The 15-Minute City Is a Tree

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Abstract: This essay critiques the 15-Minute City (15MC) concept by leveraging the insights of Christopher Alexander, Jane Jacobs, and Alain Bertaud. While the 15MC is celebrated for its potential to enhance urban accessibility and sustainability, this analysis highlights its conceptual and practical flaws. Drawing from Alexander's distinction between "tree" and "semi-lattice" urban structures, it argues that the 15MC promotes an overly rigid, artificial city model that undermines the emergent, interconnected dynamism of living cities. Bertaud's data-driven critique underscores the impracticality of achieving such proximity-based urban living, particularly regarding employment, without imposing restrictive policies. Jacobs's principles further illustrate how the 15MC's emphasis on localized self-sufficiency risks stifling the diversity, mobility, and spontaneous interactions that generate urban vibrancy and innovation. The essay concludes that while aspects of the 15MC, such as walkability and mixed-use spaces, are beneficial, its broader vision is structurally anti-urban, impractical, and potentially detrimental to the essence of cities as complex, adaptive systems.

Keywords: 15-Minute City, Urban Planning, Christopher Alexander, Jane Jacobs, Alain Bertaud, Urban Accessibility, Semi-Lattice vs. Tree Structure

> "If we make cities which are trees, they will cut our life within to pieces"
> Christopher Alexander

I. INTRODUCTION

The latest buzzword among urbanists is the "15 Minute City." Indeed, the mayor of Paris Anne Hidalgo made the 15-Minute City the centerpiece of her successful re-election campaign in 2020, "sparking a global movement" (Gongadze and Maasen 2023). Like the New Urbanism of a few years back, academics and policy makers around the developed world tout it as today's key to environmental sustainability, community building, and positive social change (Moreno 2024, 2020).

At the same time this planning concept has drawn criticism from various quarters. For instance, Khavarian-Garmsir et al. (2023) argue that it embodies the kind of physical determinism that "sets goals without specifying how or by what means they will be achieved" especially in cities that "suffer from rigid land use planning and zoning regulations that are based on functional separation and have resulted in structural lock-in." Abbiasov et al. (2022) use GPS data on local-trip behavior and find evidence that, while

increased access to local amenities may cause more local usage, "15-minute cities may also exacerbate the social isolation of marginalized communities." Even the psychologist and conservative commentator Jordan B. Peterson has tweeted that the 15-Minute City would permit "tyrannical bureaucrats" to "decide by fiat where you're 'allowed' to drive."[1] While this essay reaches conclusions somewhat similar to these, it takes a different approach by pointing out serious conceptual and practical flaws at the core of the 15-Minute City.

The original inspiration for this essay comes from Christopher Alexander's classic article on urban design, "A City Is Not a Tree" (1965), but the insights of the distinguished urban planner Alain Bertaud (2018) and the legendary urbanist Jane Jacobs (1961) are also highly germane. Thus, it shows how Alexander's approach exposes a fundamental conceptual problem with the 15-Minute City, while drawing on Bertaud's empirical arguments against the 15-Minute City and its "urban village" approach, and on Jacobs's observation that regular interactions among strangers are essential to the life to a city, which is contrary to the very nature of the 15-Minute City. It is with some irony then that the leading proponents of the 15-Minute City cite both Alexander and Jacobs in support of their proposal (Moreno 2024; Moreno et al. 2021).

The gist of my critique is that 1) the ideal of the 15-Minute City fails to embody the creative dynamism of a living city (as understood by Alexander, Bertaud, and Jacobs), and 2) the more seriously public authorities embrace this ideal, as presented by its supporters, the more unworkable, and indeed anti-urban, their policies will become.

II. WHAT IS A "15-MINUTE CITY"?[2]

Carlos Moreno, the intellectual leader and principal spokesperson for the 15-Minute City movement, succinctly describes the concept in a TED Talk in 2020 as follows:[3]

> In a nutshell, the idea is that cities should be designed or redesigned so that within the distance of a 15-minute walk or bike ride people should be able to live the essence of what constitutes the urban experience: to access *work*, housing, food, health, education, culture, and leisure (Moreno 2020; emphasis added).

While the 15-Minute City (15MC) has some theoretical underpinnings, this brief description is its main selling point. And at first glance the 15MC appears delightful. Imagine almost never having to leave one's neighborhood for anything—shopping, healthcare, entertainment, education, and, most importantly, work. Long commutes would be a thing of the past!

The central idea of the 15MC is what its proponents term "accessibility" or "proximity" (Moreno 2024, p. 60). While related to the urban planner's concept of "mobility," they argue that accessibility and mobility are quite different. While mobility focuses on speed of movement around a city, accessibility is about maximizing land-use diversity within the smallest feasible urban footprint. It emphasizes walkability and bike-ability over faster modes of transport (e.g. cars and transit).

Accessibility is then related to "chrono-urbanism" (Moreno 2024, p. 157). Moreno, Zaheer Allam, Didier Chabaud, Catherine Gall, and Florent Pratlong articulate the following as principles of chrono-urbanism (Moreno et al. 2021):

1. Density: "…in planning for a city that is sustainable, it is supported that it is paramount to consider the *optimal number of people* that a given area can comfortably sustain in terms of urban service delivery and resource consumption" (Ibid., p. 102; emphasis added)
2. Proximity: "That is, within the 15-min quickly accessible radial nodes, residents in a given neighborhood can readily access basic services" (Ibid., p. 103).
3. Diversity: "Diversity in the context of the above frame and in the advancement of the 15-Minute City concept is twofold: (i) the need for mixed use neighborhoods which are primary in provid-

ing a healthy mix of residential, commercial and entertainment components and (ii) *diversity in culture and people*" (Ibid., p. 103; emphasis added).

4. Digitalization: Promoting "online shopping, cashless transactions and virtual communications and interactions amongst others" (Ibid., p. 104; references omitted).

To put these principles into practice, supporters of the 15MC advocate policies that would expand safe and convenient bike paths and pedestrian walkways, discourage the automobile, allow for the multiple use and reuse of spaces, and encourage the adoption of digital tools for urban planning and design (Moreno 2024). To be clear, most urbanists (including myself) would find most if not all of these particular ideas reasonable and well worth considering. Indeed, depending on how it is done, many 15MC-like proposals have already made urban life safer and more lively (though without using the slogan "the 15-minute city"). The problem arises with the insistence on the ideal of complete proximity of all major land uses for all urbanites. Moreno et al. (2021, p.103) state:

> On this, Moreno, advances that this dimension is critical as it allow [sic] residents to transition from residential areas, *work*, commercial areas, education centers, health facilities and other basic institutions in a reduced timespan (emphasis added).

