BY TIM SABLIK

Has the Pandemic Changed Cities Forever?

COVID-19 transformed how we work and socialize, which could put the future of cities on a new path

Throughout American history, people have moved from farms and small towns to seek their fortunes in the big city. The story of the last century has been one of increasing urbanization. As of 2018, 86 percent of Americans lived in cities or surrounding suburbs, and large cities accounted for a similar share of total U.S. economic output. It wouldn't be a stretch to call cities the engines of growth in the modern era.

But despite the appeal and benefits of urbanization, cities are not without costs. They are more expensive, more crowded, more prone to crime, and more vulnerable to disease outbreaks than sparsely populated rural areas.

The past year has brought that last cost into stark relief. In the era of modern medicine, it has been easy to forget that cities have been associated with many horrible pandemics throughout history. From the plague of ancient Athens during the Peloponnesian War, to the Black Death that ravaged the cities of Europe in the 14th century, to typhoid and cholera outbreaks in the cities of the Industrial Revolution, for most of history, city dwellers could be expected to live shorter lives than their counterparts in the country.

"There are demons that come with density, the most terrible of which is contagious disease," says Edward Glaeser of Harvard University. As one of the country's foremost urban economists, Glaeser has long been a champion of cities and their many societal benefits. But in his forthcoming book with fellow Harvard economist David Cutler, *Survival of the City*, he devotes his attention to the challenges facing cities, with disease high among them.

Urban plagues in the industrial era eventually led to advances in medicine and sanitation technology, which enabled cities to thrive and grow rapidly. Some researchers now wonder whether the COVID-19 pandemic could put a dent in that growth. Densely populated cities like New York were early hot spots for the virus and suffered high rates of infection and death.

Many cities attempted to limit the spread of the virus by shifting work from offices to homes and limiting social gatherings. With vaccines rolling out and virus cases falling, the end of the pandemic seems to be in sight. But will city life return to the way it was before?

THE ATTRACTION OF CITIES

To predict cities' future, it helps to consider why people have been attracted to cities in the past.

"There's a long-running debate: Are people in cities because they love cities or because that is where the highest-wage jobs are?" says David Autor of the Massachusetts Institute of Technology. "I think it is more the latter."

Decades of research by urban economists point to the productive advantages of cities throughout history. Firms in the same industry tend to cluster together in cities because they can share the same inputs into production, like capital and skilled labor. Cities also tend to be located on major

Share this article: http://bit.ly/pandemic-cities transportation hubs, giving them access to bigger marketplaces. People moving to cities have more options for work and play. They interact with more people, share ideas, and spread knowledge across companies, enabling industrywide gains in productivity.

These forces have benefited different industries at different points in time. In the 19th and early 20th century, many cities grew as manufacturing hubs for a particular product, such as automobiles in Detroit. Since the late 20th century, successful cities have focused on knowledge-based industries, like finance in New York or computer technology in Silicon Valley. In recent research, Autor found that work in cities has become increasingly polarized since 1980. College-educated professionals earn a wage premium working in cities even after accounting for higher cost of living, but wages for less-educated urban service workers have flattened.

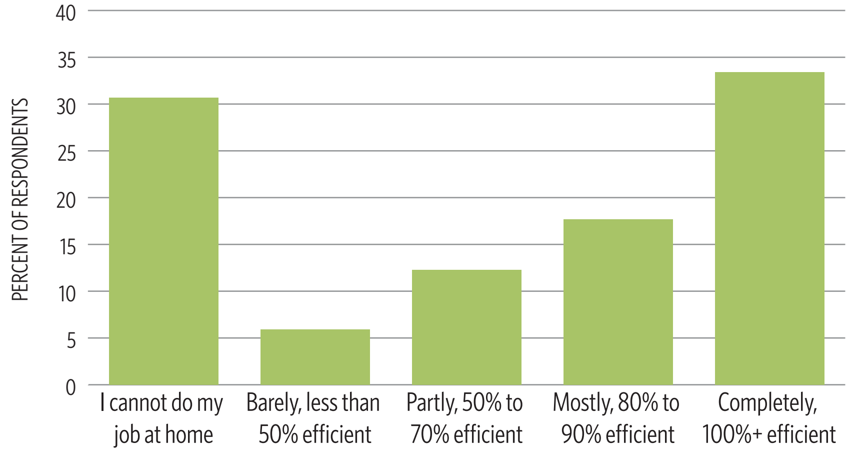
College-educated workers have also been attracted to cities in recent decades because of their amenities, such as theaters, exclusive restaurants, museums, concert venues, and professional sporting events. In a 2020 *Journal of Urban Economics* article, Victor Couture of the University of British Columbia and Jessie Handbury of the University of Pennsylvania found that these urban amenities were the biggest factor in explaining the influx of young college graduates to cities since 2000.

