

# URBAN SUSTAINABLE DEVELOPMENT

GOVERNANCE, FINANCE AND POLITICS

*Edited by*

Pedro Vormittag

Marianna Albuquerque

Eugénie L. Birch

**CEBRI**

Rethink Tank

RIO  
CAPITAL  
DO  
**G20**  
BRASIL 2024

  
**Rio**  
PREFEITURA



Rethink Tank

Published by CEBRI – Brazilian Center for International Relations

*Editors*

Pedro Vormittag

Marianna Albuquerque

Eugénie L. Birch

*Editorial Coordinator*

Bruno Zilli

*Editorial Support*

Iuri Rosario

Marcelo Gribel

*Text Preparation*

Barbara Pires

*Graphic Design*

Presto Design

*Cover*

Presto Design

Guilherme Bussinger

André Ducci

*Executive Coordinators*

Feliciano de Sá Guimarães

Julia Dias Leite

Luciana Gama Muniz

*Communications and Marketing Manager*

Gabriella Cavalcanti

*Head of the Rio G20 Committee*

Lucas Padilha



2.

## Enlightened City Leadership: A New Model for a Sustainable Urban Future

**H.E. Fahd Al-Rasheed**

In the 21<sup>st</sup> century, cities are at a critical juncture. They drive 80% of global Gross domestic product (GDP)<sup>1</sup> and significantly affect our quality of life. Yet, they face immense challenges, from climate change and rapid urbanization to social inequality and technological disruption. As existing cities expand and new ones emerge, the need for strategic, skilled leadership becomes increasingly urgent.

Despite these challenges, there is a glaring gap in the formal training of city leaders. Many mayors and city administrators have not had access to the multidisciplinary education required to manage the complexities of modern urban environments effectively. This paper addresses the need for specialized city leadership programs to equip current and future leaders with the necessary skills to

---

1. See more at: <https://www.worldbank.org/en/topic/urbandevelopment/overview>. Accessed on October 8<sup>th</sup>, 2024.

navigate the challenges cities face and ensure a sustainable future for urban populations.

## **Cities Are Consequential**

Cities are at the heart of human prosperity and progress. As the primary drivers of economic growth, they contribute 80% of the global GDP, making them the most vital engines of our global economy. However, this prosperity comes at a cost, with cities also responsible for 70% of global emissions (IPCC 2022). For individuals, cities impact every aspect of life. They are where we live, work, raise our families, and build our wealth. In fact, choosing a city to call home is one of the most significant investments we make, shaping our personal and financial futures.

Yet, as we navigate the remaining decades of the 21<sup>st</sup> century, cities face unprecedented challenges. The global population is rapidly increasing, and the need to manage our cities effectively has never been more important. To sustain economic growth, enhance the quality of life, and protect the environment, we must confront these challenges head-on.

## **Challenges of the 21<sup>st</sup> Century**

As our global population continues to rise, cities around the world will encounter a set of formidable challenges that demand urgent attention and strategic management. Addressing these issues is essential for the long-term prosperity and sustainability of urban areas. Among the most pressing challenges are:

*Climate Action in Cities:* Urban areas are responsible for 70% of global CO<sub>2</sub> equivalent emissions, making them key battlegrounds for climate mitigation efforts (IPCC 2022). With increasing incidences of extreme weather events, cities must develop and implement robust climate strategies to protect their infrastructure, economies, and residents. This includes transitioning to sustainable energy sources, improving building efficiency, and creating green spaces to absorb carbon emissions.

*Air Quality and Public Health:* Poor air quality is a pervasive issue, with 41% of cities worldwide experiencing pollution levels more than seven times higher than recommended by the World Health Organization (Breathe Cities 2024). The impact on health is staggering—air pollution was responsible for 8.1 million deaths in 2021 alone (Health Effects Institute 2024). Beyond the human cost, air pollution leads to around 1.2 billion lost workdays annually, potentially rising to 3.8 billion days by 2060. The economic toll is immense, with the World Bank estimating health damages associated with air pollution at \$ 8.1 trillion, equivalent to 6.1% of global GDP (World Bank 2022).