In particular, note that here, as in Moreno's TED Talk and Moreno (2024), "work" is among the first items they insist should be accessible within a 15-minute walk or bicycle ride[4] from one's residence. In their description of chrono-urbanism I have also highlighted the emphasis on an "optimal number of people" in an area and the "diversity in culture and people," all of which will later become important parts of my critique.

Without the emphasis on complete proximity of uses within a 15-minute radius, the 15MC would be indistinguishable from things urbanists have been advocating for—walkability, sustainability, mixed uses, community building, et al.—for at least a generation. It is not surprising then that a growing number of urbanists see the 15MC as an achievable ideal and have embraced "the 15-minute city" with alacrity. But whether that ideal can or ought to be achieved in practice, and whether it is even a desirable goal from an urbanist's perspective, are questions I turn to next.

III. CHRISTOPHER ALEXANDER ON WHY IS A CITY NOT A "TREE"?

The celebrated architect and design theorist Alexander wrote his article, "A City Is Not a Tree," to contrast what he called "artificial" from "natural" cities. To his way of thinking, artificial cities are the result of modern top-down planning and design, while natural cities are the outcome of historical, emergent processes.[5]

> I want to call those cities which have arisen more or less spontaneously over many, many years natural cities. And I shall call those cities and parts of cities which have been deliberately created by designers and planners artificial cities. Siena, Liverpool, Kyoto, Manhattan are examples of natural cities. Levittown, Chandigarh, and the British New Towns are examples of artificial cities (Alexander 1965, p. 58).

What are the abstract ordering principles that underlie a "natural" city versus an "artificial" one? Alexander identifies these as a tree and a semi-lattice, respectively. As he explains, the nature of the tree in question "is not a green tree with leaves" but a tree of the mathematical or graphical variety, which he contrasts with that of a "semi-lattice."
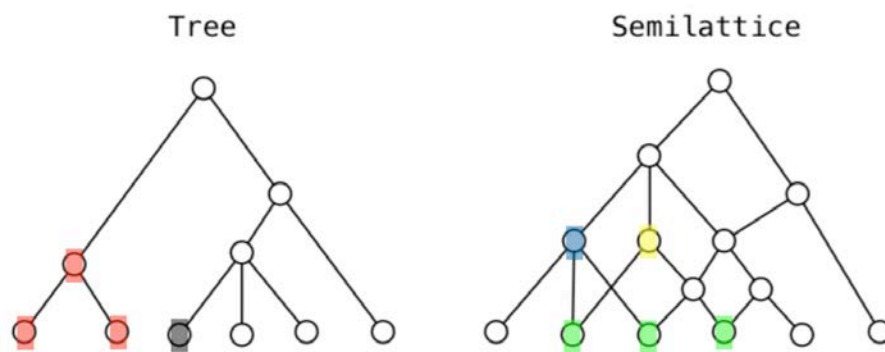
He defines a *tree* as follows:

A collection of sets forms a *tree* if and only if, for any two sets that belong to the collection, either one is wholly contained in the other, or else they are wholly disjoint (Alexander 1965, p. 59).

He defines a *semi-lattice* as follows:

A collection of sets forms a semi-lattice if and only if, when two overlapping sets belong to the collection, then the set of elements common to both also belongs to the collection (Ibid.).

Here are graphical illustrations of each concept.

(Parrochia 2017, highlights added)

In a tree, a set cannot contain nodes from another set so that, for example, the set consisting of the three red nodes does not contain the black node. An orange cannot hang from more than one branch of a tree. A red node can indirectly connect with the black node by passing through the apex or "root" node of the tree, but there is only a single path through which it can do so. In a semi-lattice, however, a given node, such as any of the three green nodes, may interact more directly with other nodes (such as the blue or yellow nodes) because they are elements in more than one set, which together constitute a larger set. Also, a node may have more than one root or "parent," so that for each of the green nodes there are multiple pathways to many of the other nodes in the collection.

How is this significant for understanding cities?

If we use these images to illustrate neighborhoods in a city, then in a tree-structure someone in one neighborhood may not directly or easily interact with anyone outside of that neighborhood's local "branch." There are no direct paths to anyone else outside one's immediate locality and the number of indirect paths is limited and time-consuming to use.[6] In a semi-lattice, there are multiple pathways that more easily connect one with others outside a particular locality. To use a term from network theory, the "degrees of separation" between any two nodes in the total collection of nodes tends on average to be significantly lower in a semi-lattice compared to a tree.

Each node might also represent a different land use such as a residential, commercial, or industrial use; or a given node might represent a neighborhood consisting of a collection of households, the school their children attend, the store where they shop for groceries, and an office building where they work. That is, each node may itself contain a social order with a semi-lattice structure but "hang" within a city that has the overall structure of a tree. In a tree, then, we are confined to the land uses in our particular neighbor-

hood. On the other hand, in a city with a semi-lattice structure, connections are more likely to emerge, from the choices its inhabitants have made rather than to have been imposed, that connect them with land uses outside their neighborhoods. Movement is far freer in a semi-lattice than in a tree, with correspondingly more opportunities to easily make multiple connections with diverse persons or land uses elsewhere. Those connections can then form more complex networks, which can change as members choose to make or break connections.
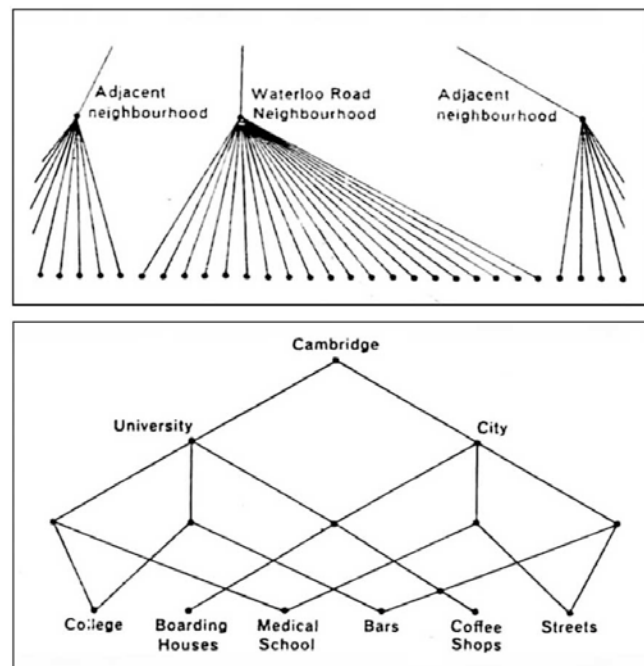
> It is not merely the overlap which makes the distinction between the two [tree and semi-lattice] important. Still more important is the fact that the semilattice is potentially a much more complex and subtle structure than a tree (Alexander 1965, p. 59).

