



Q1 INFLUENCE: STEWARDSHIP

Investing in Urban Reform for a Better Future



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Tulane's Margarita Jover urges for creation of the Federal Agency for the Built Environment (FABE) to fund Climate Adaptation Plans (CAP) drafted by urban labs that already exist in universities. American society can benefit from investing in them.

We have reached a critical point in our stewardship of the built environment. The United Nations has guidelines to meet climate change global targets after the 2015 Paris Agreement. Global experts know that collective intelligence, shared data, new systems and models are required. But how do we integrate them? American metropolises urgently need Climate Adaptation Plans (CAP). Yet, as we look for research support from leading federal agencies to elaborate these plans as in other western countries, we find little help.

Since 1950, none of the agencies of the National Science Foundation (NSF) cover the built environment as a field of research.¹ As far back as its founding in 1887, the National

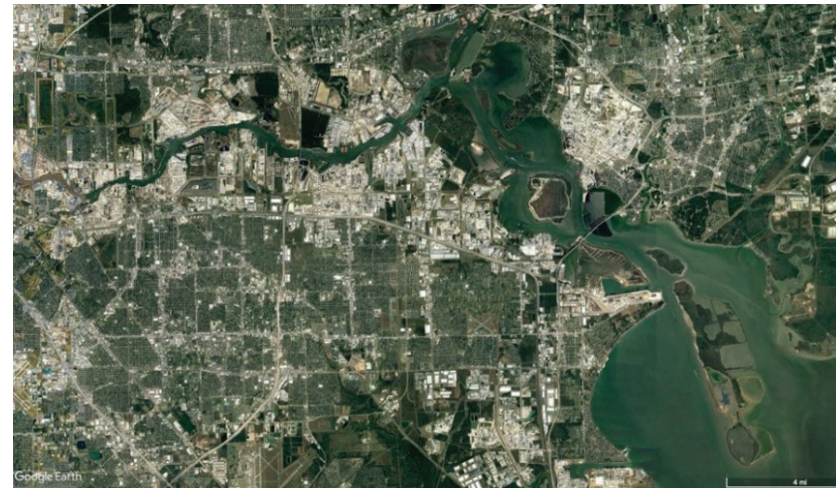
¹National Science Foundation (NSF) has several areas of research that includes Biological Sciences (BIO), Computer and Information Science and Engineering (CISE), Education and Human Resources (HER), Engineering (ENG), Environmental Research and Education (ERE), Geosciences (GEO), Integrative Activities (OIA), International Science and Engineering (OISE); Mathematical and Physical Sciences (MPS), and Social, Behavioral and Economic Sciences (SBE).

Institute of Health (NIH) covers biomedical and public health fields. The National Endowment for the Humanities (NEH), founded in 1965, covers the arts and humanities but continues to strain under economic pressure. Several agencies outside federal funding, operating under the guidance of the National Academies of Sciences, Engineering and Medicine, cover research in these most profitable fields. In the 1950s, investments in these fields of study had the national mission to strengthen the U.S. economy.² But times have changed. We have a larger, more important mission. In 2022 and beyond, we must invest in urban reform to generate a better position for the future.

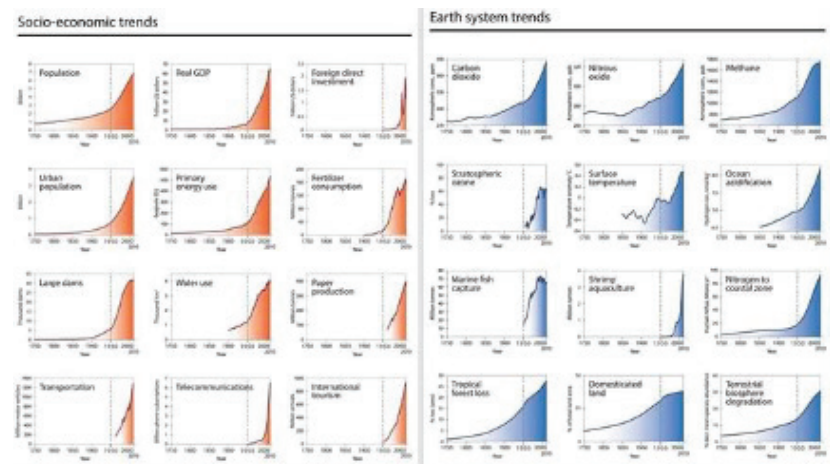
In Search of Support: Fund Climate Adaptation Plans (CAP)

