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A resilient system is reflective. In other words, it is able to learn. Will we allow this pandemic to inform our future infrastructure?

"If we're potentially going to get a whole new generation of infrastructure because of this pandemic, then we have to do it better than last generation."

Michael Berkowitz

Unlike hurricanes or earthquakes, the built environment has remained untouched during this crisis. Yes, construction has slowed down, and neighborhoods will start to see the dire effects of businesses and services closing, but these physical ramifications are slow-burning.

Historically, cities have seen an influx of economic investment after disasters – this is often done in the form of infrastructure investment, meaning improvement of roads, sewage, power supplies, etc. Assuming the same will occur post COVID-19, economic relief presents both an opportunity and a challenge. It's an opportunity in that we have more time to be reflective and strategic about how and where we invest. In this case, we are not faced with the urgency of rebuilding people's homes or broken bridges, for example. It's also a challenge in that an urgency to rebuild our economy may rush these infrastructure investments into our cities; without resilience thinking woven in them. The current crisis offers us an unprecedented opportunity to rebuild better.

Resilient experts claim that 75% of the infrastructure that will exist in cities in 2050 does not even exist yet today. What this means is not only will we need new roads, railways, or utilities like sewage, to accommodate the rapid growth of our urban centers. We will also need new and innovative forms of infrastructure – green infrastructure, waste management, clean energy facilities, etc. – to accommodate for climate-related changes. Lastly, rapidly shifting trends in the way we move and use technology will generate the need for new infrastructure as well. These two, technology and mobility, have caught my attention in the age of COVID-19:

Technology. Whether we're shopping for essentials or working from home, technology has offered the infrastructure we need to continue with our daily lives. But it has done so much more. It has mitigated risk, provided solutions, and kept us informed. For example, according to an opinion piece in the [New York Times](#), even records of Google searches can help predict emerging COVID-19 outbreaks.

Technology is already significantly shaping our lives, but can we think of it as one of our most resilient infrastructures of the future? In [this Forbes article](#) from 2018, the authors emphasize the critical role of infrastructure in supporting tomorrow's technology. The digital future heralded by many technologists cannot exist without more robust and resilient infrastructure [. . .]. Infrastructure may not be the most exciting technology, but it is the most important and most ignored."

In the coming weeks, the world will continue to heavily rely on technology to ensure continuity of services and mitigation of risk. We should then ask, is a new highway or a wider road the most resilient investment for our future? What kind of infrastructure is critical for our futures?

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Atlanta on Wednesday, April 8, 2020 at 12:52pm
Credit: Dustin Chambers

Mobility. I live in a city with one of the worst commutes in the country (Atlanta) – to see its highways nearly emptied of cars overnight is surreal. Yet it poses the question, can it be done? In Colombia, there has been a program in place for decades that only allows about half of the cars to commute during rush hour by using alternate plate numbers. Having learned to live without our cars while in quarantine, could we learn to do it once a week, twice a week, in exchange of shorter commutes, cleaner air, and healthier habits? What seems like a simple, yet impactful programmatic change can have lasting effects in the way we think about future investment.

To illustrate, epidemics are democratizing experiences and do not discriminate between classes... though their effects on victims is a different story. Similarly, our sidewalks and trails, now seeing more people on them, also offer democratic, non-discriminatory experiences. Unlike drivers, pedestrians are neither wealthy nor vulnerable. It begs the question; will we use this opportunity to build infrastructure that is more inclusive? For example, complete streets that are designed with pedestrians, not cars, in mind?

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Furthermore, the bigger question transcends equity in terms of car ownership and it points to the built environment as a way to advance environmental and public health equity. Addressing chronic diseases should be as much of a priority as addressing acute diseases, especially now that we've seen first-hand how acute shocks like this pandemic are exacerbated with the presence of chronic stresses like obesity and asthma. We know the built environment, and in this case the way we think about mobility, can play a significant role in addressing these stresses.