Again, this complex connectivity enhances the possibility of discovering new complementarities among persons and land uses. Alexander explains that "When the elements of a set belong together because they cooperate or work together somehow, we call the set of elements a system" (Alexander 1965, p. 58). That is, a set becomes a *system* when the nodes, whether people or uses or something else, operate in an interdependent, complementary manner. Thus, a dynamic and complex city system emerges when people can mingle freely and interact in a variety of ways, as Alexander says, "spontaneously" (Ibid.).

In real life, a social organization based on a tree-structure cannot retain that structure if its members are free to choose where to move or what connections to make (Burt 1995). To remain a tree, the organization must be rigidly maintained, like a marching band in a parade.

A neighborhood contributes to the life of a city to the extent that its residents can and do interact with others throughout the city as a whole and not merely with those in their localities. (Note that a city can also interact with other city-systems to form a complex regional or even global system.) In other words, in a "natural city" each element acts as a sort of "vital organ" (e.g. heart, lungs, brain, hands) that, to function properly, must complement and be effectively integrated with one another for the whole to constitute a complex, living system. Artificially segregate those elements and the city fails as a system (and the organism dies).[7]

Compare the following two diagrams, derived from Alexander's article:

(Steuteville 2017)

The upper diagram illustrates a tree structure in which the people or land-uses in one set (e.g. Waterloo Road Neighborhood, et al.) find it difficult to interact with any other. They are designed to be self-contained neighborhoods rather than to operate together as a system. The lower diagram illustrates the ways diverse elements can interact within and across two sub-systems, i.e. university and city, within the collection of the two sets that constitutes Cambridge. The city system is a semi-lattice that emerges "naturally," without having to be deliberately planned.

Why do planners gravitate toward tree structures? And is there a danger from planners trying to build a new city based on a tree structure or impose a tree structure on an already existing city? According to Alexander:

> For the human mind, the tree is the easiest vehicle for complex thought. But the city is not, cannot, and must not be a tree. The city is a receptacle for life. If the receptacle severs the overlap of the strands of life within it, because it is a tree, it will be like a bowl full of razor blades on edge, ready to cut up whatever is entrusted to it. In such a receptacle life will be cut to pieces. If we make cities which are trees, they will cut our life within to pieces (Alexander 1965, p. 61).

Although this insight is somewhat outside the purview of this essay, it is interesting to note that Alexander attributes the tendency to use tree structures to what we might interpret as the cognitive limitations of the planner's mind. Designing complex systems such as Alexander's natural city, which is the result of the spontaneous interactions of many minds, may be beyond the capacity of any planner (Hayek 1967). I would add that this proclivity toward tree-like structures may be more pronounced the more ambitious the visions of the planner. Witness the tree-like models of Le Corbusier and CIAM (i.e. *Congrès Internationaux d'Architecture Moderne*, or International Congresses of Modern Architecture) or the current attempt to create a 100-mile-long city (i.e. "The Line") by the crown prince of Saudi Arabia.[8]

To some extent one can plan a system as a semi-lattice, as some post-modern designers have attempted to do. But in more complex social systems the semi-lattice structure happens spontaneously, or in Alexander's terms "naturally," within a limited number of designed elements.[9] Thus, for a designed system to retain its semi-lattice features requires an openness and ease of adjustment in the structure and in the order that emerges within it. Flexibility of this kind appears to be at odds with planners and designers throughout history who have attempted to construct cities (or entire economies), e.g. Le Corbusier. I will argue that this is regrettably also essentially true of the 15MC visionaries.
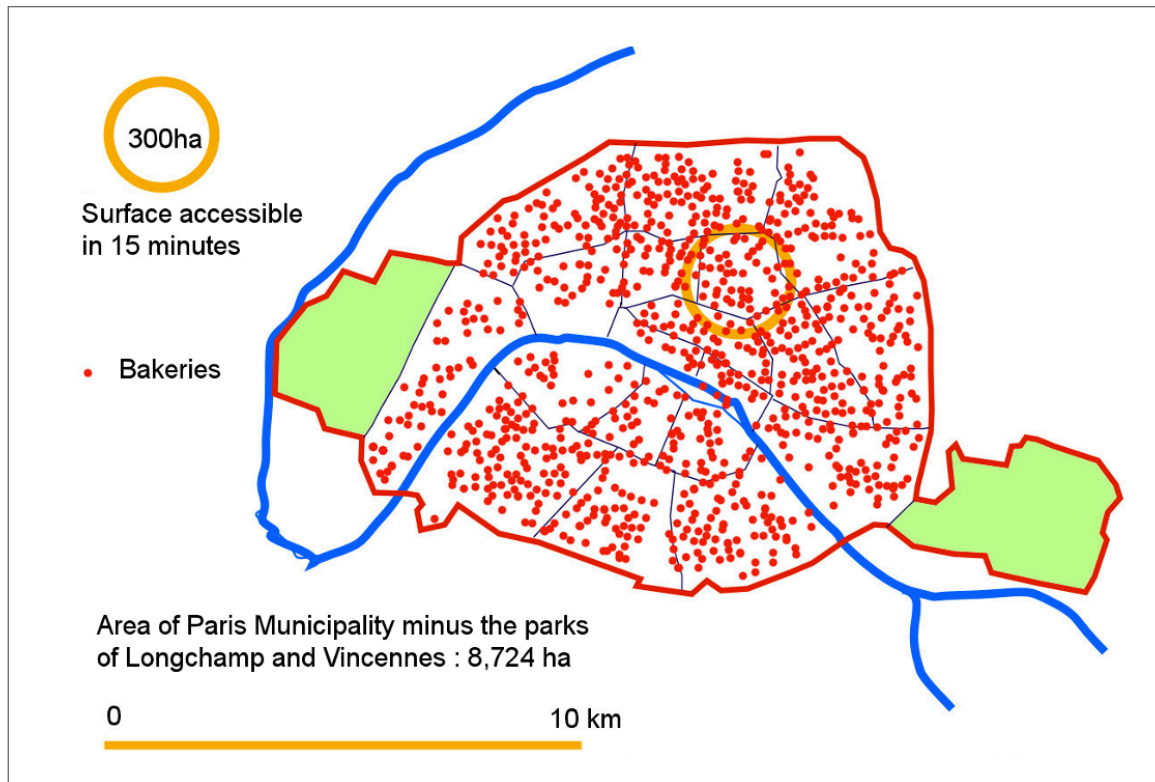
Before applying Alexander's framework more directly to critique the 15MC, we first turn to Bertaud's empirically based discussion of the practical problems that would arise from implementing the policies of the 15MC and then to Jacobs's analysis of the factors that give life to real cities and how these are fundamentally at odds with the ideal of the 15MC.

