Notably, the cruise industry's recovery is almost entirely linked to the availability of a vaccine, as the business model is based on density. The American Hotel & Lodging Association is concerned that any increase in travel and leisure over the summer of 2020 will again drastically drop in the fall.

Industries hit hardest

The leisure and hospitality industry saw the largest one-month net decline in payrolls amid the coronavirus outbreak. (One-month net change in nonfarm payrolls.)



Some businesses hit a stride as they provided products and services that were deemed essential. Cleaning and janitorial services, grocery stores, and exercise equipment stores all saw increases in activity during the pandemic, as well as manufacturers who could pivot operations to protective personal equipment (PPE). Moreover, the Becker Friedman Institute reported that for every 10 jobs being lost because of the pandemic, there are three being created, although these new jobs may not be sustainable.

- Amazon added 100,000 new jobs for warehouse workers and drivers to meet the demand in e-commerce.
- Walmart looked to add up to 150,000 positions to keep up with booming demand.
- In March, 7-Eleven announced it would hire 20,000 people.

Food-delivery services have also seen a significant uptick in demand.

- Blue Apron struggled for months to convince investors that people would pay \$60 a box for all of the ingredients they need to make home-cooked meal.
 - By the end of March, the company saw its stock price skyrocket more than 500 percent and hired workers at its fulfillment centers in California and New Jersey.
- Instacart saw downloads of its app grow by 218 percent from February to mid-March, based on consumers' apprehensions about visiting grocery stores.

Streaming video was already growing before the pandemic, is likely to expand even further over the coming months.

- Verizon reports soaring traffic from Web browsing and the use of company virtual private networks, or VPNs.
- Technology startup Boxcast saw viewership increase 20 times in April, leading them to hire more employees.

- Demand grew from faith-based organizations streaming services, municipalities broadcasting public meetings, and fitness centers providing online classes.

The virus testing marketing has expanded as firms jump on the opportunity to assist employers against outbreaks, which has provided opportunities for biotech firms.





- Verily Life Sciences rushed to introduce a free coronavirus testing site for the public in March, and has since helped more than 220,000 people get tested in 13 states.
 - The firm is now introducing health screenings and analytics for business trying to re-open. and will provide safety recommendations to employers.
- Microsoft and the insurer UnitedHealth Group recently collaborated on a free symptom-checking app that helps to pinpoint workers at risk for the virus and directs them to testing sources.
- Kogniz, an artificial intelligence startup (AI), is marketing thermal camera systems to do fever-screening and help to enforce social-distancing tools in the workplace.
- Jvion is also an AI startup that is marketing an employer recovery package to help predict the risk of exposure of employee.









The tele-medicine market has also experienced exponential growth during the pandemic.

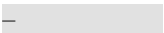
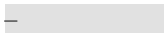
Vulnerable Workers



The coronavirus pandemic underscores that workers without paid leave or the ability to work from home are the most vulnerable to disruptions. The diagram below, based on the BLS data and American Time Use Survey, illustrates the percent of workers with access to paid leave or the ability to work from home by job status, age and earnings in the 2017-2018 timeframe. It is intended to provide some perspective to employment realities prior to the COVID-19 pandemic.

Notably, workers over the age of 65 comprised about 5 percent of people with jobs, and part-time workers made up about 20 percent, with some groups overlapping.

JOB STATUS*	PAID LEAVE	WORK FROM HOME
Part-time	23.3% 	13.7% 
Full-time	77.0 	32.6 

AGE (YEARS)	PAID LEAVE	WORK FROM HOME
15 to 24	35.4% 	6.7% 
25 to 34	70.3 	31.4 
35 to 44	71.7 	36.2 
45 to 54	74.4 	32.5 

JOB STATUS*	PAID LEAVE	WORK FROM HOME
		
55 to 64	74.2	32.2
≥ 65	51.7	25.5

EARNINGS†	PAID LEAVE	WORK FROM HOME
		
≤ 25th percentile	56.5%	9.2%
25th to 50th percentiles	80.0	20.1
50th to 75th percentiles	83.9	37.3
> 75th percentile	86.0	61.5

* Included all wage and salary workers who were 15 years or older at their main job. Self-employed workers are excluded.

*Full-time includes those who work 35 hours or more a week and hold a single job. Part-time includes those who work 34 hours or less a week and hold a single job.

†Earnings includes only full-time workers.

Vulnerability During the Pandemic

Staying away from work for too long could lead to economic hardship, due to lack of paid leave.

- The Kaiser Family Foundation (KFF) reported in June 2020 that 24 percent of the workforce are at greater risk for severe illness from COVID-19, due to underlying health conditions or age.

A Fortune poll of 4,109 US adults between May 20 and 26 demonstrated that since the onset of the pandemic:

- More black workers – 24 percent - said they lost their job compared with 20 percent of Hispanic workers, 19 percent of Asian workers, and 11 percent of white workers.

Furthermore, some of the sectors experiencing the greatest job disruption - like hospitality, restaurants and bars, retail, entertainment and fitness - are same sectors that many college students rely on to pay for fees, tuition and living expenses.

- These job losses compromise their ability sustain independence, both during the pandemic and beyond.

Many states still only pay the federal minimum wage of \$7.25, and as job opportunities increase in lower-income positions during the pandemic, questions remain regarding safety nets for workers.

- While retailers around the country were providing hourly bonuses to workers through “hero pay” at the start of the pandemic, many have now ended the practice.

Looking ahead, it will be important to evaluate how these companies that are thriving and hiring will treat the growing percentage of lower-income employees that they depend on for sales and production; or how they - or the government - will provide security measures for the workers made expendable along the way.

Shecession

Women have taken a larger place in the labor market, and made up 50.04 percent of payroll jobs in 2019, outnumbering men for the first time since 2010, according to BLS. In 2019, LinkedIn reported that hiring in 23 occupations had flipped from majority male to majority female in the past five years. The job that saw the biggest gain in new female employees was the role of retail operations manager. Women have also taken a greater number of positions in marketing, business operations and healthcare.

- In 2019, 65 percent of new hires were women, compared to 47 percent in 2019.

BLS reports that education could be a major factor in why more women are getting hired.

- Women are more likely to earn a bachelor’s degree by age 31 than men.

Jobs where women have made the biggest gains in being hired, according to LinkedIn are:

- Retail Operations Manager
- Graphics Production Manager
- Medical Officer
- Dental Technician
- Public Policy Specialist
- User Experience (UX) Designer
- Web Designer
- Animation Specialist
- Environmental Consultant
- Customer service Support Manager

BLS had projected that the share of women in the workforce would peak at 47.1 percent in 2025, before tapering off.

- Then the pandemic hit the US economy, threatening the careers of an entire generation of working women.
 - In previous downturns, most of the job losses in sectors like manufacturing, construction and finance affected men.

According to an analysis by the National Women’s Law Center, 2020 is the first time since 1948 that the female unemployment rate has reached double digits, impelling some to call this a “shecession”.

- Women accounted for 55 percent of the 20.5 million jobs lost in April, according to BLS, raising the unemployment rate for adult women to about 15 percent from 3.1 percent in February.
- Women of color fared worse, with unemployment rates for black women at 16.4 percent and Hispanic women at 20.2 percent.

Industries hardest hit by the pandemic such as leisure, hospitality, education and even some areas in healthcare, are dominated by non-white women in the workforce.

- BLS reported in 2018 that 28 percent of black women worked in the service industry, as opposed to 20 percent of white women.

Moreover, the pandemic has dramatically altered the way Americans work and care for children, with school and child-care closures.

- Some women say they have little choice but to give up jobs, or work part-time, to manage their responsibilities at home.

Returning to the workforce will be especially hard in the recession, with more people competing for a reduced pool of jobs.

- The impacts could be long-term, reducing women's earning potential and opportunities of future work.

Immigrants in the Workforce

Immigrants are crucial to improving the nation's ratio of workers to retirees, given low birth rates and an aging baby boomer population, according to the CBPP. Economists at Morgan Stanley report over the past decade, population growth, including immigration, has accounted for roughly half of the economic growth rate in the US.

- Today, about 78 percent of the foreign-born population is of working age - between 18 and 64 years - compared with just 59 percent of the native born.

Immigrants feed into the cycle of economic activity and create demand for goods and services. Latinos have notably been key drivers in US economic growth, and have played a vital role in developing America's economic and social prosperity.

- Over the past twenty years, immigrants have accounted for about half of the growth of the US labor force, according to the CBO.

The US Census reports that 36 percent of workers in the farming, fishing and forestry fields were immigrants without a college degree in 2018.

- In addition, 36 percent of building and grounds cleaning and maintenance workers were immigrants, as were 27 percent of hotel workers, and 21 percent of home health care industry workers.

During the pandemic, immigrants have been overrepresented in nearly every job that is considered to be essential, according to the Cato Institute.

- This includes almost 1.7 million foreign-born medical and healthcare workers, as well as those researching cures and treatments, or cleaning facilities, or distributing and delivering food and supplies, or working in food and meat production, according to US Census data.

Some regions have created initiatives to better integrate immigrants into the local economy.

- The Mosaic Project in St. Louis is one of the most comprehensive immigrant welcoming programs in the nation. It includes companies, schools, individuals, foreign students and others in multiple programs, and plays an important role in attracting foreign-owned firms and in retaining both domestic and foreign investment.
- The Unity Alliance in Southern Idaho was created by the chamber, city and the largest employer in the community to provide education about the value of immigrants and support refugee integration.
- One Siouxland was launched in Sioux City, Iowa-Neb.-S.D., where immigrant labor is the backbone of the meatpacking industry. The goal is to ease integration into the community, and Tyson Foods has been a major partner.

Changes in the Workplace

The workplace will be dramatically transformed by the pandemic. In May 2020, the CDC released a Resuming Business Toolkit that is designed to assist employers in slowing the spread of COVID-19 in the workplace. The toolkit includes recommendations and guidelines for businesses in all sectors.

- The guidelines are detailed, with the most prevalent being to implement flexible worksites, work hours, and meeting and travel options.
 - Wearing mask is a common point for each sector.

Companies have been outfitting their workplaces to keep employees healthy and prevent another COVID-19 flareup. Efforts ranged from high-tech systems to common-sense practices.

- Ford Motor Co. began a small pilot program in which employees wear wristbands that buzz when they stand too close to a colleague.
- Amazon plans to start a COVID-19 testing facility for its workers.
- At the Eosera plant – a Fort Worth, Texas-based maker of ear care products - employees now wear masks and take staggered breaks.

In this COVID-19 era, it is becoming common for companies to take employees' temperatures before allowing them into the workplace, with nurses often being hired to lead the effort.

- This concept became prevalent early in the crisis among firms that send employees into homes, such as for repairs or furniture delivery.
- Offices across the nation are adding plexiglass dividers between employees, and these plexiglass protection shields are in high demand for and manufactures that produce them and contractors that install them.

- Notably, there is a shortage of plexiglass around the country, as most of the plexiglass in the US comes from China.
- For companies with many employees, plexiglass shields can add up to thousands of dollars, while at the same time it is boosting business for the producers and installers.

According to Clutch, 44 percent of workers were working remotely 5 or more days per week in mid-April 2020, as compared to 17 percent before the pandemic.

- As the pandemic draws out, if employers do not see a notable drop in productivity, remote work may become more prevalent.
- This may include splitting jobs between the tasks that must be done in the office and the others that can be done at home.

Teams may rotate or stagger when they come in, decreasing the number of desks and potentially removing whole offices.

- Some companies may decide that they can function with a smaller workplace. Other employers may wish to increase the square footage of their workspace to provide more space between employees in the office/work setting, and keep the group dynamic while also respecting social distancing, according to Cushman & Wakefield.

At the onset of the lockdowns, to avoid layoffs, some firms engaged in Work Share plan that let employers distribute available working hours among employees.

- This reduces the hours that people can work, and the wages for those hours are paid by the state, allowing individuals to remain employed and earning.
 - It also saves time and money for employers who do have to hire and train new employees once they return to regular operations.
- The shared work programs through the Minnesota Unemployment Insurance (UI) Program and Michigan's Work Share program allowed employers to retain their workforce and have the flexibility to choose which of their employees were part of a Work Share plan, avoiding layoffs.