*Social Inequality and Poverty:* Cities are the primary venues for wealth creation and social mobility. However, they are also marked by significant inequalities in access to housing, healthcare, education, and employment. An estimated 1.1 billion people currently live in slum-like conditions, a number projected to rise to 3.1 billion within the next 30 years (UN 2023). Addressing this disparity is central to creating inclusive urban environments where all residents can thrive.

*The Unknown Impact of Emerging Technologies:* The rapid advancement of technologies such as artificial intelligence (AI), autonomous vehicles, and digital infrastructure will profoundly

transform cities. However, the full extent of this transformation is uncertain. Urban leaders must proactively understand these technologies to leverage opportunities while mitigating disruptions. Failure to do so could widen social disparities and create governance challenges.

*Urban Decline and Resilience:* While some cities will continue to grow, others face the threat of decline. The *Envisaging the Future of Cities: World Cities Report* (UN-Habitat 2022) states that nearly half the cities in the developed world are shrinking. Another study found that in the United States alone, nearly half of the 30,000 cities could experience population decreases of 12–23% by 2100 (Sutradhar, Spearing and Derrible 2024). Cities decline for many reasons, including industrial restructuring, demographic changes, competitive dynamics, political issues, and numerous city-specific issues. Yet irrespective of the reason, declining populations reduce cities' ability to generate income, provide essential services, and maintain quality of life, often leading to a cycle of increased poverty and crime. Resilience in the face of these shifts is essential, requiring cities to pivot their economic models and policies to adapt to changing circumstances.

*The Need for New Cities:* By 2050, 68% of the global population is expected to live in urban areas, necessitating the development of new cities and the expansion of existing ones (UN-Habitat 2022). How we build these new cities will have a profound impact on humanity's well-being. Proper planning and management are critical to ensure that these new cities are sustainable, inclusive, and resilient.

In confronting these challenges, cities' futures depend on the quality of their leadership. Enlightened, skilled, and strategic urban governance is no longer optional; it is imperative.

## Why Managing Cities Is Difficult

Managing cities is a complex and multifaceted endeavor. Cities are not just clusters of infrastructure and services; they are dynamic ecosystems that must accommodate various social, economic, and environmental needs. This complexity is compounded by the rapid pace of change in urban environments and technology. Here are the key reasons why managing cities effectively is so challenging:

*Cities as Complex Organisms:* Cities are the most intricate creations of humanity. They serve as marketplaces, cultural hubs, and centers for social mobility while also acting as drivers of economic growth and sustainability efforts. Managing such a diverse range of functions requires an understanding of various interconnected systems—from transportation and utilities to housing, healthcare, and education.

*Cross-Sector Knowledge Requirements:* Effective city leadership demands a comprehensive understanding of various sectors and issues. Urban administrators must be well-versed in urban economics, infrastructure, energy, public safety, community engagement, and more.

*The Need for Systems-Based Thinking:* City management requires system-based thinking to understand how different components of urban life interact. A decision about housing policy, for example, affects not only real estate markets but also social equity, public transportation, and environmental sustainability. City leaders must, therefore, adopt holistic approaches that consider both the immediate and long-term impacts of their policies.

*Inertia:* Inertia is a significant challenge in city leadership, often

stemming from complex bureaucracy, financial constraints, and risk aversion. Cities have multi-layered governance structures, creating slow decision-making processes and difficulty in coordinating new initiatives. Short-term political cycles further limit long-term planning, while financial limitations and the high costs of overhauling legacy infrastructure deter action. Additionally, resistance from stakeholders, regulatory barriers, and risk-averse attitudes make transformative change difficult. Overcoming inertia requires strategic, patient leadership capable of navigating diverse interests, building consensus, and balancing immediate needs with long-term vision.

### **The Need for Enlightened City Leadership**

Given the complexity of managing modern cities, it is clear that we require a new appreciation of city leadership—one that extends beyond traditional political or corporate frameworks. “Enlightened City Leadership” embodies a unique combination of technical knowledge, strategic thinking, and a deep commitment to the well-being of citizens. But what exactly does this entail?

