EDUPHORIA
ICERT
An International Multidisciplinary Magazine

The 15-Minute City: Reclaiming Our Urban Spaces for a Sustainable Future

Reddy, Dudipala Sai Kiran

0009-0006-9261-7674

M. Tech. Sustainable Engineering, Indian Institute of Technology Hyderabad, Telangana

ABSTRACT

One of the 21st century's most significant urban planning concepts, the 15-Minute City aims to enhance quality of life by making sure that all necessary services, including employment, education, healthcare, recreation, and commerce, are within easy walking or bicycling distance. To address the urgent issues of public health emergencies, growing social inequality, urbanisation, and climate change, this article looks at the model. Based on global case studies from Paris, Barcelona, Melbourne, and cities in the Global South, the study shows how proximity-based design may boost local economies, promote social cohesion, and drastically cut carbon emissions. Evidence from local pilot programs and C40 Cities shows that transport-related emissions might be reduced by up to 30%, active travel could be increased by 10% to 20%, and urban air quality and public health indicators could significantly improve.

In addition, the study critically examines implementation barriers such as gentrification concerns, political opposition, and challenges in modifying the model for informal or expansive urban settings. The paper makes the case that the 15-Minute City should be viewed as a flexible framework that can be adjusted to different urban geographies rather than as a strict blueprint by synthesising academic research, policy papers, and empirical data. A policy roadmap that incorporates digital mapping technology, affordable housing, participatory governance, and proximity planning is presented in the conclusion. In the end, the study presents the 15-Minute City as a revolutionary approach to creating resilient, sustainable, and just urban futures.

Keywords: sustainable urban planning, polycentric cities, social equity, resilient neighbourhoods, climate change adaptation.

INTRODUCTION

A New Paradigm for Urban Living

The concept of functional separation dominated twentieth-century urban planning. Cities were divided into monofunctional zones—residential suburbs, commercial districts, and industrial areas—connected largely by private vehicles, driven by modernist ideals like Le Corbusier's Radiant City and post-war suburbanisation. Unprecedented economic prosperity and mobility were brought about by this approach, but it also had unexpected repercussions, such as reduced social cohesiveness, air pollution, urban sprawl, chronic traffic congestion, and carbon-intensive lifestyles. An important cause of social disintegration and climate change, the car-centric metropolis was previously seen as a sign of advancement.

As cities struggle with the dual issues of social justice and environmental sustainability, academics and decision-makers are looking for other approaches. Carlos Moreno's 15-Minute City [7] is one of them that presents a convincing paradigm shift. It imagines a polycentric urban structure where people may walk or cycle to employment, shopping, healthcare, education, and entertainment in 15 minutes. Instead of promoting remote "villages," this approach suggests linked communities that serve as thriving, independent centres, lessening the need for lengthy commutes and concentrated business areas.

Paris, Barcelona, and Melbourne have all incorporated the idea's tenets into their planning initiatives, demonstrating its global appeal. In addition, it has generated discussions regarding cultural adaptation, gentrification, and viability, especially in the Global South [4]. The fundamental ideas, advantages, and practical uses of the 15-Minute City are critically examined in this essay, along with its drawbacks and suggested fixes. It contends that the model is a roadmap for resilient, sustainable, and egalitarian urban futures rather than merely an urban trend by fusing policy analysis, statistical data, and a study of the literature.

FOUNDATIONAL PRINCIPLES

The Pillars of Proximity

The theory behind the 15-Minute City is surprisingly straightforward: people should spend more time living and less time travelling. Accessibility, equity, and human well-being are prioritised over road capacity or car ownership as indicators of a city's success. It is based on four interconnected ideas.

Chrono urbanism: Reclaiming Time

Time is emphasised as the primary measure of urban existence in chrono urbanism, a term coined by Moreno [7]. By bringing necessary services nearby, it aims to reduce travel time rather than focusing on speed of movement over great distances. According to research, there is a negative correlation between life satisfaction, community relationships, and health outcomes in places whose daily commutes are more than 45 minutes [5].