All of this evidence points to cities being attractive places for the highly educated to live, work, and play prior to 2020. But the response to COVID-19 may have changed that. Before the pandemic, most knowledge-based workers in cities still commuted to downtown offices every day. Only a small share of full-time employees worked from home. This may have been due to a stigma against home workers stemming from limitations on the kind of work that it was historically possible to do outside of the office.

"If you go back to the 1980s, there were no networked home computers," says Nicholas Bloom of Stanford University. "So it was mostly low-level jobs that could be done by mail or phone that could be done from home. I think that generated the impression that people working from home were lower level and less productive. It's only since about 2010 that we have been able to fully replicate the office at home."

Not All Jobs Can be Done from Home

Survey respondents describe their ability to telework



NOTE: Data from a survey of 2,500 U.S. residents aged 20 to 64, earning more than $20,000 per year in 2019 carried out between May 21-25, 2020.

SOURCE: Nicholas Bloom, "How Working from Home Works Out," SIEPR Policy Brief, June 2020.

Bloom first began researching remote work more than a decade ago. Prior to COVID-19, the share of work done at home was doubling about every 10 years but from a very small starting point. The pandemic greatly accelerated that process, essentially forcing any firms that could go remote to do so.

"We know from the Bureau of Labor Statistics' American Time Use Survey that before the pandemic, 5 percent of working days were done from home," says Bloom. "During the pandemic, the share of working days from home jumped to over 50 percent."

But this tenfold increase didn't affect all workers evenly. In a survey of 2,500 workers Bloom conducted last May, about a third said they could do their jobs perfectly from home, while another 30 percent said they couldn't do their job from home at all. (See chart.)

This divide is starkest in cities. Lukas Althoff and Conor Walsh of Princeton University, Fabian Eckert of the University of California, San Diego, and Sharat Ganapati of Georgetown University explored the divide in a paper last year. They found that the high-skill, knowledge-based jobs that have benefited the most from cities in recent decades are the ones that can most easily be done remotely, while the low-wage service sector jobs that have seen their wages stagnate can only be done in person. The authors argued this has revealed a paradox about cities.

"The large cities in the U.S. are the most expensive places to live. Paradoxically, this cost is disproportionately paid by workers who could work remotely, and live anywhere," they wrote.

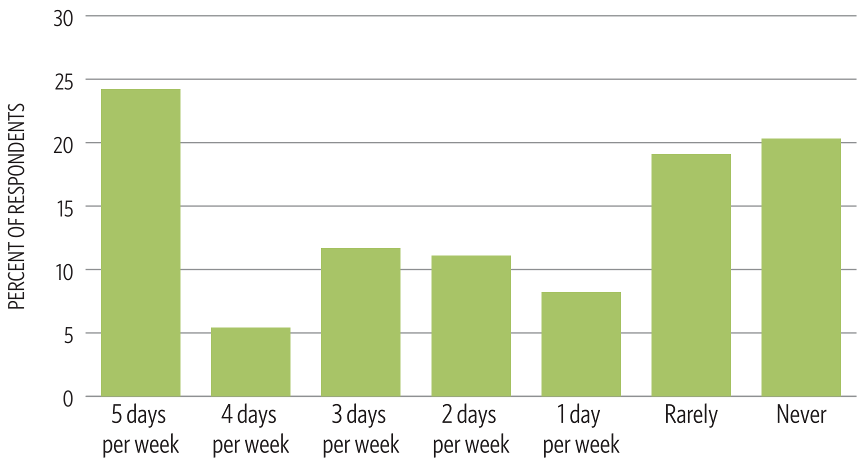
The pandemic also diminished the other major attraction of living in cities: the amenities. Bars and restaurants curtailed in-person seating to comply with social distancing guidelines. Theaters and museums closed. Sporting events played out for TV audiences and empty stadiums. As the lockdowns stretched on, some began to wonder whether people who could now work from anywhere would choose to stay.

