Our cities may never look the same again after the pandemic

From Auckland to Bogota, urban planners are already adapting our cities to lockdown. But will the changes last, and which more radical design proposals -- be it sewer monitors or "epidemic skyscrapers" -- will shape the post-pandemic city?

By Oscar Holland, CNN
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For advocates of walkable, unpolluted and vehicle-free cities, the past few weeks have offered an unprecedented opportunity to test the ideas they have long lobbied for.

With Covid-19 lockdowns vastly reducing the use of roads and public transit systems, city authorities -- from Liverpool to Lima -- are taking advantage by closing streets to cars, opening others to bicycles and widening sidewalks to help residents maintain the six-foot distancing recommended by global health authorities.

And, like jellyfish returning to Venice's canals or flamingos flocking to Mumbai, pedestrians and cyclists are venturing out to places they previously hadn't dared.

In Oakland, California, almost 10% of roadways have been closed to through-traffic, while Bogota, Colombia, has opened 47 miles of temporary bike lanes. New York has begun trialing seven miles of "open streets" to ease crowding in parks, with Auckland, Mexico City and Quito among the dozens of other world cities experimenting with similar measures.

There are many purported benefits of "reclaiming" the streets during a pandemic. Encouraging cycling may reduce crowding on buses and subways, where people can struggle to get distance from one another. Vehicle-free roads also offer those without access to parks the ability to exercise safely.

A woman cycles through a bike lane in central Milan. Credit: Miguel Medina/AFP/Getty Images

Other urban initiatives have been introduced to directly control the spread of the virus. Cities in the US, Canada and Australia have reconfigured traffic lights so that people no longer need to touch crosswalk buttons. (In any case, many pedestrian crossings are equipped with "placebo buttons" that have no impact on whether the lights go green).

It is unclear if these urban interventions will continue once the pandemic is over. Milan plans to build 22 miles of new cycle lanes and permanently widen sidewalks after its lockdown lifts. Authorities in Hungary's capital, Budapest, have suggested that its new bike lanes may become permanent if the measures "prove favorable," while planning officials in Providence, Rhode Island, have said crossings will now remain button-free.

But few other cities have been so committal. And it will be harder to make the case for pedestrian- and cycle-friendly streets once their benefits are weighed against the knock-on effects of congestion elsewhere -- especially in countries as dependent on cars as the US.

Indeed, the cities in which pandemic-era measures seem most likely to stick are those already committed to change. Take Paris, for instance, where more than 400 miles of pop-up bike lanes (or "coronapistes") are set to open when France's national lockdown ends on May 11. Mayor Anne Hidalgo has called returning to a car-dominated status quo "out of the question," but she was already backing a huge overhaul of biking in the city.

A recently expanded bike track in Berlin's Kreuzberg district. Credit: Tobias Schwarz/AFP/Getty Images

In other words, the pandemic may only have served as a catalyst. But urban planning is a long game in which change is piecemeal and the legacies of past decisions take time to overcome. Public spaces and amenities cannot always be expanded or reconfigured at will.

So, looking to the coming years rather than the coming months, how else might the virus -- or attempts to prevent future ones -- re-shape our cities?

Reimagining public space

Parc de la Distance, a speculative proposal by Austrian design studio Precht, imagines a public park made from a <u>maze-like network</u> of three-foot-wide hedges. The layout provides 20-minute walking routes that can, in theory, be completed while maintaining distance from others, thanks to gates indicating when paths are occupied.

Austrian design studio Precht has imagined a maze-like public park that encourages social distancing.

Czech firm Hua Hua Architects has meanwhile proposed a "Gastro Safe Zone" (pictured top) which uses brightly colored ground markings to encourage passersby to keep their distance from al fresco diners. And in Milan, one of the cities worst hit by Covid-19, designer Antonio Lanzillo has envisaged public benches equipped with plexiglass "shield" dividers.

Other ideas have ranged from self-disinfecting "smart" elevators to door handles that can be easily operated with elbows, rather than hands.

It is too soon to know which, if any, may be realized. But each idea suggests that the practice of social distancing and unease over shared surfaces could continue long after the current crisis.