*Defining Enlightened City Leadership:* Enlightened city leadership is characterized by a deep understanding of urban dynamics, a commitment to serving the public good, and the ability to implement long-term, holistic strategies. Unlike conventional political roles, where leaders may focus on short-term wins, city leadership requires a vision that spans decades. It calls for an ability to anticipate and navigate future trends, including technological disruptions, economic shifts, and demographic changes.

*Beyond Political and Corporate Leadership:* While city leaders

must have the negotiation skills of politicians, they also need the strategic mindset of large corporations' Chief Executive Officers (CEOs). However, city leadership draws further. Unlike corporate executives, city administrators deal with public goods, social equity, and long-term public welfare. The consequences of their decisions—ranging from public health policies to climate action—directly impact millions of lives and have far-reaching effects on global sustainability.

*Required Technical Skillsets:* City leaders need a broad awareness of various disciplines, including urban economics, infrastructure management, sustainability, public health, and digital transformation. They must understand the principles of smart infrastructure and environmental resilience while being conversant with legal and regulatory frameworks. For example, responding effectively to climate change requires knowledge of green building practices, renewable energy systems, and sustainable transport networks. City leaders must also navigate digital infrastructure and leverage technologies such as AI to enhance services, optimize operations, and engage citizens.

*Compassionate and Altruistic Leadership:* Enlightened city leadership goes beyond technical proficiency. It requires compassion, empathy, and a genuine desire to improve the quality of life for all residents. City leaders must prioritize inclusive policies, recognizing that their decisions affect diverse populations, and must address inequalities in housing, healthcare, and access to public services.

*The Resulting Leadership Profile:* When we amalgamate these technical skills, strategic thinking, and compassionate outlook, we form a new leadership profile—a city administrator who is not just a manager but a visionary steward of urban life. These leaders are

equipped to develop innovative policies, drive economic resilience, and ensure the long-term sustainability of their cities. To illustrate, consider this job description for an “Enlightened City Leader:”

### **Job Title: Enlightened City Leader**

*Location:* Global (urban centers of varying sizes).

*Position Type:* Full-Time (Elected or Appointed).

*About the Role:* The Enlightened City Leader is at the forefront of urban transformation, serving as a visionary steward for the city’s future. This role requires a multifaceted approach to leadership, balancing economic growth, social equity, and environmental sustainability. As an enlightened leader, you will guide the city through the complexities of modern urban life, leveraging strategic planning, cross-sector knowledge, and compassionate governance to shape a thriving and inclusive urban environment.

#### **Key Responsibilities:**

*Strategic Vision:* Develop and implement a long-term vision for the city’s growth, balancing economic prosperity, sustainability, and quality of life for all residents.

*Urban Planning:* Oversee the design, construction, and maintenance of city infrastructure, including transportation, housing, utilities, and public spaces, ensuring they meet the needs of current and future populations.

*Economic Resilience:* Drive economic development initiatives, pivoting the city's economic model in response to market shifts, technological advancements, and demographic changes.

*Climate Action:* Implement robust strategies to address climate change, reduce carbon emissions, and promote sustainable practices across all city sectors.

*Cross-Sector Collaboration:* Collaborate with various sectors, including public health, education, technology, and social services, to address complex urban challenges holistically.

*Smart Technology Integration:* Embrace emerging technologies, such as AI and autonomous systems, to optimize city operations and enhance citizen engagement.

*Community Engagement:* Act as a passionate advocate for residents, ensuring their voices are heard in policy decisions and that services are accessible and equitable.

*Policy Development:* Develop and enforce policies that address urban challenges, including air quality, public health, affordable housing, social inequality, and sustainable transportation.

*Stakeholder Management:* Engage with government agencies, private sector partners, and academic institutions to drive collaborative initiatives that benefit the city's growth and well-being.

*Crisis Management:* Lead the city through crises, such as economic downturns, public health emergencies, and natural disasters, with foresight and effective communication.

