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# The Paris urban plan review : an opportunity to put the 15-Minute City concept into the perspective of the Parisians desire for nature

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## OUTLINE

1. Introduction	62	2.5 Divergences between the 15-Minute City concept and respondents' expectations	69
2. Materials and method	64	2.6 Convergences and divergences identification between the 15-Minute City concept and respondents' expectations complicated by the ambiguity around the notion of permanent geographic proximity	72
2.1 Studied corpus	64		
2.1.1 The 15-Minute City concept's notions (Corpus 1)	64		
2.1.2 The online platform idee.paris (Corpus 2)	65		
2.2 Thematic indicators	65		
2.3 Frequency tables	65		
2.3.1 Results and discussion	66		
2.4 Convergences between the concept of the 15-Minute City concept and urban issues for respondents	66	3. Conclusion	73
		References	74
		Further reading	75

The city of Paris has decided to review its local urban plan to make it bioclimatic. To reach this goal, municipalities are inspired by both scientific concepts such as the 15-Minute City concept and inhabitants-users' expectations. The 15-Minute City concept associates permanent geographic proximity with a period of time reduced to 15 min, which allows inhabitants-users to have access to main needs of urban life. A main issue for a municipality that would use this concept is to wonder to what extent the founding notions of this concept meet inhabitants-users' expectations. To survey Parisian on their expectations, the city of Paris has set up a consultation mechanism. In particular, it used a civic-tool, the "idee.paris" platform. In this chapter, proposals published on this platform and related to the diagnosis are analyzed to identify convergence and divergence points between the 15-Minute City concept and respondents' expectations. The main common point is that 15-Minute City concept and respondents' expectations are both fed by the need to integrate more completely inhabitants-users in the city governance. Nonetheless, the 15-Minute City concept is mostly based on the interweaving of time and permanent geographic proximity. Differently, respondents are first concerned about element of nature and nature experience. Beyond convergence and divergence, our study reveals an ambiguity. The 15-Minute City concept and respondents do not define proximity in the same terms and proximity can be perceived as a positive element or a negative one depending on the context.

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## 1. Introduction

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During the nineteenth century, the neoclassical urbanism model crisis has been impelled by the hygienist movement. More particularly, nature in cities has been identified as a lever to unthicken urban fabric and reduce sanitary difficulties caused by urban conditions (Bourdeau-Lepage, 2021). One of this movement's goals was to encourage urban public life around and in green spaces in order to improve the Parisian health. Haussmann and Alphand from 1850 to 1870 redesigned Paris with the ambition to vegetalize the French capital. This trend traveled around the world. For instance, in the United States of America, in the second half of the nineteenth century, Olmsted created parkways and in 1898, in the United Kingdom, Howard wrote "Garden cities of tomorrow."

After the second World War, architects and town planners belonging to the modern movement, like Le Corbusier, promoted a vertical urbanization illustrated by a large urban complexes policy surrounded by collective green spaces. Nonetheless, city dwellers had other expectations. During the 30 Glorious period, in France, city dwellers tried to escape urban life by moving out to outskirts of cities to benefit from a house with a private garden. This phenomenon led to an urban sprawl (Bourdeau-Lepage, 2021). Indeed, since the mid-twentieth century, the surface areas of European cities have increased by 78% (Sainteny, 2008) to the detriment of surrounding natural spaces. Meanwhile, city dwellers have been increasingly disconnected with nature (Schuttler et al., 2018), whereas nature in town has been proven as a major contributor of people's physical health and mental well-being (Bourdeau-Lepage, 2019). The United Nations estimate that by 2050, 68% of human population will live in urban areas (UN, 2018). To prevent this global phenomenon from reducing citizen's living conditions in the future, cities need to welcome more natural green spaces.

