Annotating key concepts of integrated spatial planning

Our contribution to the evolving dialogue on integrated planning

InPlaLabs

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TRANSLATIONAL NETWORK OF INTEGRATED PLANNING LABS CO-CREATING KNOWLEDGE ON FORWARD LOOKING TRANSDISCIPLINARY PLANNING PERSPECTIVES ADDRESSING CLIMATE CHANGE AND URBAN LIFE IN THE POST PANDEMIC CITY.

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Transnational Network of Integrated Planning Labs: co-creating knowledge on forward-looking transdisciplinary planning perspectives addressing climate change and urban life in the post-pandemic city.

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Integrated Spatial Planning

Authors: Yannis Paraskevopoulos, Anastasia Christaki, Stefanos Tsigdinos, Ioannis Chatziioannou

Mainstream/Conventional Definition

In mainstream academic and policy discourse, integrated spatial planning is understood as a **systemic, multi-scalar and multi-sectoral approach** that coordinates land-use, mobility, environmental, social and economic policies to guide the sustainable development of cities and regions. It emerged as an institutional paradigm within European and global planning frameworks, positioning "integration" as a tool for achieving coherence across fragmented governance systems and policy domains. In this view, integration operates through **horizontal coordination** across sectors, **vertical alignment** across governance levels, and **territorial cooperation** across administrative boundaries, creating a unified strategic direction for spatial development.

This conventional perspective frames integrated spatial planning as a largely **technocratic, evidence-based practice, in which data, modelling,** and interdisciplinary urban science support more rational and efficient decision-making. It emphasises participatory procedures primarily as a means of improving legitimacy and stakeholder buy-in, rather than fundamentally reshaping power relations. Overall, the mainstream definition presents integrated spatial planning as a coordinated, holistic and efficiency-oriented governance mechanism designed to deliver sustainability, resilience and the "common good" through coherent spatial strategies.

Contested Meanings / Debates in the Literature

Debates around integrated spatial planning revolve around deep tensions concerning governance, knowledge, justice, and the very purpose of planning. A **key fault line** concerns whether integration should be understood as a **managerial practice of policy coherence** or a **transformative governance framework oriented toward justice and empowerment**. Mainstream institutional approaches frame integration as technical coordination across sectors, jurisdictions, and scales, emphasizing coherence and efficiency. Critical scholars challenge this, arguing that such conceptions depoliticize integration by masking unequal power relations and overlooking the social and ethical dimensions of planning. Instead, they advocate for relational and justice-oriented interpretations, where integration becomes a vehicle for redistributing power and addressing structural inequalities in urban systems.

A **second axis of debate focuses on knowledge, participation, and epistemic authority**. Conventional integrated planning relies strongly on expert-led, technocratic knowledge practices, privileging quantitative metrics and scientific rationality. Critics argue that this model marginalizes everyday experience, situated knowledge, and the epistemic contributions of communities. Scholars working in participatory and collaborative planning emphasize that integration must also operate as an **epistemic practice**, bringing different ways of knowing into negotiation through co-production rather than tokenistic consultation. Concepts such as "in-between spaces" highlight the importance of shared problem-framing and iterative knowledge building between planners and communities—a move that redefines integration as plural, negotiated, and reflexive rather than purely technical.

Spatial justice represents a third major point of contention. While mainstream frameworks often treat equity as a presumed by-product of coherence and efficient service provision,

critical scholars insist that justice cannot be assumed but must be explicitly designed, measured, and institutionalized within integrated planning systems. Research operationalizing spatial justice through participatory mapping, multi-criteria analysis, and equity indicators demonstrates how integration can be redirected toward distributive, procedural, and recognitional justice. This work highlights a deeper critique: integration without justice simply reinforces existing inequalities, whereas justice-oriented integration seeks to transform how resources, opportunities, and decision-making power are distributed across space.

Global and cultural contexts add further layers of contestation. European and international institutions often promote integration as a universalized model, yet scholarship from postcolonial, Global South, and postmigrant contexts challenges this assumption. In many Southern cities, "integration" involves negotiating between formal and informal systems, addressing long-standing exclusions, and grappling with socio-spatial fragmentation shaped by colonial legacies. Similarly, in postmigrant contexts, integration becomes entangled with questions of belonging, recognition, and identity. These examples show that integrated spatial planning is never a neutral or uniform concept; it is deeply contextual, culturally mediated, and historically situated.

Finally, a **rapidly emerging debate centers on transformative and post-growth interpretations** of integrated spatial planning. While mainstream notions remain tethered to growth-oriented urban development and the optimization of infrastructure for economic competitiveness, post-growth thinkers argue that integration must instead align with sufficiency, solidarity, and ecological finitude. Concepts such as urban degrowth, prefigurative planning, and habitability challenge the foundational assumptions of "integrated" systems built around expansion and efficiency. They propose instead a project of coordinated socio-ecological transformation where integration is not about managing growth more effectively but about enabling alternative urban futures rooted in care, justice, and limits.

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  ➔ *This article proposes a comprehensive, transdisciplinary framework for aligning climate action, public health, well-being, and digitalization in urban policy, positioning cities as central arenas for climate mitigation and adaptation and emphasizing people-centered, scalable approaches to integrated urban governance.*

- Acuto, M., Parnell, S. and Seto, K.C. (2018) "**Building a global urban science**," *Nature Sustainability*, 1(1), pp. 2–4. Available at: https://doi.org/10.1038/s41893-017-0013-9.
  ➔ *This commentary argues that existing urban research is fragmented, uneven, and poorly connected to practice, calling for a genuinely global, interdisciplinary urban science capable of addressing complex sustainability challenges and reshaping science–policy interfaces. It highlights the need to reorganize urban data, research, and education to produce actionable, context-sensitive knowledge that supports*

cities' central role in global climate and development agendas.