IV. ALAIN BERTAUD ON HOW MARKETS ALREADY APPROXIMATE THE 15MC

Alain Bertaud's empirical critique of the 15MC complements the conceptual one take here. In a recent article, Bertaud challenges the premises of the 15MC by looking the data from Moreno's and Mayor Anne Hidalgo's own city of Paris (Bertaud 2022). Bertaud finds that, without design by the municipal government, Paris already offers its inhabitants a great deal of what Moreno and Hidalgo claim must be mandated. As we will see, however, there is one important exception to this pattern—commuting to work—which throws a wrench into the entire 15MC project.

Moreno argues that it is necessary for Paris "to undertake the extensive urban regeneration exercise that this kind of planning model demands" (Moreno et al. 2021). To contradict this assertion, Bertaud focuses first on data collected on the number of food shops and boulangeries (food being so central in Parisian culture) accessible within a 15-minute walk in central Paris and, second, on data on the distribution of primary and secondary schools among Parisian districts. He assumes people walk at an average

rate of 4.5 kilometers per hour along Parisian sidewalks so that in 15 minutes they can cover 1,125 meters, which describes a circle with an area of roughly 398 hectares (983 acres) of potential action space. Given the irregular pattern of Parisian streets this area reduces practically to about 300 hectares (741 acres), which Bertaud (2022) then superimposes on a map of municipal Paris, as follows:

Source: APUR (www.apur.org/dataviz/BDCOM_evolution/index1.html)

In this way, he points out that there is already an abundance of boulangeries (indicated by the red dots in the figure), which are an essential land use for Parisians, within an easy walk from almost any residence in municipal Paris, without the necessity of extensive re-designing or rebuilding. Instead, when space can be privately bought and sold, demand and supply in the markets for land and labor are largely responsible for their location. Food provision falls into that category. Bertaud concludes:
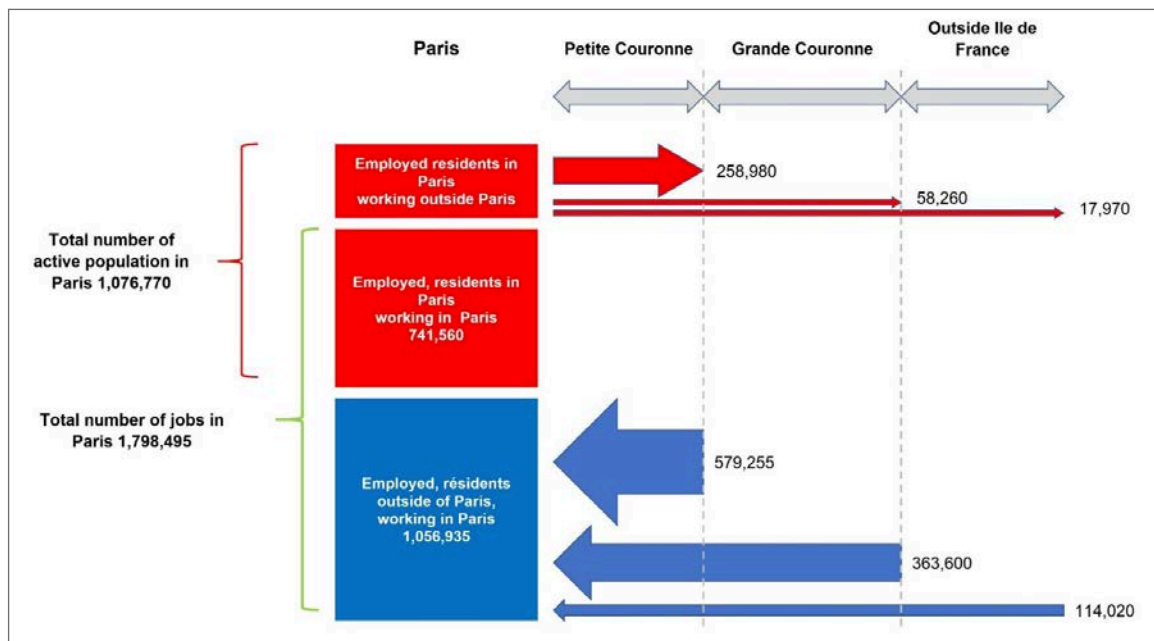
> APUR's (Atelier Parisien d'Urbanisme) studies of Parisian businesses confirm that within a 15-minute walk polygon, there is an average of 59 bakeries and 197 food shops…. The APUR database also includes a map of restaurants in Paris. The density of restaurants allows walking access to a wide range of establishments. Therefore, it is not essential to "redesign" the city of Paris and "create a Big Bang of proximity" to ensure access to food in less than 15 minutes on foot. Professor Moreno would like to invent a new type of urbanism "where people can really meet and walk to the bakery"? Well, good news, this city already exists, it is Paris (Bertaud 2022, p.9)!

Moving to another example, the location of public kindergartens and primary schools in Paris is determined by the Ministry of Education and not by the market alone. However, Bertaud uses the same method, based on APUR data,[10] to show that the Ministry has done a reasonably good job of placing schools where the demographic data indicate they are needed. He finds that

in all the districts of Paris, kindergartens and primary schools are still broadly accessible within a 15-minute walk from any point in the municipality. In addition, a significant number of students also attend private schools. […] Therefore, there is no need to "redesign" the city to ensure less than a 15-minute walk to schools! Instead, a competent body of public servants provides an optimum compromise between their accessibility and their educational viability when the neighborhood's demographics change (Bertaud 2022, p. 10).

Education authorities, the Paris rectorate, close or open schools where they are needed, according to patterns revealed in enrollment data, and this has been the case likely long before the Mayor had heard of the 15MC.