Mixed-Use Development

In contrast to rigorous zoning that separates land uses, the 15-Minute City supports mixed-use districts where residences, businesses, retail establishments, schools, and parks coexist. Mixed-use neighbourhoods in European cities, according to research by Khavarian-Garmsir et al. [6], reduced per capita automobile reliance and produced 25% more local economic activity than single-use areas.

Decentralisation: Polycentric Cities

The approach relies heavily on polycentricity: several neighbourhood centres share economic and cultural services rather than a single, dominant downtown. The "20-Minute Neighbourhood" project in Melbourne has promoted concentrated activity hubs to lessen suburban reliance on the central business district [9].

Ecological and Social Resilience

Cities may significantly reduce emissions associated with transportation by giving priority to walking and bicycling. In Warsaw, Krauze-Maślankowska and Maślankowski [8] showed that within five years, 15-Minute City designs decreased CO_2 emissions by 12% and automobile journeys by 18%. In addition to its positive effects on the environment, the approach strengthens social networks by facilitating local connections, which increases resilience in times of crisis like pandemics [1].

Comparison of Car-Centric vs. 15-Minute City Planning

Dimension	Car-Centric Planning	15-Minute City Principles
Spatial Structure	Centralised downtown, sprawling suburbs	Polycentric hubs with localised services
Land Use	Strict zoning (residential, commercial, industrial)	Mixed-use neighbourhoods

Mobility	Car-dependent	Walking, cycling, micro-mobility
Time Use	Long commutes (30–90 minutes)	Daily needs within 15 minutes
Environmental Impact	High carbon emissions	Lower emissions, greener spaces
Social Fabric	Weak neighbourhood ties	stronger local communities
Resilience	Vulnerable to traffic/fuel shocks	Adaptive, crisis-resilient

BENEFITS

A Holistic Approach to Urban Well-being

The 15-Minute City generates interconnected benefits across multiple dimensions.

- **Environmental Sustainability:** Reductions of up to 30% in transport-related CO_2 in Paris [2].
- **Public Health:** Walkability linked to reduced depression and anxiety [10].
- **Economic Vitality:** €1 spent locally generates €1.70 in community economic activity [6].
- **Social Equity:** Melbourne's pilot projects reported a 15% increase in perceived accessibility for low-income residents [9].
- **Social Capital:** Residents of walkable neighbourhoods are twice as likely to know their neighbours [1].

Quantified Benefits of the 15-Minute City

• Dimension	Evidence / Findings	Source
Environmental	-30% CO_2 in Paris; -15% NO_2 in Barcelona	[2]
Health	3M premature deaths prevented annually (global)	[10]
Economic	Walkable retail areas +30–40% revenue/sq.m	[6]

Social Equity	+15% accessibility for low-income groups in Melbourne	[9]
Social Capital	Residents are 2x more likely to know neighbours	[1]

GLOBAL CASE STUDIES

From Vision to Reality

Case studies show diverse applications:

- **Paris:** 30% decline in car traffic; 54% rise in cycling, but property prices rose 18% more than average [7].
- **Barcelona:** *Superblocks* reduced car trips by 13.5% and NO_2 by 15% [2].
- **Melbourne:** "20-Minute Neighbourhoods" improved accessibility, but suburban retrofitting is costly [9].
- **Portland:** GIS-based accessibility mapping; walkable districts recorded 30–40% higher retail revenues [6].
- **Shanghai:** "15-Minute Community Life Circles" improved service access for 80% of residents [4].

Comparative Case Studies

City	Initiatives	Outcomes	Challenges
Paris	Cycling lanes, schoolyard parks	-30% car use, +54% cycling	Gentrification
Melbourne	Suburban hubs	+15% accessibility (low-income areas)	Transport gaps
Portland	"Complete Neighbourhoods"	+40% retail revenue/sq.m	Uneven adoption

Shanghai	Life Circles initiative	+12% walking trips, 80% improved access	Peri-urban disparity
Barcelona	*Superblocks*	-13.5% traffic, -15% NO_2	Business pushback

CHALLENGES AND CRITICISMS

Key challenges include:

- **Gentrification:** Displacement risk; property values rose 18–20% in Paris zones [3].
- **Political Resistance:** Support drops when parking is removed (65% → 42%) [11].
- **Feasibility in Diverse Contexts:** Informality in the Global South limits adoption [4].
- **Funding Barriers:** High costs of infrastructure upgrades [8].
- **Misinformation:** Conspiracies portray the model as restrictive [3].