- New Leipzig Charter (2020), ***The transformative power of cities for the common good***. Available at: https://ec.europa.eu/regional_policy/en/information/publications/brochures/2020/new-leipzig-charter-the-transformative-power-of-cities-for-the-common-good.
  ➔ *This foundational EU policy document reframes integrated urban development around three transformative pillars—**the just, green, and productive city**—and advances a renewed commitment to multi-level governance, participation, and place-based strategies as essential tools for addressing climate change, digitalization, inequality, and urban resilience. It positions cities as key actors in delivering the common good, emphasizing integrated approaches, strong local capacities, and coherent national–EU frameworks to empower urban transformation across Europe.*

- Davoudi, S. (2023) "**Prefigurative planning: performing concrete utopias in the here and now**," *European Planning Studies*, 31(11), pp. 2277–2290. Available at: https://doi.org/10.1080/09654313.2023.2217853.
  ➔ *This article develops prefigurative planning as a mode of urban practice that resists resignation and neoliberal "there is no alternative" narratives by performing hopeful, justice-oriented "not-yet" futures in everyday spaces. Drawing on concepts of concrete utopias, care, and emergent civic initiatives, it reframes planning as a collective, imaginative, and experimental practice enacted **here and now** rather than through distant, blueprint-based visions*

- Kaika, M. *et al.* (2023) "**Urbanizing degrowth: Five steps towards a Radical Spatial Degrowth Agenda for planning in the face of climate emergency**," *Urban Studies*, 60(7), pp. 1191–1211. Available at: https://doi.org/10.1177/00420980231162234.
  ➔ *This paper sets out a programmatic framework for **spatial degrowth**, outlining five steps for translating degrowth principles into urban planning practice—historicising debates, engaging institutions, scaling-up without co-optation, mobilizing insurgent professionals, and addressing Global North–South inequalities. It positions degrowth as an urgently needed alternative to growth-driven urbanisation, offering pathways to reorient planning toward socio-environmental justice, well-being, and climate-resilient urban futures.*

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Urban Sustainability

Authors: Nadia Charalambous, Mariam Shulqamy, Frixos Petrou, Rafaela Christodoulou

Mainstream/Conventional Definition

Urban sustainability refers to the ability of cities to balance economic development, social equity, and environmental protection in ways that meet present needs without compromising the capacity of future generations to thrive. It emphasizes compact and resource-efficient urban forms, resilient infrastructures, inclusive governance, and reduced ecological footprints. The concept often builds on the "triple bottom line" framework—environmental, social, and economic dimensions—while integrating resilience and adaptability to climate change and other systemic shocks.

In practice, urban sustainability is an approach to urban development that seeks to reduce negative environmental impacts, ensure social inclusivity, and foster economic vitality within urban systems. It focuses on creating cities that are liveable, resilient, and regenerative.

Contested Meanings / Debates in the Literature

Despite its prominence in policy discourse and practice, urban sustainability remains a contested and evolving concept. On one hand, it provides a unifying vision for sustainable cities, mobilizing governments, international organizations, and civil society around shared goals such as the UN Sustainable Development Goal 11 (Sustainable Cities and Communities). On the other hand, scholars critique its vagueness, arguing that "sustainability" is often used as a catch-all slogan that obscures trade-offs, competing priorities, and entrenched power dynamics.

Critical debates revolve around whether urban sustainability initiatives genuinely transform urban systems or whether they reproduce existing inequalities and ecological pressures. For instance, while compact city models are celebrated for reducing sprawl and emissions, critics highlight risks of gentrification, displacement, and socio-spatial exclusion (Dempsey et al., 2010). Similarly, eco-city and smart city frameworks have been critiqued for privileging technological fixes and market-oriented approaches, often sidelining social justice and community needs (While, Jonas & Gibbs, 2004; Caprotti, 2015).

Another debate concerns the scalar nature of sustainability. Urban sustainability cannot be fully achieved within city boundaries alone, as cities depend on global flows of energy, food, and materials. The concept of urban metabolism (Kennedy et al., 2011) has highlighted how cities externalize environmental costs, raising questions about whether “sustainable cities” are possible without addressing broader systemic inequalities in global resource distribution.

From a postcolonial perspective, scholars note that dominant models of urban sustainability often emerge from Global North contexts and may be ill-suited or extractive when applied to Global South realities (Parnell & Robinson, 2012). Insurgent and grassroots movements argue for sustainability grounded in local ecologies, community practices, and indigenous knowledge systems, challenging technocratic or universalist definitions.

Ultimately, the concept embodies a tension between normative aspirations (resilience, equity, ecological balance) and the practical realities of governance, politics, and uneven development. The central debates ask: sustainability for whom, by whom, and at what scale?

Applications in Practice

Urban sustainability manifests across a wide spectrum of policy arenas and urban interventions:

- Urban form and mobility: Compact city policies, transit-oriented development, and walkable neighborhoods that reduce car dependence and carbon emissions.
- Green infrastructure and climate adaptation: Deployment of parks, green roofs, wetlands, and nature-based solutions to mitigate heat islands, manage stormwater, and improve urban biodiversity.
- Energy and resource systems: Investments in renewable energy, circular economy models, and sustainable building practices (e.g., passive design, adaptive reuse, zero-carbon housing).
- Governance and participation: Integrated sustainability plans (e.g., Local Agenda 21, SDG-based municipal strategies), participatory budgeting, and climate assemblies to ensure democratic legitimacy.
- Social equity initiatives: Affordable housing, equitable access to green space, and health-oriented urban design strategies that link sustainability with well-being.

Globally, emblematic practices include Copenhagen's carbon neutrality plan, Medellín's cable-car transit for peripheral communities, and Singapore's water-sensitive urban design. These illustrate how urban sustainability is operationalized at different scales, blending environmental goals with social and economic considerations

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Justice and the City

Spatial, Climate, and Mobility Justice

Authors: Stefanos Tsigdinos, Yannis Paraskevopoulos, Anastasia Christaki, Ioannis Chatziioannou

Mainstream/Conventional Definition

Justice is a wide concept pertaining to different perspectives and disciplines. When it comes to spatial matters, climate and mobility/transport, it should be underlined that existing literature does not follow a conventional path; on the contrary, it delves into radical and alternative approaches. These approaches help understand different contexts, needs and priorities. Below, one may find some reflections on spatial, climate and mobility justice.

The notion of spatial justice is considered decisive for a radical change in urban policies and planning. Nonetheless, "*there is no agreed definition of spatial justice*" (Brown et al., 2019). Spatial justice may instead be interpreted as a sort of "*compressed expression*" used to denote issues of social justice connected with space (Moroni & De Franco, 2024).

Transport justice means reorienting transportation policy away from (conventional) system performance metrics (like speed or efficiency) toward meeting individuals' basic mobility needs. It underscores that governments have a duty to ensure that every person can access opportunities through sufficient transport options (Martens, 2017).