Technological Advances

The degree to which technological change impacts a sector varies across industries, and in some cases, they may take a long period of incubation to register any notable shifts in the labor market. As businesses across the supply chain lean increasingly on technology to remain competitive, economic developers will need to work with firms in their communities to determine the local economic impacts of innovation in the short and long-terms.

- Manufacturing and the utility sector are increasingly being challenged by technological advances, making some jobs obsolete, while output increases.

Moreover, some new technological advances - including 3D printing, artificial intelligence (AI), robotics, nanotechnology, and machine learning - are evolving very quickly but, these advances are not likely to help create a large number of jobs.

The McKinsey Global Institute (MGI) suggests that:

- As many as 375 million workers will need to switch occupational categories by 2030, due to automation.
- 23 percent of current work activity hours could be automated by 2030.

The work most at risk of automation includes physical jobs, such as operating machinery or preparing fast food.

- Data collection and processing will also be impacted, with implications for mortgage origination, paralegals, accounts and back-office processing.

More workers are learning to work alongside robots in the workplace. Notably, automation requires employees to design, develop and operate along with the robotized technologies.

- Amazon has over 2000,000 robotic vehicles called “drives”, that move good in delivery-fulfillment centers.
- In some cases, working with robots increases pressure on humans to up their performance, according to experts at the University of Illinois.

Additionally, despite the assumption that the costs of technological innovations will fall on the workers that are less skilled, jobs that require a high level of transactions with other people - whatever the skill level - continue remain relevant in local economies.

- Creative jobs, or jobs that require empathy - ranging from artists to scientists - cannot be replaced by artificial intelligence.

However, most of those same jobs are dependent on personal interactions with others - such as dentists, home healthcare assistants, hairdressers, emergency medical technicians, plumbers and occupational therapists - which have all been negatively impacted by the coronavirus.

AI in the Workforce

In 2019, IBM reported that AI was outpacing humans on certain knowledge-based tasks related to recommendations and image recognition.⁴³

- According to their study, the pace of technology innovation is exacerbating the skills gap, impacting product purchase, usage, and adoption.

By 2022, approximately 54 percent of all employees will require significant reskilling and/or upskilling.

- Depending on the job, over 30 percent are expected to require additional training of up to six months; almost 10 percent will require reskilling lasting six to 12 months; and another 10 percent will require additional skills training of more than a year.⁴⁴

⁴³ IBM Training Newsletter, “Artificial Intelligence presents an opportunity not a threat (Part 1)”. August 2019.

⁴⁴ *ibid*

The healthcare industry has been employing of AI for X-rays and imaging, and embraced AI to help predict unplanned hospital admissions and screen patients during the pandemic. These innovations are playing vital in keeping hospital capacity available for those most in need.

- AI technology is also being used to improve the administrative side of healthcare, such as automating the explanation-of-benefits process.

According to the online employment marketplace, ZipRecruiter, four states accounted for 90 percent of all ZipRecruiter-advertised jobs that required advanced-AI skills, and 60 percent of all AI jobs.

- They were found in California, Washington, New York and Massachusetts.

However, the high cost of living in those tech-hubs has led to a rise in AI-related jobs in Colorado, Utah, Virginia, Texas and Arizona as well.

- At the onset of 2020, job postings in those states grew by 93 percent, and almost three times faster than in the four leading locations.

ZipRecruiter also found that some parts of the US appear to be behind in terms of hosting in-house AI teams. They were Mississippi, Alaska, Kentucky, West Virginia and Louisiana.

- Businesses in those states are more likely to purchase the technology from vendors and consultants, rather than develop their own AI-capacity.

Talent Attraction and Retention

Communities gain competitive advantages based on their ability to attract and retain the best people. Locations that can tout the existence of a qualified worker pipeline and concrete plans for mobilizing workers are also more able to advance to the front of the line with site selectors.

- Workforce availability is the top factor for industrial and office site location decisions and will become even more important over the next five years, according to a recent report from the Site Selectors Guild and Development Counsellors International.

Prior to the COVID-19 crisis, EDOs were challenged to retain and attract quality talent. Low unemployment rates and the scarcity of skilled workers meant that many regions were competing for the same pool of candidates. Given the current economic downturn, EDOs today need to work alongside local industry even more to ensure that firms can attract and retain top talent, as the economy pivots and struggles to maintain competitiveness during the pandemic.

Many EDOs today are investing in marketing their region to attract new talent, even during the pandemic.

- Having an attractive place to locate - in terms of transportation infrastructure, low utility costs, amenities and safety - remains high on the criteria list for both site selectors and job seekers.

Today, demonstrating that a region can ensure the health and safety of employees and residents is critical for firms and workers seeking to relocate.

- Lubbock, Texas initiated an initiative for businesses called Lubbock Safe!
 - It is a designation awarded to businesses who follow CDC and local guidelines, and implement safety measures, during the pandemic.

Firms and regions that can also show a commitment to diversity and inclusion will have a competitive edge over others in terms of attracting younger talent.

- According to a study by the Institute for Public Relations (IPR), 47 percent of millennials consider diversity and inclusion of a workplace in their job search, compared to just 37 percent of baby boomers and 33 percent of Gen X'ers.

For EDOs in the midst of developing projects to attract talent, COVID-19 curtailed some revitalization plans.

- A project on the Arkansas River in downtown Wichita was promoted by the Greater Wichita Partnership in early 2020. It was primed to be the center of economic revitalization with a \$1 billion face-lift that included a new performing arts center, a new convention hall and wide green spaces.
 - The project has been put on hold due to the impacts of the coronavirus on existing firms in the region.

As the COVID-19 pandemic lingers, many people are still working from home, and businesses are focusing on advocating benefits for remote workers.

- Candidates today are searching for full-time work stability and are less concerned about in-office perks like snacks, pet-friendliness and gym memberships.
- Clutch reports that healthcare is among the top benefits that businesses can offer today, as employees are placing more value on access to healthcare
- Paid-time-off (PTO) is also an important benefit, as people want to know they can take time off and still maintain job security if they do get sick.

Remote recruiting is also becoming more mainstream and is expected to continue even after the pandemic.

- Today, 84 percent of recruiters are adapting their process to include more remote interactions, according to data from Jobvite.
- The Eightfold.ai Talent Intelligence Platform, an AI-powered recruitment solution, has seen an uptick in usage since the onset of the pandemic.

The Society for Human Resource Management reports that some firms are "talent shopping" for people who may be furloughed or laid off, in order to fill future roles when the economy picks up.

Rural Recruitment

Rural areas could gain from the pandemic, as many workers and families are seeking more space and outdoor options in their daily lives. Talent was already starting to move to more affordable and smaller metros prior to the pandemic. Census data indicates that thousands of Millennials and Gen Z moved from large cities in 2018.

- San Antonio and Austin in Texas - as well as Phoenix and Las Vegas in the West - saw increases in population, particularly for remote and freelance workers.

Emsi's Talent Attraction Scorecard, released in November 2019, supported the notion that rural counties in the West and the South were spurring talent attraction.

- In the South, small communities were seeing significant investments from energy firms, resulting in both construction and new jobs.
- In the West, Fort Collins, Colorado and Kalispell, Montana have been capturing remote workers, as creative class and digital workers sought more affordable locations than coastal cities.

Large Counties that saw an uptick in talent, according to the Emsi scorecard included:

- Duval County, FL
- Maricopa Country, AZ
- Clark County, NV
- Collin County, TX
- Riverside County, CA

Smaller counties that saw an uptick in talent include:

- Cameron County, LA
- Twiggs Country, GA
- Burke Country, GA
- Johnston County, OK
- Reeves County, TX

Some rural communities have carried out initiatives to attract new talent.

- In 2019, Iowa launched a demonstration showing New Yorkers how much more they could get for their money in Iowa, in terms of real estate, as compared to the New York area.
- Tulsa also offered the Tulsa Remote Program in 2018, which offered \$10,000 to remote workers to move to the city for a year. The program included free coworking space and other amenities.
- Vermont also began a Remote Worker Grant program, providing a reimbursement through grants of up to \$5,000 a year for up to two years, for remote workers that relocated to the state. Vermont's offer also included membership to coworking space.

Enhanced broadband accessibility would strengthen a rural community's ability to attract talent during and after the pandemic.

Demand for Skilled Workers

Today, the demand for skilled workers is growing. Technology is driving some sectors, while the aging population and healthcare concerns are advancing others. Notably, the jobs marketplace ZipRecruiter reported that the economy created 10 times as many jobs in the services sector than in the goods-producing sector in 2019, and healthcare and education fared better in 2019 than manufacturing, oil and gas industries.

Healthcare Sector

By 2017 the healthcare sector surpassed manufacturing and retail as the most significant job engine of the 21st century, becoming the largest source of jobs in the country.

- The aging population has been propelling this trend, and the entire healthcare sector is projected to account for a third of all new employment by 2026, an increase of 46.7 percent.

The range of jobs in the field extend beyond doctors and physical therapists, and encompasses the myriad administrative jobs that are needed to sustain the healthcare system, as well as healthcare aides.⁴⁵ However, the persistent shortage of skilled workers will result in thousands of unfilled positions.

- A 2018 study by global healthcare staffing consultancy, Mercer, found that the US will need to hire 2.3 million new healthcare workers by 2025 in order to adequately take care of its aging population.
- By 2025, there could be a shortage of about 500,000 home health aides, 100,000 nursing assistants, and 29,000 nurse practitioners.

The COVID-19 pandemic underscored the importance of having an adequate supply of skilled workers in the healthcare sector for today and in the future.

Advanced Technology

Business and society are more dependent on digital technology, and anything concerning computer systems design, mobile technologies, and IT management will see a jump in demand.

- Some jobs in high demand today such as cybersecurity experts, data scientists, cloud architects and AI engineers did not exist 10 years ago, or lacked the prominence that they have in the current market.

With the rise of new technologies, there will be an emergence of new roles associated with the design, development and maintenance of new technologies, such as robotics engineer, and virtual reality machinist. Cybersecurity protection is increasingly important across many sectors.

- Cybersecurity employment reaches across multiple occupations, including IT and

⁴⁵ The Atlantic, "Health Care Just Became the U.S.'s Largest Employer". Thompson, D., January, 6, 2018.

management analysts, network administrators, software and application developers, and other IT related jobs, so it not always easy to measure.

- There were 113,692 Information Security Analysts in the US in 2018, according to BLS.
- The Aspen Institute Cyber Security Group estimates there will be at least 470,000 unfilled cybersecurity jobs in the US by 2023.
- 2018 data shows that 79 percent of people employed as information security analysts have a bachelor's degree or more, with bachelor's degree being the most prevalent at 53 percent.

Missouri: Tech-Hub

Missouri has earned a reputation as the tech-hub of the Midwest with companies such as Square, Cerner Corporation, and World Wide Technology in the state.

The state's "Show Me Strong Recovery" Plan, highlights a coordinated effort to reopen and rebuild its economy in the midst of the pandemic.

- Accenture Federal Services (AFS) recently selected St. Louis, for its new Advanced Technology Center, creating 1,400 new technology jobs.

The region's skilled talent, strong technology ecosystem and a commitment to collaboration between government, civic, business, academic and community partners are the foundation that makes it an attractive place for tech companies searching for a cost-friendly place to do business with an abundance of available tech talent.

Skilled Trades

Today, the labor shortage for positions involving skilled labor in trades is negatively impacting economic development.

- Only one tradesman is entering the trade industry for every four that leave, and according to the Conference Board, retiring baby boomers and workers leaving the workforce on disability claims - including drug addiction - has led to shortages in general construction, plumbing, HVAC, and electrical work.
- BLS reports that the need for workers in the skilled trades is increasing much faster than the growth of employment overall, and in all trades combined, 62 percent of employers in the skilled trades are struggling to fill important positions.
- The Associated Builders and Contractors Greater Tennessee Chapter reports that a primary obstacle in attracting future workers is the preconceived stereotypes surrounding construction workers, regarding wages and opportunities for advancement.
- In 2018, 75 percent of construction contractors wanted to increase their headcount, but 50 percent of firms reported having difficulty in filling both craft and salaried worker positions, according to the Associated General Contractors of America.