The discipline of architecture can do more than be a service provider for clients’ needs, mainly at a building-scale. In the United States, the discipline can recover its urbanistic competencies and collaborate in multidisciplinary teams to lead urban and architectural reforms that are formal, spatial and performative. Going beyond the building-scale on one side and urban policy on the other are critically important.

²In July 1945, Vannevar Bush gave a report named “Science, the Endless Frontier” to President Franklin Roosevelt. In that report, the development of science was depicted as essential for the progress of the nation. War against disease, national security (space and defense), and public welfare were important end goals in that report. Some years later, around 1970s, President’s Kennedy’s address to the National Academy of Sciences said: “Scientists alone can establish the objectives of their research, but society, in extending support to science, must take account of its own needs.” In 1969, the NSF established a modest applied research program, named Interdisciplinary Research Relevant to Problems of Our Society (IRRPOS), to which Congress appropriated \$6 million in fiscal year 1970. IRRPOS, however, reflected the traditional approach of the agency by responding to proposals from the scientific community rather than the agency stimulating specific research proposals. The emphasis of the awarded grants was in the areas of environmental quality and urban growth and management. IRRPOS operated for two fiscal years and expanded to RANN (Research Applied to National Needs) until 1977 when it faded. Retrieved from: <https://www.nsf.gov/about/history/nsf50/nsf8816.jsp>.



Houston, Texas. Twenty miles altitude. Morphological expression of the industrial urban model. Photo survey from Google Earth by the author.



Updated Great Acceleration Graphs
 Source: Will Steffen et al. “The trajectory of the Anthropocene: The Great Acceleration.” *The Anthropocene Review*, March 2015
 The Great Acceleration’s graphs. “The Great Acceleration” (Steffen et al., 2015b).

“Urban labs” are working groups of researchers in universities consisting of different disciplines. In their work, some are proposing metropolitan reforms to meet climate change targets. American society would benefit from research funds invested in universities’ urban labs, where different disciplines test spatial, material and performative reforms to the built environment.

The Industrial Urban Model

From long before the Roman Empire to the present, societies inhabited the planet in vastly different ways. Each used specific urbanization models to govern ownership and of territory and resources. Today’s primary approach is still the industrial model, also called the single-use model. It emulates a factory assembly line, where efficient production and movement of goods are essential. In the industrial model, separation of functions and connection and movement via automobiles is the spatial paradigm. Strip malls, office parks, housing for different incomes and densities, hospitals and business districts are zones from which to move with gas-fueled engines.

As far back as the fourth International Congress of Modern Architecture (CIAM)³, several prominent architects proposed urban plans featuring this industrial model. At that time (the 1930s and before), architects were less specialized or bound to individual building design and scale than we are today. A great lineage of architects, urbanists and engineers proposed city models and built pieces of cities quite successfully in the past.⁴

³ Fourth CIAM (Congress International d’Architecture Moderne). Le Corbusier, Cornelis Van Eesteren, Walter Gropius, Siegfried Giedion, Josep Lluís Sert and others participated in this conference.

⁴ The lineage of architects, urbanists and engineers of the 18th and 19th centuries include, amongst others: Otto Wagner, Ildefons Cerda, Tony Garnier, Baron Haussman, Daniel Burnham, Edward H. Bennett and Eugene Henard.

⁵ The Athens Charter of 1933 is the output of the fourth CIAM conference on board the S.S. *Patris*, an ocean-going liner journeying from Marseilles to Athens in July 1933. Le Corbusier synthesized in the Athens Charter several observations and resolutions discussed during the congress about the functional city.

