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Barcelona Societat

Journal on social Knowledge and analysis

Basic resources: cohesion, security, mobility and energy

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Summary

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Presentation

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Commissioner for Social Action

Next March will mark four years since the declaration of the state of alarm prompted by the emergence of Covid-19.

The arrival of the “new normality” after the pandemic was the theme of the latest issue of the journal *Barcelona Societat*. In the introduction, we pointed out that “the impact of the pandemic made evident the need for social protection policies [...]. Many people lost their sources of income, saw the payment of ERTEs delayed, lost the ability to pay rent, or even lost rental accommodations”.

As a conclusion, we highlighted that “in the face of the great initial uncertainty, the City Council was at the forefront to provide an empathetic and understanding response to the insecurities and fears of the citizens”. Once again, we must acknowledge the great task performed by Social Services, both basic and specialized, hand in hand with the social fabric and support networks. Social Service Centres were organized to open one Centre per district while the rest worked remotely. Specialized street teams continued to connect people and build trust. Some teams from the EAIA collaborated in food distribution. All services for the elderly established protection and support measures. 700 more spaces were provided for the homeless. And so, in all areas of social action. It is important to remember this immense effort.

We can say that today, 4 years after that devastating phenomenon, the local administration continues to play a fundamental role in ensuring basic living conditions for many people and minimizing vulnerability situations from a close perspective, placing the rights of individuals at the centee of their proposals. In this new issue of the journal *Barcelona Societat*, we address both some pre-existing factors and new ones that affect and determine these living conditions.

Therefore, we ask ourselves how they have transformed and which new forms of vulnerability are emerging. The traditional material equality-inequality axis is now joined by new challenges, such as the relational axis that contrasts collectives and individuals linked to those disconnected from their communities, and the cultural or relational axis that confronts those enjoying socio-cultural recognition with those who are discriminated against. The overlaps between these three axes mark nowadays’ new forms of exclusion and vulnerability, and local public institutions must know how to respond hand in hand with the social fabric, with a greater citizen participation and a closer approach to the communities’ daily life.

The crisis of access to and maintenance of housing in decent conditions represents one of the main areas of concern for the City Council, as well as for other agents and socio-economic actors. To address this, it is necessary to consider multiple factors such as the greater or lesser availability of public housing, the stock of rental housing, the conditions that determine the economic effort that households must make, or the demographic transformations and new types of households that characterize the current socio-demographic situation of the city.

However, the city is more than just a place to reside. It is also where we work, study, stroll, consume, etc. Therefore, it is necessary to weave compact and integrated cities, where our movements consume the least time possible and generate the minimum carbon emissions. The model of the "15-minute city" represents, in this sense, a horizon that inspires us to imagine and build today the city of tomorrow.

Nevertheless, vulnerability situations are not only the result of these structural factors but also of relational ones. Our interactions can take various forms that undoubtedly affect the quality of our health. Through various socio-educational interventions, the City Council in particular and public institutions in general, can and must promote healthier and more equitable relationships to improve the health of everyone.

In this regard, one of the challenges posed by the current context is the challenge of addressing climate change, a challenge in which cities have much to contribute. How can cities play a leading role in the energy transition? Among others proposals, we can be crucial in generating renewable energy, while we can also work on the energy rehabilitation of public housing and buildings to achieve the much-needed carbon neutrality by 2030.

The city must also lead innovation projects that, like the Amunt! pilot to promote the socio-labour inclusion of the most vulnerable individuals and collectives. Therefore, we collaborate with other institutions to design and evaluate more comprehensive and integrated public intervention models in collaboration with the users themselves.

We also want to address the difficulties or vulnerabilities experienced by groups with reduced mobility. The City Council must work on improving its special transport services, which likely involves a higher budget, an increase in the fleet of vehicles, an integration of the supra-municipal transport network, and greater shared users' responsibility.

This 30th issue of the journal *Barcelona Societat* paws the way to discussing a set of topics and issues that already shape and will determine the quality and living conditions of the people in our city today and in the immediate future. Housing; material, relational, and cultural exclusion; health; environment; socio-labour inclusion, etc., are just some of the dimensions of work in which the Area of Social Rights, Culture, Education, and Life Cycles of the Barcelona City Council has much to contribute, and we are convinced that this latest issue of the journal will help in this regard.