A BLIP OR A SEA CHANGE?

After a year of working from home and social distancing, the data suggest that some city residents did decide to move. Bloom found evidence of a "donut effect" in real estate markets for the most densely populated U.S. metro areas. Rents in city centers declined over the course of 2020, while home prices in the surrounding suburbs rose.

Many Workers Want to Continue Working from Home

Responses to the question, "In 2021+ (after COVID), how often would you like to have paid work days at home?"



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"Workers aren't completely leaving San Francisco or New York, but they are moving out from the center of cities to the suburbs," says Bloom. "And that's entirely rational if you think post-pandemic you will only come into the office three days a week. You are less sensitive to a long commute, and you appreciate having more space at home if you will be spending more time there."

In numerous surveys conducted since the pandemic began, a majority of workers have expressed a desire to continue working from home, at least some of the time, even after the pandemic ends. (See chart.) Several companies, including Microsoft and Salesforce, have announced that their employees can continue working from home indefinitely.

The pandemic has solved what Autor calls a "coordination problem" — it led large numbers of people to make the move to videoconferencing technology all at once. Before the pandemic, in-person meetings were the norm for many organizations, despite the challenges of travel and coordinating schedules. Now, lots of people have experienced virtual meetings.

"The big revolution wasn't that the pandemic taught me how to use Zoom," says Autor, who has been using it to collaborate with co-authors for years. "It's that it got everyone else to use Zoom. Before, it wasn't acceptable for me to tell my colleagues, 'You go to Hong Kong, and I'll just be at home on my computer talking to you.'"

In research with Jose Maria Barrero of Instituto Tecnológico Autónomo de México and Steven Davis of the University of Chicago, Bloom surveyed nearly 30,000 Americans about their plans to work from home post-pandemic. They estimated that 20 percent of all full working days will continue to be done from home post-pandemic, compared with 5 percent pre-pandemic. They attribute this to several factors. Widespread adoption of remote work during the pandemic has helped reduce the stigma against it, and many firms and workers have reported an experience with remote work that was better than expected. Both workers and firms also made investments in physical and human capital to support working from home, such as purchasing home office equipment and upgrading remote servers, that they will be reluctant to completely abandon after the pandemic ends.

"The pandemic has basically accelerated 25 years' worth of telework growth into one year," says Bloom.

Still, the share of work from home is likely to be less than what it was during the height of the pandemic. Not all jobs can be done from home, and even those who have been working from home full time have expressed a desire to return to the office at least part time. In a 2015 *Quarterly Journal of Economics* article, Bloom and co-authors studied a telework experiment at a Chinese travel agency. Home workers were more productive than their office colleagues on average, but more than half of the employees selected to work from home chose to return to the office after the experiment ended. They missed interacting with their co-workers in person.

"For many people, working from their small apartment does not sound like a great thing," says Glaeser. "Particularly for young people, face-to-face contact is likely to continue to be part of work, both because of productivity and because of pleasure. But that doesn't mean that teleworking won't transform the world in different ways."

Even firms that want their teams to continue meeting in person may decide they don't need to locate in expensive cities. With the option to collaborate with anyone virtually as needed, they could choose cheaper locations for their physical headquarters, perhaps in scenic natural settings or with school systems that workers perceive as higher performing.

"Because of this, I think cities like New York are more vulnerable than they have been in decades," says Glaeser.

In addition to the impact of increased telework, social scarring from the pandemic could have a long-term negative effect on demand for urban amenities. After living with the virus for over a year, some city dwellers might be hesitant to return to crowded restaurants, subway cars, and stadiums. Some who formed new habits during the pandemic — exercising at home, watching movies on their televisions — might find no reason to return to old practices such as going to the gym or the movie theater.