The Association of Union Constructors reported that despite the pandemic, projections regarding growth in the construction and maintenance industry remain strong, and that worker shortages were most prominent in the South Central, Mountain Northern Plains and Northwest regions.

- Welders are in high demand, and the need for skilled welders has grown following the major hurricanes of 2017, in addition to the urgency of rebuilding the nation's infrastructure.
 - BLS reports that by 2024, there will be a shortage of 400,000 welders.

Other growing sectors include environmental science, hazardous materials removal, and environmental engineering.

- These positions pay more than the median US wage and remain resilient to disruptions, according to BLS.

Fostering Middle Skilled Jobs

Middle skill jobs are defined by the Department of Labor as jobs requiring workers with more than a high school diploma, but less than a postsecondary degree. These jobs are critical for the US workforce.

- The National Skills Coalition's analysis shows that a 52 percent of jobs require skills training beyond high school, but due to lack of access to proper training, only 43 percent of workers are trained to that level.

Middle-skill jobs are associated with a wide range of workforce credentials, from industry-based certifications to apprenticeships, to college certificates and associate degrees.

- Valid credentials are commonly acquired by passing third-party administered exams, completing course work through community colleges, or fulfilling on-the-job learning requirements.
 - Many of these occupations have consistent or growing opportunities, especially those that require substantial levels of math and science.⁴⁶

Skills are significant indicator of economic performance and resilience.

- A 2019 Journal of Regional Science study demonstrated that areas that have higher levels of cognitive and people skills retain more jobs and recover much more quickly from economic downturns.⁴⁷
 - CityLab reviewed the BLS Occupational Information Network (O*NET) classification - which includes detailed data on 250-plus skill sets for more than 1,000 different occupations – and came to the same conclusion.

⁴⁶ Texas Workforce Investment Council, "Defining Middle-Skill STEM Occupations in Texas", December 2015.

⁴⁷ Journal of Regional Science, "Recession-proof skills, cities, and resilience in economic downturns", Patrick, C., Weinstein, A., April 2019.

According to Emsi, 30,000 new jobs have been created in advanced manufacturing between 2011 and 2018.⁴⁸

- These advanced manufacturing jobs require workers with precise skills, as well as more cognitive knowledge, such as higher levels of team building and management skills.
 - Hence, it is not just the level of education that boosts the attractiveness and competitiveness of a region, but the softer people skills as well.
- Employers additionally need those who have "shop math" knowledge, encompassing skills in trigonometry, calculus, and applied math.

Over the next several years, nearly 3.5 million manufacturing jobs will likely be needed, and 2 million jobs may go unfilled due to the skills gap, according to the Manufacturing Institute and Deloitte.

- Regions that collaborate closely with local schools and universities, industry leaders, and innovative startups will better adapt to shifts.

On the state level, the Quick Start Employee Training program in Georgia is among the top workforce development programs in the country.

- Quick Start develops and delivers fully customized, strategic workforce solutions for qualified companies investing in the state. Quick Start helps companies assess, select and train the right people at the right time for success. Services are provided free of charge as a discretionary incentive for job creation for clients opening or expanding manufacturing operations, distribution centers, headquarters operations and customer contact centers in a broad range of industries.

Promoting STEM

Employment in occupations related to STEM - science, technology, engineering and mathematics - is projected to grow to more than 9 million by 2022, according to the BLS.

- Many STEM jobs in the US have been filled by immigrants, but recent country-specific bans enforced by the federal government are challenging tech-firms that relied on immigrant labor.

Education in STEM related topics has been deficient in the US, and prior to COVID-19:

- Less than half of American high schools offered calculus.
- 4 in 10 did not offer physics.
- Over 25 percent did not offer chemistry.
- Over 20 percent did not offer Algebra II
 - Algebra II considered a gateway class for STEM success in college, according to the National Center for Education and the Economy (NCEE).

⁴⁸ These includes jobs in aerospace products and parts, electric power generation, transmission and distribution, mining and construction machinery, navigation measurement and control instruments, aluminum production, chemical processing, computers and processing equipment, medical diagnostics equipment and scientific instruments.

- Only 25 percent of high school seniors in the nation attend schools that offer some type of computer science course.

The International Labor Organization (ILO) reports that the pandemic could have long-term negative consequences on youth, exacerbating obstacles for training and education.

- In the US, K-12 education has already been impacted due to the coronavirus, and children are vital to a successful recovery and resiliency.

STEM extends into all sectors and regions, and median incomes for most STEM jobs are higher than average, requiring an associate's degree for some jobs, up to a doctoral degree for others. These workers are highly coveted by firms seeking to locate or expand in a region.

STEM Fosters Growth

Hyundai Motor Manufacturing Alabama announced a \$410 million, 200-job expansion in November 2019 in Montgomery, AL. The state and local schools' focus on STEM education that ensures training, certifications and apprenticeship programs was crucial to the firm's decision.

- The Montgomery Public Schools' IMPACT program allows students to earn basic certifications in areas such as welding, electronics, IT and industrial maintenance. The school system also offers dual enrollment opportunities in partnership with Trenholm Community College.
- In addition, the Alabama Industrial Development Training (AIDT) offers a basic machinery program to the general public, free of charge, through the Montgomery Regional Workforce Training Center, where a student can obtain IT, manufacturing, and workforce skills training. The AIDT works with 132 firms in 36 counties within the state.

Rallying for STEM education should be a priority for economic development professionals, in order to ensure a skilled workforce for the future.

Partnerships for Success

Recovery from the current recession depends on protecting public health. It also depends on boosting human capital. During the Great Recession, workforce agencies increased enrollment in government training programs by 56 percent in 2009 and then again in 2010.

- These programs not only offered new training on short notice, but they also established partnerships with educational institutions.

Enhanced training in non-degree training opportunities and apprenticeship programs are key to filling the skills gap and in fostering competitiveness and resiliency

Community Colleges

Community College and EDO partnerships are crucial to developing a qualified workforce. Community Colleges make valuable contributions to the communities in which they are located by educating the workforce and fostering the talent pipeline. In parallel, EDOs

serve as the linchpin between community colleges and industry, bridging gaps to assist in the development of tailored training and certification programs to provide a prepared workforce.

Schools have a substantial investment in a community, and they cannot simply relocate if they become disenchanted with the condition of the host community or when a crisis hits the region. Faculty, staff and students who reside in a community provide an added incentive to help ensure the community's economic health. Over the past four years, community colleges have been the prime education partners for EDOs.

- The 2020 IEDC State of the Industry survey found that 69 percent of EDO respondents partnered with Community Colleges to offer training programs to the unemployed, which was a 12 percent increase from 2018.

The EDO-Community College collaboration has increased since the pandemic, as firms pivot to provide necessary products and services. EDOs can effectively assist Community Colleges in creating programs to meet industry demands, and they can additionally help to leverage financial resources available for workforce-related issues.

- These partnerships do not happen spontaneously, and EDOs need engage in outreach - along with other stakeholders - to foster these relationships.

Partnering for Success

Partnerships with Community Colleges are vital for workforce development.

- In Virginia, leaders determined that the state must fill an estimated 1.5 million jobs by 2022.
 - The Northern Virginia Community College, NOVA, is advancing the training for jobs in demand with strong connections and partnerships with local industry.
 - NOVA offers relevant industry specific training and education that includes a curriculum that is aligned with the Federal National Security Agency and the Department of Homeland Security cybersecurity education standard.
 - Students engage in apprenticeships certification programs.
- The College of Marin in the San Francisco region has developed an industry responsive cybersecurity certificate that is offered in collaboration with Cisco.
 - The program offers six modules, each with their own computer network certification.
- To meet the demand for workers in the skilled trades, the Hillsborough Community College in Florida is placing advances in technology at the forefront of the curriculum for welding students, so that they can be work-ready for employers who have adopted new technology.

Apprenticeships

Apprenticeships are gaining ground as a means to foster workforce development in the US. Most European countries have employed apprenticeships programs for decades as a centralized, regulated, and adaptable system of vocational education.

- Germany provided a best practice model to many locations in the US, based on the successful model of incorporating government, businesses, and organized labor.
- In Canada apprenticeships are a provincial responsibility, and each province has its own apprenticeship program.
 - The Interprovincial Standard exam questions are agreed upon by all provinces, so a qualification for a province will satisfy the whole country.

In the US, while the Registered Apprenticeship program is administered by the Department of Labor, there is no single set of apprenticeship standards that all employers and sponsors in the country must follow when designing their programs. The varying models typically include a company training component and a formal educational program offered in partnership with a community college, four-year university, technical school or unaccredited educational provider.

- In earn-while-you-learn programs, students can work part-time and earn a wage, while also studying part-time.
- The IBM Apprenticeship Program, which was launched in 2017 as a Department of Labor Registered Apprenticeship program.
 - IBM Cybersecurity Analyst apprentices complete a 12-month training program that includes over 400 hours of structured learning, coupled with mentorship and on-the-job activities

Nationwide, in 2019 colleges and universities received \$183 million to expand apprenticeship opportunities.

- The Dallas County Community College District (DCCCD) in Dallas, Texas has an ambitious goal of 50,000 apprentices by 2030, and has partnerships with local employers from construction to healthcare, to IT, to manufacturing and logistics.
 - The College received \$12 million in a federal grant aimed at creating apprenticeship programs in the health care industry.
 - More than 70 percent of students at DCCCD are juggling work and school at the same time and many are first-generation college students.

The education-to-employment field was also impacted by COVID-19, since in-person interactions were decreased or terminated. For non-profits across the nation that cater mostly to people in their 20s and 30s seeking upward mobility, some have attempted to translate life-changing experiences to a computer screen.

Year Up – Shifting to Online Training

Year Up is a non-profit that offers job training programs in cities across the US, with a full year program that includes six months of course training and six months of apprenticeship at a firm.

- Their programs have helped graduates land jobs that pay an average of \$42,000 annually, up from their previous \$9,000 to \$15,000 incomes.
 - Year Up had 2,900 graduates in 2019.

Companies that hire from Year Up include JP Morgan Chase, Salesforce, LinkedIn, Bank of America and Accenture.

Organizations like Year Up play an important role in offering upward mobility programs, and the pandemic - with massive amounts of newly unemployed - inspired Year-Up to quickly shift to online training. They found that it could be done more effectively than anticipated, and attrition rates increased only slightly higher than in previous years.

Year UP reports that once they were able to overcome challenges - that included getting students laptops, internet services and video software - they were able to use these problems as learning lessons for their computer-support courses.

Business Takes the Lead

Some large companies have taken the lead on training, either current staff or potential new workers. Incumbent worker training is imperative to reskill and upskill current employees.

- Big companies such as Amazon, PwC and JPMorgan Chase provide in-house training to employees, filling their workforce gaps

Home Depot Invests in the Future

The Home Depot Foundation announced a \$50 million commitment in 2017 to train 20,000 workers over the next ten years by partnering with the Home Builders Institute (HBI).

- A trades program was set up in Fort Stewart, GA and Fort Bragg, NC, for military service members returning to civilian life. The program focuses on plumbers, electricians and carpenters.

On the heels of that initiative, in 2019 Home Depot partnered with HBI on a youth trades training program in high schools across the US.

- The program and its industry-recognized curriculum are available in approximately 25 high schools with a focus on underserved communities across Colorado, Florida, Virginia, Alaska, Texas, Alabama, Tennessee, New Jersey and Massachusetts.
- Upon completion, participants will earn a pre-apprenticeship certification, endorsed by the National Association of Home Builders, and recognized by the Department of Labor. The program intended expand to more high schools in 2020, but is pending due to the pandemic.

Lifelong Learning

Technology will continue to play a key role in reshaping the economy, making it increasingly important that workers have access to education and training.