⁶ “The Great Acceleration” (Steffen et al., 2015b).

⁷ SDG Guidelines, United Nations. <https://sdgs.un.org>.

The *zeitgeist* of modernism boldly took on urban design and proposed radical new city models that included social agendas. Epitomized in the Athens Charter of (1933)⁵ the urban industrial model was criticized in subsequent modern architecture and urbanism congresses but was massively used and misused after World War Two, first in the United States, and then globally. In hindsight, we might ask: Why? One apparent reason might be the industrial urban model’s biases toward production, consumption and capital accumulation. Unfortunately, there is a clear correlation between this still-current urban industrial model and the planet’s deterioration, as visible in the Great Acceleration’s graphs.⁶

A Reformed Urban Model

Having reached a tipping point, the climate crisis now prompts designers of the built environment to retrofit urbanized territories to meet climate change targets. The United Nations has produced Sustainable Development Goals (SDG)⁷ guidelines for metropolitan entities to follow. Funding initiatives such as urban labs could promote comprehensive research inquiries in energy savings, energy transition, biodiversity increase, zero waste strategies, environmental health and the promotion of regenerative economies. These research lines can give structure to metropolitan reforms. The key to the success of initiatives such as *urban labs* is their threefold holistic, multidisciplinary and in-depth, site-specific approach.

But there are challenges. Most work in universities has a specialized focus. Concerns consistently emerge regarding the deified sciences trying to solve complex planetary issues alone. This exclusive scientific mindset is especially problematic when singularly motivated by short-term profits that naturally arise from capital investments. One example is geoengineering research.⁸ This research field is naturally more interested in keeping fast and high capital returns to solutions for the few than changing the problematic “modus operandi” that nourished that capital growth in the first place. These solutions aspire to maximize profits by scaling up in size, resulting in high visual and environmental impacts, especially if they fail. The opposite mindset argues for smaller infrastructures redundantly integrated into their territories. A second alternative example would be incorporating and spatially integrating solar energy in metropolitan areas instead of deploying it in large-scale fields in national or international environmental sacrifice zones.

A Horizon of Optimism

There are reasons for optimism. Reforms of this hegemonic industrial urban model seem increasingly possible. Hope exists with this new political leadership that encourages new generations desperate to reverse the dark destiny ahead. Many countries have already started — decades ago — to pursue and achieve climate change targets determined by the global community but ignored by the U.S. until now.

Prevalence and pervasiveness characterize hegemony. This

hegemonic urban model is challenging to see from the inside, let alone imagine an alternative. Those who wish to do so must contrast it with prior models of inhabiting the territory or compare it with other non-western cultures studying urban history, anthropology, ethnology, and archeology. Historians are critically crucial in urban labs. Economists with a particular mindset geared towards circularity are critically important too.⁹ Other significant contributors to such reform strategies come from urban ecology, whose experts study territories as urban ecosystems. The science of cities has evolved to understand urbanized environments as coupled human and natural systems.¹⁰ The good news is that there are alternatives to inhabit the planet with better quality of life. Multidisciplinary teams of urban designers can synthesize knowledge in different fields in CAP for specific metropolises. Research funding is needed for metropolises to draft their 50-year CAP. Such long-term thinking and planning could ensure alternative economies, establish rules for social equality in accessing resources for life and ecological recovery.

American cities are no longer the 19th century, gridded, mixed-use cities with medium-high density we saw in cities such as Chicago, Philadelphia, New York or San Francisco. The 20th-century suburban phenomenon of the industrial single-use model has transformed these territories into large metropolitan areas that agglomerate suburbs, office parks, strip malls, schools, hospitals, gated communities and slums and connect them with a maze of roads and highways. In some cases, these metroscares

⁸ Geoengineering research from Naomi Klein, “Chapter 8: Dimming the Sun,” *This Changes Everything: Capitalism Versus the Climate* (New York: Simon & Schuster, 2015).