But it is quite a different matter when it comes to places of work, which are typically well outside of a 15-minute commute. According to commuting data Bertaud collected from the APUR on the Ile de France, it is not a lack of jobs in general that induces Parisians to leave their neighborhoods, there are in fact more jobs than working Parisians, but the economic incentive to match one's human capital to the best job for oneself. As Christopher Alexander observes, "as in any great city, almost no one manages to find work which suits him near his home" (Alexander 1965, p. 59). Thus, "30% of Parisians work outside the Paris municipality" (Bertaud 2022), a result no doubt disappointing to 15MC visionaries, but a very common urban phenomenon. This is illustrated for Paris in the following diagram, also taken from Bertaud (2022):

Source: APUR, INSEE Recensement 2015

As in any other great city, in Paris a substantial number of residents commute to jobs outside the municipality. As noted, in 2015 that was about 30% of the active population, with most of the jobs within Paris occupied by workers who commute into the municipality. Only around 40% of the jobs in Paris were filled by people who actually live in Paris. So, simply by forbidding non-residents from taking jobs in Paris, there would be appear to be more than enough jobs to employ the entire working population of the city. Of course, not only would this greatly upset most workers, many of those municipal jobs would likely disappear, as employers find it too costly or not practically possible to hire employees with the specific skills they need to run a business.

Why not simply choose to live near where we work or to work near where we live, as Moreno et al. assume we would or should? Again, it is mostly about matching our human capital with what we personally view as the most valuable job, but also about taking into account other margins of choice that are important to us.

> The home's location is also the object of an optimal trade-off between the various employment locations of possibly several active household members, the quality of schools, the residential environment, the housing price, etc. Each household decides on an optimal compromise. There is no average trade-off that is common to all households (Bertaud 2022).

That optimum is likely to change at any time as circumstances change. This is a complex problem that urbanites must solve constantly, using the resources and resourcefulness at their disposal. But better solutions tend to be possible as more connections emerge across the city as a whole, semi-lattice style. Ideally then, urban planners should endeavor to facilitate these tradeoffs for city dwellers, mainly through promoting mobility and housing affordability, and by monitoring and adjusting to changes in their behavior. Bertaud whimsically suggests that the job of urban planners and mayors should be like that of a "janitor." That is, they should be diligent custodians of the city by enabling people to make their own choices among these tradeoffs as efficiently as possible (and cleaning up afterwards). In the case of urban mobility, which is most relevant to the aims of the 15MC, Bertaud recommends that

> The policy of the mayor and the urban planner must therefore be to try to shorten travel times by improving the speed of transport and not to substitute for citizens to decide where they should live and work to shorten their trip length (Bertaud 2022).

Bertaud captures his general approach to urban planning in the title of in one of the chapters of his book *Order Without Design*, when he says that "Mayors and Urban Planners Should Be Enablers and Facilitators, Not the Creators or Shapers of Cities" (Bertaud 2018, p. 349). For Bertaud, an urban planner can never create the life of a city, but is like a doctor who promotes the health of a city. As Alexander would put it, a healthy city is one that is natural, not artificial.

V. JACOBS ON WHY A 15-MINUTE CITY CANNOT BE A GREAT CITY

In her highly influential book of 1961 *The Death and Life of Great American Cities*, Jane Jacobs writes about what conditions, which largely arise naturally, promote cities of innovation, or what she terms "great cities." She first outlines four factors that tend to encourage large numbers of people to occupy the public spaces of a neighborhood throughout the day, and explains how this provides a basic and indispensable foundation of safety that generates liveliness in a neighborhood. The interaction of many such neighborhoods, in turn, fosters urban innovation. The following are the four factors, derived from Jacobs (1961, pp. 152-221):

- **Short Blocks.** This is shorthand for a design of city streets such that the intervals between blocks are comfortable to walk and the land uses within each block are allowed to be numerous and varied. This creates a matrix for a fine-grained use of space, multiple pathways for people to travel from one destination to another, and an intricate streetscape. All this depends, however, on a synergy among all four factors.
- **A High Concentration of People.** The average population density in neighborhoods throughout the city needs to be high enough to furnish the people who will be using a neighborhood's public spaces throughout the day. The number of residents in a single neighborhood is alone insufficient to supply what Jacobs calls the "eyes on the street" that provide the informal moni-

toring of many strangers for safety, to work in the neighborhood's various occupations, and to buy what local businesses are selling.

- **Mixture of Old and New Buildings.** A neighborhood in which all or most of the buildings are old and run down indicates that it is in decline; a neighborhood in which all or most of the buildings are brand new, indicates that it is expensive to live and work in. To enable the sort of economic and cultural diversity characteristic of lively, creative neighborhoods, some spaces need to be cheap enough for relatively young and poor entrepreneurs to afford space at reasonable rates, to help offset the risks of experimentation. Cities tend to produce such spaces naturally, as structures age and become worn down. This allows a variety of uses—including residential, commercial, and industrial—across different levels of income to operate in that neighborhood. Such diversity of land uses multiplies the potential complementarities that may be discovered there and across different city neighborhoods, and increases the chances for a dynamic and complex urban system to emerge.
- **Multiple Attractors.** An additional factor is needed to enable a systemic relation to spontaneously emerge in a neighborhood. That factor is the existence more than one "primary use," i.e. a diversity of land uses. *By primary use Jacobs means a land use that will bring outsiders into a neighborhood, from other neighborhoods within or even outside the city*. We can think of these attractors as the familiar trio of residential, commercial, and industrial uses, as well as variations within each of these categories (e.g. single- and multi-unit dwellings), but entertainment, governmental, and educational uses are also important attractors. These attractors[11] are what constitute the granularity of land uses that give people a reason to venture outside their own neighborhoods and districts.

The interaction of these four factors complete the neighborhood as a system, in Alexander's sense. Multiple attractors provide a reason to visit or stay in different urban locations at different times. High population densities provide the people to occupy public spaces during those times and lay the foundation for safety. Short blocks and street intricacy create opportunities and incentives for them to explore and perhaps make profitable discoveries once there. And some old, worn-down buildings provide affordable spaces for experimentation and innovation, cultural and commercial, to take place.

Jacobs points out that when there is effective interaction among these factors, another unplanned consequence will be more encounters with strangers, because a great many outsiders will be flowing into and out of any given neighborhood. This contributes to the diversity of knowledge, backgrounds, and tastes of the people there, i.e. the very "diversity in culture and people" sought by proponents of the 15MC. A semi-lattice structure fosters the regular circulation of people throughout a city that constitutes the systemic interaction among its various neighborhoods, while an imposed tree structure inhibits it. The willingness and ability to move freely among the various action spaces of a city presupposes a tolerance of strangers, and at the same time safe and regular contact among strangers can reinforce that tolerance. Consequently, an urban populace that seldom leaves its neighborhoods tends to be dangerously sectarian and less likely to generate the attitudes and activities that characterize a living city for Jacobs (and presumably for 15MCers, too). Urban policies that systematically fail to appreciate the importance of this relationship between mobility and diversity imperils the life of a city.