On the other hand, the pandemic has also highlighted the inadequacy of virtual gatherings as a substitute for in-person social interaction. After the virus is controlled, there could be pent-up demand to return to life as normal. In a 2020 paper, Richard Florida of the University of Toronto, Andrés Rodríguez-Pose of the London School of Economics, and Michael Storper of the University of California, Los Angeles predicted that demand for urban amenities will remain strong after the virus-induced lockdowns are lifted.

"Nonetheless," the authors wrote, "even if cities will not shrink or die from the COVID pandemic, they will certainly change."

THE EVER-EVOLVING CITY

The history of cities points to both their resiliency and mutability. Cities have survived countless plagues, natural disasters, and wars. At one extreme, Hiroshima and Nagasaki were destroyed by atomic bombs in World War II but eventually returned to their previous growth paths. Because of this history, most urban economists don't count cities out in the long run.

One instructive example from the recent past is the severe acute respiratory syndrome (SARS) epidemic of 2003. Like SARS-CoV-2, the virus behind the illness COVID-19, SARS was a deadly respiratory virus that spread quickly. Although it did not have the global reach of COVID-19, in Asian cities that experienced a SARS outbreak, it prompted similar responses of social distancing and wearing masks. Yet SARS did not seem to leave much of a long-term imprint on cities that experienced it. In Hong Kong, a bad outbreak of SARS prompted more regular cleaning of touch points in public spaces like door handles and elevator buttons. But according to one study, face masks, which were a common sight in the city during the outbreak, gradually disappeared as time passed.

It is certainly possible that the COVID-19 pandemic will prompt more lasting changes in cities since it has been more widespread, long-lasting, and severe than SARS. Most notably, a permanent shift to more remote work could have both positive and negative effects on urban real estate. On the positive side, reduced demand for city living by some residents and conversion of vacated downtown office space to residential use could make expensive cities more affordable.

This rosy scenario requires that city infrastructure is able to adjust easily to changes in demand, however. While history points to the resiliency and adaptability of cities, it is also full of cautionary tales of cities that have fallen into long periods of decline after failing to adjust to big changes. For example, Detroit has struggled with declining population and excess abandoned real estate for decades after the auto industry that fueled the city's growth shrank. In a 2020 article in the *American Economic Journal: Economic Policy*, Raymond Owens III and Pierre-Daniel Sarte of the Richmond Fed and Esteban Rossi-Hansberg of Princeton University found that once neighborhoods empty out, they can remain vacant in the absence of coordination between developers and residents to rebuild. No one wants to be the first to move back to an abandoned neighborhood for fear that no one else will follow.

A 2020 paper in the *American Economic Review* by Attila Ambrus and Erica Field of Duke University and Robert Gonzalez of the University of South Carolina found that housing values in neighborhoods badly hit by pandemics can take centuries to recover. In London, neighborhoods that experienced bad cholera outbreaks in the mid-1800s continued to suffer depressed housing values even 160 years later. Could COVID-19 leave similarly lasting scars on some cities?

Urban economists also worry that COVID-19 will exacerbate the challenges cities were already facing before the pandemic. Autor's research highlights a growing divide between the fortunes of college-educated knowledge workers in cities and less-educated service workers. Any increase in telework is only likely to exacerbate that divide.

"If you were going to design a dread disease that was somehow going to have the effect of making the affluent better off and making the less affluent worse off, you might come up with something like COVID-19," says Autor. "My main concern is that the burdens of this pandemic are falling on the people who can least readily bear them, and the benefits are accruing to the people who least need them."

Glaeser is optimistic that service sector jobs can bounce back in cities as long as downtown properties repopulate with businesses and residents. But if office buildings remain vacant, either because people and firms move on to other places or because a new pandemic emerges to keep people away from cities, then the future looks much worse for urban service sector workers.

"There's a fundamental human desire to be around other human beings," says Glaeser. "Cities specialize in delivering that, which is why I trust the future of cities. But if we have another two or three years of lockdowns and then we get a new pandemic within the decade, that's a really bleak world, not only for urban America but for the entire urban service sector. For those workers, the ability to provide a service with a smile provided a safe haven from job loss in an era of automation and outsourcing. But if the smile turns into a source of peril rather than a source of pleasure, those jobs can vanish in a heartbeat." **EF**

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