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Foreword

Bru Laín and Albert Sales

In the latest issue of the *Barcelona Societat* journal, the number 29, we focused on the situation of Barcelona in the post-pandemic era. What had happened after the outbreak of Covid-19, and what was the city's and its residents' situation three years after that phenomenon? The central article by Laia Claverol, Manager of the Area of Social Rights, Global Justice, Feminisms, and LGTBI at the Barcelona City Council, painted a truly bleak picture but highlighted the central role that various municipal public institutions and agencies had played in responding to the extreme needs that a significant part of the population had faced as a result of the pandemic. The article concluded by stating that “without close and empowered administrations, it is difficult to find suitable solutions designed to improve the living conditions of the city’s residents”. Fortunately, the pandemic has ended, and though experts warn that new ones may come in the not too distant future, the social urgency has given way to the so-called “new normal”. However, in this new scenario, the role of public administrations remains crucial to improving the living conditions of our fellow citizens.

In this new edition of the *Barcelona Societat* magazine, issue number 30, we aim to address some of the factors or areas that significantly affect and determine these living conditions. While it is true that the most dramatic and immediate consequences of Covid-19 have passed, many situations of vulnerability, exclusion, and dependency unfortunately persist, along with the challenges and opportunities in the hands of public administration to address them. What are these new vulnerabilities and what form do they take today, ask Ismael Blanco from the Institute of Government and Public Policies of the Autonomous University of Barcelona and Ricard Gomà from the Institute Metròpoli? For both authors, responsible for the Tribune article, the social contract outlined in the new context is threatened by new logics of social inequity and spatial fracture (material cleavage that opposes equality and inequality), community fragility (relational cleavage that confronts community belonging and disconnection from it), and cultural discrimination (relational cleavage that confronts socio-cultural recognition and discrimination). The authors focus precisely on the intersections between these three cleavages or gaps, emphasizing that it is in them where the main risks of exclusion today are materialized in real territories. Faced with these three threats (and their interconnections), a new ecosocial agenda needs to be deployed, which implies, at the same time, deepening the mechanisms and channels of democratic participation and proximity politics. In other words, more power is needed in the hands of the people and close to the people; a challenge in which municipalities and local entities can and should play a more prominent role.

A second factor that affects living conditions more significantly is access to and maintenance of housing.

Carles Donat, head of the Metropolitan Housing Observatory of Barcelona, provides a very exhaustive analysis of the residential needs of the population, the situation of the housing stock in the city, and the unfortunate accessibility crisis experienced by a large part of the city's inhabitants. For the author, this crisis is characterized by four major factors. Firstly, the stagnation of households in the city during the period 2011-2021. Then, the stagnation of the available housing stock, particularly primary housing and rental housing. Thirdly, the evolution of the housing market and the increased cost of access to it. Finally, the economic effort made by households to access housing and the reasons why these households decide to change residence. For Donat, these indicators have a particularly harsh impact on a growing number of residents, especially those living in rental properties.

However, the city is not just the place where we reside. It is also the space where we inhabit, enjoy, work, consume, or stroll, ultimately where we constantly move and transit. In this sense, Carlos Moreno from the French University of Panthéon Sorbonne presents and defends his conception of the “15-Minute City”. The 15-Minute City is based on an urban planning model that seeks to redesign cities so that all essential services and facilities are accessible in reduced proximity, resulting in shorter and faster commutes and the least possible carbon emissions. According to Moreno, this is a model of urban mobility that goes beyond mere traffic management, integrating accessibility and proximity to services, prioritizing the human scale, sustainability, and social cohesion. The author examines strategies for its implementation and the challenges it poses, emphasizing the role that technology and community participation must play.