When a city is merely a collection of self-sufficient neighborhoods, the residents of those neighborhoods naturally tend to behave like villagers. The regular and close contact among villagers creates strong ties that help them get to know one another far more than is typically the case in a great city. This may be a level of intimacy that some people cherish. But the price of such intimacy is a lack of privacy. As Jacobs points out,

In small settlements everyone knows your affairs. In the city everyone does not—only those you choose to tell will know much about you. This is one of the attributes of cities that is precious to most city people…. Indeed, many people leave their small towns and villages to live in a city because they want to escape such intimacy (Jacobs 1961, p. 58).

The downside of cosmopolitan life may be fewer close connections; the upside of urban anonymity is privacy and the ability to start afresh. Experimentation in a great city is not limited to culture, science, or technology. What a great city also offers is a greater opportunity to experiment on and to change oneself. That is a big reason many people move to a city.

In summary, many of Jacobs's concepts appear to support the vision of the 15MC, especially her emphasis on human-scale public spaces, diversity, density, and dynamism of urban life. Indeed, Moreno dedicates his recent book (Moreno 2024) to Jacobs, I will argue that what distinguishes the 15MC from the popular urbanism of the past generation is precisely what contradicts Jacobs's fundamental vision of the living city.

VI. DISCUSSION: ALEXANDER, BERTAUD, AND JACOBS ON THE 15-MINUTE CITY

In this section, I will use Alexander's argument to frame Bertaud's and Jacobs's critiques.

VI.1 Bertaud's Critique of the "Urban Village"

As Moreno et al. describe the 15MC, it appears to be a variant of the "urban village."[12] Bertaud explains the urban-village model in his *Order Without Design* as follows:

[J]obs are concentrated in many small clusters. In this model, there are many centers, but commuters travel only to the center that is closest to their residence. The trips toward each job cluster follow radial routes centered on each cluster and behave as if each cluster were an isolated, monocentric city. According to this model, a large city can be made up of many self-sufficient, small monocentric cities (Bertaud 2018, p. 40).

Similarly, for Moreno, a 15MC would ideally be an aggregation of 15-minute villages, each forming a system of its own within its borders. (I say "borders" because it is hard to see how a 15MC policy could endure without public policy creating conditions to contain it. More on that later.) But in this case the city as a whole would not constitute a true system, since the 15MC is explicitly designed to minimize interaction among the inhabitants from different locations in the city. As noted in Section III, while each locality might constitute a node of activity unto itself, the structure of the entire city is that of a tree, with each neighborhood a kind of semi-lattice that hangs from its own autonomous branch. For Alexander the 15MC as a whole would be an artificial tree, with all its limitations.

For the 15MC, the clustering of land uses has to be by design. But Bertaud has shown that much of this outcome has been already achieved in Paris (and likely many other major cities such as New York and Tokyo) without the municipality having had to impose it. Again, the important exception is job location, which for Bertaud is critical since he views cities as primarily labor markets (Bertaud 2018, p. 19).

The assumption behind this [urban village] model is either that urban planners would be able to perfectly match work places and residences, or that workers and employers would spontaneously organize themselves into the appropriate clusters. […] This model does not exist in the real world, because it contradicts the economic justification of large cities: the efficiency of large labor markets. Employers do not select their employees based on their places of residence; neither do

specialized workers select their jobs based on proximity from their residences (Bertaud 2018, p. 40).

On the demand side of the labor market, while there may be many people in one's neighborhood qualified to be competent waiters, cashiers, or dog walkers, finding qualified chefs, finance professors, or orthopedic surgeons will typically be much harder. On the supply side of the labor market, some chefs, professors, and surgeons residing in one's neighborhood might not object to becoming waiters, cashiers, or dog walkers, but many probably would, nor would we blame them for objecting. Nor will there be enough demand in a single neighborhood to sustain a professional string quartet or perhaps even a skilled carpenter. A museum curator would probably find the 15MC a challenging place to live in. And if the wishes of those who yearn for a return of large-scale manufacturing are fulfilled, it is hard to see how blue-collar workers would be able to enjoy the benefits of the 15MC.

VI.2 Jacobs's Critique of the 15MC's Anti-Mobility

In his TED Talk, Carlos Moreno states that "urban life is vibrant and creative" and that "cities are places of economic dynamism and innovation." But what makes a city vibrant and well-suited for the kinds of experiment necessary for innovation—which is for Jacobs the defining characteristic of a successful city— is the mingling of strangers who are not confined to their localities. To try to make a city more vibrant and creative by discouraging the long-range mobility of its residents throughout is thus self-defeating.

For Jacobs, attracting outsiders to a given city neighborhood is essential for creating safe streets with the right mix of diversity in land-use and human capital to generate what she calls "effective economic pools of use" (Jacobs 1961, p. 151). These are diverse local collections of uses and human capital that offer, semi-lattice style, a wide range of potential complementarities that resourceful individuals could assemble into innovative and valuable combinations, whether in commerce, arts, sciences, or whatnot. But it is the nature of these kinds of attractors in Neighborhood A that residents of Neighborhoods X, Y, and Z should find it easy to venture regularly into it (because otherwise they would not constitute attractors) and, likewise, residents of Neighborhood A should find it easy to venture regularly into Neighborhoods X, Y, and Z as they see fit. This is how Alexander's semi-lattices form in real life: through mobility and free choice, not top-down design and quasi-autarky. In this way, the 15MC goes against the very nature of a living city, which according to Jacobs entails encountering strangers and discovering novel complementarities across the "nodes" of a city. In this sense, seeking the "optimal number of people" in a neighborhood to make urban life vibrant and innovative, in the way 15MCers advocate, is pointless.

Finally, and most importantly, note that while Jacobs argues for multiple primary uses in a neighborhood, she does not propose, à la Moreno et al., that the ideal neighborhood should contain every amenity that its residents could want, like an urban village. In addition to Bertaud's objections, for Jacobs that would discourage the kind of inter-neighborhood cross-fertilization that fosters the unpredictable innovations essential to a living city. Thus, citing Jacobs (or Alexander) in support of the 15MC ideal, as the 15MCers do, displays a profound misunderstanding of the mobility-based dynamic urbanism Jacobs argues is the essence of a great city.

VI.3 Practical and Moral Problems of Implementation

The problem is that Moreno et al. and Mayor Hidalgo appear not to realize or to care that not everyone wants to have the kind of lifestyle they find ideal *at any cost*, although, as Bertaud's Parisian data indicate, those who do want it have managed to achieve something close to it without the authorities having to mandate it via a "big bang." Many others, however, are evidently willing to tradeoff a longer commute (or smaller dwellings) for a lifestyle that is on the whole more satisfying for them, which a rigorous 15MC pro-

gram would seriously impede. Advocates of the 15MC should be aware of its fundamentally paternalistic character and its negative consequences.