⁹ Kate Raworth, *Doughnut Economics: Seven Ways to Think Like A 21st-Century Economist* (Hartford, VT: Chelsea Green Publishing, 2017). *The book is an invitation to consider the economy in circular terms and tightly related to the finitude of the planet.*

¹⁰ Marina Alberti, *Cities That Think Like Planets: Complexity, Resilience, and Innovation in Hybrid Ecosystems* (Seattle: University of Washington Press, 2016). “As human activity and environmental change come to be increasingly recognized as intertwined phenomena on a rapidly urbanizing planet, the field of urban ecology has risen to offer useful ways of thinking about coupled human and natural systems.” back cover.



Our challenges are not associated with the precision of climate change prediction models or the opening of new fields of technological knowledge capable of postponing our current devouring dynamics. Instead, our challenges are linked to the capacity of society to implement, on a large scale, what we already know and understand how it contributes to climate adaptation in the short-term and climate recovery in the long run.

have spread over agricultural fields of high value and engulfed small towns and cities in a continuum, resulting in a conglomerate of minor separately governed entities. While each metropolis is spatially continuous, its governance is fragmented. Current metropolitan areas are politically uncoordinated continua with no funds to think and organize social and ecological adaptation to climate change on a broad basis. Unfortunately, metropolises are the perfect targets. They set the divide and win strategy stage, an optimum place for economic pillage. Regulations are needed to ensure wise redevelopment.

Issues: Historical, Political and Cultural

The issues related to climate change are not as scientific as they are political, cultural and urbanistic. Our challenges are not associated with the precision of climate change prediction models or the opening of new fields of technological knowledge capable of postponing our current devouring dynamics. Instead, our challenges are linked to the capacity of society to implement, on a large scale, what we already know and understand how it contributes to climate adaptation in the short-term and climate recovery in the long run.

Solutions

Solutions exist within the fields of ecology and society, and we must tackle them simultaneously because they are intertwined. Ecological solutions exist in two categories: green-blue infrastructures (forests, water cycle, soils, biodiversity increase and food systems) and energy and materials consumption's reduction (mobility, mixed-use, circular economies, regional scale and energy transition). Societal solutions boil down to recovering the governance structures at the metropolitan scale to make possible the reforms to achieve isotropy in the distribution of resources for life.

The primary problem is that a significant part of society has lost its political voice. Political elites are economic elites. As such, they are focused on accumulating capital. It is increasingly difficult to believe this dynamic will coincide with that of urban reform, the objective of which is to cut off the indiscriminate supply of monetary wealth to those whom promote those same urbanization dynamics singularly driven by maximization of capital. The economic equation does not include ecological and social impacts, and economic activity should realign to a collective mission.

A History of Delaying Solutions

Times of crisis require reform. Empires have always preferred to manage the supply of “panis et circus” to citizens to avoid social conflict and mass rebellion. In the western culture, the unstable 1930s with working-class upheavals against early industrialist-capitalists led to successive wars and fascism in Europe. Social conflicts reemerged with a request for civil rights and universal suffrage in the domestic scene after World War Two. In the United States, the war industry migrated into multiple civil sectors. The massive application of the suburban model and the city understood as a factory meant hitting three targets with one shot, granting social peace and economic growth. Unfortunately, these three political targets combined to accelerate our habitat’s deterioration.

The first of three political targets is economic growth with massive production of suburbanization. While building the suburbs certainly benefited the economy, it consumed valuable fertile soil and more significant quantities of energy. The second target: the spatial separation of citizens in suburbia

afforded the cultural illusion of cohesive suburban society but denied the possibility of associationism at the domestic level. The third target: the spectacular growth of the entertainment industry, with an exuberant Hollywood that in turn promoted the tobacco and the armament’s industries and anesthetized people increasingly ready to consume. These threefold political maneuvers of economic growth, isolation in the suburbs and entertainment have downfalls. Specifically, these are ecological deterioration, societal depoliticization and tribalization, and the social annihilation of citizen’s conditions under social media’s anesthetic power.