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JORDI HONEY-ROSÉS

If they do, the widely-publicized six-foot distancing guidelines could redefine the layout and spacing of new public facilities, according to Northeastern University's Sara Jensen Carr, whose forthcoming book "The Topography of Wellness" considers how urban landscapes have been transformed by epidemics like cholera, tuberculosis and obesity.

"Everybody from Daniel Burnham -- who was the planner of Chicago -- to Le Corbusier came up with arbitrary measurements on their own," she said in a phone interview. "Le Corbusier writes extensively that every 'unit' in the Radiant City (or "Ville Radieuse," the celebrated architect's proposed utopia) needed a specific amount of light ... and a certain amount of cubic feet of air to circulate within it.

"So six feet could be the new unit we use when we think about cities and public parks."

Yet, the idea of keeping people apart seems to contradict the emphasis planners have traditionally placed on human interaction. Architects, whether designing parks or social housing, have often valued meeting points as sources of collaboration, inclusion and community-building.

"That contradiction is very interesting," said associate professor at the University of British Columbia, Jordi Honey-Rosés, who co-authored one of the first academic studies into the potential impact of Covid-19 on public space.

"In fact, if you look at the literature on the health benefits of green spaces, one of the primary (advantages) is social connectivity -- people seeing their neighbors and being part of a community.

"Planners talk about creating 'sticky' streets -- places where people linger and stay around," he added, speaking on the phone from lockdown in Barcelona. "So the question now is: Will those efforts continue, or how will they need to be changed? Can we still achieve connectivity if we all keep social distancing?"

Credit: Antonio Lanzillo & Partners

Milan-based architect Antonio Lanzillo has envisaged public benches equipped with plexiglass "shield" dividers. Credit: Antonio Lanzillo & Partners

Rather than outlining solutions at this early stage, Honey-Rosés' paper (which, subject to peer review, is set to publish in the journal Cities & Health) instead lays out the questions facing urban planners. Many relate to how cities manage the green spaces that he thinks "will, overall, be more valued and more appreciated" after the current crisis.

In addition to their well-documented health and psychological benefits, greener cities may also be more resilient to future pandemics. A recent Harvard study has indicated a possible correlation between air pollution and the likelihood of dying from Covid-19 in the US, while Italian scientists have detected the virus on pollutant particles (and are looking at whether pollution may aid its spread).

Neither line of inquiry has yielded conclusive results. But should a definitive link between pollution and the virus emerge, it would "really be a game-changer" for green urban planning, Honey-Rosés said.

"Then, cities will be able to say, 'We're going to redesign our streets not only because we need social and physical distance, but because we need to increase our probability of survival," he suggested.

A matter of density

The biggest questions may center around population density. Fears that disease spreads more easily in busy urban centers could already be having an impact on people's attitudes towards living in cities.

Data from Harris Poll found that nearly a third of Americans are considering relocating to less crowded places as a direct result of Covid-19. The poll, conducted at the end of April, indicated that respondents aged 18 to 35 were the most likely to be considering such a move.

A desire to distance ourselves from others in public may continue long afer the pandemic. Credit: Miguel Medina/AFP/Getty Images

"Space now means something more than square feet," Harris CEO John Gerzema said in a press release. "Already beset by high rents and clogged streets, the virus is now forcing urbanites to consider social distancing as a lifestyle."

New York Governor Andrew Cuomo also appeared to blame the severity Covid-19 in his city on urban density. "There is a density level in NYC that is destructive," he tweeted. "It has to stop and it has to stop now. NYC must develop an immediate plan to reduce density."

So will there be a long-term push for cities to sprawl outwards in order to reduce downtown populations?

According to Carr, the backlash against city centers may be especially acute in America, where high rates of car ownership make suburban life less inconvenient. "The United States has always been a country that somewhat fears density," she said.

Credit: miss3/Hua Hua Architects

A proposed "Gastro Safe Zone," which uses brightly colored ground markings to encourage passersby to keep their distance from outdoor diners. Credit: Hary Marwel/Hua Hua Architects

But she, like other experts, worries that a potential retreat from cities will come at a cost. After all, density makes mass transit systems viable, improves access to public facilities (including hospitals) and promotes innovation and creativity.

