Accessibility and distribution of public open space:

Its role within the spatial configuration and its influence in social patterns through land use analysis

by

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Abstract

Access to public open spaces is supposed to be equitably distributed to all city inhabitants, especially in predominantly residential areas. Furthermore, green places have been proved to increase the mental health of the people living close to them (Giles-Corti, et al., 2005). If public open spaces are urban features that help to improve the social development of an area, then, why in big metropolises such as Mexico City the access to public space is many times perceived as a privilege instead of a right? This research is realised in a well-planned central and predominantly residential area in Mexico City. It proves that intentionally or not the public open spaces such as plazas or parks are not always meant for everyone to use and gather in them. Through space syntax spatial analyses, land use analyses, and the potential radius of influence specific public open spaces might have according to their size; this study investigates the diverse accessibility characteristics different public open spaces have.

Moreover, this research's findings are supported by the identification and classification of businesses that might be acting as potential third places. These businesses were taken as an indicator of the social environment created around the public spaces. Thus, a relation was established between the general land use, the spatial configuration of open public spaces, and the potential third places. This led to conclude which spaces might have more chances to attract the residents of the area and serve as potential local gathering places that encourage a sense of local community. The analysis demonstrated that the public open spaces within *Roma-Condesa* do serve their inhabitants. However, some spaces, although locally configurated, are more likely to serve the working population while others are hard to reach by both the immediate neighbours and the adjacent local community.

Key words

Public space, accessibility, spatial configuration, urban structures, potential third places, social cohesion

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Ideas might be born as simple thoughts. However, with patience, dedication, and the influence of experienced voices, they evolve and strengthen. Therefore, thank you, Laura Vaughan, for your constant encouragement and guide not only in this but in various academic projects.

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Chapter I Introduction
Introduction

The function and characteristics of public space have been widely defined over the last half-century by several researchers and professionals of the built environment and related fields. Although mostly they agree that public space is where people gather, it supposed to be free, comfortable, and easy to find. Public open spaces (POS) such as parks, plazas, gardens, etc., are an important asset to the development of the "life between buildings". "Life between buildings offers an opportunity to be with others in a relaxed and undemanding way […] being among others, seeing and hearing others, receiving impulses from others, imply positive experiences, alternatives to being alone. One is not necessarily with a specific person, but one is, nevertheless, with others" (Gehl, 2011, p. 17). POS should be a right for all the city inhabitants. However, not everybody has equal access or uses public space the same way. Additionally, not all POS serve equally; depending on their features, they might not be able to encourage all kind of people to use them. Furthermore, the positive role of these spaces as community resources to social interaction, health, quality of life, etc., has been proved by different studies through the years (Koohsari, et al., 2013). "Public spaces, such as neighbourhood parks or community gardens, are one of the major elements that define the city's unique attraction points" (Pasaogullari & Doratli, 2004, p. 225).

Depending on their specific location, POS might serve for different purposes, but their aim is usually the same: to foster people's co-presence and encourage social activities. If public spaces are designed with the intention for everyone to use them, to what extent their location in the spatial network resembles that intention? Meaning, are the public spaces working as some sort of centrality at a neighbourhood-human scale? Considered that a centre is usually associated as a place where people gather and a mix of activities take place (Chiradia, et al., 2009). Or are the land use – for example, the presence of potential *third places* which are public meeting locations (Oldenburg, 1996) – and the collective memory playing a significant role in attracting people to public space regarding its location within the spatial network? (fig. 01).

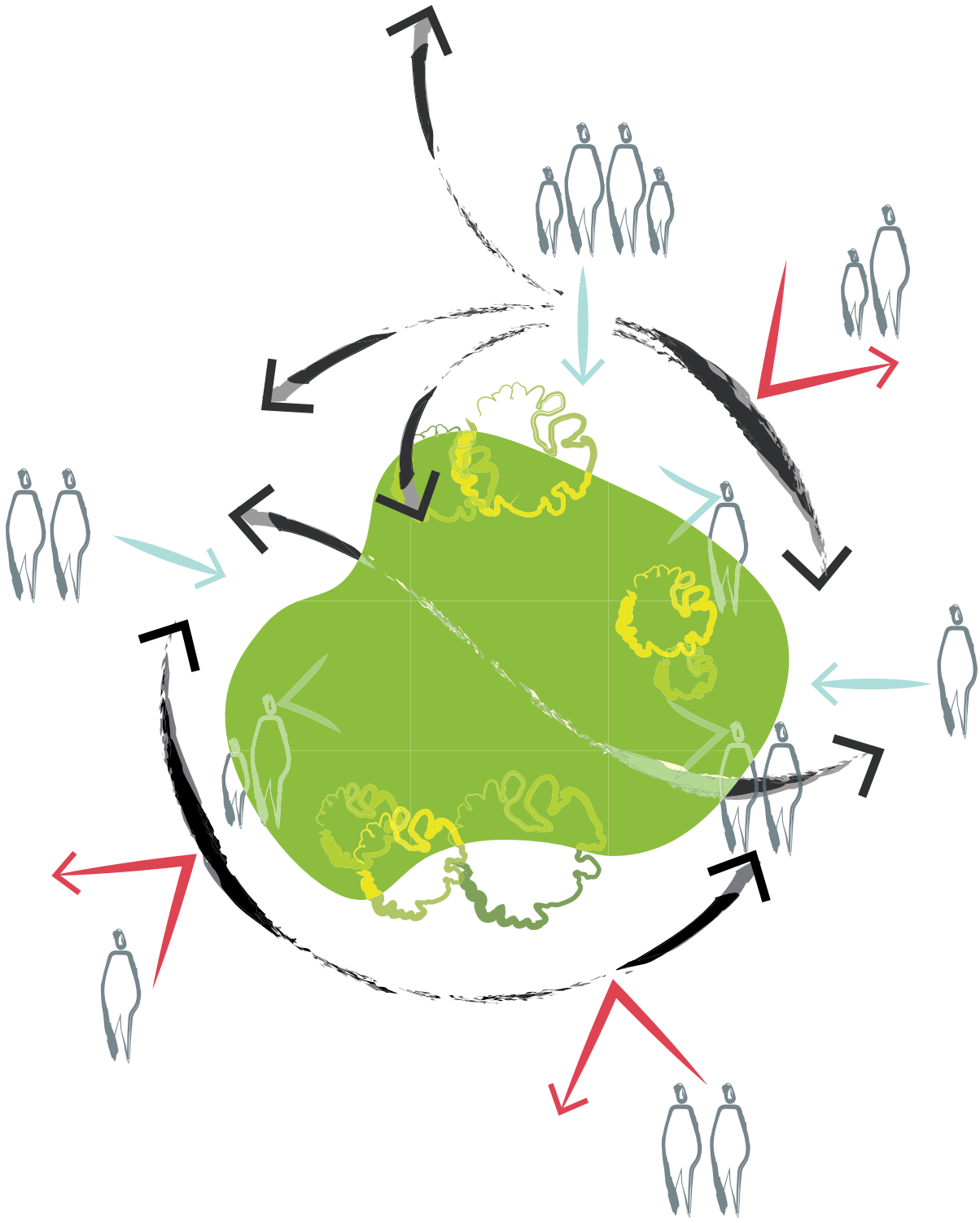


Figure 01, Graphic representation of accessibility to a public open space. Diagram: Mariana García Fajardo (MGF)

Objective and aim

Through the identification and study of the spatial distribution and accessibility features of different public spaces, this research seeks to find out the way those public areas are spatially functioning within the street network at different scales. In that sense find if they fulfil their goal or not of being available and accessible to their surrounding population. Moreover, it will be looked if the land use neighbouring the different public spaces has any patterns in different size/quality public spaces and how this might influence the pedestrian and social behaviour of the space users. It will be studied how some public spaces foster a variety or not of catering ground floor land use, and how or whether this land use might influence on attracting, creating or shaping the development of the local community. Furthermore, this research pretends to reinforce the impact and importance of accessible public space in society to push public policy towards the equity of walkable and accessible public space in cities; not only at a large-urban scale but also at a neighbourhood-human scale.

Case study

A well-known central residential sector in Mexico City is studied. The upper-middle-class area colloquially called *Roma-Condesa,* which is composed of two well-planned neighbourhoods – more or less divided in two by *Insurgentes* Avenue – that spatially started to evolve as they are contemporary known at the beginning of the 20th century. Nowadays, *Roma-Condesa* is a cluster of hipster culture with fancy restaurants, bars, residences, and active public life on its streets. The neighbourhoods are rich in history and culture; they are characterised by being well-connected to the rest of the city, and by providing a variety of gathering spaces (fig. 02).

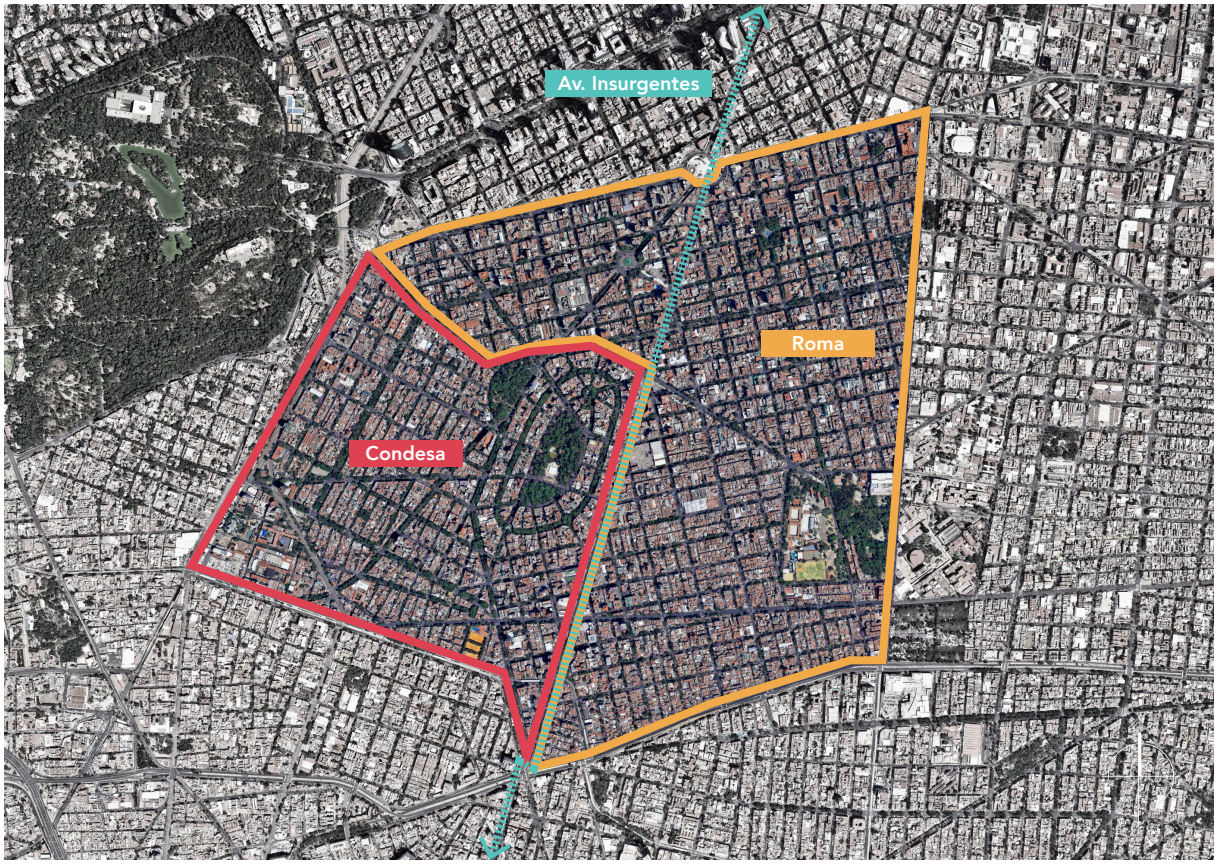


Figure 02, *Condesa* to the southwest, *Roma* to the north and east, *Insurgentes* Avenue in between. Source: Google Earth, 2020. Diagram: MGF

The neighbourhood *Condesa* started to develop between 1902 and 1903 when a colonial estate was fragmented to build a residential realm – which included a hippodrome – for the bourgeois society of the time (Yubi, 2005; Canal Once, 2015). In 1925 the hippodrome was demolished and divided into parcels for housing and to hold the largest public space of *Condesa: Parque México* (Canal Once, 2015). The neighbourhood *Roma* also started to develop in 1902 on land belonging to the same estate as *Condesa*. From the 1930s to the years to come, foreign and educated people started to occupy the neighbourhoods, people who were interested in arts and culture. The region prospered along the 20th century. However, after the great earthquake of 1985, Mexico City's central area, including *Roma-Condesa*, was strongly affected. In consequence, several of its inhabitants moved out and started to let out their properties which caused *Roma-Condesa* to develop the social and land use diversity for which it is known nowadays (Yubi, 2005) (fig. 03 & 04).

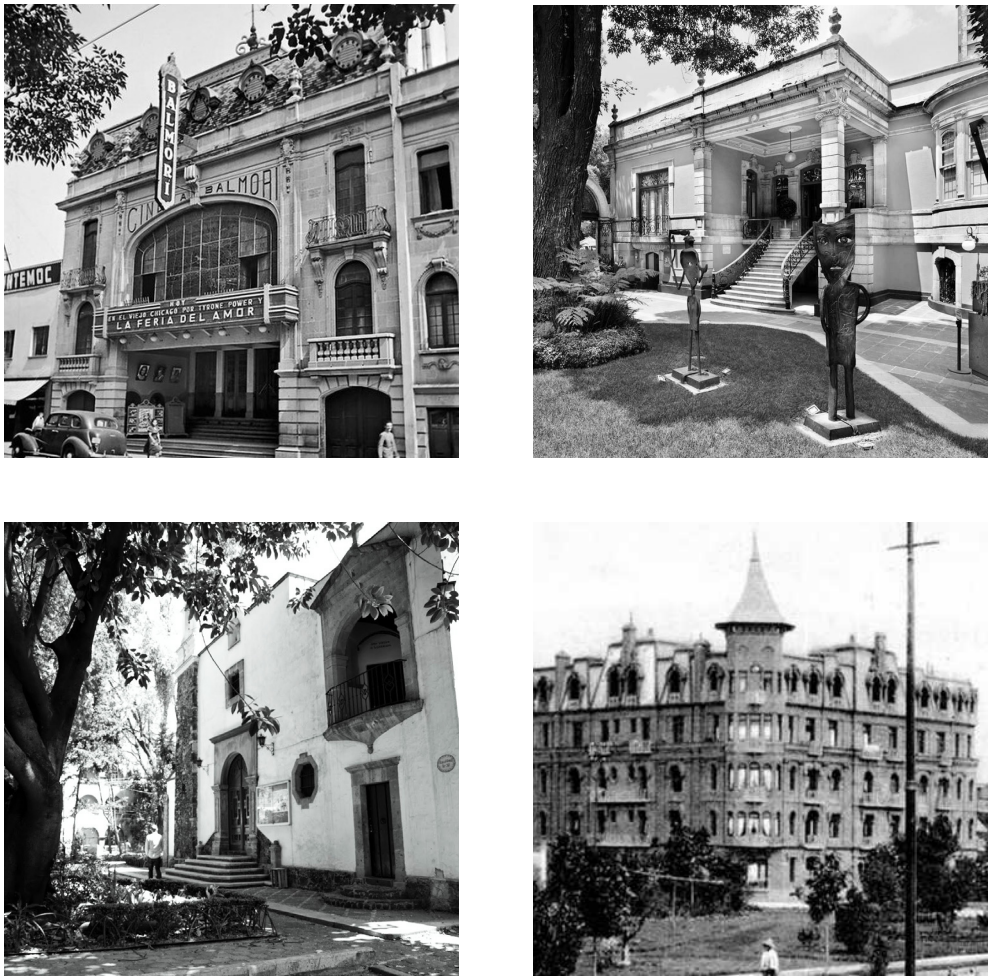


Figure 03, *Roma* neighbourhood. Balmori cinema (top left), source: cinematreasures.org/theaters/53654. Lamm house (top right), source: www.casalamm.com.mx. *Romita* square and catholic church (bottom left), source: www.zarawitta.com. *Río de Janeiro* building (bottom right), source: https://culturacolectiva.com

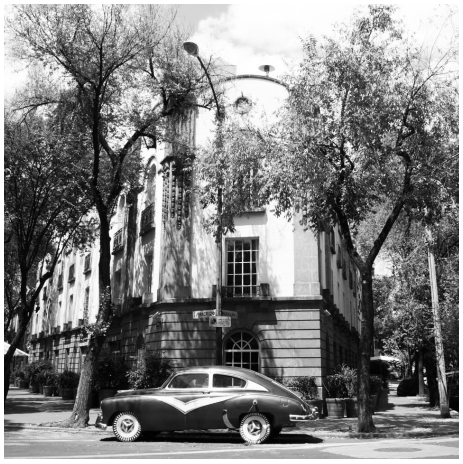


Figure 04, *Condesa* neighbourhood. Building in *Veracruz* street (top left), source: http://turismo.mexplora.com/lugares-clave-de-la-colonia-condesa. *Popocatépetl* square (top right), source: https://cdmxlive.com. *Café Toscano* (bottom left), source: http://propiedades.com/blog/informacion-inmobiliaria/colonia-condesa. Basurto building (bottom right), source: fundarqmx.com

Research hypothesis

Since the public space is supposed to be for everyone, spatially it should possess high levels of centrality. If form its beginning was designed to serve a local community, a neighbourhood, the public space should behave as a local centre rather than a global one. Besides, the businesses and infrastructure surrounding it might be more likely to target the local community too rather than outsiders.

H1 Some public open spaces might spatially be working as some sort of centrality, given that these spaces are supposed to be located where more people can have access to them.

H2 Since third places are known to attract people and foster community, the location of potential third places surrounding open public spaces could be an indicator that a POS is sufficiently integrated to the local street network and fulfilling their role as social clusters.

H3 The public spaces that are located in too well-integrated locations might be, to some extent, spatially segregated from the local population.

Research questions

Which are the different accessibility patterns to public open spaces, and to what extent do they work as centralities, whether local or global? Furthermore, what are the land use patterns that surround different public space infrastructure and what kind of social environment those land use might foster?

What is the spatial role of POS in shaping conditions for land use diversity in a residential neighbourhood?

To what extent are POS likely to serve the local community given their spatial configuration?

Dissertation structure

After the introduction, the literature review in chapter II combines different ideas and approaches about accessibility to public space, third places, society, and spatial configuration. The third chapter illustrates how the data was collected, classified, analysed, and related to the spatial analysis. In chapter IV, some features of the study area, the land use, and the selected POS are introduced. Chapter V portraits the spatial configuration of *Roma-Condesa* and its public open spaces. Afterwards, chapter VI displays a detailed analysis of each POS and the understanding of the boulevards and some streets. Chapter VII then summarises and relates the findings of chapters VI, V, and VI leading to conclusions and further research on the subject. Finally, the eighth chapter concludes the investigation.

Chapter II Literature review
Accessible public open spaces and their attributes

According to Koohsari et al. (2013), the proximity a group of people has towards a public open space is not enough to determine that it is fulfilling its role to benefit its surrounding community. For example, the POS's size or the facilities it offers will influence people's choice of which one to visit (Koohsari, et al., 2013). Moreover, if a public space is located on well-integrated segments, it has more chances to be visited than those that are not. However, it is implied that because that public space is well-integrated in the city network, the people that live close to it might have to face crossing an important vehicular street in order to get to it. Therefore, the public space could have not enough pedestrian accessibility towards it (Koohsari, et al., 2013). For this research, accessibility is defined as how effortless and clear the path is to reach a location within the public realm. The degree in which local people can use, visit or access a set of public or open spaces (Suárez, et al., 2011). Pedestrian accessible locations are usually considered to be those that are reachable in 5-10 minute walking. However, fifteen or even twenty minutes is considered an acceptable walkable range from origin to destination at a neighbourhood scale (Azmi, et al., 2012; Etman, et al., 2014); though this may be shaped to a certain extent by cultural setting or climatic conditions.

Various researchers have proposed different ways of identifying, quantifying and qualifying POS' features and what makes them more or less "attractive" or "successful" and accessible. For instance, the space syntax integration measures run at different radii supported Ruben Talavera's findings of the potential users of public open spaces according to the network scale and their location within it. He discussed whether the public spaces were potentially being used only by the residents or by people "beyond its service area" (Talavera, 2012, p. 13). The service area of a POS is the influence radius it has according to its size (Talavera, 2012). Metha (2014) proposes to evaluate and measure public space quality by five dimensions. Inclusiveness, whether the space is open and accessible. Meaningful activities, whether the space supports different activities' development close and within it. Comfort, if the place has climate comfort, is well-maintained, etc. Safety, whether a public space is well-maintained, has safe crossings, etc. Pleasurability, the set of urban, architectural, and landscape characteristics that make a place "imageable", unique, and distinctive (Metha, 2014).

Metha's dimensions are consistent with the four characteristics encouraged by the Project for Public Spaces. The project is based on the research carried out by William H. Whyte over decades. In his book *How to Turn a Place Around* (2000), Whyte outlines the features that make a

public space a successful one. Public space should be accessible, foster a variety of activities for people to choose, be comfortable, and present a pleasant picture (image). Finally, a lively public space should encourage social interaction, a point of gathering (Whyte, 2000; Projects for Public Space, n.d.). Besides, according to Giles-Corti et al., depending on the range of activities that can be performed and the affordances a POS offers, one POS can attract more people than others. In that sense, more extensive POS might draw more people rather than smaller ones. The more "attributes" they offer, the more attractive they are. Furthermore, they imply that living close to parks do contribute to people to use them. However, their study also confirmed Koohsari's statement that proximity to POS is not enough. The POS' area and facilities play a crucial role in determining their usage and attractiveness (Giles-Corti, et al., 2005).

Finally, the accessibility to public open spaces plays a significant task in determining who might use them and how they are used. A locally well-integrated POS is the one that is widely accessible and close to the residents of an area (Calthorpe, 1993). If these features are achieved then, it is likely that the public space "can play a significant role in bringing people together" (Pasaogullari & Doratli, 2004, p. 227). Besides, Koohsari et al., Metha & Bosson, and Pasaogullari & Doratli suggest that local streets – narrow with low-speed limit – and the quality of the sidewalks – wider and well preserved – are key elements of good accessibility to public space. Furthermore, they point that "a well-used public space is centrally located in a neighbourhood, which has proximity to residential units, has good visibility from the street, by being next to other public uses" (Pasaogullari & Doratli, 2004, p. 227) (fig. 05).

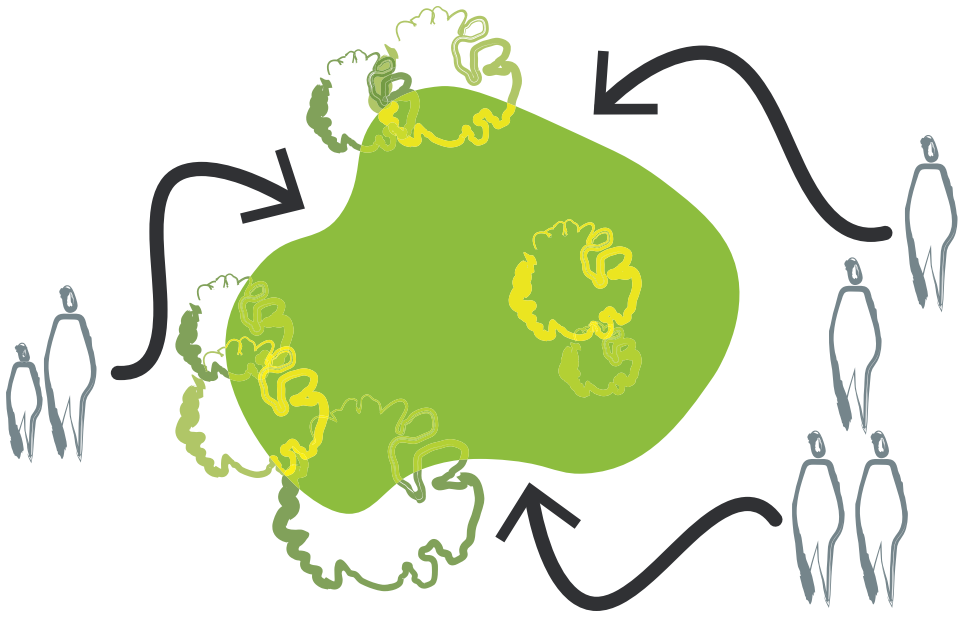


Figure 05, Accessibility to a public open space. Diagram: MGF

Public open spaces as potential centralities

Hillier implies that centralities are continually evolving and are related to people's *natural movement* and the *movement economies* theory. *Natural movement* refers to the movement patterns fixed by the spatial configuration of the city (Hillier, 2007). *Movement economies* then refers to the relationship between natural movement and the spatial configuration of the city and how this relationship affects the land use patterns (Hillier, 1996; Hillier, 2007). Centres would serve relatively larger amounts of people instead of their surroundings because of their street network structure rather than as a result of attractors such as commercial activity. Nevertheless, commercial activity might take advantage of certain locations and develop further in centres containing land uses that require large numbers of people (Hillier, 1996; Hillier, 2007). The *live centrality* is "the element of centrality which is led by retail, markets, catering and entertainment and other activities which benefit unusually from movement" (Hillier, 1999, p. 107). A thriving lively centre is that which is both locally and globally well-integrated to the city network. Hillier also agrees with the studies of Siksna (1997) that where centres are found, the block size of these tends to be smaller and more compact, the streets are narrower in order to encourage a major "ease of movement within the centre" (Hillier, 1999, p. 108). Centres also are identifiable by their land use sequence, a diverse business or retail activity will be almost continuously along the segment(s) that are considered as a centre (Chiradia, et al., 2009).

Sometimes POS are identified by the local population as the social centre of the neighbourhood, where people gather and perform diverse activities. In the case of *Roma* in Mexico City, *Romita* square is a local landmark where people used to gather in the past and still gather nowadays. Besides, a space that is supposed to serve as the centre of the neighbourhood was established from its conception: *Río de Janeiro* square (Yubi, 2005). Centralities should be understood as a "spatio-functional process" rather than a static location in time and space (Hillier, 1999). In this sense, and according to Pasaogullari & Doratli, a successful POS designed for a neighbourhood-human scale and aimed to encourage community sense, spatially should be a local centre (fig. 06).

Figure 06, Synthesis of the spatial phenomenon of centralities. Diagram: MGF

Public open space, land use diversity and sense of community

Sense of community is shaped when the local population of an area develops an interest for each other, form bonds and a sense of belonging. The relationship between these people and a particular location might increase or help to expand this sense of belonging within a group of people (Francis, et al., 2012). However, if within a neighbourhood there is much infrastructure aimed to cars there is a lower possibility to foster community sense since too many strangers and too much traffic might discourage the local population from walking and therefore to encounter and bond (Wood, et al., 2010). Nevertheless, according to Francis et al., a tighter sense of community is not related to the activity of walking per se, but to the purpose of the walk.

By fostering and raising social interaction, public spaces support the creation of community sense (Pasaogullari & Doratli, 2004; Talen, 2000). Though the public realm and the POS scale also play a significant role in bringing people together. Gehl implies that the "social visual field" is around 100 meters maximum. So for instance, plazas that possess a visual field of 100 or less can then be considered to be built for human social scale and are easier to serve as social places of encounter where one can see and be seen (Gehl, 2010). Within the public sphere, social exchange ought to take place, if public space is to contribute to shape sense of community (Talen, 2000). Talen establishes that it is more likely to foster sense of community and encourage "resident interaction and place attachment" (p. 347) if the public realm has adequate streets that support walking, smaller block size to promote encounter, and if the neighbourhood has high housing density. Dispersed, accessible (pedestrian-friendly),

and integrated POS tend to easily connect the local society (Talen, 2000). Besides, if the area is provided with retail activity, this might help in creating community sense (Wood, et al., 2010).

"The key finding of previous studies is that accessible locations for walkers are associated with diverse land use and a convenient street layout" (Kang, 2015, p. 94). This last statement is compatible with Hillier's thoughts and relates to Wood's et al. idea that because retail activity develops where there is people's co-presence, some retail places might encourage the bonding between residents. The diversity of businesses will attract different kind of population at different times of the day in a particular area (Jacobs, 1961). However, not all businesses are designed for the local society to use them. Only some retail and catering establishments that serve the local inhabitants are identified as places of encounter, as places where people constantly meet, the so-called *third places* (fig. 07).

Figure 07, The relation between public open space, land use diversity and sense of community. Diagram: MGF

Places of encounter and their role within residential neighbourhoods

Ray Oldenburg defines *third place* like "a place of refuge other than the home or workplace where people can regularly visit and commune with friends, neighbours, co-workers, and even strangers" (Metha & Bosson, 2010, p. 779). "Third places are nothing more than informal public gathering places" (Oldenburg, 1996, p. 6). The third places bring neighbours closer, serve as places of encounter, have an active relationship with the street, and promote *natural surveillance*. To be considered third places, the businesses must attend to the local population. When they are allocated within walking distance from their customers, their performance is stronger (Oldenburg, 1996). In a study undertaken by Metha & Bosson (2010) in Boston, they identify as third places businesses such as coffee shops, bars/pubs, restaurants, convenience stores, deli/local supermarkets, ice-cream shops, book shops, and thrift stores (Metha & Bosson, 2010, p. 790). In Mexico City, the same elements might serve as third places. Drinking establishments that can be identified as third places might be *cantinas*[1]. Besides, a local food outlet colloquially known as *fonda*[2] might be considered as a strong place of encounter.

Metha & Bosson suggest that businesses that arrange flexible seating spaces in the street nourish the possibility of a place to be valued as a third place. Since this encourages people to stay longer and are identified as sites that "support social life on the streets" (Metha & Bosson, 2010, p. 782). In addition to the seats provided by the businesses, the authors demonstrated that the façade's personalisation, the permeability towards the street, and the shelter supplied by the businesses in the public realm, are characteristics that third places have in common. The sum of these features make what Gehl calls a *soft edge*, where the street fronts are opened, permeable, and are visually attractive; people often tend to wander around instead of hastily pass by (Gehl, 2010). Soft edges encourage people's co-presence, lead to an active life between buildings, and promotes social cohesion.

[1]Public establishment, popular in nature, where drinks are sold and sometimes meals are served (RAE, 2020). Closer to the concept of the British tavern/pub or the 19th century American western saloons rather than the contemporary American bar.

[2]A local Mexican food outlet that is characterised for its low prices and for serving the main meal of the day – mainly open around 13:00 to 17:00. The food served at *fondas* is homemade. They are often used by workers that cannot go back to their homes to eat or by older people that do not want/can cook and/or look for company while eating.

More recent studies on third places developed by Farahani & Beynon (2019) emphasise that "pavement cafés and restaurants" (p. 208) – these being places that appropriate from the street to accommodate seats – contribute more to public life in the streets than indoor catering services (Farahani & Beynon, 2019). The urban features of these places include wide footpaths, personalisation of businesses façades, soft edges, and landscaping. Although their sample was small Farahani & Beynon did find some patterns, they agree that wider footpaths motivate the use of pavement cafes, the soft edge and the façades' personalisation are encouraged by third places, and greenery is not necessarily a resource for achieving "successful pavement dining" (Farahani & Beynon, 2019, p. 214) (fig. 08).

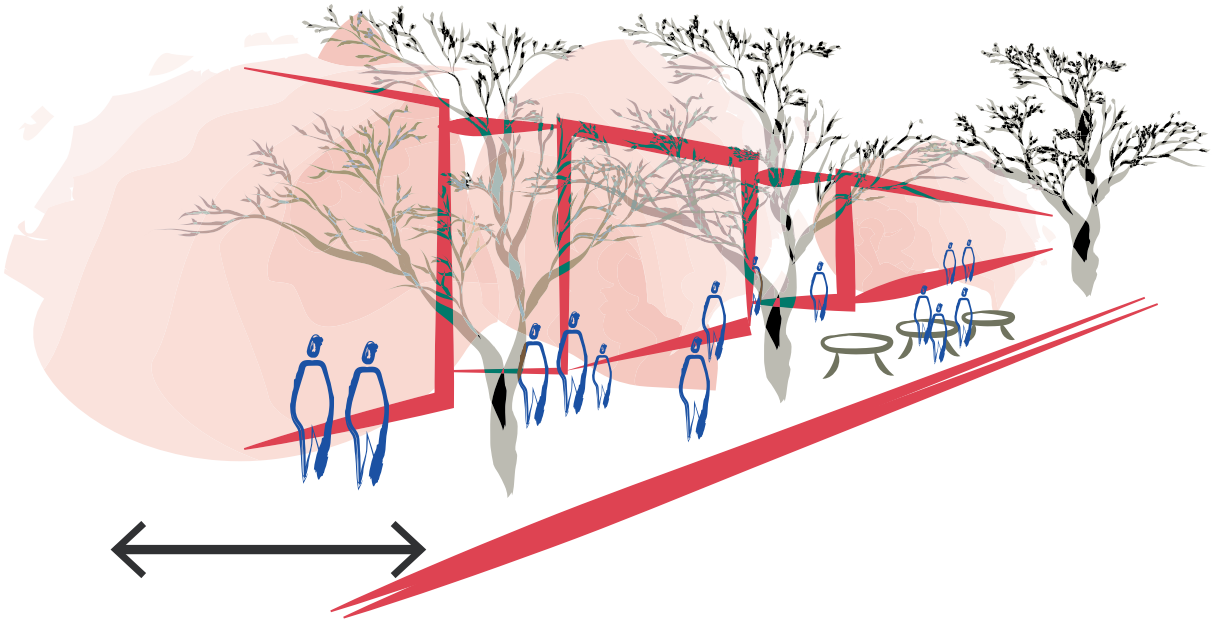


Figure 08, Synthesis of third places' characteristics. Diagram: MGF

Green infrastructure

The concept of green infrastructure refers to "an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations" (Benedict & Mcmahon, 2002, p. 5). The green infrastructure model proposes to connect all the green areas – whether large or small – in a system of "hubs, links, and sites". Hubs are the large green areas with environmental and leisure values, such as state parks, community parks or reserves which attract wildlife and supply people with public open spaces to gather and perform different activities. The links are the means that join the hubs together providing a transition space where nature can develop, and mankind can enjoy and use these

"conservation corridors" for sports or recreation proposes. Sites have less area than hubs. However, they also play an important role in preserving the natural environment and also as providers of community resources to society (Benedict & McMahon, 2006).

Giles-Corti et al. suggest that by creating an attractive-walkable network of links between different size POS, it might be feasible to draw more people towards them. This would then increase the pedestrian traffic and the "eyes on the street", allowing both the neighbourhood and the POS to be perceived as safer (Giles-Corti, et al., 2005). Besides, if a neighbourhood is walkable and perceived as safer, the local population might grade it as one that has a high sense of community (Wood, et at., 2010, quoting Lund 2002). If the *Roma-Condesa* public open spaces are working as a green infrastructure network is possible that this feature might be helping to develop the sense of community (fig. 09).

Figure 09, Synthesis of the green infrastructure concept. Diagram: MGF

Chapter III Methodology

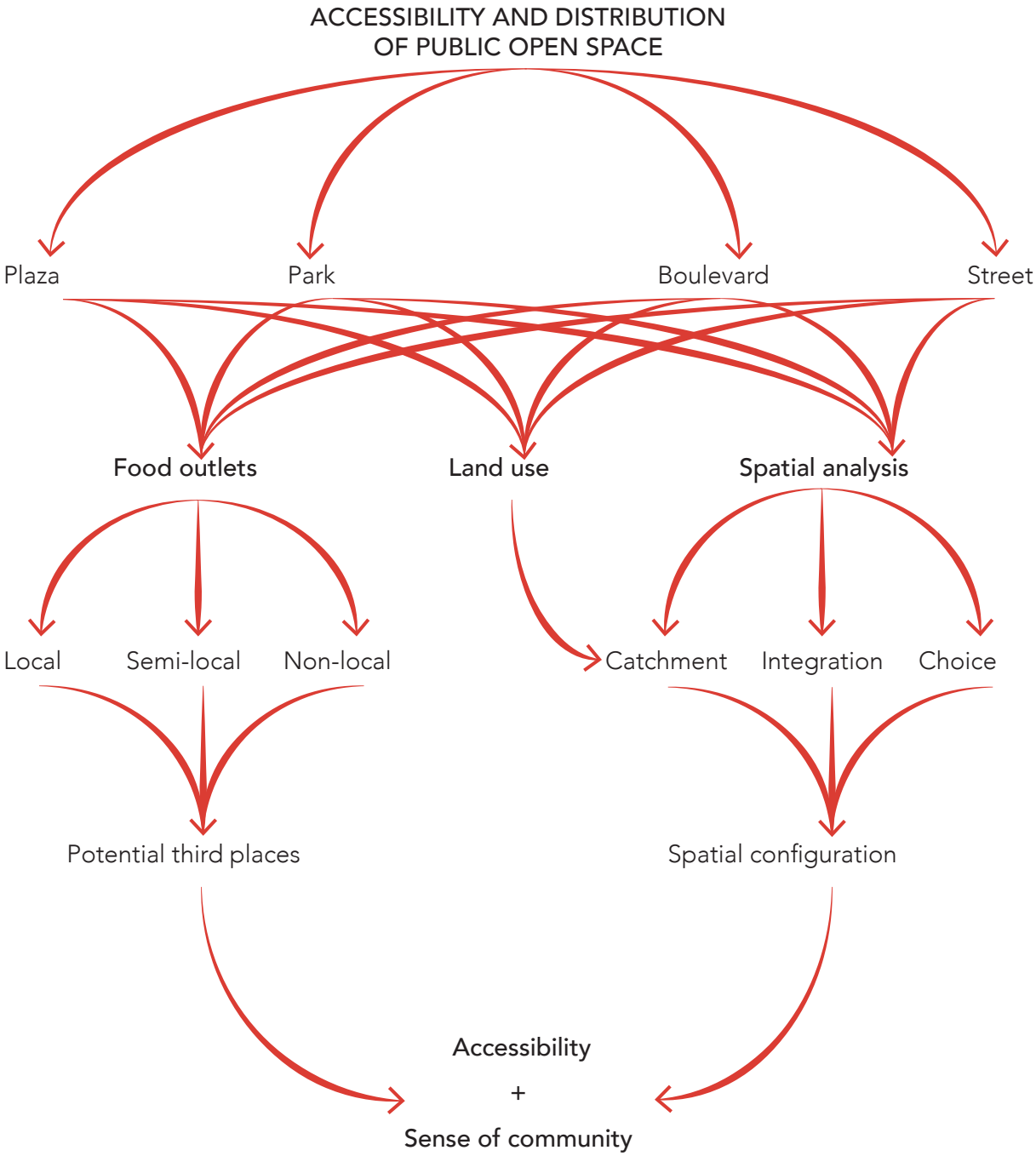


Figure 10, General methodology scheme. Diagram: MGF

Public open space classification

All the public open spaces and green spaces within *Roma-Condesa* were identified. The final selection of POS to detailly study were compared according to the spatial characteristics that encourage better accessibility to a public open space[3].

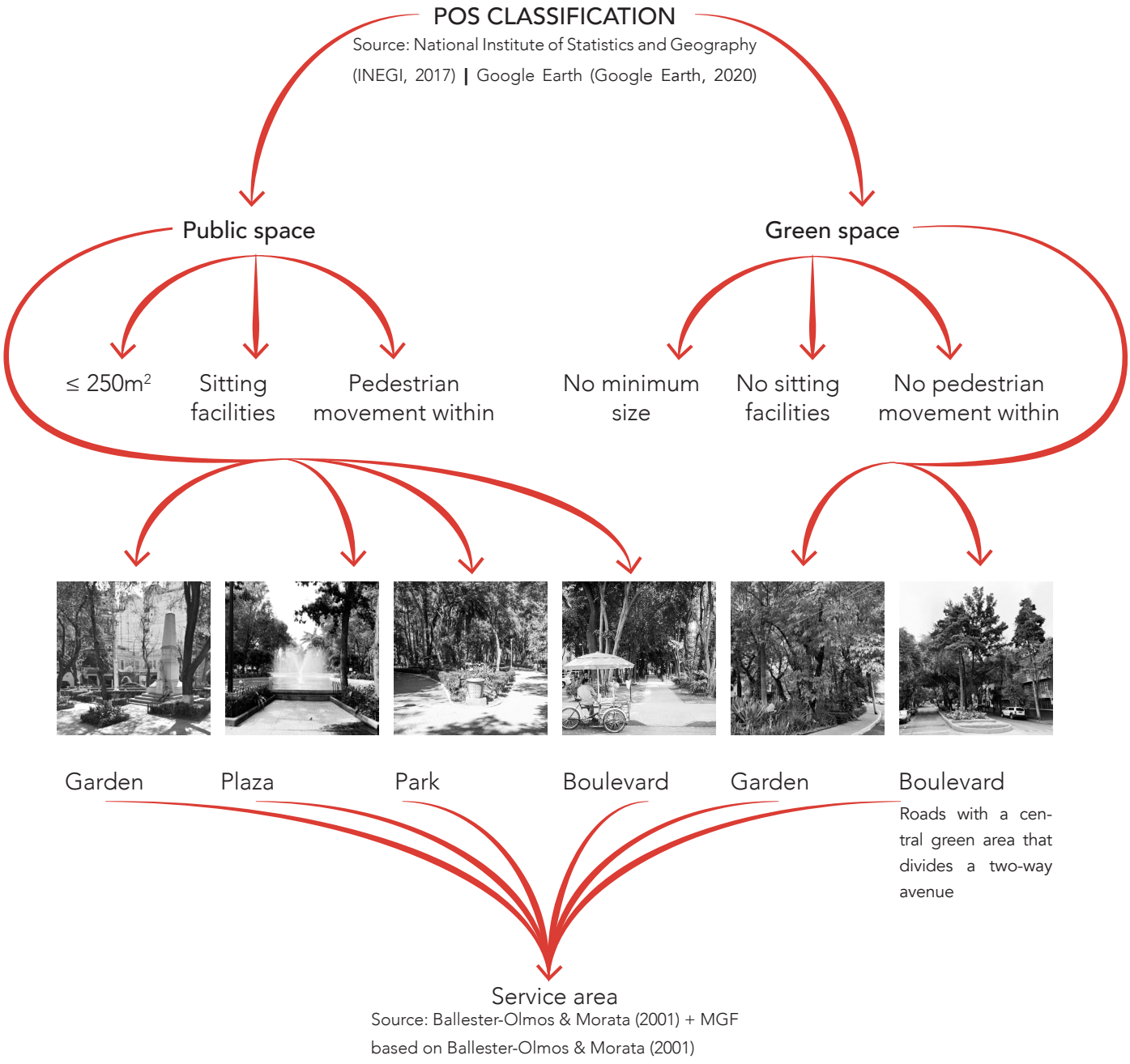


Figure 11, Methodology diagram on public open space classification. Images from left to right, *Monumento a los Caídos* (1), source: Google Maps, 2020. *Plaza Luis Cabrera* (2), source: https://covive.mx. *Parque México* (3), source: https://aracelibaizabal.tv. *Amsterdam* boulevard (4), source: https://mxcity.mx. *Benjamín Hill* garden (5), source: Google Maps, 2020. *Benjamín Hill* boulevard (6), source: Google Maps, 2020. Diagram: MGF

Business classification and potential third places

Only the businesses classified under the category of catering are considered for the research since they are located at ground floor level and are potential third places. The spatial features of the POS were evaluated along with the potential third places around them. That was done to conclude which POS might be behaving as neighbourhood-human scale centres, and whether or not they might be playing a role in creating local community sense[4].

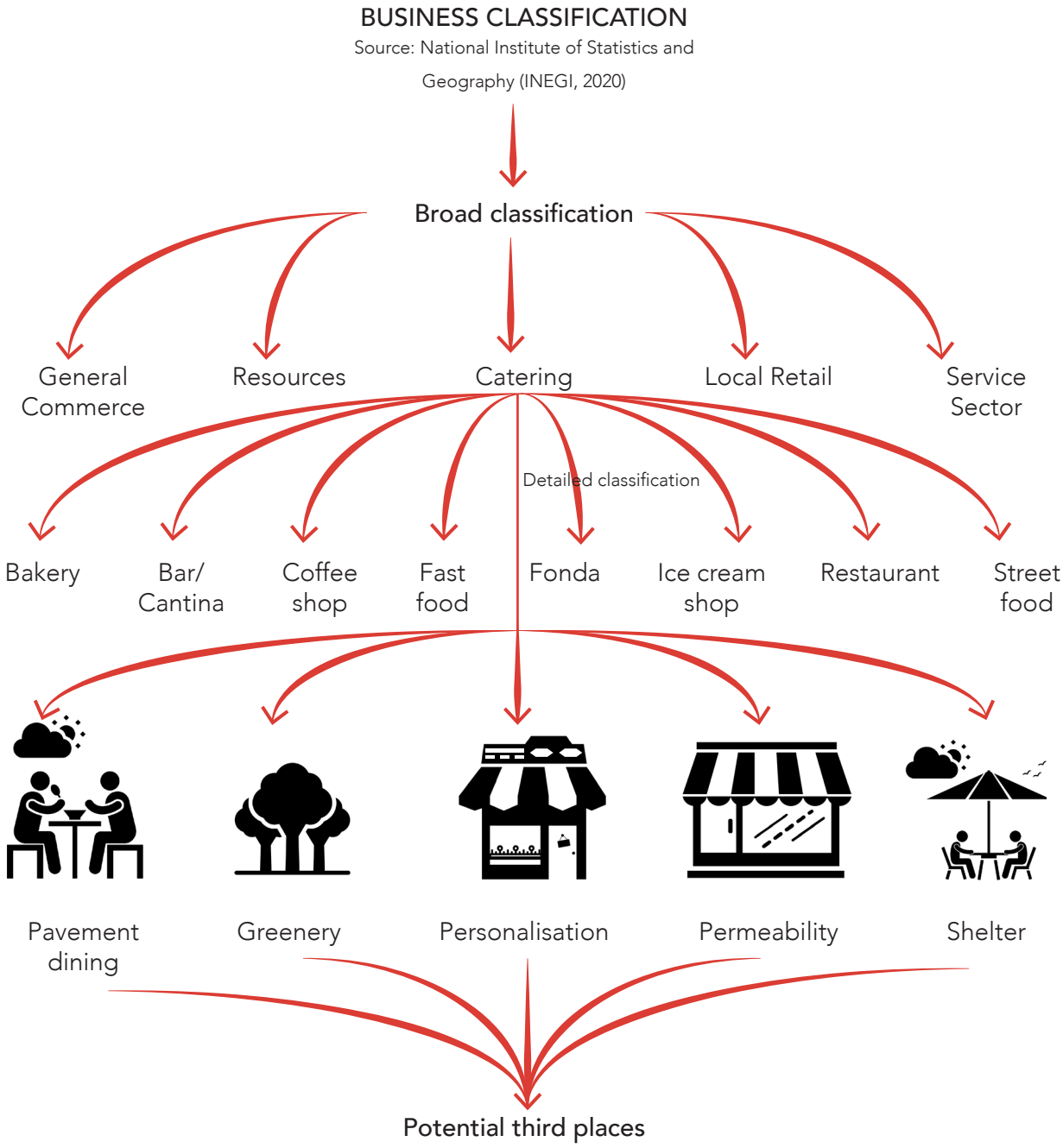


Figure 12, Methodology diagram on business classification. Icons source: https://thenounproject.com. Diagram: MGF

Model considerations and analysis method

The spatial analysis measured the accessibility to POS and different features of the street network against the local, semi-local or non-local influence each business has towards the public open spaces. This aimed to consider if there is a relation of how POS and businesses are located. If so, if that relation might spatially add to the creation of sense of community or not. Finally, for the detailed analysis of the public open spaces, only their adjacent segments and the segments that are turning from them were taken into account.

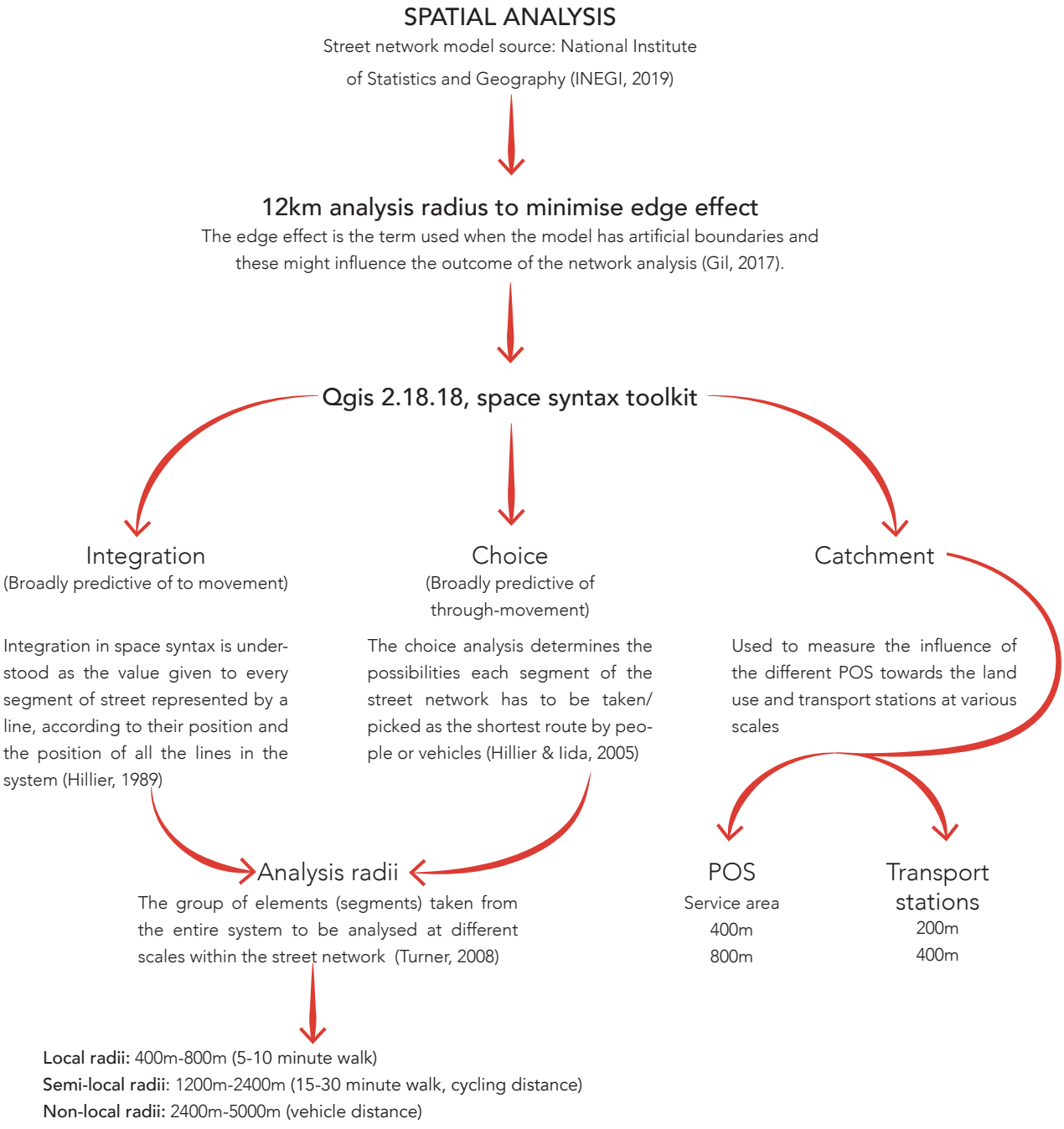


Figure 13, Methodology diagram on spatial analysis. Diagram: MGF

Limitations

The business datum is updated to April 2020. However, it only shows the businesses that are registered. Thus, it is possible that many informal food outlets are not being considered for this research. Google street view was used to update the data and to identify some of the missing businesses. Nevertheless, this was only done for the detailed analysed segments of the ten POS in Chapter VI. Due to the current Covid-19 pandemic situation, this investigation was done on a remote basis. Fieldwork would be required to more objectively evaluate the accessibility conditions on each POS and the study of potential third places. For example, the field observations would serve to identify the presence of known and unknown street markets compounds around the public transport stations or POS and people's behaviour in situ.

[3]For a broader understanding of the public open spaces classification and how they were categorised see Appendix I on page 153

[4]For a broader understanding of the businesses classification and how they were categorised see Appendix II on page 156

Chapter IV Public Space, Land Use and the City Network
Social and land use conditions

Roma-Condesa is not heavily populated, nor densely constructed, which in this case is considered as an indicator of the elevated socio-economic status of the area. Only 7% of the blocks are occupied by more than 300 people (fig. 14), while just over 10% hold more than 130 dwellings (fig. 15). The official land use data indicate that 68% of the area is entirely residential, almost 30% is residential either with commerce in the ground floor (5.6%), with offices (8.9%), or mixed with housing (15%) (fig. 16). This demonstrates that most of *Roma-Condesa* is designated for people to live in. Nevertheless, it is known that plenty of dwellings are used as offices, studios, catering, or others, which gives the area a wider land use diversity than the one shown in figure sixteen.