This can be done by developing more green spaces that reduce urban heat island. Since the early 1990s, sustainable cities concept has spread, enhanced by the Habitat II Conference in Istanbul in 1996 (Godard, 2003). These sustainability goals are also explained by the environmental awareness rise, biodiversity crisis, and urbanization responsibility (Schwartz et al., 2014). One proof of this raising awareness is the type of new goals attached to local urban plan (LUP) in France. The Grenoble Alps metropolis reviewed its intercommunal local urban plan in 2019 and considered that one of its main strategy issues must be the fight against climate change and initiate the energy transition. Another main example is the French capital urban policy. Paris decided, in 2020, to review its LUP to create a bioclimatic local urban plan (BLUP) based in part on surveys for Parisian to express themselves on their expectations. For this LUP to become bioclimatic, this urbanism document has “to preserve and develop biodiversity reservoir and ecological corridors (green avenues, woods, the Little Belt, the Seine, channels)” (Ville de Paris, 2022). Indeed, urban ecology has demonstrated that green spaces cannot be considered and designed as singular and isolated items within the urban landscape but as part of a network of ecological corridors that improve the connectivity between individuals and species, human included. Since the early 2000s, the green and blue corridors policy is a land planning tool identified by most stakeholders (Lienard & Clergeau, 2011). Recently, the notion of urban ecological corridors has been completed by its brown (twilight), dark (no artificial light), and silence extension. Specifically, the green corridor policy defines green spaces according to their function in the ecological dynamic, which is characterized by their localization, size, and specific wealth. Accordingly, green spaces can be (i) a buffer area, an area that surrounds a green space and is dedicated to environmental protection, (ii) a relay area, green spaces without determining species but with favorable ecological conditions that enable species to move from a biodiversity reservoir to another and/or (iii) a biodiversity reservoir. So far, ecological corridor policy has been used as a technical support for planners and urban policies to bring nature in cities. It leads to planification document at several scales and fits into local urban plan (Dehouck & Amsallem, 2018).

To create a bioclimatic local urban plan, the city of Paris is interested in a new urban narrative called the 15-Minute City as Emmanuel Grégoire, deputy Mayor of Paris, said to the press (Thevenin, 2021). The 15-Minute City is a multipolar, “chronotopic” and “topophilic” city in which the time to access the six essential needs of life, namely, housing, work, supply, education, health, and leisure does not exceed 15 min on foot or by bike or other low-carbon modes of transport (Moreno, 2020). According to the 15-Minute City concept, permanent geographic proximity combined with time is at the center of urban life. This concept roadmap includes, for instance, a governance turned toward citizens, urban commons, green spaces accessible on foot in less than 15 min, dynamism of local initiatives and networking of actors who animate each neighborhood, create an organic density or digital technology to develop proximity revitalization. The development of new technologies has given a new dimension to proximity that one can name virtual proximity (Bourdeau-Lepage & Huriot, 2009; Bourdeau-Lepage & Torre, 2020). By promoting digital technology and the city hyperproximity, the concept of 15-Minute City is mostly based on permanent geographic proximity but also integrates virtual proximity. Thanks to technologies, without travel, people can interact remotely. Since the beginning of COVID 19 pandemic, virtual proximity has overtaken physical proximity because of sanitary rules urging decision-makers to promote teleworking for ensuring social distancing (Thunström et al., 2020).

Nonetheless, used as a support for municipalities and supported by inhabitants to build projects, virtual proximity has another meaning and goal (Le Crosnier & Vidal, 2017). It becomes a facilitator to interact, according to actors, goals, and political goals especially during moments of inhabitants-users consultation relating to an urban project. The French town planning code provides at a national scale for “public participation” and “consultation” (C.urb., art. L.103-2 to L.103-7). To bring together local elected officials, technical services, experts, and inhabitants-users, civic-tools, defines as “mobile applications and web platforms aiming to facilitate and transform civic engagement and participation,” are multiplying in France (Décider ensemble, 2019). That is the spirit in which, the platform “idee.paris” is used during the consultation process related to the revision of the Paris local urban plan. Indeed, it is an additional consultation tool. It does not replace, except during epidemic situation, consultation meeting and workshops conducted face-to-face. For instance, the town of Paris organizes workshops on various themes and among them nature holds a prominent place.

The review of the local urban plan of Paris is an optimal context to identify if and how respondents express wishes or needs to obtain new urban plans that take into account ecological emergency and more precisely biodiversity.

In this chapter, to identify if the 15-Minute City is simply a theoretical framework for academic and urban planners or if its implementation in the real world may fulfill inhabitants’ requests, needs, and wishes, we tested two hypotheses. The first one is that respondents’ expectations converge toward those included in the 15-Minute City concept. The second one is that element of nature and permanent geographic proximity are related in respondents’ expectations.

Our chapter is organized as follows. First, we present our materials and methodology. So, we studied the founding notions of the 15-Minute City concept. Then, we analyzed proposals provided by people as part of the online consultation idee.paris, that took place during spring 2021, relative to the urban diagnosis as part of the revision of the local urban plan of Paris. To conduct this study, we use a lexical analysis. Next, we discuss our results and underline existing convergence and divergence between the 15-Minute City concept and respondents’ expectations as well as limits of this binary approach.

## 2. Materials and method

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To conduct this study, we decided to compare the 15-Minute City concept’s urban narrative to respondents’ expectations.