Specifically, how would one operationalize their ideal 15MC? Can the authorities allow inhabitants to choose freely where to live and work, or would they need to find ways to effectively confine city dwellers to specific areas? And here I think it is appropriate to introduce some normative considerations.

Conceptually, to allow free choice of residence while at the same time fully achieving the 15MC ideal would require any neighborhood (in which everything is reachable within a 15-minute radius) in the city to be a perfect substitute for any another. That is, neighborhoods would have to be similar enough to make urbanites indifferent about where they would choose to reside. Otherwise, some might be tempted to travel regularly to jobs, friends, schools, doctors, theaters, stores, or restaurants beyond a 15-minute radius. But that would require stringent controls that force every kind of land use to locate in each and every neighborhood, so that taking your dog to the vet, dining on Korean gimbap, or studying architecture would mean never having to walk more than a few blocks from home.

In practice, such enormous multiplication of land uses would impose burdensome costs on everyone and could never practically be implemented. Under such a mandate, keeping costs down would entail limiting the diversity of establishments within each land-use category, such as "restaurant," to a narrow range of choices, probably something closer to a diner or fast-food joint. So that in every neighborhood instead of *haute cuisine* from a Jean-Georges you would get, if you were lucky, a Paris Baguette franchise or, more likely, a McDonalds. (This sometimes happens spontaneously according to local demand, to the dismay of some sophisticated urbanists!) The same would have to be true of "entertainment," "housing," and indeed "jobs." Unfortunately, that would mean, for example, if we seek work that best fits our skills and ambitions (e.g. teacher, plumber, journalist), with the optimal combination of salary, work environment, benefits, etc.—in a location with acceptable "necessaries, conveniences, and amusements"—we would be out of luck, because job categories would also need to be as homogeneous as possible. In practice, making a diverse population indifferent about where they choose to live would mean more cookie-cutter neighborhoods; in effect, it would mean the end of neighborhoods as we know them. Think, factory town in the USSR or a village in an undeveloped country. Would everyone find that worth a 15-minute commute?

On the other hand, if municipal authorities allow for more specialized land uses to locate across the city—so that a range of jobs, schools, housing, medical care, theaters, and stores of different qualities might be found dispersed across different neighborhoods—then achieving the objective of "everything within a 15-minute walk" would entail somehow discouraging us from leaving our neighborhoods, even if there is a better school or doctor for our children on the other side of town. To achieve the "ideal" of the 15MC, it would be especially important to confine our choice of jobs and residence to a single location. Exceptions to regularly travel outside (for work, family, etc.) would be a privilege and so restricted, or else it would risk undermining the tree structure and raison d'etre of the 15MC.

To my knowledge no one in the developed world has advocated either of these highly illiberal approaches to achieving the ideal 15MC. A literal 15MC would be unachievable in practice and, outside of places like North Korea, undesirable in principle. Structurally, each represents a different variety of Alexandrian tree. The uniform-neighborhoods scenario allows for free mobility by removing any incentive to be mobile. It is thus a tree in which each node itself has semi-lattice features and may potentially connect with other nodes but, since all nodes are identical, few would care to make those connections. The second scenario, in which movement among neighborhoods would have to be somehow restricted, is a more conventional tree.

From a Jacobsian viewpoint, the first is contrary to the principle of land-use diversity, while the second is contrary to her belief in free mobility. Evidently, Moreno et al. in particular do not take seriously Alexander's distinction between artificial and spontaneous cities or the insight à la Bertaud that a livable social order can emerge via land and labor markets operating in cities without having to be designed by anyone. Instead, they appear to blame "unfettered" markets for the problems they seek to address, without considering that these problems may themselves be the direct consequences of prior policy interventions

by public authorities and urban planners. That is, one can appreciate that many modern cities are too auto-oriented, too polluted and unsustainable, and in many respects inhumanly designed, without attributing all these defects to market forces, alone. Rather, following Jacobs (1961), they are likely the unintended consequences of planning interventions, e.g. functional zoning (Gray 2023), intended to improve city life, at least as those in authority see it, informed by the latest fads in planning, whether Le Corbusier's "ville radieuse," Robert Moses' "urban renewal," or now Moreno's "15-minute city."

That many of the problems they disdain are the result of prior urban policies imposed by political authorities does not appear to make them question whether that authority can effectively solve those problems through command. Moreno et al. instead assume, like so many urban designers, that the only effective way to respond to the "genuine needs" of a city's inhabitants (Moreno 2020)—as if they know just what those needs are—is to intervene further "to undertake the extensive urban regeneration exercise that this kind of planning model demands" (Moreno et al. 2021).

VII. CONCLUDING THOUGHTS

Advocates of the 15MC, or any major public-policy program, should consider not only its expected benefits but also its costs and unintended social and economic consequences that may be negative even from their own point of view. Such consequences tend to become apparent once they are implemented—e.g. rent regulation or freeway construction—which then incite calls for further interventions to address them. But the time to avoid those problems is before implementing the policy.

To be clear, I am not arguing that 15MC advocates see a city of uniform or restricted neighborhoods as their goal. What I am arguing is that to put the *ideal* of the 15MC into practice, something like the one or the other extreme would seem to be necessary, especially if its advocates insist that one's workplace be within a 15-minute stroll from one's home. The dilemma they face, however, is without that insistence the 15MC loses the one thing that distinguishes it from practically every urbanist trend of the past 30 years. Which raises the question: Have they have really thought things through? They seem to approach the issue of urbanity from the demand side only, especially from the point of view of knowledge workers who should not have to spend more than 15 minutes to find everything they need—a coffee shop with an internet connection—and to ignore the problem of supply chains. For instance, who will deliver the coffee to that coffee shop and repair the internet, and where will they come from?[13]

While Bertaud shares my skepticism of the 15MC, I believe my contribution is to lend theoretical support for his line of criticism, drawn from the work of two figures whom champions of the 15MC appear to hold in high regard, namely Jane Jacobs and Christopher Alexander. Perhaps this is because Alexander and Jacobs are well-known for advocating "human-centered design," which is also supposed to guide the design of the 15MC. Indeed, certain elements of the 15MC have shown themselves to be workable and to promote urban living consistent with Alexander's and Jacobs's perspective. These include accommodating more foot traffic, biking, digital technology, and enabling multiple-uses for a given space in the pursuit of a cleaner environment and more fulfilling social interactions (Moreno et al. 2021). But the least practicable aspect of the 15MC, indeed the deal killer, is the fantasy of the 15-minute walk to work. This may be possible for and appeal mostly to that segment of the labor market occupied by writers, intellectuals, and those in the so-called knowledge economy. But what about workers in health-care, construction, and service jobs? And what about the growing ranks of the elderly, who cannot carry heavy objects or ride a bike and who depend on motorized transport and delivery? The problems discussed here for the 15MC apply to any similar "X-Minute City" although, other things equal, the problems diminish the larger is X.[14] On the other hand, the smaller X is, the more tree-like and artificial the X-Minute City becomes, and the worse its social and economic consequences, will be.[15]