We must recover and rediscover the central questions of political coexistence that are inescapable today due to climate change. Metropolitan plans can be the political framework and platforms for reversing these trends. Founding and funding urban labs at universities can be the means.

Alternative political maneuvers can be the following. First, regenerative economies at intermediate local-regional scales can be promoted and protected by these plans. Capitalistic logics can operate within this framework with social and ecological constraints. Second, recovering collective spaces and mixed-use environments can leverage the civism and associationism necessary to take command of energy and food systems at metropolitan scales. Collective enterprises and increased social interaction accelerate innovation and productivity.¹¹ Third, regulating and keeping the social media and entertainment industries at bay, increasingly becoming the softly armed wing of consumerism, seems necessary.

¹¹Richard Florida, *The Flight of The Creative Class: New Global Competition for Talent* (New York: HarperCollins, 2007). Conditions for attracting talent in cities seem to be related to the spatial conditions for unplanned interactions, often possible thanks to a high quality of public space.

A Wakeup: Three Challenges and a Corporate Reality

The primary challenge of design research — often described as “research through design” — is reforming the way we inhabit the planet today. In architecture and urbanism, reform means spatial, material, and performative transformations of urban habitats. This reform aims to decrease material and energy consumption, transition to renewables, boost biodiversity and recover democratic practices and equitable distribution of resources for life. All this is technically doable. It has already been done partially in some countries. But, unfortunately, here in the United States, three challenging realities are keeping most of us in a state of paralysis, with a feeling of guilt that impedes us from even thinking about large-scale collective plans to address climate change.

Challenge 1:

The first challenge is neoliberalism’s hegemony, a cultural and economic system that prioritizes short-term profit for capitalists and glorifies individual endeavors that allow the powerful to get away with as much as possible. At the same time, the powerless masses, without capital, stay isolated and uncared for. In this context, “Blame the poor and glorify the wealthy” is the motto of today’s justification system¹² that talks about the value of hard and efficient work, but disregards structural inequality written in the territory.

¹² Thomas Piketty, *Capital et idéologie* (Paris: Le Seuil, 2019). The term “justification system” is described and used as main framework for social organization in different societies over time.

¹³ Odd Arne Westad, “Chapter 1: The Empire of Liberty: American Ideology and Foreign Interventions,” *The Cold War: Third World Interventions and the Making of Our Times* (Cambridge, UK: Cambridge University Press, 2005). This chapter describes the role of the state in early America as to police and protect the interests of capitalists operating in domestic and international territories.

¹⁴ IABR: 2050—An Energetic Odyssey. <https://vimeo.com/199825983>. Several corporations and European countries collaborate in this mega project of wind farms in the North Sea to respond to the 2015 Paris Agreement on Climate Change.

Challenge 2:

The second challenge is the suspicion of government action, so-called top-down actions. This suspicion is an American cultural trait and the natural consequence of a long unilateral state action history. It favors empowered groups while often leaving behind or going against the minorities or the masses.¹³ It is trendy to install and implement small neighborhood consultations to validate the process. This is often structurally unfair but is shockingly accepted as a good practice.

Challenge 3:

The third challenge is the absence of stable, well-funded, qualified public servants at the metropolitan scale operating under the leadership of elected officials. Astonishingly, such a rich country is poorly invested in this area of research on built-environment reforms. Without public funding clearing the path to lead the way, there is no vision of how we can step away from climate deterioration. Investing federal funds in a movement such as urban labs is essential.

In this adverse threefold context, only corporate consortiums are interested in opening future economies or taking on research by design. This is especially true when governments have created legal constraints, as in the case of Europe, for energy transitions to renewables in the North Sea.¹⁴ Although positive, these corporations favor profit and have dangerous technocratic, single-use global mindsets driven by economic efficiency. Although laudable, critical examination of these

initiatives is necessary. Design research by corporations opens new markets and gives them a competitive advantage over their peers. But their findings — technological or methodological — will not typically be shared among the larger community unless a true paradigm shift makes them aware of the benefits. In addition to economics, such benefits could be for survival — through collaboration and leveling the field.