Climate justice concentrates on the ethical recognition that industrialised countries bear historical responsibility for the climate crisis, while vulnerable and low-emitting communities bear also its effects. Consequently, this concept calls for distributive justice to redress this imbalance (..). In this context, a key strand of climate justice is the protection of vulnerable groups, ensuring their access to resources, participation in decision-making and representation in climate policies (Martinez Fernandez et al., 2023).

Contested Meanings / Debates in the Literature

As aforementioned, the concept of justice, materialising into spatial, climate and mobility or transport justice has inherently an alternative/radical framing, as it endeavours to tackle systemic challenges and exclusion phenomena related to built or natural environment. Notable attention to justice and especially, climate justice, has been paid in Global South, where natural resources, access to key facilities and quality of life are at stake. It is compelling that existing studies stemming from different disciplines try to encapsulate integrated approaches for understanding the main challenges and provide tailor made solutions.

Consequently, alternative research initiatives have put the justice issue forth, considering the various dimensions related to cities of today and tomorrow. It is of paramount importance to address systemic challenges that fail to engage people into planning activities, protect the environment and secure a sufficient quality of life for everyone.

Applications in Practice

- The justice frameworks could be meaningful for acknowledging key actors into planning activities
- Spatial and transport justice should be promoted for evaluating projects (varying from large to local scale) in cities. Strategic plans should make room for justice implications

- Local communities should build upon justice frameworks. Municipalities should update their plans based on metrics closely tied to spatial, climate and transport justice

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Closely Related Concepts

- Accessibility and the “15-minute city”
- Transport equity and mobility poverty

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Transport Equity

Authors: Stefanos Tsigdinos, Yannis Paraskevopoulos, Anastasia Christaki, Ioannis Chatziioannou

Mainstream/Conventional Definition

There is no universal definition of **transport equity**, referring both to the fairness of transport benefits and the assessments of the fairness of a situation and an intervention. However, Martens (2016) defines transport equity as "*the minimum level of access to certain key activities by anyone*". Equity could be distinguished into horizontal (equal access to opportunities to everyone regardless of socio-economic status) and vertical (prioritised access based on socio-economic characteristics and tailor-made measures).

Mobility poverty is strongly linked to spatial systems and is influenced by how infrastructure shapes access to (critical) opportunities. This spatial dimension contributes to mobility-related disadvantages and social exclusion (Kuttler, 2020).

Contested Meanings / Debates in the Literature

Despite, the attempt of defining specifically transport equity; this concept is discussed in the literature through several lenses, i.e., utilitarianism, libertarianism, intuitionism, egalitarianism, sufficientarianism and capability approaches (Pereira et al., 2016). All these reflect different political and societal priorities. Hence, the main debate lies in what are the vision, aims and endeavours of local communities or national/international administration.

To be more precise, utilitarianism appraises the maximum benefit of individuals, whereas egalitarianism delves into more collective perceptions. Furthermore, sufficientarianism or capabilities approach define a minimum threshold that should be respected based on the various socio-demographic groups. Therefore, researchers, policymakers and communities should establish transport equity principles matching with their mindset and priorities. It is interesting that literature in Latin America usually employs egalitarian or sufficientarian metrics (see Guzman et al., 2017).

Applications in Practice

- Transport equity metrics could be used for evaluating transport projects and interventions
- Trasport equity could be deemed as a proxy for social exclusion
- Mobility poverty is a powerful tool for understanding mobility problems and challenges in local communities (especially in suburban and rural areas)

Selected References & Key Readings

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Closely Related Concepts

- Accessibility and the "15-minute city"
- Justice and the City: Spatial, Climate, and Mobility Justice

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Accessibility and the “15-min city”

Authors: Yannis Paraskevopoulos, Anastasia Christaki, Stefanos Tsigdinos, Ioannis Chatziioannou

Mainstream/Conventional Definition

In mainstream planning discourse, **the 15-minute city** is defined as an urban model in which residents can **access all basic everyday needs within approximately 15 minutes by walking or cycling**. This definition, established by Carlos Moreno and widely adopted in policy and planning debates, frames the model as *"an urban set-up where locals are able to access all of their basic essentials at distances that would not take them more than 15 minutes by foot or by bicycle"*. The core purpose is to reorganise the built environment around **proximity**, reducing the need for private car travel and promoting healthier, more sustainable mobility choices. In this sense, **accessibility is understood primarily as proximity-based accessibility**, meaning that essential urban functions—such as living, working, education, healthcare, commerce, and leisure—are located close to residents' homes.

The concept operationalizes accessibility through **four widely accepted planning principles**: **proximity**, **diversity**, **density**, and **ubiquity**. Proximity ensures short travel distances; diversity refers to mixed land uses and varied social groups; density provides the population thresholds that support local services; and ubiquity emphasises equitable and widespread availability of these opportunities across the whole city. Mainstream applications in cities like Paris and Edinburgh demonstrate how accessibility analysis is used to define 15-minute (or 10-/20-minute) neighbourhoods by measuring residents' ability to reach specific services—schools, parks, care facilities, supermarkets—within a designated travel-time threshold. Moreover, the Athens-based document identifies the model as a proximity-centred accessibility framework explicitly focused on walking and cycling, supported by infrastructure that ensures safe, attractive active-mobility routes and high-quality public spaces.

Across planning guidelines, the 15-minute city is thus understood as a **human-centred, accessibility-driven approach to neighbourhood-scale planning**, aiming to deliver liveable, equitable, and sustainable cities. Its mainstream definition positions accessibility not simply as transport provision but as the spatial and functional **co-location of everyday services**, allowing residents to meet daily needs conveniently and sustainably within their local area.

Contested Meanings / Debates in the Literature

Critical debates around the 15-minute city highlight concerns that proximity-based planning may reinforce **urban commodification and gentrification**, particularly when accessibility improvements attract investment without parallel safeguards for housing affordability and social inclusion. In such cases, neighbourhood upgrades risk accelerating displacement, touristification, and social homogenisation rather than supporting existing communities.

A second line of critique focuses on **top-down, expert-led planning approaches**. Many implementations rely on predefined accessibility metrics and technical models, with limited participation from local communities. The absence of meaningful co-production can weaken both the legitimacy and effectiveness of interventions, as local knowledge and differentiated needs are insufficiently reflected in planning outcomes.