- The BLS Occupational Outlook Handbook notes that opportunities for job advancement are better for people who are willing to keep layering on skills involving software and computer systems to their current job or skill-set.

CAEL: Economic Opportunity Through Learning

CAEL, a Strada Education Network affiliate, focuses on lifelong learning that enables adults to prosper in a rapidly changing economy. CAEL seeks to improve opportunities for equitable economic and social mobility by collaborating with postsecondary organizations, EDOs, employers, funders and allies committed to lifelong learning across the nation.

CAEL has developed and advocated for lifelong learning accounts that workers can use at any time during their careers to pay for education and training. The accounts would belong to workers, and be transferable from job to job.

- The CUNY School of Professional Studies (CUNY SPS) in New York received CAEL's 2019 Adult Learner Impact Award, an annual honor that recognizes member institutions that have shown an outstanding commitment to the expansion, access and quality of lifelong learning opportunities and academic programs for adult learners.

Maine launched a Lifelong Learning Accounts program in 2005, coordinated by its Department of Labor. The program used its existing Career Center staff and offices to do outreach to employers and workers.

- The accounts were established through the state's existing Section 529 college savings program, known as NextGen, that is administered by the Finance Authority of Maine, and includes a matching contribution for low- and middle-income workers.

Entrepreneurship

In the face of disruption, entrepreneurial firms have often been the driving force behind economic recovery, job creation, greater resiliency and regional economic growth.

- The Kauffman Center for Entrepreneurial Leadership describes entrepreneurs as generative and self-renewing, since they not only provide engines for innovation, but also smooth exigencies in the business cycle.⁴⁹

Entrepreneurial activity includes diverse phases of the business process such as startups, new business, and established business, which can effectively impact job creation and internationalization.

⁴⁹ *Foreign Affairs* 83(4), Building Entrepreneurial Economies, Schramm C., July/August 2004.

- In the last forty-years, emerging firms created an average of three million new jobs a year and have been responsible for almost all net new job creation in the US, injecting competition into markets, according to the Kauffman Foundation.

Entrepreneurial activities vary widely, and businesses grow at different speeds and in different manners.

- Many small ventures never achieve substantial growth and need to cease operations, while others continue to operate for years with little growth, without the desire to expand further.

The Great Recession highlighted the notion that startups had a crucial role to play in the nation's future, and many people turned to entrepreneurship for a variety of reasons that can be attributed to limited labor market opportunities, and the fact that people could not find a traditional job.

- Others sought to add to their retirement funds, or that they wanted to have a viable option if they lost their full-time job in the uneven labor market.⁵⁰

There have been ebbs and flows in entrepreneurial activity over the past decade, and the peak during the Great Recession was followed by a drop in 2011, due to the slow recovery and tight credit market. In 2016 startups turning five-years old in grew an estimated 75 percent, an increase over 2015.

- However, when compared to the levels of the 1980s and 1990s, fewer firms were growing to become medium-sized or larger in terms of employment in the 21st century, translating into longer-term distress for entrepreneurship.

In the US, entrepreneurship has not always benefited from well-established federal or statewide policies, or strategies that would foster growth.⁵¹

- The legalization of equity crowdfunding in 2016, through the Jumpstarting Our Business Startups (JOBS) Act, did enhance seed fundraising activities, but the subsequent federal budget cuts of loan guarantees available to small-business owners incited more challenges.

Hence, even prior to the coronavirus, the US was experiencing a 20-year entrepreneurial stagnation, with the propensity for people to start new businesses almost flat.

- Many startups were sagging after a difficult 2019, when prominent unicorns - companies valued at \$1 billion or more by private investors - fell flat on Wall Street.

When the pandemic hit the nation in March 2020, startups laid off employees, resulting in job losses for 35,000 employees between March 11 to April 27.

- Uber, for example, announced 7,500 furloughs, representing 25 percent of their global workforce, as well as the cancellation or postponement of all innovation projects

⁵⁰ Center for Rural Entrepreneurship, "Entrepreneur Development Opportunities in the New Post-Recession Economy", Macke D., Hamilton-Pennell C., November 2012.

⁵¹ National Bureau for Economic Research, *Age and High-Growth Entrepreneurship*, Azoulay, P. Jones, B., J. NBER Working Paper, No. 24489 Issued in April 2018.

Supporting Innovation

Fostering an innovative ecosystem, is a critical activity for economic developers. Partnerships with government, industry, higher education and the private sector are essential to creating a highly integrated network of technology and innovation.

The Research Park at Florida Atlantic University (FAU) supports R&D activities and fosters economic development.

- FAU's Tech Runway is a public-private partnership that serves as a hub to accelerate technology development and incubate startup companies.
 - The 28,000-square-foot collaborative working space provides entrepreneurs with a complete ecosystem in which to office, train, mentor, fund and scale their companies from the idea-stage through to the revenue stage.
 - From October 2014 through October 2019, entrepreneurs at the Tech Runway:
 - Generated \$109,900,000 in revenue
 - Created 587 jobs at an average salary of \$80,000
 - Employed 96 FAU students at the hub
 - Engaged 199 interns
 - Invested 95,330,000

Concurrently, freelancers and workers in the gig economy have been transforming the labor market and are confounding the definition of entrepreneurship. The rise of intrapreneurs inside of established forms – like General Electric, AT&T/Alcatel-Lucent Bell and IBM – has also emerged, allowing employees to take ownership of their own small section of a company, without making a financial investment.

- Notably, in 2020, with support from the Kauffman Foundation and cooperation from UMKC SourceLink, IEDC will develop a set of training courses and credential for professionals working in entrepreneurship-led economic development.

Rural Entrepreneurship

Entrepreneurs at all levels and locations face challenges concerning access to funding and visibility for their businesses, but those in rural areas face even greater hurdles.

- In addition to limited access to financial services, business capital, technical assistance, and resources for ventures, limited access to broadband remains a significant obstacle, impeding growth and innovation.

The Small Business Administration (SBA) reported before the pandemic that the rate of entrepreneurship in rural America was declining.

- By 2016, only 16 percent of American entrepreneurs were in rural areas.

- Improved broadband access and a better transportation infrastructure would increase the attractiveness of careers in rural areas, and could potentially slow or reverse this trend.

Notably, internet access is the essential element that enables niche marketing and value-added agriculture to flourish in rural communities.

- These types of activities can also enhance farm profitability and motivate youth to stay in rural areas.

The pandemic has led many to consider leaving denser populations areas, and if rural areas could better tackle the issue of digital accessibility, more people might consider re-locating and staying in rural cities and towns.

- SCORE reported in 2019 that rural entrepreneurs felt that they had a better quality of life compared to their urban counterparts, despite the challenges in terms of workforce availability, access to broadband technology and funding.

Moreover, increased outreach to farmers, students, and the development of business incubators dedicated to agricultural startups would also enhance the potential for technology to transform agriculture.

- The American Farm Bureau Federation (AFBF) started the Rural Entrepreneurship Challenge in 2014 as a national business competition focused exclusively on rural entrepreneurs with food and agriculture businesses.
 - The challenge has grown year over year, with hundreds of applicants in 2018, as rural entrepreneurs competed for \$10,000 to \$15,000 in startup funds.
 - For 2020, the AFBF partnered with Farm Credit to showcase startup companies that are addressing challenges faced by farmers and rural communities.

Supporting entrepreneurship in rural areas remains an important economic development strategy, despite digital challenges.

- Economic developers can help to raise awareness on the urgency of the broadband situation, influencing decision makers to consider innovative approaches that will improve broadband access to foster growth in rural communities.

Franchises

Franchises have played a critical role in the economy, contributing to job creation in communities across the nation.

- In early 2020, franchises employed more than 8 million employees across the US, an increase of 7.6 million in 2017.

The International Franchise Association's (IFA) 2020 Franchise Business Outlook forecasted that franchises would grow faster than the overall economy in the following years, and prior to the pandemic, the IFA predicted that:

- Franchises would to add 232,000 jobs in 2020, growing total employees to 8.67 million.

- The states that would see the most franchise establishments and employment growth in 2020 were Texas, Colorado, Arkansas, Florida, Idaho, Tennessee, Georgia, North Carolina, South Carolina, and Nevada.

COVID-19's impact on franchising has been tremendous.

- Three out of every four franchise businesses were fully closed due to either the economic downturn or shelter-in-place directives.

Managing onsite employee health and safety is a top concern, and as re-openings are underway, some employees cannot return to the workplace, due to underlying conditions, or children that do not have care options.

- During the lockdown, businesses were forced switch to online and contactless service options, which is continuing as the economy cautiously re-opens.

Restaurants are grappling with additional costs due to the pandemic, with health and safety measures being enforced.

- NPC International Inc., the nation's largest Pizza Hut and Wendy's franchisee, filed for bankruptcy at the end of June 2020.

In May 2020, the IFA released the Franchise Reopening Blueprint, to provide guidelines to franchise businesses and policymakers on how to reopen safely following the pandemic. The report focuses on the automotive, commercial services, education, fitness, hotel, residential services, restaurant, salon, and senior health services sectors.

- The implementation of the CARES Act and Paycheck Protection Program (PPP) loans contributed to franchisee hope that they can survive the pandemic.

In May 2020, FranConnect, a franchise management software provider reported that:

- 73% of Business Services franchises indicated that they were unlikely/very unlikely to lay off staff.
- 43% of Commercial and Residential Services franchises said they were unlikely/very unlikely to lay off staff.
- 42% of Personal Services said that they were likely to lay off staff.

Significantly, purchasing a franchise is a significant investment, ranging between \$85,000 to \$4 million, depending on the company and location. Like other small businesses, franchises are challenged in offering health care assistance to their employees and face rising costs if they do. Occupations in franchises in fast food, retail and sales are also positioned at the lower-wage scale.

Social Entrepreneurs

Social entrepreneurs create businesses to address social problems or needs that the government or other firms do not meet. Social entrepreneurs have been working to fill market gaps and demonstrate more sustainable models to build inclusive economies for years.

- The Schwab Foundation's 2020 Impact Report demonstrates that leading social innovators and entrepreneurs have improved the lives of more than 622 million people

across the globe, protecting livelihoods, driving movements for social inclusion and environmental sustainability, and providing improved access to health, sanitation, education and energy.

The work of social entrepreneurs is even more important during the pandemic, as they reach those that the market and government do not.

- Sources of funding that social entrepreneurs typically target include micro-investors, angel investors or groups, venture capitalists and private equity funds.

The pandemic has constrained funds for both donors and consumers, forcing social entrepreneurs to become more agile in how they fund and conduct their work.

Modern Health

The digital mental health startup, Modern Health, was founded in 2017 to promote employee well-being.

- Corporate leaders are increasingly investing in preventative solutions to protect their employees' mental health, and the startup offers psychological assessments, remote therapy sessions, career coaching, and guided meditation.
 - The platform is available in over 60 countries and clients includes companies like Pixar and Nextdoor.

The firm has been offering free mental health resources to support those dealing with the increased stress and anxiety caused by the COVID-19 pandemic.

An increasing number of Americans are also choosing to support businesses committed to addressing social issues in their community.

- The cause-marketing firm Cone Communications reports that 76 percent of Americans will buy or boycott companies based on corporate values.
- Likewise, 71 percent of consumers think green when making a purchase.

Looking ahead, the rise of the conscious consumer will continue, and mission-driven businesses will become more mainstream. This provides enhanced opportunities for green entrepreneurs that may include manufacturing green products, recycling, developing green apps, offering organic meals, and upcycling furniture.

Spotlight on Small Business

Small businesses are the heart of communities. They employ about half of the private sector labor force and provide more than 40 percent of the private sector's contribution to GDP. Significantly, they shape the dynamic of a neighborhood.

- The five types of small businesses that employ the most people in the US, according to the Census Bureau are: manufacturing, healthcare, and professional, scientific and technology services sectors.

The Great Recession's impact on small business tightened lending and diminished lifestyles for many small business owners, but by 2012 small businesses growth improved, with the exception of the retail sector.