### 2.1 Studied corpus

#### 2.1.1 *The 15-Minute City concept’s notions (Corpus 1)*

Our first corpus is the 15-Minute City concept. Three interdependent notions are at the center of concept: the chrono-urbanism, the chronotopia and the topophilia. Chrono-urbanism intends to integrate time regulation in urban planning. It aims to attach a time indicator to a territory. The main goal is to “put the value of useful time back at the heart of

urban life” (Moreno, 2020). Chronotopia is based on the fact that the same place can be used differently depending on hours, days, weeks, months, or seasons. According to this concept, to plan a chrono-urbanistic and chronotopic city, topophilia is a key lever. Topophilia’s main ambition is to create, develop, or strengthen an emotional relationship between inhabitants-users and an urban place. To reach this goal, the concept underlines the importance of city dwellers’ consultation and opportunities offered by civic tools.

### 2.1.2 The online platform *idee.paris* (Corpus 2)

Our second corpus is the online platform “*idee.paris*” elaborated by the town of Paris. It is a “cooperation site between city services, Parisians and actors of the city of Paris’ projects” ([www.idee.paris.fr](http://www.idee.paris.fr)). Its main goals are to allow inhabitants to be informed on projects, to participate to a consultation, and to see published consultations. Concerning the diagnosis related to the local urban plan review, the consultation period ran from April 12, 2021, to July 16, 2021. Respondents could read the diagnosis and share their ideas on the platform. They could also react to submissions from other respondents by voting or commenting. Respondents had to indicate a postal address. It may be their home address, but nothing can guarantee it. That is why the word “respondent” is more appropriate than the word “inhabitants.”

The first part “theoretical notions of the quarter-hour city” of the white book n°2 *The quarter-hour city from concept to implementation* published by the ETI Chair- University of Paris one Pantheon-Sorbonne, which composes our corpus n°1 and 1284 proposals published on the platform “*idee.paris*,” elaborated by the city of Paris, our corpus n°2, have been the subject of a lexical analysis.

To carry out this analysis, two methods were chosen, thematic indicators and frequency tables.

## 2.2 Thematic indicators

The lexical analysis of terms used by respondents in their answers allows us to distribute words into 28 thematic clusters. For each cluster, the terms used were entered in a list in order to correct redundancies (initial of the word in upper/lower case, word in the singular/plural, with/without accent, spelling errors, etc.) and retain only root words. This method has been inspired by a previous study, “reconsidering human and animals’ way of inhabiting in the postlockdown urban era” (Dakouré et al., 2022). The list of root words for each cluster is given in Table 4.2. Scores were then measured with Excel software using the formula `SUMPRODUCT((ISNUMBER(FOUND)))` which counts the occurrences of each root word in each of the respondents’ answers.

To determine if there is a dependency between these qualitative variables (scores), the chi-square test was used in R with the function `chisq.test()`. This chi-square method has also been inspired by a previous study (Dakouré et al., 2022) to measure a relation between two phenomena.

## 2.3 Frequency tables

To create corpus’ frequency tables, the package “text timing” was used in R. Then, the following code was run to obtain the 10 words most frequently used in each corpus:

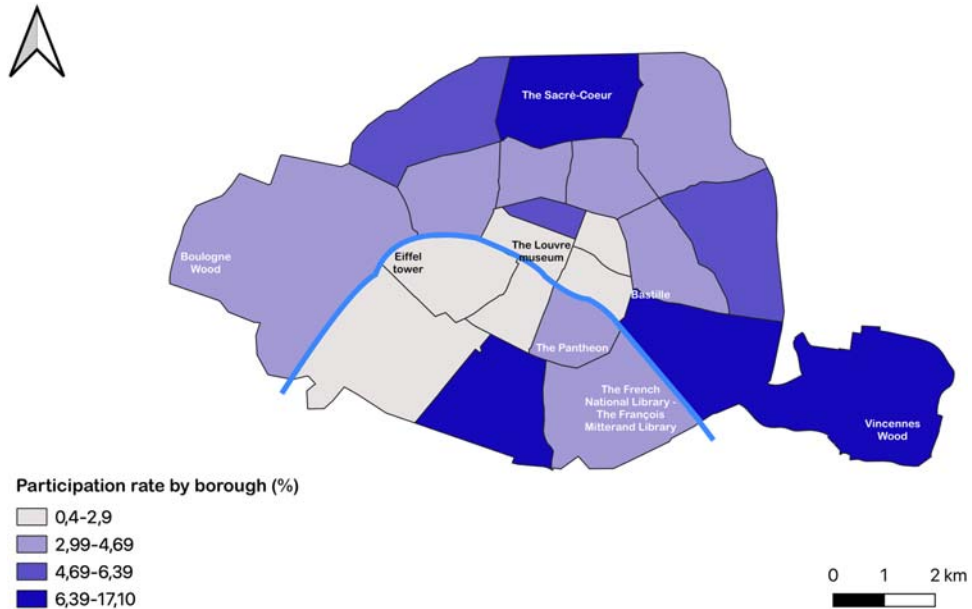


FIGURE 4.1 The repartition of 1284 proposals by districts.