Debates also question the assumption that proximity alone delivers equitable access. Despite its normative ambition, the 15-minute city can reproduce **unequal accessibility**, particularly when structural barriers, such as inadequate public transport, income constraints, or

mobility impairments, limit real access for vulnerable groups.
Finally, critics point to the model's **overemphasis on proximity** as a simplifying lens that underplays the complexity of urban life. By prioritising local access to a limited set of amenities, the approach may neglect broader mobility needs, metropolitan-scale opportunities, and the interconnected nature of cities, risking an introverted view of urbanity rather than a relational and inclusive one.

Applications in Practice

Street reallocation and traffic calming to prioritise walking

Cities enhance local accessibility by reducing car dominance through pedestrianisation, traffic calming, and the transformation of street space into public and green areas, improving the safety and attractiveness of short walking trips (e.g. Barcelona, Paris, Pontevedra, Milan).

Expansion of cycling networks for short-distance everyday travel

Cycling infrastructure is deployed to extend neighbourhood accessibility beyond walking distance, enabling residents to reach daily services efficiently through connected, protected, and continuous bike networks (e.g. Paris, Portland, Hamburg, Oslo).

Embedding daily services within residential neighbourhoods

Land-use planning promotes mixed uses and decentralised service provision so that essential amenities—such as food, education, healthcare, and recreation—are reachable within a short travel time from home (e.g. Sydney, Eugene, Oslo, Melbourne).

Participatory planning and neighbourhood co-production

Accessibility interventions are developed through participatory processes, including local workshops, walkability audits, tactical urbanism, and pilot neighbourhoods, ensuring that proximity-based solutions reflect lived experience and local priorities (e.g. Melbourne, Paris, Edinburgh).

Monitoring accessibility through indicators and spatial metrics

Cities apply accessibility indices and service-coverage metrics to evaluate neighbourhood performance, identify underserved areas, and guide equitable investment decisions (e.g. Portland, Edinburgh, Ottawa).

Selected References & Key Readings

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➔ *Introduces the 15-minute city as a proximity-based urban model grounded in chrono-urbanism, linking accessibility to sustainability, resilience, and place identity, and framing the concept as a human-centred response to car dependency and post-pandemic urban challenges*

Büttner, B., Seisenberger, S., Baquero Larriva, M., Rivas de Gante, A., Ramírez, A., & Haxhija, S. (2022). *Urban Mobility Next 9 ±15-Minute City: Human-centred planning in action*. https://www.eiturbanmobility.eu/wp-content/uploads/2022/11/EIT-UrbanMobilityNext9_15-min-City_144dpi.pdf

- ➔ *Provides a practice-oriented synthesis of the 15-minute city concept, focusing on human-centred mobility planning, accessibility metrics, and real-world urban interventions, with comparative case studies illustrating how proximity-based strategies are operationalised across diverse city contexts*

Marquet, O., Anguelovski, I., Nello-Deakin, S., & Honey-Rosés, J. (2025). *Decoding the 15-Minute City Debate: Conspiracies, Backlash, and Dissent in Planning for Proximity*. Journal of the American Planning Association. https://www.tandfonline.com/doi/full/10.1080/01944363.2024.2346596

- ➔ *Examines the spectrum of critiques surrounding the 15-minute city, distinguishing unfounded opposition from empirically grounded concerns related to equity, participation, and environmental gentrification, and highlighting the implications of contested public discourse for planning legitimacy and policy implementation.*

Silva, C., Büttner, B., Seisenberger, S., & Rauli, A. (2023). *Proximity-centred accessibility—A conceptual debate involving experts and planning practitioners*. Journal of Urban Mobility. https://www.sciencedirect.com/science/article/pii/S266709172300016X

- ➔ *Develops a conceptual framework for proximity-centred accessibility by synthesising academic and practitioner perspectives, clarifying terminology, distance thresholds, relevant activities, and the relationship between proximity-based and mobility-centred approaches to accessibility*

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Data-driven planning

Role, limitations and biases of spatial analysis, urban analytics and data in spatial planning

Authors: Yannis Paraskevopoulos, Anastasia Christaki, Stefanos Tsigdinos, Ioannis Chatziioannou

Mainstream/Conventional Definition

Data-driven planning is conventionally defined as an approach within spatial, urban, and regional planning in which decisions about land use, infrastructure, environmental management, mobility systems, and urban development are substantially informed by the systematic collection, integration, analysis, visualization, modelling, and interpretation of spatial and other urban data. Under this dominant framing, data and analytics are not merely auxiliary tools; they constitute the epistemic backbone of planning processes, providing the empirical evidence required for rational, objective, and methodical decision-making across different sectors and scales.

In mainstream planning discourse, this approach centers on the use of GIS, remote sensing, spatial analysis, urban data science, big data, mobility data, IoT-generated datasets, and demographic or environmental statistics to map, represent, and diagnose urban phenomena in spatially explicit ways. These analytical outputs help planners assess problems, identify trends, forecast future developments, and understand cross-sectoral interactions—such as those between land use, transport, socio-economic conditions, and environmental risks. Through these integrative, data-intensive processes, data-driven planning is presented as a pathway toward more transparent, accountable, and evidence-based interventions, enabling scenario development, impact assessment, and iterative policy evaluation. Ultimately, mainstream definitions depict data-driven planning as a transition from discretionary or intuition-driven practice to a more systematic, analytical, and model-supported mode of urban governance.

Contested Meanings / Debates in the Literature

Debates around data-driven planning revolve around fundamental disagreements about what constitutes valid knowledge in planning, how cities are represented, and who gains or loses power through data infrastructures. While mainstream discourse celebrates data as objective, transparent, and scientifically robust, critical scholars argue that data are always socially constructed, politically situated, and entangled with power. These debates challenge the assumption that data-driven approaches simply "improve" planning; instead, they reveal how data reshape the epistemology, ontology, and governance of urban space.

A core debate concerns the **epistemological status of evidence**. In institutional narratives, data-driven planning is framed as a rational and objective foundation for decisions, with urban analytics enhancing accuracy and predictability. Critical scholarship, however, argues that data privilege what is measurable and suppress what is not, producing a technocratic understanding of the city that marginalizes lived experiences, informality, and qualitative knowledge. Scholars such as Kitchin, Xu, De Albuquerque and De Souza e Silva highlight how quantification introduces epistemic biases, narrowing what counts as legitimate urban knowledge and potentially excluding alternative or situated ways of knowing.