A Better Future: Investing in the Built Environment

In this context of these three societal challenges and the maneuvers of global corporations investing in new economies and technologies, academia — as the last remaining domain for free speculation — can invest time and resources to plan metropolitan reforms. Urbanism is a field that has historically been the competence of architects before the hyper-specialization of the 20th century. Architecture is one of the few remaining generalist fields. It can become the cresol of knowledge of different disciplines — in the humanities and the sciences — to respond to how to inhabit the planet. Academia has the advantage of being capable of focusing on the common good.

Some urban labs already exist embedded in universities, and despite their lack of funding, they operate with exciting findings. Broadening their scope, including more disciplines and taking responsibility for studying specific metroscares to propose a CAP can be the requisites for funding. The University of Washington Seattle (Urban Ecology Research Lab)¹⁵; Leuven University, Belgium (International Center of Urbanism — Settlements and Environments)¹⁶; Delft University



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¹⁵ *Urban Ecology Research Lab, College of the Built Environment, University of Washington*, <https://urbaneco.uw.edu/resources/publications/>.

¹⁶ *ICoU (International Center of Urbanism-settlement and environment)*, <https://set.kuleuven.be/icou>.

of Technology (Global Urban Lab)¹⁷; and Tulane University-University of Virginia, Urban Lab-YRP (Yamuna River Project)¹⁸ among others, are relevant as catalysts for change in the real world. But funding for this kind of work is inconsistent because universities are becoming increasingly pressured for funding by corporatization. Funding distribution seeks immediacy in profits, and so it invests in sciences, engineering and the health industry.

Despite the current lack of funding, the design-research questions remain essential. They are concerned with the variety of investment needed for metropolitan regions to reverse climate change in the long run while adapting and bringing about new regenerative economies. Since it operates free from the lenses of immediate economic profit, academia can advance research by design unconstrained. Investing in initiatives such as urban labs is an easy way to start. A Federal Agency for the Built Environment (FABE) can be the means.

Conformism assumes that the only option for city production is the unrestrained market dynamic without well-funded scenario planning at the metropolitan scale, where significant challenges reside. Such conformism can exacerbate the critical social and ecological crises we face today. Private investments — with deserved profits — must follow, not lead the CAP drafted by urban labs at universities looking after the common good and agreed upon by society-at-large. American society should be investing CAPs designed for specific metropolises. CAPs can be new platforms for alternative regenerative economies for a better future.

¹⁷ Delft University of Technology, Global Urban Lab, <https://www.tudelft.nl/global/research/global-urban-lab>.

¹⁸ Urban Lab YRP (Yamuna River Project), directed by I. Alday & P. vir Gupta. Actar Publisher. <https://actar.com/product/yamuna-river-project/>; <https://yamunariverproject.wp.tulane.edu>.

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Founded in 1996 and based in Barcelona (Spain) and New Orleans (USA), aldayjover is a multidisciplinary research-based practice focused on innovation. The firm’s work is particularly renowned for its leadership in a new approach to the relation between cities and rivers, as well as for the integration of infrastructures into the urban and civic realm, generating “hybrid-architecture” and “hybrid-landscapes.”

aldayjover has designed the most significant recent public spaces in Barcelona (Sagrera Park — Green Diagonal), Zaragoza (Water Park, Tramway), Pamplona (Aranzadi Park) and Ibiza (Vara de Rei), together with a cultural center, theater, sports hall, infrastructural building and housing. The firm has received the European Urban Public Space Prize (2002), the FAD Prize for City and Landscape (2009), the prize for International Urban Integration ATP (2011), finalist of the International and European Landscape Architecture Biennales Prizes (2008 and 2013), the Ibero-American Architecture Biennale (2004) and has been nominated for the European Union Architecture Prize-Mies van der Rohe Award (2009).

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