Challenges and Policy Solutions

Challenge	Example	Policy Solution
Gentrification	Paris property prices +18–20%	Rent control, inclusionary zoning
Resistance	Parking opposition in Europe	Public engagement, phased rollout
Urban Diversity	Informal settlements (Global South)	Incremental adaptation
Funding	High costs in low-income cities	Land value capture, congestion pricing
Misinformation	UK & Canada conspiracies	Transparent communication

CONCLUSION

According to the data in this article, the 15-Minute City is an essential urban plan for the twenty-first century rather than a passing architectural fad. It is positioned as a potent answer to the global concerns of pandemics, inequality, and climate change because of its all-encompassing advantages, which include more social cohesiveness, healthier people, reduced emissions, and better local economies. However, it will only live up to its promise if equity stays at its centre. In the absence of strong protections against gentrification, open governance, and significant community involvement, the concept runs the danger of escalating the issues it aims to resolve.

By adopting proximity planning, communities may reduce transportation-related emissions by up to 30%, avert thousands of premature deaths by promoting active mobility and better air quality, and create stronger, more resilient local economies, according to this research. However, the cultural and political message of the 15-Minute City—that time, community, and sustainability are more important than speed, commerce, or automobiles—has a deeper meaning.

By 2050, two-thirds of the world's population will reside in urban areas, making the 15-Minute City concept mandatory rather than discretionary. It is imperative that communities, planners, and policymakers take advantage of this chance to create fair, inclusive, resilient, and sustainable neighbourhoods. As a result, the 15-Minute City may be used as a model for rethinking urban life and making sure that future cities are made to enhance rather than merely support human existence.

REFERENCES:

1. Agha, S., et al. (2024). *Rethinking urban design for resilience: The role of the 15-minute city in a post-pandemic world*. ResearchGate.
2. Graells-Garrido, E., Serra-Burriel, F., Rowe, F., Cucchietti, F. M., & Reyes, P. (2021). A city of cities: Measuring how 15-minute urban accessibility shapes human mobility in Barcelona. *PLOS ONE*, *16*(5), Article e0250915. https://doi.org/10.1371/journal.pone.0250915
3. Herbert, J. (2021). *Transformation or gentrification? The hazy politics of the 15-minute city*. Degrowth.info.
4. Iqbal, A., Nazir, H., & Qazi, A. W. (2025). Exploring the 15-minute city concept: Global challenges and opportunities in diverse urban contexts. *Urban Science*, *9*(7), 252.
5. Jain, A., et al. (2025). Advancing health equity through 15-minute cities and chrono-urbanism. *Journal of Urban Planning and Development*.

6. Khavarian-Garmsir, A. R., Sharifi, A., & Sadeghi, A. (2023). The 15-minute city: Urban planning and design efforts toward creating sustainable neighbourhoods. *Cities*, *132*, 104033. https://doi.org/10.1016/j.cities.2022.104033
7. Moreno, C. (2020). *The 15-minute city: For a new urban chrono-urbanism* [White paper]. City of Paris.
8. Krauze-Maślankowska, P., & Maślankowski, J. (2025). Social, economic and environmental benefits of 15-minute cities: A case study analysis. *Smart Cities and Regional Development Journal*, *9*(2), 87–99.
9. Irfan, M., et al. (2024). 15-minute city: Future urban and transportation development mode. *Proceedings of the 10th International Conference on Information Technology and Its Applications in Smart Cities*, 295–300.
10. Pinto, D. S., & Akhavan, A. (2022). Walkability, urban form and mental health: A systematic review. *Cities & Health*, *6*(1), 1–15. https://doi.org/10.1080/23748834.2022.2104031
11. Pozoukidou, G., & Angelidou, M. (2022). Urban planning in the 15-minute city: Revisited under sustainable and smart city developments until 2030. *Land*, *11*(10), 1645. https://doi.org/10.3390/land11101645