

Research Trends in the 15-Minute City: A Bibliometric Perspective

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Abstract:

The “15-Minute City” (15MC) has rapidly evolved from a visionary idea in chrono-urbanism to a prominent planning paradigm that promises daily life within short, human-scaled access to essential services. This bibliometric review maps and synthesizes the global research landscape on 15MC to clarify its intellectual foundations, empirical trajectories, methodological approaches, and policy implications. Drawing on publications indexed in major citation databases between the concept’s early articulation and mid-2025, we apply standard performance analyses (annual production, sources, authors, institutions, countries, collaboration networks) and science-mapping techniques (co-authorship, co-citation, bibliographic coupling, keyword co-occurrence, conceptual structure mapping, and thematic evolution). This study identifies core knowledge clusters, trace the maturation from conceptual essays to applied case studies, and assess how 15MC research intersects with established domains such as transit-oriented development (TOD), walkability, active mobility, mixed-use zoning, polycentric urban form, spatial justice, and climate-resilient planning.

Results indicate a pronounced surge in publications after 2020—synchronized with pandemic-era policy experiments and tactical urbanism—accompanied by diversification in outlets across urban planning, transport, public health, and sustainability journals. The co-word networks reveal five recurring, high-centrality themes: (1) proximity-based accessibility and daily activity spaces; (2) integrated land-use–transport planning that couples compact, mixed-use form with active and public transport; (3) equity, inclusion, and spatial justice, including affordability, gentrification risks, and care-work geographies; (4) environmental and health co-benefits (emissions reduction, air quality, physical activity, road safety, and mental well-being); and (5) governance, metrics, and implementation, spanning neighborhood-level audits, accessibility indicators, and digital tools for service location and routing. Thematic evolution suggests a shift from normative, city-wide visions toward neighborhood-scale diagnostics and ex-ante/ex-post evaluations that use multimodal accessibility metrics, network centrality, isochrone analysis, land-use entropy, and exposure models. Bibliographic coupling highlights strong cross-pollination with literatures on 20- or 30-minute neighborhoods, complete communities, 10-minute city programs, and 24-hour cities, indicating a broader family of “proximity-planning” frameworks adapted to local contexts.

Geographically, research and policy pilots concentrate in Europe and Australasia, with expanding case studies from North America, Latin America, and East Asia. Collaboration

networks show increasing co-authorship density and rising participation from municipal agencies and non-academic partners, signaling translational relevance. The source analysis underscores the dominance of urban and transport journals but also the entry of environmental health, sustainability science, and regional studies venues, reflecting the 15MC's interdisciplinarity. Co-citation mapping identifies foundational anchors in accessibility theory, TOD, New Urbanism, and the "15-minute" and "polycentric" discourse, alongside emergent anchors in spatial equity, mobility justice, and climate adaptation.

Methodologically, the field is shifting from descriptive mapping to evaluative and design-support analytics. Studies integrate high-resolution pedestrian and cycling networks, real-world routing constraints, temporal service availability (opening hours), and multimodal impedance to derive realistic isochrones. Accessibility is operationalized beyond Euclidean buffers into network-based travel times, generalized costs, or cumulative opportunities with equity weights. Advances include coupling mobile phone traces, GPS-based travel diaries, and volunteered geographic information with administrative points of interest and open data. Nonetheless, challenges persist: harmonizing service taxonomies across cities, addressing dynamic demand (e.g., telework, e-commerce logistics), incorporating extreme heat or rainfall in travel time estimates, and integrating safety-in-numbers or fear-of-violence variables that condition the usability of nearby amenities—particularly for women, children, older adults, and persons with disabilities.

Policy translation is a growing strand. Municipal programs increasingly embed 15MC metrics into comprehensive plans, zoning updates, and mobility strategies, using proximity thresholds in development approvals or capital budgeting. Evidence-informed toolkits emphasize (i) network retrofits that prioritize continuous, protected walking and cycling links to local centers and transit stops; (ii) zoning reforms that legalize neighborhood-serving uses and diverse housing types; (iii) school, clinic, and childcare siting policies that reduce compulsory trip lengths; and (iv) participatory diagnostics that co-produce "everyday needs" inventories with residents to reflect culturally specific priorities—especially care infrastructure. Financing mechanisms (value capture, impact fees, land value taxation) and phasing strategies (near-term tactical interventions toward long-term structural change) are also documented. Importantly, equity-first pathways recommend anti-displacement safeguards (tenant protections, inclusionary housing, social leasing, community land trusts) and targeted investment in historically underserved neighborhoods to avoid reproducing spatial advantage.

This review also surfaces critical debates. Skeptics caution against oversimplified branding that masks complex metropolitan labor markets and regional commuting realities; in response, recent scholarship explores "15-minute regions" that reconcile neighborhood proximity with polycentric, transit-anchored inter-district connectivity. Others argue that proximity alone is insufficient without quality, affordability, and cultural fit of services; hence, evaluative metrics increasingly combine distance/time with service capacity, price, and reliability. A parallel conversation in digital urbanism examines how platform services (e-commerce, telemedicine, micro-fulfillment) complement or compete with bricks-and-mortar proximity.

Limitations of the evidence base include variability in operational definitions, language bias in databases, incomplete coverage of grey literature and municipal guidelines, and

relatively few studies in low- and middle-income contexts where informality, service shortages, and safety concerns reshape feasibility. We recommend future research that (a) standardizes, yet flexibly localizes, 15MC indicators; (b) scales evaluation across neighborhoods, cities, and regions to capture spatial spillovers; (c) centers distributional and procedural justice; (d) integrates climate-sensitive comfort and safety into accessibility models; and (e) leverages mixed-methods designs that combine geocomputation with resident-led qualitative insights.

Overall, the bibliometric mapping documents a field transitioning from manifesto to measurement, from vision to governance. The 15-Minute City now operates as a pragmatic, equity-aware framework to realign land use, mobility, and service provision around everyday life—provided implementation explicitly addresses affordability, inclusion, and inter-scale connectivity. This review consolidates the conceptual and empirical advances to date and offers a transparent agenda for comparative, policy-relevant research that can guide cities toward proximate, healthy, low-carbon, and just urban futures.

Keywords: 15-Minute City, Sustainable Development, Sustainable Development Goals (SDGs), Urban environment, Urban Planning.