Moreover, cities are not only the places where we reside and the spaces we traverse, but they also constitute the interpersonal relationships we build in our day-to-day lives. How can the promotion of healthy and equitable relationships in formal education contexts positively impact our health? This is the question posed by Lluís Forcadell-Díez, Olga Juárez, Daniel G. Abiétar, María José López, and Glòria Pérez from the Barcelona Public Health Agency, Pompeu Fabra University, the CIBER Center for Epidemiology and Public Health, and the Biomedical Research Institute of the Hospital de Sant Pau. Their article aims to address the social determinants of health according to the relational models in formal education settings. They analyse "structural determinants" (such as oppression or different socio-historical contexts) and "intermediate" determinants (such as individual, psychosocial, behavioural, and community aspects) that, together, affect health through relational patterns that can lead to issues like low self-esteem, anxiety, stress, depression, or violence. Socio-educational intervention can and should promote healthier and more equitable relationships, necessitating action in areas such as educational policies, educational projects in educational institutions, organization and governance of these institutions, training of educational teams, and community spaces.

Cities are also spaces where energy policies take root more strongly, as they are where productive and distributive models, as well as consumption patterns and dynamics, come into play and combine. Cristina Castells Guiu from the Barcelona Local Energy Agency asks to what extent cities are the key to realizing the energy transition. As she explains, cities are key players in advancing the energy transition. At the same time, however, they also exemplify the limits of the current energy model characterized by dependence on fossil fuels, high-energy prices, and the social inequalities that all this generates. Therefore, cities are fundamental players in the energy transition, as both the city itself and its inhabitants must play a very prominent active role. Castells' text analyses and proposes the framework of the Barcelona Climate Agreement, which, within the Millennium agreements, must contribute to achieving carbon neutrality by 2030. One of the key factors to achieve this goal is local generation of renewable energy, for example, through heating and cooling networks, highlighting the role that citizen participation plays in this regard. Another fundamental area of action in the hands of cities is the energy retrofitting of buildings to achieve greater efficiency and comfort. The author concludes by emphasizing the need to promote an energy culture that drives effective and collective changes in the urban space.

Another aspect that determines the degree of vulnerability and social exclusion suffered by a significant part of the city's residents is socio-labour inclusion. In the Experiences section, Sebastià Riutort, Ana Vicente, and Núria Beltran from the Metròpoli Institute and the Area of Social Rights, Health, Cooperation, and Community of the Barcelona City Council present and analyse the pilot project "Amunt!," an integrated and comprehensive care program to promote socio-labour inclusion.

This was an experimental project that, in collaboration with the Ministry of Inclusion, Social Security, and Migrations, aimed to test and evaluate a new socio-labour service that, by implementing a more integral and integrated care model, improved the inclusion of people in the city benefiting from the Minimum Living Income. Through a "one-stop" service, the project established a single methodology for the entry and monitoring of users to access a set of diverse actions based on three interconnected actions: a comprehensive reception and diagnosis of the person; their assignment to one or more actions tailored to their profile, needs, and interests; and personalized support to help them carry out their socio-labour inclusion itinerary. What this pilot demonstrates is that, to improve the social inclusion of individuals, it is necessary to address their personal and family realities, as well as their interests and needs comprehensively, ultimately granting them a more active role in designing their work plan.

However, when we talk about vulnerabilities and risks of exclusion, we cannot overlook the group that, due to reduced physical and bodily mobility, often sees its opportunities, life plans, and fundamental rights curtailed. When implementing their life plans, individuals with reduced mobility face a significant obstacle in transport services. Sergi Morera and Laura Trujillo from the Municipal Institute of Persons with Disabilities analyse the current situation of the special transport service available in the city of Barcelona and explain some of the key elements to consider in a future proposal for the transport of people with reduced mobility with special transport needs in the city.

In a context of limited resources, both in terms of budgetary allocation and the shortage of available vehicle fleets, and with high and growing demand, the provision of this service has become exclusive. The transport service for people with reduced mobility is an exclusive resource (the fact that one user consumes it excludes another from accessing it), which, therefore, poses a fundamental challenge: how to design a service allocation process that guarantees a viable and equitable service? The authors propose advancing awareness of a responsible use of the service, which is why there should be progress in regulations that promote co-responsibility on the part of citizens. In this regard, Morera and Trujillo conclude that supramunicipal planning, regulation, and management would benefit both the effectiveness and efficiency of the service and also improve the level of provision of this crucial service for the citizen sector of our city.

There are many topics to discuss, and each one is as complex as it is necessary to address. We hope that this issue 30 of the *Barcelona Societat* magazine provides useful and interesting data, information, and reflections to confront these issues, both now and in the future.