TermDocumentMatrix(), as.matrix(), sort(rowSum(), decreasing = TRUE), data.frame(word = names(), freq = ...), head(..., 10).

### 2.3.1 Results and discussion

The platform *idee.paris* gathered 1284 proposals voted 3284 times in all during the consultation period related to the diagnosis as part of the local urban plan review (Fig. 4.1).

## 2.4 Convergences between the concept of the 15-Minute City concept and urban issues for respondents

When analyzing the lexical of the 15-Minute City concept (Table 4.1), it appears that this concept is structured around the theme of time (time, hour, chrono urbanism). The word “inhabitants” also has a great importance in this narrative. This observation is not surprising since topophilia is a founding notion of the concept.

When analyzing the *idee.paris* answers, green spaces (spaces, greens), governance (citizen, codesign), and inhabitants (rather than users) are the elements most mentioned by respondents (Table 4.1).

Importantly, there were overlaps between lexical of both corpora, with four common words between the 10 most frequent words used in the principles of the 15-Minute City concept and by respondents (Table 4.1). These four common words were the city or Paris, inhabitants, space, and place.

TABLE 4.1 The 10 most frequently used words in each corpus.

Words corpus 1 (quarter-hour city)	Frequency	Words corpus 2 ("idee.paris")	Frequency
<b>Town</b>	36	<b>Space</b>	403
Time	23	Street	402
Life	22	<b>Paris</b>	331
Hour	19	Site	303
<b>Inhabitants</b>	15	Local urban plan	254
Urban	15	Citizen	245
<b>Space</b>	14	Coconception	242
<b>Place</b>	13	<b>Inhabitants</b>	240
Chronourbanism	12	Green	198
Rhythms	11	<b>Place</b>	194

The main common point of the 15-Minute City concept and respondents' expectations is that urban governance has to include and promote inhabitants' wishes and needs. Municipalities need to receive requests of inhabitants to improve living conditions. To respond to this issue, French cities organize their governance to include needs and wishes of city dwellers in public policies. For instance, several big cities like Paris established a charter to frame the participation of inhabitants.

In this context, different citizen participation procedures have been implemented all over the country. Despite this legislation, respondents keep asking for a participatory governance. To explain this fact, literature offers answers.

Zetlaoui-Léger (2013) wrote that French laws "recommend the involvement of residents and associations upstream and throughout procedures and projects, not without however leaving ambiguities. While the term consecrated to evoke inhabitants' "involvement in public action remains in most countries' "participation," "consultation" is essential in France over the course of these regulatory injunctions." She added "thus we have witnessed a process of desubstantification of this notion both in the regulatory texts of urban planning and in observable practices." To understand this phenomenon, it is necessary to identify different nuances between participation levels.

As Fig. 4.2 shows, informative process boils down to dissemination to wide audience prior to the consultation process. It does not include inhabitants. This information must be educational. The main goal is to raise people awareness and to give them an exhaustive key set to understand urban projects. The consultation level happens after the informative process. It aims to collect a set of citizen opinions to better target respondents' expectations and needs. The initial project can be improved. Nevertheless, consultation does not give rise to a debate. Concertation is carried out around a project previously submitted by the competent authorities. The confrontation of actors' interests takes place in a moment of exchange. The