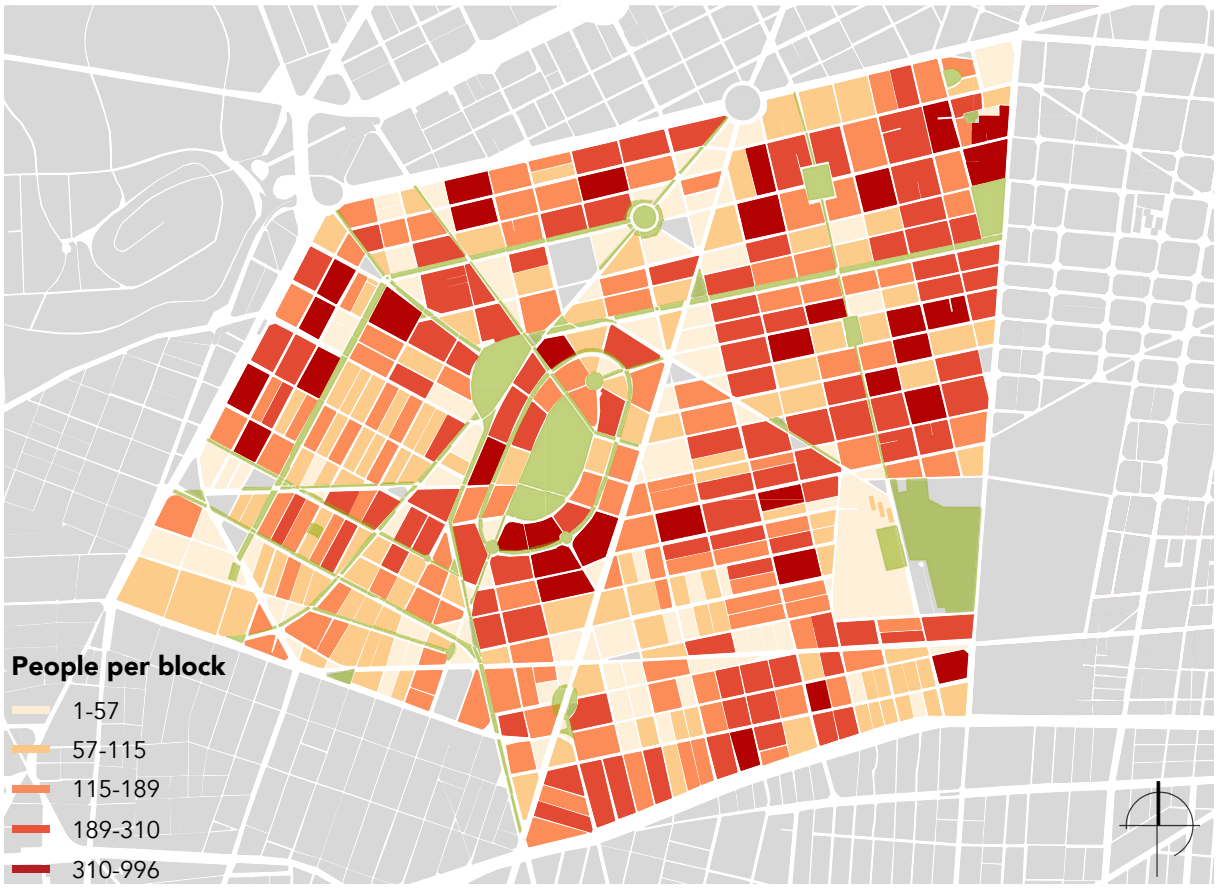


Figure 14, Population density[5]

[5] All the figures containing maps from figure fourteen onwards, were developed out of base maps from INEGI and edited by MGF using QGIS 2.18.18 software

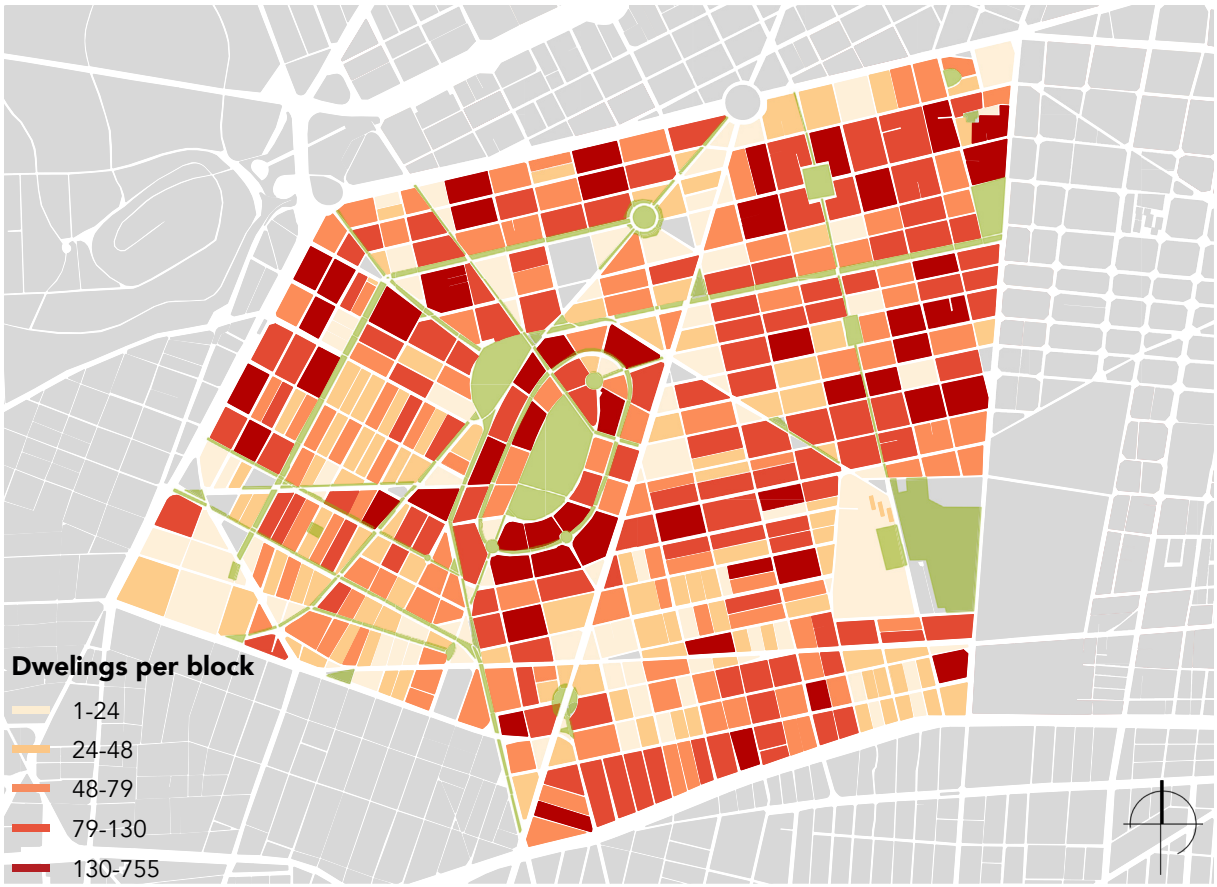


Figure 15, Housing density

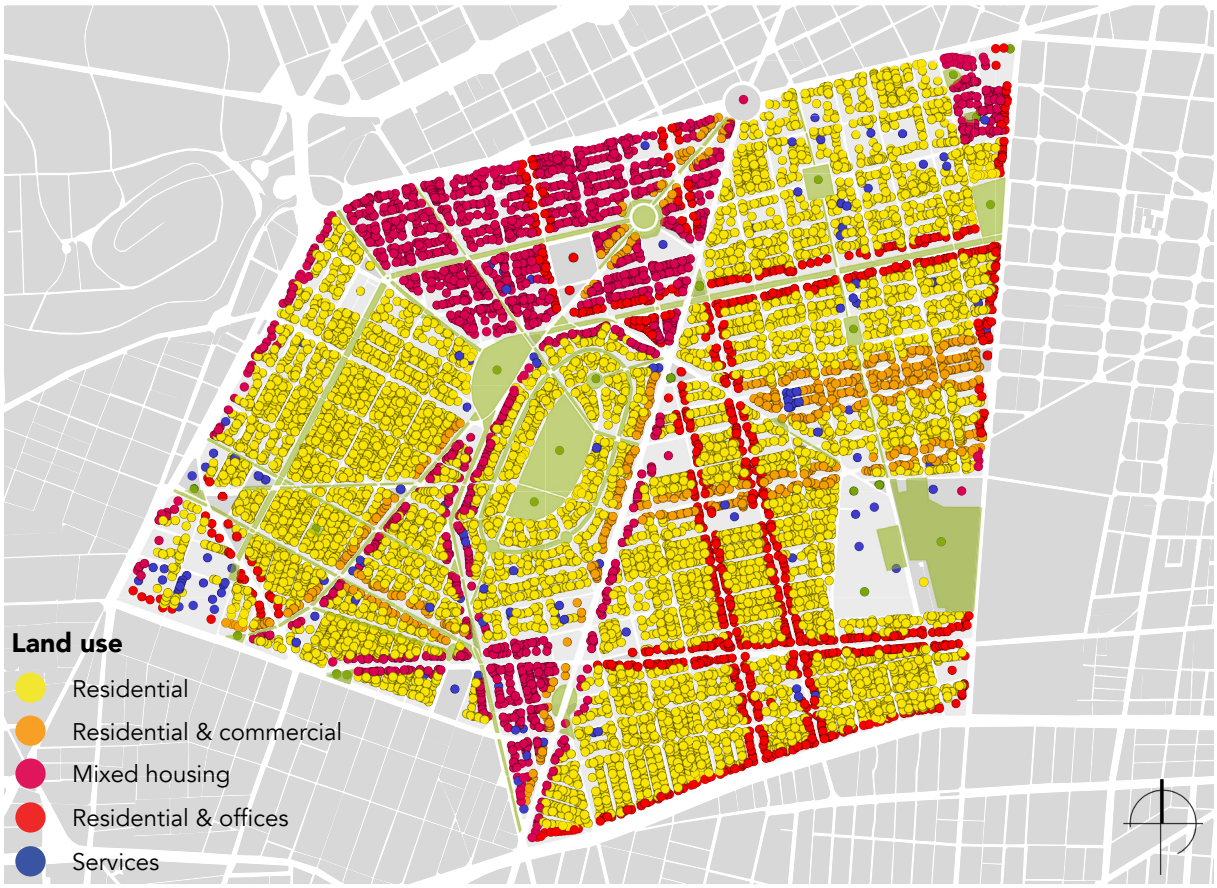


Figure 16, Official land use

Public open spaces and green spaces identification and classification

The public open spaces have different service areas according to their dimension (Talavera, 2012). From the 41 public and green spaces identified within the study area, only eight falls into Ballester-Olmos & Morata's (2001) classification (table 01; fig. 17). The service area of the eight spaces was adjusted according to the scale provided by the authors. For example, *Luis Cabrera* is considered as a neighbourhood square because it almost reaches the 5000m^2 in comparison to the rest of the squares and parks. *México* and *López Velarde* are considered with a service area of 1500m because their size lies between a district and a city park; the same consideration is made for *España* (table 02).

Reference	Type	Min. Area (m^2)	Max. Distance (m) Service area
Ballester-Olmos & Morata (2001)	Urban allotment	60,000	1,000
	Neighbourhood square	5,000	250
	Quarter park	10,000	500
	District park	50,000	1,000
	City park	100,000	2,000
	Metropolitan park	> 100,000	5,000

Table 01, Ballester-Olmos & Morata's classification of public space according to their size. Source: Talavera, 2012

Figure 17, Public open spaces and green spaces, those classified according to Ballester-Olmos & Morata are highlighted

Name	Type	Ballester & Morata classification	Area (m^2)	Min area (m^2)	Service area
Luis Cabrera	Plaza	Neighbourhcod square	4,374	5,000	250
Villa de Madrid	Plaza	Neighbourhcod square	6,916	5,000	250
Pentathlon	Park	Quarter park	9,841	10,000	500
Pushkin	Park	Quarter park	17,027	10,000	500
Río de Janeiro	Plaza	Quarter park	14,370	10,000	500
España	Park	Quarter park	32,160	10,000	750
López Velarde	Park	District park	80,930	50,000	1,500
México	Park	District park	70,141	50,000	1,500

Table 02, *Roma-Condesa* POS and their service area according to their size

From the 41 spaces, the six walkable boulevards and ten other POS were chosen for a more focused study in the next chapters. Seven out of the ten POS were selected because they can be more objectively classified according to the system devised by Ballester-Olmos and Morata. Another one because it is located along the most significant road in the area – *Insurgentes* Avenue. One more with a similar size as the last previously mentioned but located in a more segregated environment. Finally, *Romita* was picked given its cultural and historical relevance (table 03; fig. 18).

Name	Type	Ballester & Morata classification	Area (m^2)	Min area (m^2)	Service area
López Velarde	Park	District park	80,930	50,000	1,500
México	Park	District park	70,141	50,000	1,500
España	Park	Quarter park	32,160	10,000	750
Pushkin	Park	Quarter park	17,027	10,000	500
Río de Janeiro	Plaza	Quarter park	14,370	10,000	500
Luis Cabrera	Plaza	Neighbourhood square	4,374	5,000	250
Villa de Madrid	Plaza	Neighbourhood square	6,916	5,000	250

Juan Rulfo	Park	N/A	2,115	N/A	200
Morelia	Plaza	N/A	2,892	N/A	200
Romita	Plaza	N/A	1,304	N/A	200
Alfonso Reyes	Boulevard	N/A	N/A	N/A	200
Álvaro Obregón	Boulevard	N/A	N/A	N/A	200
Amsterdam	Boulevard	N/A	N/A	N/A	200
Durango	Boulevard	N/A	N/A	N/A	200
Mazatlán	Boulevard	N/A	N/A	N/A	200
Nuevo León	Boulevard	N/A	N/A	N/A	200

Table 03, Shortlist of the POS to analyse

Figure 18, ID of the sixteen POS and some streets

Identification and distribution of food outlets as potential third places

The catering activity is further classified by the type of place and the type of food for sale. It is categorised according to the kind of population it is most likely to serve, local, semi-local, and non-local. The semi-local and non-local categories do not imply that the food outlets are not likely to be used by locals, but that in addition to the local population, they might serve a wider audience. A total of 1682 businesses were counted, of which half are non-local, 29% are semi-local, and 20% are local. From those categories, 13% are *fondas*, 16% coffee shops, and 49% restaurants (table 04; fig. 19 & 20).

GROUP	CLASS	SERVES	DESCRIPTION
Catering	Bakery	Semi-local	
	Bar/Cantina	Semi-local	Bar, cantinas, etc.
	Coffee shop	Semi-local	Coffee shops
	Fast food	Non-local	Self service restaurants, restaurants where people do not stay longer
	Fonda	Local	Local restaurants that typically serve only the main meal (open from 13:00-17:00)
	Ice cream shop	Semi-local	
	Restaurant	Non-local	Restaurants, restaurant chains, etc.
	Street food	Local	Quesadillas , tacos, tortas , etc.

Table 04, Sub-classification of food businesses

The food outlets count per segment was added to the network map. For a more precise result, the model holds the density of commercial activity concerning the length of each segment and the potential target population: the more colour intensity, the higher count of businesses per segment per meter. The distribution of local businesses is dispersed rather than concentrated. There are clusters around POS such as *Juan Rulfo, Pushkin, Morelia* or *López Velarde*. Besides, there are several highlighted segments one or two turnings away from *Insurgentes* Avenue (fig. 21).

Figure 19, From up to down, *La Suiza* bakery (top left), source: https://newsweekespanol.com. *La Botica* bar/cantina (top right), source: http://cdn.c.photoshelter.com. *Toscano* coffee shop (second left), source: https://www.flickr.com. Domino's Pizza fast food (second right), source: Google Maps, 2020. *El Pollo Leñero fonda* (third left), source: Google Maps, 2020. Roxy ice cream shop (third right), source: http://hellodf.com. *Nonna* restaurant (bottom left), source: https://thehappening.com. Street food booth (bottom right), source: Google Maps, 2020

Figure 20, Food outlets in *Roma-Condesa*

The semi-local businesses arrangement pushes towards the central section of the neighbourhoods, towards the residential area where streets like *Tamaulipas* and *Michoacán* display a high commercial density. *Luis Cabrera* and *Villa de Madrid* outstand too. The non-local catering layout has a high count in the same POS and streets that the semi-local. *Álvaro Obregón* and *Nuevo León* boulevards also stand out. The total food outlets' rate shows an intense volume of businesses in *Tamaulipas*, *Michoacán*, *Álvaro Obregón* and *Nuevo León* streets. The POS that have high catering density overall are *Villa de Madrid*, *Juan Rulfo*, *Luis Cabrera*, and *Pushkin*. Moreover, markets – which provide several catering businesses facing the street – can be found adjacent to the segments with the highest rate (fig. 22-24).

The patterns followed by the local against the semi-local and non-local businesses are contrasting. The spatial configuration, other spatial properties, and the land use are to be taking into account to further understand the distribution of the food outlets according to their potential target population. Furthermore, the different businesses immediately connected to the selected POS are studied individually in chapter VI.

Figure 21, Local food outlets density per segment per meter

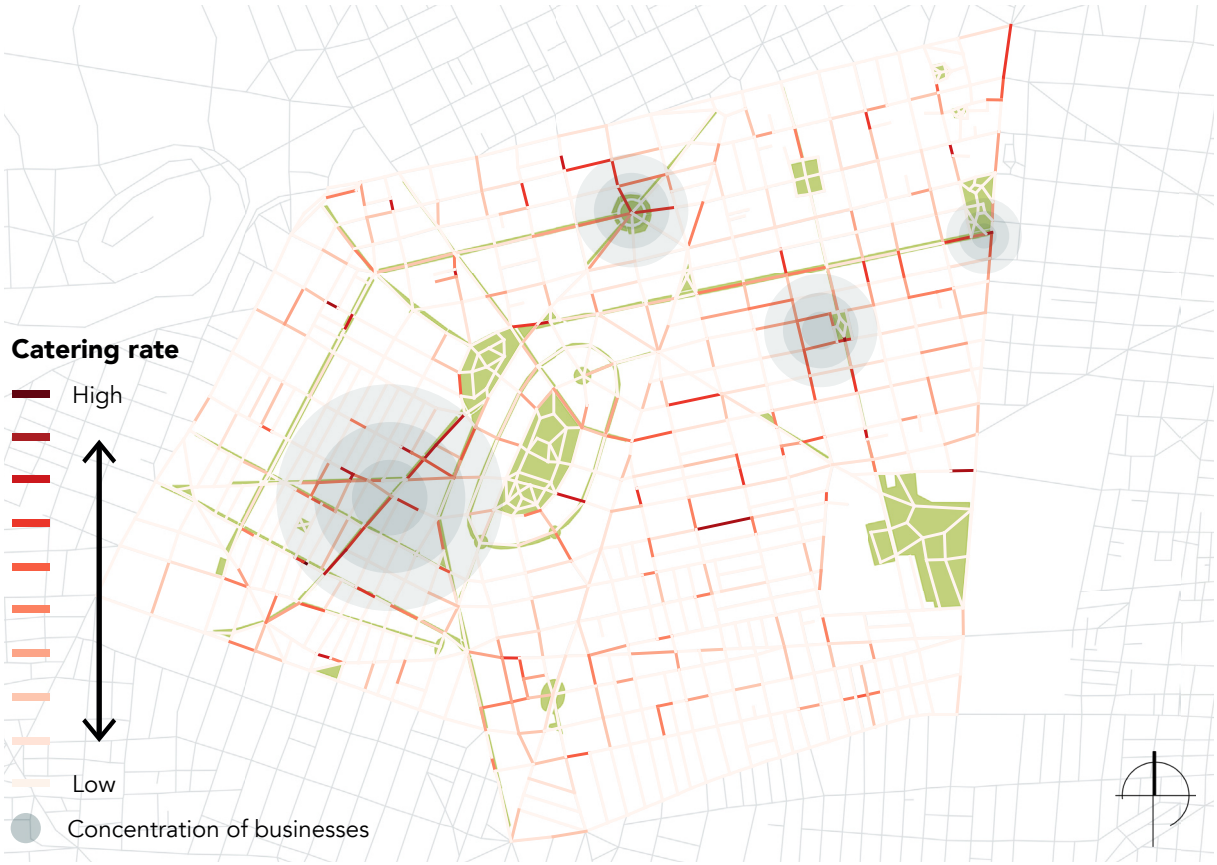


Figure 22, Semi-local food outlets density per segment per meter

Figure 23, Non-local food outlets density per segment per meter

Figure 24, Total food outlets density per segment per meter

Chapter V The Spatial Configuration *of Roma-Condesa*
The neighbourhoods

In general, *Roma-Condesa* is highly integrated if it is compared with the entire network since it is located close to Mexico City's downtown. However, the west side is less integrated than the east side as the radii of analysis increases, making it less connected and accessible for longer journeys. At neighbourhood scale, streets like *Nuevo León, Álvaro Obregón,* and *Tamaulipas* have their highest integration average values between radius 2000 and 2400 – 2.29801154, 2.09556369, 1.98040268 respectively. In contrast, *Alfonso Reyes* and *Michoacán* stand out at local radius with values of 2.07297523 and 2.00994646 at 1200m. This might suggest that *Alfonso Reyes* and *Michoacán* are local centres; their integration decreases as the radius increases. *Yucatán* outstands as a centrality since it is both globally and locally integrated. *Michoacán, Tamaulipas,* and *Orizaba* seemed rather average in their spatial configuration, while *Amsterdam* is the most segregated from this sample. The average choice values for these streets are constant. Although all of them have their lowest value at radius 400 (table 05 & 06; fig. 25).

Street (ID)	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
Alfonso Reyes	1.266114229	1.31052633	1.310282105	1.30876128	1.303887099	1.294583354	1.287398118	1.276242626
Álvaro Obregón	1.021127846	1.145850495	1.1883473	1.202105272	1.212426034	1.216254553	1.210415839	1.190263855
Amsterdam	0.865116817	0.990012858	0.98445539	0.979188057	0.966078231	0.961933713	0.9529375	0.940087861
Durango west	0.95295541	1.11501307	1.17006919	1.20493245	1.21692198	1.23415047	1.24960629	1.24412745
Durango east	1.165382994	1.279272369	1.29327732	1.299069433	1.299227435	1.302049827	1.309413987	1.314824049
Michoacán	1.163749	1.25009991	1.28318029	1.29478176	1.28926533	1.27622966	1.25107122	1.21376761
Nuevo León	1.018447496	1.196525137	1.25917545	1.307380678	1.333298341	1.347188804	1.356256772	1.349528399
Orizaba + Toluca	1.171710731	1.228789545	1.233049736	1.225839159	1.225714151	1.224671669	1.218101584	1.184057085
Tamaulipas	1.01838503	1.152334622	1.200141981	1.218747772	1.226917334	1.232592836	1.231820611	1.191779723
Yucatán	1.01574375	1.18559101	1.23253223	1.26758023	1.27917007	1.29139101	1.29316739	1.24442785

Table 05, A sample of streets within *Roma-Condesa* and their different radii average choice values. Highlighted the higher and the lower values for each radius

Integrated Segregated

Street (ID)	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
Alfonso Reyes	1.930196392	2.010357704	2.07297523	2.072277281	2.029195111	1.97202349	1.93627135	1.851358431
Álvaro Obregón	1.636227595	1.81702181	1.974710312	2.046738391	2.086220722	2.095563693	2.090474558	2.06311555
Amsterdam	1.38039361	1.511043973	1.610613602	1.664874963	1.693115474	1.705986518	1.690667358	1.709969661
Durango west	1.68730319	1.83233928	1.9062671	1.99204495	2.01616914	2.04776988	2.06014358	1.99754622
Durango east	1.695149477	1.909669515	2.065612445	2.168928576	2.234133183	2.282410539	2.334315001	2.303918191
Michoacán	1.82885257	1.92598343	2.00994646	2.03015189	1.99079187	1.94743956	1.88475966	1.79425936
Nuevo León	1.614965812	1.956935833	2.1480545	2.267397606	2.306208197	2.298011538	2.262045522	2.128710849
Orizaba + Toluca	1.730316493	1.745232699	1.810636533	1.862555392	1.910286178	1.940934952	1.989256984	1.961363941
Tamaulipas	1.671562192	1.876888098	1.936880453	1.95915073	1.980402681	1.95625668	1.902731368	1.78735993
Yucatán	1.90315971	2.15280302	2.14195916	2.20111901	2.18836748	2.22022989	2.23651287	2.13813951

Table 06, A sample of streets within *Roma-Condesa* and their different radii average integration values. Highlighted the higher and the lower values for each radius

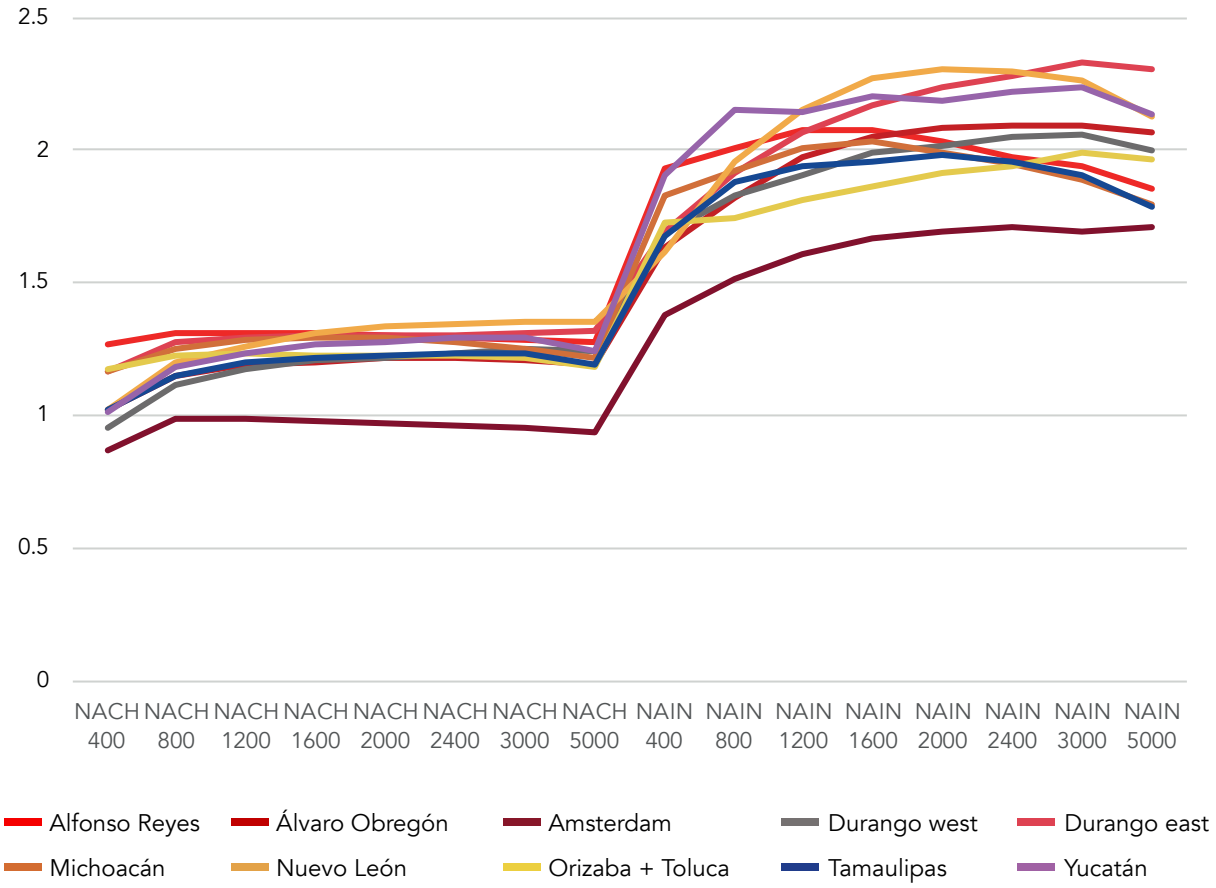


Figure 25, A sample of streets within *Roma-Condesa* and their different radii average choice and integration values[6]

The streets previously described were chosen for different reasons: *Álvaro Obregón* and *Nuevo León* are well-known streets. *Michoacán* and *Tamaulipas* stood out in the businesses rate. *Orizaba+Toluca* is the central design axis of *Roma* neighbourhood. The rest of the streets were randomly selected from the spatial analysis.

Following the streets analysis, a broad study of the spatial configuration of public open spaces was carried out by looking to the segments that immediately connect to the POS. The more locally integrated are *Villa de Madrid* and *Juan Rulfo* (fig. 26-33).

[6]All graphs and tables from table five onwards were made by MGF based on the data analysed using the space syntax toolkit in QGIS 2.18.18

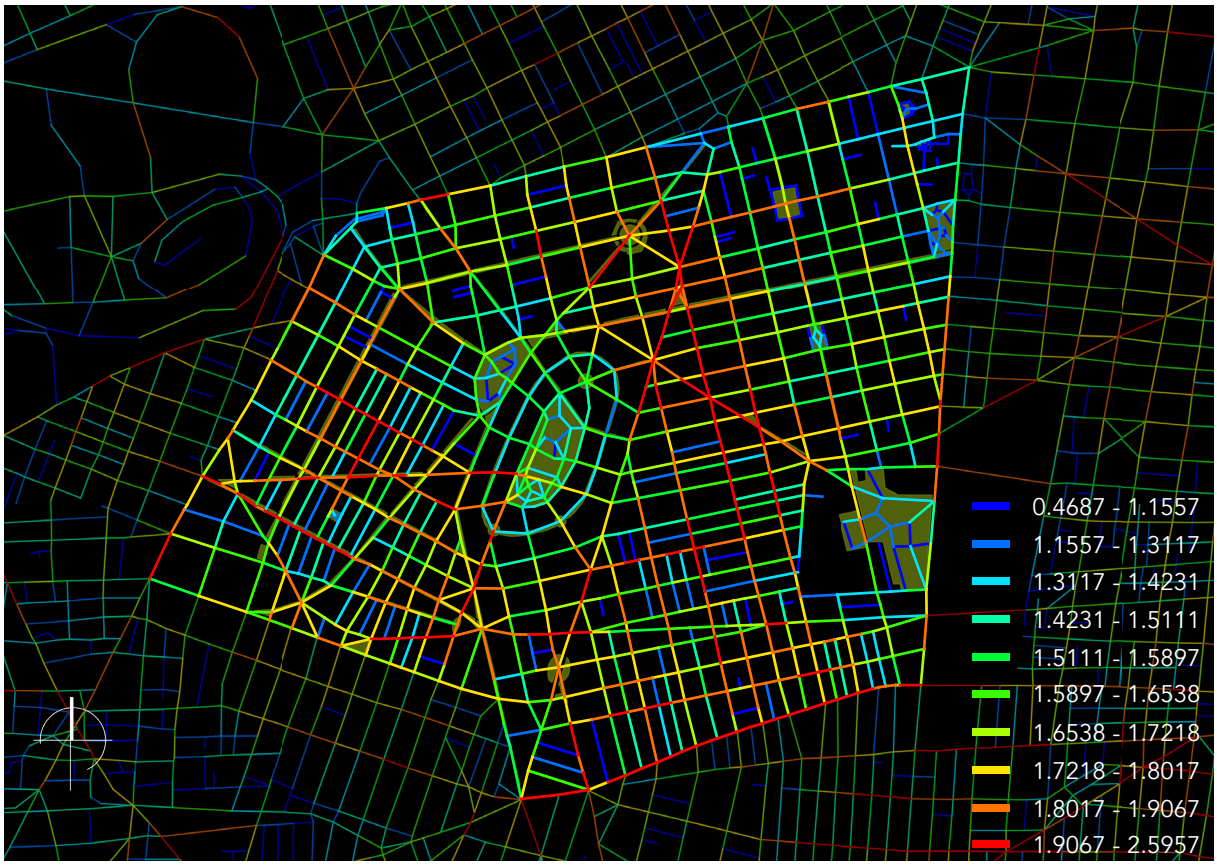


Figure 26, Normalised Analysis Integration radius 400 (NAINr 400) with public open spaces highlighted in green

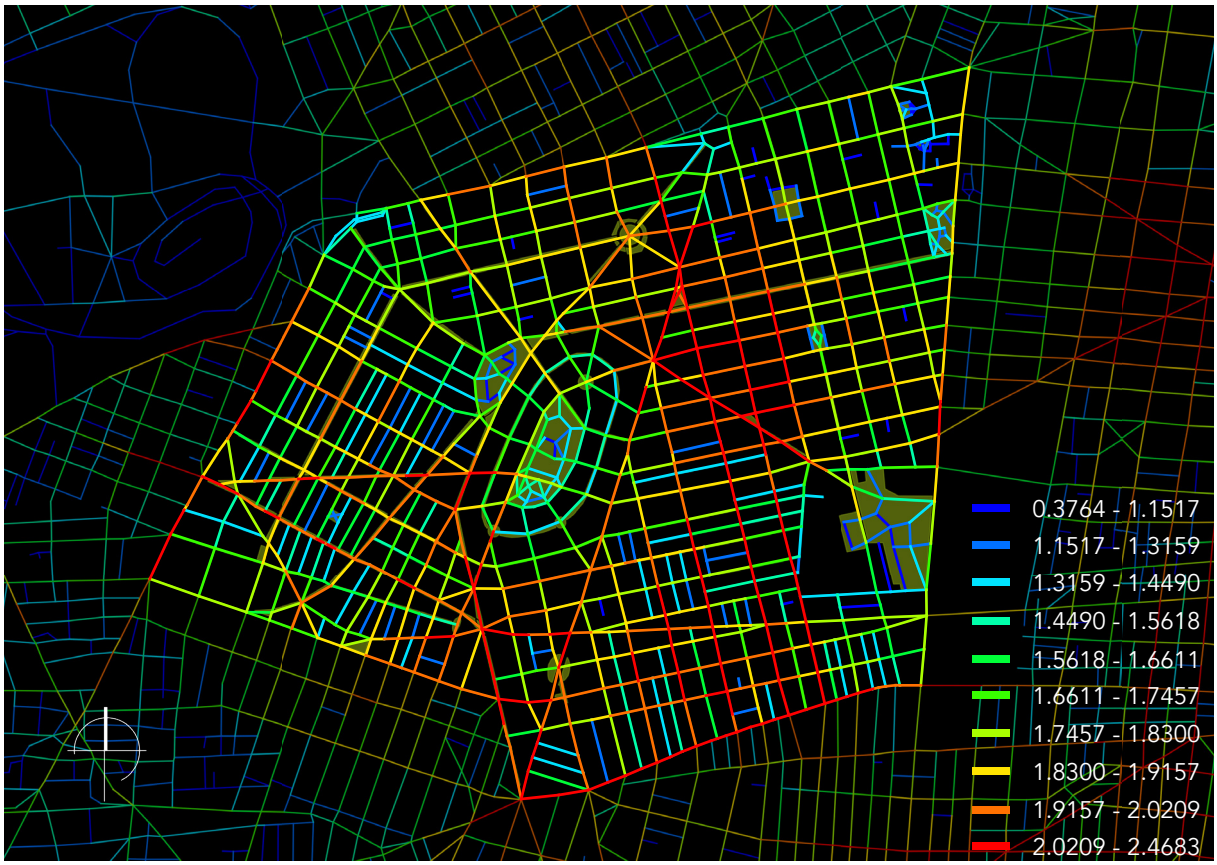


Figure 27, Normalised Analysis Integration radius 800 (NAINr 800) with public open spaces highlighted in green

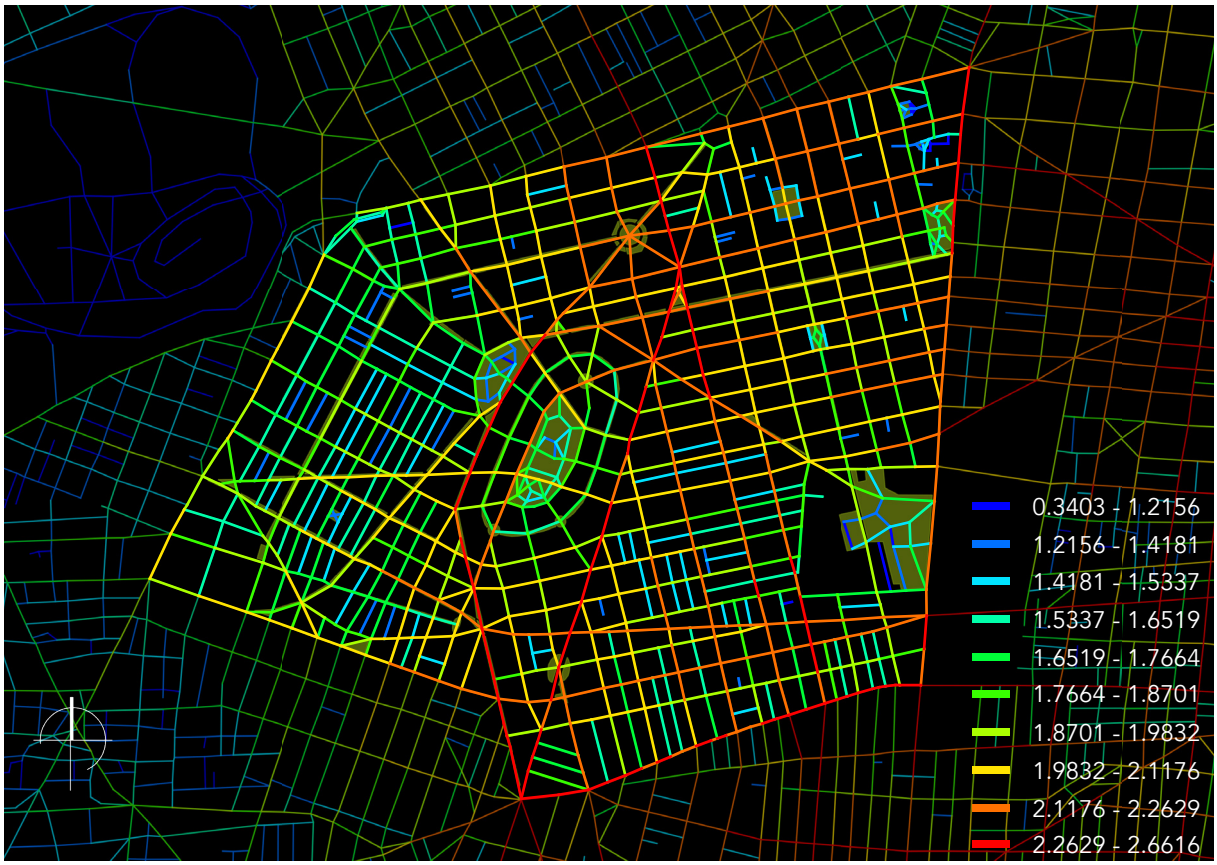


Figure 28, Normalised Analysis Integration radius 2000 (NAINr 2000) with public open spaces highlighted in green

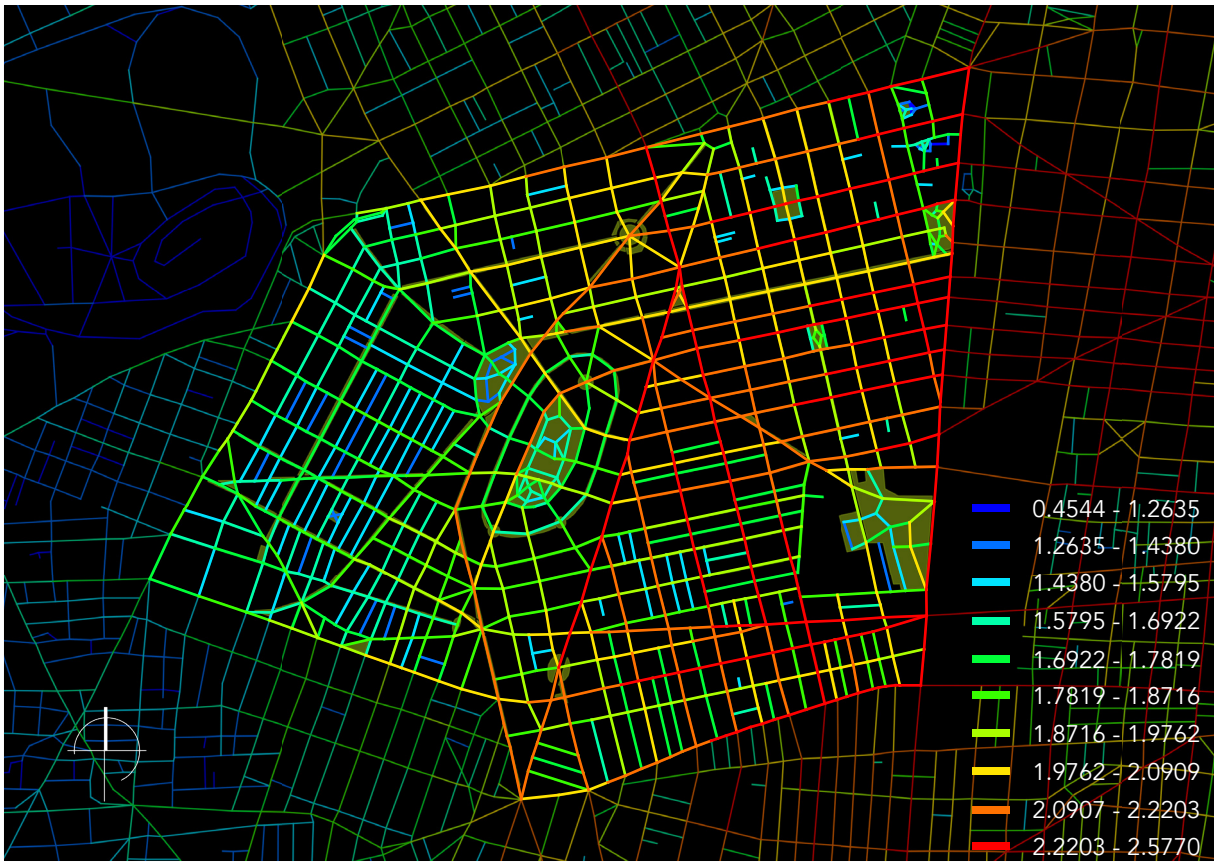


Figure 29, Normalised Analysis Integration radius 5000 (NAINr 5000) with public open spaces highlighted in green

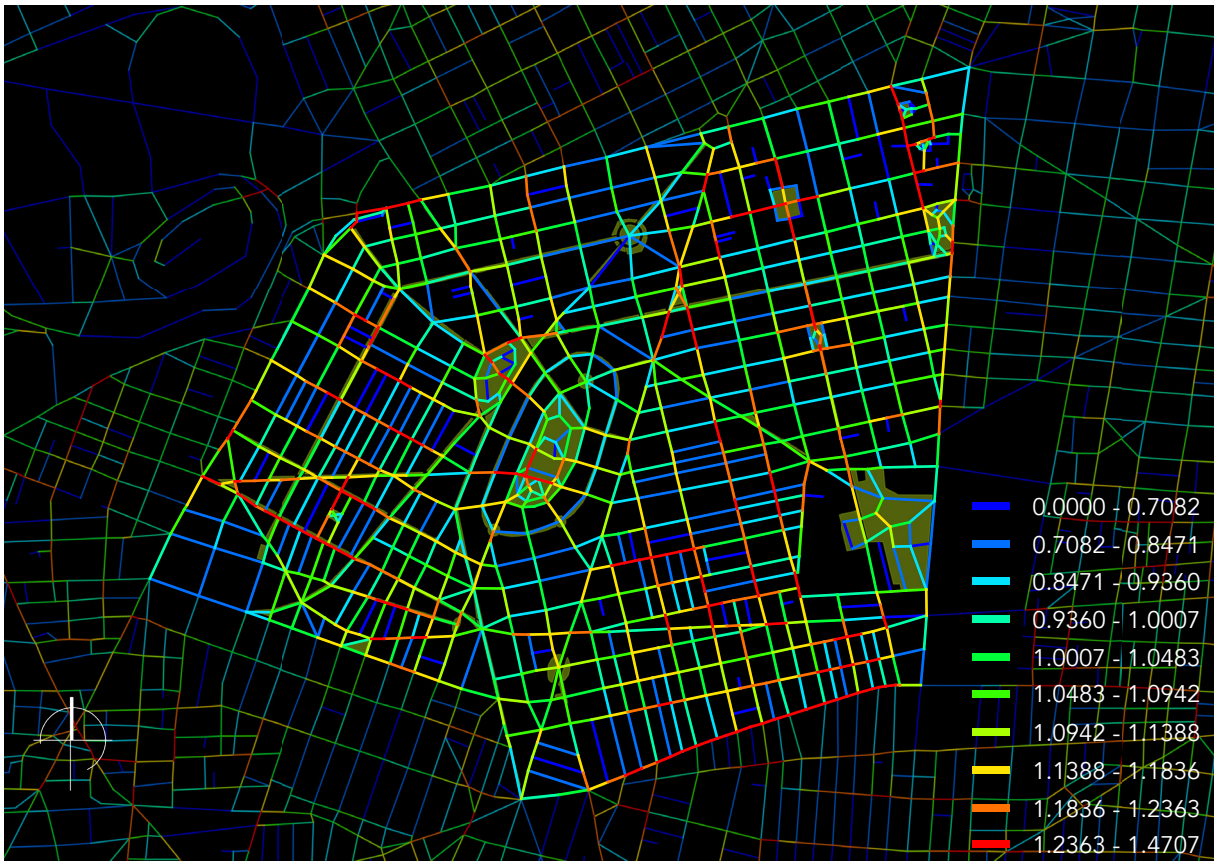


Figure 30, Normalised Analysis Choice radius 400 (NACHr 400) with public open spaces highlighted in green

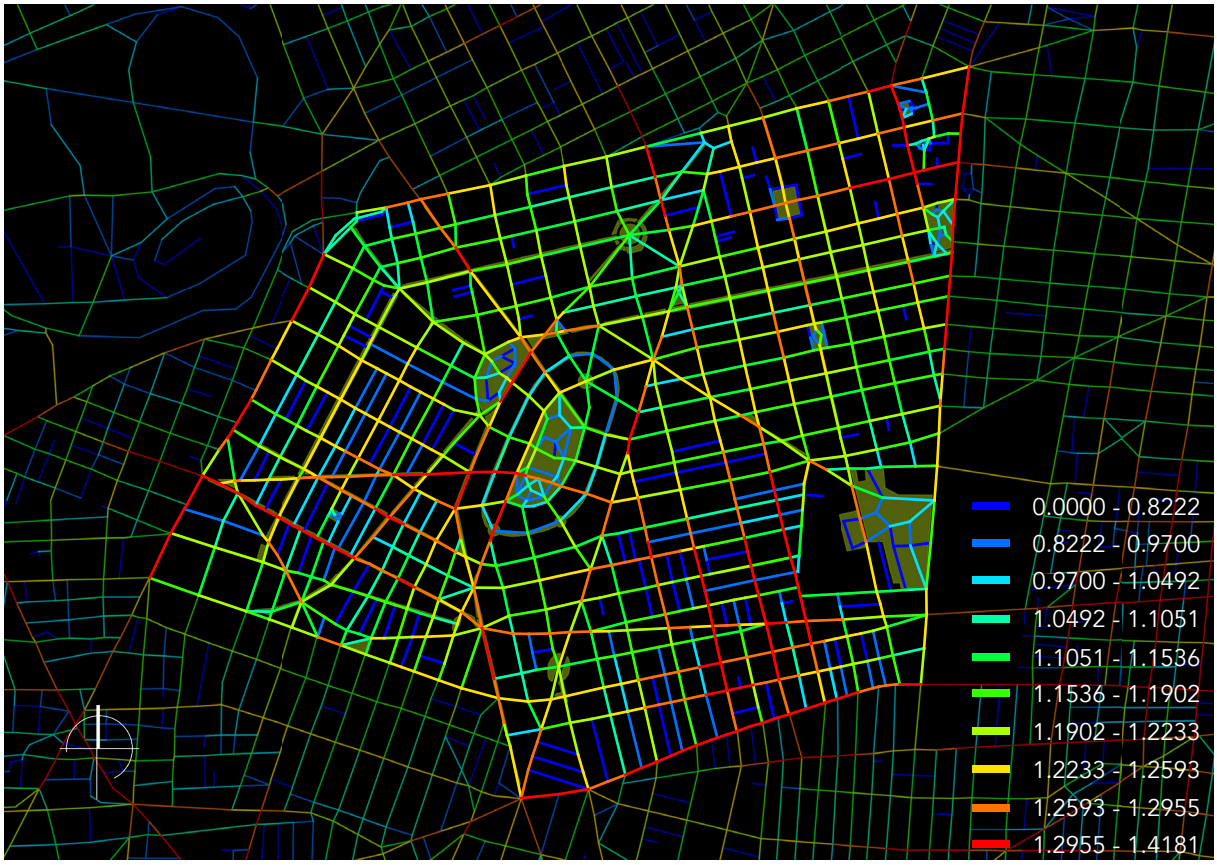


Figure 31, Normalised Analysis Choice radius 1200 (NACHr 1200) with public open spaces highlighted in green

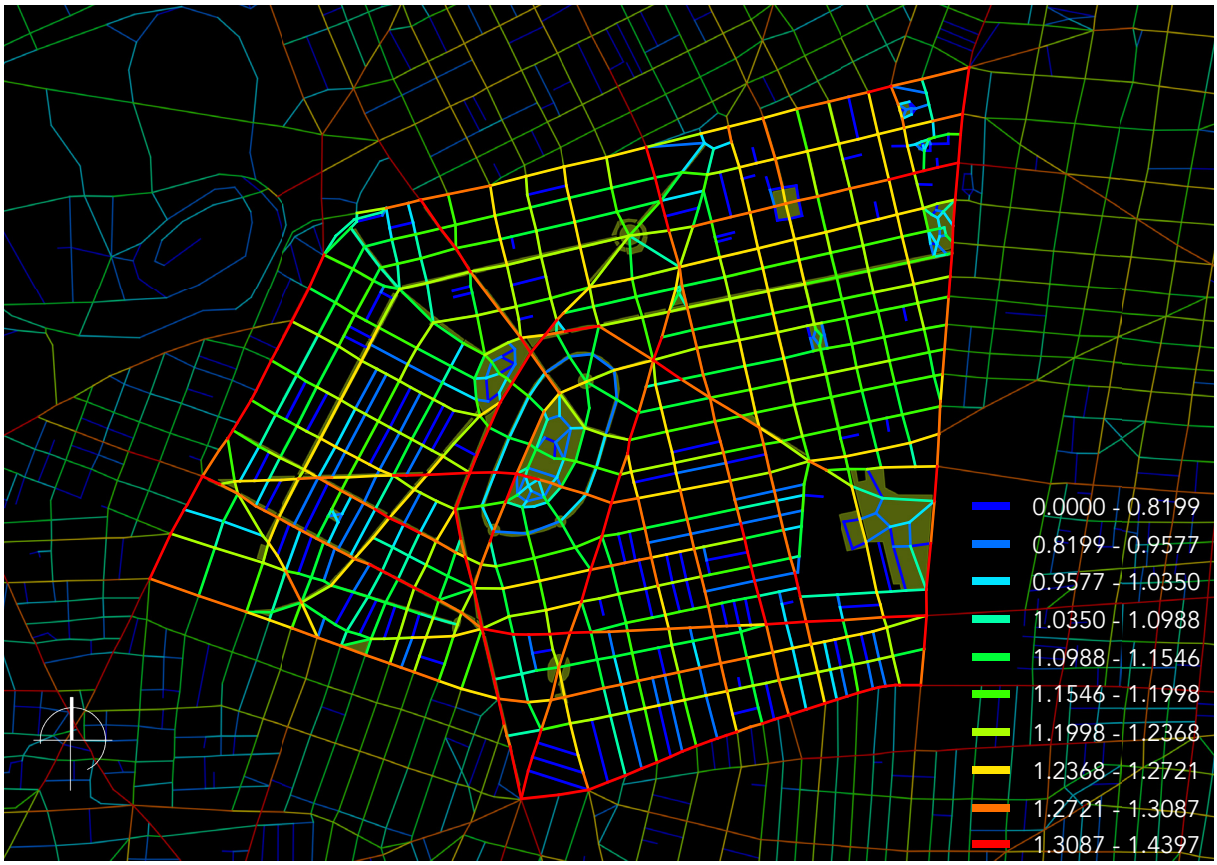


Figure 32, Normalised Analysis Choice radius 2000 (NACHr 2000) with public open spaces highlighted in green

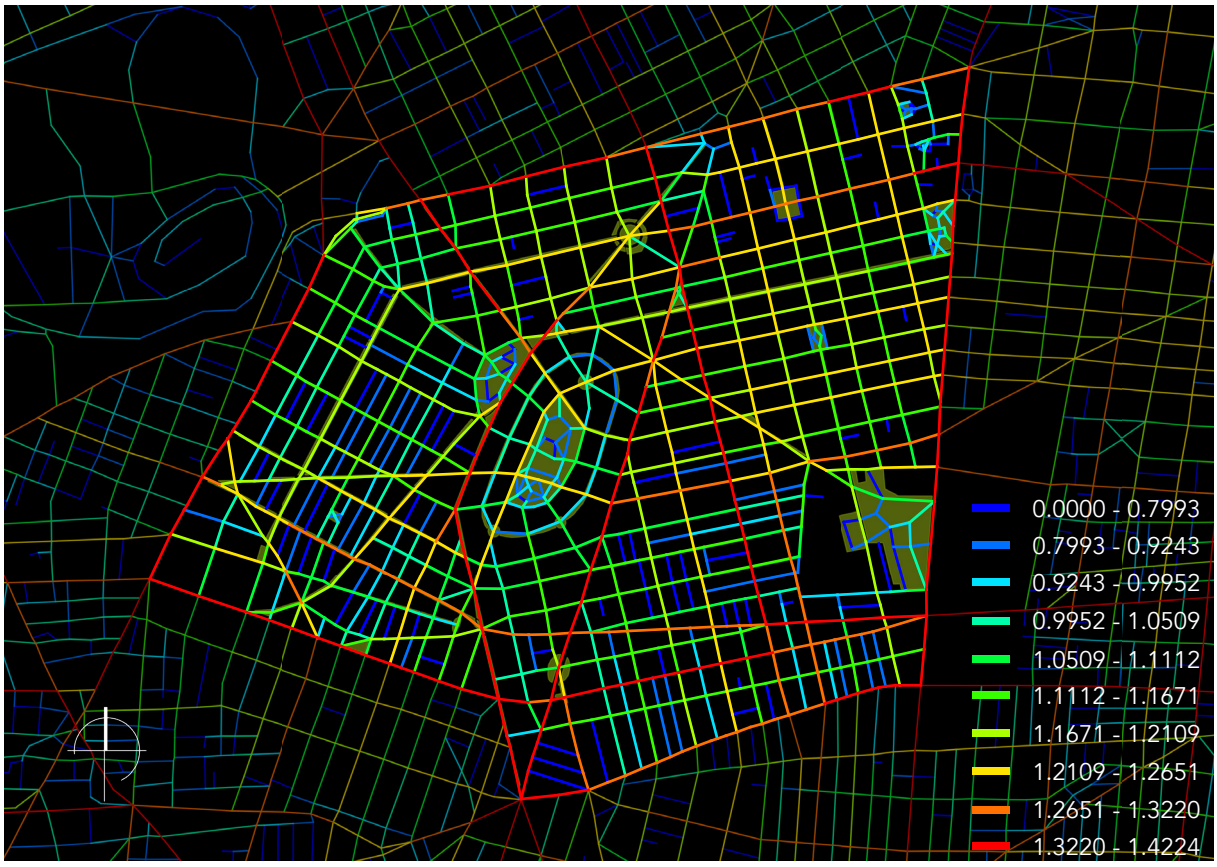


Figure 33, Normalised Analysis Choice radius 5000 (NACHr 5000) with public open spaces highlighted in green

Broadly speaking the two district parks seemed segregated at local radii. *México* is better connected and accessible at radii 2000-2400, while *López Velarde's* integration and choice values are higher at radius 5000. Meaning that even though they are similar in size, their spatial configuration indicates that *México* is more likely to be used by the residents of the area than *López Velarde*. The quarter park *Pushkin* faces a similar phenomenon as *López Velarde*. Its integration values are higher as the radius increases, and it is segregated at radius 400. Its western segments have high local choice values, and they decrease as the radius increases, while its eastern border – *Cuauhtémoc* Avenue, a major vehicular artery – has the opposite effect. In contrast, *Río de Janeiro's* leading segments, in general, are strongly integrated, while its perimeter is segregated.

Luis Cabrera choice values for radius 400 are stronger than those at wider scales. *Villa de Madrid* is highly integrated at all radii, which qualifies it as a centrality. Besides, its choice values increase as the radius does. *Juan Rulfo* – located in between three main avenues – is highly integrated at all scales. In contrast, *Morelia* and *Romita* are segregated at all radii. However, both have higher choice values at local scale; as the radii of analysis increases their choice values decrease. At radius 400, one third of the boulevards show high choice on average; at 800 half are high in choice. From 2400 onwards, five boulevards increase their choice values, while the highest value for *Amsterdam* is between 0.8218 and 1.0909 at NACHr 800.

The distribution of POS seems to obey different patterns; smaller POS appear more locally orientated that larger POS, although the largest POS – *México* and *López Velarde* – spatially behave very different from each other[7] (fig. 34 & 35).

[7]For the whole integration and choice analysis sequence refer to Appendix III and Appendix IV on page 161 and 165

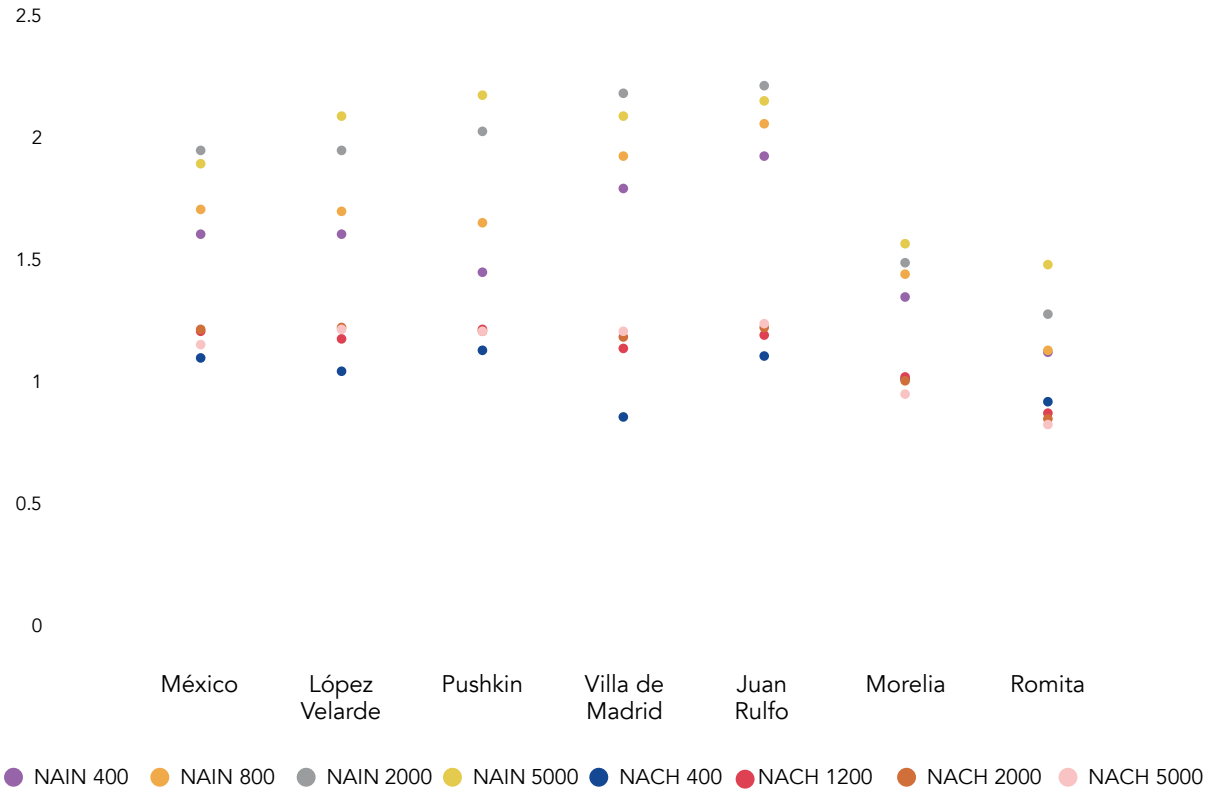


Figure 34, Certain average integration and choice values of some public open spaces

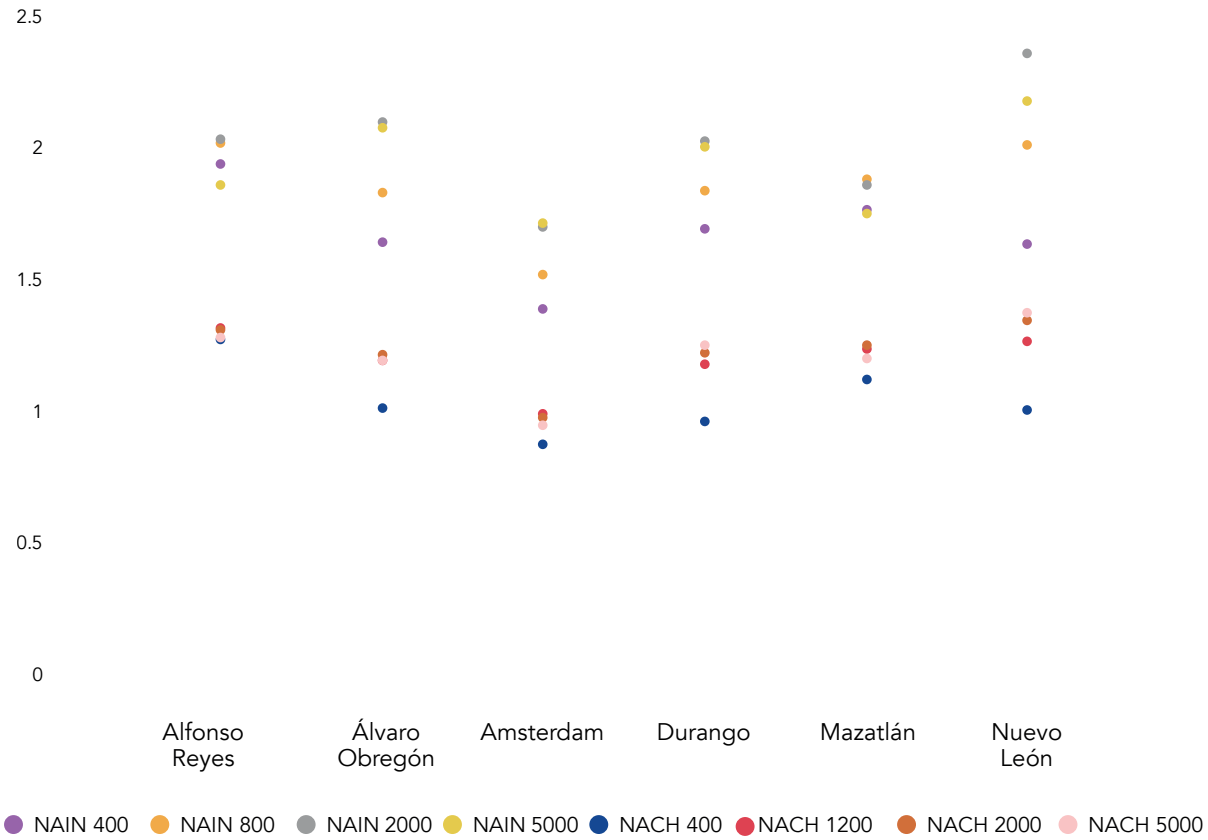


Figure 35, Certain average integration and choice values of the boulevards

The boulevards

The segments considered for this section are only those that have a boulevard, not necessarily the entire street (fig. 36).