Take Stand

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Gaps in Transformation: The Foundations of a New Social Contract?

Ismael Blanco[a] and Ricard Gomà[a,b]

The vulnerabilities of the 21st century unfold around the classic material dimension (equality/inequality axis), but also extend to additional dimensions: spatial (mixing/segregation axis), relational (community/disconnection axis), and cultural (recognition/discrimination axis). The gaps in this era of change follow logics of social inequity, urban fracture, community fragility, and cultural discrimination. The main risks of exclusion take shape at the intersections between them. These dynamics and their intersections do not operate in the abstract; they operate in the territory, mapping everyday life with specific levels of inclusion or mixing, with the presence or absence of connections and recognitions. Crises, transitions, and multiple gaps outline a time to rebuild the architecture of collective solidarity: a framework of rights connected to the era of change; a range of policies connected to the new structure of risks and hopes. It is necessary to enable the deployment of a new ecosocial agenda and to do so within frameworks of more democracy and more local politics: with more power placed in the hands of the people and close to the people.

Introduction

Social gaps will be the common thread of this article, manifesting in various forms: inequalities, segregations, disconnections, discriminations, asymmetries. Ancient and emerging gaps pose challenges for the reconstruction of citizenship. To provide context, a brief reference to three recent crises and three ongoing transitions is necessary.

- We have experienced a long decade marked by intense socioeconomic upheavals: the great recession, with its enormous social impacts in a framework of austere management; the pandemic, with its effects on health, productive activity, and living conditions in vulnerable neighbourhoods and communities; and the inflation spirals triggered by the invasion and war in Ukraine, impacting prices of many basic goods and supplies. With the 15M movement first and COVID-19 later, the grammar of the common, the collective, resurfaces, perhaps more as a transversal human need than as an ideological option: public services are defended in the streets, and mutual support networks are activated in neighbourhoods. The old austerity bunker then becomes the source of European Next Generation funds. All of this reshapes gaps and solidarities.

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- Beyond these crises, underlying vectors are altered: a cycle of intense, multiple, and accelerated transitions is unleashed; a logic of changing eras. In the socio-community sphere, an emerging mosaic of vulnerabilities and crosscutting segregations takes shape, and cooperative networks and relationships are also rearticulated. In the cultural sphere, a world of everyday complexities (new affective and gender relations, multicultural spaces) emerges, along with biographical ruptures and uncertainties (global migrations, transitional ages). In the ecological sphere, socially produced environmental risks intensify urgently (climate, drought, biodiversity, food, etc.), and a new urban/metropolitan era takes shape, coexisting with extensive depopulation geographies. All of this occurs in territories crossed by asymmetrical capacities for institutional and collective action. All of this reshapes the background coordinates, and it is here that the dichotomy of gaps/solidarities takes on (historically) unprecedented forms.

A new distribution of social risks, structured by multiple axes with strong interactions between them, emerges forcefully in this framework. 21st-century vulnerabilities unfold around the classic material dimension (equality/inequality axis), but also around other key dimensions: spatial (mixing/segregation axis), relational (community/disconnection axis), and cultural (recognition/discrimination axis). The gaps of this era of change follow logics of social inequity, urban fracture, community fragility, and cultural discrimination (gender, life cycle, origins, etc.). The main risks of exclusion take shape at the intersections between them. These logics and their intersections do not operate in the abstract; they operate in the territory, mapping everyday life with specific levels of inclusion or mixing, with the presence or absence of connections and recognitions. Let us explore this.

1. Social inequalities: broader and more complex gaps

The growth of social inequalities has been intense in much of the world over the recent historical cycle. By the late 1970s, a global inflection occurred in the dynamics of social income distribution (Piketty, 2021). The following four decades (1980-2020) marked a time of sustained increase in inequalities, with significant variations. In Europe, the most egalitarian region on the planet, the share of income in the hands of the top 10% increases from 32% to 38%, and in North America, it jumps from 34% to 47%. In Russia and China, the concentration of income in the high-income segment is growing by more than 20 percentage points. Moreover, in Latin America, in countries such as Chile, Brazil, and Mexico, the wealthiest individuals continue to amass over 60% of the income. The incremental dynamics of social inequality are leading to a rapid advancement towards more polarized societies, with weakened middle classes, an increase in the population at risk of poverty, and a heightened concentration of wealth. When intersecting with variables such as gender, age, origin, and residential status, this growth in inequality gives rise to more complex and fragmented socio-spatial structures.