A second major line of critique concerns the **ontology of the city under datafication**. Mainstream practice treats cities as systems that can be represented, optimized, and

predicted through spatial datasets and computational models. Critical authors contest this view by arguing that the city is not merely represented by data but increasingly produced through data practices — what Duarte calls the "city as data." Everyday digital interactions (movement traces, purchases, photos) generate continuous data streams that reshape how urban space is perceived and governed. This ontological shift raises concerns about surveillance, commodification, and the reduction of urban life to extractable digital residues.

Another strong debate focuses on **technocratic rationality, algorithmic governance, and bias**. Proponents claim that algorithms bring objectivity, efficiency, and transparency to planning. Critical perspectives argue the opposite: algorithmic systems embed normative assumptions, encode social biases, and often operate opaquely, thereby undermining democratic deliberation. Planning risks becoming depoliticized — governed not by public dialogue but by predictive models and computational classifications. As Cheng, Bibri, Kitchin, and Xu note, predictive analytics can reproduce inequalities, formalize biased categories, and enact narrow visions of what a "well-functioning" city should be.

Debates also address **spatial data inequality and global disparities**, especially between the Global North and Global South. While open data and platforms like OpenStreetMap are framed as democratizing and universal, critical research shows that global datasets are highly uneven. Large portions of the Global South remain systematically under-mapped or misrepresented, thereby becoming invisible in data-driven analyses and decision-making. De Albuquerque and Herfort et al. demonstrate how data completeness biases create "spatial data injustice," reinforcing unequal geographies of knowledge and limiting the applicability of data-driven methods in marginalized or informal contexts.

Finally, there is a growing debate about **ethics, participation, and alternative futures of data use**. While participatory GIS and citizen-generated data are often celebrated as inclusive, critical scholars argue that these practices can reproduce existing power asymmetries unless governed collaboratively and reflexively. Concepts like "data gardening" (De Albuquerque) propose more emancipatory data practices rooted in co-production, ethics, and local autonomy. Similarly, calls for a "post-digital" turn — articulated by Xu, Duarte, and others — argue that data should be used not only to manage cities but also to imagine more democratic and just urban futures. This perspective reframes data-driven planning as a site of political struggle over whose knowledge, values, and imaginaries shape the urban realm.

Applications in Practice

- **Mobility and Transport Planning**: Big data from GPS, mobile phones, sensors, and public transport systems allow planners to model accessibility, analyze mobility flows, optimize public transport routes, and identify mobility inequities. European surveys indicate that GIS-based models support travel safety analyses, route planning, and transport management—though adoption remains uneven. Advanced analytics and machine learning are increasingly integrated into mobility planning.
- **Evidence-based Policy Making and Strategic Urban Policy Design**: Cross-sectoral spatial datasets are used to support strategic decisions on densification, infrastructure investment, service provision, and regional development. Data-driven

approaches help anchor planning choices in empirical analysis rather than intuition, with recent bibliometric evidence showing expanding institutional interest in "smart urban analytics" for long-term policy design.

- **Participatory Planning and Inclusion (Emerging Practice)**: Citizen-generated data (VGI), crowdsourced mapping, and participatory GIS offer new channels for community input and local knowledge. Although still developing, these practices aim to enhance transparency and foster co-production of planning knowledge. Recent literature on smart urban governance highlights growing interest in integrating participatory data within planning workflows.

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➔ *Provides a foundational, mainstream articulation of urban analytics as a computational and predictive toolkit for understanding cities, while explicitly acknowledging the lack of robust urban theory and warning against data-rich but conceptually thin planning practice*

Kitchin, R., Lauriault, T.P. and McArdle, G. (2015) "Smart cities and the politics of urban data," in *Smart Urbanism*. Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315730554-3/smart-cities-politics-urban-data-rob-kitchin-tracey-lauriault-gavin-mcardle

➔ *A seminal critical intervention showing how urban data, indicators, dashboards, and benchmarks are politically constructed, normatively charged, and constitutive of governance, challenging claims of objectivity in data-driven planning and smart urbanism*

De Albuquerque, J. (2025) "Cities out of data?," *International Journal of Urban and Regional Research*. Available at: https://doi.org/10.56949/2PSOE474.

➔ *Argues that urban analytics systematically reproduce inequality through first-, second-, and third-order data gaps, proposing participatory urban analytics and "data gardening" as a radical alternative to extractive, technocratic data practices.*

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➔ *Empirically demonstrates profound spatial inequalities in global open data, showing that large shares of the world's urban population remain under-mapped, thereby undermining claims of universality in data-driven planning approaches.*

Closelly Related Concepts

- Justice and the City: Spatial, Climate, and Mobility Justice
- Accessibility and the "15-minute city"

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Annotating key concepts of integrated spatial planning

Inclusive Planning

Authors: Nadia Charalambous, Mariam Shulqamy, Frixos Petrou, Rafaela Christodoulou

Mainstream/Conventional Definition

Inclusive planning refers to urban and spatial planning processes that actively seek to involve diverse stakeholders to ensure decisions reflect all perspectives, prioritizing equity and social justice while promoting accessibility and participation. It emphasizes cultural sensitivity, transparency, and accountability throughout the process. Collaboration and trust-building are central, empowering marginalized groups and fostering community ownership. Ultimately, it leads to more equitable and sustainable outcomes, embodying democratic principles by ensuring inclusivity in decision-making.

An approach to urban planning that seeks to include diverse voices and address the needs of all community members, particularly marginalized groups. Inclusive planning promotes social equity and justice in urban development, ensuring that all community members benefit from urban growth and improvements.

Contested Meanings / Debates in the Literature

While Inclusive Urban Planning is widely celebrated as a progressive and equitable model of urban development—emphasizing equitable access to resources, participatory processes, and environmental and social justice—its conceptual clarity and practical application have been the subject of considerable academic scrutiny. At its core, inclusive planning seeks to shape urban environments that are responsive to all residents, regardless of socioeconomic status, age, ethnicity, or ability, through active community engagement and collaborative decision-making. It has become a cornerstone in contemporary sustainability discourse, advocating for context-specific, culturally relevant, and socially just urban transformations.

However, scholars have noted that despite its normative appeal, inclusive planning often suffers from **conceptual vagueness and operational inconsistencies**, especially when appropriated within technocratic or institutional frameworks. Critics such as Susan Fainstein (2010) and Patsy Healey (1997) argue that inclusive rhetoric frequently masks superficial or tokenistic engagement, particularly when used to legitimize pre-defined planning agendas. This phenomenon—referred to in some critiques as "inclusion-washing"—raises concerns about the **depth of participation**, the **distribution of power**, and **the authenticity of deliberative processes**. In many cases, inclusion becomes procedural rather than transformative, failing to address the structural conditions that perpetuate spatial inequality.