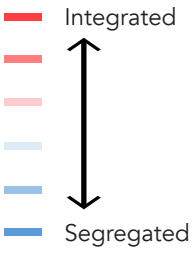
Figure 36, Boulevards id

The boulevards present constant choice values in most of the analysis radii except for radius 400, which has the lowest average value. *Alfonso Reyes* and *Amsterdam* have their highest value at 800m – 1.3105263 and 0.9900129 respectively. *Durango* and *Nuevo León* have their highest value at 3000 which means that they are likely to be chosen by drivers. This could suggest that the businesses find along these streets might not encourage community sense. However, because the highest average choice values are found in radius 3000 and below, it can be implied that spatially the area is more likely to encourage through-movement of the local and semi-local population rather than non-local community. Four out of the six boulevards have their average integration values between 1200-2400m. This means that two-thirds of the boulevards are potentially orientated to be used by people who live within the neighbourhoods and their immediate surroundings.

Amsterdam and *Durango* have their highest average values at radius 5000 and 3000, respectively. However, suppose the highest average values of the six boulevards are compared between them. In that case, it is possible to notice that the highest average value of *Amsterdam* is almost 30% lower than the highest average value of *Nuevo León*. If the same radius is to be compared (2000), then the result is almost the same. With these results, it can now be hypothesised that the count of potential third places in *Nuevo León* might be higher than the count in *Amsterdam*. Since compared to the rest of the analysed streets, *Amsterdam* is neither locally nor globally well-integrated. Besides, it has the lowest average choice values at all radii. Additionally, the places to be found in *Alfonso Reyes* might be more likely to serve the local population than those of *Álvaro Obregón* due to their high average integration values (table 07 & 08; fig. 37). To test those assumptions, the spatial analysis and the land use are contrasted against the features each food outlet has within the boulevards in the next chapter.

Boulevard (ID)	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
Alfonso Reyes	´.266114229	1.31052633	1.310282105	1.30876128	1.303887099	1.294583354	1.287398118	1.276242626
Álvaro Obregón	´.008813279	1.141777244	1.184272229	1.199201761	1.209807423	1.214136286	1.208372668	1.189494683
Amsterdam	0.865116817	0.990012858	0.98445539	0.979188057	0.966078231	0.961933713	0.9529375	0.940087861
Durango	0.95295541	1.11501307	1.17006919	1.20493245	1.21692198	1.23415047	1.24960629	1.24412745
Mazatlán	1.114482864	1.211559006	1.226869976	1.24435486	1.244878314	1.23806705	1.22050662	1.19391712
Nuevo León	0.995935564	1.192640053	1.260347311	1.31111387	1.341419622	1.358203591	1.369421614	1.368833917

Table 07, Boulevards' different radii average choice values. Highlighted the higher and the lower values for each radius



Boulevard (ID)	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
Alfonso Reyes	´.930196392	2.010357704	2.07297523	2.072277281	2.029195111	1.97202349	1.93627135	1.851358431
Álvaro Obregón	´.632876027	1.822520296	1.978395178	2.05331876	2.09095178	2.102433151	2.097976807	2.071007625
Amsterdam	1.38039361	1.511043973	1.610613602	1.664874963	1.693115474	1.705986518	1.690667358	1.709969661
Durango	1.68730319	1.83233928	1.9062671	1.99204495	2.01616914	2.04776988	2.06014358	1.99754622
Mazatlán	1.759226473	1.876396583	1.846610894	1.900688103	1.85583761	1.832409525	1.800933798	1.745391188
Nuevo León	1.629809035	2.005860545	2.191771758	2.309754574	2.350503091	2.347626216	2.314590795	2.170495246

Table 08, Boulevards' different radii average integration values. Highlighted the higher and the lower values for each radius

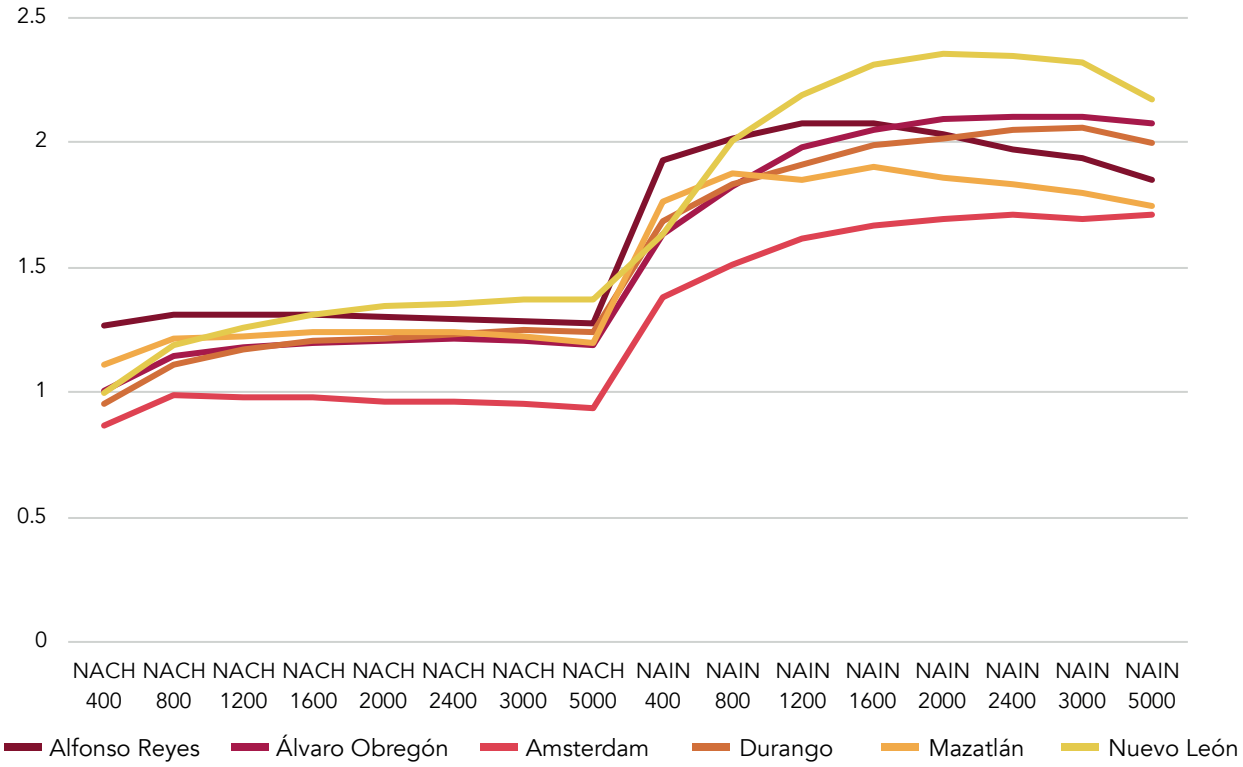


Figure 37, Boulevards' average integration and choice values

The parks and plazas

The segments chosen to portray the average choice and integration values of the POS are those from which a person can gain access to them, whether in the perimeter of the POS (adjacent segments) and/or those that immediately lead to the POS (connecting segments) (fig. 38).

Figure 38, The ten public open spaces' segments id

Romita and *Luis Cabrera* have their highest choice value at 400m, while *Río de Janeiro* and *Morelia* have theirs at 800m. Radius 1600 is the highest choice value for three spaces, while the other three have it at radius 3000, which means that around two-fifths of the selected spaces immediate surroundings are more likely to be chosen to walk by locals than outsiders. Almost a third might be more accessible to those still living in the area, and the other third are probable to be chosen by cars. Almost two-fifths of the spaces have their highest integration values between 2000-2400m, more than half at radius 5000, and only one at 3000m (table 09 & 10; fig. 39).

Name	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
España	1.100996717	1.185237785	1.205066686	1.214790596	1.214423767	1.208366351	1.200781553	1.165088086
Juan Rulfo	1.096790596	1.160145395	1.182920383	1.200332948	1.219302086	1.232500096	1.237572974	1.232842944
López Velarde	1.034942131	1.149739173	1.171768771	1.196310191	1.21686629	1.225966781	1.228487449	1.207881563
Luis Cabrera	1.097772694	1.092707152	1.097613193	1.089689078	1.089525816	1.094207113	1.095276129	1.094897304
México	1.094098934	1.186740569	1.20079434	1.208752655	1.208432315	1.204237954	1.1868163	1.147535076
Morelia	1.007704554	1.023353545	1.014454717	1.003840365	0.995608674	0.981840087	0.96428093	0.942485958
Pushkin	1.120151037	1.187414562	1.205959703	1.20631421	1.203539146	1.196735577	1.201071107	1.198942159
Río de Janeiro	0.925594401	0.927504111	0.922420672	0.908656212	0.910211757	0.90231782	0.898344778	0.887547831
Romita	0.909466111	0.867927063	0.865837337	0.834352591	0.843611107	0.833162848	0.817950745	0.814779408
Villa de Madrid	0.849142767	1.077367871	1.131267839	1.15144138	1.174312977	1.198211999	1.210997295	1.20367323

Table 09, POS' different radii average choice values. Highlighted the higher and the lower values for each radius

Integrated Segregated

Name	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
España	1.558070677	1.692323293	1.811058182	1.874794588	1.924326747	1.907104334	1.88958221	1.832838818
Juan Rulfo	1.923091176	2.054861915	2.104767132	2.15504778	2.209706317	2.227601203	2.194550052	2.144988633
López Velarde	1.597506993	1.694217371	1.770124918	1.867171844	1.943305591	2.006486554	2.087544204	2.088134056
Luis Cabrera	1.496221441	1.668307248	1.75686472	1.799722643	1.843033106	1.934687712	1.985523127	2.034102434
México	1.598961123	1.699422867	1.8243764	1.904908315	1.940205889	1.933055515	1.899545293	1.887040474
Morelia	1.34010136	1.438219622	1.419512221	1.453118166	1.480447392	1.534346994	1.549394206	1.560256045
Pushkin	1.440633733	1.648297038	1.849105507	1.95584615	2.022202646	2.051779923	2.131713544	2.169255821
Río de Janeiro	1.32851643	1.405815499	1.549712874	1.627873966	1.684550071	1.712856387	1.750795753	1.784500146
Romita	1.113927707	1.125632773	1.16109698	1.222679404	1.269920372	1.313315102	1.376496886	1.476691402
Villa de Madrid	1.789334982	1.922317694	2.01140852	2.103637998	2.175609228	2.19859325	2.181413081	2.085856639

Table 10, POS' different radii average integration values. Highlighted the higher and the lower values for each radius

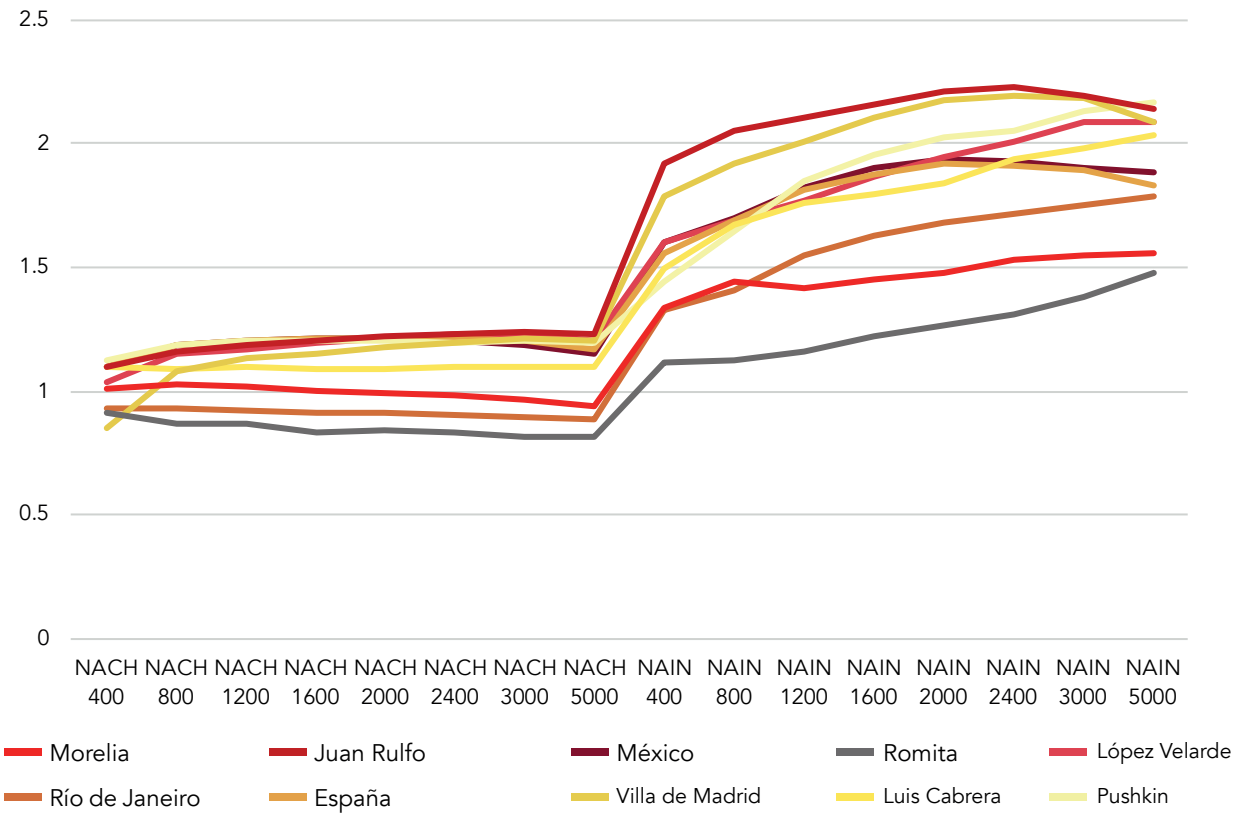


Figure 39, POS' average integration and choice values

Chapter VI Public Space, for Everyone?
Roma-Condesa and the urban grid

Overall, *Roma-Condesa* is reached by several metro and *Metrobus* stations, which make the area well-connected to the rest of the city. *López Velarde, Pushkin,* and *Juan Rulfo* parks are adjacent to a station. Additionally, almost the entire perimeter of *Roma-Condesa* has a station within five or fewer minutes walking (fig. 40 & 41). Medium and high-speed wide avenues mostly border it. Then, even though it is well-connected, in some spots, the surrounding roads might discourage pedestrians from crossing them (fig. 42).

Figure 40, Stations of metro and *Metrobus* public transport systems with a 200m catchment area

Figure 41, Stations of metro and *Metrobus* public transport systems with a 400m catchment area

Figure 42, Vehicular speed limit per segment

The accessibility of public open spaces and their proximity to potential third places

México park

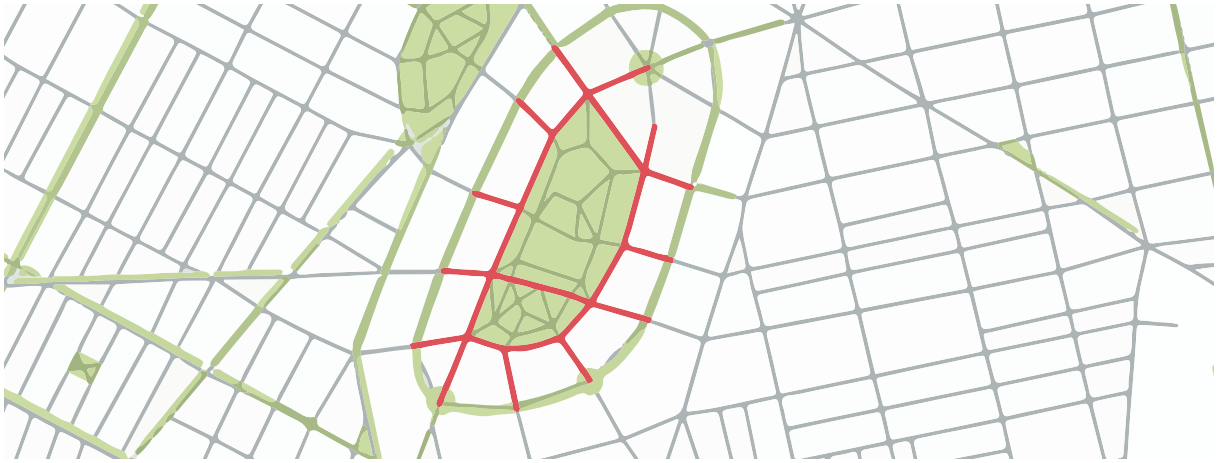


Figure 43, *México's* surroundings and id of its analysed segments

All the segments of *México* park follow more or less the same choice and integration patterns. On average, NACHr 1600 and NAINr 2000 have the highest values – 1.208752655 and 1.940205889, respectively – while both choice and integration lowest average values are at radius 400. This space might be considered as a local neighbourhood scale centre given that 61% of the segments are higher at radius 2000 and 21% at radius 2400 (fig. 44; table 11 & 12).

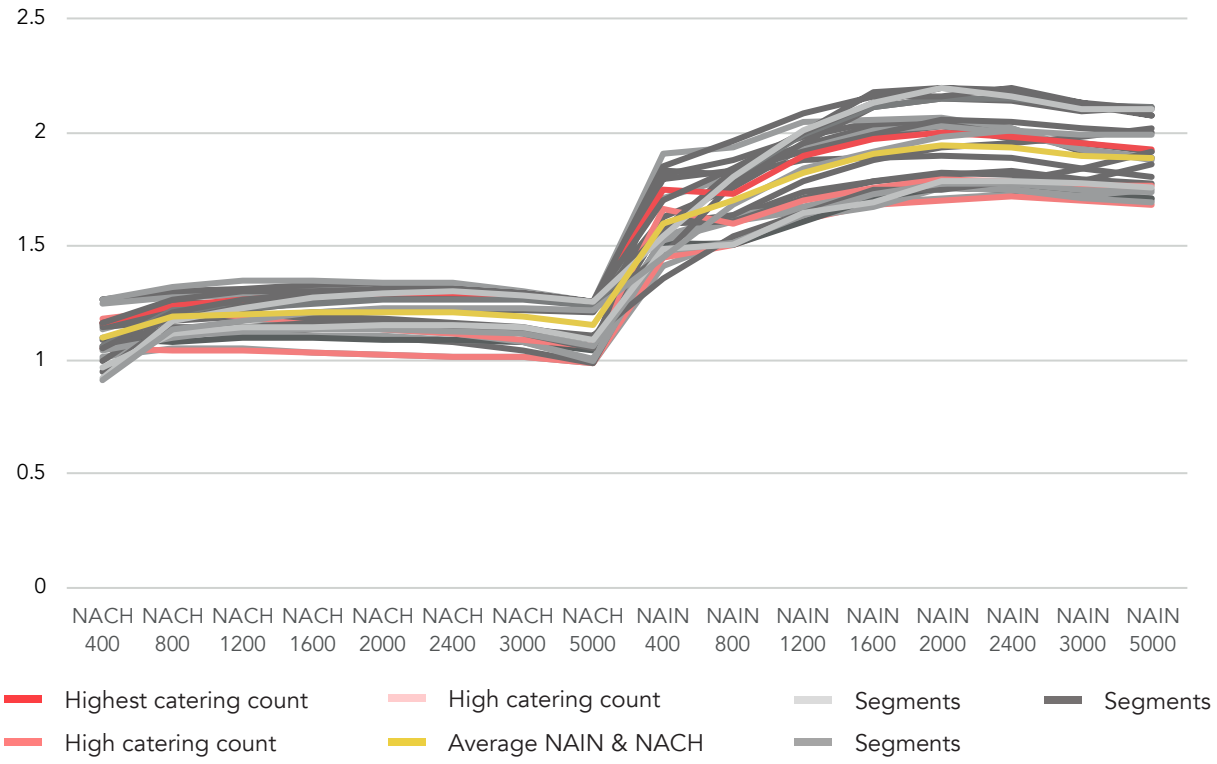


Figure 44, *México's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
93573	1.262168045	1.295750415	1.30945927	1.323290987	1.320128089	1.319634133	1.284028225	1.244816324
93578	1.152990423	1.216752073	1.260801508	1.282213683	1.295324051	1.294772275	1.278336203	1.245123919
80103	1.013803727	1.044833034	1.043667057	1.030195346	1.01836375	1.013454283	1.010897697	0.981504858
93581	1.261082674	1.289249876	1.293490992	1.314833108	1.315212861	1.316147433	1.281341915	1.243151453
80104	1.043556772	1.039285293	1.035247172	1.024346201	1.018582538	1.014780869	1.010656554	0.977667145
93582	1.245470661	1.26857422	1.282127219	1.30143442	1.308082367	1.310104894	1.281467976	1.244382018
20842	1.089253183	1.133591969	1.127313867	1.106855994	1.092384358	1.077627531	1.03921639	0.979884045
80108	1.003036146	1.109338822	1.114596285	1.10125995	1.101027995	1.088343199	1.07382248	0.993833815
20841	1.093318656	1.076313889	1.09134597	1.091321568	1.088074765	1.08419899	1.076750917	1.034205772
23863	1.153090523	1.238359931	1.190686021	1.179979863	1.154445837	1.143115512	1.117638912	1.089262548
26189	1.265811628	1.315398703	1.349281059	1.348152343	1.34067454	1.335366673	1.300595275	1.251788675
23865	1.129631314	1.216699634	1.182865621	1.162968218	1.130805275	1.111881928	1.075843573	0.998865328
27919	1.155439569	1.188070031	1.200964378	1.190582739	1.180972386	1.161055251	1.136793384	1.086586053
27307	1.143606221	1.170992893	1.187547702	1.206586476	1.214016268	1.211074935	1.219107192	1.204652202
26872	1.175739754	1.219728716	1.190189197	1.158010524	1.133115148	1.113464586	1.084863609	1.055163296
22491	0.987545729	1.193388661	1.219862295	1.255628459	1.26980584	1.277987411	1.269056828	1.243161956
25506	1.163089241	1.228416341	1.206892504	1.177666941	1.163703157	1.145914818	1.114307582	1.051421758
27309	1.060493689	1.251591681	1.24656852	1.264044156	1.27838248	1.282612128	1.284379046	1.252144221
27902	1.155633551	1.231477044	1.265787963	1.279248567	1.291950084	1.294636223	1.277815953	1.247133654
23555	1.047506203	1.138310797	1.140073411	1.161970008	1.141498936	1.138192859	1.128518579	1.107139663
21072	1.053327027	1.212744866	1.227393642	1.248293813	1.25851694	1.26571757	1.260623887	1.238494709
24783	1.041399081	1.092129038	1.127156824	1.133926117	1.129741036	1.124803296	1.108676265	1.059431031
20843	1.046742824	1.207371012	1.259928625	1.289654498	1.309638711	1.305421327	1.287330842	1.250771507
22809	1.161599276	1.266872307	1.296450519	1.301162133	1.307753835	1.308335448	1.290185054	1.254175687
27260	0.940806023	1.168872439	1.231246056	1.290977952	1.301985791	1.304933093	1.289650719	1.25138796
26651	0.962820408	1.113809021	1.143314582	1.143656065	1.153690856	1.146837735	1.136736047	1.081131752
27261	0.921119832	1.168194123	1.225793039	1.271605968	1.293353703	1.299853476	1.283310932	1.252306757
80111	0.904687971	1.132619089	1.172190211	1.205208258	1.224873219	1.22839484	1.228904353	1.211394025
Average	1.094098934	1.186740569	1.20079434	1.208752655	1.208432315	1.204237954	1.1868163	1.147535076

Table 11, *México's* different radii and average choice values. Highlighted the higher and the lower values for each radius

ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
93573	1.816337139	1.876546337	1.982635844	2.044234156	2.053229583	2.015354612	1.917256482	1.888635081
93578	1.627503722	1.753209571	1.930367513	1.993265151	2.025392665	1.97615565	1.955350197	1.912050203
80103	1.407441087	1.533400786	1.637807324	1.690090519	1.708817962	1.72663761	1.707160237	1.699469323
93581	1.792523688	1.829998039	1.940320366	2.031885823	2.045852087	2.010990835	1.92386722	1.885183878
80104	1.447461515	1.50473379	1.617320293	1.68316731	1.703689553	1.721878444	1.705075636	1.680543682
93582	1.710756574	1.803534947	1.921819094	2.008335237	2.03129929	2.000893135	1.929581857	1.8862519
20842	1.544794859	1.622649106	1.734388255	1.785099279	1.817534539	1.827785548	1.792537938	1.775249818
80108	1.508559568	1.517373664	1.630709765	1.673971669	1.754967424	1.75633177	1.750405525	1.712841453
20841	1.510369482	1.503286777	1.612453497	1.706963512	1.757818181	1.748980102	1.730162274	1.711730411
23863	1.519559849	1.604433104	1.650756425	1.743461833	1.753180109	1.745736231	1.722074483	1.750408873
26189	1.90908756	1.934101845	2.049567029	2.060972978	2.064647602	2.01479648	1.925041865	1.879907112
23865	1.540177447	1.631778157	1.669527154	1.737646132	1.758997716	1.745987214	1.715436694	1.692478947
27919	1.598677691	1.611791379	1.714675402	1.784509624	1.819583916	1.813763749	1.788585178	1.860974595
27307	1.600535389	1.63176342	1.782581497	1.874703415	1.931674855	1.950462443	1.981351068	2.022936317
26872	1.661252193	1.602346215	1.700460566	1.753160883	1.79145871	1.788928762	1.765364699	1.76642802
22491	1.455061881	1.772978707	1.954161198	2.110211951	2.153374676	2.138724819	2.098364601	2.113464259
25506	1.834853067	1.816477245	1.883019981	1.887879559	1.90026525	1.884545951	1.845351374	1.80071892
27309	1.572333608	1.833606016	1.920101096	1.989271858	2.058759622	2.051100674	2.021437957	1.998727586
27902	1.749886682	1.731875556	1.90104022	1.973822938	2.000406316	1.986178553	1.951355067	1.923056825
23555	1.352315335	1.543080365	1.643066305	1.745594436	1.747819728	1.781725069	1.838035465	1.920378626
21072	1.551497071	1.801553909	1.993239536	2.115114899	2.151693432	2.151171293	2.119178739	2.111009358
24783	1.477315129	1.513105256	1.640005982	1.729615765	1.774594729	1.776591766	1.747243734	1.736232979
20843	1.698043161	1.837891378	1.999500501	2.129480389	2.193177329	2.188791626	2.121037138	2.076081534
22809	1.850379304	1.959766632	2.083747347	2.159235264	2.162463153	2.200196831	2.12898383	2.076582628
27260	1.553040332	1.809434457	2.001727166	2.178237777	2.19679905	2.177385532	2.13470849	2.099099756
26651	1.48599895	1.509424901	1.640985131	1.693599588	1.785305585	1.781000949	1.777019108	1.758819624
27261	1.542459195	1.808759286	2.005510368	2.134699352	2.196679111	2.156902475	2.106086206	2.103771222
80111	1.45268995	1.68493944	1.841044331	1.919201526	1.986282717	2.006556303	1.989215132	1.994100352
Average	1.598961123	1.699422867	1.8243764	1.904908315	1.940205889	1.933055515	1.899545293	1.887040474

Table 12, *México's* different radii and average integration values. Highlighted the higher and the lower values for each radius

According to its service area and a 5-10 minute walk, this POS supposedly influence almost the entire neighbourhoods. It mainly reaches residential land use, 81% at 400m, 73% at 800m, and 65% at 1500m – its service area. Almost 90% of its segments have a low-speed limit; they have an average or narrow width, and wide sidewalks. Consequently, this park is an accessible space for the residents (fig. 45 & 46).

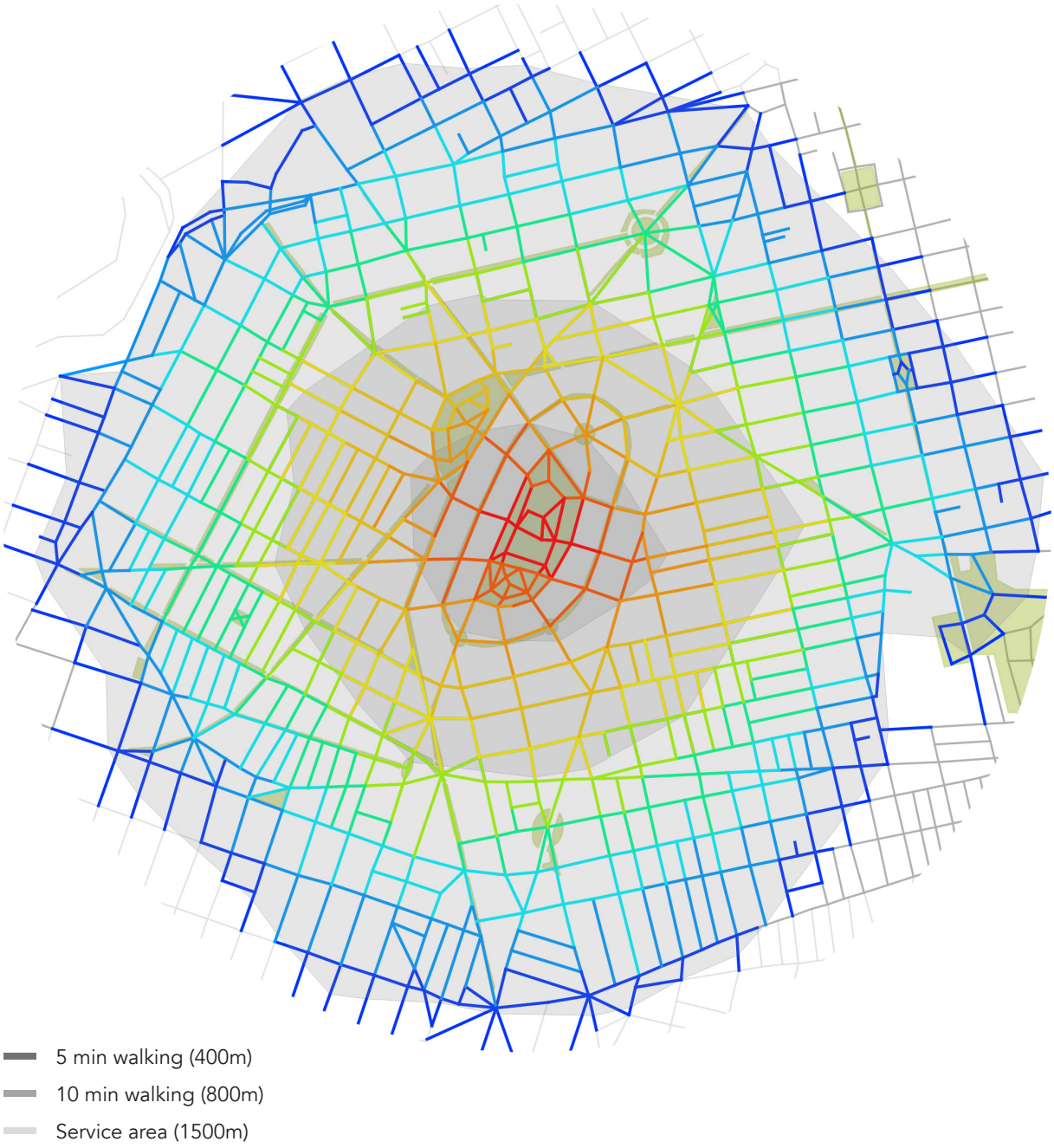


Figure 45, *Mexico's* catchment areas

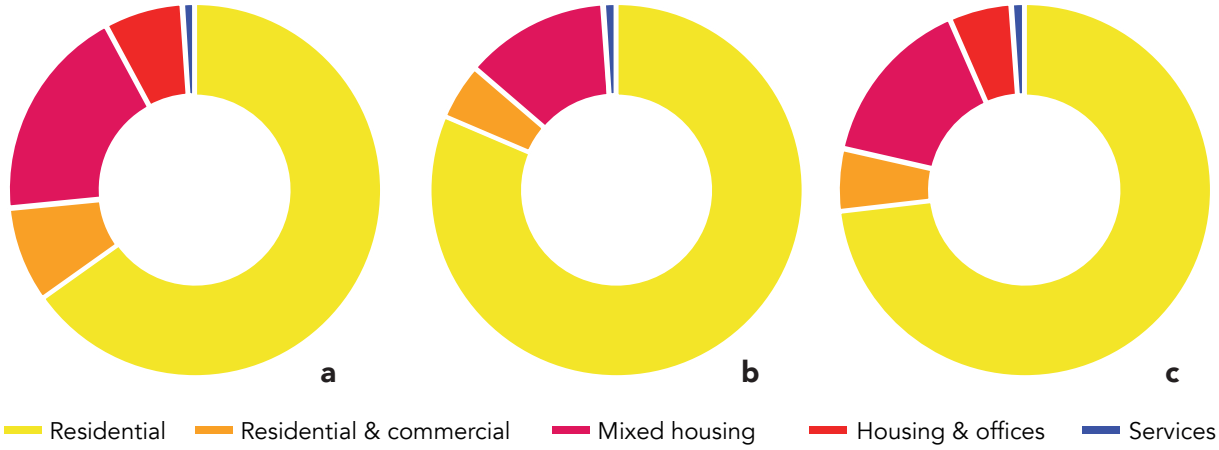


Figure 46, Land use distribution around *México* according to its service area (a), 400m radius (b), and 800m radius (c)

This space has 34 food outlets, almost 50% are semi-local, 40% non-local, and only a bit more than 10% are local (fig. 44). In total, half of the businesses display chairs on the street (pavement dining). 65% have a personalised façade, 88% are permeable, three-quarters provide shelter, and all of them are surrounded by a green environment (table 13; fig. 47).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	1	1	1	1	1	1
Bar/Cantina	Semi-local	1	1	1	1	1	1
Coffee shop	Semi-local	10	6	10	8	10	9
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	2	2	2	0	2	2
Ice cream shop	Semi-local	4	0	4	2	2	2
Restaurant	Non-local	14	6	14	9	12	10
Street food	Local	2	1	2	1	2	1
	Count	**34**	**17**	**34**	**22**	**30**	**26**
	Percentage	**100**	**50**	**100**	**65**	**88**	**76**

Table 13, Features of *Mexico's* food outlets

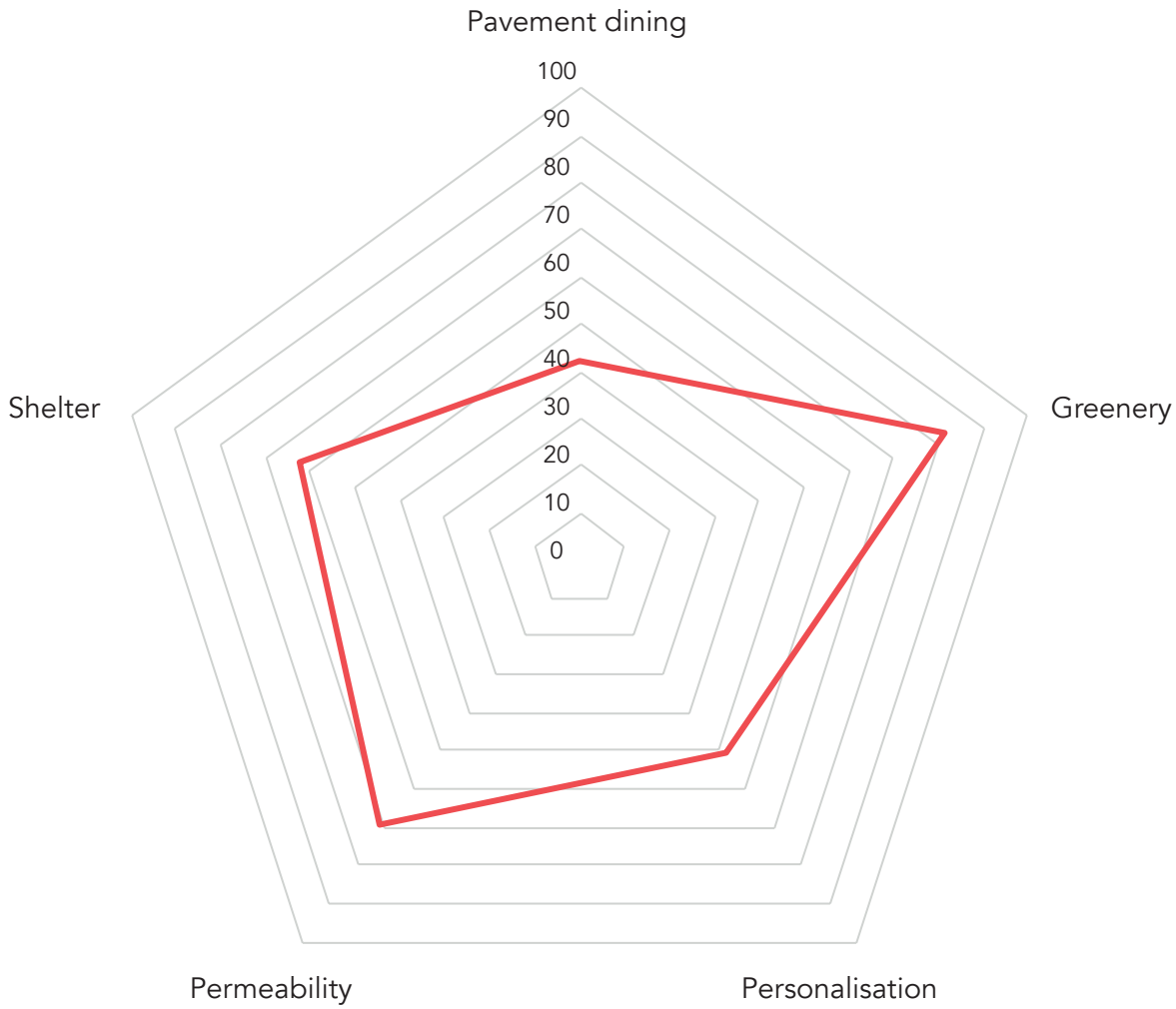


Figure 47, Percentage of businesses around *México* that afford different features known to be distinctive of third places

López Velarde park

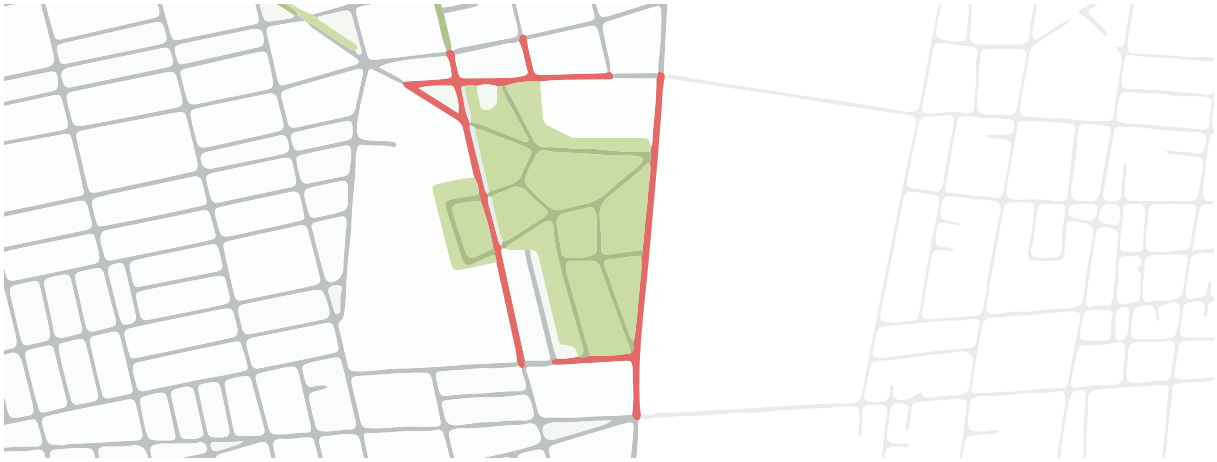


Figure 48, *López Velarde's* surroundings and id of its analysed segments

López Velarde is better integrated at NAINr 5000 with an average value of 2.088134056. Its highest choice is also at a non-local scale – 1.228487449 at radius 3000. Its lowest integration and choice values are 1.597506993 and 1.03494213 at 400m. The park is located next to an important vehicular artery with central lanes used only by the *Metrobus* public transport system. The lanes act as a barrier between two areas and inhibit the visual and the physical access to this space (fig. 49; table 14 & 15).

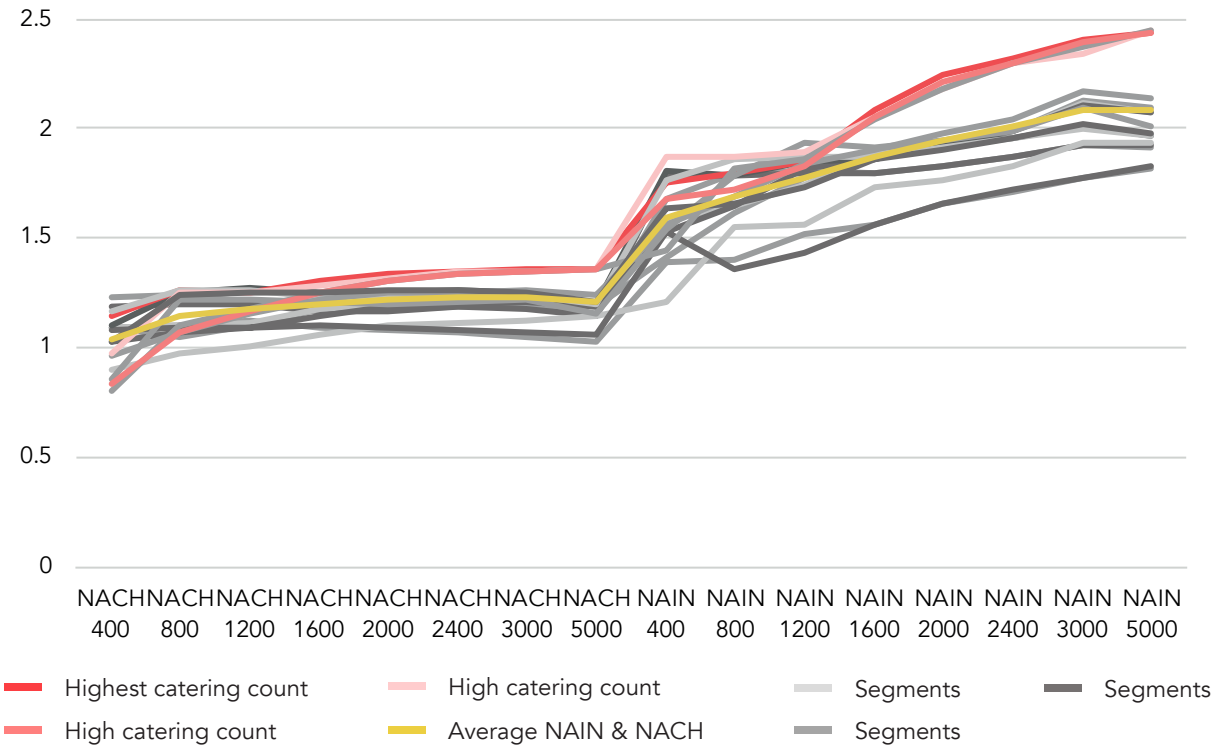
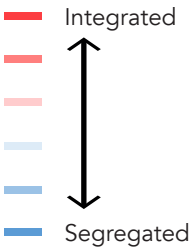


Figure 49, *López Velarde's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
23157	1.234403342	1.241216726	1.211648276	1.178659332	1.18115472	1.187136746	1.182705635	1.149258117
93628	1.092959693	1.048267226	1.104229379	1.176023931	1.203810059	1.203303974	1.215195193	1.188924209
93623	1.093658953	1.099580805	1.119636057	1.096241291	1.080775081	1.06509081	1.049041495	1.031358265
20754	1.188948257	1.20348752	1.198779417	1.16931141	1.170871403	1.182699777	1.179899478	1.150029645
22200	0.901753929	0.968998563	1.004386116	1.059863249	1.100134304	1.115117962	1.128097848	1.14052955
93627	1.087066204	1.098011771	1.10822466	1.17442389	1.199582051	1.204734649	1.21638684	1.188579134
93624	1.085206775	1.093394554	1.087610498	1.097782059	1.0965119	1.08474566	1.070668275	1.059924802
26209	1.025439206	1.066316047	1.08780538	1.140870377	1.186217467	1.199184548	1.20889624	1.187048776
93613	1.103443019	1.252023677	1.272496937	1.246790877	1.256172596	1.261299047	1.24965598	1.202878104
25931	1.141430107	1.260595054	1.250394572	1.300660237	1.337811747	1.349139161	1.359295098	1.363709176
20968	0.855151996	1.214522689	1.219084699	1.206591411	1.202287377	1.204658764	1.215798105	1.153506615
93612	1.171534798	1.261333162	1.261426769	1.235235637	1.24039353	1.25181754	1.245770587	1.197048697
27101	0.963527258	1.069151143	1.152903061	1.216424079	1.250012119	1.254454728	1.262264407	1.240015313
93610	0.976319303	1.252653618	1.246658772	1.282937716	1.312376012	1.344489697	1.347734141	1.360413821
93611	0.804067958	1.102205725	1.175654405	1.251782176	1.302279735	1.336095516	1.349665332	1.358270761
80411	0.838168561	1.070854795	1.165512607	1.251138415	1.308891101	1.333724881	1.349099149	1.356471043
80412	1.030936875	1.242952862	1.2536175	1.252537159	1.257445721	1.26374182	1.254112825	1.206020534
Average	1.034942131	1.149739173	1.171768771	1.196310191	1.21686629	1.225966781	1.228487449	1.207881563

Table 14, *López Velarde's* different radii and average choice values. Highlighted the higher and the lower values for each radius



ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
23157	1.6785442	1.795321686	1.805881284	1.792098886	1.832900681	1.875960414	1.920534115	1.909115535
93628	1.40732804	1.618172532	1.775855932	1.90219958	1.937144104	1.993386619	2.132379341	2.093573743
93623	1.387952846	1.40023718	1.514516382	1.566965472	1.653548111	1.709224991	1.773821635	1.816245269
20754	1.791142258	1.78190594	1.797478446	1.793674263	1.831373701	1.872216822	1.923694833	1.920289641
22200	1.207429424	1.554607809	1.560487581	1.729446544	1.769498889	1.832456814	1.932002393	1.939677273
93627	1.583941938	1.645326385	1.740713397	1.878078039	1.916449419	1.98761775	2.122487988	2.076203647
93624	1.529578763	1.362450873	1.42817665	1.558346848	1.661233612	1.717171277	1.773955635	1.825328736
26209	1.52929032	1.65053392	1.814019845	1.865226282	1.940800482	1.992610493	2.107658833	2.071185712
93613	1.805624839	1.79082825	1.855373503	1.864464717	1.932214316	1.956545569	2.005128521	1.972140052
25931	1.749007932	1.791408098	1.846430839	2.085546641	2.248746395	2.319000134	2.403600032	2.44191639
20968	1.544733294	1.783368872	1.930864244	1.915345066	1.946419072	1.994289795	2.092175883	2.010343048
93612	1.761464484	1.865785567	1.87471552	1.872154917	1.909318507	1.961598173	2.003655874	1.972857398
27101	1.556586032	1.692890054	1.837581023	1.907954578	1.980026331	2.044552835	2.174433941	2.13920324
93610	1.871600689	1.874062656	1.892059419	2.055812433	2.176445598	2.298462208	2.340653458	2.443442958
93611	1.446270799	1.813475268	1.856271607	2.041693197	2.181775351	2.295304936	2.368573684	2.44435804
80411	1.675252758	1.724228268	1.826395331	2.050294734	2.212543676	2.302308173	2.391915631	2.441700082
80412	1.631870263	1.657091955	1.735302605	1.86261915	1.905756803	1.95756441	2.021579665	1.980698194
Average	1.597506993	1.694217371	1.770124918	1.867171844	1.943305591	2.006486554	2.087544204	2.088134056

Table 15, *López Velarde's* different radii and average integration values. Highlighted the higher and the lower values for each radius

On the other side of the road, a hospital complex and a graveyard block the path at 5-10 minute walking radius. So, even if *Cuauhtémoc* Avenue would be more permeable, the infrastructure to the east prevents the adjacent population from accessing this POS easily. 57% of the land use within its service area is residential. The park is right next to three public transport stations; the hospital complex, the graveyard, and a shopping mall add hard edges around it. These features qualified *López Velarde* park as a space that is not highly accessible to its immediate population (fig. 50 & 51).

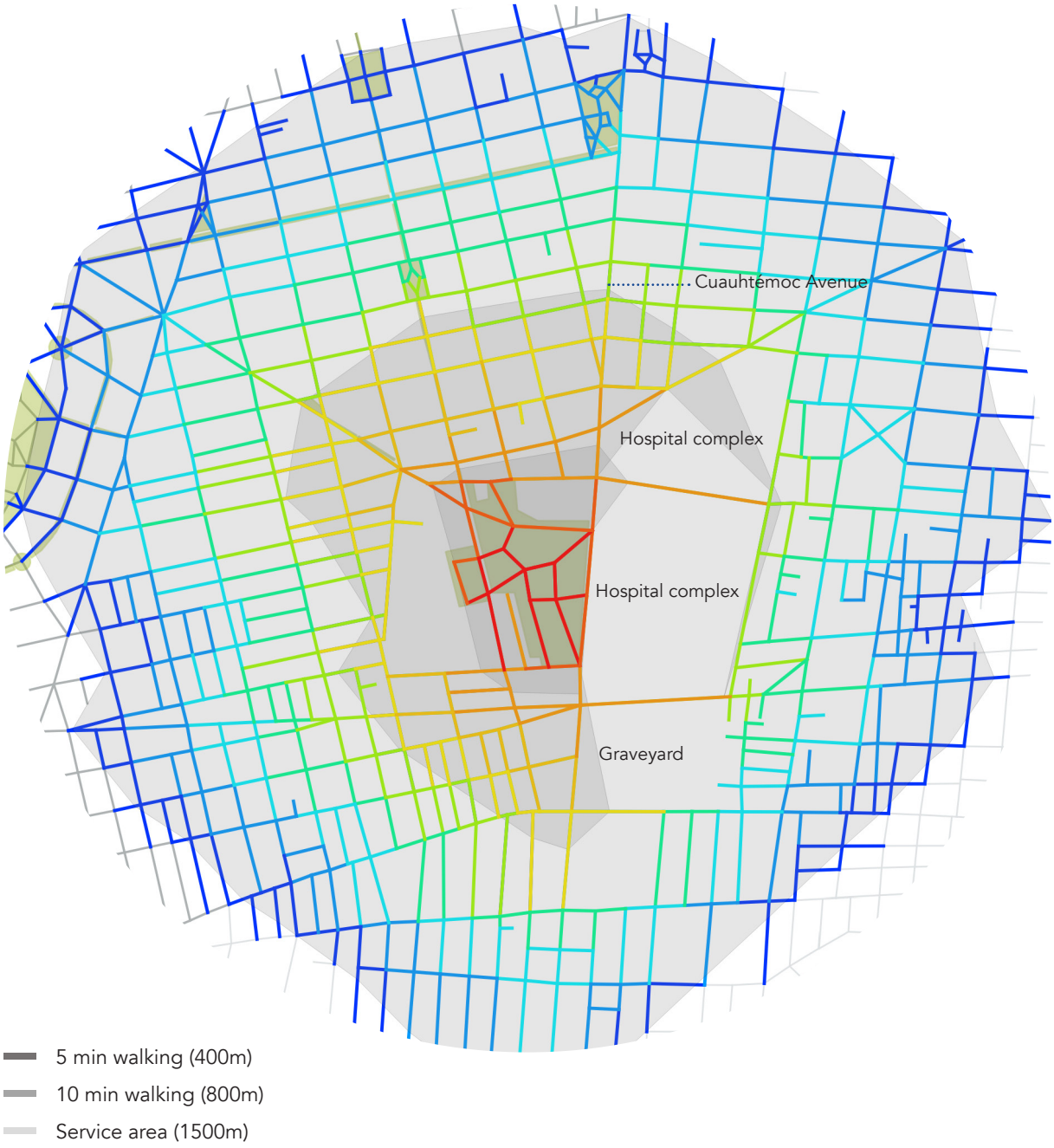


Figure 50, *López Velarde's* catchment areas

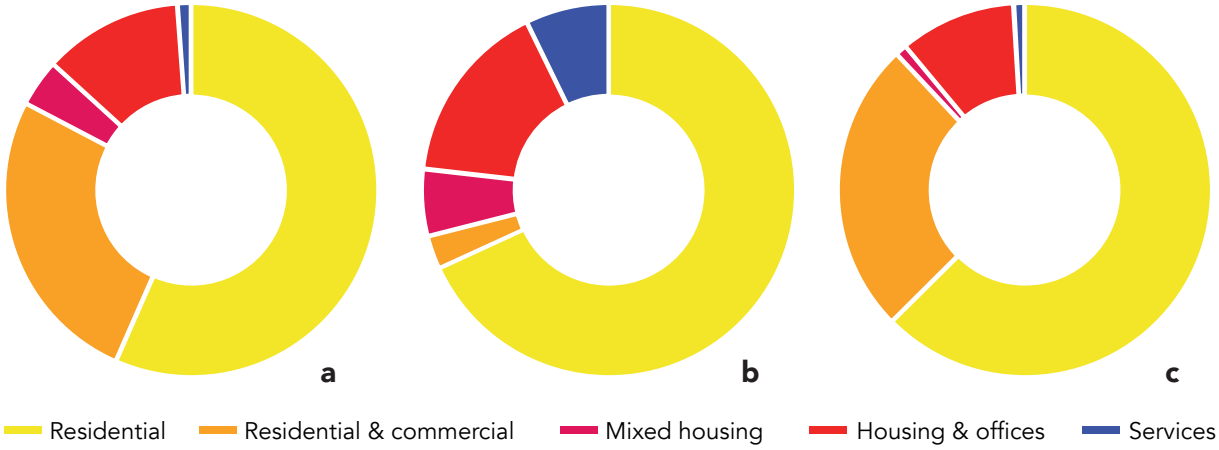


Figure 51, Land use distribution around *López Velarde* according to its service area (a), 400m radius (b), and 800m radius (c)

Four segments stand out from NAINr 1600-5000, being radius 5000 their highest value. Three of them have the highest catering count, adding 50% of the total, fourteen of which are local catering (mostly street food booths) (fig. 49). The street food booths are located five minutes or less from the stations, meaning that they are taking advantage of the people's exchange. Even when street food booths are catalogued as local businesses, they seemed not to be serving the local inhabitants, but most likely the people who work or travel to the area. This POS is highly integrated in contrast to others; its high integration at a global scale decreases the ease of access for pedestrians (table 16; fig.52).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	0	0	0	0	0	0
Bar/Cantina	Semi-local	1	1	1	0	1	0
Coffee shop	Semi-local	1	0	0	0	0	0
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	6	6	4	3	5	4
Ice cream shop	Semi-local	0	0	0	0	0	0
Restaurant	Non-local	5	0	4	4	3	1
Street food	Local	17	11	9	1	17	1
	Count	**30**	**18**	**18**	**8**	**26**	**6**
	Percentage	**100**	**60**	**60**	**27**	**87**	**20**

Table 16, Features of *López Velarde's* food outlets

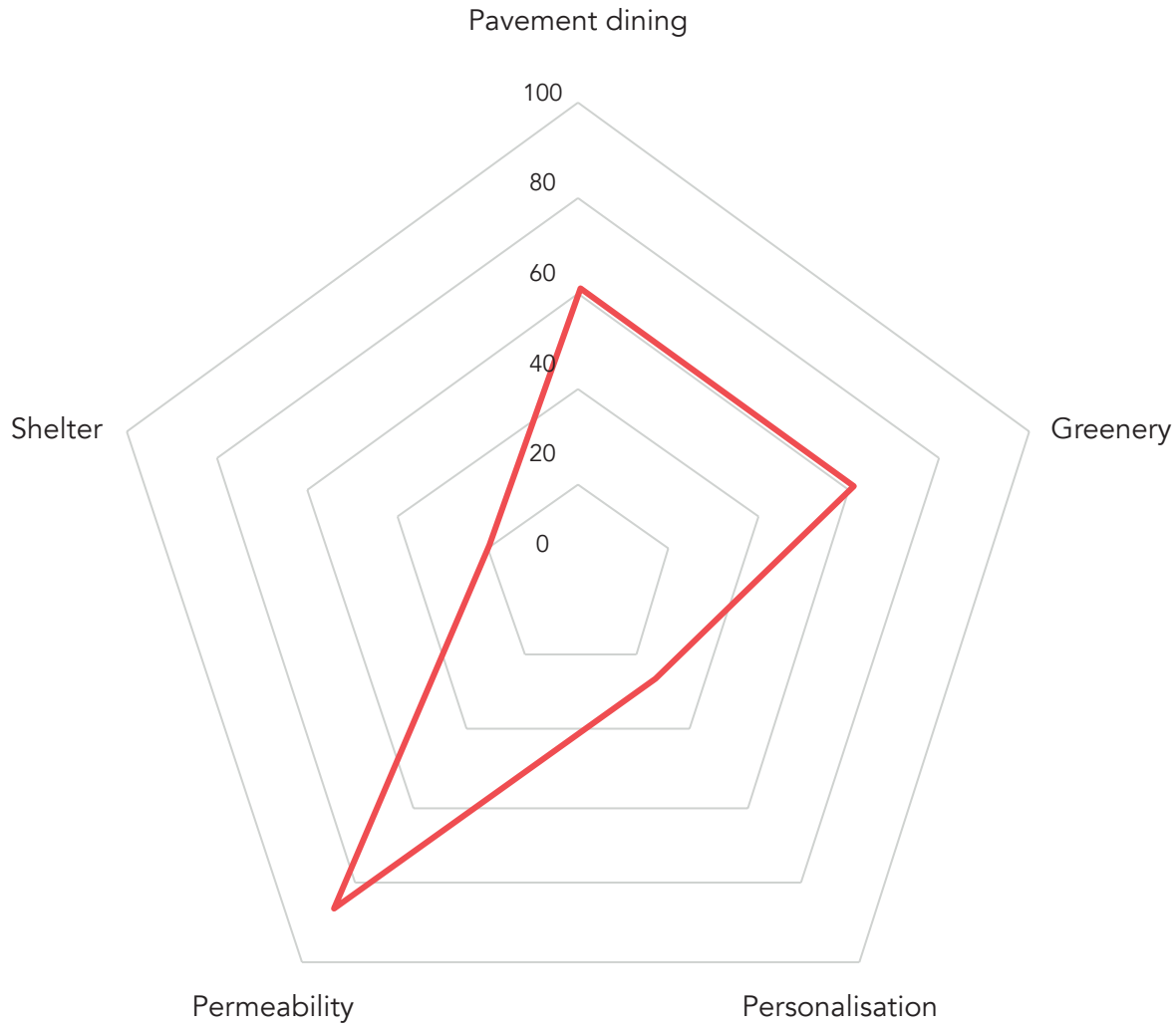


Figure 52, Percentage of businesses around *López Velarde* that afford different features known to be distinctive of third places

España park

Figure 53, *España's* surroundings and id of its analysed segments

On average, its strongest choice and integration values are at radius 2000 – 1.226141297 and 1.957062983. The lowest average value for both measures is radius 400 – 1.100793615 for choice and 1.553198457 for integration. Due to its high integration values at 2000m, España may be behaving as a semi-local centre (fig. 54; table 17 & 18).