Spain

In the entirety of the Spanish state, during the most severe period of the great recession, social policies underwent drastic cuts, ranging from 12% (health and social services) to 15% (education), thereby halting an uninterrupted trend of growth since the democratic transition. Of the €25,000 million reduction in public spending, 65.8% corresponds to regional social spending: the welfare state and the autonomous communities endure the most of the austerity measures. Not only were there reversals in public policy trends, but also in their effects: trends towards cohesion were halted, and inequalities were exacerbated. Between 2008 and 2014, household incomes decreased, indicative of the impoverishing effects of the crisis. However, austerity widened the gaps. Income inequality grew to its historical peak in the Gini index (34.7 in 2014). The relative poverty rate increased by 4.8 points, reaching 22.5%, and the indicator of severe material deprivation (difficulty covering basic needs) doubled, reaching 7.1% in 2014. The combination of these trends (relative poverty and material deprivations) elevated the risk of exclusion to 29%, compared to 23% in 2008 (Foessa Report, 2019). The post-crisis recovery period unfolded with some strength but also with vulnerabilities, characterized by precarious employment and the consolidation of housing as a focal point of inequalities. Emergencies were overcome, but the economic stress for broad sectors of the population became chronic.

Then, the pandemic struck. Upon its arrival, society was still recovering, and the welfare state remained weakened. A new blow that altered the scenario once again, with two key vectors:

a) On one hand, economic vulnerability increased in intensity (situations of poverty moved further from the risk threshold), and income losses were asymmetrical: in the lower quintile, the population losing over 40% of its income doubled the average.

b) On the other hand, when considering the diversity of social profiles, the most vulnerable experienced differential impacts. With Covid-19, a map of new vulnerabilities emerged: the risk of poverty for single mothers reached 40.6%, child poverty escalated to 31.5%, youth unemployment showed a 20-point difference compared to the overall rate (39.3% versus 18.9%), and the exclusion rate for migrant populations tripled that of the native population. In the socio-residential realm, the housing cost burden rate rose to 53.1% for households in rental housing, and energy poverty surged to 10.2% in the same period (Sarasa et al., 2022). Therefore, the numbers seem to affirm the overarching global trend mentioned: in Spain as well, over the last decade, inequalities have widened and become more complex.

However, a recent and hopeful development has emerged in contrast to the austerity years: far from implementing cutbacks, governments are activating shields of social protection with substantial increases in spending (ERTE, Minimum Vital Income, etc.) and paradigm shifts that depart from labour neoliberalism (expansion of indefinite contracts, increase in the minimum wage, etc.). The response in terms of public policies to the post-pandemic inflationary crisis follows the same protective logic (reduction of public transportation fares, intervention in the energy market, new taxes on large industrial and banking corporations, etc.). Beyond policies, practices of solidarity support are reinforced, and there is an awareness that only through a collective approach can future scenarios be envisioned. A new era that allows for reflection on the reconstruction of a possible social citizenship, post-neoliberal, for the 21st century.

City of Barcelona

In Barcelona, the employment destruction spiral triggered during the years of the great recession, coupled with the austere management of the crisis, led to a rapid and intense increase in inequality, reverting to levels reminiscent of the early nineties. In a short period, the metropolis experienced a setback of almost two decades in terms of social cohesion. Some central elements shape the post-crisis metropolitan framework (Porcel and Gomà, 2020):

a) The employment creation model is defined by the rise in temporary contracts (accounting for over 85% of new hiring), false self-employment, involuntary part-time work (especially among women), and a reduction in real wages (approximately 5% in 2019 compared to 2010). A particularly serious aspect is the increase in labour poverty[1] in the metropolitan area, rising from 13.3% in 2011, amid the crisis context, to 15.4% in 2018.