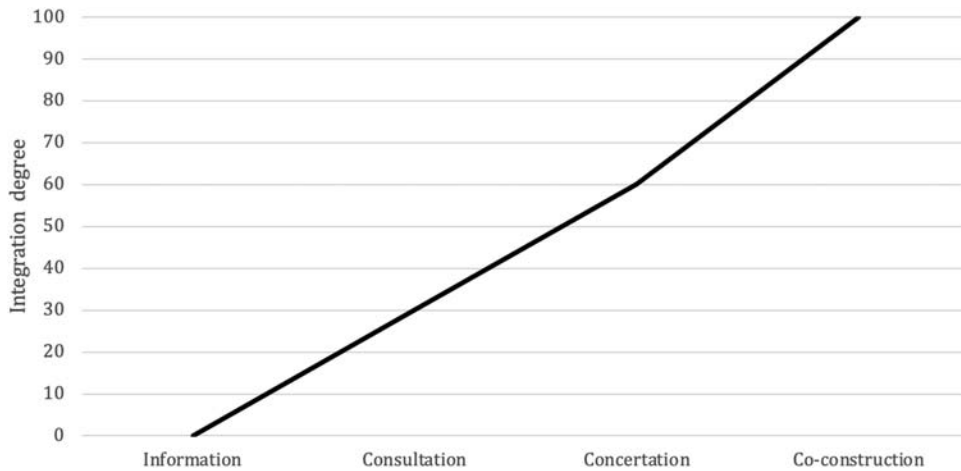


FIGURE 4.2 Inhabitants' integration in a participatory process according to the privileged participation terms. Source: ADEME, 2016, *Participation citoyenne: Réussir la planification et l'aménagement durable, Les cahiers méthodologiques de l'AEU2 [En ligne]*, p. 187 and Zetlaoui-leger Jodelle, 2013, *Urbanisme participatif*, in Casillo Ilaria, Barbier Rémi, Blondiaux Loïc, Chateauraynaud Francis, Fourniau Jean-Michel, Lefebvre Remi, Neveu Catherine et Salles Denis (dir.), *Dictionnaire critique et interdisciplinaire de la participation, Paris, GIS Démocratie et Participation*.

proposals resulting from these exchanges must be taken into account by decision-makers. Also structured around debate, co-construction is the citizen participation level that involves citizens and local actors the most. The group, composed of chosen actors and volunteers, fully participate in the definition and implementation of the project (ADEME, 2016, p. 187).

In this chapter, we focused on the platform "idee.paris." Other devices have been put in place: workshops, urban stroll, public meetings ... But one could ask itself if all Parisians are easily aware of all the existing devices. However, whatever the device, the participatory process related to the Paris urban plan document review takes place once documents have been produced. Moreover, the Paris urban plan document review must be finish in 2024. This schedule leaves little time to precisely integrate inhabitants' contributions. Even if the town hall of Paris puts a lot of efforts into this consultation development, people show a need and willingness to participate more in city planning. Indeed, as Zetlaoui-Léger mentioned "although the knowledge of use has gradually been recognized by the inhabitants and their expertise has been increasingly solicited through surveys or town planning workshops, little sharing, or transfer of responsibilities has been envisaged by the master planners." Then, this fact raises a new question: how can a citizen participation system enable residents to co-design the city of Paris with urban planning experts? Such a system raises some management and schedule difficulties. To go further, it could be interesting to know how Parisians imagine this system, how experts and technicians imagine this cooperation with inhabitants. Moreover, participatory process does not bring together all categories of the population. For example, popular categories are in general very little represented (Tozzi & D'Andrea, 2014).

Nonetheless, we identified a limit to this analyze. Indeed, no one can tell how many time one person or one activist group publish on the platform "idee.paris." According to Nez's

(2011), typology of knowledge mobilized in a participatory process, this respondents' proposals may be the result of activist knowledge more than the result of professional knowledge or/and knowledge of use.

## 2.5 Divergences between the 15-Minute City concept and respondents' expectations

To create this mirror effect between the 15-Minute City concept and respondents' expectations (Fig. 4.3), words were combined in such way one definition leads to another. "PLU," local urban plan, plans the city so it programs the future of "site" and may also have an impact on "streets" layout. This urbanism document (PLU) deals with private spaces ("site"), a little bit with public spaces ("streets") and with transition spaces between private and public spaces. "Time" can be measured or defined by "rhythm" or/and "hours."

An urban plan document associated with citizen is a "co-conceived" work. Approach the urban space through time is "chrono-urbanism." Those two words "co-conception" and "chrono-urbanism" are considered as key parameter to respectively plan a green city and plan urban life. This assertion is confirmed by the analysis of the lexical clusters built from proposals published on the platform "idee.paris" (Table 4.2).

When analyzing lexical clusters, it occurs that topics at the center of the 15-Minute City concept "Permanent geographic proximity" and "Time" do not register the highest scores (Table 4.2). The highest scores are registered for "elements of nature," "health," and "mobility." These clusters are mentioned respectively in 52%, 44%, and 36% of the 1284 contributions. Then come "leisure," "economy," "climate," and "permanent geographic proximity," each of which is mentioned more than 300 times. On the contrary, "Time" is one of the five lexical clusters with the lowest scores and records a score just above 100.