Another significant debate concerns **who is included, and on what terms**. Inclusion is not neutral; it often privileges certain forms of knowledge and participation while excluding others. In postcolonial and feminist planning literature, scholars question whether current practices genuinely engage diverse epistemologies or simply broaden consultation to a narrowly defined "community." The stakes of how inclusive planning is defined and deployed vary significantly across geographic and political contexts. For example, in the **Global North**, inclusive planning is often framed within institutionalized participatory frameworks, where engagement is mediated through formalized channels such as public consultations or advisory boards. While these mechanisms aim to democratize planning, they are frequently critiqued for privileging **expert knowledge and middle-class voices**,

thereby marginalizing dissenting or non-conforming perspectives. In contrast, in the **Global South**, inclusive planning is entangled with legacies of colonialism, informality, and socio-spatial exclusion. Here, formal participation mechanisms may be ill-suited to local realities, and **grassroots or insurgent planning practices**— that call for restructuring planning institutions themselves, rather than adapting them to include "others" as articulated by Miraftab (2009) and Holston (2008)—offer alternative models that resist state authority and foreground the knowledge and agency of marginalized communities. This points to the need for deeper transformations in how planning is conceptualized, resisting technocratic or tokenistic forms of engagement.

The etymology of the term also reflects its evolving meaning. While "***inclusive***" derives from the Latin *includere* (meaning to enclose or contain), its contemporary connotation implies the opposite—to **open up, embrace, and incorporate diversity**. The notion of ***planning***—from the Old French *plan*, meaning a method or scheme worked out beforehand for the accomplishment of an objective—suggests a structured process, one that must now grapple with dynamic and contested urban realities. Thus, **"Inclusive Planning"** linguistically implies a structured approach to decision-making that actively seeks to incorporate a wide range of participants. As the term has evolved, it has become embedded in **sustainability frameworks**, where it is often invoked to justify compact, mixed-use, and equitable urban forms that reduce transportation needs and carbon emissions. Yet, the integration of inclusion into sustainability planning remains uneven and, at times, symbolic—raising critical questions about **who defines inclusion, who benefits, and whose knowledge counts**.

Ultimately, debates around inclusive planning underscore a broader tension between **normative aspirations and institutional realities**. While it remains a vital concept for achieving socially just and sustainable urban futures, its effectiveness depends on whether it can move beyond symbolic inclusion to support redistributive, epistemically diverse, and **politically transformative planning practices**.

Applications in Practice

Inclusive planning manifests in a range of practical applications across spatial scales, sectors, and geographies. At the **urban development level**, it is employed in the design of **affordable housing strategies** in high-cost cities, the implementation of **accessible public transport systems** for persons with disabilities, and the establishment of **community-based food systems**, such as gardens in underserved neighborhoods. These initiatives aim to redress spatial inequalities by embedding equity considerations into everyday planning practices. Inclusive planning is also operationalized through **participatory planning processes**, where residents are actively involved in shaping the outcomes of urban interventions—from neighborhood regeneration to mobility plans—ensuring that diverse voices are integrated into spatial decision-making.

In sustainability-oriented urban governance, inclusive planning has been central to **green infrastructure design**, where community consultations influence the siting and form of parks, greenways, and public spaces. In the realm of **natural resource management**, inclusive planning principles underpin **co-management practices** for forests, water systems, and protected areas, particularly in contexts where local ecological knowledge is vital to

conservation. At broader institutional levels, **national and regional climate action plans** are increasingly incorporating stakeholder engagement frameworks, reflecting a shift toward more inclusive and deliberative policymaking. Beyond the public sector, **corporate sustainability strategies** have adopted inclusive planning to involve employees, suppliers, and local communities in shaping ethical supply chains and responsible business practices. These examples collectively illustrate how inclusive planning functions as a **multi-scalar, cross-sectoral approach** that aligns procedural participation with the substantive goal of spatial justice.

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Haase D, Kabisch S, Haase A, et al. (2017) Greening cities – To be socially inclusive? About the alleged paradox of society and ecology in cities. Habitat International 64: 41–48.

Jaine A (2014) Integrated Urban Design & Planning for inclusive Public Space and City-Region connectivity and efficiency. UN-Habitat Thematic Issue Paper. Epub ahead of print 2014.

Elias, P. (2020). Inclusive City, Perspectives, Challenges, and Pathways. In: Leal Filho, W., Marisa Azul, A., Brandli, L., Gökçin Özuyar, P., Wall, T. (eds) Sustainable Cities and Communities. Encyclopedia of the UN Sustainable Development Goals. Springer, Cham. https://doi.org/10.1007/978-3-319-95717-3_32

Closely Related Concepts (if any)

- **Co-creation in Urban Planning**– Inclusive planning is fundamentally about who participates, how knowledge is produced, and whose voices count. Co-creation operationalizes inclusion through shared problem framing, joint knowledge production, and collaborative decision-making..
- **Justice and the City: Spatial, Climate, and Mobility Justice** – Inclusive planning is normatively anchored in justice claims—addressing structural inequalities, historical exclusion, and uneven exposure to risks and opportunities.

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Annotating key concepts of integrated spatial planning

Co-creation in urban planning

Authors: Nadia Charalambous, Mariam Shulqamy, Frixos Petrou, Rafaela Christodoulou

Mainstream/Conventional Definition

Co-creation in urban planning refers to a collaborative governance approach in which citizens, public institutions, and researchers collectively define urban problems and co-develop solutions. Rather than serving as a symbolic form of participation, co-creation increasingly emphasizes **innovation and shared decision-making as core principles of legitimacy** (Lund 2023). This is particularly evident in Urban Living Labs—such as CLEVER Cities and Sharing Cities – which operationalize **layered frameworks that align co-creative practices with strategic policy and planning mechanisms** (von Wirth et al. 2019). As Puerari and de Koning (2018) note, the effectiveness of such models often depends on the **quality of informal engagement** and the facilitative roles that enable **local knowledge to shape sustainable urban outcomes.**

Contested Meanings / Debates in the Literature

The concept of **co-creation in urban planning** has evolved into a widely discussed yet contested approach, subject to varied interpretations and critical examination. While it is often highlighted as a tool for democratic transformation that fosters inclusive urban governance, several scholars caution against its uncritical adoption. Lund (2023) argues that **co-creation risks transformed into a governance strategy** focused more on innovation outcomes than on meaningful participation, undermining concerns around fairness and political legitimacy. Likewise, Puerari and de Koning (2018) observe that **co-creation within Urban Living Labs (ULLs) can be shaped more by institutional priorities than by the needs of local communities**, casting doubt on the extent of actual power-sharing in such initiatives.