- In 2017, sales and profits hit the fifth consecutive year of annual improvement in net profit margin for all small businesses across the nation.

In 2018, fewer small businesses were borrowing money, and those that were borrowing were avoiding small banks and credit unions, according to the Federal Reserve Bank of Cleveland.

- Many borrowers were turning to new marketplace lending platforms, whereby loan applications can be made online via smartphones.

The National Federation of Independent Business (NFIB) reported in 2018 that small business confidence was high, and the 2018 NFIB Small Business Economic Trends Survey demonstrated that owners were spending money, with 22 percent planning to raise worker compensation, and 66 percent reporting capital outlays.

- In 2019, confidence was already beginning to waver however, as talks of a recession simmered.
 - This translated into more caution in hiring and capital spending.
- The NFIB reported in August 2019, small businesses said that they would likely continue to offer improved compensation to attract and retain qualified workers in the short-term, to counter the qualified employee shortage.

COVID-19's Effects

When the pandemic hit, and businesses were forced to temporarily shut down or decrease activity in March 2020, the National Small Business Association found that:

- Three-quarters of small business owners were very concerned about the economic impact of COVID-19.
- Almost half of small businesses had already experienced reduced customer demand for their products and services.
- Over half of small-business owners were anticipating a recession in the coming 12 months, compared with 14 percent in January 2020.

A Main Street America study from April 2020 found that as many as 7.5 million small businesses were at risk, especially those employing fewer than 20 people.

- The NFIB's Small Business Optimism Index demonstrated an increase over levels of uncertainty in May 2020, over April, when 20 percent of owners were still planning capital outlays in the next few months.
- FEMA reports that 40 percent of businesses do not reopen following a disaster, and that another 25 percent fail within one year.
- Damage from recent George Floyd protests will produce significant expenditures that were unexpected for many small business owners.

Additionally, many sole proprietors – that include over 23 million people in the US, according to recent IRS data - are not included in statistics, as they do not have employees.

- Many did not receive support in the first phase of the CARES Act, that stipulated that self-employed workers could qualify for weekly Pandemic Unemployment Assistance (PUA) benefits through the end of July.
 - The numerous exclusions made it difficult for many to acquire aid.

The Paycheck Protection Program (PPP) administered by the SBA provided low-cost loans to millions of small businesses to cushion them from the impacts of the coronavirus. The Census Bureau's Small Business Pulse Survey found in early May 2020 that:

- The firms that benefited the most from the federal government's PPP were oil extraction and mining businesses.
- Just under half of manufacturing businesses received funding, and approximately 45 percent of accommodations and food services firms received loans.
- Small businesses in the utilities sector received less than a quarter of loans.
- Two-thirds of small businesses in Arkansas, Maine and Oklahoma received loans, while Californians received about 20 percent of these loans.

Web-based microenterprises could also play a role in helping communities ride the storm of the current economic downturn. A recent study by Arizona State University and the University of Iowa found that very small, e-commerce businesses produce significant spillover effects for their communities.

- The study also found that communities with more of these small-scale digital businesses recorded stronger recoveries from the last recession than other places.
 - Micro-online ventures often remain a side-gig, but can add to median household income.
- Those ventures making masks or other personal protective gear during the pandemic have been able to earn money as the pandemic draws out.

At the height of the pandemic, EDOs mobilized quickly to assist local firms, and many engaged local law firms and accountants to help local businesses. Going forward, small business owners will continue to need advocates to work with property owners, as well as assistance in securing loans and in certain cases, in transitioning some of their business to e-commerce.

Minority Small Businesses

Minority-owned businesses are vital for healthy communities, and it is important to foster diversity by gender, age, education and ethnicity to help encourage economic growth, offer new products and services, and meet trending needs.

- About 30 percent of all new entrepreneurs in the US have been first-generation immigrants, according to the Kauffman 2017 Index.
- Black-owned firms have increased by over 60 percent since 2002, owning 1.9 million businesses in the US in 2017.
 - Black entrepreneurship had been on the rise in Atlanta, Miami and Washington, DC, mostly in segments that include beauty, food and beverage, auto and technology.

- Other places where black entrepreneurs were thriving, according to NerdWallet, were Montgomery, Memphis, Durham, Savannah, Baton Rouge, and Baltimore.
- Latinos have become the fastest-growing small business owners across the US.
 - Over the past 10 years, the number of Latino business owners grew 34 percent, according to Stanford University, contributing about \$500 billion to the economy in annual sales.
 - Latino-owned businesses employ more than 3 million people, according to the 2019 State of Latino Entrepreneurship report by the Stanford Latino Entrepreneurship Initiative (SLEI).
- Women-owned firms employed approximately 9 million workers in the US in 2016, according to the American Express Open. Women are involved in every main industry sector, from healthcare and social assistance, to educational services, businesses services and administrative support, and waste management services.
 - New York City ranks first on the list of the world's best cities for women entrepreneurs, according to the Dell Women Entrepreneur Cities Index report.

Minority businesses provide jobs to community residents and hire a larger percentage of black workers than non-minority businesses.

- They help to create generational wealth for black communities, deliver needed services, provide a physical space for local residents to congregate, and sustain investment.

The coronavirus pandemic will shutter many small businesses, and early evidence shows it has been disproportionately hurting black-owned small businesses.

- More than 40 percent of black business owners reported they were not working in April, while 17 percent of white small business owners said the same, according an analysis of government data by University of California, Santa Cruz.

Financial Challenges

Many black-owned and minority small businesses are struggling through the pandemic, as they lack easy access to loans and cannot easily move their businesses online. However, even before the pandemic, minorities struggled to attain loans.

- A 2016 study by the Stanford Institute for Economic Policy Research revealed that only one percent of small minority businesses received a bank loan in their first year of operation, compared with 7 percent of their white counterparts.
 - Many business owners used personal credit cards to fund their business growth if their companies did not qualify for loans.

According to the 2017 Small Business Credit Study by the Federal Reserve Banks, 45 percent of Latino applicants were turned down for insufficient credit history, and 37 percent for having too low a credit score.

- In comparison, white applicants were turned away at rates of 33 percent and 26 percent, respectively.

The COVID-19 pandemic has highlighted the issues surrounding financial exclusion. Discriminatory lending practices by traditional banking institutions have also stymied lending to people of color.

- Since banks were the prime depositories for financial aid to small businesses - notably the PPP loans through the CARES Act - many minority entities were excluded from receiving a loan, as lenders focused on serving their existing customers.

Exclusion from COVID-19 related financial assistance is having a devastating effect on minority small business, and will make economic recovery for communities of color more difficult.

- The US Census Bureau reported that almost 75 percent of small businesses applied for help from a CARES Act during the pandemic, but only 38 percent received any money from the PPP.
- In May 2020, the Global Strategy Group found that only 12 percent of minority business owners received federal assistance through the federal loan program.
- An April report from the Center for Responsible Lending found that 90 percent of minority owned businesses would have little chance of receiving a PPP loan through a mainstream bank or credit union, due to the fact that they were not clients.

The New York Times reported that only 2 percent of a \$20 million city-wide small business loan program went to businesses in the Bronx, which has the highest share of black people, according the city's Department of Small Business Services.

- Concurrently, 57 percent of loans went to Manhattan businesses.

Congress did include language urging lenders to prioritize women-owned, minority, and rural businesses in the CARES Act, but a report by the SBA's Inspector General revealed that the SBA did not take efforts to comply with that stipulation.⁵²

- Borrowers in rural area, as well as minority and women-owned businesses, were shut out from the loan process.
 - The federal government also prioritized businesses that had employees, highlighting another setback for sole proprietorships.
- While Community Development Finance Institutions (CDFIs) do cater to unbanked minority populations, less than 10 percent of CDFIs were allowed to distribute government aid, as they were not approved by the SBA to administer loans.

⁵² Small Business Administration, Office of Inspector General, Report 20-14, "Flash Report Small Business Administration's Implementation of the Paycheck Protection Program Requirements", May, 2020.

Some business owners say they have found the most help from local non-profits and EDOs that stepped in to fill the gap.

- Thousands of support systems exist cities and neighborhoods across the country in the form of Main Street Programs, Business Improvement Districts, or other kinds of downtown organizations.
 - These organizations are typically well known in their communities as trusted sources of information, and as connectors to business support resources.
- In Buffalo New York, the Westminster Economic Development Initiative in partnership with NeighborWorks Buffalo created the Neighborly Fund, which is distributing over \$200 000 grants to minorities.
 - The initiative tapped into the corporate social responsibility unit of KeyBank to help distribute the funds.

Local governments are recognizing the need to prioritize minority businesses in local economic recovery.

- St. Louis Missouri established an Economic Rescue Team, comprised of local economic development, health, education, and business leaders to advise on how the county can be more efficient in supporting COVID-19 economic recovery.
 - The task team includes a working group solely dedicated to advising on how to support minority and immigrant-owned businesses.

The Center for Urban Entrepreneurship and Economic Development (CUEED) at Rutgers University suggests that local leaders focus on high-impact vital enterprises (HIVES).

- EDOs can help in securing emergency capital, developing businesses continuity plans, and connecting businesses to networks and support systems.

Suggestions for Resiliency

In terms of supporting the workforce, the Shared Prosperity Partnership - which is a collaboration of the Urban Institute, the Kresge Foundation, the Brookings Metropolitan Policy Program, and Living Cities – reports that states can play an important role in fostering a system of lifelong learning, training, apprenticeships and supportive services, that provide multiple pathways to jobs and careers.

Recommendations for states include:

- Organize state economic development strategy around the development and deployment of talent;
- Create more public-private sector partnerships focused on regionally significant industries;
- Incentivize private sector training by establishing a state worker training tax credit;
- Expand funding and programmatic support for apprenticeships;
- Provide statewide scholarships to students with low incomes;
- Expand and promote early college high schools, middle colleges and dual enrollment programs;
- Offer grants to communities for place-making;

- Fund local entrepreneurship initiatives, particularly for underrepresented populations;
- Provide tax credits to businesses that donate to community projects in economically distressed areas;
- Further incentivize work through state Earned Income Tax Credits.

The Milken Institute Center for Financial Markets also has recommendations for the federal government in terms of assisting minority small business:

- Expand Treasury's Minority Bank Deposit Program to increase deposits in Minority Depository Institutions (MDIs) and adjust the SBA Guarantee Program to cover 100 percent of targeted small business loans that target low and moderate-income communities to ensure continued capacity to provide access to capital.
- Increase appropriations for the Minority Business Development Agency (MBDA) to create growth equity funds in support of affected Minority-owned Business Enterprises (MBEs) and diverse investment managers.
- Include federal resources to enhance the Tier 1 Capital of banks that support underserved communities (e.g., Minority Depository Institutions and Community Development Financial Institutions) by fully capitalizing and leveraging Treasury's CDFI Fund Program.
- Amend the 2017 Tax Cuts and Jobs Act to allow investments in MDIs and CDFIs to qualify for Opportunity Zone benefits.

In this current economic development landscape, easing barriers - such as taxation and regulatory burdens - is critically important for all entrepreneurs.

- Incubators and accelerators have long been effective for boosting entrepreneurship and small business development.
 - They already use advanced videoconferencing technology to interact with entrepreneurs and investors around the world, and as locations re-open, they will remain a vital support system to entrepreneurs.
- Economic gardening - growing jobs in the community through entrepreneurial activity and market expansion - can continue to be effective for enhancing a community's resilience to economic disruptions.

Role for EDOs

Since the Great Recession, EDOs have become more attentive to the conditions and operations of local industries. Knowledge of industry shifts provide EDOs with opportunities to refine and expand workforce development and recruitment efforts. Local business surveys - long conducted by EDOs to determine short and longer-term corporate demands - are vital tools in determining companies' current and future workforce needs. Moreover, advances in technology and disruptive technologies, like artificial intelligence, will require thoughtful solutions to help those displaced by automation.