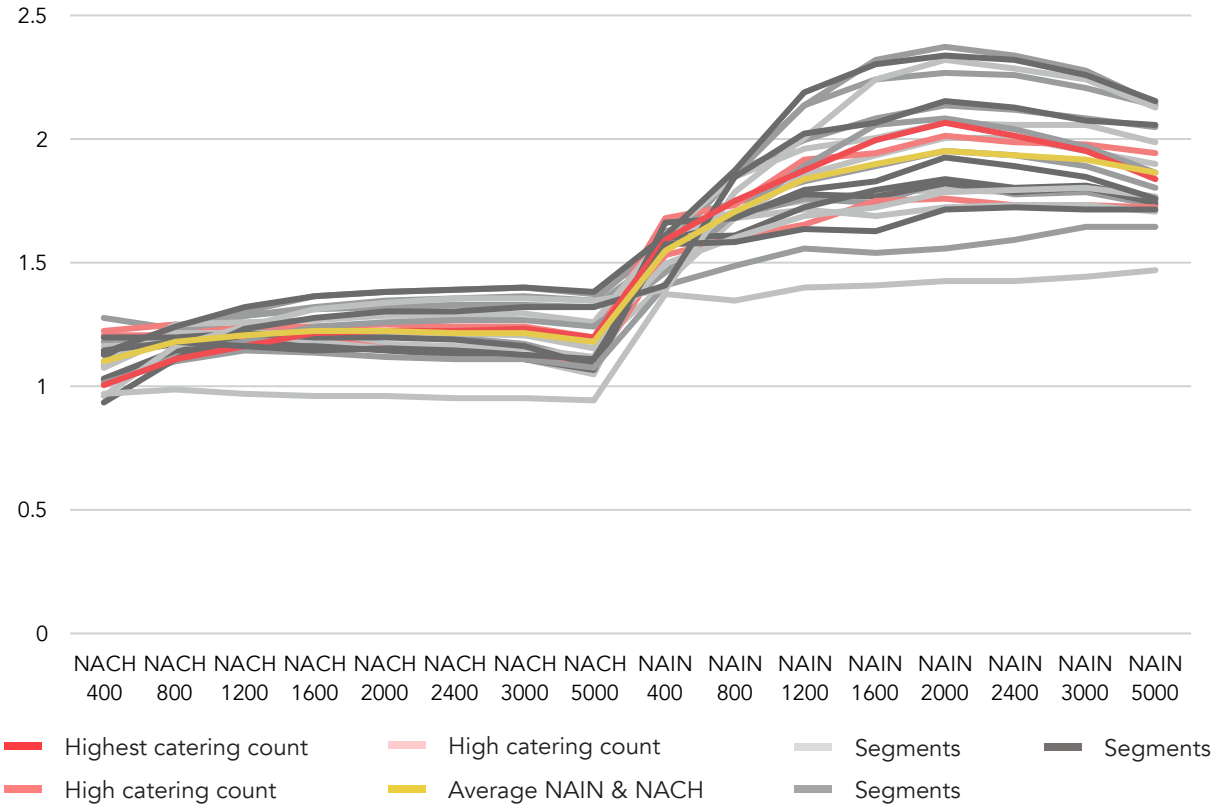


Figure 54, *España's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
93591	1.280650568	1.238332139	1.235532065	1.222563727	1.215439016	1.203108467	1.177732066	1.100383804
26288	1.132601825	1.236756862	1.212301165	1.198144016	1.179234131	1.170520916	1.158524231	1.122089104
80010	1.184667215	1.194778079	1.186633408	1.16998879	1.158365714	1.137796351	1.123200521	1.087423737
21760	1.10501914	1.227926115	1.28587975	1.3124746	1.327376495	1.329877488	1.336458539	1.321295242
22542	1.163321657	1.176632109	1.210274115	1.214442628	1.222353282	1.220374925	1.210372785	1.154256334
27394	1.127274712	1.173084188	1.179564533	1.168592724	1.154080744	1.133999619	1.121590843	1.082656597
23864	1.223391774	1.249765045	1.200646382	1.197138834	1.16132618	1.144060408	1.121191279	1.085625224
80012	1.087742684	1.226201162	1.305801227	1.366029649	1.389102663	1.398192364	1.40501517	1.380345591
21922	1.090575814	1.217030264	1.290874224	1.325875512	1.350598248	1.363030069	1.371384598	1.353366128
80015	1.082291973	1.206811215	1.218502777	1.184531521	1.154965721	1.140064721	1.116101518	1.050470369
21304	1.205846342	1.206949256	1.249473373	1.245657935	1.251705188	1.248028556	1.241063408	1.201801434
23435	1.092263215	1.25011862	1.264456589	1.275068147	1.287335058	1.290425682	1.296859358	1.259273953
80011	1.028174848	1.135650565	1.182346058	1.249156335	1.266996381	1.2720072	1.274664214	1.243516549
80016	1.03045644	1.150111289	1.168729399	1.162341517	1.149609384	1.129750094	1.113810277	1.065899373
21709	1.09933629	1.21510201	1.22243871	1.222308425	1.226025979	1.220297685	1.212515741	1.183078502
93593	1.19715706	1.204718433	1.222238603	1.203749507	1.203580355	1.189220508	1.162097017	1.08292532
24201	1.012804079	1.107008311	1.146811963	1.137533321	1.121237046	1.112108969	1.111047611	1.076943126
80013	0.966491913	1.169674377	1.244218519	1.314543156	1.345252548	1.355414198	1.363371939	1.3521514
26897	0.93957172	1.113410335	1.237715004	1.276600387	1.302541536	1.310611002	1.322711453	1.321011026
24876	1.140437672	1.241883141	1.319847299	1.363928029	1.384162257	1.393827721	1.402515693	1.381885101
21759	1.008094004	1.117442531	1.16598794	1.219573426	1.229043823	1.230703293	1.236825913	1.203278519
21761	0.973492477	0.988016022	0.969972037	0.966566141	0.961618088	0.959764702	0.952260479	0.94558842
27227	1.146589727	1.186137819	1.164358614	1.146789463	1.159299988	1.147820281	1.129067101	1.111843696
Average	1.100793615	1.184066952	1.212374076	1.223634686	1.226141297	1.221782836	1.215668772	1.181178633

Table 17, *España's* different radii and average choice values. Highlighted the higher and the lower values for each radius

ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
93591	1.67121278	1.748963691	1.834242066	1.893276238	1.952181675	1.94207053	1.896339462	1.806970046
26288	1.609337196	1.712012236	1.753149193	1.787848228	1.800869982	1.792978188	1.797588156	1.755954631
80010	1.633663419	1.69412928	1.765331234	1.742407682	1.829239467	1.783368435	1.787328663	1.739519888
21760	1.546847101	1.86583873	2.002505942	2.08843166	2.141486698	2.120470876	2.084714161	2.056454701
22542	1.420721922	1.683890407	1.857278068	1.934093522	2.006190739	2.012372394	1.952581854	1.90005996
27394	1.608397363	1.691241742	1.778014625	1.773250996	1.82817076	1.792590591	1.805535942	1.742681837
23864	1.535922044	1.602826016	1.658211556	1.755670568	1.763521981	1.73574722	1.734089422	1.730154681
80012	1.560251573	1.855639191	2.139906783	2.326188908	2.375121162	2.343132221	2.277332037	2.151123953
21922	1.598501352	1.864910435	2.13764194	2.24834469	2.27350197	2.26653211	2.20739299	2.136860063
80015	1.619686565	1.681534668	1.716654067	1.695843915	1.725920345	1.735749884	1.735400595	1.71011128
21304	1.686501109	1.734544528	1.919437327	1.948032853	2.015254851	1.992521815	1.977940814	1.944734427
23435	1.609834055	1.853648268	1.966263551	2.010981948	2.068240699	2.057563304	2.059097271	1.99498404
80011	1.465812745	1.69970981	1.893930727	2.057310302	2.086286336	2.040504697	1.976974299	1.865876256
80016	1.605145892	1.612994898	1.727110426	1.7959183	1.844439894	1.810477102	1.819426698	1.763323682
21709	1.497471922	1.608240722	1.689768023	1.724060023	1.792270971	1.797784331	1.804264608	1.76721681
93593	1.664258141	1.682523512	1.800542736	1.831125975	1.925831177	1.897120461	1.849212177	1.761821268
24201	1.414670335	1.494359654	1.563777763	1.545963137	1.557031421	1.597233272	1.644918021	1.651413125
80013	1.394915021	1.785488951	2.008842415	2.243017503	2.320662968	2.2911577	2.248542349	2.131156397
26897	1.414497258	1.847710399	2.026566424	2.068323446	2.155292869	2.133910037	2.07570435	2.061092154
24876	1.616656609	1.875436131	2.193189676	2.305245442	2.342426797	2.320825559	2.260653779	2.156906997
21759	1.59747105	1.750296303	1.88108456	1.996776947	2.066180112	2.017357855	1.953974252	1.845140688
21761	1.372423179	1.351550093	1.400149426	1.415536375	1.426346437	1.431408523	1.44603531	1.47126705
27227	1.579365877	1.587708667	1.637430685	1.632243028	1.715979305	1.7274416	1.720634793	1.721860207
Average	1.553198457	1.708052101	1.841349096	1.905212682	1.957062983	1.940883422	1.91807313	1.863768876

Table 18, *España's* different radii and average integration values. Highlighted the higher and the lower values for each radius

70% of *España's* segments have a speed limit of 50km/h; their width varies from narrow streets to a six-lane avenue, which are characteristics of a non-accessible POS. Nevertheless, its surroundings are well-maintained, have soft edges, and all around there are safe crossings. Therefore, this place is accessible but not to all the residents. Its eastern well-integrated, medium-speed and wide segments might intimidate pedestrians. Then, people living to the east of *España* might be less likely to visit it than those living to the west. According to its service area and the 5-10 minute walk catchments, this POS overall reaches two-fifths of residential land use and a third of mixed housing. This last might indicate that not only the local population is attracted to use it, but also people working in the area (fig. 55 & 56).

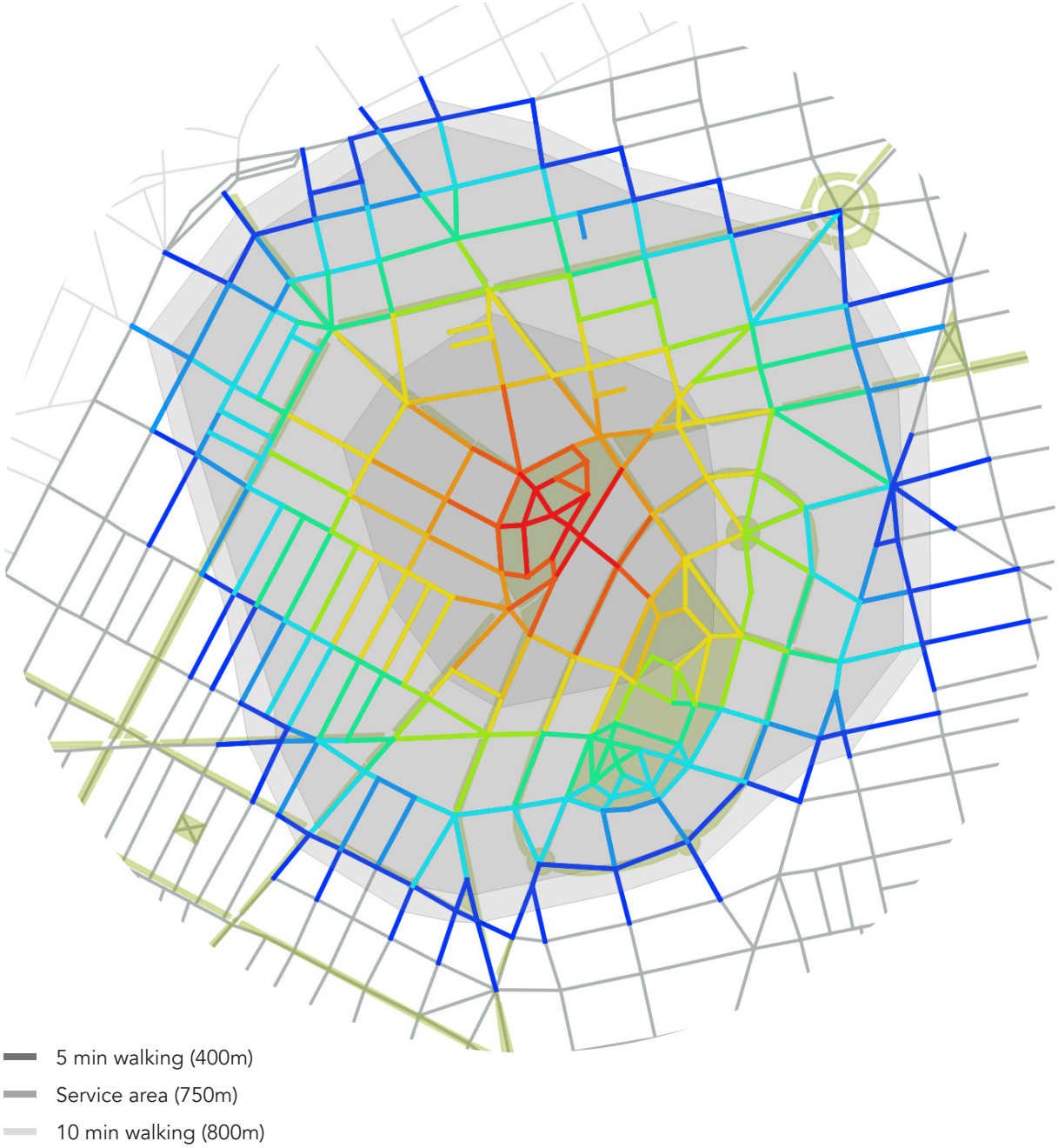


Figure 55, *España's* catchment areas

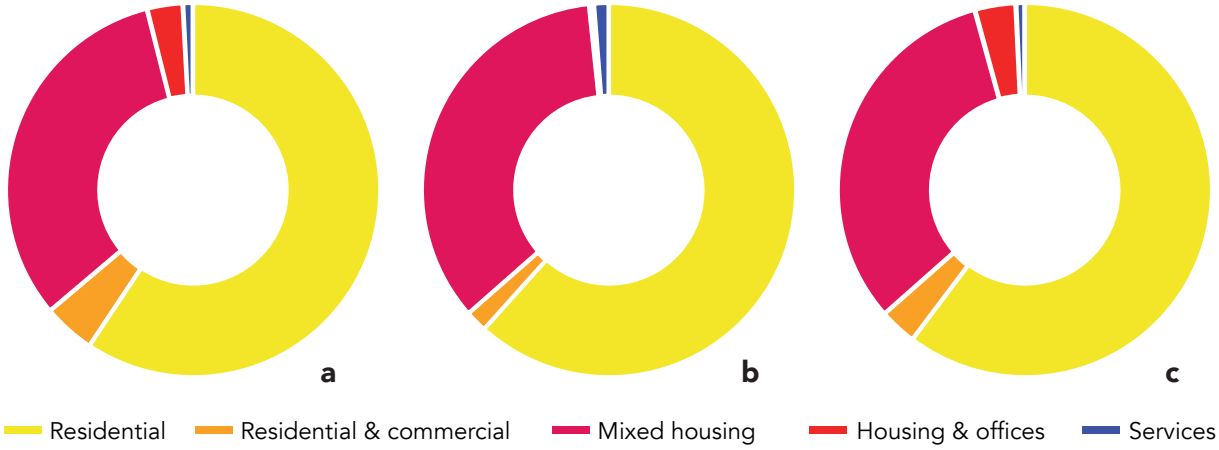


Figure 56, Land use distribution around *España* according to its service area (a), 400m radius (b), and 800m radius (c)

España's total food outlets count is 34. 56% are semi-local, 38% non-local, and 6% local. Out of the 34 business, 22 provide pavement dining, three-quarters provide shelter, and almost all of them are permeable and have green in their surroundings. 77% of the restaurants and 86% of the coffee shops offer pavement dining, an important feature to be considered as potential third places. The segment with the highest catering count has average measures of both choice and integration compared to the rest of the segments (fig. 54 & 57; table 19).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	5	2	3	3	5	2
Bar/Cantina	Semi-local	6	1	6	6	6	4
Coffee shop	Semi-local	7	6	6	7	7	7
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	1	1	1	1	1	1
Ice cream shop	Semi-local	1	1	1	1	1	1
Restaurant	Non-local	13	10	12	11	11	10
Street food	Local	1	1	1	0	1	0
	Count	**34**	**22**	**30**	**29**	**32**	**25**
	Percentage	**100**	**65**	**88**	**85**	**94**	**74**

Table 19, Features of *España's* food outlets

Figure 57, Percentage of businesses around *España* that afford different features known to be distinctive of third places

Pushkin park

Figure 58, *Pushkin's* surroundings and id of its analysed segments

Pushkin's choice values are pretty regular from radius 400 to 5000. However, on average, radius 400 has the lowest value and 1600 the highest – 1.1205104 and 1.20631421. Integration, on the other hand, varies according to the analysis radii, being 1.44063373 at 400 the most segregated and 2.16925582 at 5000 the best integrated. The segments that have the highest integration values are part of the main artery *Cuauhtémoc*, the same avenue adjacent to *López Velarde* (fig. 59; table 20 & 21).

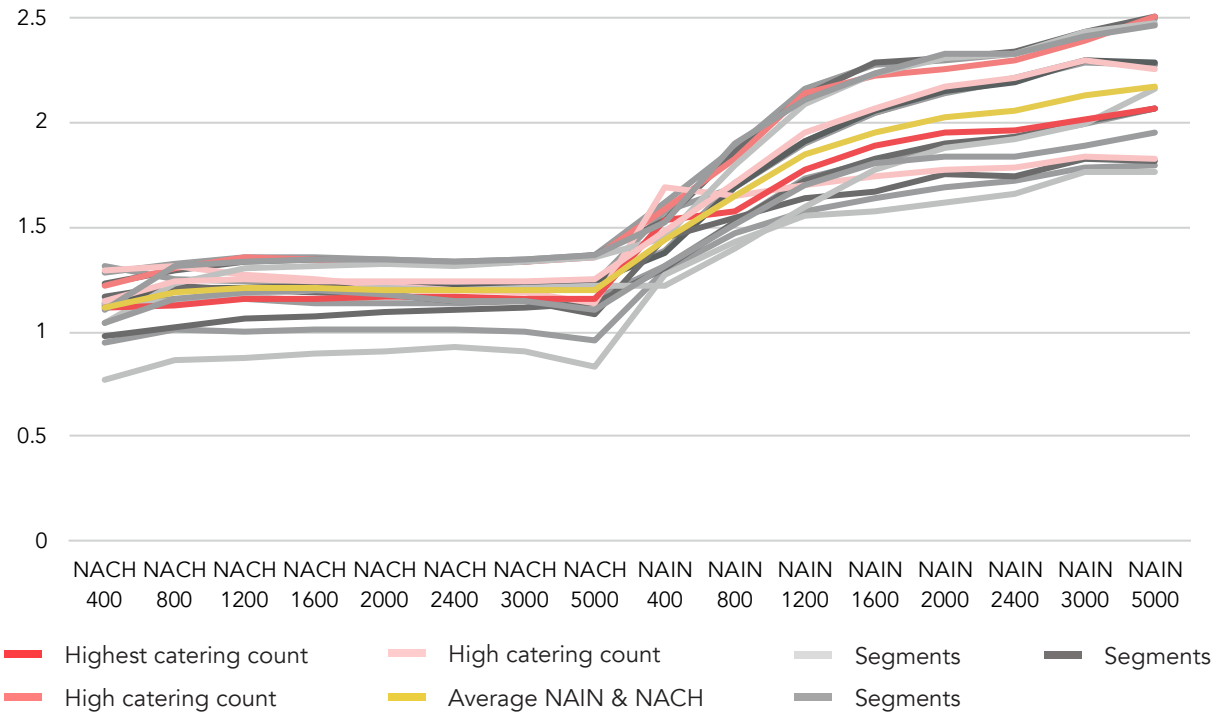


Figure 59, *Pushkin's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
93653	1.121969125	1.152423842	1.15958226	1.134916714	1.135373581	1.137460976	1.1481189	1.156089996
23736	1.281814205	1.320399347	1.360885183	1.356171433	1.341859357	1.332288255	1.34424307	1.366079812
93650	0.946431967	1.00688751	1.00294136	1.011815531	1.009628946	1.00760286	0.999239758	0.95568699
93652	0.97723675	1.017973304	1.060565255	1.069957458	1.089925572	1.100991626	1.118265739	1.141073358
93659	1.317294088	1.248719234	1.241809977	1.235104449	1.230431105	1.223744699	1.226867194	1.232721252
93651	0.772811644	0.860833997	0.872464391	0.892772828	0.907039597	0.923444062	0.908456283	0.829604835
93648	1.124421688	1.19785546	1.206172345	1.210073783	1.209504301	1.206258289	1.216338287	1.236150649
93670	1.231983305	1.29707859	1.339616971	1.347471917	1.336947252	1.32392773	1.338391172	1.365296233
93649	1.132794415	1.208789126	1.210588433	1.21774044	1.216290973	1.209406197	1.221322902	1.238795911
28015	1.170437314	1.219249847	1.203298862	1.184222212	1.173706572	1.148964527	1.144031441	1.085234097
24908	1.215440733	1.304143813	1.351570988	1.342964618	1.32858405	1.322314348	1.33443272	1.359205764
22202	1.290319599	1.319132821	1.275273125	1.249357084	1.220508793	1.197169759	1.186710863	1.138123186
24413	1.131812869	1.150097268	1.182741272	1.195110158	1.210924726	1.200559463	1.207777961	1.223721424
93669	1.037403045	1.22774189	1.307222963	1.319458824	1.324255449	1.316377119	1.330488827	1.360763853
23617	1.119481446	1.125827303	1.153102906	1.158050948	1.164251211	1.164644285	1.160782022	1.160430036
24964	1.042627872	1.157366976	1.193056174	1.19507306	1.175104582	1.149243842	1.143983388	1.108073912
22972	1.146213274	1.243390596	1.247927635	1.243991459	1.243701575	1.237835132	1.242896588	1.252695601
27461	1.102225329	1.315551191	1.338454563	1.349402865	1.345666993	1.339007218	1.346932804	1.371211945
Average	1.120151037	1.187414562	1.205959703	1.20631421	1.203539146	1.196735577	1.201071107	1.198942159

Table 20, *Pushkin's* different radii and average choice values. Highlighted the higher and the lower values for each radius

ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
93653	1.310884821	1.518759852	1.736238237	1.816569249	1.885889875	1.933365733	1.997871398	2.062741406
23736	1.618319129	1.876680366	2.158546763	2.276634753	2.293403138	2.328470756	2.419830567	2.493518759
93650	1.297500802	1.468625252	1.573418892	1.633689783	1.68752291	1.71750256	1.787199056	1.795283032
93652	1.306765284	1.528400993	1.722106773	1.822597968	1.903035173	1.932915679	2.001315164	2.065816241
93659	1.575779689	1.685716737	1.896783442	2.047791527	2.139586254	2.197581354	2.285200366	2.277492251
93651	1.26801221	1.430250124	1.55610202	1.579549073	1.621919358	1.662731591	1.764198571	1.766050786
93648	1.388132	1.706518464	1.913315594	2.050199498	2.151392175	2.209919925	2.293777456	2.273642637
93670	1.536858731	1.862537547	2.128784986	2.281679814	2.309556832	2.343627593	2.433664433	2.506730214
93649	1.378975995	1.691637026	1.90580527	2.059675537	2.150125145	2.187723307	2.294144729	2.285214904
28015	1.451830289	1.543786948	1.633376617	1.672808437	1.748512684	1.747910751	1.82657065	1.818717801
24908	1.588000849	1.823557603	2.139866493	2.223753194	2.25039785	2.29289889	2.390427031	2.503890979
22202	1.686878579	1.644626048	1.696544215	1.741497196	1.779060725	1.784510576	1.839079503	1.824052527
24413	1.222077114	1.39417344	1.60067078	1.7743726	1.879527573	1.92280654	1.995180134	2.160684585
93669	1.453244703	1.796673124	2.084751925	2.232876528	2.309928853	2.331261137	2.429968063	2.472698052
23617	1.533598716	1.574332027	1.770682222	1.884104854	1.946837182	1.966271473	2.015745713	2.064451583
24964	1.309636979	1.511062598	1.701930232	1.805098919	1.836120208	1.833123303	1.884903722	1.950962323
22972	1.482411006	1.714271568	1.954266269	2.070201789	2.176426142	2.213427548	2.298466385	2.257648194
27461	1.522500303	1.897736962	2.110708387	2.232129975	2.330405554	2.325989891	2.413300843	2.467008503
Average	1.440633733	1.648297038	1.849105507	1.95584615	2.022202646	2.051779923	2.131713544	2.169255821

Table 21, *Pushkin's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Pushkin reaches around 50% of residential area, but it is also strongly influenced by residential with commerce and housing with offices. Due to a *Metrobus* station to its eastern side, this POS facilitates access to the people living or working in *Roma-Condesa*. Then, likely, people passing by or workers are users of the park. Which, to some extent, might discourage the locals from going (fig. 60 & 61).

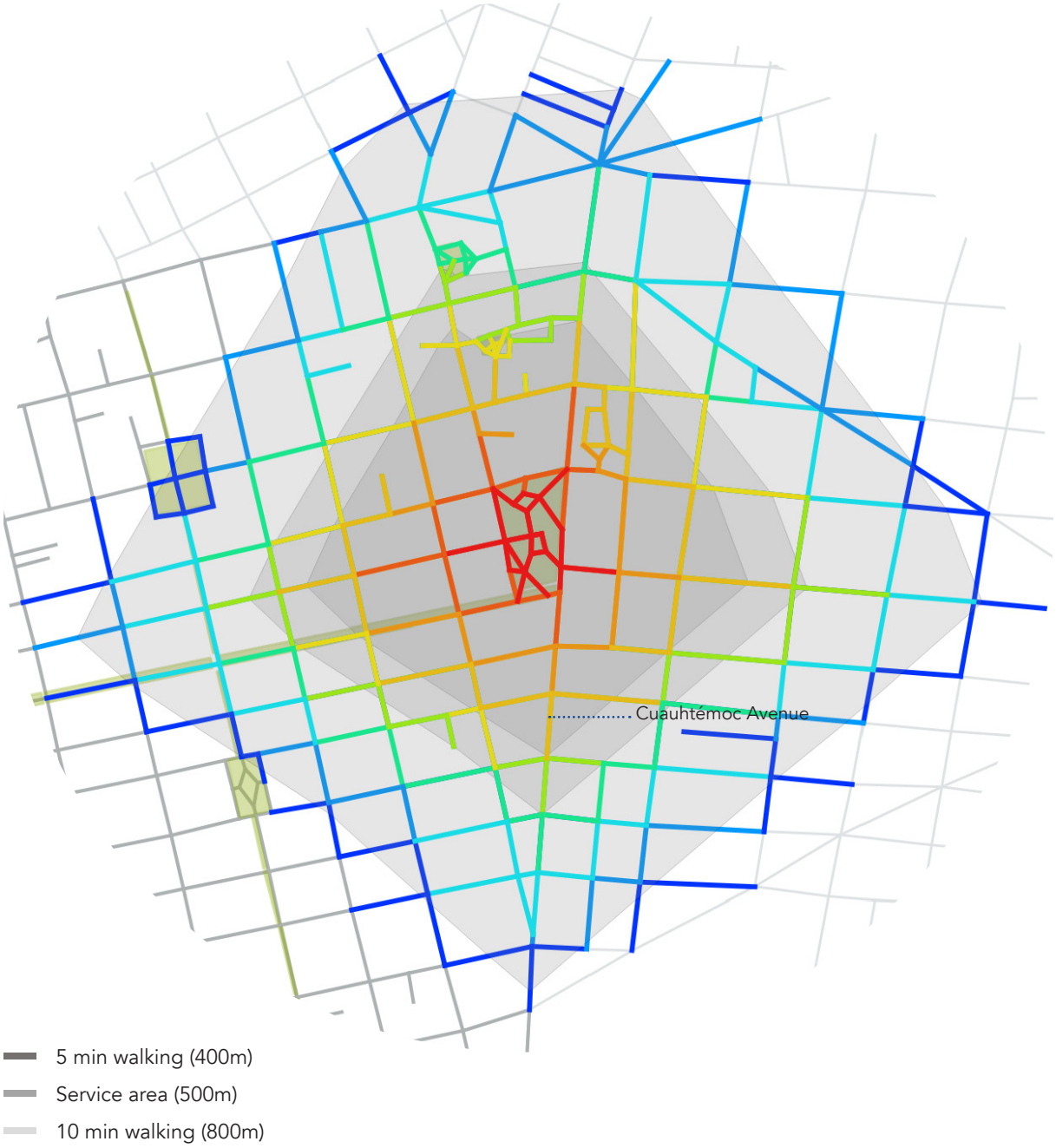


Figure 60, *Pushlin's* catchment areas

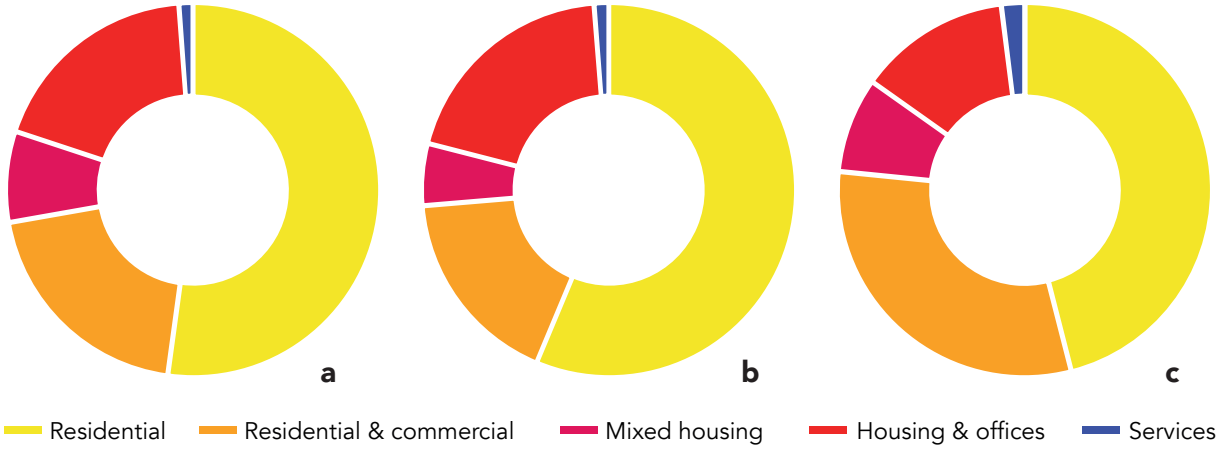


Figure 61, Land use distribution around *Pushkin* according to its service area (a), 400m radius (b), and 800m radius (c)

Its total food outlets count is 32. 31% are local businesses, 31% are semi-local, and 37% are non-local. Overall, 38% of the food outlets have pavement dining, while half are personalised and provide shelter. 38% of the businesses are restaurants, and although 83% of them have greenery, only two-fifths offer pavement dining (table 22; fig. 62).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	2	0	1	0	1	0
Bar/Cantina	Semi-local	4	1	3	0	2	1
Coffee shop	Semi-local	3	3	2	3	3	3
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	4	2	2	3	4	2
Ice cream shop	Semi-local	1	0	1	0	1	0
Restaurant	Non-local	12	5	10	8	9	8
Street food	Local	6	1	2	2	6	2
	Count	**32**	**12**	**21**	**16**	**26**	**16**
	Percentage	**100**	**38**	**66**	**50**	**81**	**50**

Table 22, Features of *Pushkin's* food outlets

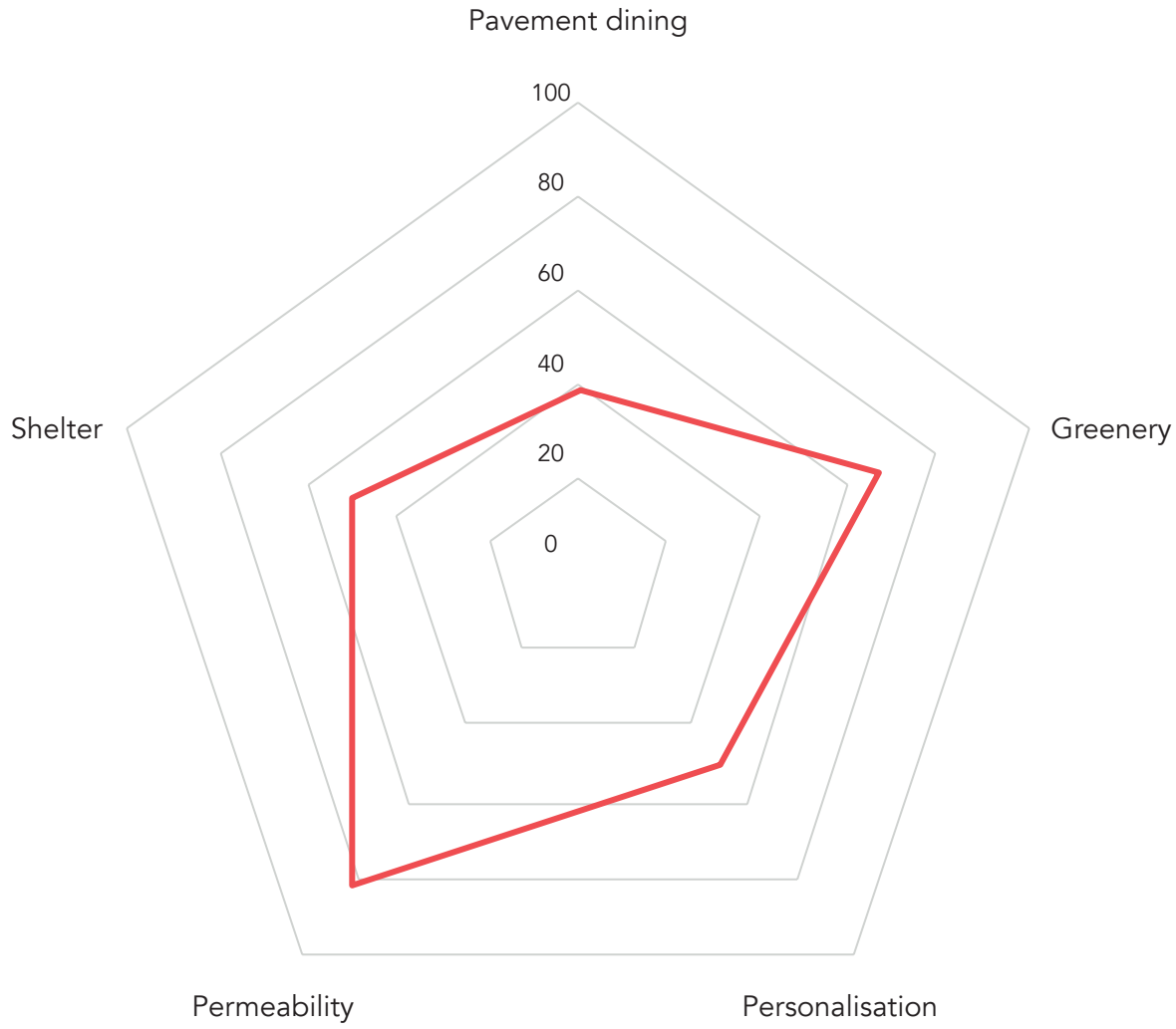


Figure 62, Percentage of businesses around *Pushkin* that afford different features known to be distinctive of third places

Río de Janeiro square

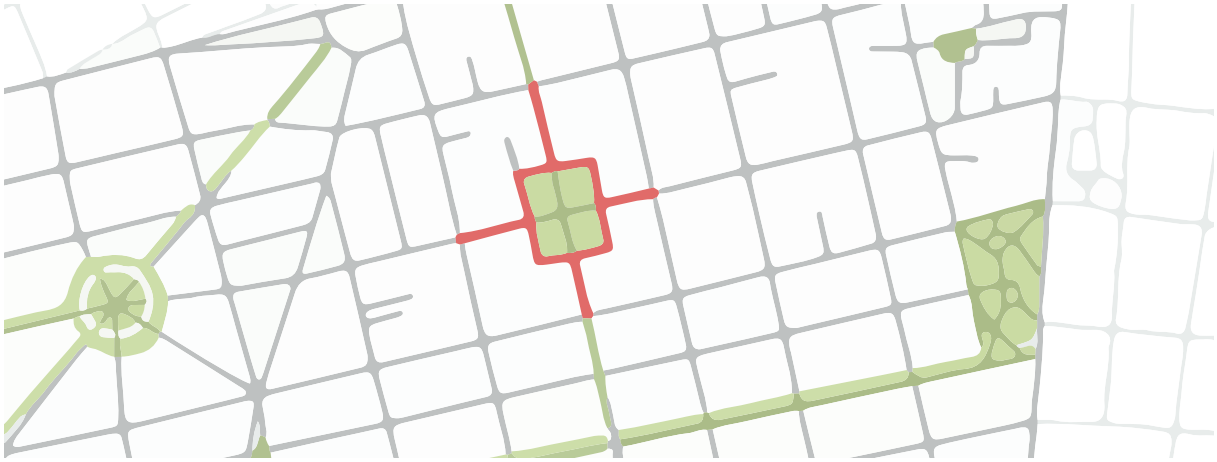


Figure 63, *Río de Janeiro's* surroundings and id of its analysed segments

The highest average choice values for *Río de Janeiro* are at local scale radii (400-1200), while the highest integration has an average value of 1.78450015 at 5000m. A third of these POS segments are significantly higher integrated than the rest. Those segments lead towards the plaza. Then, the streets that connect to this POS are high in both choice and integration at all analysis radii, making the area surrounding the plaza to behave as a centre, while the plaza itself is segregated (fig. 64; table 23 & 24).

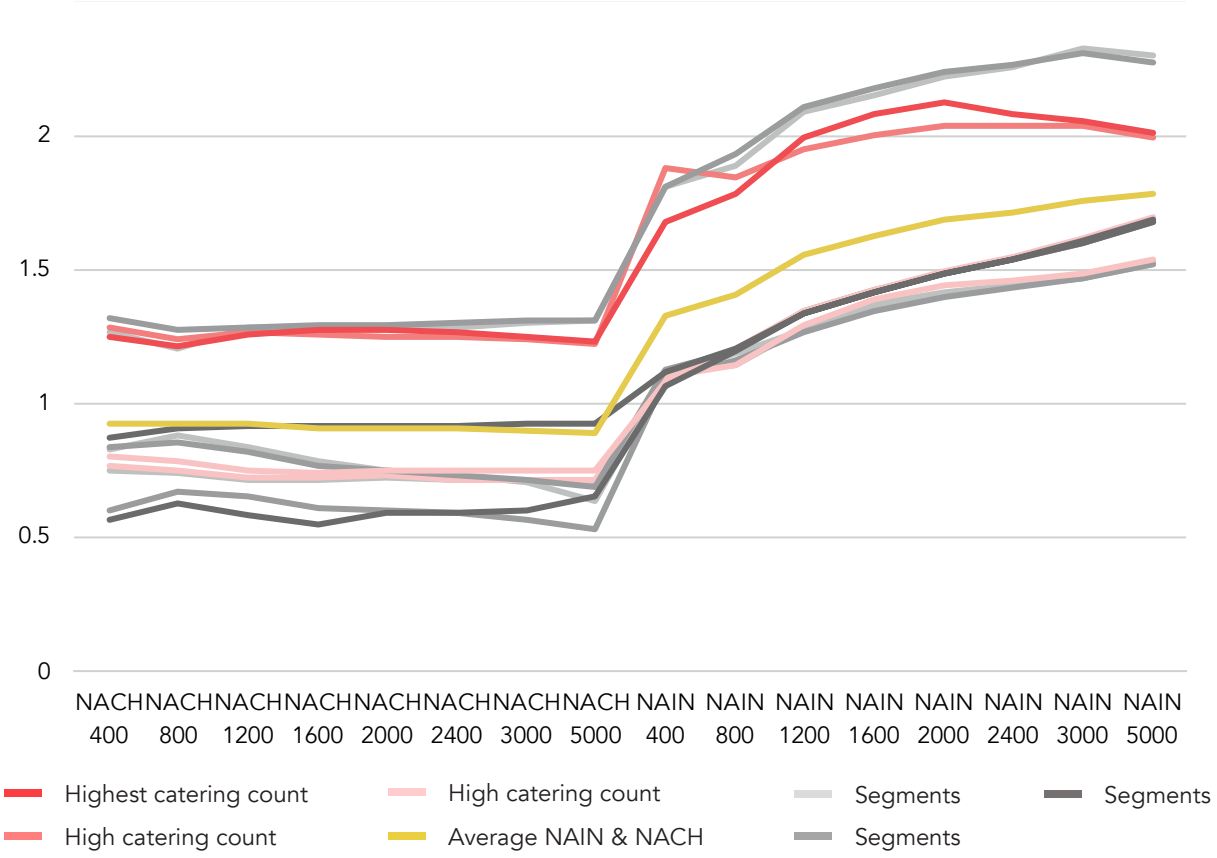


Figure 64, *Río de Janeiro's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
81592	0.826151028	0.879173808	0.83365754	0.780289417	0.750022608	0.727798778	0.704567969	0.638437655
21993	0.746522657	0.738122431	0.71780184	0.718166992	0.727029305	0.716235764	0.713545953	0.702666711
81590	0.597164226	0.674513739	0.650522233	0.609442752	0.603318262	0.589120654	0.567416814	0.529953394
81587	0.767449699	0.745143238	0.723094203	0.72625436	0.73451932	0.714712377	0.71056021	0.710889561
81591	0.832379782	0.852097892	0.814801124	0.766910724	0.746857452	0.729741268	0.71637074	0.686367744
81588	0.799866745	0.781665809	0.750820771	0.737898799	0.751629068	0.750690278	0.751042646	0.749555477
81589	0.563301191	0.626706362	0.579299658	0.552040044	0.58944642	0.592590082	0.598264562	0.649044977
22205	0.867637491	0.906886341	0.912052785	0.918752607	0.919493386	0.919228005	0.924262325	0.919773548
22366	1.261604855	1.201029311	1.285007647	1.279983018	1.279447493	1.282833774	1.298125292	1.309041582
27575	1.283904174	1.235860529	1.261213964	1.253435408	1.251819891	1.243928034	1.238460151	1.21794227
21051	1.316236493	1.272711594	1.285003134	1.289043796	1.292652509	1.298101374	1.306223686	1.306218652
22732	1.244914473	1.216138284	1.255773164	1.271656628	1.276305363	1.262833456	1.251296985	1.230682407
Average	0.925594401	0.927504111	0.922420672	0.908656212	0.910211757	0.90231782	0.898344778	0.887547831

Table 23, *Río de Janeiro's* different radii and average choice values. Highlighted the higher and the lower values for each radius

ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
81592	1.098163566	1.186597275	1.277325749	1.351489876	1.401830061	1.436524231	1.466022651	1.518675298
21993	1.105111677	1.139576256	1.278882651	1.366365074	1.417824588	1.442109208	1.467212199	1.524994119
81590	1.088653809	1.157643914	1.26724295	1.347129219	1.395478131	1.433208284	1.466067453	1.521947865
81587	1.09997572	1.145032975	1.289133279	1.387117015	1.438323662	1.457363151	1.485143267	1.540110595
81591	1.125393879	1.197366542	1.343582894	1.418963969	1.484635626	1.536167889	1.597771117	1.679703958
81588	1.081140478	1.204766567	1.343886332	1.426073033	1.493156808	1.545996952	1.612813774	1.697550605
81589	1.067995749	1.194015933	1.333582346	1.414782096	1.481547419	1.534646756	1.603504732	1.687114502
22205	1.112969469	1.205572962	1.336600435	1.41481015	1.482412437	1.533342188	1.595529286	1.675533654
22366	1.807717405	1.883217389	2.086312109	2.148891605	2.221125317	2.252719885	2.324163284	2.301646622
27575	1.873556004	1.841330092	1.946038111	2.002328565	2.03682827	2.034160657	2.032245517	1.990779929
21051	1.809445941	1.930500239	2.104638052	2.177162812	2.240057388	2.265874169	2.305174234	2.269748485
22732	1.672073459	1.78416584	1.989329582	2.079374178	2.121381144	2.082163276	2.053901521	2.006196122
Average	1.32851643	1.405815499	1.549712874	1.627873966	1.684550071	1.712856387	1.750795753	1.784500146

Table 24, *Río de Janeiro's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Its service area and the 5-10 minute walk catchments indicate that the plaza is located in the middle of a predominantly residential area. The closer to the plaza, the more residential land use can be found. Radius 400 displays 95%, while the service area of 500m reaches 81%, and radius 800, 58%. Given the features of its segments, its segregated location but integrated accessibility, and its dominant residential land use, this space might indeed be considered as a local centre potentially used by residents (fig. 65 & 66).

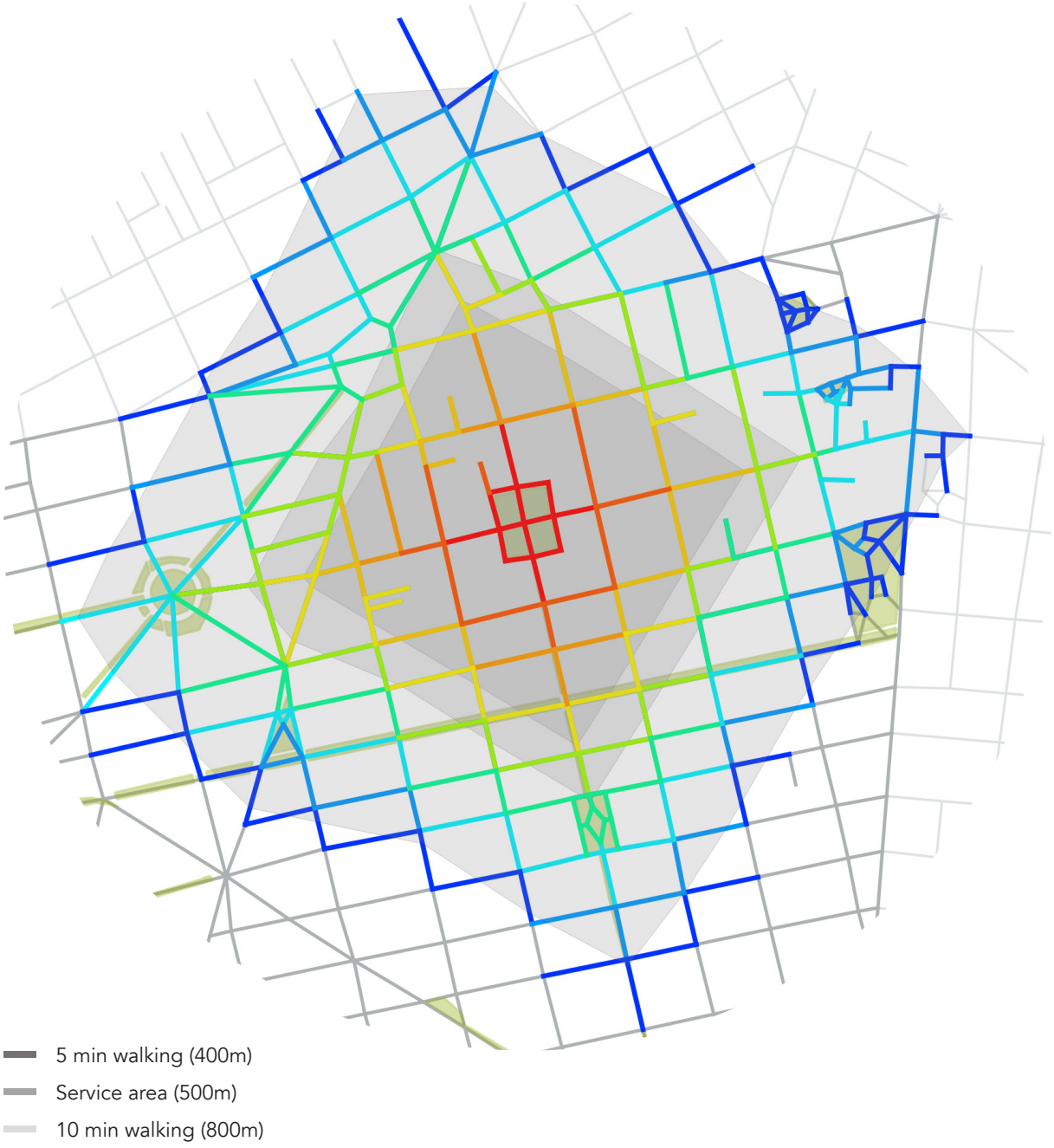


Figure 65, *Río de Janeiro's* catchment areas

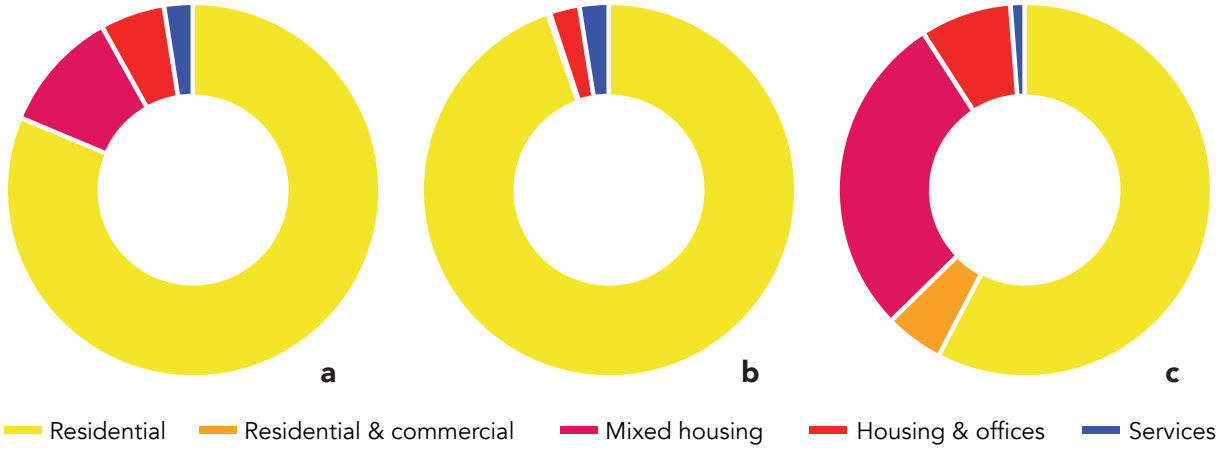


Figure 66, Land use distribution around the POS according to its service area (a), 400m radius (b), and 800m radius (c)

As seen in figure twenty, the segments that are one to three turnings away from the plaza encourage a variety of catering activity. However, the plaza per se does not inspire commercial or catering activity of any kind. There are seven food outlets, 57% provide pavement dining and shelter, 86% are personalised and permeable (table 25; fig. 67).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	0	0	0	0	0	0
Bar/Cantina	Semi-local	1	0	1	1	1	0
Coffee shop	Semi-local	2	1	2	1	1	1
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	0	0	0	0	0	0
Ice cream shop	Semi-local	0	0	0	0	0	0
Restaurant	Non-local	4	3	4	4	4	3
Street food	Local	0	0	0	0	0	0
	Count	**7**	**4**	**7**	**6**	**6**	**4**
	Percentage	**100**	**57**	**100**	**86**	**86**	**57**

Table 25, Features of *Rio de Janeiro's* food outlets

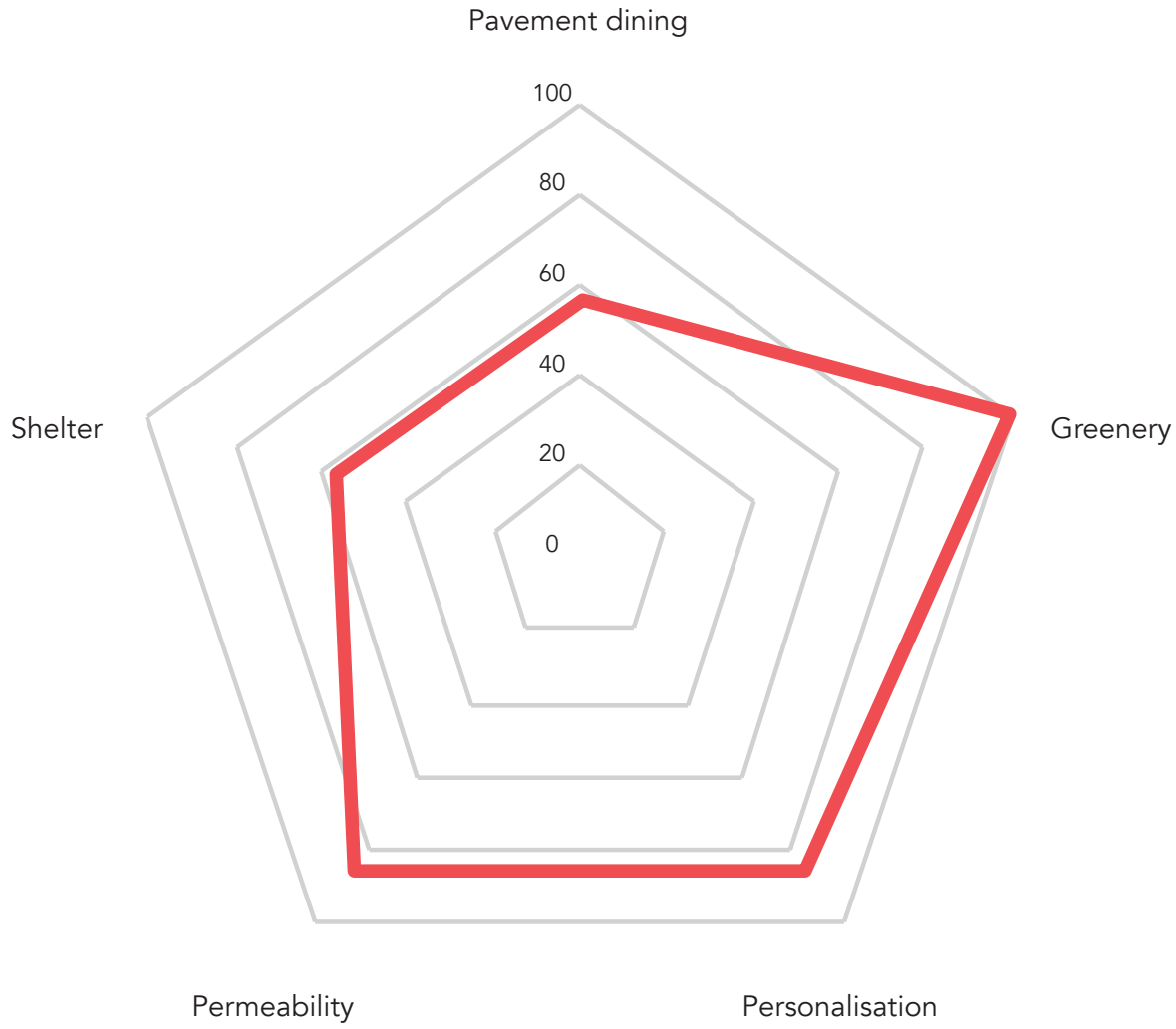


Figure 67, Percentage of businesses around *Río de Janeiro* that afford different features known to be distinctive of third places

Luis Cabrera square

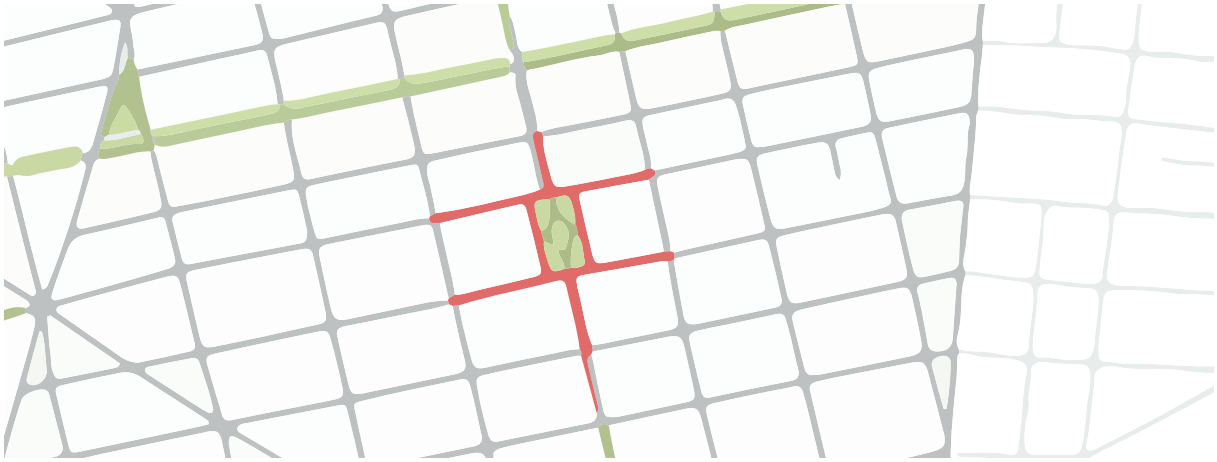


Figure 68, *Luis Cabrera's* surroundings and id of its analysed segments

Similar to *Río de Janeiro*, the segments adjacent to the plaza which do not continue its trajectory, are segregated and can easily be differentiated from those that connect the space and are continuous (fig. 68). All its segments have regular choice values from local to global radii. 57% of the studied segments have their strongest choice-value between 400-800m, being 1.29899059 the highest at 400m. Integration highest value is at 5000m with an average of 2.03410243, and the most segregated at 400m with an average of 1.49622144 (fig. 69; table 26 & 27).