Debates also centre on the **spatial disparities in how co-creation is practiced**. In the Global North, **co-creation is frequently operationalized through structured, policy-backed initiatives** such as EU-funded ULLs (e.g., CLEVER Cities or Sharing Cities), whereas in the Global South it often **emerges from bottom-up initiatives** or in response to limited state capacity and infrastructural limitations. This contrast underscores the challenges of culturally and politically adapting co-creation models across contexts, and the potential for **"design imperialism"** – the imposition of Global North frameworks without sufficient localization to context-specific conditions. Cornwall and Gaventa (2001) stress that authentic co-creation must engage local power structures and embed itself within specific socio-political realities. Ultimately**, the legitimacy of co-creation depends not only on participatory techniques but on their contextual responsiveness and capacity to disrupt existing hierarchies.**

Finally, there is a growing debate about **ethics, participation, and alternative futures of data use**. While participatory GIS and citizen-generated data are often celebrated as inclusive, critical scholars argue that these practices can reproduce existing power asymmetries unless governed collaboratively and reflexively. Concepts like "data gardening" (De Albuquerque) propose more emancipatory data practices rooted in co-production, ethics, and local autonomy. Similarly, calls for a "post-digital" turn — articulated by Xu, Duarte, and others — argue that data should be used not only to manage cities but also to imagine more democratic and just urban futures. This perspective reframes data-driven planning as a site of political struggle over whose knowledge, values, and imaginaries shape the urban realm.

Applications in Practice

- **Urban Living Labs (ULLs)**
  Used across European cities (e.g., in the *CLEVER Cities*, *Sharing Cities*, and *SUNEX* projects) to test sustainability solutions through citizen co-design, implementation, and monitoring.
- **Participatory Masterplans**
  Local governments co-develop neighbourhood or city-level plans with residents and civil society groups, integrating lived experience into formal planning processes.
- **Nature-Based Solutions & Green Infrastructure**
  Citizens and planners co-create interventions such as urban gardens, green corridors, or stormwater systems that reflect local ecological knowledge.
- **Digital Platforms for Urban Engagement**
  Tools like participatory mapping apps and collaborative dashboards facilitate continuous citizen input in real-time planning (e.g., in Amsterdam and Milan).
- **Community-Led Urbanism (Global South)**
  Informal settlements or marginalized urban communities co-create housing, services, and infrastructure in partnership with NGOs or academic institutions—common in Latin America, India, and Sub-Saharan Africa.
- **Design Charrettes & Citizen Assemblies**
  Time-bound workshops and deliberative forums where planners, citizens, and stakeholders co-develop visions, strategies, or design interventions.

Selected References & Key Readings

Lund, Dorthe H. (2023). *Co-Creation in Urban Governance: From Inclusion to Innovation.*
→ Critically examines how co-creation reframes legitimacy in planning—shifting from participatory ideals to innovation-led governance models.

Puerari, Emma, and J. D. de Koning (2018). *Co-Creation Dynamics in Urban Living Labs.*
→ Analyzes the socio-organizational conditions and facilitator roles that shape co-creation outcomes in experimental planning contexts.

von Wirth, Timo, et al. (2019). *Governing Urban Sustainability Transitions: From Experimentation to Transformative Pathways.*
→ Provides a framework for embedding Urban Living Labs and co-creation practices into long-term governance and urban transformation.

Ermacora, Tomas, and Lucy Bullivant (2021). *Recoded City: Co-Creating Urban Futures.*
→ Showcases global case studies of participatory urbanism, emphasizing design-led co-creation in marginalized and grassroots settings.

Cornwall, Andrea, and John Gaventa (2001). *From Users and Choosers to Makers and Shapers.*
→ A foundational critique of participation discourse—argues for deeper power-sharing and contextual awareness in co-creation and planning.

Closelly Related Concepts

Participatory Planning

A broad approach to urban governance that seeks to involve citizens and stakeholders in the planning process. It typically includes consultations, public hearings, and community workshops. Unlike co-creation, it may not always ensure shared decision-making power or continuous engagement throughout all stages of a project.

Co-Design

A collaborative design process where planners, architects, or designers work directly with end users or community members to create solutions—often spatial or service-based. In urban planning, co-design is commonly used in the development of public spaces, parks, and infrastructure, emphasizing user experience and context-specific needs.

Co-Production

A governance and service delivery model in which public services are jointly produced by professionals and citizens. It emphasizes implementation and shared responsibility more than initial ideation. In urban contexts, it can include maintenance of public facilities, delivery of local services, or collaborative housing management.

Urban Living Labs (ULLs)

Real-world experimental environments that bring together governments, researchers, businesses, and citizens to test innovative urban solutions. ULLs are often policy-backed and structured, serving as platforms for piloting co-created interventions in areas like mobility, energy, or green infrastructure.

Deliberative Governance

A form of democratic engagement that emphasizes reasoned discussion and collective decision-making. It typically involves forums such as citizen assemblies or participatory budgeting, where diverse voices are heard and consensus is built. Deliberative governance supports co-creation by providing the procedural legitimacy for inclusive processes.

Social Innovation

Refers to novel, often grassroots, solutions to social problems that are more effective, efficient, or sustainable than existing approaches. Social innovation is frequently community-driven and context-specific, with co-creation acting as a core participatory mechanism that ensures responsiveness and scalability.

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Urban Health

Authors: Nadia Charalambous, Mariam Shulqamy, Frixos Petrou, Rafaela Christodoulou

Mainstream/Conventional Definition

Urban health is the health outcomes of urban populations, and the urban environments and conditions that influence them. Urban health considers the relationship between the built environment, social determinants, access to infrastructure and environmental exposures. Urban health can be addressed through public health strategies, planning regulations and environmental health assessments.