"I think as designers and urban planners we have to think about how we emphasize the benefits of density," Carr added. "Because now, whenever anyone tries to build new housing anywhere, it's probably going to be the first question that people have."

Even before the development of germ theory, people have distrusted the benefits of living in close quarters. The Victorians' widespread belief that miasma (or "bad air") helped spread disease partly justified the clearance of London's 19th-century slums. During the 2003 SARS outbreak, the perils of density were seemingly laid bare when faulty plumbing saw the deadly virus sweep through Hong Kong's Amoy Gardenshousing estate.

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But there is not, yet, any clear evidence linking population density to the spread of Covid-19. Hong Kong (which is more densely populated now than it was in 2003, with some neighborhoods housing more than 60,000 people per square kilometer) has more effectively contained local transmission of Covid-19 than sparser cities in Europe and the US. Robert Steuteville, editor of the journal Public Square, has argued that data from the US (such as the high transmission rates in the relatively sparsely-populated New Orleans, for instance) disprove what he calls the "'density is dangerous' narrative."

Whether the use of public transport is a significant factor in Covid-19's spread is a theory still being explored. And while, again, the findings remain far from conclusive, mistrust of buses and subways may nonetheless see their use decline.

Honey-Rosés suggested we may instead see the growth of "micromobility" -- vehicles like scooters and e-bikes -- though this could be accompanied by reduced demand for initiatives like bike-sharing schemes.

"The sharing model is going to have additional costs related to hygiene and cleaning, which will be very challenging," he said, adding that sharing schemes "might get hurt in this pandemic."

A man rides an electric scooter across the Parco Sempione park in Milan. Credit: Miguel Medina/AFP/Getty Images

Blue-sky thinking

Epidemics can have radical and unexpected effects on architecture and design.

The 1918 flu pandemic, for instance, helped transform home bathrooms, leading property owners to install brass fittings and powder rooms to keep guests from the main lavatories. Later that century, sanatoria built to treat tuberculosis came to inspirethe white, clinical aesthetic of modernist architecture (while beliefs the disease could be remedied by sunlight influenced the movement's penchant for terraces and roof gardens, according to Carr).

So although considering the impact of Covid-19 is, at this stage, largely speculative, there's plenty of scope for innovation.

Perhaps we'll see the widespread adoption of automatic doors. Perhaps the popularity of urban farming in recent months will offer new relief from the threat of bare supermarket shelves. Or perhaps the installation of sewage monitors will be used to decipher if -- and where -- certain diseases are growing among city populations.

A recent skyscraper design competition was won by a prefabricated emergency healthcare tower dubbed "Epidemic Babel." Credit: Gavin Shen/Weiyuan Xu/Xinhao Yuan

There have been more outlandish ideas, still. Italian designer Umberto Menasci has envisaged a series of plexiglass boxes that allow beachgoers to relax in isolation. Elsewhere, this year's eVolo skyscraper design competition was won by a prefabricated emergency healthcare tower -- a concept dubbed "Epidemic Babel" -- that its Chinese designers claim could be rapidly erected in a future outbreak.

Regardless of such proposals' viability, there is plenty of optimism that this crisis can improve the way cities are designed and run, said Honey-Rosés. But he caveated this by saying politics and opportunism may play significant roles in dictating which ideas come to fruition. ("I'm seeing a lot self-interest in the optimism -- the cyclists are talking about having bigger bike lanes, because that's in their interests," he offered as an example.)

A man rides along a temporary cycle lane put into place to relieve pressure on public transportation in Grenoble, France. Credit: Philippe Desmazes/AFP/Getty Images

But despite his self-professed skepticism, the researcher nonetheless believes that the pandemic has presented real opportunities to rethink public space.

"This is a time for humility on the part of pundits," he said. "And researchers need to be asking good questions. But I also think it's time for city leaders to be bold.

"Things that were not possible before, now are."