These results show a significant divergence. Effectively, even if vegetalization is an important aspect of the 15-Minute City, the concept is not based on the themes of nature and the experience of nature, but on the combination of time and permanent geographic proximity. On the contrary, respondents give a prominent place to elements of nature in their comments, but they do not consider the combination of time and permanent geographic proximity to be a priority. This fact reflects the environmental awareness and

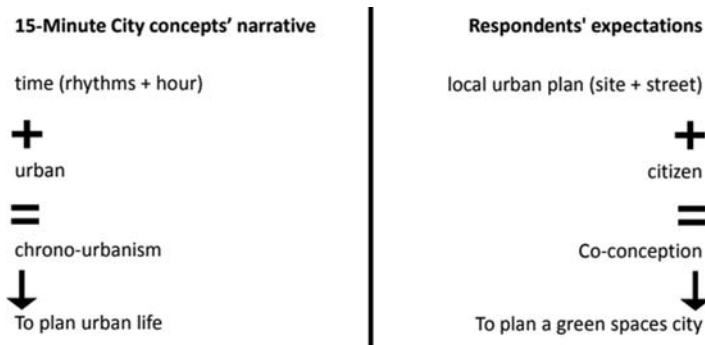


FIGURE 4.3 Comparison of respondents' expectations and 15-Minute City Concept narrative.

TABLE 4.2 Lexical clusters built from answers published on the platform idee.paris.

Clusters	Words-roots	Indicator score
Elements of nature	Vegetate, tree, blossom, plant, grass, green, vegetation, greening, grass cover, plantation, biodiversity, species, nature, micro-invertebrate, butterfly, insect, bee, hoverfly, aphid, fly, cochineal, whitefly, fauna, liminal, birds, seagull, crow, swan, peacock, nest, birdhouse, LPO, sparrow, mammal, rat, slug, wood, green space, square, EVP, garden, park, oasis, cemetery, reservoir, TVB, ZUV green, greenery, flora, flower, plant, tree, floral, botany, bush, hedge, grassy, linden, lawn, plankton, grove, casket, shrubby, sohrub	662
Health	Health, sanitation, hygiene, shower, bath, WC, toilet, coin-operated public toilet, sleep, silence, well-being, relaxation, serenity, stress, anxiety, doctor, laboratory, pharmacy, medical, contamination, addiction, pathology, bronchitis, somatic, hospital, care, OMS, death telemedicine	569
Mobility	Mobility, traffic, shifting, bicycle, cyclist, cycle path, parking, servicing, parking, pedestrianization, pedestrian, car, automobile, rer, metro, tramway, track, taxi-sharing, robot-taxi, bus, tuc-tuc, taxi- aerial, drone, peripheral, road, vélib, motorized, vehicle, scooter, intermodality, road, rail, aerial, foot, navigo, vélorai, transport, motorcycle, scooter, truck, limousine	462
Leasure	Balade, promenade, promener, loisir, sport, sportif, basket, foot, roller, escalade, natation, piscine, pique-nique, jeu, tennis, jogging, promeneur	393
Economy	Rich, poor, salary, average, financial, income, tourism, tourist, price, profitable, precariousness, popular, business, mono-activity, mixed, neoliberal, INSEE, speculation, financing, specialization, expensive, employee, economic, tertiary, budget, telecommuting, office, employment, economy, inflation, attractiveness, coworking, service	369
Climate	Cool, ICU, Heat, temperature, furnace, cool, climate, canyon	366
Permanent geographic proximity	Neighborhood, Proximity, Resident, Borough, interconnection, link, connection	363
Nuisances	Nuisance, decibel, phonics, smell, noise, noisy, olfactory, construction, site, pollution, polluting, urinating, traffic, damaged, hammers, horn, auditory, annoyance, pollutant, pest, noise, traffic jam, discomfort, lamp post, lighting, luminous, volatile, conflict	259
Aesthetic	Aesthetics, embellishment, beautify, beautiful, harmonization, harmony, landscape, aesthetics, beauty	253
Water	Seine, pluviale, eau, pluie, puit, humide, berge, bassin, canal, quai, citerne, bleue, aquatique, fontaine Seine, pluvial, water, rain, well, wet, bank, basin, canal, quay, cistern, blue, aquatic, fountain	238
Governance	Survey, moratorium, democracy, politics, citizen, governance, decision-making, consultation, co-design, consultation, participative, concert, debate, town hall, municipality, mandate, dialogue	234
Culture	Theater, culture, cultural, museum, library, mediatheque, artistic, artist, concert, cinema	233

TABLE 4.2 Lexical clusters built from answers published on the platform idee.paris.—cont'd