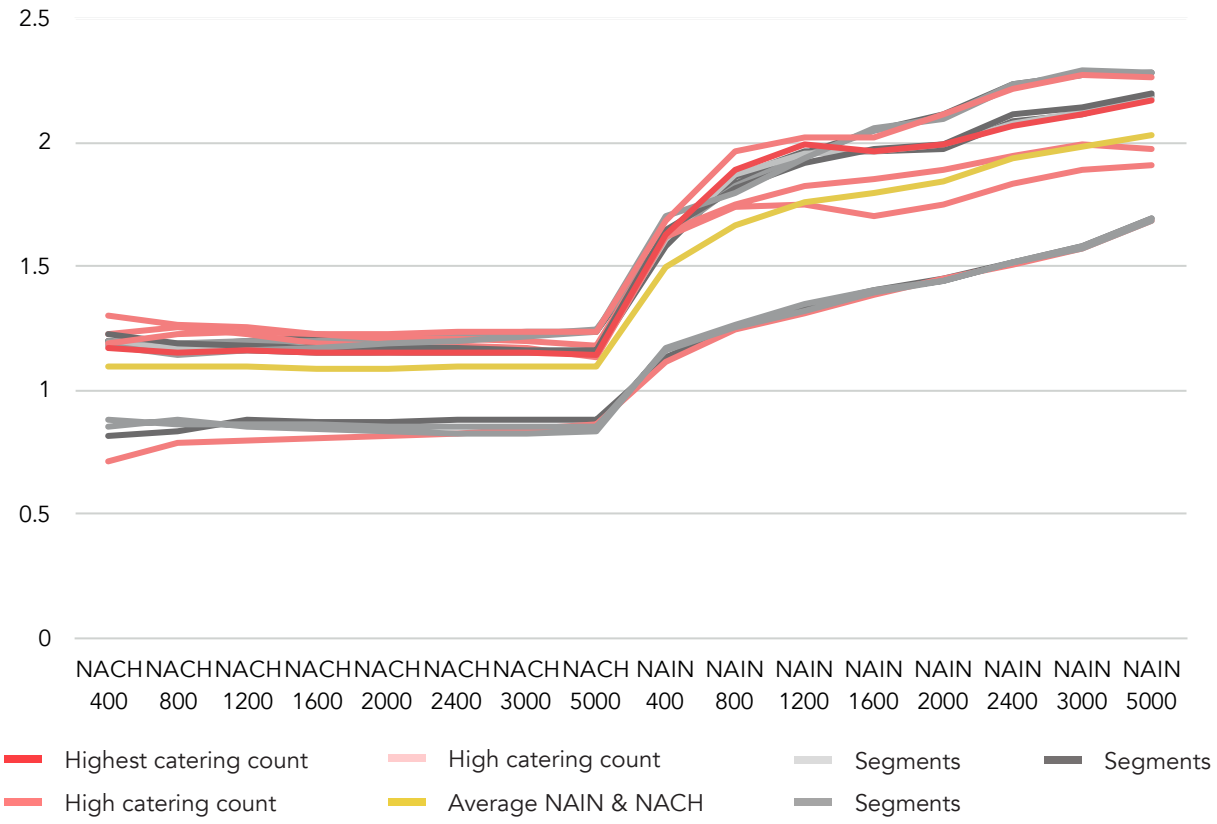


Figure 69, *Luis Cabrera's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
20693	1.198253221	1.151521341	1.158982149	1.149953649	1.15050874	1.156836354	1.156469342	1.156031965
27223	1.20377155	1.17772489	1.204282901	1.217746213	1.22167355	1.231350982	1.233868067	1.240493419
22379	1.202204228	1.186594367	1.200027708	1.201260891	1.21121543	1.221960142	1.230197908	1.245563804
26068	1.192727258	1.1744638	1.168943944	1.159621273	1.156262971	1.15904868	1.159121611	1.154050681
93640	0.815140431	0.838608313	0.886547737	0.871617168	0.875465363	0.880323789	0.88136062	0.883843644
93638	0.715480473	0.788119061	0.800478758	0.809933997	0.818509026	0.829849374	0.840517102	0.859983026
93639	0.885856325	0.861689163	0.861305509	0.861661979	0.856696621	0.857816414	0.850314898	0.850210561
93641	0.856696215	0.886538964	0.858139332	0.84360048	0.833354728	0.830827004	0.825460355	0.833268548
26456	1.298990595	1.26773664	1.258867118	1.229254755	1.213628158	1.207139358	1.202401081	1.17810845
25762	1.228009737	1.256102186	1.225220213	1.187622386	1.177064702	1.178545915	1.172630509	1.132237764
22382	1.231461682	1.186277388	1.180931792	1.168886718	1.169090174	1.172600078	1.166492528	1.164780059
22380	1.180557839	1.14102989	1.161876856	1.174501239	1.188625686	1.201766181	1.220119094	1.241467953
27114	1.190426558	1.231643837	1.238576521	1.228993033	1.231265229	1.23876619	1.241513724	1.241123261
22384	1.169241602	1.149850287	1.162404168	1.150993311	1.150001043	1.152069122	1.153398965	1.14739912
Average	1.097772694	1.092707152	1.097613193	1.089689078	1.089525816	1.094207113	1.095276129	1.094897304

Table 26, *Luis Cabrera's* different radii and average choice values. Highlighted the higher and the lower values for each radius

ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
20693	1.582446978	1.857433774	1.964358341	1.961266555	1.974847106	2.082536878	2.117294303	2.185808222
27223	1.624644051	1.831638829	1.951514013	2.051669853	2.11510102	2.235163896	2.273934743	2.278743192
22379	1.621646277	1.822835947	1.948426541	2.049981923	2.100618133	2.233288308	2.274591777	2.278424772
26068	1.609051759	1.873113184	1.959700865	1.961835861	1.991851307	2.073321243	2.122745705	2.183683474
93640	1.136181189	1.252922636	1.340239024	1.404173391	1.447607931	1.521122435	1.57981996	1.696142193
93638	1.117726163	1.247058914	1.311376642	1.38885722	1.447911803	1.508785392	1.571349553	1.685498212
93639	1.164252015	1.251830536	1.324328127	1.396219674	1.443314769	1.5141124	1.572070558	1.682648516
93641	1.176062247	1.268513085	1.347696251	1.400598752	1.440080508	1.519324597	1.583586409	1.695161272
26456	1.633890326	1.746896183	1.825901371	1.856868443	1.894549237	1.945030883	1.994583813	1.972239347
25762	1.616309067	1.743905076	1.749844294	1.706935777	1.750100596	1.83579538	1.892907411	1.906821351
22382	1.647820419	1.812422932	1.921649272	1.973587386	1.994999832	2.112725754	2.145451991	2.198300054
22380	1.703345012	1.794389078	1.93609692	2.055567992	2.093187356	2.222226499	2.288359722	2.279788032
27114	1.685513121	1.960127654	2.023941708	2.021886999	2.111341897	2.21941886	2.269160282	2.261457426
22384	1.628211546	1.893213651	1.991032718	1.966667179	1.996951993	2.062775446	2.111467549	2.172718014
Average	1.496221441	1.668307248	1.75686472	1.799722643	1.843033106	1.934687712	1.985523127	2.034102434

Table 27, *Luis Cabreara's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Although the plaza is surrounded by residential land use, it also covers residential with commerce and some housing with offices. So, this space can be reached by people living and working in the area. Its wide sidewalks, the general appearance of its segments, and its spatial features, make it a potential through-movement space at a local scale, but not as strong gathering local space (fig. 70 & 71).

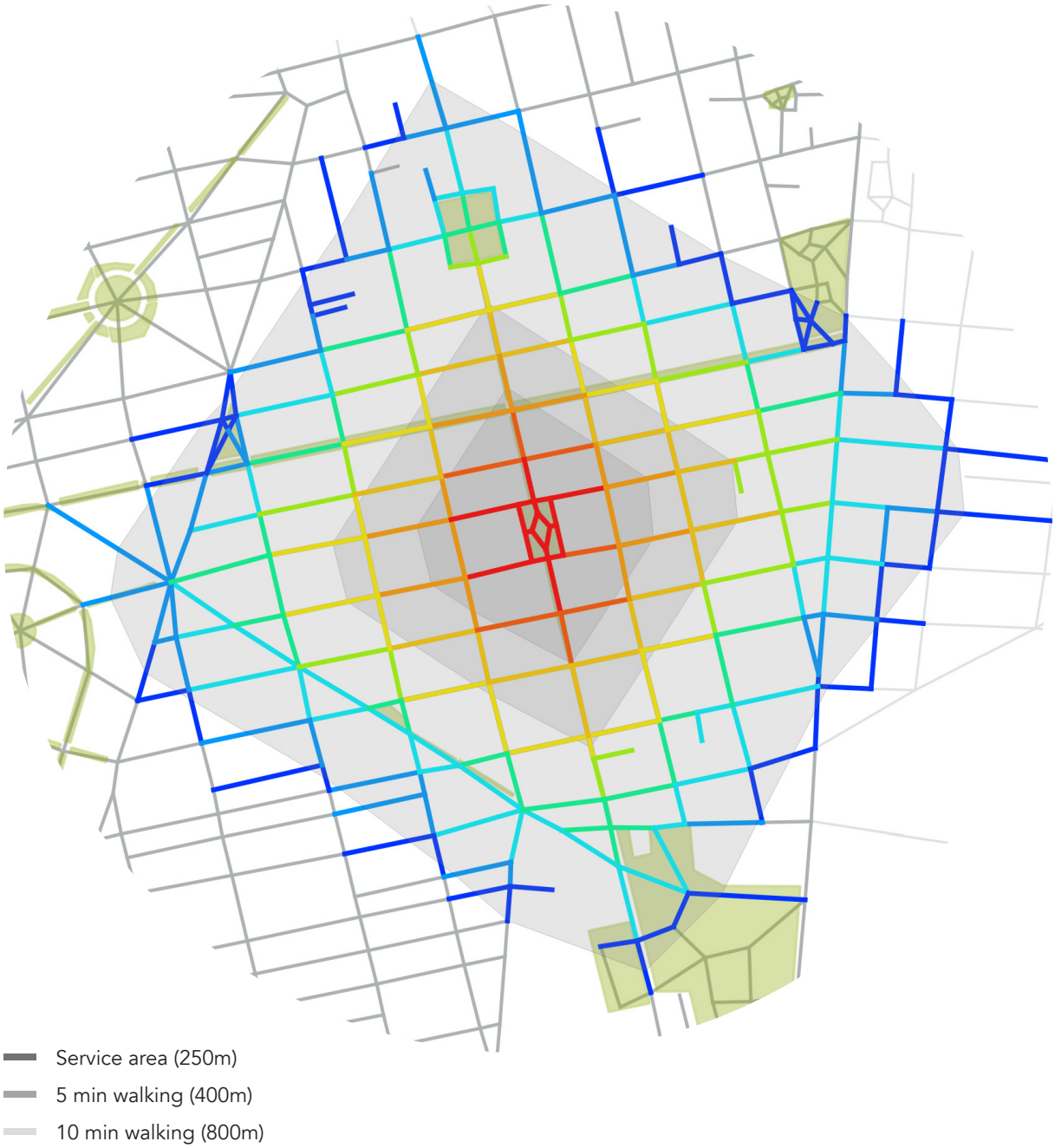


Figure 70, *Luis Cabrera's* catchment areas

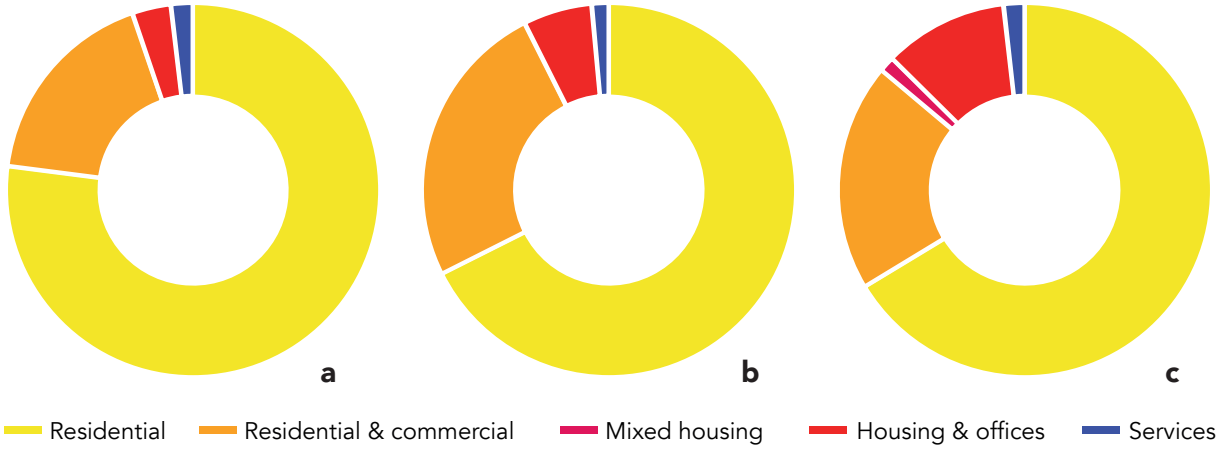


Figure 71, Land use distribution around *Luis Cabrera* according to its service area (a), 400m radius (b), and 800m radius (c)

Out of the seventeen businesses counted, none of them are local, nine are semi-local, and eight non-local. The presence of food outlets on the segregated segments adjacent to the plaza and the immediate residential land use might indicate that this POS is attracting locals rather than outsiders. Overall, three-quarters of the businesses offer pavement dining, are permeable, and provide shelter, 82% have green views and 88% are personalised (table 28; fig. 72).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	0	0	0	0	0	0
Bar/Cantina	Semi-local	1	0	0	1	1	0
Coffee shop	Semi-local	8	6	7	6	6	6
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	0	0	0	0	0	0
Ice cream shop	Semi-local	0	0	0	0	0	0
Restaurant	Non-local	8	7	7	8	6	7
Street food	Local	0	0	0	0	0	0
	Count	**17**	**13**	**14**	**15**	**13**	**13**
	Percentage	**100**	**76**	**82**	**88**	**76**	**76**

Table 28, Features of *Luis Cabrera's* food outlets

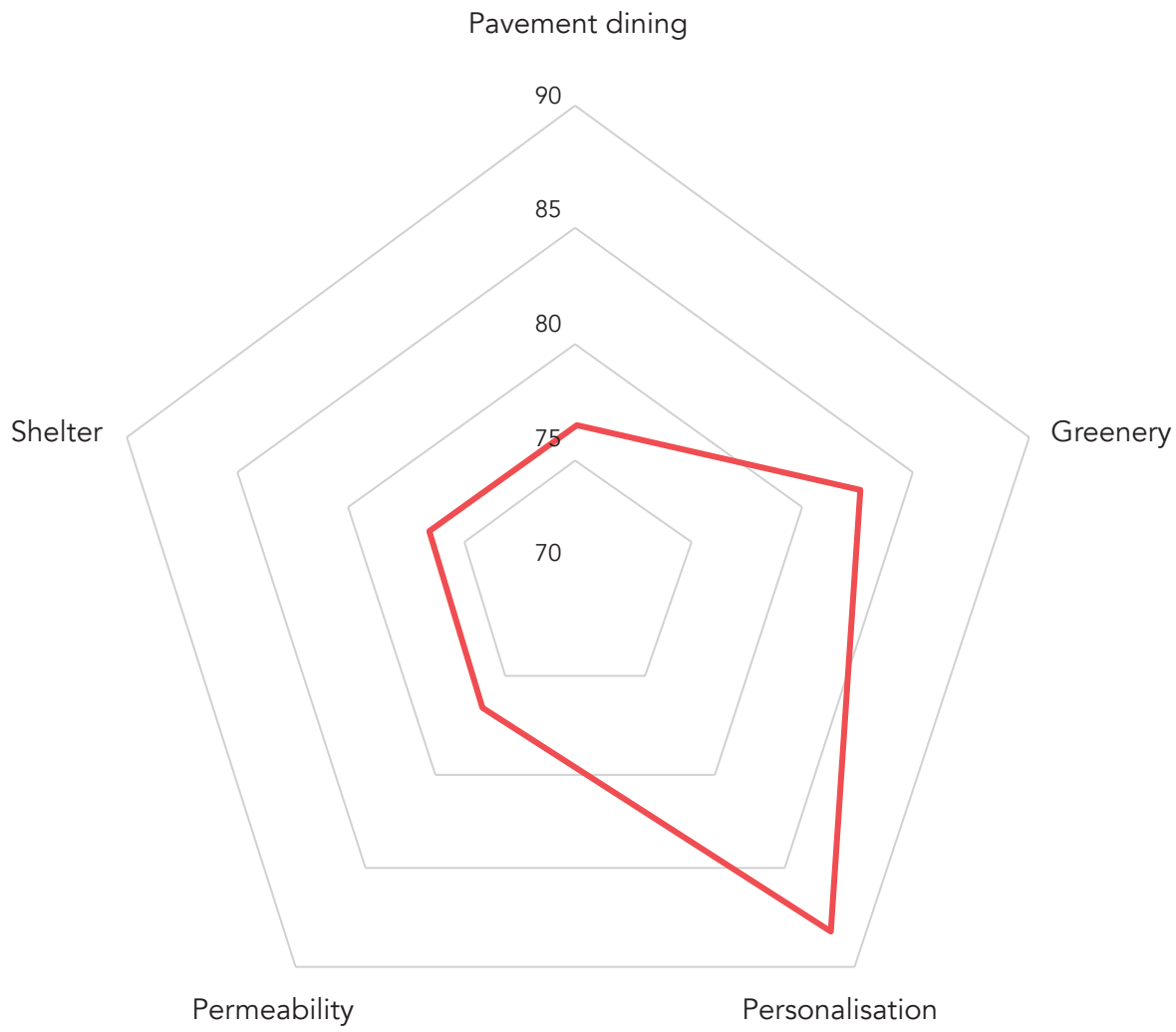


Figure 72, Percentage of businesses around *Luis Cabrera* that afford different features known to be distinctive of third places

Villa de Madrid square

Figure 73, *Villa de Madrid's* surroundings and id of its analysed segments

Villa de Madrid's average segment length is 186m, the longest average of all the spaces analysed. Its highest average choice and integration values are 1.21099729 at radius 3000 and 2.19859325 at radius 2400, respectively. On average, the lowest value for both measures is at 400m. The spatial configuration of *Villa de Madrid* is that of a convex centrality (fig. 74; table 29 & 30).

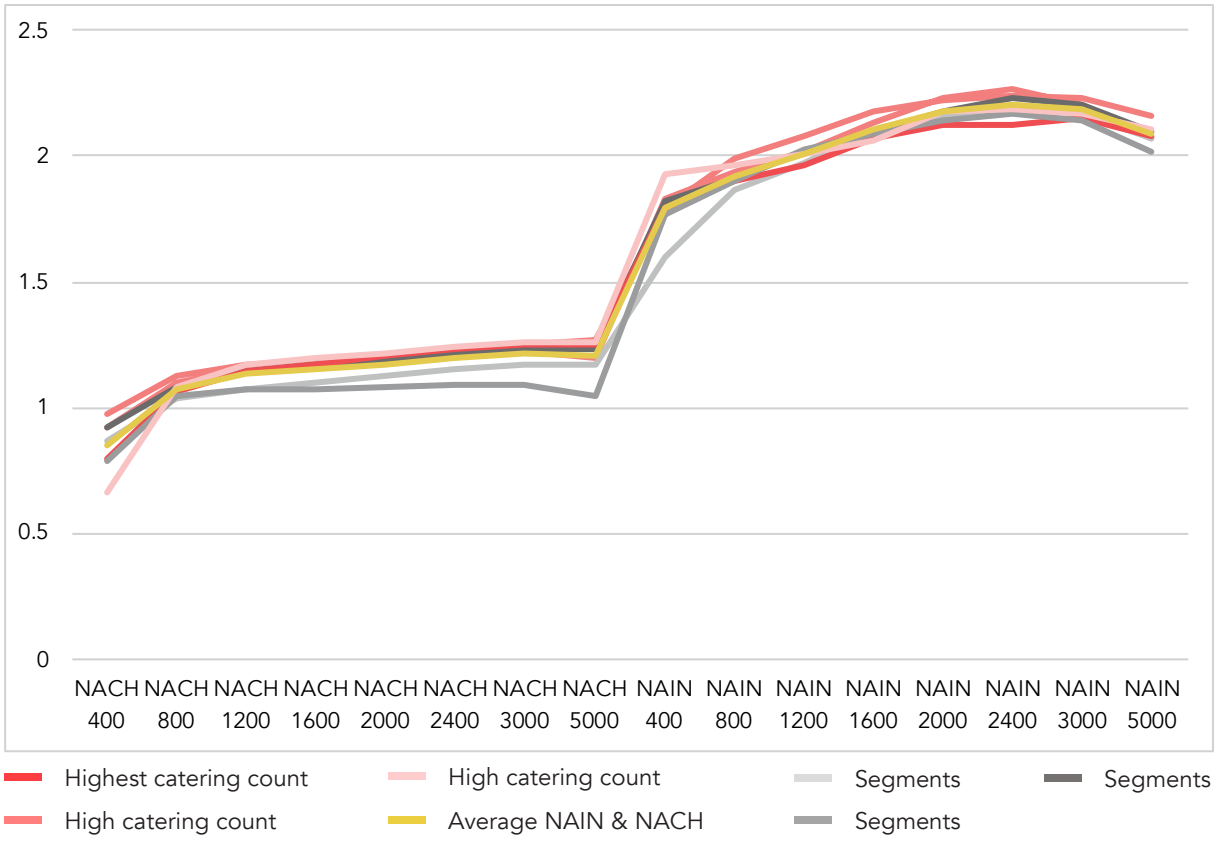
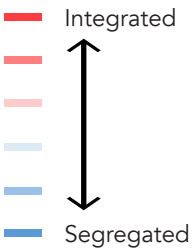


Figure 74, *Villa de Madrid's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
23531	0.977458347	1.126422968	1.170043341	1.177678077	1.199609566	1.218119617	1.221531036	1.201366045
21049	0.91915451	1.101654559	1.151798545	1.182102732	1.208137879	1.234683519	1.251733879	1.265039073
21212	0.870577252	1.03623281	1.069376853	1.098086556	1.130694691	1.156824989	1.170459598	1.167177878
21064	0.925221542	1.08336853	1.145116759	1.167926018	1.184471093	1.212631918	1.234114808	1.233750509
23327	0.798643111	1.067884433	1.140215119	1.172094865	1.203162752	1.232016256	1.252899985	1.2542275
80112	0.791633046	1.047824034	1.069638926	1.068934225	1.078918686	1.089213278	1.089313496	1.047517379
23325	0.661311563	1.078187763	1.172685329	1.193267189	1.215196173	1.24399442	1.256928263	1.256634228
Average	0.849142767	1.077367871	1.131267839	1.15144138	1.174312977	1.198211999	1.210997295	1.20367323

Table 29, *Villa de Madrid's* different radii and average integration values. Highlighted the higher and the lower values for each radius



ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
23531	1.833583202	1.940274136	2.016565104	2.131867339	2.230732159	2.261457447	2.206568591	2.0725096
21049	1.79768054	1.988692533	2.075510378	2.173934488	2.218821959	2.237402997	2.232850711	2.15464699
21212	1.593961998	1.860877981	1.972749205	2.09772796	2.161781763	2.182290196	2.163356918	2.069630622
21064	1.81880422	1.905853052	2.017859392	2.100457011	2.177516721	2.226071169	2.206909231	2.098346993
23327	1.789372912	1.898687904	1.964746051	2.065978782	2.124865786	2.125436194	2.151998555	2.07733965
80112	1.765340011	1.896272589	2.026384646	2.090537335	2.143382616	2.171244632	2.141757817	2.019515817
23325	1.92660199	1.96556566	2.006044865	2.064963068	2.172163596	2.186250118	2.166449742	2.109006804
Average	1.789334982	1.922317694	2.01140852	2.103637998	2.175609228	2.19859325	2.181413081	2.085856639

Table 30, *Villa de Madrid's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Its service area covers 76% of mixed housing and no residential land use. However, when analysing the 5-10 minute catchment area, *Villa de Madrid* does reach 13% of residential area at 400m and 33% at 800m. Although this space is an integrated and accessible centrality, the potentially elevated proportion of visitors might discourage the local community from choosing it as a gathering spot. Instead, workers of the area or the semi-local population are likely to choose it as a destination (fig. 75 & 76).

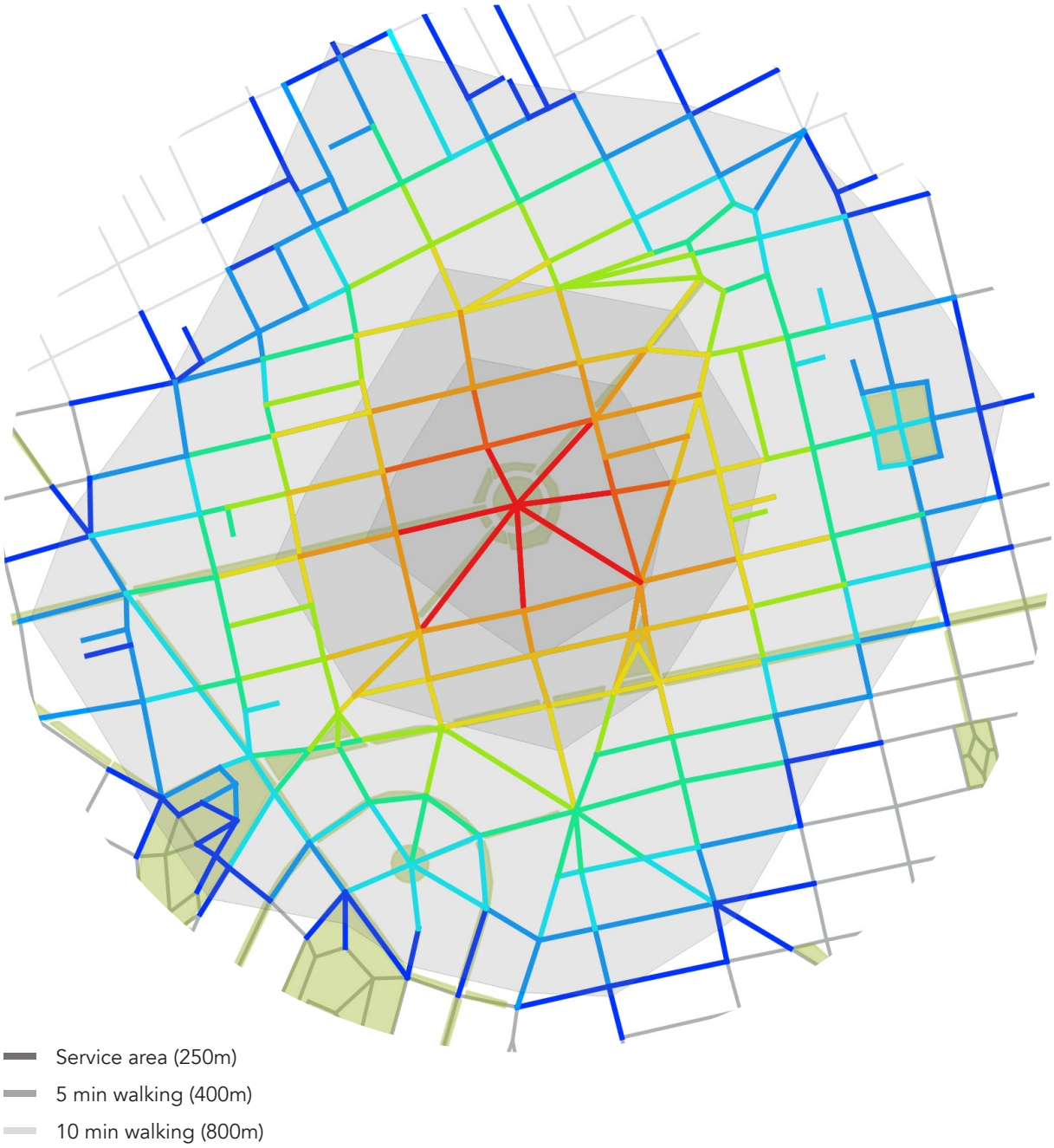


Figure 75, *Villa de Madrid's* catchment areas

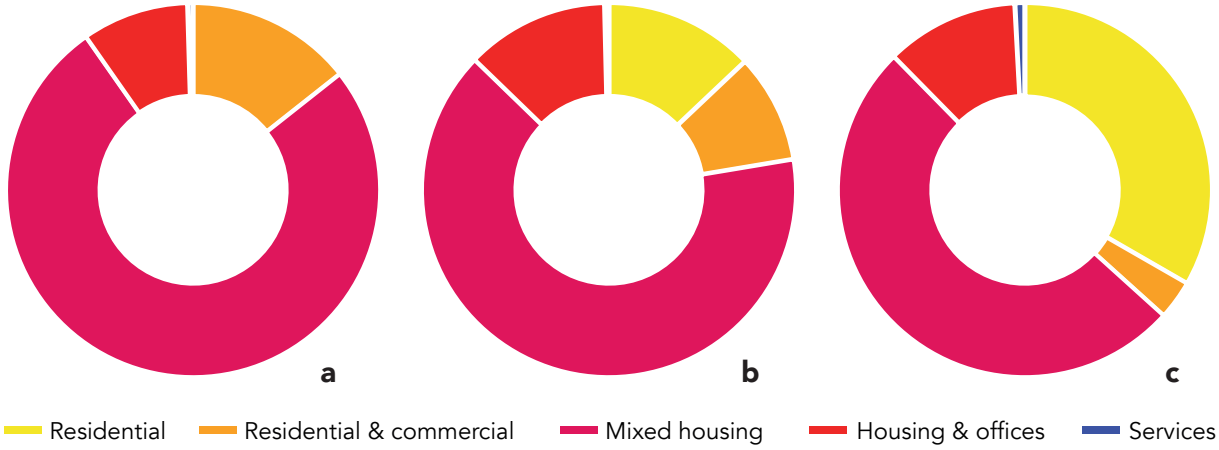


Figure 76, Land use distribution around *Villa de Madrid* according to its service area (a), 400m radius (b), and 800m radius (c)

This plaza has the highest food outlets count; 41 businesses distributed among seven segments. 61% are non-local, 36.6% are semi-local, and 2.4% are local (a single street food booth). Half of the businesses supply chairs and shelter in the streets, three quarters are personalised and permeable, and almost all are exposed to greenery (table 31; fig. 77).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	0	0	0	0	0	0
Bar/Cantina	Semi-local	6	1	6	2	3	0
Coffee shop	Semi-local	8	4	7	6	8	4
Fast food	Non-local	1	0	1	1	1	0
Fonda	Local	0	0	0	0	0	0
Ice cream shop	Semi-local	1	0	0	0	0	0
Restaurant	Non-local	24	16	21	22	19	16
Street food	Local	1	1	1	0	1	1
	Count	**41**	**22**	**36**	**31**	**32**	**21**
	Percentage	**100**	**54**	**88**	**76**	**78**	**51**

Table 31, Features of *Villa de Madrid's* food outlets

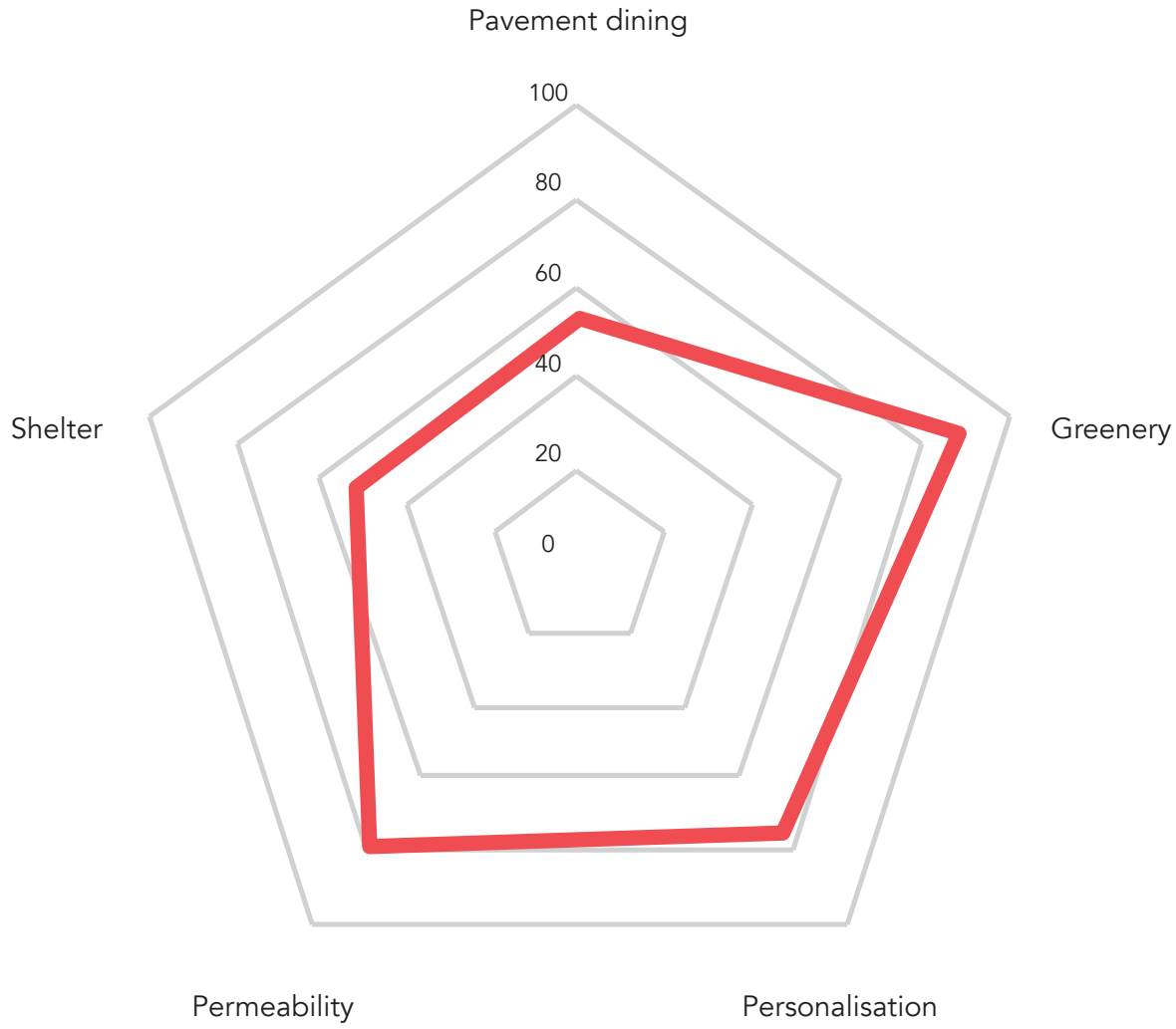


Figure 77, Percentage of businesses around *Villa de Madrid* that afford different features known to be distinctive of third places

Romita square

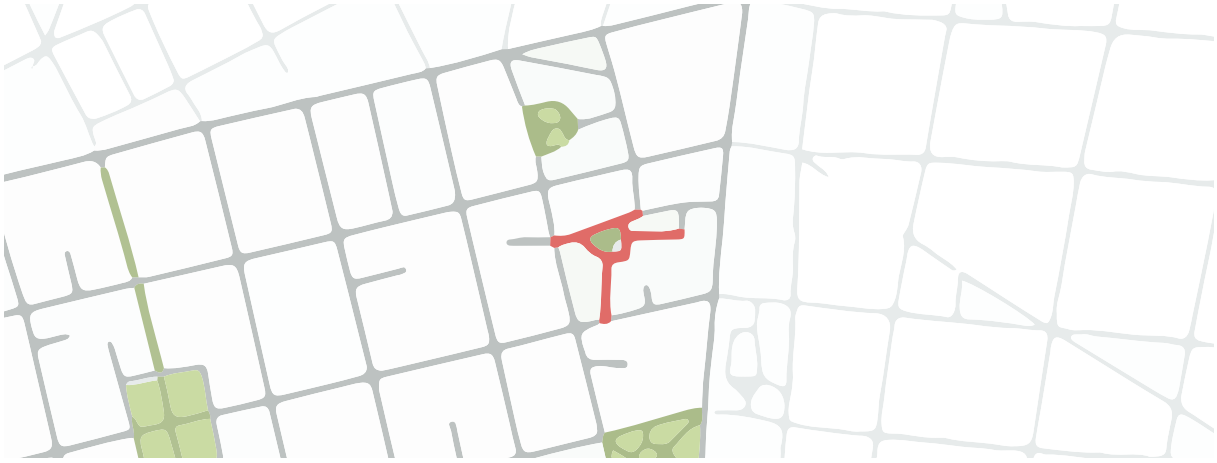


Figure 78, *Romita's* surroundings and id of its analysed segments

Romita has the lowest average segment length, 34m. On average, its highest choice values are local – 0.909466111 at 400m and 0.867927063 at 800m. In contrast, the highest integration average and individual values are on a global scale. However, this POS is inclined to be a stronger destination for people living five minutes away by walk than for anybody else given its segregated location. The measure of integration increases its values as the analysis radius does, not only in this space but also in some others. This might be because the study area is located in central Mexico City.

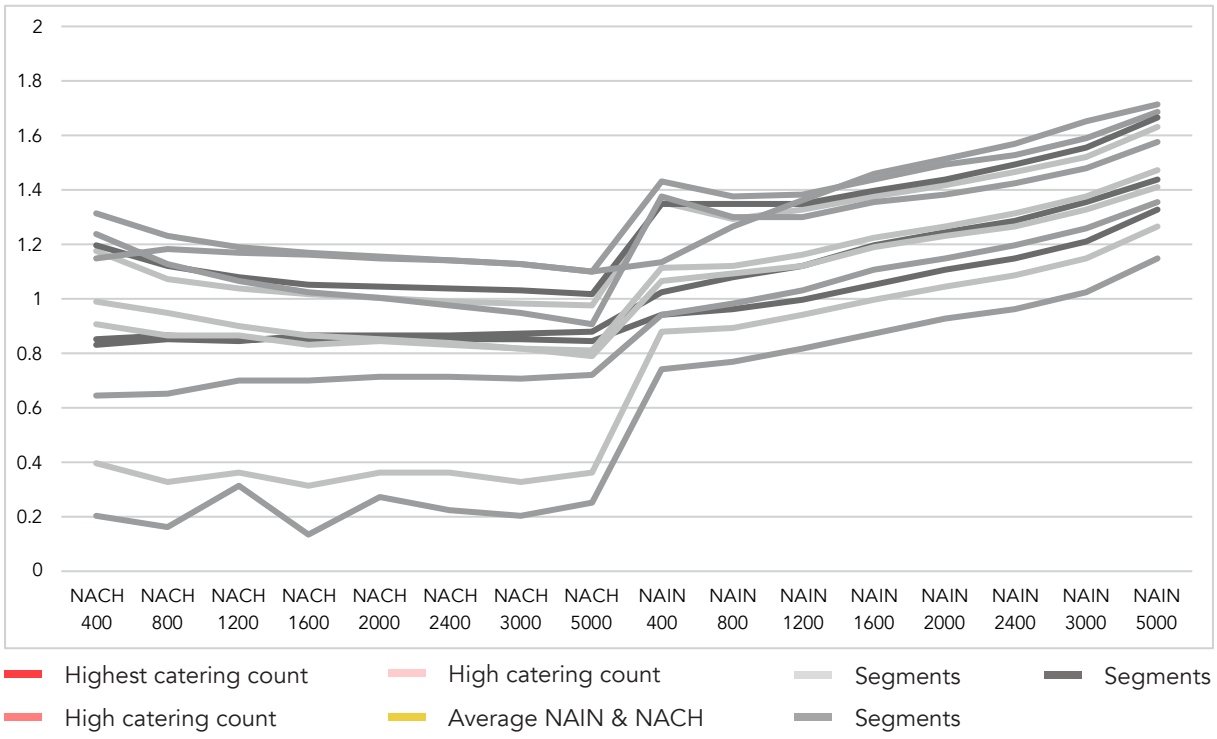


Figure 79, *Romita's* spatial analysis per segment

Therefore, as the analysis radii increase the segments of *Roma-Condesa* will be globally more integrated if the city as a whole is considered, influencing the segregated locations (fig. 79; table 32 & 33).

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
93697	0.832004613	0.851641298	0.849370844	0.866229449	0.86710538	0.86966877	0.874117122	0.879951943
27564	0.853639482	0.864025689	0.856304327	0.852145966	0.855874804	0.853837632	0.850075653	0.844902285
20654	1.31866788	1.230930854	1.193350854	1.171188846	1.155410892	1.142561863	1.126269451	1.102021004
80170	0.646062161	0.654203017	0.697432084	0.700872918	0.711546972	0.716525828	0.710350279	0.720157204
93696	0.990596477	0.949426614	0.898068902	0.869460074	0.853809005	0.838553246	0.819263319	0.792491328
93694	1.176140026	1.073301258	1.041007675	1.016831712	1.004356428	0.9941787	0.983854789	0.979093361
80171	0.393928207	0.325236349	0.359693747	0.316558686	0.361372526	0.36248048	0.325741939	0.364549345
93695	1.196826978	1.123925229	1.080317631	1.055604691	1.046661747	1.042219418	1.029645569	1.019727468
23973	1.237772168	1.131837536	1.064328362	1.028601699	1.003662218	0.977405268	0.948004919	0.90838461
26616	0.206176584	0.160732838	0.313271519	0.133803033	0.273365174	0.226828633	0.200434322	0.249072479
23267	1.152312645	1.181937015	1.17106476	1.166581426	1.146557027	1.140531489	1.129700829	1.102222457
Average	0.909466111	0.867927063	0.865837337	0.834352591	0.843611107	0.833162848	0.817950745	0.814779408

Table 32, *Romita's* different radii and average choice values. Highlighted the higher and the lower values for each radius

ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
93697	1.024498429	1.077546662	1.121107169	1.199822469	1.246838736	1.285709039	1.354236639	1.441987944
27564	0.945077461	0.960719176	0.998345486	1.053916297	1.110414172	1.148147779	1.212159545	1.327984589
20654	1.430723198	1.378446491	1.385030827	1.43692341	1.493146555	1.529303547	1.590907881	1.68545349
80170	0.939563078	0.985870455	1.035201647	1.1053362	1.152575275	1.19652391	1.261800816	1.35756022
93696	1.067263002	1.094581203	1.123475248	1.193350145	1.233058132	1.270357527	1.332064908	1.414717399
93694	1.359760882	1.295686193	1.328412456	1.375226493	1.416139524	1.464590246	1.522037419	1.634035551
80171	0.882436003	0.896002495	0.940694039	0.99481712	1.044708053	1.086850011	1.147787962	1.267410019
93695	1.351349228	1.347959411	1.350010259	1.401790215	1.44109549	1.496563597	1.555868594	1.668454419
23973	1.375311952	1.301268991	1.304972057	1.354409912	1.386439591	1.429093065	1.483070463	1.579884342
26616	0.743748068	0.77323054	0.821713488	0.872806044	0.927637729	0.966828193	1.028092356	1.148695882
23267	1.133473475	1.270648888	1.3631041	1.46107514	1.517070833	1.572499211	1.653439167	1.717421565
Average	1.113927707	1.125632773	1.16109698	1.222679404	1.269920372	1.313315102	1.376496886	1.476691402

Table 33, *Romita's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Its service area covers 57% of mixed housing land use, 35% residential, and 7% housing with offices. Even when *Romita* is located in the middle of an area that is mostly mixed housing, it has an impact on the residents of its surroundings. The 5-10 minute catchment indicates that this plaza also reaches 54% of residential area at 400m and 40% at 800m. However, it might be difficult for people living on the other side of the avenues *Cuauhtémoc* and *Chapultepec* to get there. Therefore, the people accessing to this plaza are only those who live perhaps in a 400m radius and within the boundaries of the study area since those boundaries are medium-speed and wide avenues (fig. 80 & 81).

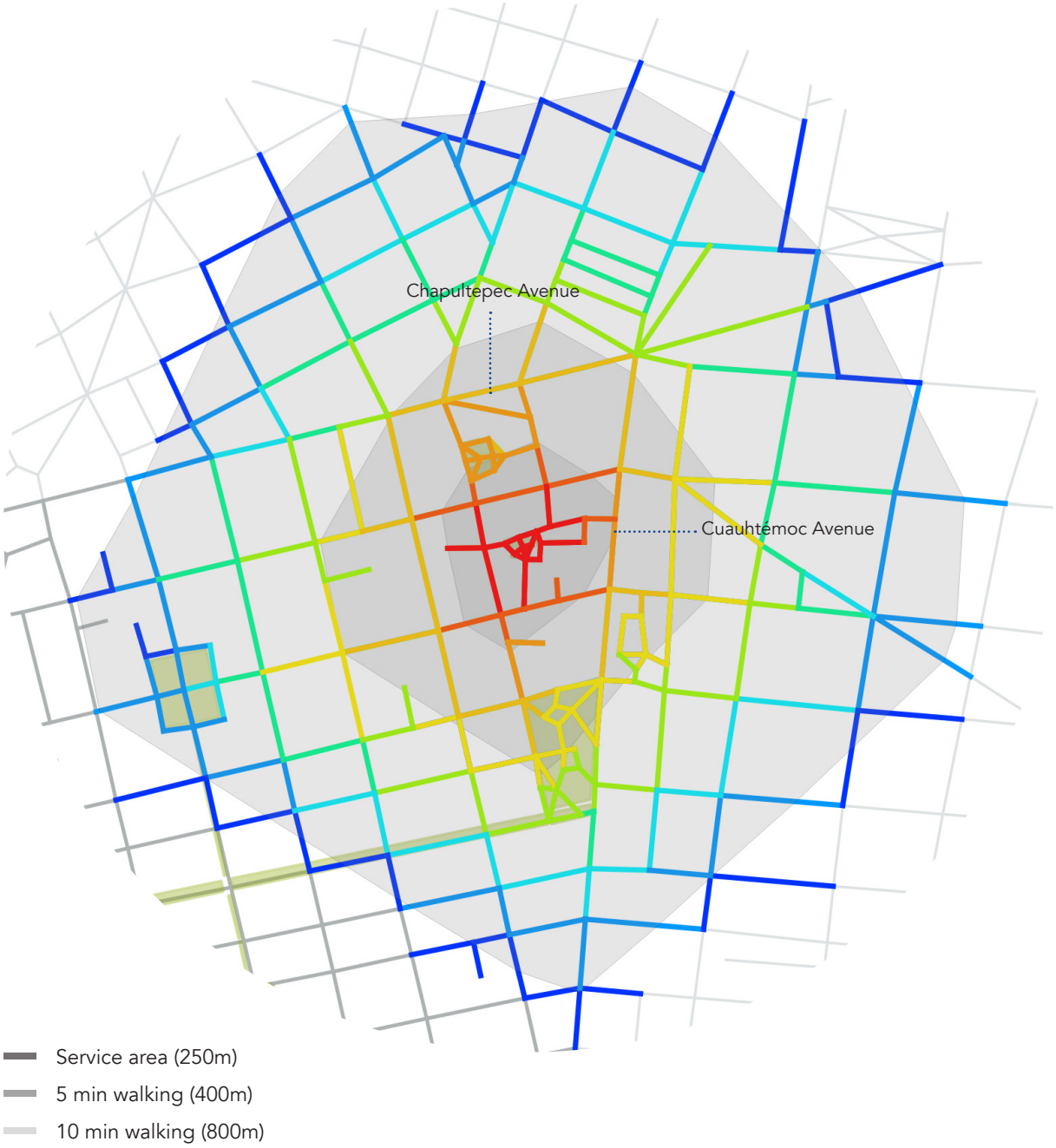


Figure 80, *Romita's* catchment areas

Figure 81, Land use distribution around *Romita* according to its service area (a), 400m radius (b), and 800m radius (c)

Romita does not have food outlets. This plaza is bordered by small, low-speed, and narrow segments, inserted in what could have been a large or two average size blocks in this area. Even though the POS is the most segregated within *Roma-Condesa*, due to other spatial characteristics and the presence of a catholic temple, *Romita* might be positively contributing to shaping community.

Juan Rulfo park

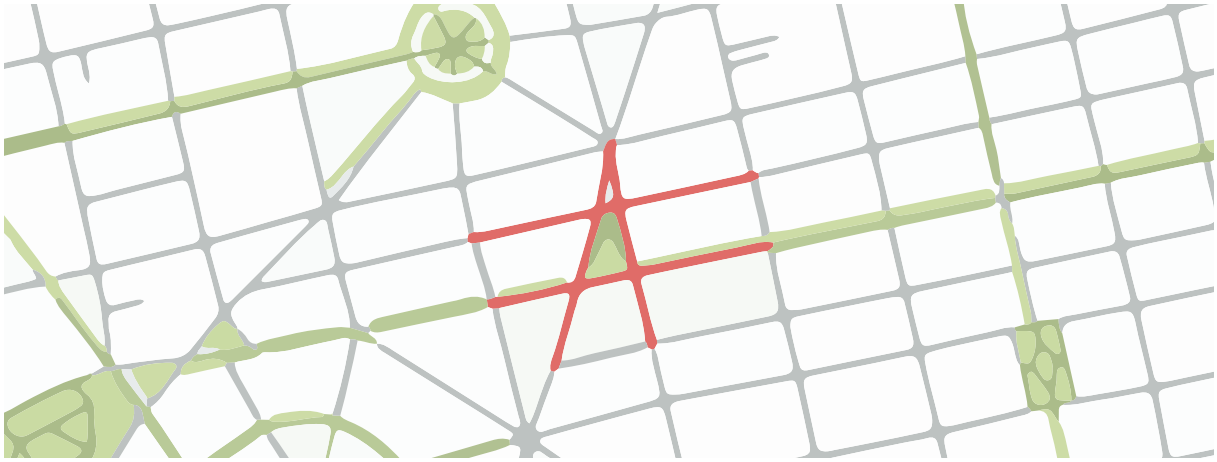


Figure 82, *Juan Rulfo's* surroundings and id of its analysed segments

Juan Rulfo's highest average choice and integration values are 1.237572974 at NACHr 3000 and 2.227601203 at NAINr 2400. All its segments have high choice and integration values at all analysis radii. Therefore, it should be considered as a centrality (fig. 83; table 34 & 35).

