Executive Summary
Resilient Cities Deep Dive
April 1-2, 2021

Key Takeaways

- Building resilient cities is important in the face of climate change.

- Cities are often segregated along racial and economic lines, but intentional design can help bridge the divides.

- Rethinking transportation is critical to designing the resilient cities of the future.

- Technology can help cities become more resilient, but good policies and community engagement are the foundation for change.

- The natural environment can serve as inspiration and a guide for future urban development.

- Physical space influences nearly every aspect of our societies, from health and equity to economic growth and politics.

The Advanced Leadership Initiative (ALI) is an innovative academic program designed to unleash the potential of experienced leaders to help solve society's most pressing challenges. Participants become part of a vibrant community of changemakers who continue learning, collaborating, and innovating for impact.

ALI Deep Dive sessions highlight one major global or community challenge where ALI Fellows might fill a gap. Deep Dives include specialized readings, notable speakers including industry experts, and faculty from relevant cross-university Harvard programs. These highly interactive sessions focus on problem solving with practical applications of knowledge.

ALI Fellows contribute ideas based on their experience and knowledge to find immediate solutions. Fellows are able to ideate with expert practitioners in the field and consider all affected constituencies.

(Pictured from 2019 event): Prof. Jerold Kayden, Resilient Cities Deep Dive Faculty Chair

Key Takeaways from the Deep Dive

- **Building resilient cities—those able to respond and adapt to shocks—is especially important in the face of climate change.**

A resilient city is one with the capacity for individuals, businesses, and systems to survive and adapt to shocks. Climate change is increasing the frequency and severity of these shocks. As a result, cities need a proactive approach to planning that goes beyond preparing for disaster recovery. Instead, cities must focus on how to adapt to a changing environment to mitigate and even prevent future disaster. The terms sustainability (able to withstand long-lasting problems) and resiliency (able to survive and recover from disaster) are often used interchangeably. Nonetheless, the best practices in urban planning are both sustainable and resilient. Distributed power grids and urban agriculture are examples of interventions that can help promote sustainability and resilience.

- **Cities are often segregated along racial and economic lines, but intentional design can help to bridge the divides.**

"Just cities"— where all people have equitable access to opportunities and resources require

disruptive policies and practices in urban design. Exclusionary policies and practices in the past created the physical and economic segregation in cities today. Therefore, new policies and practices must focus on closing racial wealth gaps to help businesses, families, and households withstand the shocks of pandemics, environmental change, and economic collapse. As one example, joint partnerships between minority-led developers and larger design firms help bring discussions of equity to both the design and build of a project. These minority-led developers are also often better equipped to involve the community in forming the vision of a transformational new project. Partnerships between private, public, and philanthropic developers are essential to create equitable development.

- **Rethinking transportation—with a focus on mass transit—is critical to designing the resilient cities of the future.**

Most cities are built for cars to accommodate suburban commuters. But suburban living—and its reliance on individual automobiles—is not sustainable. Electric cars cannot solve this problem alone because they need a "clean grid" to reduce emissions, something that most cities do not have. Instead, designers need to build urban and suburban environments around people. Mass transit,
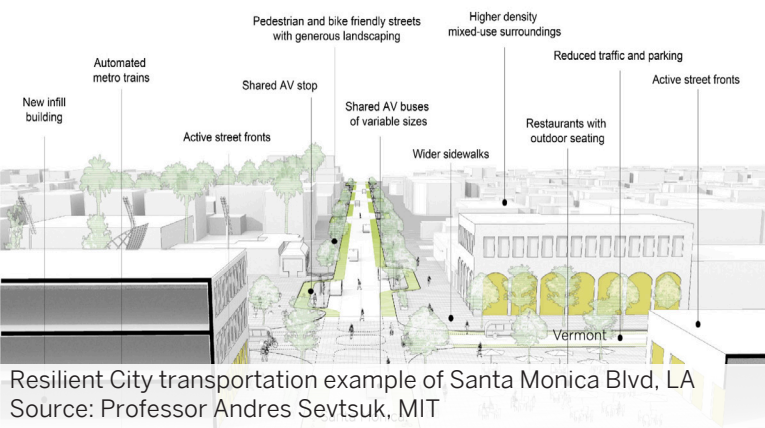
"**To get a different outcome from those steeped in conditions of injustice, we have to be disruptive. We need to value the community expertise working at the grassroots of urban cities.**"

- Toni L. Griffin

particularly electric mass transit, is sustainable and promotes human connection. Auto-dependency also creates public health hazards like obesity and motor vehicle accidents. A city with pedestrian friendly streets close to hospitals and schools can promote sustainability and resilience. Multi-use spaces—buildings where people can live, work, and play—coupled with mass transit can encourage walking and also promote the resilience of cities.

- **Technology can help cities become more resilient, but good policies and community engagement are the foundation for change.**

Data is a tool that can help cities be more resilient. As an example, planners can use smart phone data to detect potholes in city streets or weaknesses in bridges. Crowdsourcing and big data can also help create a "digital twin" of a city—a virtual environment that can be a sandbox for urban planning and disaster recovery planning. But technology alone cannot make cities more resilient. Self-driving cars, as an example, may actually increase traffic congestion rather than increasing efficiency. Instead, cities need to have human-centered design and must

New infill building · Automated metro trains · Active street fronts · Pedestrian and bike friendly streets with generous landscaping · Shared AV stop · Shared AV buses of variable sizes · Wider sidewalks · Higher density mixed-use surroundings · Reduced traffic and parking · Restaurants with outdoor seating · Active street fronts · Vermont

Resilient City transportation example of Santa Monica Blvd, LA
Source: Professor Andres Sevtsuk, MIT

Prof. Joseph Allen (pictured) spoke on the health effects of indoor environments and designing "healthy" buildings

Prof. Ann Forsyth (pictured) spoke on the future models of healthy neighborhoods and cities in a post-pandemic world

reckon with the inequitable policies of the past. Human connection must be the focus of urban planning and communities must drive and support any changes.

- **The natural environment can serve as inspiration and a guide for future urban development.**

The landscapes of our cities are more susceptible to the dangers of climate change. Examples in New York City and Toronto show the high risk of flooding for many coastal cities around the world. By examining the historic landscapes of these cities, urban planners and designers were able to reconnect people with the natural environment and decrease the risk of damages from rising waters. Beyond environmental design, investing in natural resources supports resiliency in cities. For example, investing in clean water leads to better community health, increases food security, and decreases overall healthcare costs. Natural resources can also help connect distinct neighborhoods and cities: cleaning a shared waterway and rebuilding coastal infrastructure can unite otherwise divided localities.

- **Physical space influences nearly every aspect of our societies, from health and equity to economic growth and politics.**

The design of our buildings, the layout of our cities, and our means of traveling to these places

> **"Is resilience just the latest buzzword? If widely applied, would it actually change the way cities operate?"**
>
> - Jerold Kayden

define our societies. Buildings with better ventilation and filtration make us healthier and more productive. Walkable cities with easy access to parks, cultural institutions, and healthcare facilities promote physical health, decrease motor vehicle accidents, and reduce carbon emissions. Intentionally designed spaces, with intentionally crafted policies, can bring people together across racial and economic divides. A minority-led developer designing a mixed-income building has the potential to break down the walls—literally and figuratively—of a segregated city. Resiliency goes hand-in-hand with equity.

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