Of course, a more feasible way that even Paris (or New York or London et al.) could more closely approximate the 15MC than it already does would be to liberalize its housing market. As Bertaud points out—and I think most competent urban planners already know this—one can considerably shorten one's

commute, perhaps even to 15 minutes or less, by finding a place to live close to where one chooses to work. The reason this is not done more often today, of course, is owing in part to the convenience of cars, functional zoning, and subsidized highways. But for those who wish to live the life of the 15MC, including living near their workplace, there is evidently not enough affordable housing to be had. By relaxing regulations that specify, for example, minimum consumption levels for housing that make it illegal to buy or rent a flat that is less than, for instance, 37 square meters around, which is the baseline in New York City, and maximum-density codes that cap the number of dwellings permitted per hectare, developers could build more and cheaper flats. By liberalizing zoning and building codes to increase the supply of housing at or near places in the city where jobs tend to be concentrated, workers could more easily decide for themselves how much living space they would be willing to trade off for a shorter commute. And with freely adjusting prices for labor, housing, and transport they could do so more efficiently. But the liberalization of housing regulations does not appear on the 15MC advocates' agenda. Instead, they argue for "the balanced distribution of social housing throughout the city…mixing it with other types of housing, whether private or affordable" (Moreno 2024, p. 109). Like the assertion that "jobs should be within walking distance to one's residence," this is another case of positing a policy outcome—here it is a more "balanced distribution" of social housing—while ignoring the real costs and consequences that would be involved in achieving it, especially given the troubled history of social housing in major cities, including Paris.[16]

Finally, Moreno et al. appear to be committing the "Nirvana fallacy" of comparing an imperfect, existing situation to a perfect though unachievable ideal. The economist Harold Demsetz (1969) coined this term to describe the way some economists criticize actual competition, in which people act with imperfect knowledge, for being inefficient compared to the ideal of "perfect competition," in which agents are assumed to never make material mistakes and so undertake every activity at the lowest possible cost. The error lies in criticizing the real world for not living up to an unachievable ideal. Here, Moreno et al. disparage the imperfect state of existing cities for not measuring up to the perfection of their ideal 15MC, without thinking enough about the impracticalities of getting from the one to the other (Khavarian-Garmsir et al. 2023).

While some critics the 15MC may strike one as alarmist, Alexander, Jacobs, and Bertaud could hardly be so described. The criticisms raised here, based on their work, should in any case raise serious skepticism, regardless of how pleasant the vision of the 15MC may seem to be on paper or in a TED Talk, or how welcome some of its individual proposals may in fact be, especially if its proponents push hard to achieve its most questionable goals. And some, Moreno et al. included, do indeed seem to be pushing very hard for them. In that case, urbanists do have cause for great concern if not alarm, because the ideal of the 15MC, given the means that are proposed to achieve it, is fundamentally anti-urban.[17]

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NOTES

1 See the tweet attributed to Peterson (31 December 2022) at https://x.com/jordanbpeterson/status/1609255646993457153.

2 Khavarian-Garmsir et al. (2023) offer an interpretation of the historical evolution of the concept, beginning with the Garden City movement of the nineteenth century.

3 Moreno (2024, p. 37) also mentions what he calls the "30-minute territory, for medium and sparsely populated territories," but here I will focus on the far-more-popular version of the 15-minute city.

4 There is some shiftiness here in equating walking with bicycling, since clearly, other things equal, one can travel significantly farther on a bicycle than on foot in a given amount of time, and most pedestrians can attest to the discomfort of having to share space with speeding bicyclists.

5 As F. A. Hayek (1978, pp. 4-5) notes, the contrast between "natural" and "artificial" in philosophy and social theory can generate dangerous confusion. Hayek argues that social phenomena such as markets are neither, but instead "the result of human action but not of human design," which is better described as a "spontaneous order." As the next quote clearly indicates, however, by "natural" Alexander means "spontaneous" in Hayek's sense.

6 Ronald Burt (1995) would observe that in a tree there are a number of "structural holes" or potentially valuable connections the bridging of which would considerably shorten social distances. That is the case, for example, between the black node in the tree and the red node adjacent to it. And as Burt argues, that is where an alert entrepreneur will tend to form a bridge.

7 I wonder if it is this kind of complex inter-dependence, and the consequences of its absence or presence, that led Jane Jacobs to choose "The Death and Life of Great American Cities" as the title of her famous book.

8 See the official website at https://www.neom.com/en-us/regions/theline.

9 A recent book, *Emergent Tokyo: Designing the Spontaneous City* (Almazán and McReynolds 2021), appears to try to do just that, in a fairly constructive way.

10 The data that Bertaud uses is available at: https://www.apur.org/dataviz/commerces-paris/

11 What Jacobs calls "secondary diversity" (e.g. laundromats, grocery stores, and pharmacies), which serves people already in the neighborhood, also contributes to this granularity.

12 This, despite the fact that in his TED video Moreno appears to deny that his concept is an urban village.

13 The argument in this essay is related to my criticism of the "buy local" movement, which you can read here: https://www.libertarianism.org/articles/twisted-logic-buy-local.

14 An empirical study of Montreal by Birkenfeld et al. (2023) reaches this conclusion. Also, a recent check on the Wikipedia entry on "15-minute city" includes several other X-minute city concepts. https://en.wikipedia.org/wiki/15-minute_city?utm_source=chatgpt.com.

15 There is in Sweden something called the "One-minute city" that, however, is actually a far-less ambitious and more workable project than the 15MC. See for example: https://www.bloomberg.com/news/features/2021-01-05/a-tiny-twist-on-street-design-the-one-minute-city.

16   The challenges described in this report from La Fabrique de la Cité, "Paris: can densification rescue affordable housing?" are revealing. See https://www.lafabriquedelacite.com/en/publications/paris-can-densification-rescue-affordable-housing/?utm_source=chatgpt.com.

17   I wish to thank the participants of the Timbro Classical Liberal Summer Seminar and the members of the Colloquium on Market Institutions and Economics Processes for their comments on an earlier version of this paper. The usual caveat applies.