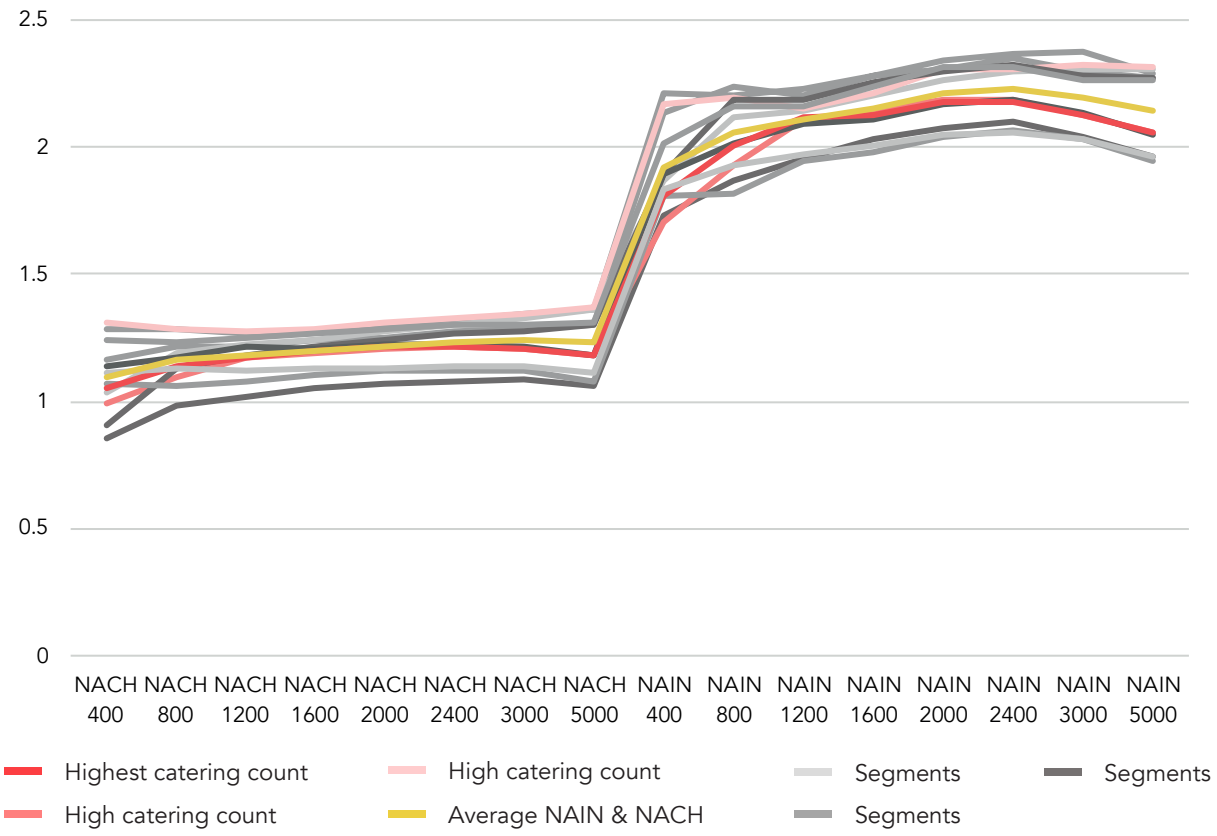
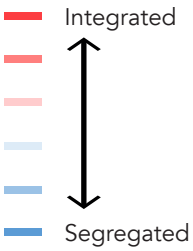


Figure 83, *Juan Rulfo's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
80089	0.857987238	0.985768538	1.017219581	1.051711412	1.06954772	1.079634728	1.083093255	1.059247433
21306	0.995306626	1.099582053	1.172936252	1.193802879	1.209256826	1.214629417	1.204101116	1.177193412
23125	1.283748566	1.284761457	1.270581764	1.275911429	1.297705651	1.320733746	1.341590775	1.359331792
25389	1.164140884	1.217970131	1.215688845	1.237454881	1.254091778	1.277502402	1.283454404	1.301092872
21206	1.031876162	1.190207052	1.221525531	1.244846696	1.276331735	1.305619306	1.331105474	1.365674673
21207	1.313156787	1.285253984	1.276197058	1.284625338	1.308407482	1.324543684	1.346216767	1.370255358
22751	0.905888757	1.126617333	1.182496353	1.213994306	1.239413562	1.263705469	1.278630499	1.30053197
26457	1.239256278	1.235813385	1.2477392	1.263368678	1.287540154	1.299473944	1.305180218	1.311732142
21307	1.138405549	1.171823471	1.216870255	1.210486254	1.220869933	1.225604974	1.212275439	1.181030002
27060	1.066088792	1.062744689	1.075089233	1.099870216	1.116836698	1.120202461	1.119804792	1.07877141
21308	1.050320221	1.135619124	1.175661838	1.199100896	1.217866983	1.219444807	1.206451658	1.179361344
26311	1.115311287	1.125583522	1.123038691	1.12882239	1.133756516	1.138906215	1.138971289	1.109892923
Average	1.096790596	1.160145395	1.182920383	1.200332948	1.219302086	1.232500096	1.237572974	1.232842944

Table 34, *Juan Rulfo's* different radii and average choice values. Highlighted the higher and the lower values for each radius



ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
80089	1.731834388	1.865342352	1.956876319	2.032724914	2.072949051	2.098561629	2.042317069	1.964504662
21306	1.705086989	1.930768795	2.104404572	2.143204268	2.184445167	2.182375604	2.125523203	2.057064813
23125	2.209283382	2.20159061	2.226119421	2.28065856	2.342448852	2.369070651	2.371814033	2.286634719
25389	2.131718817	2.239151131	2.205545456	2.277193419	2.304612911	2.349142869	2.299949082	2.267986797
21206	1.871370503	2.116246808	2.144756634	2.203494299	2.265642729	2.296500804	2.303711559	2.30215174
21207	2.169892425	2.19185544	2.15016324	2.21124121	2.302167204	2.306475787	2.324326548	2.316259375
22751	1.894728298	2.188638307	2.18811864	2.258138236	2.293724456	2.325753494	2.281418119	2.273381819
26457	2.015388705	2.163457244	2.156701759	2.241066937	2.317266836	2.312679974	2.264737446	2.267016815
21307	1.8921108	2.013253845	2.092475131	2.105825908	2.169042579	2.18453263	2.130653209	2.044430977
27060	1.809680389	1.814127143	1.945917263	1.982522678	2.043730214	2.066012811	2.035133319	1.945115631
21308	1.809067825	2.003343237	2.119106217	2.123066397	2.175773666	2.179108328	2.12747959	2.053287707
26311	1.836931587	1.930568068	1.967020927	2.001436531	2.044672133	2.060999856	2.027537448	1.962028546
Average	1.923091176	2.054861915	2.104767132	2.15504778	2.209706317	2.227601203	2.194550052	2.144988633

Table 35, *Juan Rulfo's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Juan Rulfo reaches 46% of residential area, 27% of mixed housing and 27% of housing with offices within its small service area. At five minutes walking radius, it covers almost the same proportion of land uses and at 800m half is residential. Given its size and location, this small park is not as accessible as other spaces to residents since it is located in between three avenues that are car orientated. The vehicular traffic, its small size, and the presence of many strangers in the area – it is also next to a *Metrobus* station – are likely to discourage the local population from gathering (fig. 84 & 85).

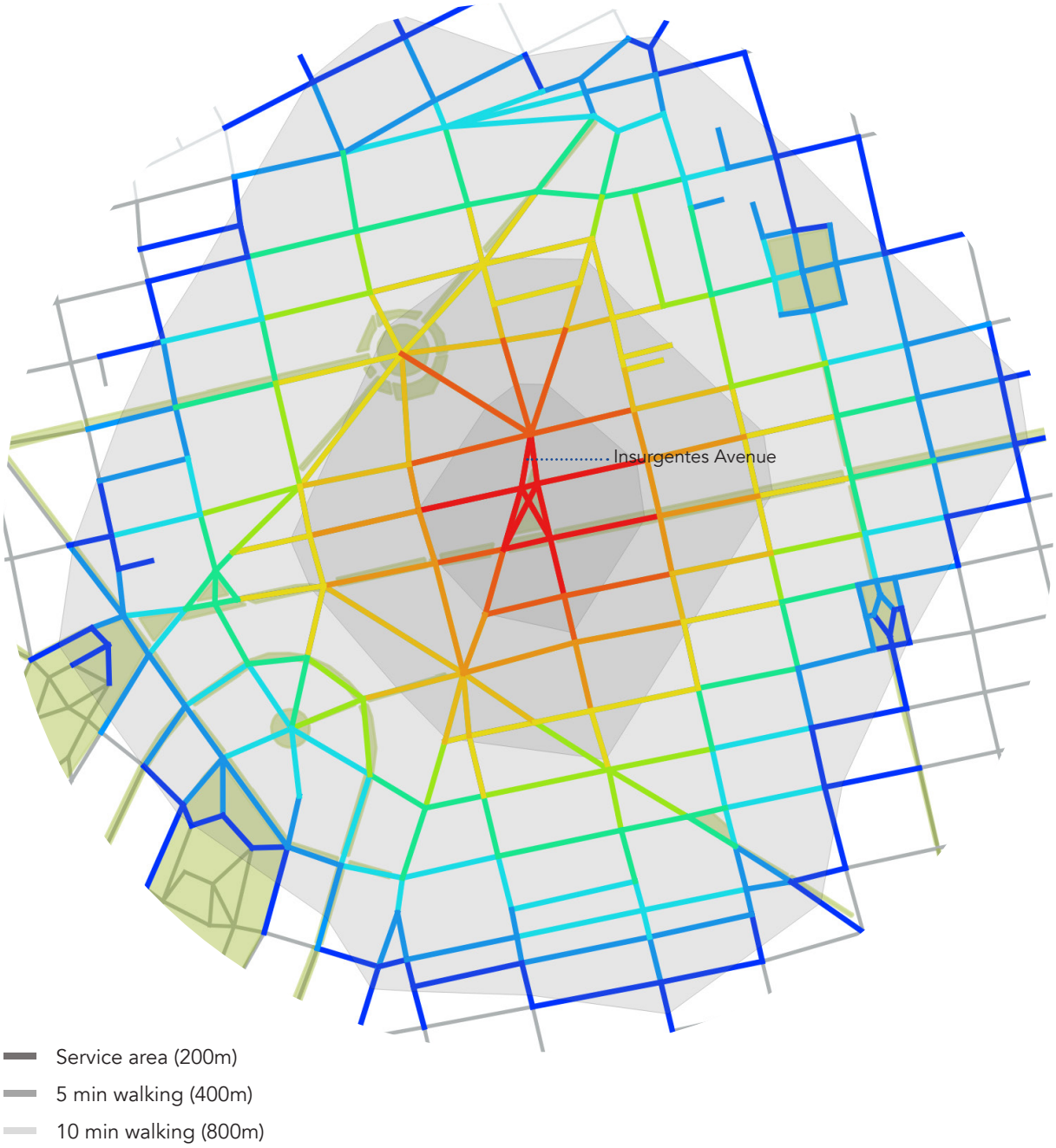


Figure 84, *Juan Rulfo's* catchment areas

Figure 85, Land use distribution around *Juan Rulfo* according to its service area (a), 400m radius (b), and 800m radius (c)

It has 21 food outlets, nine local, four semi-local, and eight non-local. The highest businesses count per segment is found on those with average in both choice and integration values. There is a concentration of street food booths close to the *Metrobus* station, the same phenomenon that occurred in *López Velarde*. Only 14% of the businesses offer pavement dining, 24% provide shelter, half are personalised, and 38% have greenery. Overall, the food outlets in this space seem to have fewer features that make up a potential third place (table 36; fig. 86).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	0	0	0	0	0	0
Bar/Cantina	Semi-local	0	0	0	0	0	0
Coffee shop	Semi-local	4	1	4	3	3	2
Fast food	Non-local	1	0	0	1	1	0
Fonda	Local	2	1	2	1	2	1
Ice cream shop	Semi-local	0	0	0	0	0	0
Restaurant	Non-local	7	1	2	5	2	2
Street food	Local	7	0	0	0	7	0
	Count	**21**	**3**	**8**	**10**	**15**	**5**
	Percentage	**100**	**14**	**38**	**48**	**71**	**24**

Table 36, Features of *Juan Rulfo's* food outlets

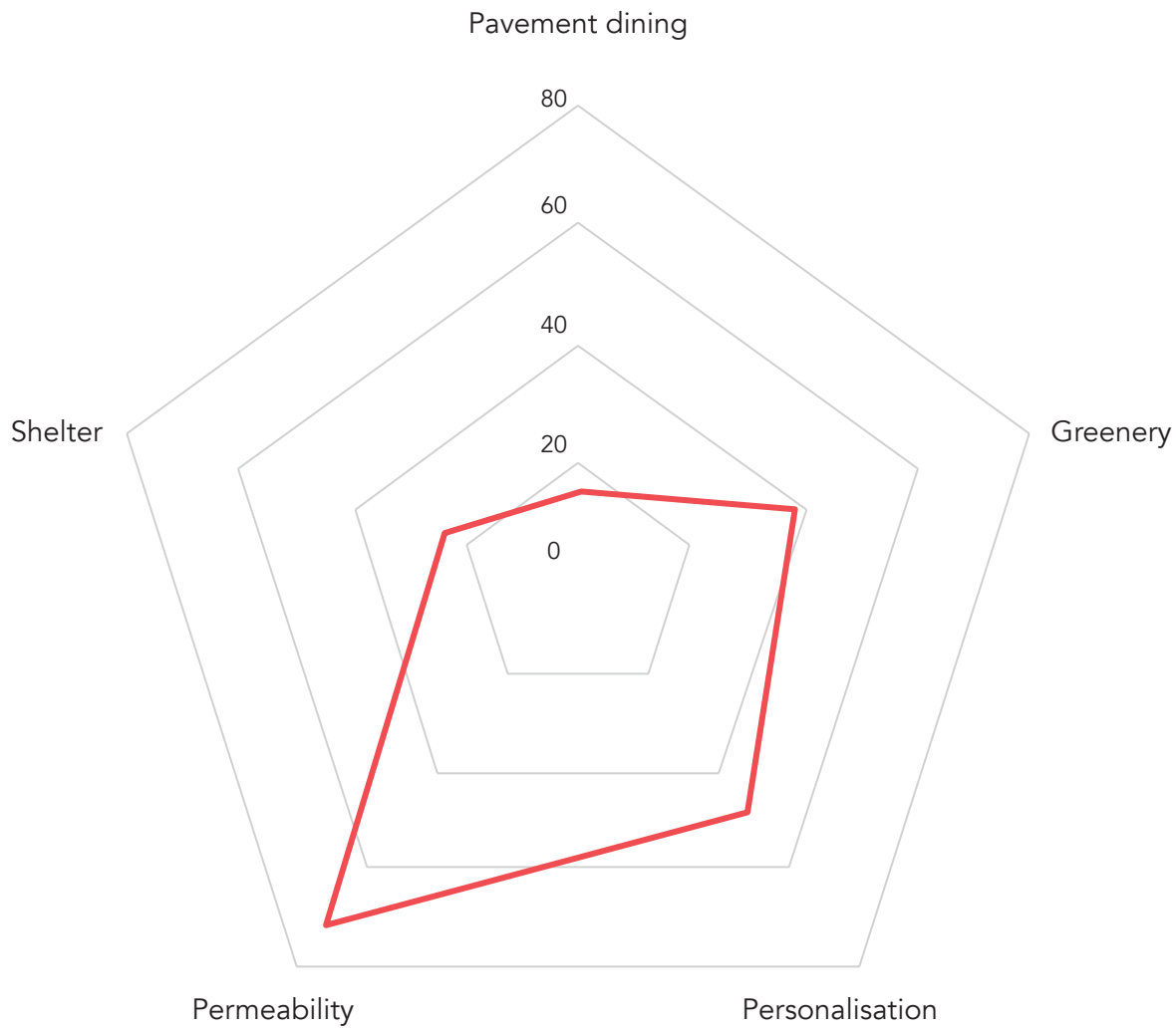


Figure 86, Percentage of businesses around *Juan Rulfo* that afford different features known to be distinctive of third places

Morelia park

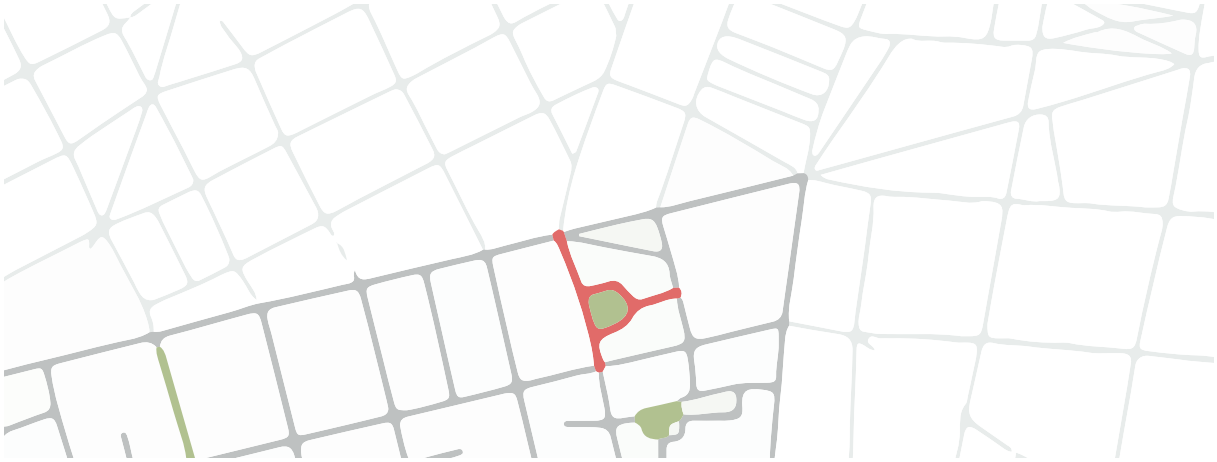


Figure 87, *Morelia's* surroundings and id of its analysed segments

Morelia's strongest choice values are local. On average, 1.0233535 is its highest choice value at 800m, followed by NACHr 1200 and 400. Its highest average integration is 1.560256 at 5000m. Nevertheless, the gap between NAINr 400 and NAINr 5000 is not as wide. For example, the segment that has the highest values at those radii is 1.77445123 at 400 while for 5000 its value is 1.80990342. Four of its nine segments are better-integrated and more accessible than the rest, as they form part of a larger street (fig. 88; table 37 & 38).

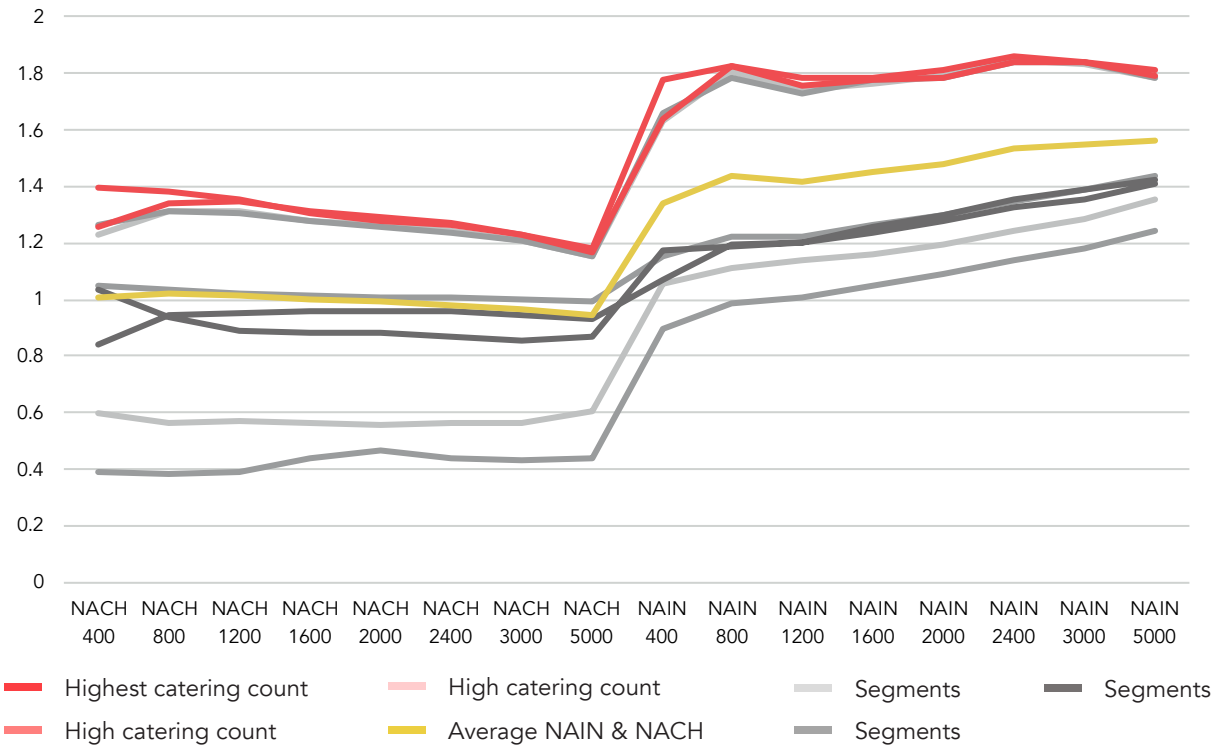
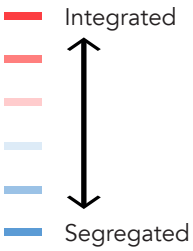


Figure 88, *Morelia's* spatial analysis per segment

ref	NACH 400	NACH 800	NACH 1200	NACH 1600	NACH 2000	NACH 2400	NACH 3000	NACH 5000
93704	1.232707598	1.312487111	1.310581678	1.281689846	1.260935094	1.240371851	1.208581796	1.150472169
93701	0.600261742	0.561941303	0.567646134	0.56388027	0.556331662	0.561220412	0.565201645	0.60451322
93705	1.263685736	1.31356258	1.305672774	1.281682061	1.256169944	1.23644946	1.207230234	1.149981406
24340	1.399154847	1.37931303	1.352017749	1.306733607	1.280011736	1.261178262	1.230476775	1.182616388
27821	0.389392485	0.383109083	0.387934837	0.437931598	0.464218439	0.437229809	0.431381315	0.436031872
93700	1.04948987	1.037282458	1.020791052	1.013353588	1.010406214	1.008855927	1.002471613	0.993042571
27822	0.84300765	0.942872375	0.949250411	0.95828395	0.958121035	0.956171861	0.947996633	0.929988255
27908	1.033312036	0.937201009	0.888734698	0.881154624	0.882464096	0.867036043	0.853312659	0.867986096
80174	1.25832902	1.342412959	1.347463117	1.309853737	1.291819842	1.268047158	1.231875703	1.167741649
Average	1.007704554	1.023353545	1.014454717	1.003840365	0.995608674	0.981840087	0.96428093	0.942485958

Table 37, *Morelia's* different radii and average integration values. Highlighted the higher and the lower values for each radius



ref	NAIN 400	NAIN 800	NAIN 1200	NAIN 1600	NAIN 2000	NAIN 2400	NAIN 3000	NAIN 5000
93704	1.635450155	1.804229528	1.739838875	1.766813782	1.789171479	1.847471037	1.834751158	1.787688919
93701	1.054649238	1.112415491	1.136642057	1.163218181	1.192404392	1.243647601	1.285505151	1.35202452
93705	1.662666733	1.786135333	1.727094107	1.780334701	1.781324511	1.842543956	1.838916975	1.78752082
24340	1.774451237	1.82462947	1.756465257	1.779402205	1.785180933	1.842372337	1.837095063	1.809903416
27821	0.898199505	0.983707533	1.005058228	1.049093965	1.089126613	1.142723062	1.17765538	1.24476256
93700	1.150196865	1.222579313	1.225252122	1.264192525	1.297376674	1.350027589	1.386838124	1.438938796
27822	1.068011296	1.195227058	1.203375226	1.259006662	1.301841896	1.357844218	1.386991894	1.421165439
27908	1.175346534	1.187711446	1.200449488	1.233624607	1.275379229	1.32397738	1.355254197	1.411934655
80174	1.641940678	1.827341425	1.781434633	1.782376866	1.812220801	1.858515761	1.841539911	1.788365278
Average	1.34010136	1.438219622	1.419512221	1.453118166	1.480447392	1.534346994	1.549394206	1.560256045

Table 38, *Morelia's* different radii and average integration values. Highlighted the higher and the lower values for each radius

Morelia reaches 37% of residential land use and 63% of mixed housing within its service area. In a 5-minute walk it reaches 43% of residential land use and at 800m 31%. Nevertheless, both the five and the 10-minute walk to the north and the east imply to cross heavily vehicular arteries. Therefore, given its size and location, it is more likely to be used by *Roma-Condesa's* residents than for people coming from beyond (fig. 89 & 90).

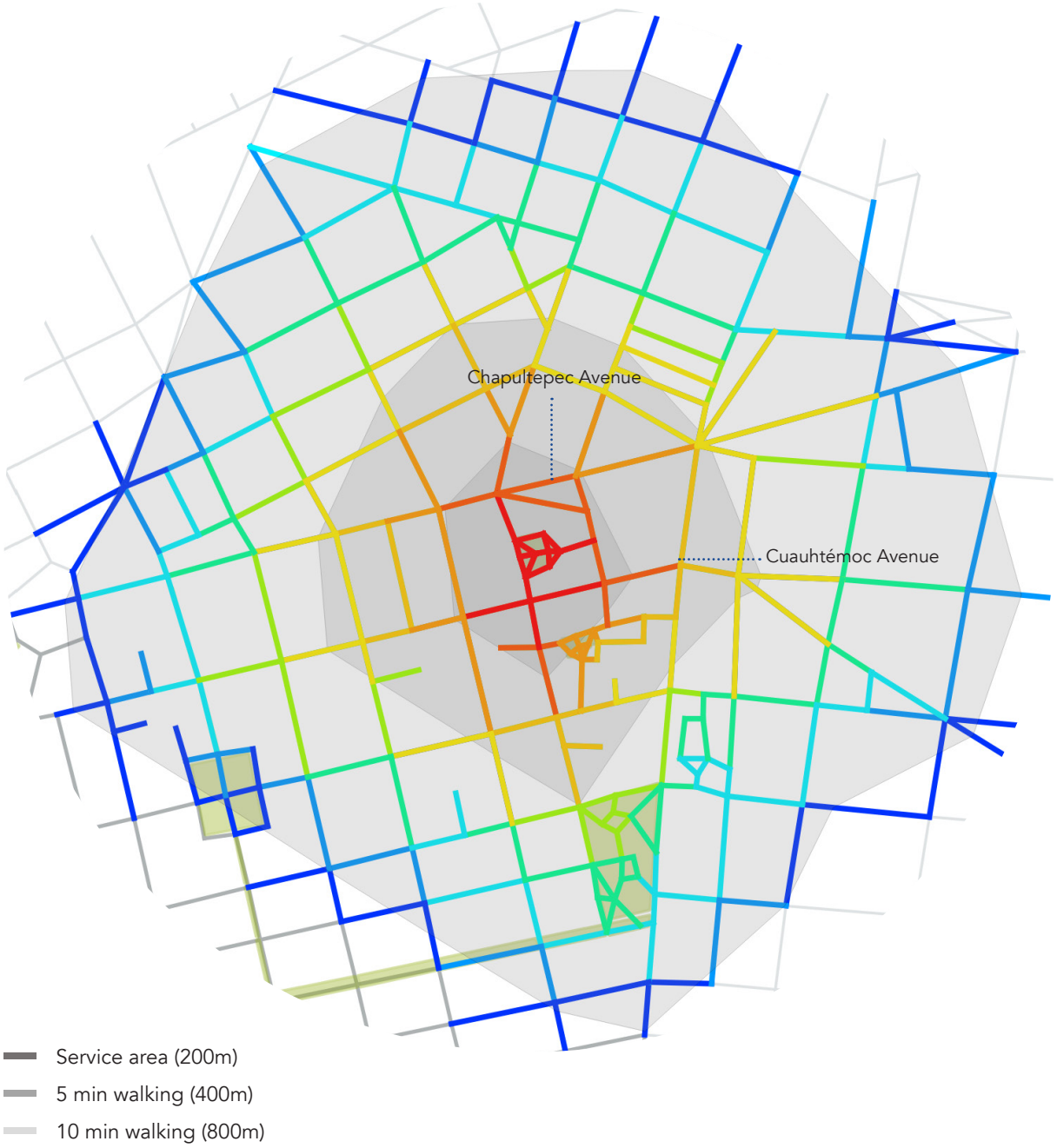


Figure 89, *Morelia's* catchment areas

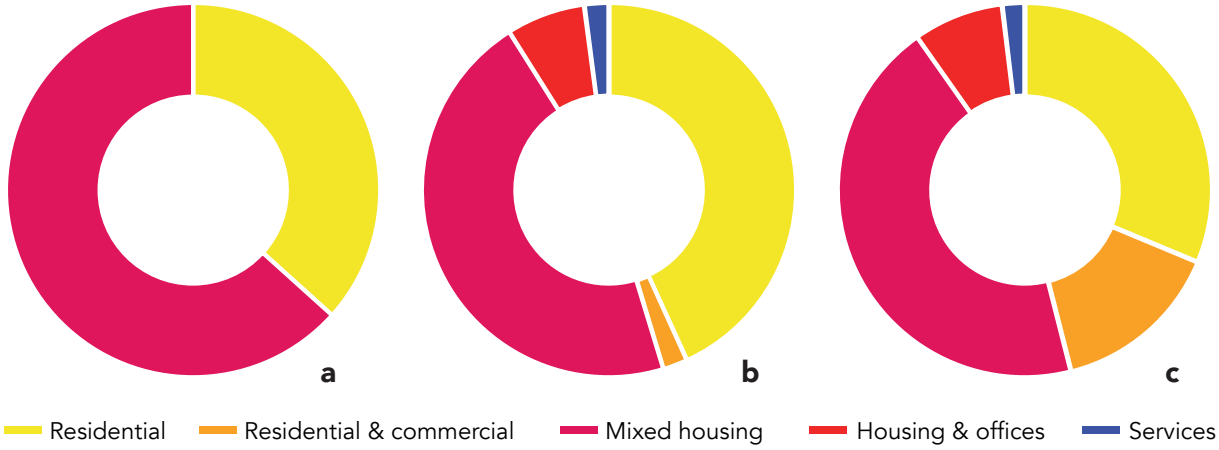


Figure 90, Land use distribution around *Morelia* according to its service area (a), 400m radius (b), and 800m radius (c)

Morelia only has five food outlets: three locals, a semi-local, and a non-local. In this case, the two segments that have the highest values for choice and integration are the segments with higher count, two each. All the businesses offer pavement dining and shelter, 60% have greenery, are personalised and permeable (table 39; fig. 91).

Type of commerce	Target population	Total	Pavement dining	Greenery	Personalisation	Permeability	Shelter
Bakery	Semi-local	0	0	0	0	0	0
Bar/Cantina	Semi-local	0	0	0	0	0	0
Coffee shop	Semi-local	1	1	1	1	1	1
Fast food	Non-local	0	0	0	0	0	0
Fonda	Local	1	1	1	1	1	1
Ice cream shop	Semi-local	0	0	0	0	0	0
Restaurant	Non-local	1	1	1	1	1	1
Street food	Local	2	2	0	0	2	2
	Count	**5**	**5**	**3**	**3**	**5**	**5**
	Percentage	**100**	**100**	**60**	**60**	**100**	**100**

Table 39, Features of *Morelia's* food outlets

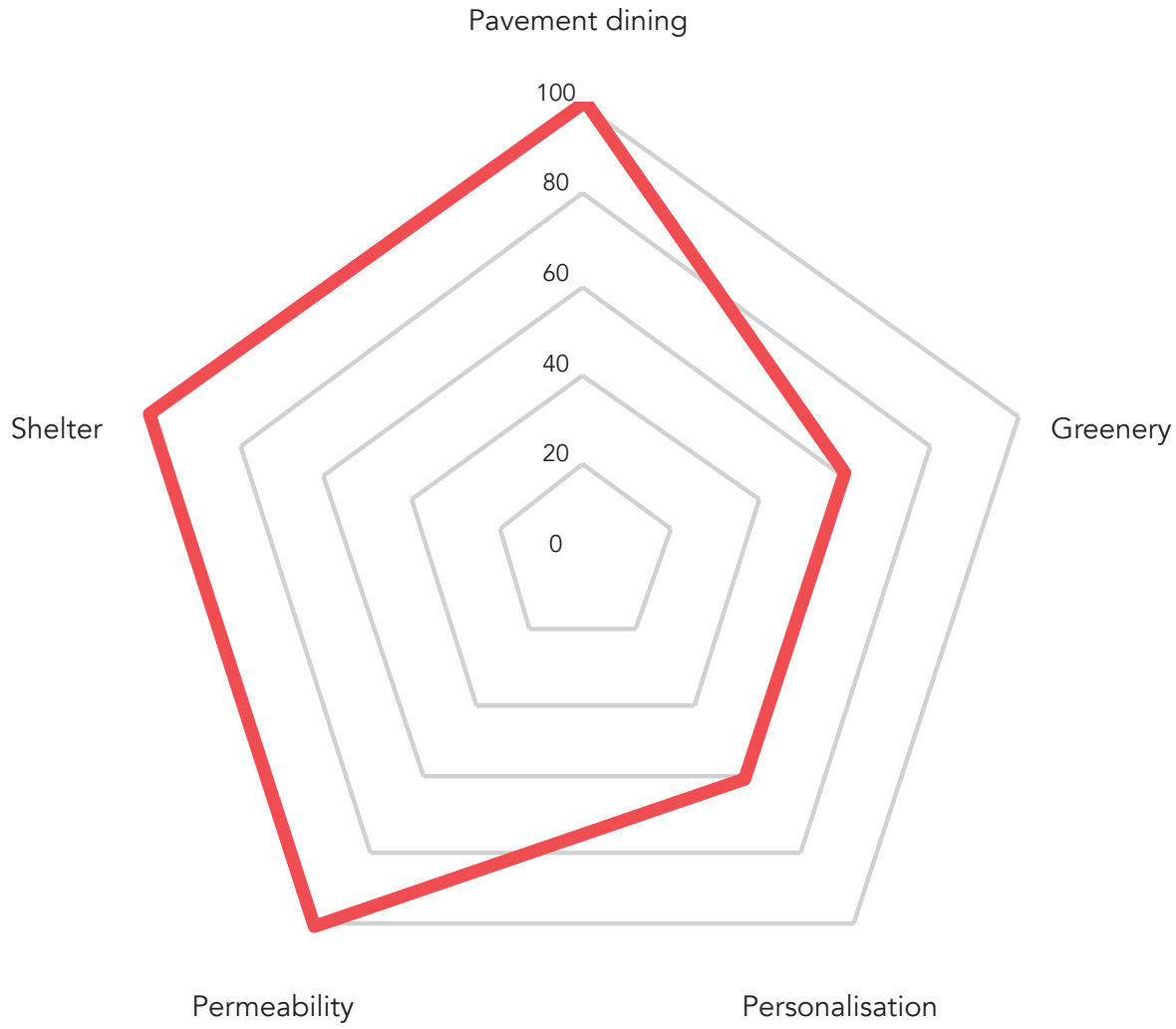


Figure 91, Percentage of businesses around *Morelia* that afford different features known to be distinctive of third places

Boulevards and streets

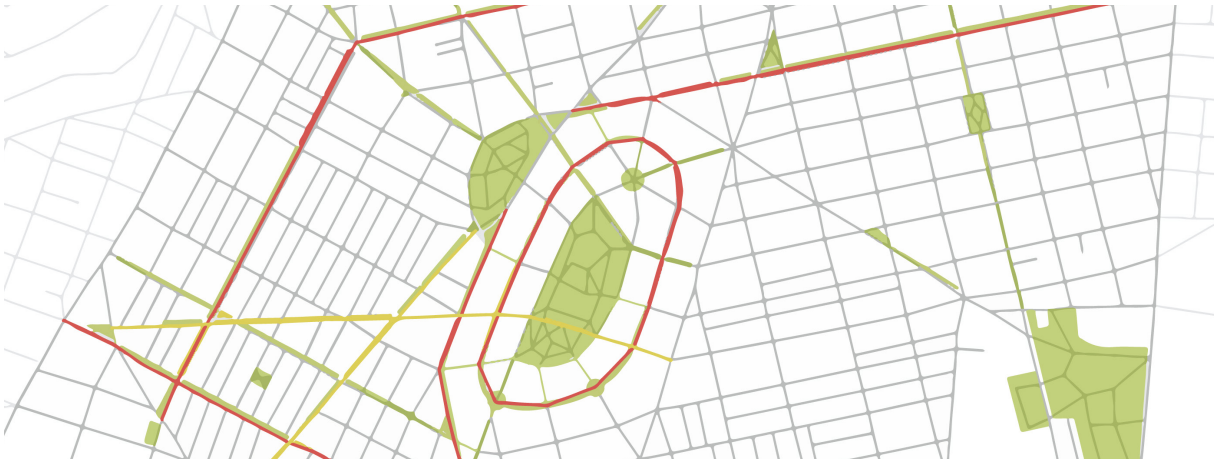


Figure 92, Boulevards location and id of their analysed segments (red). *Michoacán* and *Tamaulipas* location and id of their analysed segments (yellow)

Besides the boulevards, the streets of *Michoacán* and *Tamaulipas* are studied and contrasted in this section onwards since in chapters IV and V they outstand in their business count and their spatial properties. *Michoacán* is, on average, better integrated than *Tamaulipas*; nevertheless, *Tamaulipas* has 55 food outlets and *Michoacán* 40. From the six boulevards, *Álvaro Obregón* is the one with the highest business count (68) while *Mazatlán* has the lowest (nine).

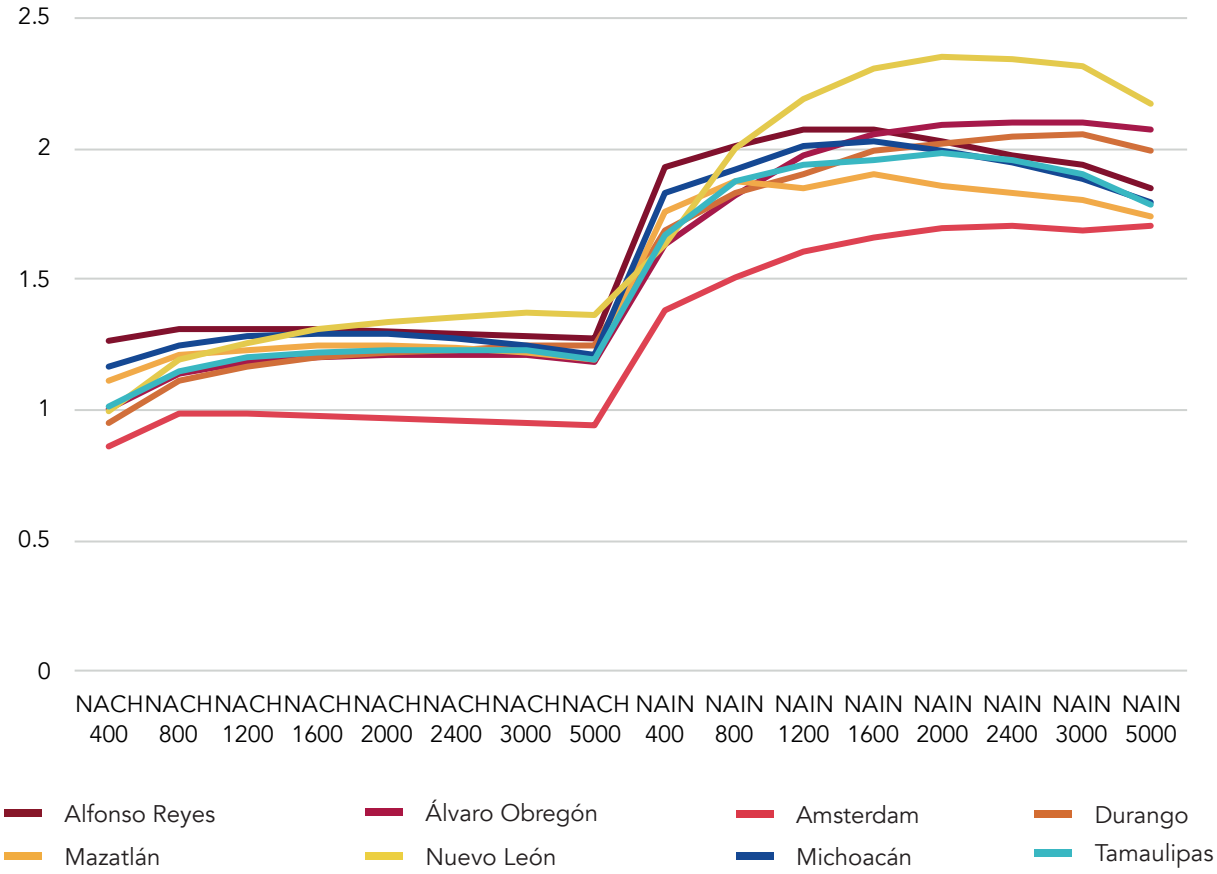


Figure 93, Average spatial analysis per boulevard and street

However, on average, *Nuevo León* is the boulevard that is better integrated and accessible. It has half of *Álvaro Obregón's* business count. On the other hand, *Amsterdam* is the most segregated boulevard with 22 businesses. *Tamaulipas, Álvaro Obregón,* and *Michoacán* have the highest food outlets count. These streets, in comparison to the others, have average measures of choice and integration (fig. 93).

Amsterdam, Durango, Mazatlán, Michoacán, and *Tamaulipas* are the streets in which their businesses scored higher in pavement dining, shelter, and personalisation. The eight streets have fair values of permeability and greenery. However, *Nuevo León's* businesses have the lowest scores in achieving the features that lead to potential third places (table 40).

POS		Alfonso Reyes						Álvaro Obregón						Amsterdam						Durango					
Type of commerce	**Target population**	**A**	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**
Bakery	Semi-local	2	1	2	1	1	1	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Bar/Cantina	Semi-local	4	3	4	3	4	3	5	5	5	5	5	4	0	0	0	0	0	0	1	1	1	1	1	1
Coffee shop	Semi-local	2	1	2	1	2	1	12	9	11	11	12	11	4	3	4	4	4	3	8	8	8	8	8	8
Fast food	Non-local	0	0	0	0	0	0	2	1	2	2	2	1	1	1	1	1	1	1	1	0	1	1	1	0
Fonda	Local	4	3	4	4	3	3	2	2	2	1	2	1	0	0	0	0	0	0	2	2	2	0	2	2
Ice cream shop	Semi-local	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0
Restaurant	Non-local	9	6	9	6	7	6	36	28	34	30	30	27	15	11	15	13	14	12	13	10	12	11	11	10
Street food	Local	2	0	2	0	2	0	8	1	0	0	7	5	1	1	1	1	1	1	1	0	1	0	1	0
	Count	**24**	**14**	**24**	**16**	**20**	**14**	**68**	**47**	**56**	**50**	**60**	**50**	**22**	**17**	**22**	**20**	**21**	**18**	**28**	**22**	**27**	**23**	**26**	**22**
	Percentage	**100**	**58**	**100**	**67**	**83**	**58**	**100**	**69**	**82**	**74**	**88**	**74**	**100**	**77**	**100**	**91**	**95**	**82**	**100**	**79**	**96**	**82**	**93**	**79**

POS		Mazatlán						Nuevo León						Michoacán						Tamaulipas					
Type of commerce	**Target population**	**A**	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**
Bakery	Semi-local	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	3	3	3	3	3	3
Bar/Cantina	Semi-local	0	0	0	0	0	0	7	1	2	3	3	4	2	2	2	2	2	2	12	10	11	11	11	11
Coffee shop	Semi-local	2	2	2	2	2	2	3	2	2	2	2	2	9	8	9	9	9	8	10	10	10	10	10	10
Fast food	Non-local	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fonda	Local	1	1	1	1	1	1	4	1	3	4	4	4	5	4	5	3	5	5	0	0	0	0	0	0
Ice cream shop	Semi-local	2	2	2	2	2	2	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2
Restaurant	Non-local	4	4	4	4	4	4	19	9	17	15	13	9	22	18	20	20	22	21	28	23	28	28	27	25
Street food	Local	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	Count	**9**	**9**	**9**	**9**	**9**	**9**	**34**	**14**	**25**	**25**	**23**	**20**	**40**	**34**	**38**	**36**	**40**	**38**	**55**	**48**	**54**	**54**	**53**	**51**
	Percentage	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**41**	**74**	**74**	**68**	**59**	**100**	**85**	**95**	**90**	**100**	**95**	**100**	**87**	**98**	**98**	**96**	**93**

A= Total B= Pavement dining C= Greenery D= Personalisation E= Permeability F= Shelter

Table 40, Features of the streets and boulevards' food outlets

In terms of land use, *Amsterdam*, *Mazatlán*, and *Michoacán* are almost entirely residential – the formers are 99% and the last 88%. *Alfonso Reyes* and *Tamaulipas* display half of their land use as residential with commercial activity. *Durango* and *Nuevo León* have 92% and 89% of mixed housing. Finally, *Álvaro Obregón* has 86% of housing with offices and 11% of mixed housing (fig. 94).

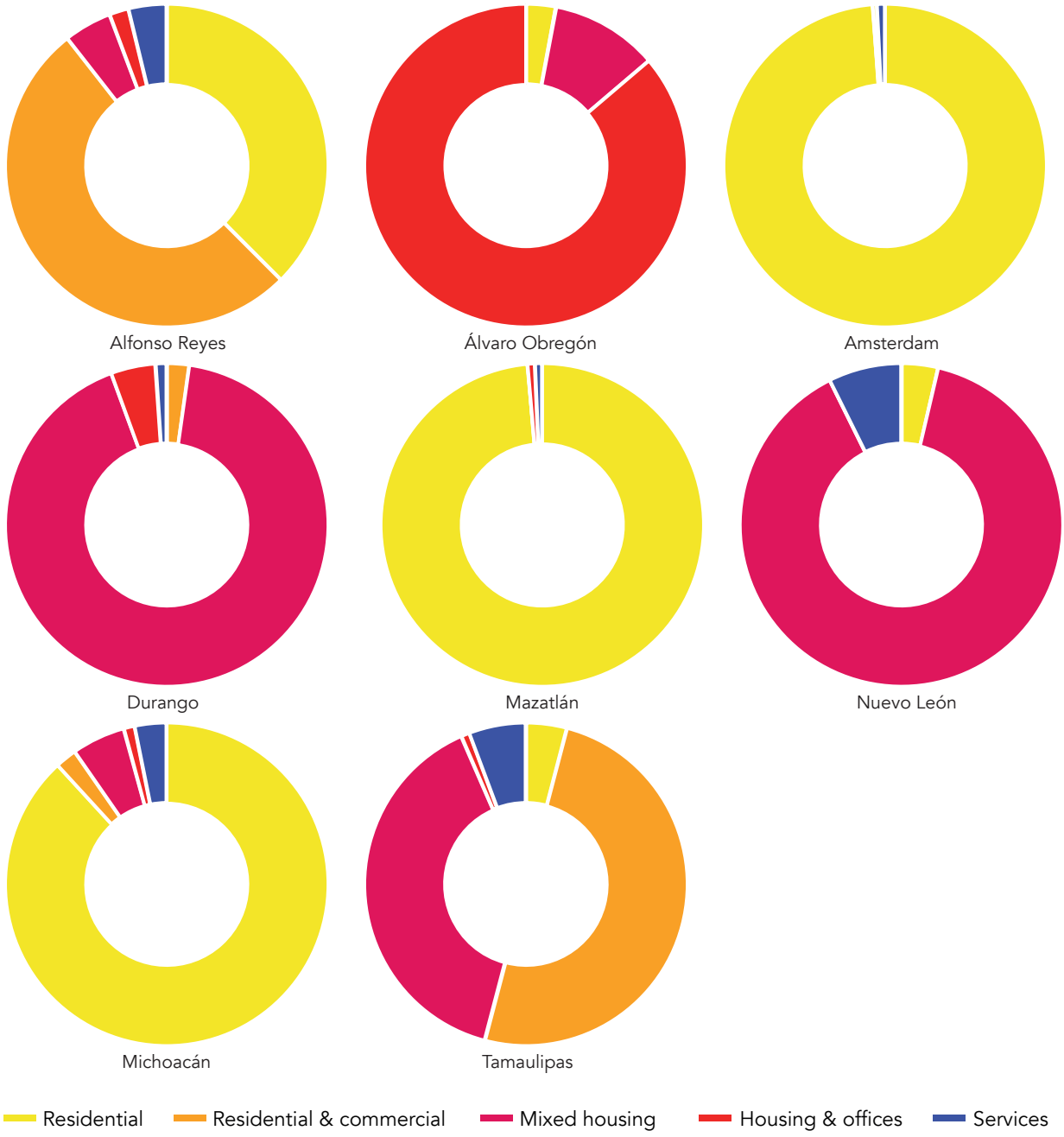


Figure 94, Land use distribution along the boulevards and streets

Summary

Even that according to their size all the POS contrasted in this research are likely to serve a local to semi-local population (maximum service area of 1500m), not all of them are accessible to the residents. Given the percentage of residential land use surrounding each street and POS, spaces such as *México, Río de Janeiro, Amsterdam, Mazatlán* and *Michoacán* might be more visited by the locals than *Villa de Madrid, Nuevo León, Álvaro Obregón* or *Durango* (fig. 95). In contrast, the physical features and the spatial configuration of spaces such as *López Velarde* and *Pushkin* prevent the people that live adjacent to *Roma-Condesa* and close to the POS to access them.

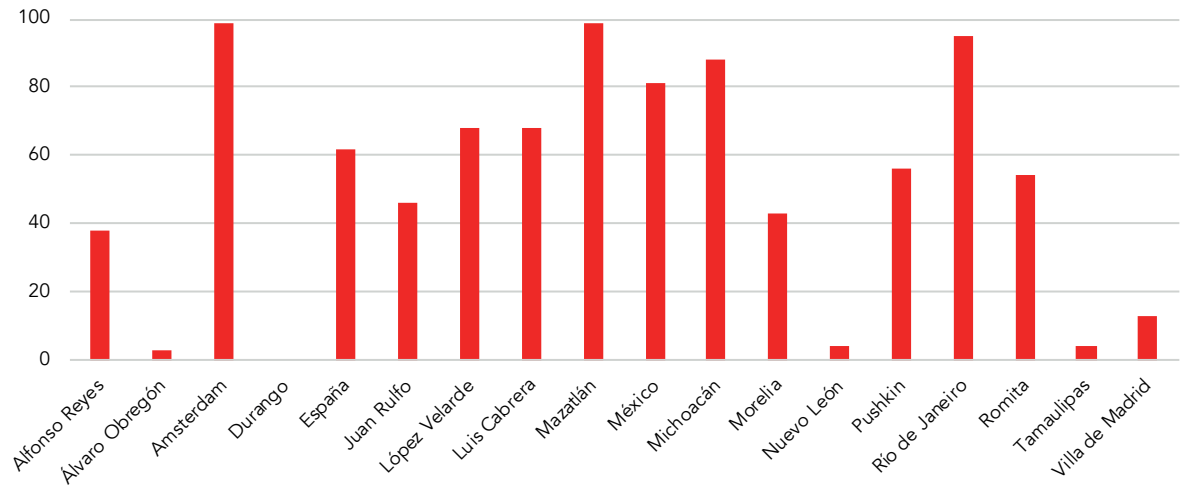


Figure 95, Percentage of residential land use immediate to the boulevards and streets, and within a 400m radius for parks and plazas

According to the spatial analysis, 41% of the spaces that have food outlets (17/18) possess their highest count in segments with average values of choice and integration. 47% have a higher count in segments with higher integration and choice values – although not necessarily in the segment that scored the highest in both measures – and 12% have their highest count in segregated segments – not in the most segregated one. This means that the businesses are found most of the times in integrated locations but not always in the most integrated ones. Nevertheless, when looking at the POS as a whole, their average values indicate that indeed better integrated POS have a higher count of businesses (fig. 96). This is consistent with Hillier's movement economies concept, which says that given the spatial configuration of the urban grid some places will encourage people's movement, and commercial activity is likely to take advantage of that phenomenon and concentrate in those places. However, not all businesses are likely to be serving the local population. Therefore, some have better chances to be considered as third places and in turn, foster a sense of community.

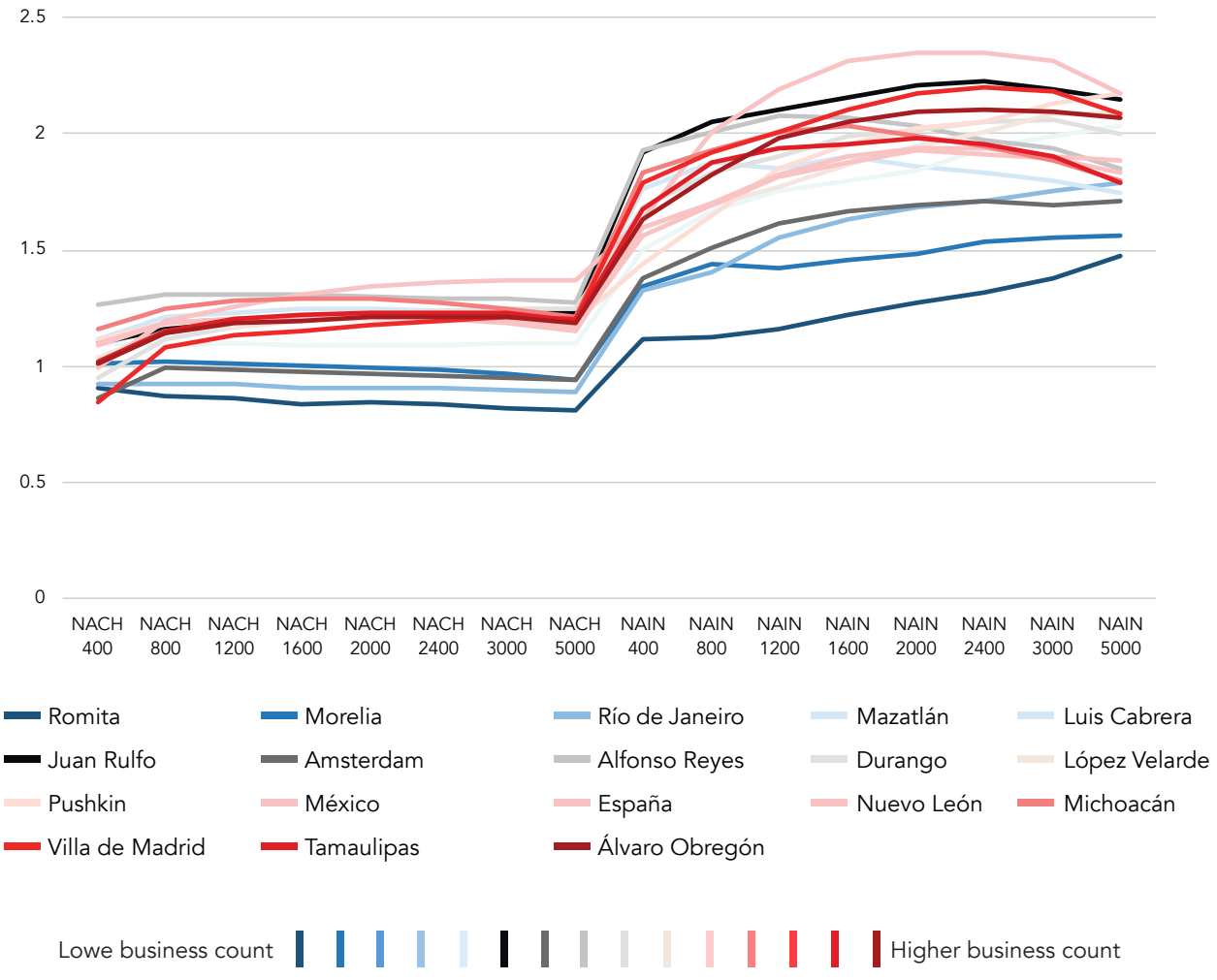


Figure 96, Average choice and integration of the eighteen analysed public open spaces and streets and their food outlets count

Chapter VII Findings

Public open spaces, accessibility, and potential third places as a mean to foster local community

Even when *Villa de Madrid* – a centrality – has the highest food outlets count and density, given its size and service area it can be suggested that it is a space highly used by workers and visitors rather than inhabitants. Therefore, *Villa de Madrid* is accessible and encourages people's co-presence, but it is not likely to be fostering the sense of local community. *Pushkin's* and *López Velarde's* business count is also elevated. In addition to *Juan Rulfo*, they have the lowest percentage of elements which combined increase the possibility of becoming a third place. In consequence, those POS are not likely to be helping to shape community sense either. On the other hand, the features of the businesses found in *Río de Janeiro, Morelia, Luis Cabrera, España* and *México* – since *Romita* has none – have more chances to foster a third place.

Pushkin, López Velarde, and *Juan Rulfo* have the highest local business count, which means that 80% of the local businesses are distributed among 30% of the POS. *México* and *España* together hold almost 50% of semi-local businesses. In contrast, POS like *Río de Janeiro* and *Luis Cabrera* have only semi-local and non-local businesses with characteristics of potential third places. Overall, this indicates that the food outlets classified as local in *Roma-Condesa* are less likely to become third places and therefore create sense of community than semi-local or non-local businesses (fig. 97-99).