The COVID-19 pandemic has placed greater pressure on EDOs to help create and sustain a viable workforce pipeline to meet the needs of business and establish a cycle of growth and reinvestment. Training is critical to helping prepare a region's current workforce for jobs today and tomorrow. EDOs need to connect with government entities, non-profit

organizations, and educational institutions to approach the workforce challenge from different angles, providing opportunities for underserved populations in a community. EDOs can raise awareness and articulate industry needs to other community leadership, and facilitate cooperation between industry and educators to develop tailored training and certification programs to supply a ready-to-go workforce. As such, EDOs will have to continuously work with employers to access their talent needs to adapt training opportunities for industry.

To attract and retain talent, economic developers will need to capitalize on local amenities as an extension of the workplace, incorporating quality-of-place initiatives in order to draw and retain firms and talent. As the economy recovers from the pandemic, practitioners can promote a closer focus on equity. Entrepreneurs and small businesses will need more funding options and support, and EDOs can champion the underserved in their community and assist firms in remaining solvent during this crisis. To foster recovery, resiliency and growth, EDOs can take a leadership role in the community by building local capacity, retaining and attracting talent, communicating constantly, and refining resiliency preparation plans.

G. Disaster Resilience

The world has experienced an increase in natural and manmade disasters since the turn of the 21st century. Striking with little or no warning, these disruptions can instigate unforeseen economic losses and dislocation that wreaks havoc on a community's economic base for the long-term. And while warnings can be provided through advanced technology and communication, it is often difficult to forecast the destruction of a disaster before it hits, or to fully estimate its consequences. The global trend toward urbanization is also making more regions prone to disasters.

From hurricanes to floods to cyclones, dozens of extreme weather events devastate communities around the globe each year.

- In 2018, the World Bank estimated that three regions that include Latin America, Saharan Africa, and Southeast Asia would generate 143 more climate migrants by 2050.
- Extreme weather forced 7 million people from their homes in the first half of the year 2019, making it one of the most disastrous years on record, according to the Internal Displacement Monitoring Centre.
- In July of 2019 alone, there was a climate crisis disaster reported each week by the month of July, according to the United Nations.

Over the past 20 years, the US has been hit by terrorist attacks, fears of bioterrorism, hurricanes, earthquakes, fires, floods, tornadoes, an oil spill, mudslides, deadly winter storms, and outbreaks of the swine flu and Ebola, and this year COVID-19.

- Between 2017 and 2019, significant hurricanes, wildfires, floods, tornadoes, typhoons and a volcano eruption ravished the nation and its territories.

In addition to the physical and emotional devastation, the financial costs are staggering.

- Between 1980 and 2015 disasters in the US exceeded \$1 trillion.

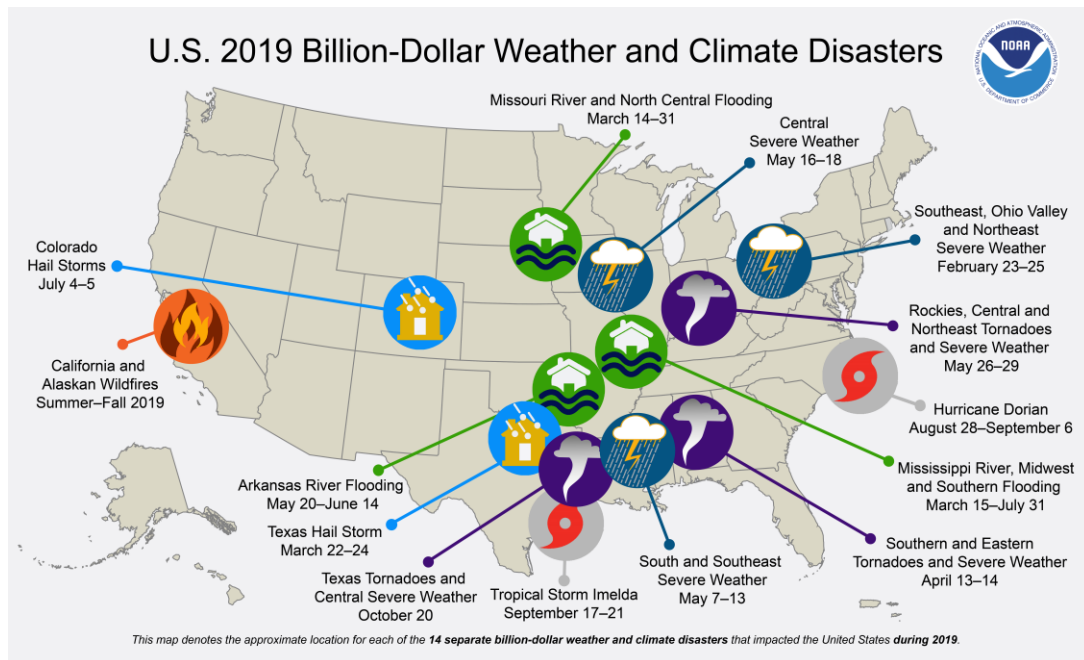
In 2017, the costs in property value of hurricanes Harvey and Irma was estimated to be \$55 billion by the CoStar Group. However, the National Oceanic and Atmospheric Administration (NOAA) reported that the cumulative damage of the 16 US disasters in 2017 was \$309.4 billion - which exceeded the previous national annual record cost of \$219.2 billion - from the impacts of the 2005 hurricanes.

- FEMA reported that it would take up to an estimated \$50 billion to help rebuild Puerto Rico from 2017's Hurricane Maria.

The flooding in Texas and Louisiana in 2017 also impacted almost 20 percent of the nation's oil refining capacity.

- In 2018 natural disasters cost the US \$91 billion, with 80 percent attributed Hurricane Michael in Florida, Hurricane Florence in the Carolinas, and wildfires in the West, including California.

In 2019, some states had their hottest, or their wettest, year on record, and the nation experienced 14 weather and climate disasters, with losses exceeding \$1 billion each and totaling approximately \$45 billion, according to the (NOAA). At least 44 people died and many more were injured during the course of these disasters that included wildfires, tropical cyclones, inland floods, and severe storms. The combined cost the Missouri, Arkansas and Mississippi River basin flooding was \$20 billion.



In 2020, the global pandemic brought on by the coronavirus has resulted in widespread unprecedented disaster for communities across the globe. In 2015 the World Health Organization estimated that potential pandemics could cost over \$500 billion per year. The current pandemic is ongoing, and still not contained.

- In May, the Asian Development Bank reported that the global economy could suffer between \$5.8 trillion and \$8.8 trillion in losses, equivalent to 6.4 per cent to 9.7 per cent of global GDP as a result of COVID-19.
 - However, the forecasts – as well as prospects for recovery post-pandemic – are mired by uncertainty, much like the virus itself.
- By June 25, 2020, the US had recorded more than 2.3 million coronavirus infections, with more than 121,000 deaths. Globally, on the same day, the tally of those infected climbed to 9 million with close to half a million lives lost.

Brick-and-mortar businesses of all sizes have suffered, as public health officials warned against in-person interactions. Across the nation, state and local governments are currently experiencing enormous budget shortfalls and unemployment levels are surpassing the Great Recession.

- There are estimates that state and local governments will need to enforce \$500 billion in cuts over the next two years due to the impact of COVID-19, as plummeting revenue streams from taxes and rising costs for public services empty their coffers.
- The National League of Cities estimates that through 2022, cities nationwide will experience a total loss of \$360 billion.

In March 2020, shortly after pandemic was declared, Congress allocated \$150 billion as part of the CARES Act to cities and states to pay for unexpected health costs.

- The money was limited to coronavirus-related expense, and hence was narrow its use.

In addition, for 2020, NOAA predicts it will be a busy hurricane season, with several storms that could be category 3, 4 or 5 in strength. Some states are more prone to wildfires in the summer, and an increase in flooding has become a trend. Due to the pandemic, social distancing and other CDC guidance to keep people safe from COVID-19 is impacting those previous disaster preparedness plans, placing further strain on the nation's state and local governments.

Inequity of Disasters

Disruptions, whether natural disasters, business displacements, or the COVID-19 crisis, amplify inequality and have the potential to deepen the cracks in a community. Over the past 15 years, the impacts of natural disasters and climate change have been exacerbating inequity in America.

The National Bureau of Economic Research highlighted in May 2017 that more affluent populations are better able to locate to a safe place prior to a storm than lower-income populations; lower-income populations are also at greater risk for long-term financial and lifestyle consequences. Moreover, many that are part of those more affluent populations do not return to the devastated area, which creates a cycle of diminished wealth in a region, including disinvestment and decreased opportunity.

- Ten years after Hurricane Katrina, those residents who did not have insurance were still struggling with lower credit scores and lower rates of home ownership than those who had some coverage.⁵³

According CoreLogic, mortgage and rental delinquency rates increase after natural catastrophes occur.

- A 2019 Urban Institute report demonstrates that low-income Americans experience the biggest drop in their credit scores following medium-sized disasters, or those that caused less than \$200 million in damage.
 - Since credit scores can indicate an individual's past financial struggles, and serve as a predictor for their future finances, those with low credit scores often are not given access to credit cards, auto loans and mortgages – or can only receive them at very high rates - which can place them at a disadvantage in the long-term.

⁵³ Federal Reserve Bank of New York Staff Reports, Disaster (Over-)Insurance: The Long-Term Financial and Socioeconomic Consequences of Hurricane Katrina, Bleemer, Z., Van der Klaauw, W., February 2017.

Moreover, the gap between white and black Americans who experienced a natural disaster or lesser storms grew significantly between 1999 and 2013.⁵⁴

- Whites living in counties that experienced \$10 billion in damage from storms gained an average net worth of \$126,000 during that time period, while blacks in the same areas lost \$27,000.⁵⁵

FEMA and private insurance companies are more likely to provide funding based on the value of property that was damaged, thus those who live in areas where property values are higher often receive funds to upgrade or rebuild.

- FEMA provides temporary hotel vouchers and other rental assistance after a storm, but renters and displaced lower income workers face more economic uncertainty.

In June 2020, the Federal Reserve Chairman stated that the pandemic has exposed a range of “troubling inequalities,” most of which have predated the current crisis.

- The health crisis has exacerbated the vulnerabilities for those that depend on the public transportation system and often work service jobs coming into contact with large numbers of people.
 - COVID-19 spreads rapidly in densely packed locations and neighborhoods where hygiene is a challenge.

People in communities that have high health disparities - from hypertension, asthma, obesity and diabetes, to lack of medical care and health insurance, and are disproportionately burdened by toxic air pollution, crowded housing and dangerous fossil fuel infrastructure - have suffered more from the threat of the coronavirus than those in more financially stable areas.

- Workers that have been on the frontlines, bearing repeated exposure to the virus, are disproportionately getting sick or dying from complications from the disease.

While all assistance immediately following a crisis is necessary and welcome, federal assistance for more long-term recovery efforts for issues concerning infrastructure, housing, education and workforce training, and healthcare would benefit cities and regions across the US to buffer any future disruption.

- Strengthening livelihoods is essential to mitigating the costs of a disaster. Governments at all levels and business should integrate equality efforts into their resiliency planning efforts.

The Milken Institute’s Center for Financial Markets has recommended that:

- Foreclosure and eviction moratoria be extended after the initial period, if the National Emergency declaration is ongoing at that time to avoid an onslaught of delinquencies, defaults, and losses, the consequences of which would be felt for year.

⁵⁴ *Social Problems*, “Damages Done: The Longitudinal Impacts of Natural Hazards on Wealth Inequality in the United States, J. Howell, J. Elliott, Volume 66, Issue 3, August 2019

⁵⁵ *ibid*

- Renew - with appropriate revisions - and extend nationwide, the Treasury's Hardest Hit Fund (HHF).
 - The HHF was created by Congress in 2008 to enable state housing finance agencies (HFAs) to provide targeted aid to families hit hardest by the financial crisis of 2008.
 - An enhanced HHF would allow state HFAs to develop tailored foreclosure prevention solutions in localities hit hard by high unemployment caused by COVID-19.
 - The most effective use of HHF during the Great Recession was the provision of mortgage payment assistance for unemployed or underemployed homeowners.