### Key Qualifications:

*Multidisciplinary Expertise:* Proven knowledge in urban planning, public administration, infrastructure management, sustainability, digital transformation, and economic development.

*Strategic Thinker:* Ability to develop and execute long-term plans that account for economic, environmental, and social factors.

*Leadership:* Strong negotiation, decision-making, and team-building skills, with a track record of managing large-scale projects or organizations.

*Compassion and Altruism:* Deep commitment to public service and improving the quality of life for all city residents.

*Innovative Mindset:* Familiarity with smart city technologies, data analytics, and the latest trends in urban development.

*Public Engagement:* Excellent communication skills, with experience in public outreach, stakeholder engagement, and community advocacy.

### The Current Training Gaps

Although many institutions offer training in disciplines such as urban planning, civil engineering, and public administration, there is a noticeable gap in providing multidisciplinary training for city leaders. Urban administration requires a blend of knowledge from

various fields, yet most programs do not offer a comprehensive curriculum that adequately prepares city leaders to comprehend both the technical and socio-economic aspects of their roles. This lack of training hinders city leaders from effectively addressing the complex issues they encounter daily.

Mayors, in particular, face an even steeper learning curve. Often appointed or elected without formal training in city administration, they are thrust into roles that demand immediate, informed decision-making. The parallel in the corporate world would be placing an executive in charge of a multi-billion-dollar company without a background in business management.

Some progress has been made to address this gap. The Bloomberg Harvard City Leadership Initiative, for example, has trained 314 incumbent mayors and over 540 senior city leaders from 33 countries since 2017 (Bloomberg Philanthropies 2024). Other universities have launched programs in urban affairs. But the gap is massive. A broader and more structured approach to city leadership education is essential to prepare the thousands of leaders required to manage the cities of today and tomorrow effectively.

### **How Many Trained City Leaders Do We Need?**

The scale of urban challenges ahead underscores the urgent need for a new generation of well-trained city leaders and administrators. But how many professionals will we need to meet the demands of both existing and emerging cities globally?

*Managing New Cities:* Today, there are around 700 cities globally with populations exceeding one million people. By 2080, that number is expected to rise to approximately 1,600 cities (Clarke

2022). This suggests that nearly 900 new cities with populations of over one million will need to be built or significantly expanded over the coming decades. To effectively manage these 900 new cities, each will require a new administration. Let us build a city administration for each of these cities. Assuming each city requires a mayor every four years over the next 56 years, we need 14 mayors for each of these new cities. Furthermore, assuming each mayor will have 8 senior city administrators reporting to them with an average tenure of 8 years, the total number of senior city administrators we will need would be 56 administrators for each city over the period. Finally, assuming that each one of these city administrators will oversee three department heads, each with a tenure of 12 years, the total number of department heads required over the period would be 112 per city. When we sum up the three levels, the average number of leaders required per new city is 182 city leaders from now till 2080. This results in a demand for roughly 162,000 trained city administrators for the 900 new cities.

*Managing Existing Cities:* The current 700 cities with populations exceeding one million already have on-the-job-trained leaders. So, assuming over the period from today to 2080 they will need only half of the leaders of a new city, the total per city would be 91 leaders and 63,700 leaders in total for the 700 cities over the period.

*Managing smaller cities:* Beyond these large cities, there are ten thousand small urban areas with populations of above 50,000 residents. Due to both lower affordability and lower complexity, we will assume that we will only need 20% of the number of leaders required for the bigger new cities. As such, the total number of leaders per city required over the horizon is 36 per city, and 364,000 leaders in total till 2080.

This implies that the total number of city leaders required from now till 2080 is roughly 590,000 leaders. And because we need 3-4 suitable candidates for each position, the actual number of potential leaders we will need to train will exceed two million. That is astounding.

A lot of assumptions have been made here. And cities have different requirements, governance, and employment cycles, so the cities you know may be different. But the idea is to instigate a discussion on the direction, not on the specific quantum.