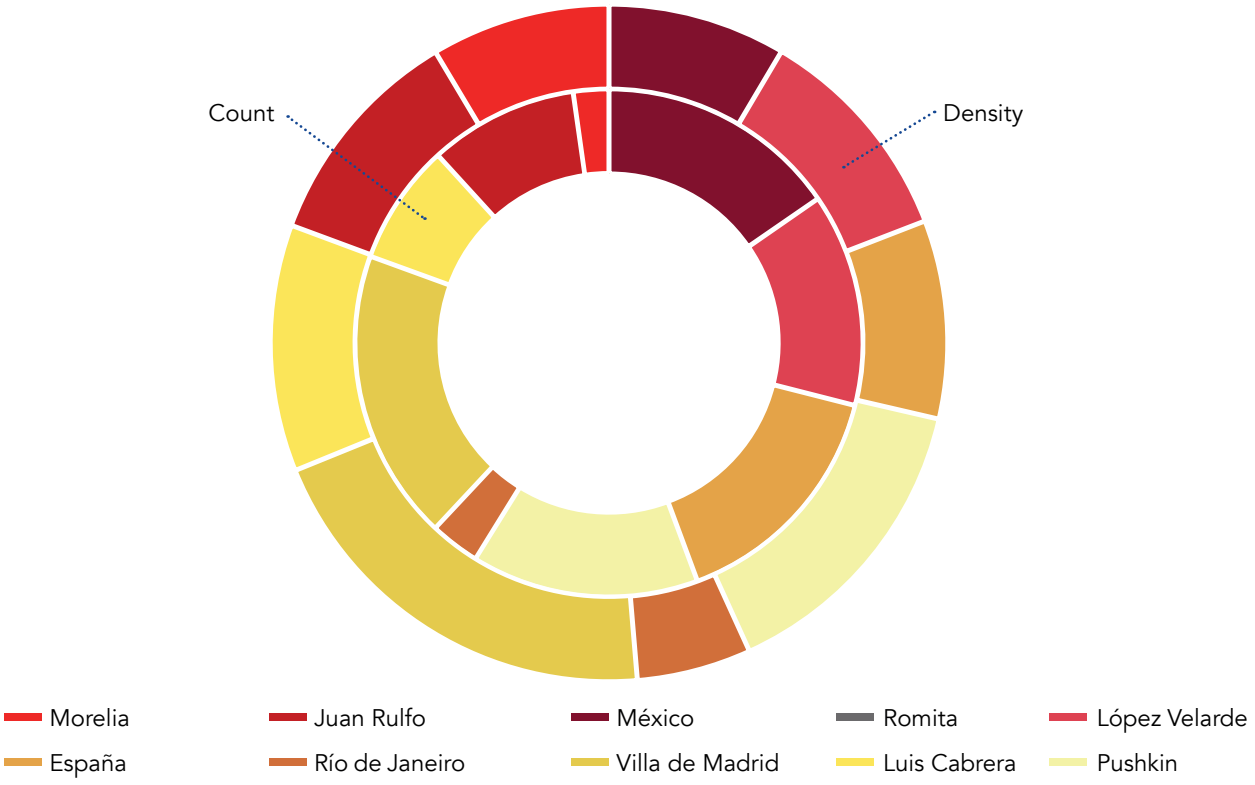


Figure 97, Total count of food outlets per POS vs density of food outlets per POS

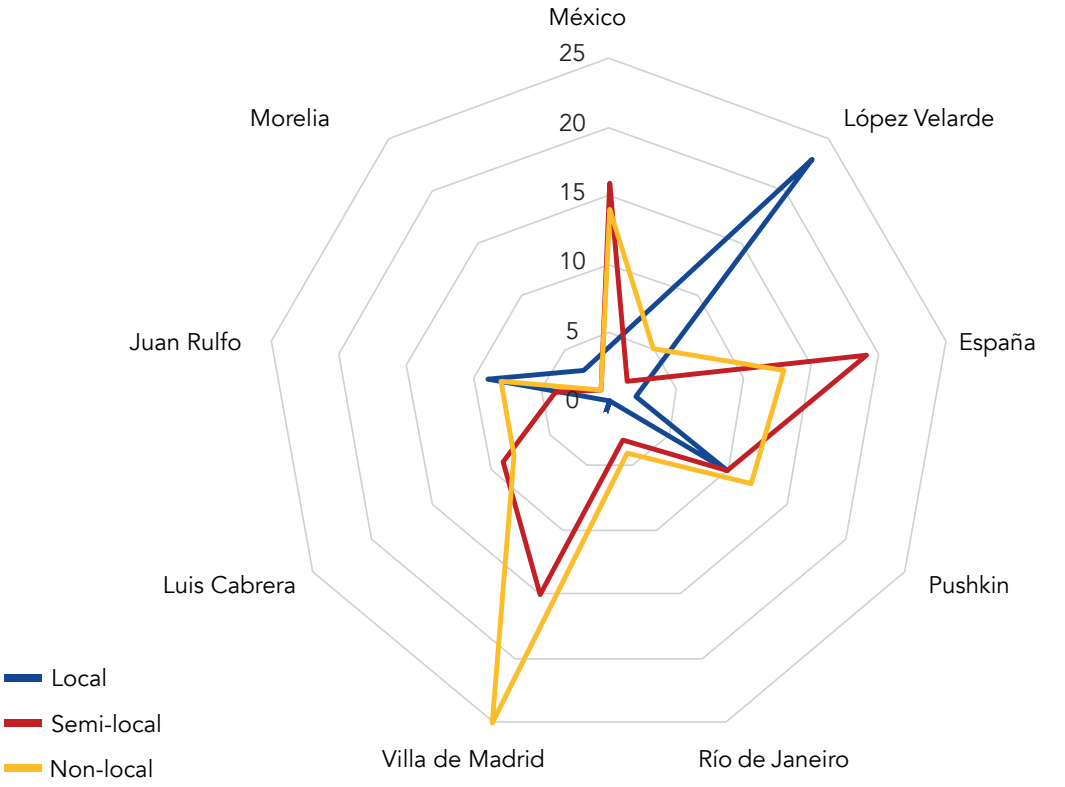


Figure 98, Count and proportion of local vs. semi-local and non-local businesses

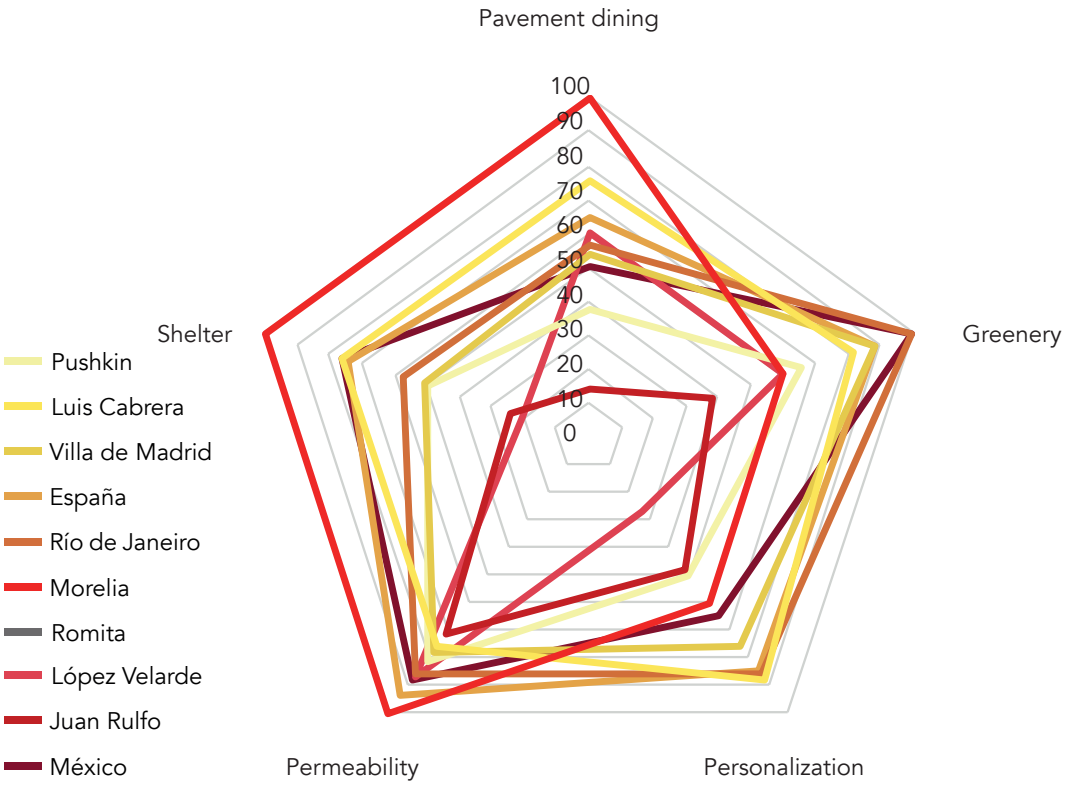


Figure 99, Percentage of food outlets around each POS that afford different features known to be distinctive of third places

Due to their size and location, *López Velarde* and *Pushkin* have the possibility of reaching people outside *Roma-Condesa.* Nevertheless, they are not locally accessible; people living on their eastern side have to walk longer and cross a spatial barrier to getting them. The number of local businesses might discourage the local population living to the west from going and gather in those spaces. In contrast, *Romita* does not have food outlets around; it is the smallest and the most segregated POS. However, its segments are among the shortest of all the analysed spaces and form five small blocks. According to Hillier and Siksna, the smaller the block size and the more subdivisions space has it is more likely for it to be a centre and encourage people to move around (Hillier, 1999; Siksna, 1997). *Romita's s*egments length, its streets' width and the presence of a catholic church make it a relevant potential local centre and place of gathering for the immediate population. Besides, its small size, according to Gehl, is an asset to foster the life between buildings because people are capable of watch others in this space.

The regression models (fig. 100-103) proved that the parks and plazas that have more food outlets tend to have higher choice and integration values. However, too well-integrated spaces close to a public transport station are not likely to foster food outlets as potential third places. Those spaces are not accessible enough and in turn are potentially less likely to be chosen by locals to gather and help in the development of local community sense – *López Velarde*, *Pushkin,* and *Juan Rulfo.* More local businesses were found in segments integrated at non-local radius (5000), while a significant number of restaurants – non-local businesses – were located in the highly integrated segments in a semi-local radius (2000) (table 41a & 41b).

POS	General features						Spatial configuration				Land use features				
	Type	Ballester-Olmos & Morata classification	Area (m^2)	Service area (m)	Number of segments	Average segment length	Highest average integration (radius)	Highest average integration (value)	Highest average choice (radius)	Highest average choice (value)	Residential land use (service area)	Residential land use (5 minute walk)	Residential land use (10 minute walk)	Other public uses close to the POS	Ground floor diversity close to the POS
México	Park	District park	70,141	1,500	28	92	2000	1.94020589	1600	1.20875266	65%	81%	73%		Accommodation, bikes, pets
López Velarde	Park	District park	80,930	1,500	17	106	5000	2.08813406	3000	1.22848745	57%	68%	63%	Hospital, schools, sports facilities	Shopping mall, cinema, offices
España	Park	Quarter park	32,160	750	23	100	2000	1.95706298	2000	1.2261413	59%	62%	60%	Church, school	medical practice, stores
Pushkin	Park	Quarter park	17,027	500	18	78	5000	2.16925582	1600	1.20631421	52%	56%	46%	Schools	Stores, hair salons, offices
Río de Janeiro	Plaza	Quarter park	14,370	500	12	68	5000	1.78450015	800	0.92750411	81%	95%	58%	Church, schools	Offices
Villa de Madrid	Plaza	Neighbourhood square	6,916	250	7	186	2400	2.19859325	3000	1.2109973	0%	13%	33%	School	Hair salon, stores
Luis Cabrera	Plaza	Neighbourhood square	4,374	250	14	66	5000	2.03410243	400	1.09777269	77%	68%	66%	Schools, clinics	Education, medical practice
Juan Rulfo	Park	N/A	2,115	200	12	104	2400	2.2276012	3000	1.23757297	46%	46%	53%	School	Offices, stores
Morelia	Plaza	N/A	2,892	200	9	42	5000	1.56025605	800	1.02335355	37%	43%	31%		Stores
Romita	Plaza	N/A	1,304	200	11	34	5000	1.4766914	400	0.90946611	35%	54%	40%	Church	Retail, medical practice, stores

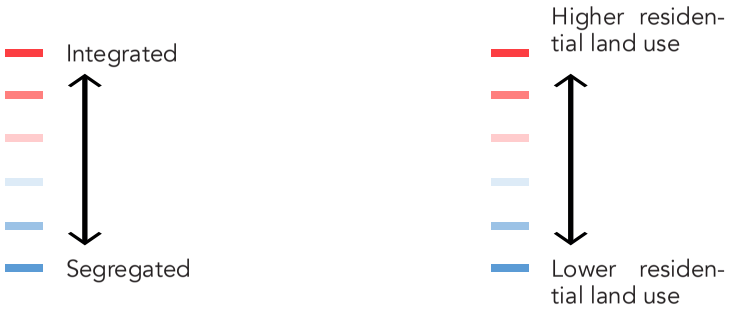


Table 41a, Summary of the features of the analysed public open spaces

POS	Accessibility [according to Metha (2014), White (2000), Koohsari, et al., (2013), and Pasaogullari & Doratli (2004)]									Food outlets count			
	Speed limit *	Street wide (number of vehicular active lanes)	Sidewalks *	Maintenance *	Climate comfort *	Hard edges *	Safe crossings*	Pleasurability *	Immediate public transport stations*	Local	Semi-local	Non-local	Total
México	2	1	1	1	1	0	1	1	2	4	16	14	34
López Velarde	3	2 to 6	2	3	4	1	0	4	1	23	2	5	30
España	4	2 to 4	2	1	2	0	1	2	0	2	19	13	34
Pushkin	3	2 to 6	2	2	3	0	1	3	1	10	10	12	32
Río de Janeiro	1	1	2	1	1	0	1	1	0	0	3	4	7
Villa de Madrid	3	2 to 4	1	2	2	0	1	2	2	1	15	25	41
Luis Cabrera	1	1 to 2	1	1	1	0	1	1	0	0	9	8	17
Juan Rulfo	4	4 to 6	2	3	4	0	1	4	1	9	4	8	21
Morelia	1	1 to 2	3	2	3	0	1	2	0	3	1	1	5
Romita	1	1	3	1	3	0	1	1	0	0	0	0	0

Speed limit	**Sidewalks**	**Maintenance**	**Climate comfort**	**Hard edges**	**Safe crossings**	**Pleasurability**	**Transport**
1= Low	1= Wide	1= Good	1= Excellent	0= No	0= No	1= Good	0= No
2= Low	2= Average	2= Average	2= Good	1= Yes	1= Yes	2= Average	1= Yes
3= Medium-low	3= Narrow	3= Lacks	3= Average			3= Lacks	2= Close
4= Medium		4= Poor	4= Lacks			4= Poor	
5= High			5= Poor				

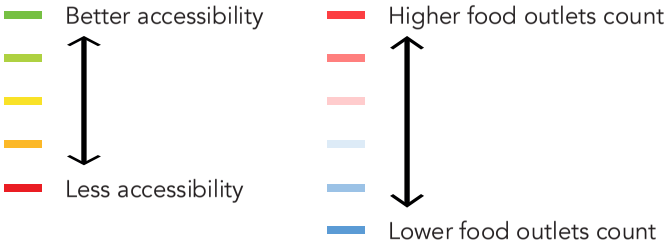


Table 41b, Summary of the features of the analysed public open spaces

Figure 100, Linear regression graph of food outlets vs highest average integration values

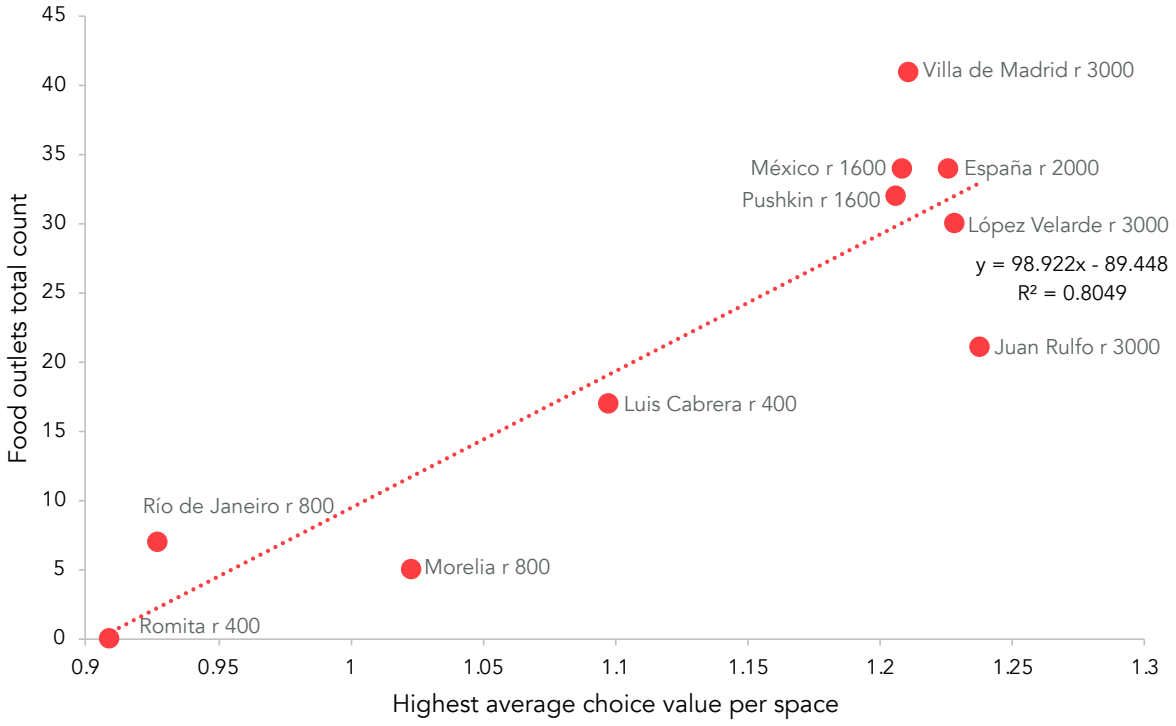


Figure 101, Linear regression graph of food outlets vs highest average choice values

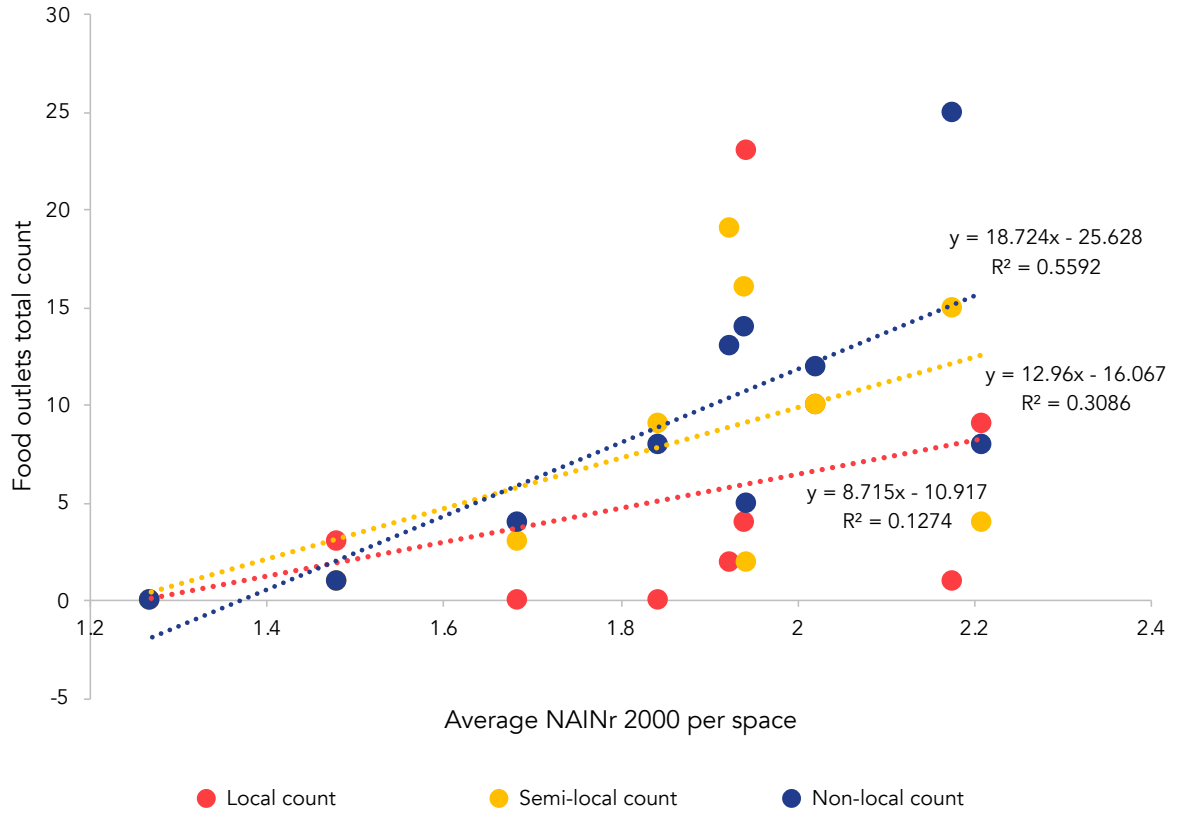


Figure 102, Linear regression graph of food outlets (local, semi-local, non-local) vs average integration radius 2000

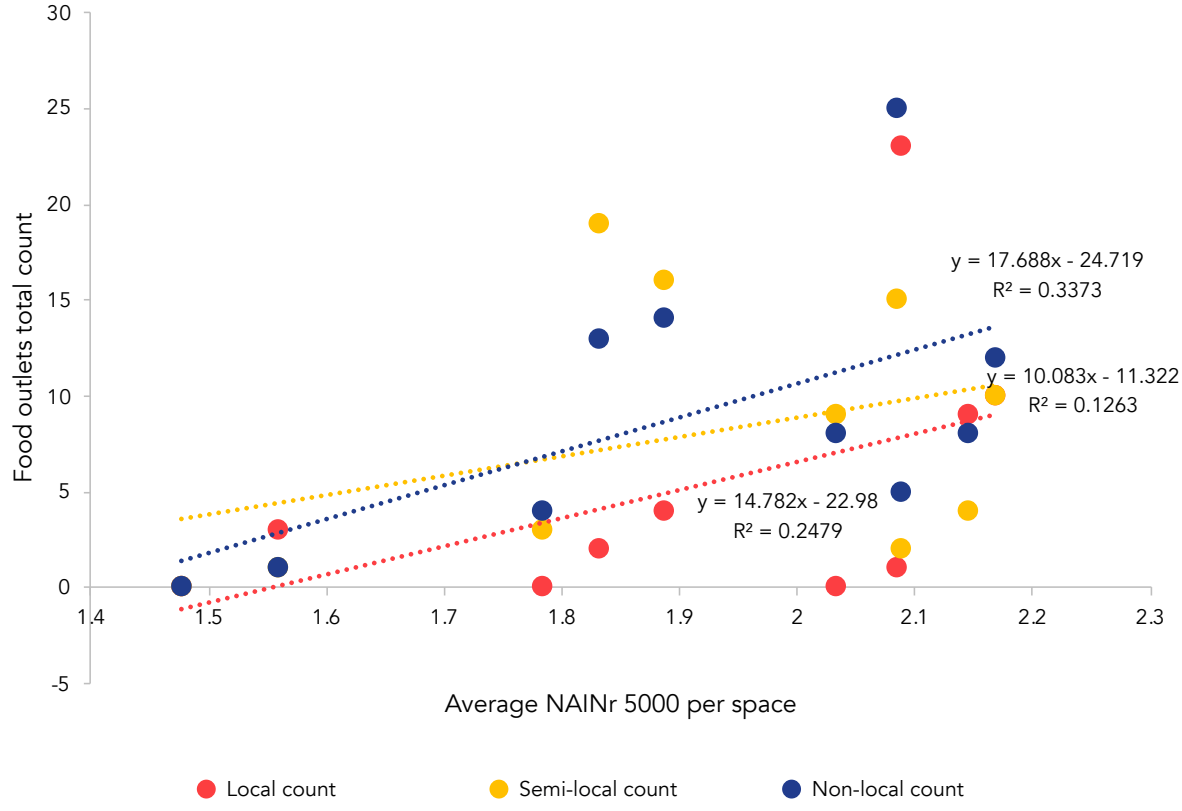


Figure 103, Linear regression graph of food outlets (local, semi-local, non-local) vs average integration radius 5000

Boulevards and streets

Álvaro Obregón has the highest food outlets count and the second-highest density. However, it might not be as effective in fostering sense of community given that its immediate land use is not residential, too many strangers circulate around and even with the boulevard in the middle, the street is car orientated. *Nuevo León* is too well-integrated, has almost no residential land use along it, and its food outlets features scored lower than in the rest of the streets. Then, it is likely that its businesses might not foster the gathering of the local population and therefore, the sense of community. In contrast, *Michoacán's, Mazatlán's,* and *Tamaulipas's* businesses scored the highest in the features that might be found in third places.

Besides, *Amsterdam, Alfonso Reyes, Tamaulipas,* and *Michoacán* are the streets that might appear more attractive to the local residents to go and gather given their accessibility characteristics – low-speed limit, few vehicular lanes, and not the highest values of choice and integration. Moreover, *Amsterdam, Mazatlán and Michoacán* might attract the local population more than from farther afield given their high residential land use density, which means fewer strangers walking around. However, given their choice and integration values, it might be more likely that *Michoacán* will further encourage the encounter between people since it is a locally well-integrated street with high count and density of catering activity (fig. 104-106).

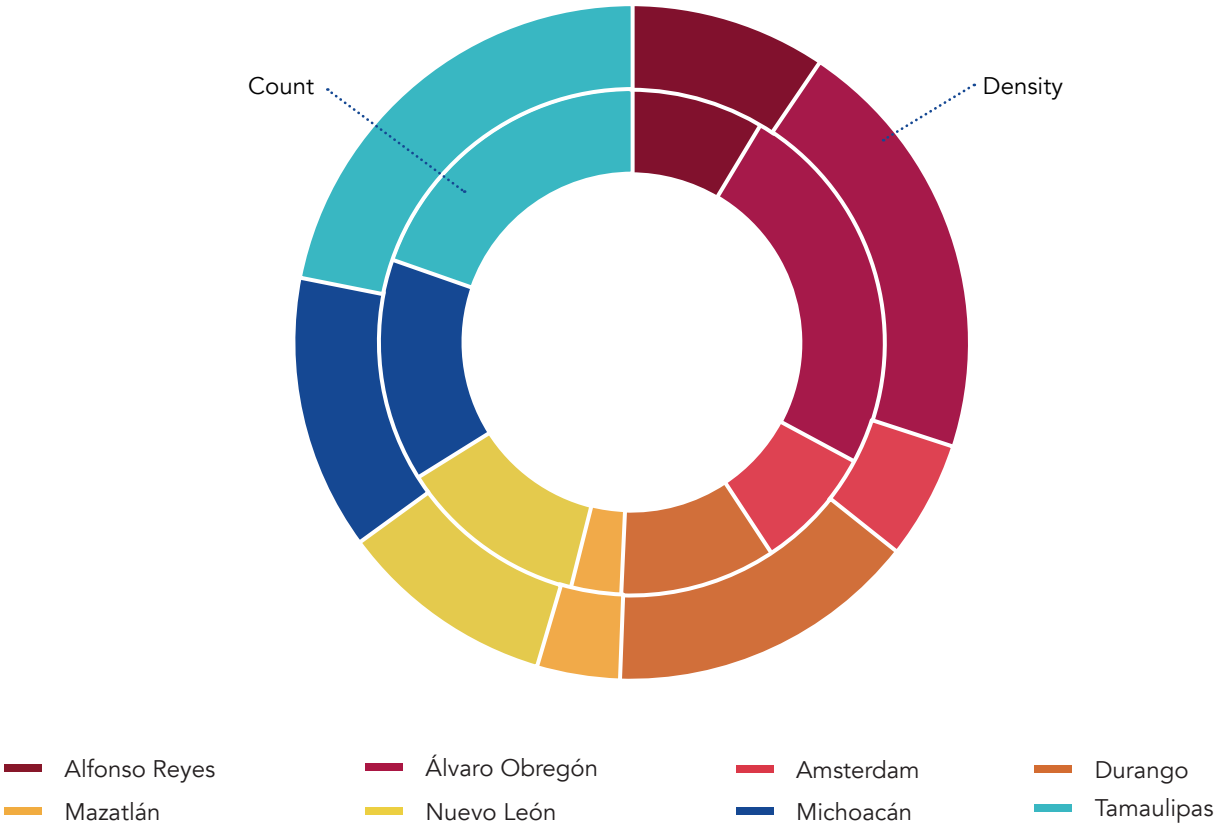


Figure 104, Total count of food outlets per boulevard and street vs density of food outlets per boulevard and street

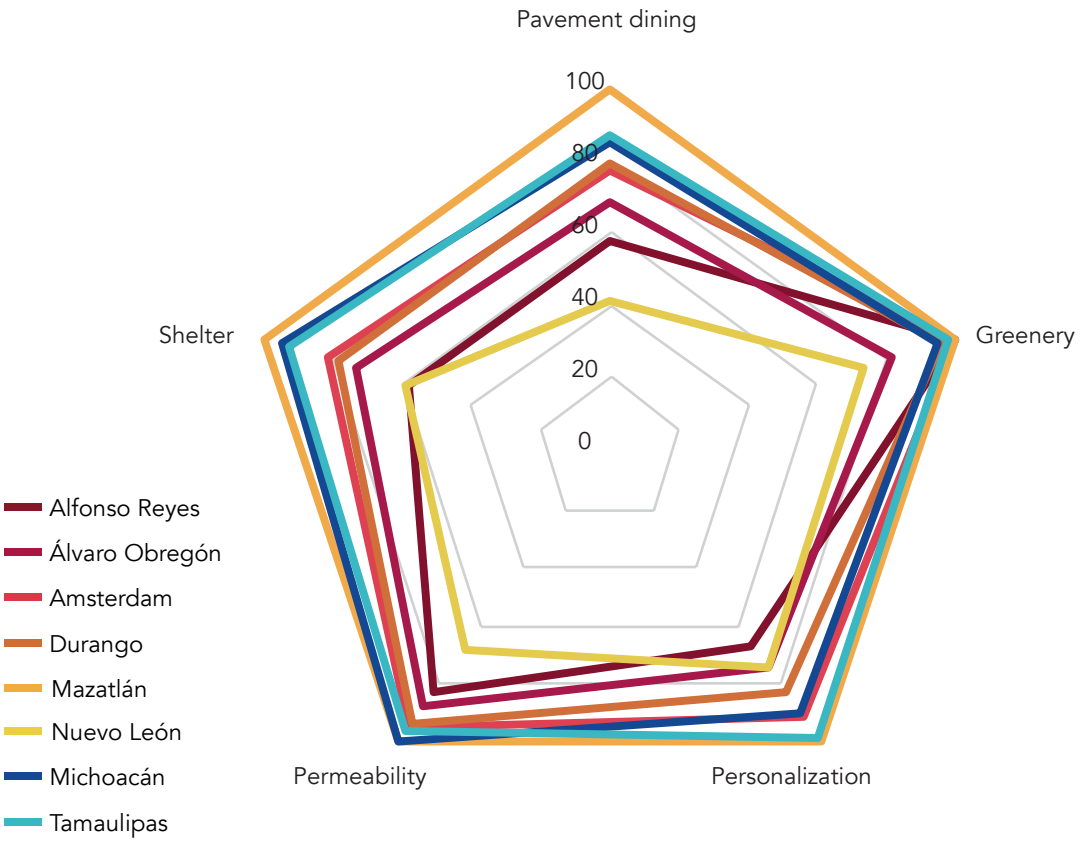


Figure 105, Percentage of the food outlets around each boulevard and street that afford different features known to be distinctive of third places

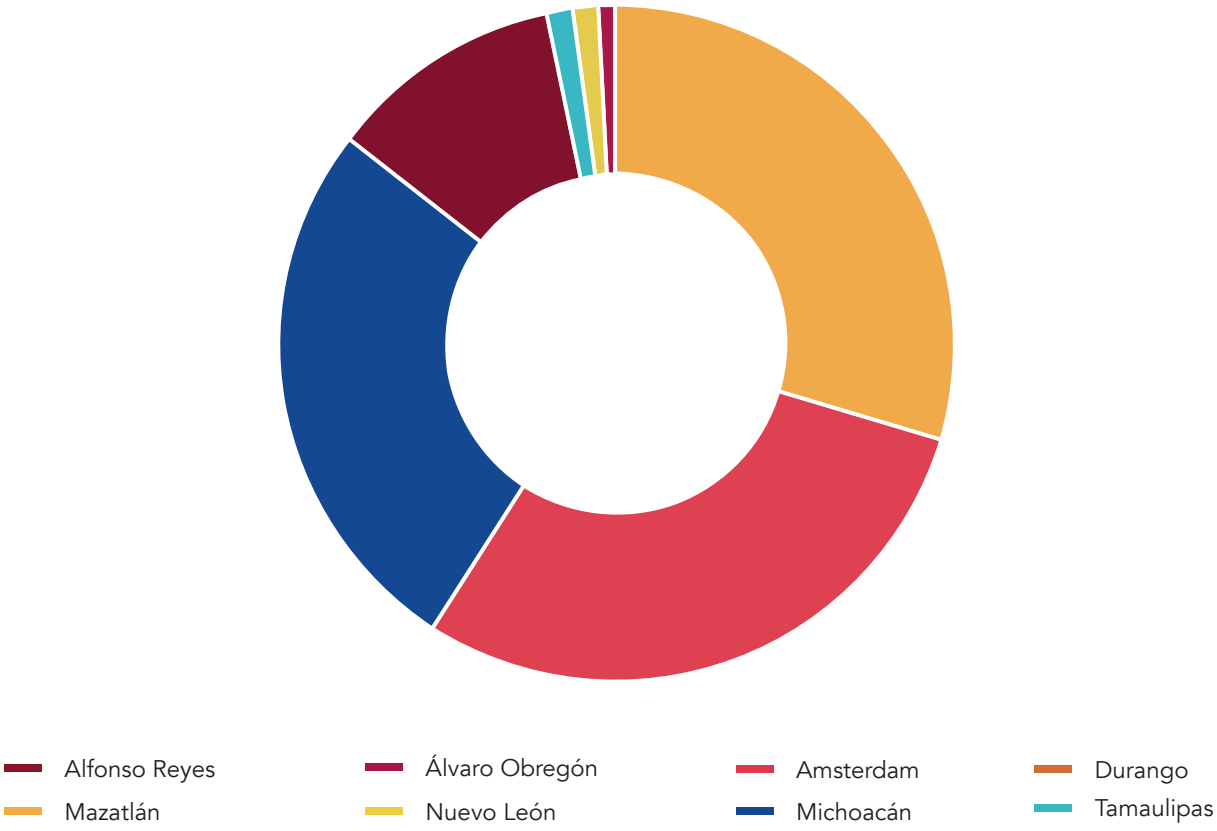


Figure 106, Proportion of residential land use reached per each boulevard and street according to their segments

The assumptions made in chapter V regarding the boulevards are right. *Nuevo León* indeed has a higher food outlets count than *Amsterdam*. At the same time, given the spatial analysis results and other spatial properties, local residents might choose *Alfonso Reyes* over *Álvaro Obregón* to take a walk and/or gather. Contrary to the parks and plazas, in the streets and boulevards, the higher average values of choice and integration do not show a relation with the business count (table 42a & 42b; fig. 107 & 108).

POS	General features						Spatial configuration				Land use features		
	Type	Ballester-Olmos & Morata classification	Area (m^2)	Service area	Number of segments	Average segment length	Highest average integration (radius)	Highest average integration (value)	Highest average choice (radius)	Highest average choice (value)	Residential land use (within the segments)	Other public uses	Ground floor diversity
Alfonso Reyes	Boulevard	N/A	N/A	N/A	24	52	1200	2.07297523	800	1.31052633	38%	Church	Hair salon,
Àlvaro Obregón	Boulevard	N/A	N/A	N/A	15	109	2400	2.10243315	2400	1.21413629	3%	Clinics	Accommodation, culture, stores
Amsterdam	Boulevard	N/A	N/A	N/A	15	128	5000	1.7099697	800	0.9900129	99%	School	hair salon, pets, stores
Durango	Boulevard	N/A	N/A	N/A	6	155	3000	2.06014358	3000	1.24960629	0%	Clinic	Culture, offices, sales
Mazatlán	Boulevard	N/A	N/A	N/A	12	93	1600	1.9006881	2000	1.2448783	99%	School	Stores
Nuevo León	Boulevard	N/A	N/A	N/A	14	116	2000	2.35050309	3000	1.36942161	4%	School	Concert hall, accommodation, night clubs
Michoacán	Street	N/A	N/A	N/A	21	72	1600	2.03015189	1600	1.29478176	88%	Market	Stores
Tamaulipas	Street	N/A	N/A	N/A	11	113	2000	1.98040268	2400	1.23259284	4%	Churches, market	Concert hall, sport facilities

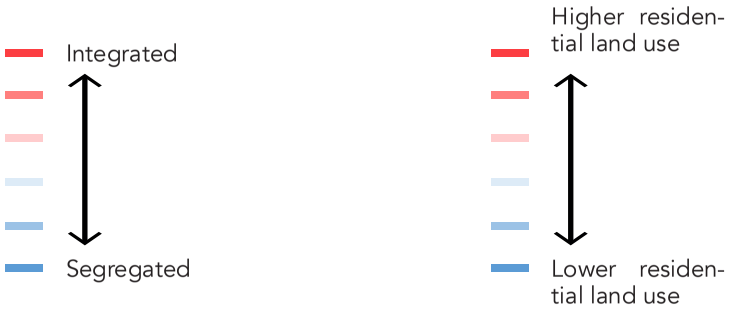


Table 42a, Summary of the features of the analysed boulevards and streets

POS	Accessibility [according to Metha (2014), White (2000), Koohsari, et al., (2013), and Pasaogullari & Doratli (2004)]									Food outlets count			
	Speed limit *	Street wide (number of vehicular active lanes)	Sidewalks *	Maintenance *	Climate comfort *	Hard edges *	Safe crossings *	Pleasurability *	Immediate public transport stations*	Local	Semi-local	Non-local	Total
Alfonso Reyes	4	2	2	1	1	0	1	1	0	6	9	9	24
Àlvaro Obregón	4	6	2	2	3	0	1	3	1	10	20	38	68
Amsterdam	1	1	2	1	1	0	1	1	0	1	5	16	22
Durango	4	4	2	1	2	0	1	2	0	3	11	14	28
Mazatlán	4	4	2	1	2	0	1	2	0	1	4	4	9
Nuevo León	4	4	2	2	3	0	1	2	2	4	11	19	34
Michoacán	1	4	2	1	1	0	1	1	0	6	12	22	40
Tamaulipas	1	2	2	1	1	0	1	2	2	0	27	28	55

Speed limit
1= Low
2= Low
3= Medium-low
4= Medium
5= High

Sidewalks
1= Wide
2= Average
3= Narrow

Maintenance
1= Good
2= Average
3= Lacks
4= Poor

Climate comfort
1= Excellent
2= Good
3= Average
4= Lacks
5= Poor

Hard edges
0= No
1= Yes

Safe crossings
0= No
1= Yes

Pleasurability
1= Good
2= Average
3= Lacks
4= Poor

Transport
0= No
1= Yes
2= Close

Better accessibility
Less accessibility

Higher food outlets count
Lower food outlets count

Table 42b, Summary of the features of the analysed boulevards and streets

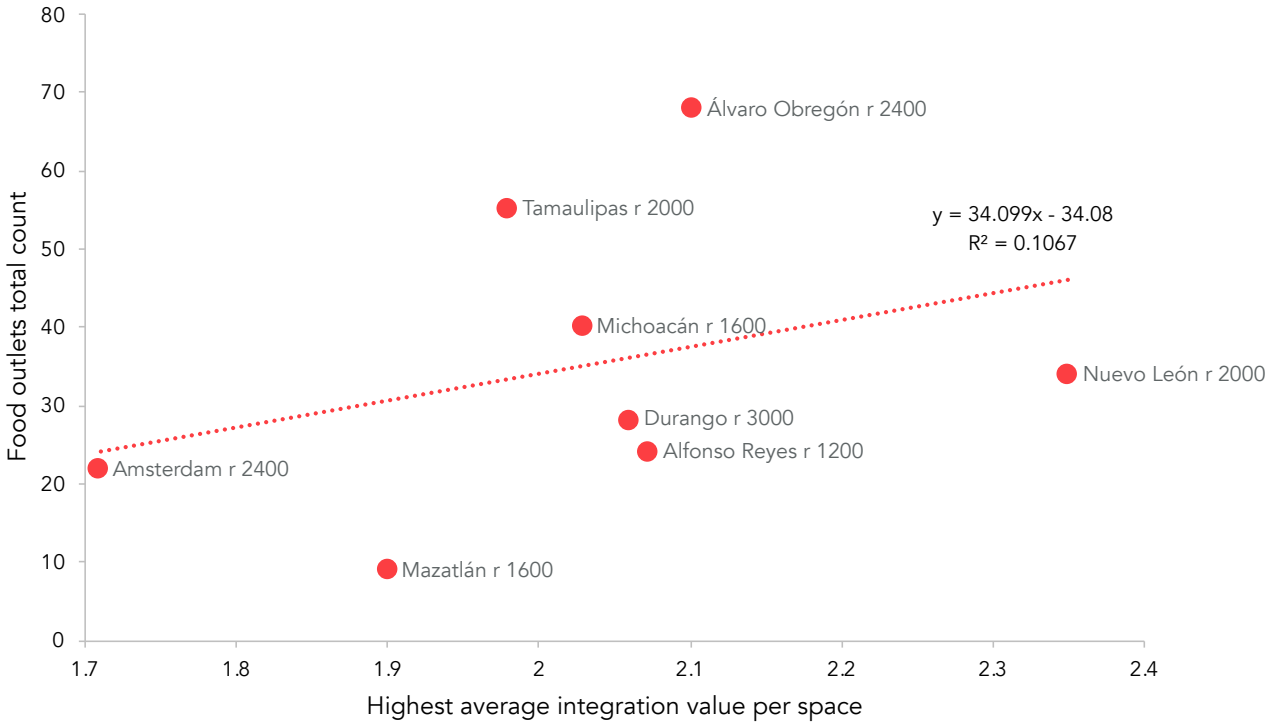


Figure 107, Linear regression graph of food outlets vs highest average integration values

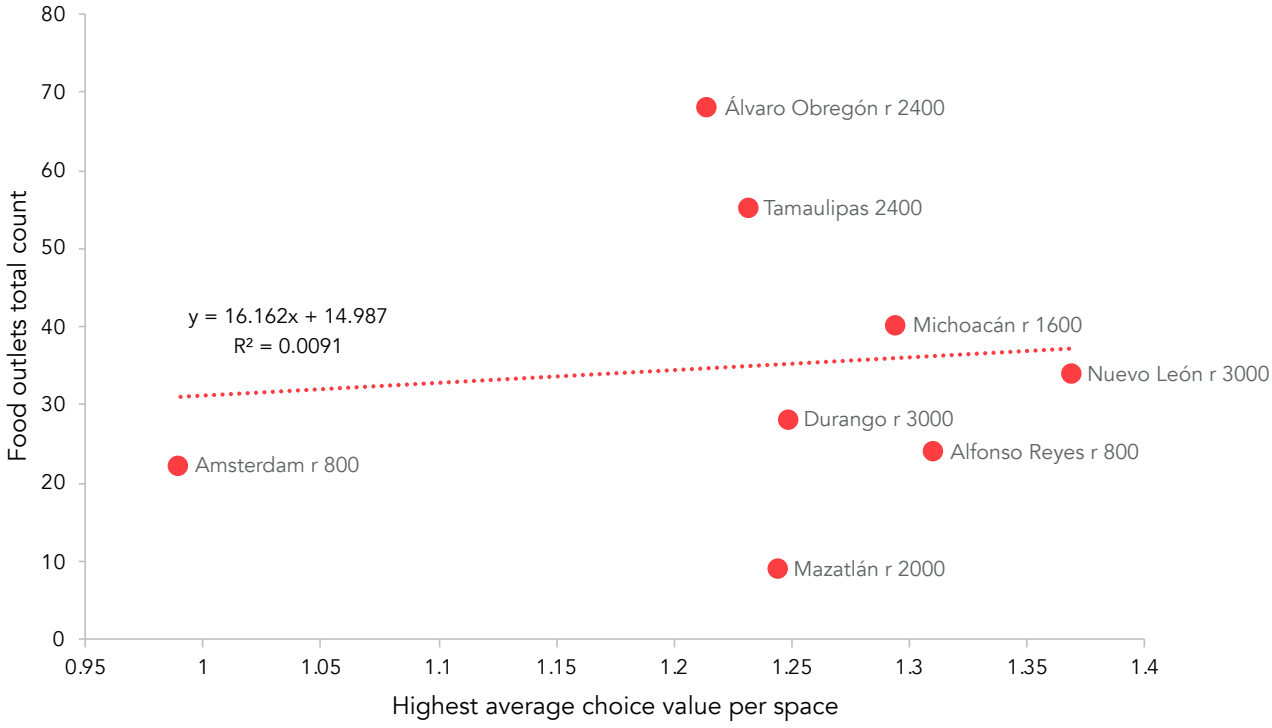


Figure 108, Linear regression graph of food outlets vs highest average choice values

In further research, the present study could be compared with observation of the activities different groups of people perform in each space. This could strengthen the idea of how each POS is currently being used and perceived by the people who visit it.

Even when public open spaces are developed for everyone to use and access them, the truth is that not all fulfil this purpose. The spatial configuration, the physical and land use features surrounding each POS, influence their accessibility and connectivity attributes; in turn, those attributes potentially modify the behaviour of the people a POS supposed to serve.

Chapter VIII Discussion and Conclusions

Some of the initial hypothesis proved to be correct. The first one implied that some POS might be centralities while the third suggested that too well-integrated POS might not be used as much by the local population. *Villa de Madrid, Juan Rulfo*, and *Nuevo León* behave as centralities on the one hand. On the other, *López Velarde, Pushkin*, and *Juan Rulfo* are spaces segregated from the local community. Hypothesis two turned out ambiguous; it proposed that the placement of potential third places around a POS might demonstrate that the POS is fulfilling its role as a social cluster. However, in spaces that are more segregated such as Amsterdam or *México*, third places do seem to indicate that the POS are being used by locals, while in more integrated spaces might be the other way around.

Hillier and Siksna suggest that around a place categorised as a centre the block size and the street might be narrower. Chiradia et al., on the other hand, imply that centres might also be recognised by the continuous distribution of different business or commercial activity. However, the POS within *Roma-Condesa* do not follow that pattern strictly. Even when *Villa de Madrid* has a high density and diversity of commercial activity, the segments leading to it, on average, are the longest segments of all the analysed POS. *Romita* (a known gathering local site) or *Río de Janeiro* (supposedly the centre of the Roma neighbourhood) display the opposite behaviour. Thus, in the context of *Roma-Condesa*, the spatial centralities might gather people as well as the spaces that are not centralities or local spatial centres but that do play a role in the collective memory of the area.

The POS that are segregated or not too highly integrated are those that have more chances to reach the local inhabitants. In contrast, the POS that are too well-integrated or adjacent to well-integrated segments might indeed discourage locals from using them, which agrees to Koohsari et al.'s research. Therefore, not all the public open spaces are accessible enough to encourage the local encounter of people. Besides, the highest integrated segments generally do not hold the highest catering count, rather the average-high integrated segments. However, when looking at the POS as a whole, the higher integrated spaces indeed have a higher count of catering activity. Furthermore, the POS that have more businesses which ranked higher in offering pavement dining, shelter, and permeability are more likely to foster a sense of community nearby than those which do not.

The high presence and different size and shape of POS in the area work as a local green infrastructure system. POS might be helping in reducing the width and speed of the streets and avenues, which according to Wood et al., Francis et al., and Talen, impacts the decision of residents to go out, walk, use the streets and therefore encourage the creation of community sense. The boulevards act like corridors linking hubs of green infrastructure. In *Roma-Condesa*, the green infrastructure might not be preserving as much the natural ecosystem values. However, it is indeed contributing to the accessibility towards POS and the residents of the area.

Moreover, the POS adjacent to transport stations proved to be integrated into the city grid but segregated from the local population. Public transport stations are often a sign of connectivity an area has to a city, an appealing feature. In this case, their presence means the POS – with a size design to serve only at a neighbourhood scale – are likely to be visited by strangers rather than locals. Calthorpe and Pasaogullari & Doratli suggest that a locally well-integrated POS close to residential land use has more chances to succeed in attracting the local community than those which are not. Then, the public policy, when designing or setting local or neighbourhood-scale POS and new public transport stations should take into consideration the proximity between each other.

The more integrated segments have more local businesses (street food booths), and in consequence, the more outsiders and the less opportunity to create a sense of community. This phenomenon might be happening in this area since it is a middle-class hub in the city that attracts lots of young, and many more work there as well. In further research, *Roma-Condesa* could be contrasted to another area, perhaps with lower income, to see if the local street food businesses have the same target population. The hypothesis would be inclined the other way around since they might not have the same proportion of restaurants or other kinds of commercial activity. Besides, people from all over the city consider *Roma-Condesa* as a destination. In contrast, the popular neighbourhoods next to it, although centrally located, are not a destination.

Finally, the categorisation of the food outlets as local, semi-local and non-local proved to be more complex than it seemed. The local businesses turned to be highly integrated and with a propensity to serve the local working population but not the residents while plenty of the non-local restaurants might be actually targeting the local community. Metha & Bosson and Mahamoudi & Beynon, emphasise that pavement dining is an important asset to the development of third places, natural surveillance, soft edges, and therefore a sense of community.

Restaurants and coffee shops are businesses that ranked higher in pavement dining. So ironically it might be more likely that a non-local or a semi-local business might act as third places rather than the place designated to be easily reachable such as street food or *fondas*. Thus, a question for future inquiry is developed: what is the spatial configuration of the street food boots' and *fondas'* location in Mexico City, and how likely is that street food booths play a significant role as places of encounter for local community in different areas of the city?

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Appendixes

Appendix I Public open space service area and classification

The public open spaces were classified as gardens, plazas, parks and boulevards – roads with a central green area that divides a two-way avenue – according to their characteristics, their names, categorization, and size provided by INEGI (2017). Only five of the spaces' surfaces were measured and calculated by Google Earth: *Álvaro Obregón* garden, *López Velarde* park, *Pentathlon* park, *Villa de Madrid* plaza, and *Veracruz* garden. Then, their service area – influence radius – was ranked according to their dimensions and characteristics based on Ballester-Olmos & Morata (2001) scale. However, that range does not contemplate the service area for the smaller locations. The service area for the POS that do not fill into Ballester-Olmos & Morata's classification – twenty-one POS and twelve green spaces – was then sorted into two different categories. The first includes all the POS with less than 5,000m^2 and the boulevards that possess a pedestrian path within them – assigned a service area of 200m. The second is for the boulevards and gardens that cannot be crossed or walked within; they are merely visual, no activity can be performed within them – assigned a maximum service area of 100m (table I-a). The decision to give to some places 200m and others 100m of service area is based on Ballester-Olmos & Morata's classification and Gehl's scale parameters. Because the parks, squares, and boulevards with a size smaller than 5,000m^2 might still draw people towards them – given that they facilitate sitting spots, shade, and/or playgrounds and 250m is the service area for locations above 5,000m^2 – they are considered with a service area of 200m. On the other hand, the merely visual spaces are given a maximum of a 100m service area since a 100m is the highest visual range in where humans can recognize and observe street life (Gehl, 2010) (table I-b).

Reference	Type	Min. Area (m^2)	Max. Distance (m) Service area
Ballester-Olmos & Morata (2001)	Neighbourhood square	5,000	250
	Quarter park	10,000	500-750
	District park	50,000	1000-1,500
Author's	Gardens	N/A	200
	Walkable boulevard	N/A	200
	Non-walkable boulevard	N/A	100

Table I-a, Categories of all public and green spaces and their service area

Name	Category	Type	Ballester & Morata classification	Area (m^2)	Min area (m^2)	Service area
Alfonso Reyes	Public open space	Boulevard	N/A	N/A	N/A	200
Álvaro Obregón	Public open space	Boulevard	N/A	N/A	N/A	200
Álvaro Obregón-Nuevo León-Sonora	Public open space	Garden	N/A	624	N/A	200
Amsterdam	Public open space	Boulevard	N/A	N/A	N/A	200
Benjamín Hill	Green space	Boulevard	N/A	N/A	N/A	100
Benjamín Hill-Alfonso Reyes	Green space	Garden	N/A	1,286	N/A	100
Campeche	Green space	Boulevard	N/A	N/A	N/A	100
Chilpancingo-Tehuantepec	Public open space	Garden	N/A	2,053	N/A	200
Citlaltépetl	Green space	Boulevard	N/A	N/A	N/A	100
Citlaltépetl	Public open space	Plaza	N/A	1,298	N/A	200
Compositores	Public open space	Plaza	N/A	470	N/A	200
Durango	Public open space	Boulevard	N/A	N/A	N/A	100
Edith Sánchez Ramírez	Public open space	Garden	N/A	1,245	N/A	200
España	Public open space	Park	Quarter park	32,160	10,000	750
Iztaccihuátl	Public open space	Plaza	N/A	1,834	N/A	200
Juan Rulfo	Public open space	Park	N/A	2,115	N/A	200
López Velarde	Public open space	Park	District park	80,930	50,000	1,500
Luis Cabrera	Public open space	Plaza	Neighbourhood square	4,374	5,000	250
Mazatlán	Public open space	Boulevard	N/A	N/A	N/A	100
Mazatlán-Benjamín Hill	Public open space	Plaza	N/A	1,901	N/A	200
México	Public open space	Park	District park	70,141	50,000	1,500
Michoacán	Green space	Boulevard	N/A	N/A	N/A	100
Monument a los Caídos	Public open space	Garden	N/A	246	N/A	200
Morelia	Public open space	Plaza	N/A	2,892	N/A	200
Morelos	Public open space	Park	N/A	1,542	N/A	200
Nuevo León	Public open space	Boulevard	N/A	N/A	N/A	200
Oaxaca	Green space	Boulevard	N/A	N/A	N/A	100
Orizaba	Green space	Boulevard	N/A	N/A	N/A	100
Patriotismo	Public open space	Park	N/A	1,708	N/A	200

Name	Category	Type	Ballester & Morata classification	Area (m^2)	Min area (m^2)	Service area
Pentathlon	Public open space	Park	Quarter park	9,841	10,000	500
Popocatépetl	Green space	Boulevard	N/A	N/A	N/A	100
Popocatépetl	Public open space	Plaza	N/A	3,165	N/A	200
Pushkin	Public open space	Park	Quarter park	17,027	10,000	500
Quintana Roo-Insurgentes	Public open space	Plaza	N/A	2,735	N/A	200
Río de Janeiro	Public open space	Plaza	Quarter park	14,370	10,000	500
Romita	Public open space	Plaza	N/A	1,304	N/A	200
Sonora	Green space	Boulevard	N/A	N/A	N/A	100
Tamaulipas	Green space	Boulevard	N/A	N/A	N/A	100
Veracruz	Green space	Boulevard	N/A	N/A	N/A	100
Villa de Madrid	Public open space	Plaza	Neighbourhood square	6,916	5,000	250
Yucatán	Green space	Boulevard	N/A	N/A	N/A	100

Table I-b, Identification of all public open spaces and green spaces

Apendix II Business classification

The data were extracted from INEGI and it was classified into two categories: a broad one and a detailed one. These categories were adapted for the current study from official sources classifications and the author's understandings of the different business activity of the area. While this makes the classification of commercial activity have some subjectivity, it is based on local knowledge and applied systematically. Subsequently, they were ranked as to whether or not they own the elements that make them potential third places. The businesses were broadly classified into five groups according to the kind of activity realized: general commerce, catering, resources, local retail and service sector. This classification was adapted from a more specific one offered by the National Statistical Directory of Economic Units (DENUE by its Spanish acronym) (fig. II-a). The second is a more detailed classification of businesses based on the same data by DENUE, the places that are considered third places by Metha & Bosson, and the name of the business (provided by DENUE) (fig. II-b).

Additionally, a third classification is defined in relation to the population a business is likely to serve: whether local (5-10 minute walk), semi-local (10-30 minute walk), or non-local (more than a 30 minute walk) (fig. II-c). This was done with the intention of defining the uses depending on the likelihood that someone would take a journey to visit from farther afield within the locality (semi-local) or from across the city (non-local). However, the businesses graded as semi-local or non-local do not express that the local population are not expected to use them, it merely means that the scope of potential customers goes beyond the immediate inhabitants of the area. This last classification was made in consistence with the locations identified as third places by Metha & Bosson. Moreover, all three classifications were also done in line with the author's understanding of the different business activity (table II-a).