Contested Meanings / Debates in the Literature

Mainstream definitions of urban health tend to focus on epidemiological data, environmental risk factors and behavioral interventions. Certain scholars have argued that this focus potentially obscures deeper structural determinants such as poverty, racialized and gendered urban space, labour precarity and state disinvestment. The "healthy city" model, that has been widely adopted (e.g. by the WHO) has been criticized due to its co-optation into urban branding, green gentrification and techno-managerial solutions that neglect the needs of local inhabitants.

Furthermore, what constitutes a "healthy" urban environment is inevitably determined by cultural, ecological and political contexts. Informal settlements in the global South, for example, may not meet formal health standards, but they do demonstrate strong social cohesion and resilience. The concept of health itself is also increasingly understood not merely as an absence of disease, but as a relational and spatial condition that is co-produced via mobility, social interaction, access to public space and environmental justice.

Thus, the notion of urban health has been expanded in order to include climate-related vulnerabilities (e.g. heat islands, air quality), non-communicable diseases that have been linked to sedentary urban lifestyles and the psychosocial effects of inequality in the built environment. Feminist and decolonial critiques have called for more inclusive frameworks that highlight how lived experiences, practices of care and indigenous knowledge systems can play a role in urban health discourse.

Applications in Practice

Health Impact Assessments in Urban Projects

HIAs are used to evaluate how new developments (e.g. housing, transit) may affect public health. They help identify risks like pollution or poor walkability early in the planning process, ensuring healthier, more equitable outcomes.

Urban Resilience & Climate Plans Addressing Health Inequality

Many cities now integrate health into climate strategies by mapping risks like heat, pollution, and vulnerability. Measures such as green corridors or cooling zones aim to reduce health disparities worsened by climate change.

Spatial Tools (Space Syntax & GIS) to Analyze Health Access

Planners use tools to map walkability, green space access, or social isolation. These analyses help identify underserved areas and guide interventions that support active, connected, and inclusive urban living.

Healthy Cities & Cross-Sector Collaboration

Public health and urban planning teams work together under frameworks like WHO's Healthy Cities to design age-friendly, active, and inclusive environments that promote well-being and reduce long-term health risks.

Selected References & Key Readings

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Corburn, J. (2009). Toward the Healthy City: People, Places, and the Politics of Planning. MIT Press.

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➔ Demonstrates how meeting exposure guidelines (air pollution, noise, activity) in urban planning can prevent nearly 20% of premature mortality.

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➔ Evaluates combined effects of Superblocks, climate, air quality and mode shift on public health.

Turcu, C., Crane, M., Hutchinson, E., et al. (2021). "A Multi-Scalar Perspective on Health and Urban Housing: An Umbrella Review." Build Cities, 2(1):734–758.

➔ Synthesizes evidence across spatial scales, focusing on housing, green space, transport and mental health.

Closely Related Concepts

- **Healthy Cities** – WHO-led planning framework linking urban form and public health.
- **Environmental Justice** – Examines unequal exposure to environmental risks and access to health-supporting infrastructure.
- **Walkability / Active Mobility** – Planning concepts that directly impact public health.
- **Care Infrastructures** – Emerging concept linking urban design with collective well-being and support systems.

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Green digital skills

Authors: Nadia Charalambous, Mariam Shulqamy, Frixos Petrou, Rafaela Christodoulou

Mainstream/Conventional Definition

Green skills are the combination of knowledge, abilities, values and attitudes required in order to live in, develop and support a sustainable and resource efficient society. Digital skills refer to the ability to effectively use digital technologies, including basic information and communication technologies, data literacy and advanced competencies such as programming, AI and spatial data analysis. In the context of integrated spatial planning, both green and digital skills are vital in order to address climate challenges and to enable inclusive, evidence-based decision-making.

Contested Meanings / Debates in the Literature

EU policy initiatives have put great focus on the promotion of green and digital skills, including the European Green Deal and the Digital Decade. In these contexts, these skills are framed as essential to the proposed green and digital transitions. However, critics have highlighted that the terms are often used in overly technocratic manners, at the risk of sidelining their social and political dimensions. For example, "green skills" often refer to the narrow confines of competencies required for green jobs, leaving out broader civic and relational capacities such as environmental stewardship, intergenerational justice and participatory governance. In a similar manner, "digital skills" often focus on the upskilling of individuals rather than existing structural digital divides, data ethics or algorithmic governance which particularly impacts marginalized groups.

In a global context, these terms can carry different implications. In the global South, green and digital transitions often intersect with colonial legacy, extractivism and infrastructural inequalities. Critical scholars have argued for decolonizing both concepts, grounding them in local knowledge systems and innovation driven by the community instead of top-down technological transfers. There has also been a debate around the depoliticization of green and digital discourses, which carries the risk of reducing structural issues of inequality, labour and power down to individual skill differences.

Applications in Practice

EU-Funded Education & Training Programs

Green and digital skills are core to initiatives like Erasmus+ InPlaLabs, which support cross-disciplinary training in sustainable and data-informed spatial planning.

Urban Climate Strategies & Professional Development

Cities use these skillsets to train staff in green infrastructure, energy-efficient design, and nature-based solutions aligned with climate goals.

Participatory GIS & Open Planning Tools

Tools like participatory GIS and digital twins enable broader access to spatial data, fostering transparency and co-creation in planning processes.

Municipal Upskilling & Digital Inclusion Programs

Local governments run training and literacy programs to ensure diverse communities can

engage in digital planning platforms and civic tech.

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European Commission (2023). Digital Skills and Jobs Platform. digital-strategy.ec.europa.eu

➔ Strategic goals for digital skills development in Europe.

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➔ Articulates digital competencies required for modern urban planning and civic analytics.

Batty, M. (2021). "Planning education in the digital age." *Environment and Planning B: Urban Analytics and City Science*.

➔ Discusses the evolving skillsets—digital, quantitative, computational—that planners need today.

Urban Informatics editorial (2022). "The digital transformation of cities." *Urban Informatics*.

➔ Frames the intersection of digital skills and green planning within fields like AI, data analytics, and sustainability.

Selwyn, N. (2016). Is Technology Good for Education? Polity Press.

➔ Critique of digital skills narratives in educational and policy contexts.

Associated/Related Concepts (if any)

- **Just Transition** – Linking green skills to equity and labor justice.
- **Digital Divide** – Highlights unequal access to digital tools and literacy.
- **Climate Literacy** – Broader civic knowledge required for sustainable urban planning.
- **Participatory Digital Tools** – Technologies (e.g. GIS, open data) used in inclusive planning.