### **Call to Action**

City leaders understand the magnitude of these challenges as they go about their daily work. It is our responsibility to ensure that current city administrations are equipped with the necessary skills to manage our cities effectively. More importantly, we must prepare the next generation of city leaders to confront the deluge of challenges that cities will continue to face, worldwide.

The time for action is now. We must work collaboratively—city leaders, governments, the private sector, and academic institutions—to develop robust educational programs tailored to the complexities of city administration. Whether through the establishment of a formal “Master in City Administration” (MCA) or other training initiatives, the goal is clear: to create a pipeline of knowledgeable, strategic, and compassionate city leaders capable of navigating the future of urban life.

The future of our cities depends on it.

## References

Bloomberg Philanthropies. 2024. “Bloomberg Harvard City Leadership Initiative Announces Eighth Class of Mayors to Receive Executive Education Training.” The Bloomberg Center for Cities, Harvard University, July 15.

Breathe Cities. 2024. “Why We Do It.” <https://breathecities.org/why-we-do-it/>.

Clarke, Greg. 2022. “The Century of Cities: 100 year trek to the city.” *Connected Places Catapult Magazine* 2.

Health Effects Institute. 2024. State of Global Air Report. Health Effects Institute. [https://www.stateofglobalair.org/sites/default/files/documents/2024-06/soga-2024-report\\_0.pdf](https://www.stateofglobalair.org/sites/default/files/documents/2024-06/soga-2024-report_0.pdf).

Intergovernmental Panel on Climate Change (IPCC). 2022. Climate Change 2022: Mitigation of Climate Change. Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. [https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC\\_AR6\\_WGIII\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf).

Sutradhar, Uttara, Lauryn Spearing, and Sybil Derrible. 2024. “Depopulation and Associated Challenges for US Cities by 2100.” *Nature Cities* 1: 51-61. <https://doi.org/10.1038/s44284-023-00011-7>.

United Nations (UN). 2023. “SDG 11: Sustainable Cities and Communities.” UN High-Level Political Forum on Sustainable Development. [https://sdgs.un.org/sites/default/files/2023-07/2023\\_HLPF\\_Factsheet\\_SDG11\\_0.pdf](https://sdgs.un.org/sites/default/files/2023-07/2023_HLPF_Factsheet_SDG11_0.pdf).

United Nations Human Settlements Programme (UN-Habitat). 2022. *Envisaging the Future of Cities*. World Cities Report. [https://unhabitat.org/sites/default/files/2022/06/wcr\\_2022.pdf](https://unhabitat.org/sites/default/files/2022/06/wcr_2022.pdf)

United Nations Population Fund (UNFPA). 2024. *World Population Dashboard*. <https://www.unfpa.org/pt/data/world-population-dashboard>.

World Bank. 2022. *The Global Health Cost of PM 2.5 Air Pollution: A Case for Action Beyond 2021*. International Development in Focus. World Bank. <http://hdl.handle.net/10986/36501>.

As the host city of the G20 Summit under the Brazilian presidency in 2024, the Rio de Janeiro City Hall has embraced the commitment to ensuring this milestone event's legacy. Rio engaged in a productive knowledge partnership with the Brazilian Center for International Relations (CEBRI) as part of these efforts. This book is a result of this fruitful combination of perspectives.

*Urban Sustainable Development: Governance, Finance and Politics* addresses the critical challenges of promoting sustainable growth in rapidly expanding cities. Divided into two sections, the book first delves into conceptual debates, exploring the intersections of governance, finance, and politics in urban sustainability. It examines key themes such as multilevel governance, the role of local governments in fostering sustainable policies, and the financial mechanisms crucial to green initiatives. The second section presents a series of case studies from cities worldwide, showcasing practical applications of governance models, financing strategies, and political approaches.

By examining both successes and challenges, the book offers insight into how different cities tackle the complexities of sustainable development. What sets this book apart is its diverse pool of contributors, including academics, national and subnational government leaders, and experts in sustainable finance. This multidisciplinary approach ensures a well-rounded perspective, blending rigorous research with practical insights.