Clusters	Words-roots	Indicator score
Lack	Deficiency, deficiency, absence, lack, need	224
Ground	Artificialization, earth, soil, paving stone, waterproofing, bitumen, desimpermeabilization, cutting, concrete, demineralization	210
Housing	Housing, accommodation, rent, land, tenant, furnished, SRU, APL, PLA-I, PLI, rental, domicile, domiciliation, lodging, inhabiting, habitation, residence, residential	166
Biodiversity proximity (Green corridors)	Relay, corridor, frame, corridor, ecological continuity	165
Logistics	Logistics, sewer, network, collection	154
Education	Faculty, university, university, school, schoolboy, high school, college, pedagogy, pedagogical, playful, educational, school, nursery	152
Social	Co-exist, cohabitation, conviviality, social, homeless, share, sharing, meeting, party, transfenerational, living together, neighbor, animation	146
Security	Violence, aggressiveness, secure, security, incivility, incivism, secure, vigipirate, danger, suicidal, accidentogenic	108
Time	Minute, Hour, Time	102
Density	Dense, tower, vertical, density, densify, densification, overcrowded, crowd, densely	98
Transformation	Transition, transformation, renovation, rehabilitation, transform, convert	86
Energy	Energy, insulation, energy, gas, fuel, electric, heating, label, biobased, thermal, air conditioning	49
Waste	Waste, recycling, recyclable, bin, circular, recycle, compost, garbage	47

Source: City of Paris.

the usefulness of environmental education. The lexical clusters show that respondents are acculturated by a technical language to mention urban ecological dynamic. They mobilized notions like “green corridors,” “ecological corridor,” “ecological continuity,” ecological relay to advocate for proximity between green spaces (Table 4.2). It appears that there is a significant difference between the “proximity biodiversity” cluster and the “element of nature” cluster ( $X\text{-squared} = 175.7$ ,  $df = 1$ ,  $P\text{-value} < 2.2e^{-16}$ ). As  $P\text{-value}$  is less than 0,05 (traditionally defined threshold), scores of these two clusters are not independent variables. It becomes possible to suppose that the more “element of nature” has a high score, the more “proximity biodiversity” has a high score which means that the more “element of nature” was mentioned the more “proximity biodiversity” was mentioned. This result may imply that respondents did not evoke green corridors as a simple planning tool. By associating elements of nature and proximity between elements of nature, they define these corridors and specify ways of recreating these corridors.

**TABLE 4.3** Frequency table of the seven most voted proposals.

<b>Words</b>	<b>Frequency</b>
Street	14
Paris	9
Paradis	9
Fish	7
Fishing	6
Animals	6
Town hall	6
Areas	6
Coffee-restaurants	6
Channel	5

*Source: City of Paris.*

Votes analysis confirms the respondents' environmental sensitivity. 42% of votes (1376 votes on 3284 in total) are concentrated on seven proposals (on 1284 proposals) analyzed in the frequency table below (Table 4.3).

When analyzing those seven proposals, it appears that animals' well-being is an important issue for respondents. Among those seven proposals, one received 147 votes and is relative to animals' conditions. One received 177 votes and wrote that taking into account animals' conditions must be "a fundamental criterion in decision-making." One proposal received 191 votes and expressed the wish to limit the nuisances that harm fish. Those three proposals gather 517 votes (on 3284), which represent almost 15,7% of votes. This observation echoes to the French legislative evolution. In November 2021, a law has been voted called "the November 30th, 2021, law aimed at combating animal abuse and strengthening animals and humans' relationships" (Law n° 2021- 1539, November 30th, 2021).

Thanks to participatory democracy, people can express their opinions. As we explained, biodiversity well-being is an important issue for respondents. This democratic opportunity allows responds to become spokesperson for other species (Dakouré et al., 2022).

## **2.6 Convergences and divergences identification between the 15-Minute City concept and respondents' expectations complicated by the ambiguity around the notion of permanent geographic proximity**

A significant ambiguity encountered by our study is that the 15-Minute City concept's definition of permanent geographic proximity and the respondents' one are not necessarily similar. The 15-Minute City concept defines it precisely. The concept associates it with a

time period of 15 min on foot or by bike to access services. On the contrary, permanent geographic proximity isn't precisely defined by respondents. It can be associated to neighborhood or borough (Table 4.2). These perimeters do not have the same surface areas and are not crossed in the same period of time, which may or may not exceed 15 min.

Another complexity lies on the fact that depending on the context, this proximity can be wished or fled (Bourdeau-Lepage, 2022). Proximity with nature is a relevant illustration of this ambiguity.