Typical Phases of Disasters

Disasters have phases, which include the preparation before a disaster is even on the agenda, to enhance recovery after the disaster strikes. The four phases of disaster are mitigation, preparedness, response, and recovery. Each phase has particular needs - requiring distinct tools, strategies, and resources - and faces different challenges. The phases are addressed below and relate to the resiliency and recovery of the local economy and business community before and after a major disaster.

- **Mitigation:** Mitigation involves steps to reduce vulnerability to disaster impacts such as injuries and loss of life and property. This may involve changes in local building codes to fortify buildings, revised zoning, strengthening of public infrastructure, and other efforts to mitigate the damages from a catastrophic event.
- **Preparedness:** Preparedness focuses on understanding how a disaster might impact the community and how education, outreach and training can build capacity to respond to and recover from a disaster. This may include engaging the business community, pre-disaster strategic planning, and other logistical readiness activities.
- **Response:** Response addresses immediate threats presented by the disaster, including saving lives, meeting humanitarian needs (food, shelter, clothing, public health and safety), cleanup, damage assessment, and the start of resource distribution. As the response period progresses, the focus shifts from dealing with immediate emergency issues to conducting repairs, restoring utilities, and establishing operations for public services. The response phase will typically include:
 - ✓ Triage efforts, where FEMA and non-profit resources, are deployed immediately to assess and deal with the most pressing emergency issues for health and safety.
 - ✓ Assessing the federal resources from diverse federal agencies for the reconstruction of damaged infrastructure and personal/business assets.
 - ✓ Setting-up Business Recovery Centers that centralize small business recovery resources in a community, such as local bank officers, technical assistance providers, and other critical assistance for maintaining business continuity and/or get businesses up and running.
 - ✓ Assistance with issues ranging from safety and security, to the short-term loss of workers, to the immediate repair of damaged property or inventory, to the diminished customer base.

- **Recovery:** Recovery is the fourth phase of disaster and is the restoration of all activities and infrastructure in a community, and the return of the local economy to some sense of normalcy.

In terms of a health pandemic, the US has a federated system in which local and state public health agencies are fairly autonomous. This has resulted in a patchwork of responses around the nation, which has not always been the most effective approach. Mitigation depends on governments being competent, coordinated and capable of rapid and intense intervention.

Assessing Risks

Disruptions are inevitable, and disaster risk assessment is a process to determine the nature and extent of such risk. Most municipalities and counties have risk management systems in place – or even designated staff - to focus on such assessments, based on their past experiences and likelihood of future vulnerability.

- Risk assessments can assist local governments in identifying and assessing the risks that climate change and other threats posed to people, property, services, livelihoods and the environment on which they depend.
- These assessments are essential for managing a disaster and a recovery, helping in prioritizing risks that require further action as a basis for decision-making, adaptation planning and funding solutions.

Assessing risks requires input from a number of stakeholders and data from a variety of sources. It requires a collaborative, multi-sector, and inclusive process.

- A typical local risk assessment exercise should engage fire service and emergency managers, community planners, city engineers, law enforcement, regulators, natural resource and/or hazard experts, GIS specialists, community leaders, local residents, community organizations, and another significant local stakeholder.
- Data sources may include the emergency management plan, the Comprehensive Economic Development Strategy (CEDS), hazard-specific plans and historical data, critical infrastructure plans, census data, and any other resource that assists in describing potential threats and identify community assets.

In terms of weather-related incidents, mitigation for these threats requires a community wide response through adaptation strategies, that begin with revisions and updates to building and land development codes.

- In Florida, since 2010, the Florida Building Code (FBC) includes flood provisions that are consistent with the National Flood Insurance Program (NFIP) requirements for buildings and structures. All counties, cities and towns are required to enforce the FBC.

The impact of COVID-19 has brought the threat of a pandemic and issues related to public health to the top the agenda for most localities and businesses. Most communities were unprepared for this disruption, and did not understand how the virus would affect different populations and locations.

To help local leaders create a targeted response to the pandemic, Emsi developed a Health Risk Index. This index demonstrates where the virus has spread within the US, and features risk factors unique to each community across the nation.

- **Preconditioned population:** the number of people who, within the past year, have been treated for diabetes, visited a cardiologist, taken asthma medications, or smoked.
- **Population density:** the number of people per square mile in the region.
- **Workplace interaction:** a measure of the overall workplace density of specific industries.
- **Population health:** the age, income, and education level of the region's population, which affect their overall health.

FEMA's Resilience Analysis and Planning Tool (RAPT) was updated in March 2020.

- RAPT is a tool for emergency managers at local, state and regional levels to visualize and assess challenges to community resilience. It is a Geographic Information System (GIS) web-map tool that is free to use, allowing users to visualize and prioritize resilience, response, and recovery strategies.
 - The tool combines data layers of census tract community resilience indicators, infrastructure locations, and hazards, including real-time weather forecasts, historic disasters, and projected hazard risk.
 - A user can select multiple features to better understand local challenges to resilience in their community, such as population with a disability combined with location of mobile home parks, and historic tropical storm/cyclone activity. It also now includes the location and size of infrastructure entities such as hospitals, nursing homes, urgent care facilities, public health departments, and pharmacies.

Tools like these can help local policymakers create localized responses for COVID-19, or any other health crisis that may develop in the future. It enables leaders to better understand the situation in their region so that they can act to protect the most vulnerable, while also safeguarding the local economy.

Resilience Planning

Developing a comprehensive resilience plan and long-term mindset entails more than plans for physical structures. It must include setting priorities and allocating resources to manage risks for the community and people, for any type of disaster, be it a natural disaster, a manmade disruption, economic downturn, or a health crisis.

- Disaster resilience is a process, spanning multiple activities and time-scales. Public and private sectors leaders are encouraged maintain regular communication and collaboration with utilities, government agencies, public health officials, and community leaders throughout the year to ensure that all stakeholders are aware of any updates or changes in a resiliency plan.
 - Assessing risks on a regular basis will help in preparing for any disruption.

Resilience helped leaders respond to the catastrophic natural disasters over the past 15 years, and the collapse of the economy during the Great Recession. Those with a resilient and diversified economic base can better rebound from the devastating impacts that COVID-19 has had on people's health, the supply chain, the education system and employment.

- In 2019, the International City/County Management Association (ICMA) reported that less than half of local governments and communities said they have resilience plans.

Resilience plans should be incorporated with broader community development strategies, so that stakeholders can act swiftly and efficiently when a crisis occurs.

- IEDC developed a toolkit for economic recovery and resiliency that helps public and private stakeholders to plan for resiliency and economic recovery efforts before and after disasters. It identifies six core areas of resiliency that can provide a framework for a long-term, strategic recovery plan:
 - Business Community Engagement
 - Business Financing
 - Business Re-Entry
 - Capacity Building for Economic Recovery
 - Redevelopment and Reuse
 - Workforce Planning

In terms of the impact on businesses, large companies typically have resources and a plan in place to better overcome a disaster, while small businesses find themselves in a particularly vulnerable position after a disaster. Small business owners may not be aware of their role in a community's disaster preparedness effort and their participation in planning efforts will need to be more consciously sought out.

- As communities and EDOs focus on developing a resiliency plan, they should strive to create a diversified local economic base that can withstand a disruption and pivot resources when needed.

The Center for Disease Control (CDC) has reported that global health security requires an effort to build public health systems that work in coordination with other stakeholders, in order to help regions to detect and contain public health threats. This includes:

- **Surveillance systems** to rapidly detect and report cases.
- **Laboratory networks** to accurately identify the cause of illness.
- **A trained workforce** to identify, track, and contain outbreaks.
- **Emergency management systems** to coordinate an effective response.

Assessing Losses

Disasters impact physical property, as well as livelihoods. The assessment of direct losses from a disaster such as fatalities, injuries, loss of buildings and homes, loss of/or damaged equipment and infrastructure can be assessed in a fairly straightforward manner. Leaders can assess the costs to respond to the emergency, remove debris, stabilize buildings, clean up and provide temporary living assistance.

FEMA will perform a damage assessment, but it is crucial for a community to conduct its own post-disaster economic impact study to have a more localized perspective.

- Some of the indirect losses such as job losses and reduced employee income; economic leakage when goods previously attained within a community need to be purchased outside of the local economy; delays to travelers and commuters; impact on investments; and fiscal deficits to cities and counties due to reduced tax revenues, are more complex to determine.

The COVID-19 pandemic has underscored the intricacy of such losses, as communities across the nation coped with shutdowns, shelter-in-place orders, business closures, disruptions to supply chains, and widespread economic hardship.

Steps to take following a disaster include:

- Conduct an impact assessment
- Identify an organization to lead the economic recovery process and a team for the following exercises:
 - Identify key economic stakeholders, key industries and host kick-off meetings to discuss roles, resources, and responsibilities.
 - Establish working groups with multiple stakeholders to gather the relevant data and information.
- Develop a plan with action strategies that are implemented in phases with timelines.
- Create a communication strategy in terms of implementation, resource mobilization, and efficiency.

Impact Assessment Surveys are critical at this time and help in developing an effective plan for recovery. Many EDOs have already surveyed or are planning to survey their businesses to learn more about how they have been affected by COVID-19.

Economic Recovery

Reconstructing a community is a colossal endeavor. Comprehensive recovery efforts involve a myriad of stakeholders at the local level working in tandem with federal and state agencies, non-profit groups, and the private sector. It is an imperfect process, and each recovery effort faces different challenges.

- In the initial stage of a disaster, FEMA helps to organize the response for disaster relief, following a Presidential Disaster Declaration or other type of declaration. Through the National Disaster Recovery Framework (NDRF), the EDA and other agencies then step in to coordinate activities with other federal agencies for long-term recovery efforts at the local level.⁵⁶

⁵⁶ In 2011, the President endorsed the National Disaster Recovery Framework (NDRF), which provides guidance on how long-term Federal disaster recovery assistance will be delivered through a new multiagency effort. The framework serves as a companion document to the National Response Framework (NRF), which was originally released in 2008.

- The NDRF is particularly important to economic developers working to stabilize their local economies in the wake of a disaster, providing points of contact and resources for varying issues.

Immediate disaster recovery challenges include extensive paperwork, limited funds, a lack of flexibility and changing requirements.

- The bulk of federal funds in post-disaster scenarios from natural incidents have been devoted to agencies focused on rebuilding infrastructure and housing.
 - The agencies providing economic assistance to businesses such as the SBA's Disaster Recovery Fund, the EDA, and the USDA's Rural Development Disaster Assistance Fund play fundamental roles in providing assistance to small businesses, leveraging resources to fund infrastructure and revitalization projects, investing in local entrepreneurs, and developing tailored economic recovery strategic plans.

During the pandemic, assisting small businesses and entrepreneurs to remain solvent has been crucial.

Recovery Phases

The recovery phase of disaster consists of both short-term and long-term phases.

- The short-term phase typically lasts from six months to one year, and involves tactical actions, such as delivering immediate services to businesses.
- The long-term phase can range from years up to decades and requires more strategic planning and activities to address more serious or permanent impacts of a disaster.

In the longer term, investments in economic development capacity building are essential for economic diversification efforts, attaining new resources, and implementing effective recovery strategies. Communities must access and deploy a range of public and private resources to enable long-term economic recovery. The role of the economic developer in recovery consists of:

- Assessing impacts on long-term viability of businesses/industries and provide cost/benefit analysis of recovery projects.
- Participating in Business Recovery Task Force to identify immediate and long-term recovery efforts.
- Garnering input and support for critical recovery initiative.
- Conducting outreach and provide business recovery assistance and services.
- Communicating that an area is open for business.
- Connecting with public/private resources for rebuilding.

Re-opening quickly was hallmark of recovery success post-disaster. In 2019, FEMA reported that of businesses forced to close by a disaster, 90 percent would fail within a year unless they reopened within five days

- FEMA's Waffle House Index is an informal metric that is based on the reputation of the restaurant chain Waffle House for staying open during extreme weather and for reopening quickly after tornadoes or hurricanes. For example:

- ✓ **GREEN**: full menu – restaurant has power and damage is limited or no damage at all.
- ✓ **YELLOW**: limited menu – no power or only power from a generator, or food supplies may be low.
- ✓ **RED**: the restaurant is closed – indicating severe damage or severe flooding.