Figure II-a, First classification of all the businesses

Figure II-b, Detailed classification of all the businesses

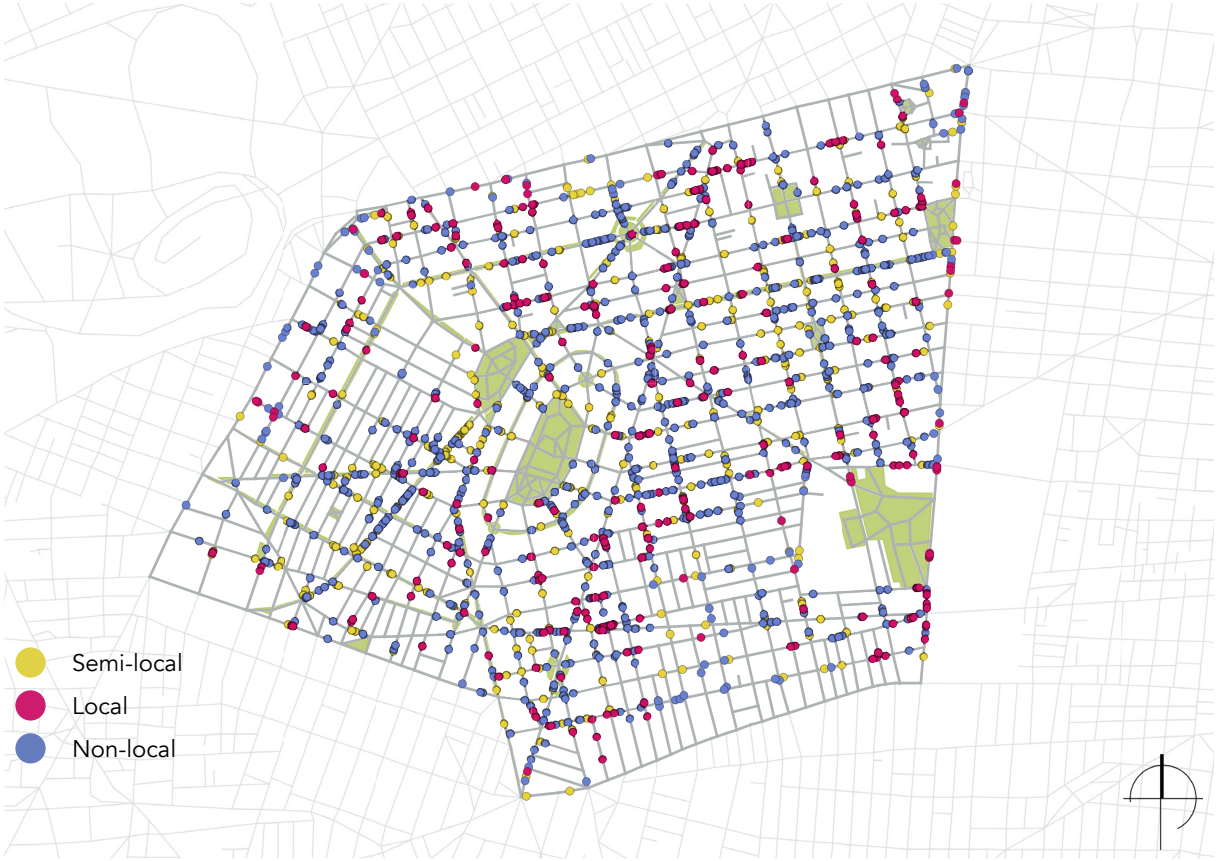


Figure II-c, Target population

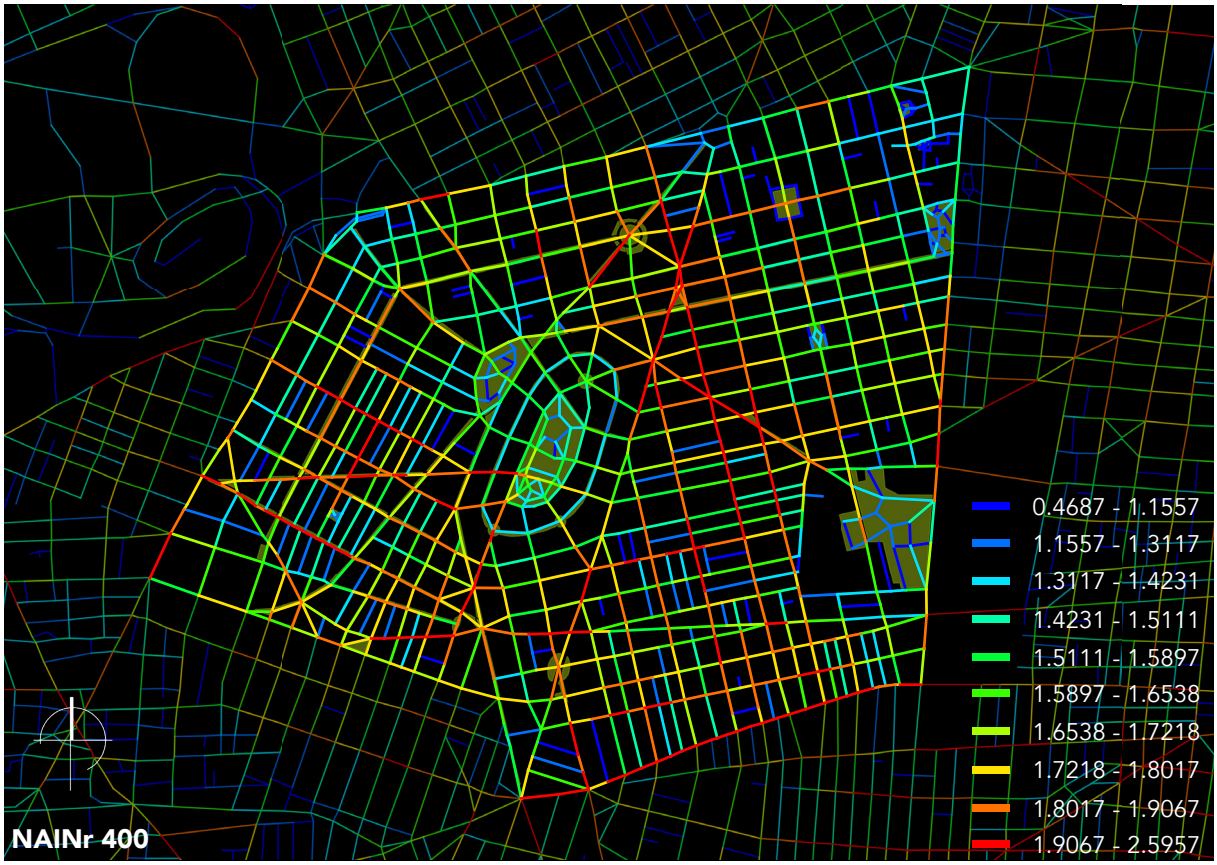
GROUP	CLASS	SERVES	DESCRIPTION
General Commerce	Antiques/Art	Non-local	Sale of antiques and/or art
	Bikes	Semi-local	Bike sales and bike related businesses
	Bookshop	Semi-local	
	Car related	Non-local	Car sales, gas stations, etc.
	Convenience store	Local	Chain convenience stores
	Factory	Non-local	Diverse factories, mainly small producers
	Flower shop	Semi-local	
	Gear/Fashion	Non-local	Sale of any sort of clothes, shoes, accessories, etc.
	Lease	Non-local	Clothing, furniture, construction equipment, etc.
	Lottery	Local	
	Manufacturing	Non-local	
	Newspaper/Magazine	Semi-local	Street vendors and stores of new and/or vintage magazines
	Others	Non-local	Pawn shop, party rooms, tarot reading, etc.

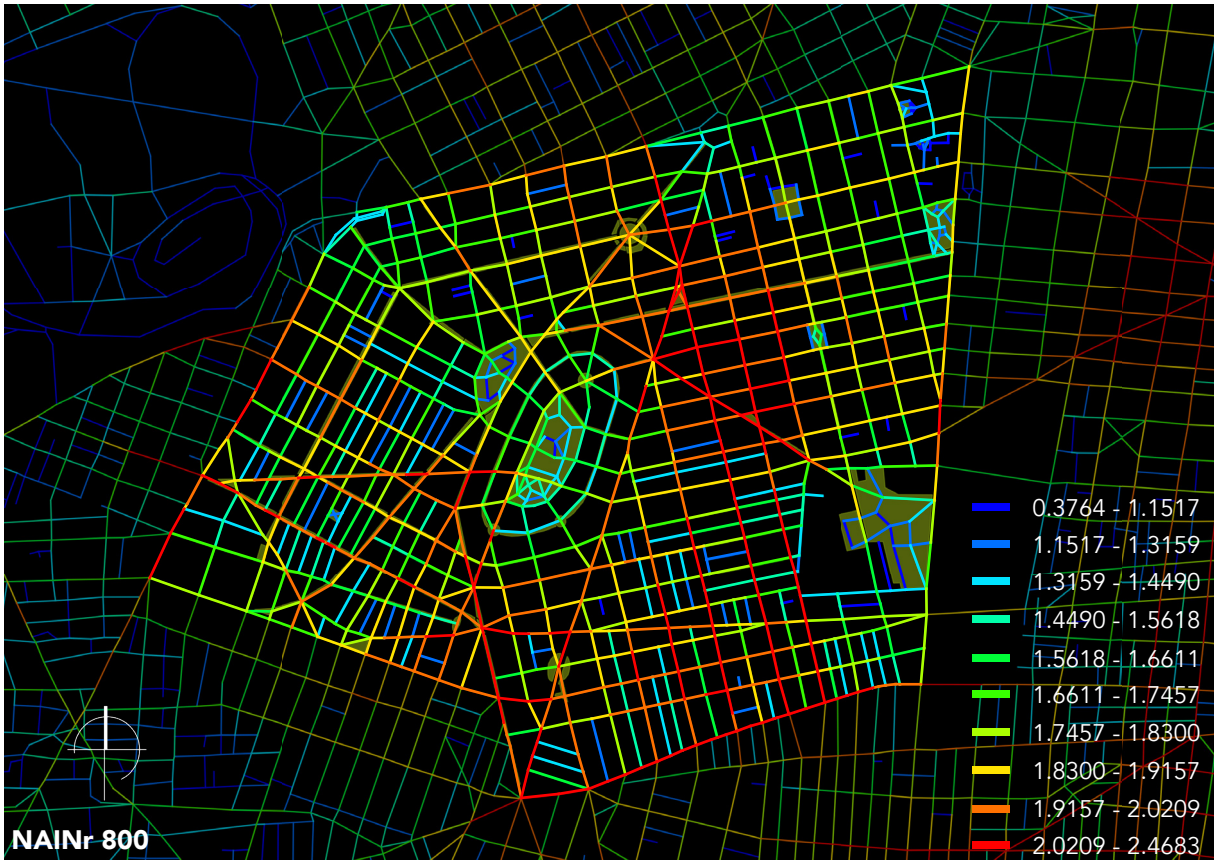
GROUP	CLASS	SERVES	DESCRIPTION
General Commerce	Parking	Non-local	
	Pets	Semi-local	Veterinarians, hospitals, hotels, shops
	Sales	Non-local	Sales of all kind of products such as cosmetics, watches, furniture, glass, wine, electronics, fabrics, etc.
	Shopping centre	Non-local	
	Stationary	Local	
	Supermarket	Semi-local	
	Tattoo shop	Non-local	
	Thrift shop	Semi-local	
	Videogames	Semi-local	
	Wholesale	Non-local	
Catering	Bakery	Semi-local	
	Bar/Cantina	Semi-local	Bar, cantinas, etc.
	Coffee shop	Semi-local	Coffee shops
	Fast food	Non-local	Self service restaurants, restaurants where people do not stay longer
	Fonda	Local	Local restaurants that typically serve only the main meal (open from 13:00-17:00)
	Ice cream shop	Semi-local	
	Restaurant	Non-local	Restaurants, restaurant chains, etc.
	Street food	Local	Quesadillas, tacos, tortas, etc.
Resources	Accommodation	Non-local	Hotels, inns, etc.
	ATM	Local	
	Bank	Local	
	Community services	Semi-local	Community dinners, AA, etc.
	Courier	Local	
	Culture	Non-local	Museums, galleries, theatre companies, studios
	Education	Non-local	All educational levels (kindergarten-university), culinary, language schools, etc.
	Entertainment	Semi-local / non-local	Cinemas, pool, concert hall
	Hair salon	Semi-local	Hair and/or nail salon, barbershop, etc.

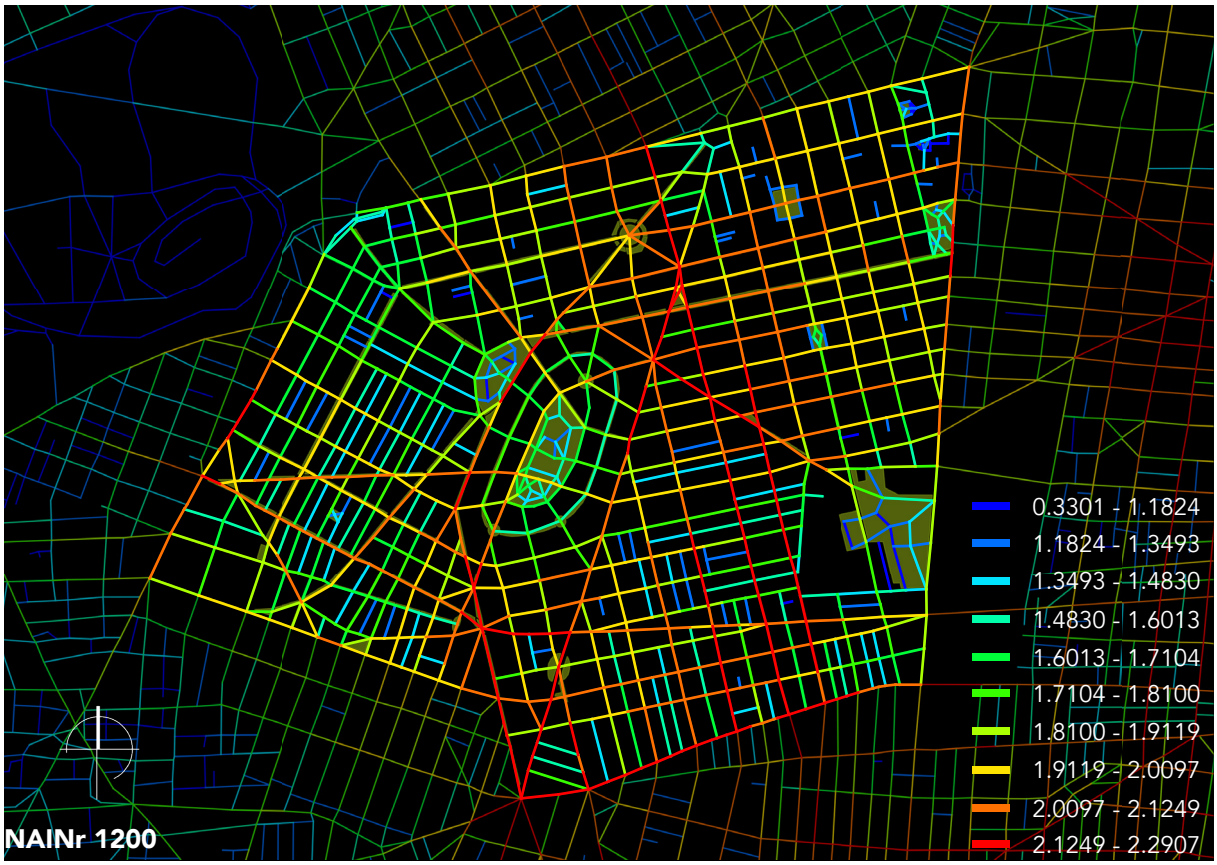
GROUP	CLASS	SERVES	DESCRIPTION
Resources	Health	Non-local	Hospitals, private practice, laboratories, pharmacies, sale of medical equipment, etc.
	Laundry	Local	Laundry and drycleaners
	Libraries	Semi-local	
	Mobility	Non-local	Taxi service, bus service, etc.
	Night club	Non-local	
	Public toilets	Local	Public toilets and bathrooms
	Religion	Semi-local	Temples, churches, religion associations and stores, etc.
	Shelter	Non-local	Orphanages, nursing home, shelters
	Sports	Semi-local	Gymnasiums, dance, karate, and yoga schools, sports facilities, football courts
Local Retail	Hardware stores	Local	
	Juice and fruit store	Local	
	Retail	Local	Tortilla store, butcher, fruits and vegetables, local general retail, etc.
Service sector	Government	Non-local	Offices, agencies, police stations, etc
	Non-professional servi	Semi-local	Plumber, carpenter, tailor, water supply, printing facilities, moving equipment, diverse repair and maintenance workshops, etc.
	Office	Non-local	Public and private offices, societies, administration
	Professional service	Non-local	Architecture firm, law firm, scientific research, real state management, engineering firm, film studios, photography studios, travel agencies and services, etc.

Table II-a, Businesses classification

Appendix III Integration sequence



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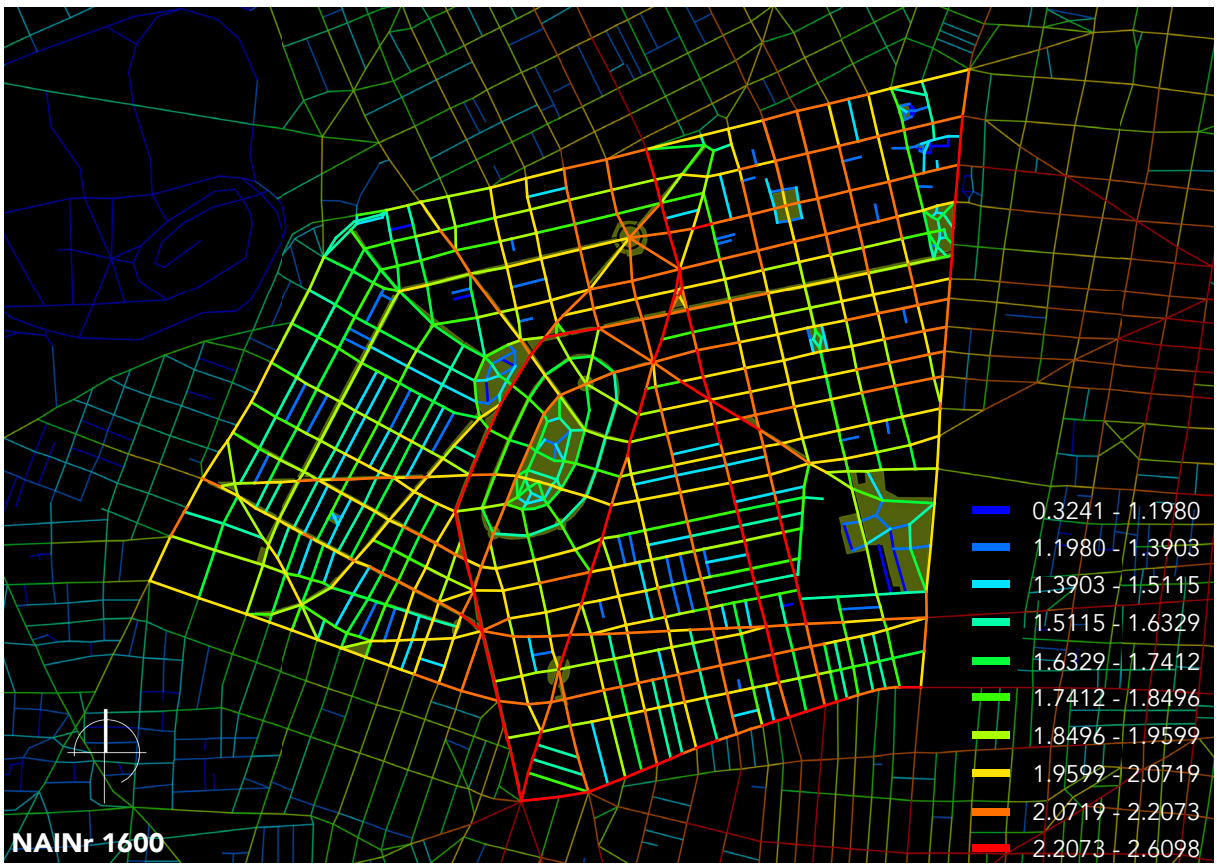
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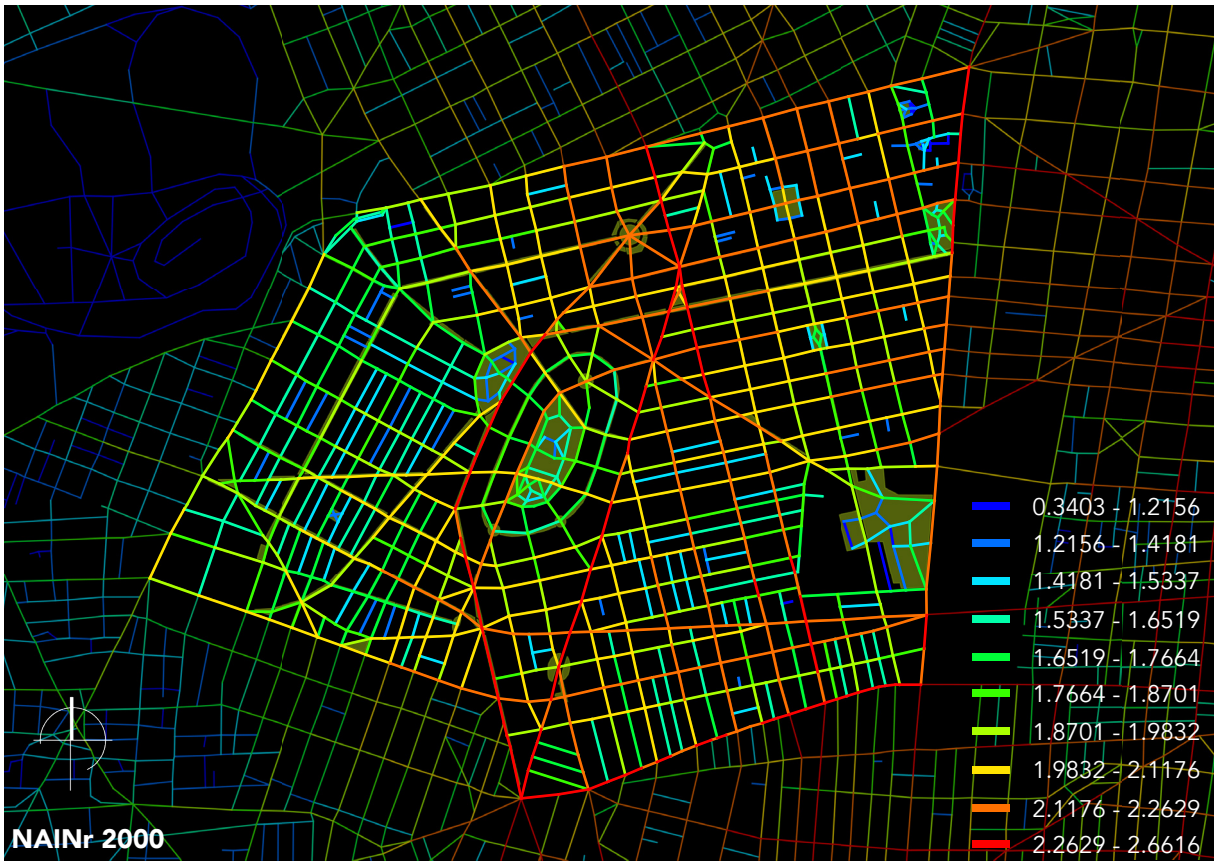
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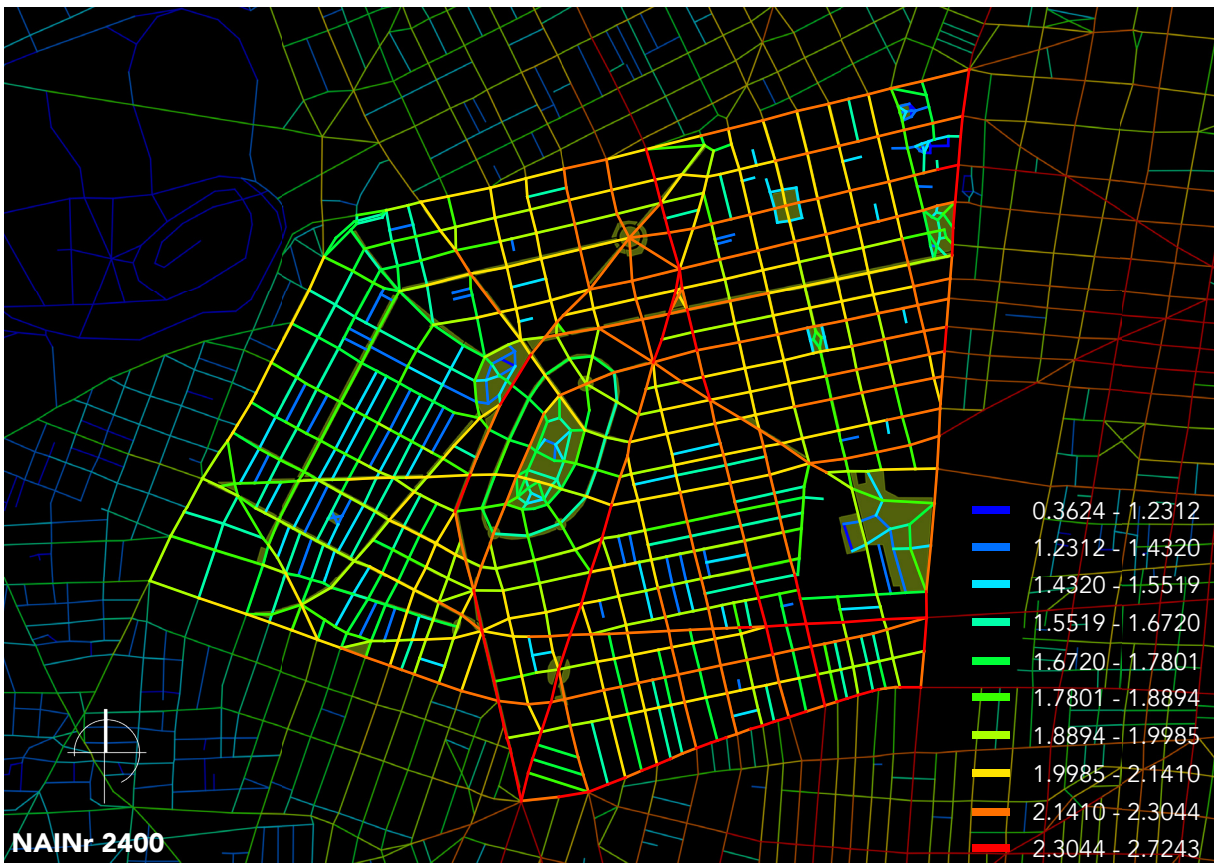
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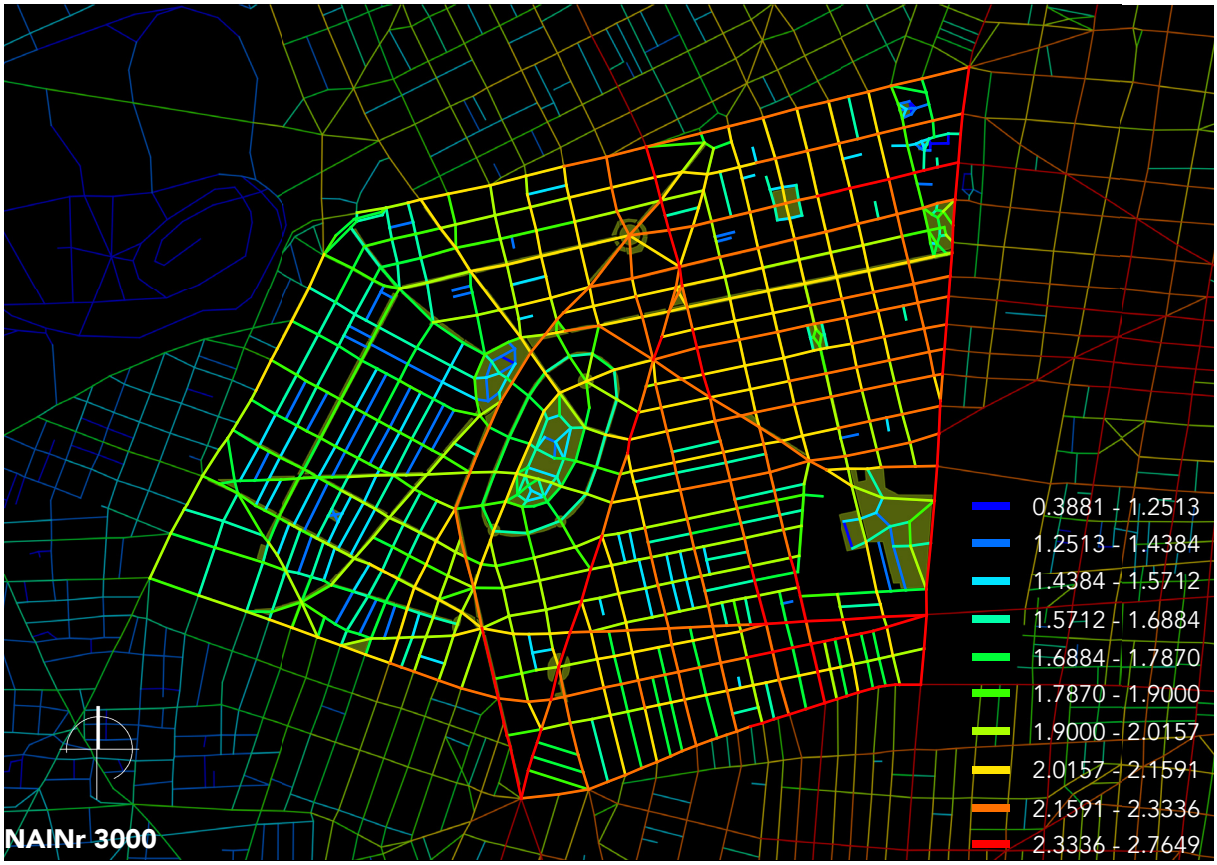
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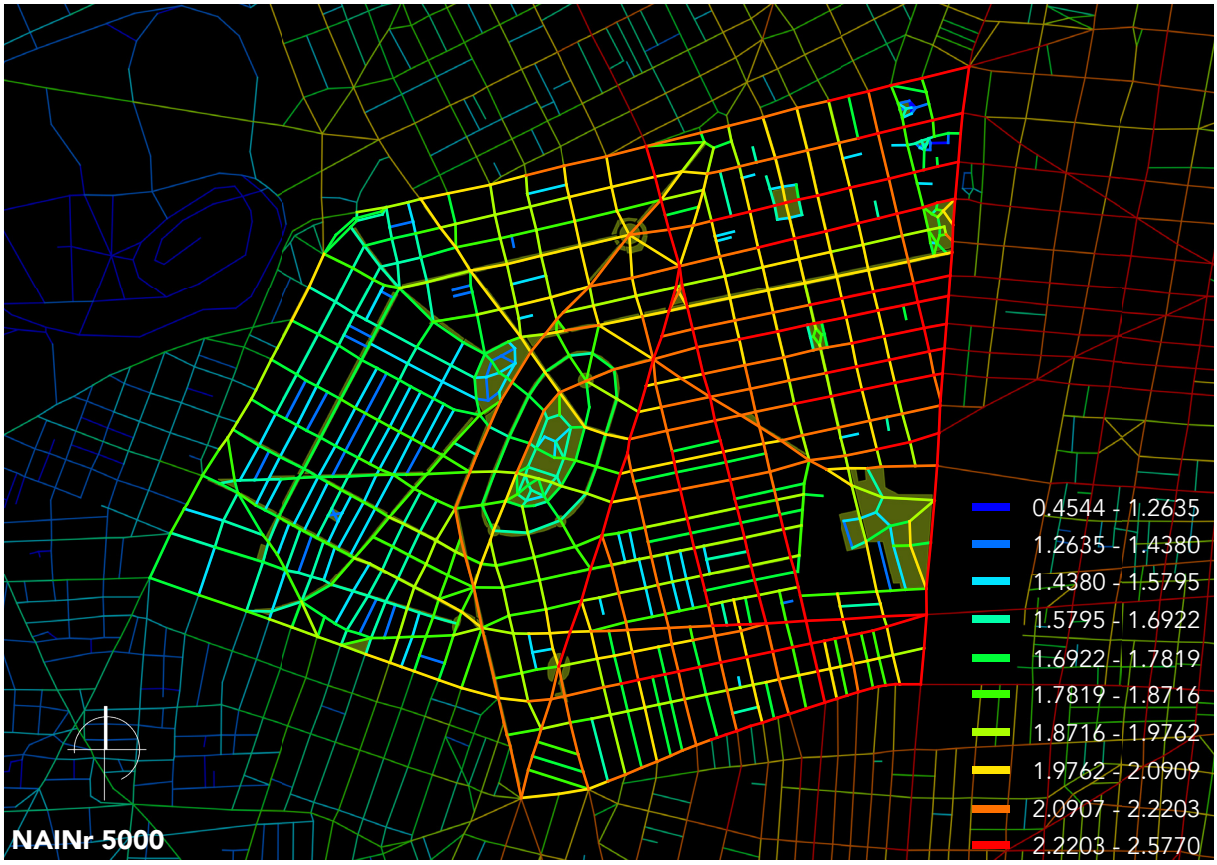
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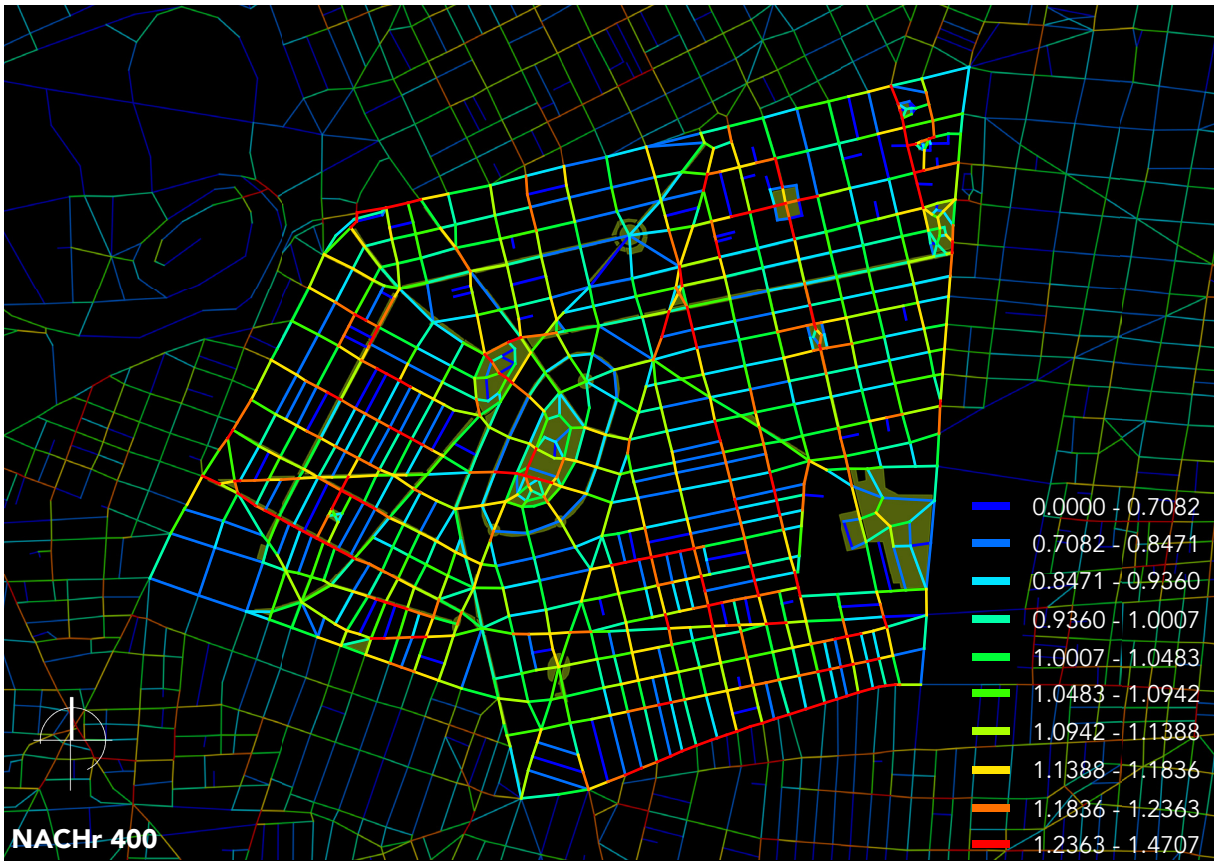
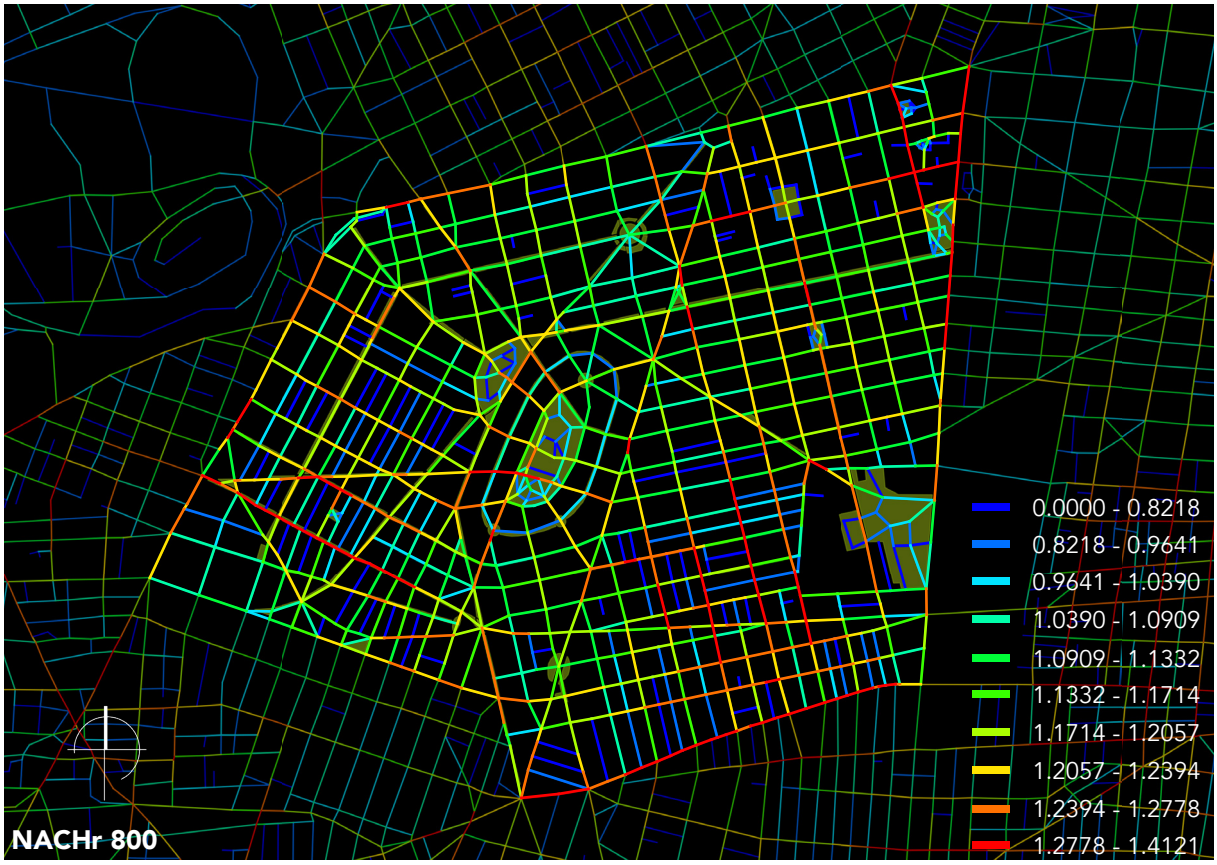
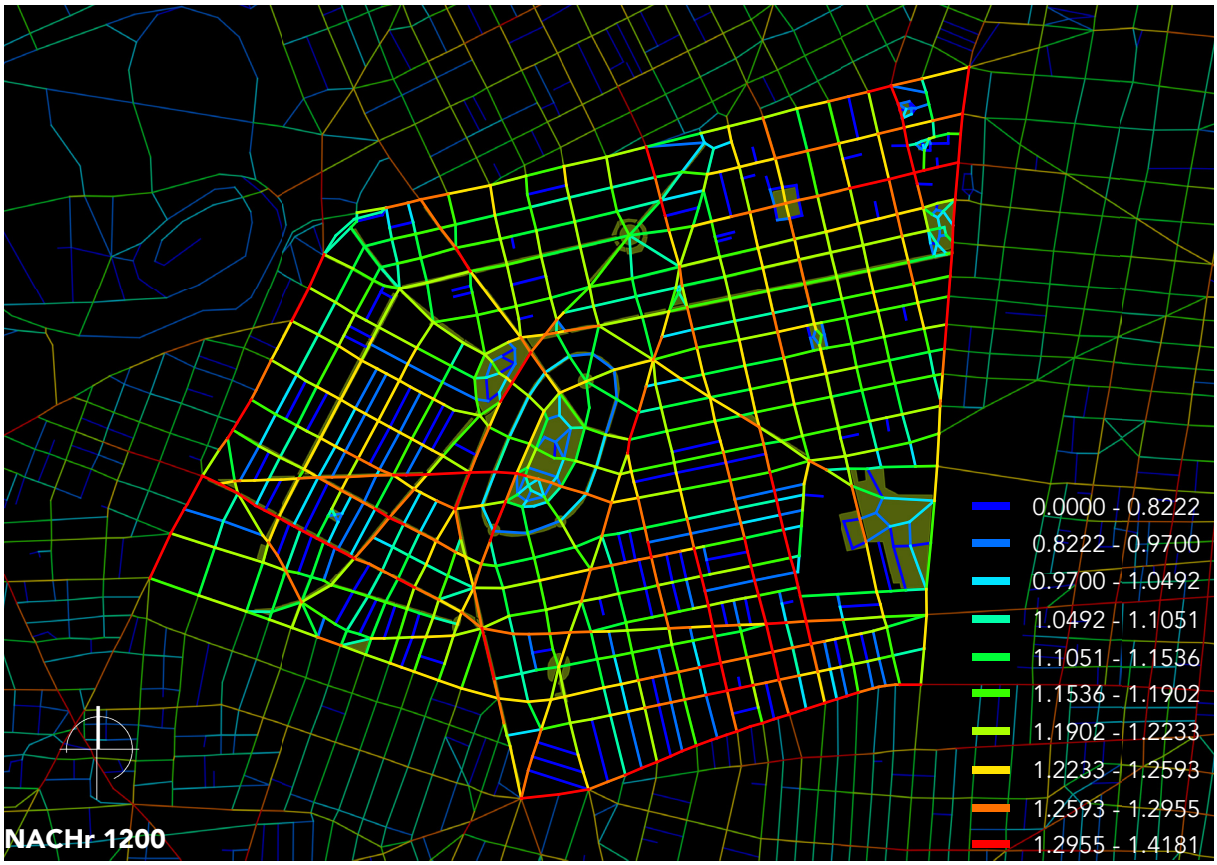
Appendix IV Choice sequence



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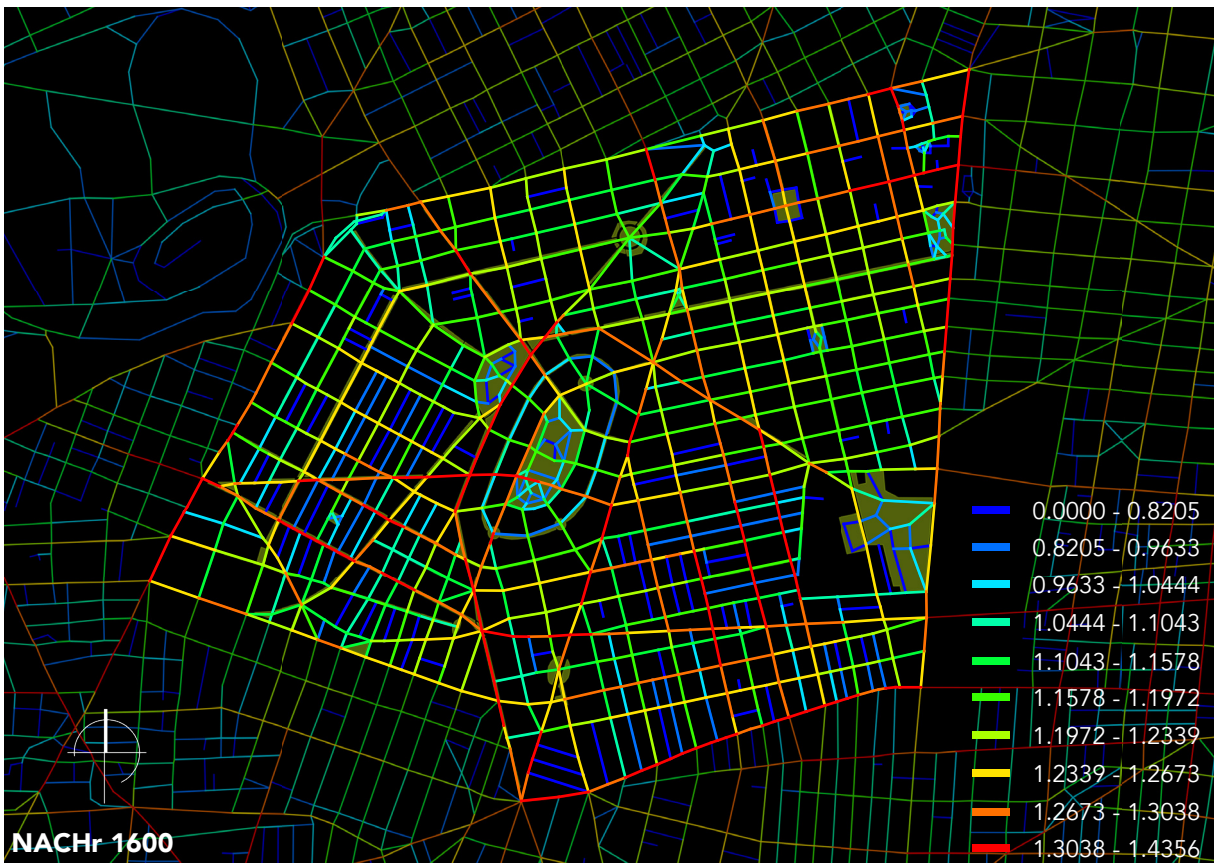
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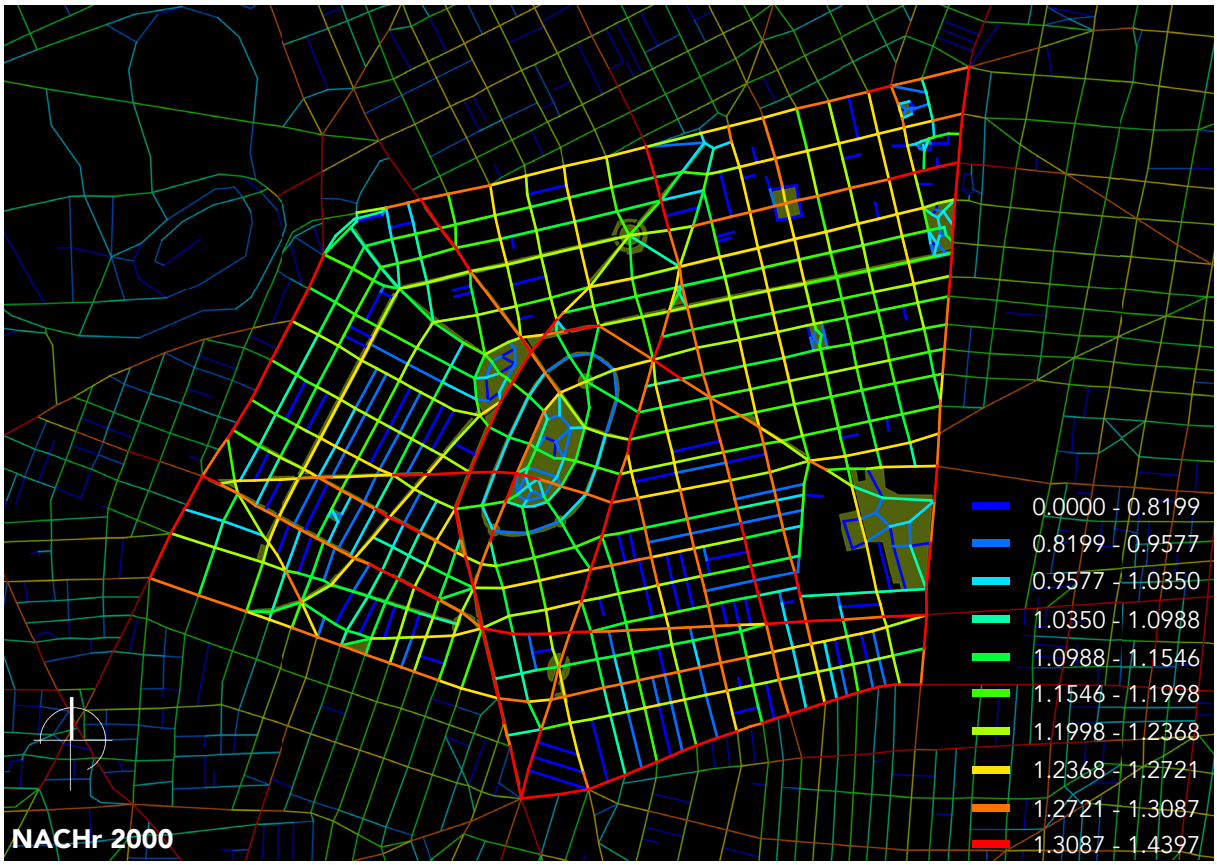
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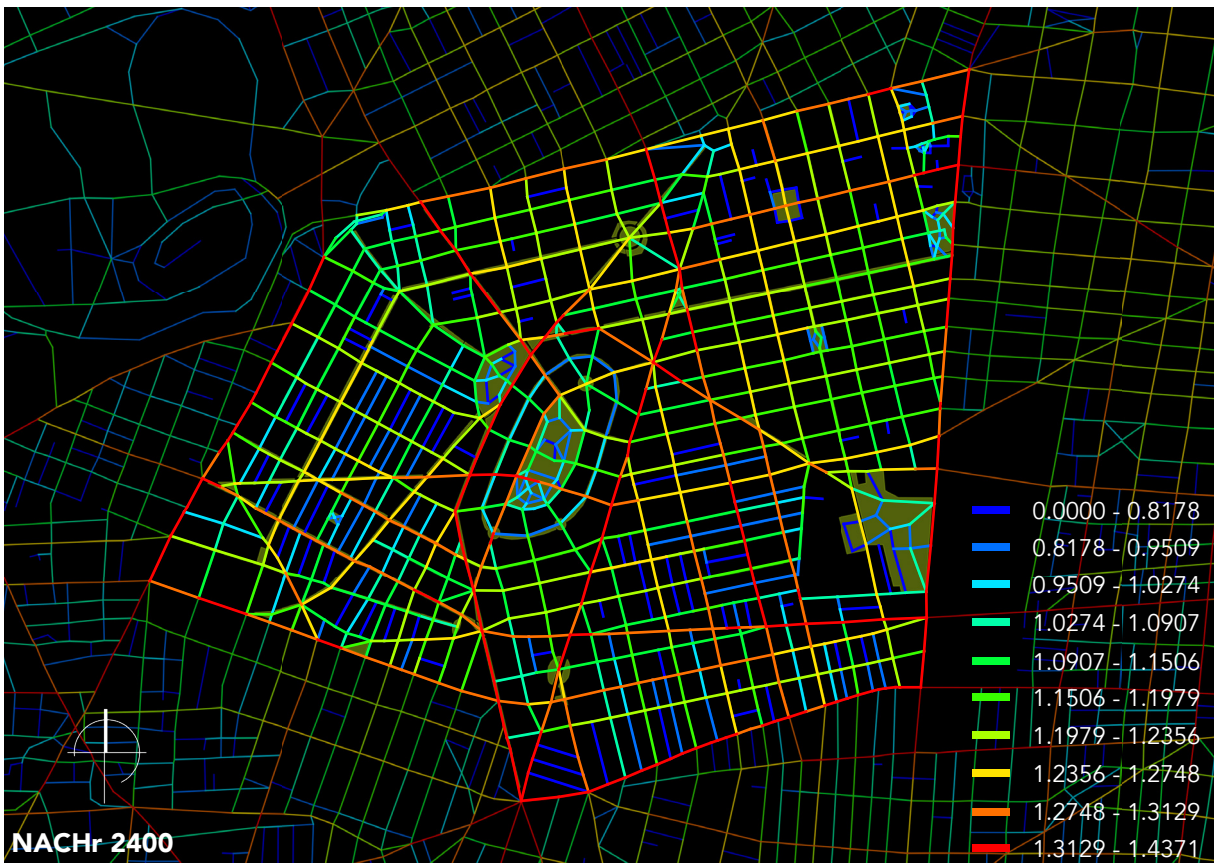
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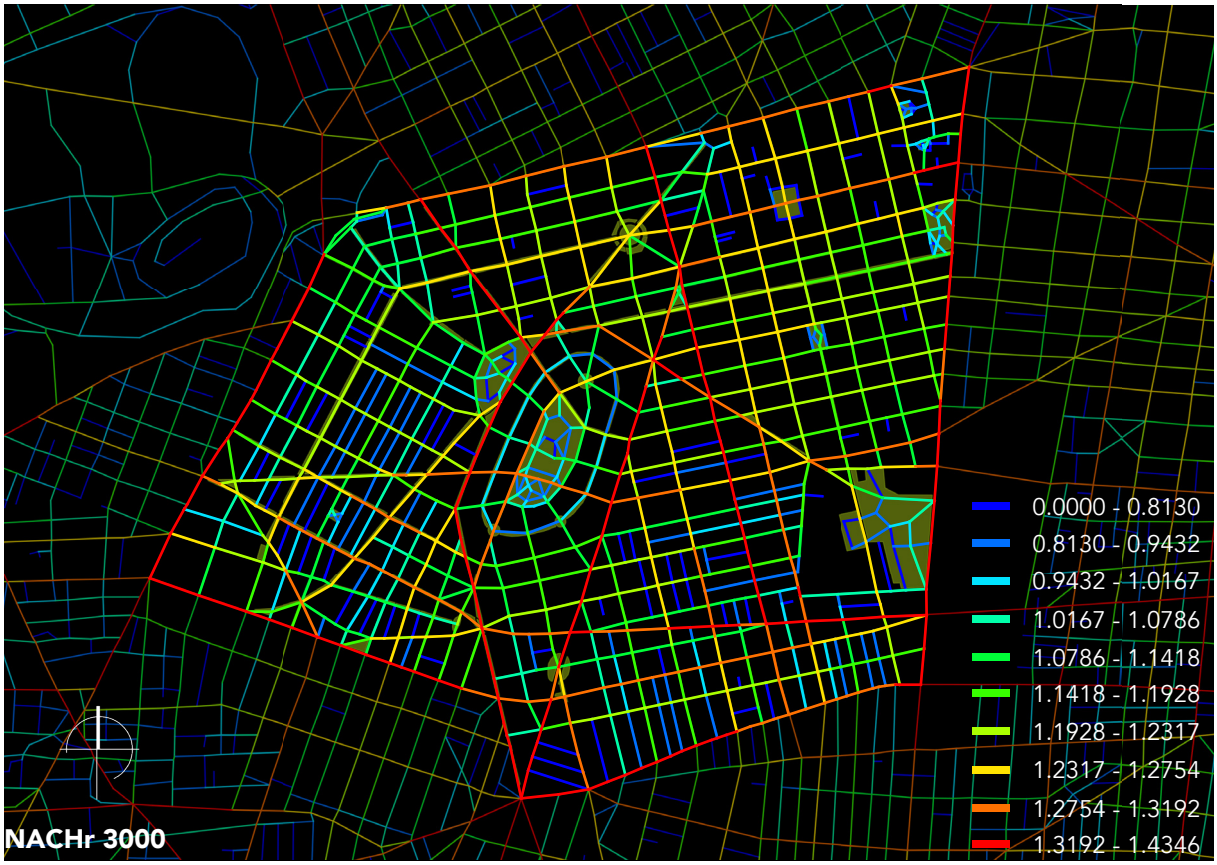
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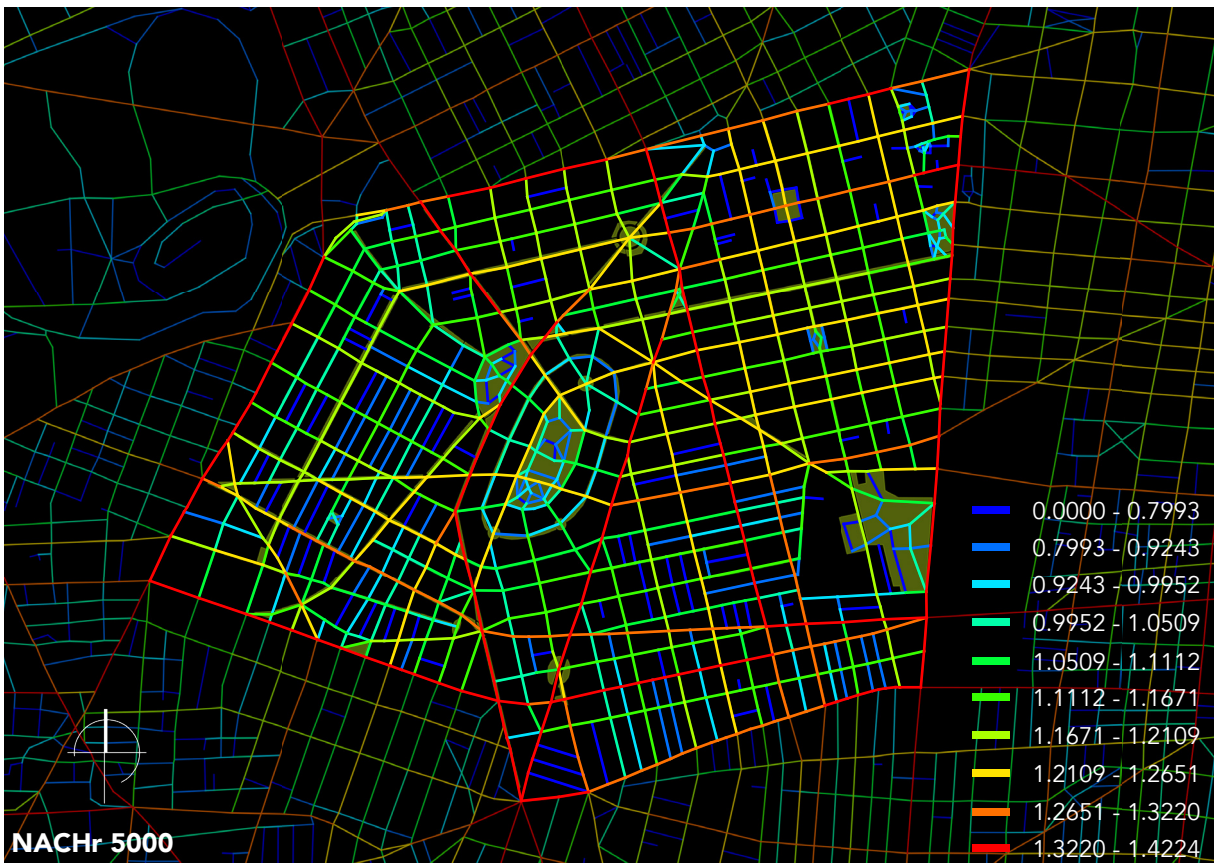
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