There is a significant difference between the "permanent geographic proximity" cluster and the "element of nature" cluster (Chi 2 test,  $X\text{-squared} = 4.1$ ,  $df = 1$ ,  $P\text{-value} = 0.04$ ). As  $P\text{-value}$  is less than 0,05, scores of these two lexical clusters are not independent variables. It is therefore possible to conclude that the more respondents mentioned "element of nature" the more they mentioned "permanent geographic proximity." This result can be interpreted by the fact that city dwellers ask for green spaces around them. Green spaces offer a lot of positive effects on city dwellers physical health (green spaces are spaces to run, being surrounded by green areas slow heart rate...), mental health (to fight against anxiety...), and social health (green spaces are spaces to gather, to pic-nic...) (Bourdeau-Lepage, 2019; Manusset, 2012). Nonetheless, city dwellers do not ask for all species presence. Their perception of species is no't manichean or unique. For instance, city dwellers' perception of spiders is ambiguous. Thanks to its ecological utility and its role as a mosquito predator, a spider may be feared, but it will not necessarily be removed or eliminated (Dakouré et al., 2022). Nonetheless, humans identify "just place" for species (Mauz, 2002). According to this approach, some species benefit from the right to the city, others do not. Most dwellers do not like insects for instance cockroach (Blanc & Mathieu, 1996), mosquitos, or some birds like pigeons. When an animal is no longer considered as part of nature but as a nuisance, permanent geographic proximity can exacerbate this "nuisance."

This is not the only context in which permanent geographic proximity can cause or aggravate a nuisance. Effectively, the most voted proposal (238 votes) explained that: "Certain districts of Paris are invaded by bars and restaurants. They are killing neighborhood lives. This trend goes against the 15-Minute City concept. (...). If the Town Hall do not decide to renew authorizations for terraces upon change of ownership in the single-activity neighbourhoods of coffee-restaurants, it would trigger a decongestion of these neighborhoods as well as a reduction in commercial rents and a return of small shops. Coffee-restaurants would be encouraged to set up in less well-provided areas. This would make it possible to better distribute the coffee-restaurants on the Parisian territory. This would also allow residents to find more tranquility and better circulation on public roads." Seeing from this angle, permanent geographic proximity is not perceived and lived as a good thing. On the contrary, this proximity causes nuisances. Thus, overcrowding or others' tyranny, congestion, and pollution are the most typical consequences (Bourdeau-Lepage, 2022).

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### 3. Conclusion

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As part of this chapter, to identify if the 15-Minute City is simply a theoretical framework for academic and urban planners or if its implementation in the real word may fulfill

inhabitants' requests, needs, and wishes, we analyzed respondents' proposals to compare the 15-Minute City concept criteria and respondents' expectations.

The 15-Minute City concept is fed by the notion of topophilia and gives inhabitants-users a significant place. Similarly, respondents express the wish of a better inhabitants-users participation in political decisions.

Nonetheless, our first hypothesis is not completely verified. The 15-Minute City concept is mostly based on the interweaving of time and permanent geographic proximity (chronourbanism and chronotopia). Differently, respondents do not show a high level of interest in permanent geographic proximity and almost no interest in time. They are first concerned about element of nature and nature experience. Collective environmental awareness led respondents to consider proximity in a nonhuman way. Our study showed that respondents appropriated a technical and scientific vocabulary and knowledge by using words like "green corridors" and "ecological continuity". It also revealed that respondents related permanent geographic proximity and element of nature. Our second hypothesis is verified.

Nonetheless, depending on the species concerned, this result may have a positive signification or a negative one. A positive one would be to only focus on the positive effects on people of a desired nature located nearby. A more negative one would be to study effects of inhabitants-users or the presence of unwanted nature (rats or pigeons) nearby. From this angle, permanent geographic proximity is not always desired because it becomes a nuisance.

Our findings also demonstrated that nuisance is an important matter for respondents. As Paris is one of the most equipped cities, one can wonder how negative effects of permanent geographic proximity in a crowded city can be limited.

It would be interesting to expand the 15-Minute City concept to perceived negative effects of permanent geographic proximity and to permanent geographic proximity between nonhuman species.

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# RESILIENT AND SUSTAINABLE CITIES

Research, Policy and Practice



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The role of cities in driving global economies has been well covered, and their impact on the larger ecosystem is well documented. *Resilient and Sustainable Cities: Research, Policy and Practice* explores how cities can be transformed into sustainable fabrics while leading to positive socio-economic change.

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- Introduces the concept of 15-Minute City
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