However, the re-opening concept has become more sensitive and complex during the pandemic.

- Opening too soon, or without proper sanitary procedures, can risk the health and safety of the population.
- Opening at full capacity has been discouraged, as close proximity to others could propagate the spread of the virus.

Creating an appropriate message from the disaster-impacted regions, concerning short-term and long-term responses, can counter negative public relations and image issues. The messages and efforts should align with facts and use health and safety standards as priorities.

Role of the Economic Developer

Across the nation, EDOs and chambers of commerce often lead economic recovery efforts by helping local businesses respond to impacted employees, facilities, customers and supply networks. Their existing relationships with local businesses are critical both during and after a major event, especially when communication channels are limited and chaotic.

- EDOs have played key roles in facilitating the strategic planning process for economic resiliency and brokering the recovery process, based on their daily experience in coordinating involvement and leveraging resources for the business community.

Over the past two decades economic developers have assumed a higher profile as part of a community's response following a natural disaster. Notably, EDOs have been always played a role in mitigating disruptions, such as the closing of a manufacturing plant or federal facility, or the departure of a company headquarters. Local officials turned to the EDO to support dislocated workers and develop a mitigation plan for the community.

The role of economic development professional shifted in parallel to a similar shift by the Economic Development Administration (EDA).

- Prior to Hurricane Katrina, the agency began partnering with FEMA to help it assess the economic impacts of disasters and develop strategies for long-term recovery.

While economic developers are not the first ones on the scene following a natural disaster, their role grows over time, with the information gathering and sharing tasks, and the convening of community stakeholders.

- EDOs took the role of assessing the immediate challenges hampering economic relief or recovery efforts, such as problems with the local transportation system.

During the current pandemic, local leaders are relying on EDOs to track key indicators of their community's economic well-being.

Promoting Collaboration

Importantly, an EDO is well positioned to convene other local business associations, workforce development entities, universities, community colleges, small business development centers, and other notable local stakeholders to lead a community's response team to an economic disruption.

- The EDO's critical role in supporting small businesses following a disaster has become a primary concern during the pandemic, as small firms across the nation waver as the uncertainty over the coronavirus persists.

EDOs are key players for raising awareness on any available grants and loans, and providing assistance with applications.

- The Hillsborough County Government Center's Rapid Response Recovery Program, (R3) offered 3 grants through June 30:
 - Kickstart Small Business Grant: An up to \$10,000 grant, tiered based on employee size and revenue. Targets mom and pop stores with under 10 employees that can show they were shut down by government ordinance or were economically injured by revenue/employee reduction.
 - Back to Work Grant: Provides slightly larger businesses (with \$5-20 million in revenue) with a \$2,000 bonus for each employee they hire back. Targets larger companies that can hire people back immediately.
 - Safer at Work Grant: Provides reimbursements for company expenditures related to things like physical modifications, PPE, telework technology, plexiglass installations, sanitation stations. Targets larger companies.

Many EDOs are ramping up BRE efforts and delving more into the intricacies of their local supply chain.

- The Right Place, in Grand Rapids, Michigan and the Greater Phoenix Economic Council (GPEC) in Arizona are two EDOs that usually focus on larger firms, but today are playing greater attention to the region's small businesses since the pandemic, many of which are family-owned.
 - The Right Place is also analyzing its manufacturers' supply chains and examining broadband disparities in the region to uncover ways to strengthen the local business-base.

EDOs have undertaken other important initiatives to assist firms and people in the community:

- Developed toolkits and checklists for managing crises, for reopening, and for hibernating a business.
- Provided remote working advice.

- Created a CEO executive series every week during the COVID crisis to share best practices.
- Developed a dashboard that shows economic indicators and personal behavior activity indicators for the region, as well as health indicators.
- Released 2 rounds of grants at \$5,000 each for all businesses of 25 employees or less headquartered in the county and owned by county to use for payroll, mortgage, rent, or utilities for March-June.
- Increased efforts on foreign direct investment, look to restore supply lines.
- Offered loans for companies who want to buy new machinery to retool (for example, to make masks) and diversify.
- Established online tools, platforms, and calculation models to help companies go through the Paycheck Protection Program (PPP) and EIDL loan process.
- Become a repository for information on the federal assistance and state/other grant opportunities.
 - Nevada launched a state-wide information sharing network with chambers, trade associations, and EDOs around the state, to help the governor's office distribute information, surveys, and guidelines quickly with the business community: businessinfoonetwork.org.
- Developed a shop local campaign.
- Provided one-on-one coaching and counseling, and hired outside groups and professionals to counsel with our companies.
- Used funds, along with those from other stakeholders, to package and distribute gift cards for displaced workers in the community.

EDO Uncertainty

Due to the pandemic, economic development organizations – who often take the lead in post-disaster economic recovery efforts – face an uncertain future, as their own revenue streams from all levels of government and local businesses are in jeopardy. EDOs have pivoted resources during this time of crisis to maintain business operations.

- Similar to many businesses worldwide – and depending on the region and the health situation - numerous EDOs have been working remotely.
- They have or are rescheduling in-person events or running them virtually.

Those EDOs that are 501c3 organizations were able to apply for, a Paycheck Protection Program (PPP) loan through the CARES ACT. These loans helped EDOs to stabilize operations, at least through the end of the year.

- EDOs that are 501c6 organizations were not able to apply for PPP funding.

In addition to assisting local firms, it has been critical for EDOs to engage more with investors and their boards during the pandemic. Efforts that EDOs have undertaken to help boost their organization's sustainability during the COVID-19 crisis have included:

- Rewriting strategic plans to reflect immediate short-term and longer-term needs.
- Working with the Board of Directors to secure funding.
- Revising budget to ensure that the next fiscal year(s) is sustainable.
- Revamping marketing efforts
- Re-allocating staff work responsibilities.
- Marketing the region to talent.
- Engaging more with the private sector to incite partnerships.
- Transitioned recruitment strategies to focus on other industries,
- More digitalization, through virtual reality site visits and meetings.

Demonstrating an EDO's leadership is essential at this time. The EDO's role in fostering the local economic recovery will help in enhancing both the community's and the EDO's resilience over time.

IEDC's Role in Disaster Recovery

IEDC has played a fundamental role in disaster recovery efforts across the US mainland and territories over the past 15 years. The organization has championed for legislation and funding for business recovery, and has taken a leadership role in convening and connecting essential stakeholders to prepare for a disruption and rebuild an area following a crisis.

Notably, IEDC's initiatives to assist disaster-impacted communities with recovery and preparedness after Hurricane Katrina in 2005 helped to transform the expectations for the economic development profession in the wake of a disaster.

- In partnership with EDA and other organizations, IEDC began deploying economic development professionals to communities in federally declared disaster areas to support work on disaster preparedness and recovery plans, strategic planning, entrepreneurship, industry-specific strategies, small business support, and business retention and expansion.

With funding support from the EDA, IEDC projects have benefitted communities affected by Hurricane Katrina, Superstorm Sandy, numerous other hurricanes that struck the Gulf and East coasts and the Caribbean, flooding in the Midwest and, typhoons in the western Pacific Ocean, wildfires in California.

- To date, IEDC has sent over 350 volunteers to support technical assistance assignments to more than 20 states and territories including the Commonwealth of the Northern Mariana Islands, Kentucky, Florida, North Carolina, North Dakota, Puerto Rico, Texas and West Virginia.

- Moreover, during the COVID-19 crisis, IEDC has taken a key role in advocating for federal support for states and localities to enhance recovery.

The RestorYourEconomy.org web portal was created by IEDC with the support and generous funding of the EDA to provide critical information for those seeking to rebuild their local economies after a disaster, as well as for members of the business community who seek to be prepared.

- This site, which previously provided the economic development community and local leaders in the public and private sectors with practical tools and resources for disaster preparedness and recovery, has shifted focus on the COVID-19 pandemic in the past several months. It is receiving support from IEDC's Economic Development Research Partners (EDRP) program.
 - It provides vital information on re-opening the economy by state, industry, and municipality, and hosts a bank of resources and other essential data.

On May 20, 2020, IEDC - along with a coalition of more than 170 businesses, associations, and community organizations - sent a letter to congressional leaders urging them to provide direct federal assistance to America's cities, towns and villages in the next federal recovery bill in response to the overwhelming strain the crisis has imposed on budgets of localities of all shapes and sizes.

The Coalition calls for federal relief and outlined the following requests:

- \$500 billion over two years of federal aid for local governments;
- Fair and direct funding allocations to each and every local government, with no exclusions based on population;
- Equal funding overall for municipal governments and county governments;
- Maximum flexibility for the eligible use of funds to address the budget consequences of the pandemic.

With more disruptions on the horizon, and the coronavirus being a continued threat, it is crucial for practitioners to persist in raising awareness and disseminating information on preparedness and tools for recovery to stakeholders across all sectors. By collaborating with other local entities, economic development professionals can play a vital role in improving the nation's economic recovery and in building resiliency for any future disruption.

II. Summary: IEDC 2020 Strategic Priority Assessment Survey

Over May and June 2020, IEDC surveyed its membership via Survey Monkey to better assess the organization's strategic priorities. The goal of the survey was to help determine if the current directives are in alignment with the needs of IEDC's diverse membership. The replies of the Board and General membership were tallied separately.

The survey was divided into three sections:

- Part 1 asked members how they were navigating through some notable challenges in this uncertain economic development landscape.
- Part 2 asked members some questions about how they were looking ahead on key issues facing them organizationally in the next two years.
- Part 3 asked members for their feedback regarding IEDC's current strategic priorities.

Some notable information gleaned from the Survey Monkey survey replies include:

- Compared to two years ago, the majority of the Board members said that they were focusing more on disaster and disruption recovery as the top reply, which is indicative of the COVID-19 pandemic taking place at the time of the survey. General membership was focusing more on business retention, followed by disaster and disruption recovery and strategic partnerships.
 - In the 2018 survey, all IEDC members were focusing more on attracting qualified talent, and the 2020 IEDC State of the Industry Survey results demonstrated that lack of skilled labor was impacting 65 percent of members, a growing trend since 2012.
- One-third of the Board of Directors noted that they lost business, either in the form of prospects or existing firms, in the past two years because they did not have the skilled labor that was needed. A higher percentage of General membership, 47 percent, responded that they lost business due to lack of qualified talent.
 - Marketing the region's assets to prospective talent was also undertaken by many EDOs in the last two years.
- All of the IEDC Board members and 90 percent of General membership stated that that they were cooperating with local universities, community colleges, and vocational/technical schools for training to provide new workforce opportunities. Marketing the region's assets to prospective talent was also a widely undertaken by EDOs.
- While 85 percent of the Board members said that over the next year that their organization planned on initiating or revising plans for disruption preparation, including natural disasters or man-made crisis, fewer in General members replied that they would do so, at 69 percent.

- EDOs are still unsure of how exactly they can effectively initiate new programs to better address issues of inequity and exclusion. Over half of Board members - more than in 2018 - are undertaking or plan on starting a program targeted on equity. A bit over a third of General members replied that they would initiate new programs in the future.
 - Comments to open ended questions indicate that EDOs are and have been discussing equity issues, and are trying to determine the best approach to take.
- Both Board members and General membership view marketing and communications, and partnering with the private sector, as the top two approaches that will be needed in the next two years in order to improve their EDO's ability to effectively carry out economic development activities.
- Regarding IEDC's strategic directives, Board members considered Leadership Development as the most important strategic priority, followed by Economic Opportunity and Equity, and then the Promotion of IEDC and the ED Profession as close second and third place.
 - The General membership ranked Promoting IEDC and the ED Profession as the top priority, followed by Leadership Development and Economic Transformation in very close second and third place.
- Looking ahead, the Board members would like to see a focus on Infrastructure Development as a new strategic priority, followed by Regionalism. The General membership chose Rural Development as the top choice, with Infrastructure Development coming in second place.