b) The housing issue emerges as the central axis of exclusion risks in the metropolis. The surge in rents in Barcelona since 2014, rapidly spreading throughout the metropolitan area, affects a significant portion of the population. Almost a third of the residents in the metropolis live in rental housing, of which 35.8% allocated more than 40% of the family income to housing expenses in 2018. This situation also differentially affected low-income groups and the age group of 16 to 34 years. It is crucial to note that the urban rental bubble occurred in a context of absence of price regulation, near non-existence of limits on speculation, and significant weaknesses in the public housing stock.

c) The most potent impact of the pandemic unfolds in Barcelona in the form of poverty: the population at risk increases by 92,000 people in the metropolis. Not only does its scope grow, but its intensity also expands (the average income of the poor population moves away from the

1. The rate of workers at risk of poverty refers to the proportion of the population between 18 and 59 years old that, being employed (a minimum of 6 months a year, self-employed or employed), has an income equivalent to below 60% of the median of the reference territorial area.

risk threshold), and its distribution becomes notably asymmetrical, with very intense effects on the working classes, children/young population, and migrants.

d) A class gap emerges: poverty among the metropolitan working classes ranges between 27% and 30%, while executives and professionals evade the impact.

e) The pandemic has also widened the age gap as an axis of inequality. Discomfort was more intense in children with family risk situations, precarious housing conditions, and a lack of tools for non-face-to-face education. Metropolitan child poverty, already high before the pandemic (27%), increases by around 6 points. The youth unemployment rate grows, but unevenly: migrant youth unemployment doubles that of natives, and residents in popular neighbourhoods have triple the unemployment rate of youth in affluent neighbourhoods.

f) The migrant population shows the most severe situation: an increase of almost 7 points, starting from a risk rate that already approached 40%, in contrast to the 12% of the native population (Table 1). Finally, housing continues to be at the core of exclusion risks in the metropolis, especially intense for those living in rental housing. The percentage of tenants experiencing housing cost burden (above 40% of their monthly income) increases from 36.8% to 45.6%. More critically, one in five of these individuals allocates more than 60% of their income to housing expenses. The housing crisis was not resolved; COVID-19 exacerbates it (EMCV, 2021-2022).

Table 1. Poverty risk rate by social characteristics (per cent of population)

	City of Barcelona	Rest of the Metropolitan Area	Barcelona Metropolitan Area
Age dimension			
Under 16 years old	25.7	33.6	30.1
65 and older	14.0	19.1	16.3
Origin dimension			
Spain	11.9	11.5	11.7
Rest of the world	34.6	54.2	43.3
Labour dimension			
Employed	14.3	14.9	14.6
Unemployed	39.1	30.4	34.2
Total	**18.6**	**23.7**	**21.2**

Source: Institut Metròpoli and IDESCAT (EMCV, 2021-2022).

The most recent years, 2022 and 2023, reveal combined elements of change and continuity in the Barcelona metropolis concerning the trajectory of inequalities. Changes can be identified in two dimensions:

a) Socioeconomic dynamics. Post-pandemic recovery shows signs of strength. The average net annual income of households increases by 6%; employment grows at an annual rate of 2.2%, and unemployment steadily decreases. However, these trends coexist with the intense social impact of inflation on the most precarious groups: severe material deprivation reaches 10.3%, indicating realities of housing insecurity, energy poverty, and food vulnerability.

b) Public policies and social practices. The general abandonment of the neoliberal/austerity paradigm has direct effects on the metropolis. Labour market reform leads to a reduction in temporality in new hires: from 85% to 56%; and the protection system (social transfers) causes a significant reduction in poverty: from 52.9% to 21.2%. Structural benefits explain two-thirds of this reduction; the social shield against the pandemic and inflation, another 30%; the IMV (Minimum Living Income) as a new stable tool falls far short of its goals for now: it reaches a very low percentage of households and barely manages to overcome poverty situations, only decreasing their intensity. Finally, the territories themselves activate responses. Metropolitan municipalities have implemented over a thousand initiatives aimed at protecting vulnerabilities and creating cohesion. More than 25% of these have formed agreements with community actors (Martí et al., 2020).

c) This fact leads to the strengthening of mutual support networks in the metropolis as a response mechanism to the crisis and as a process of building new subjects and social protagonism. The articulation between the new welfare municipalism and the sphere of urban collective action emerges here as a challenge and as hope (Nel·lo, Blanco, and Gomà, 2022).

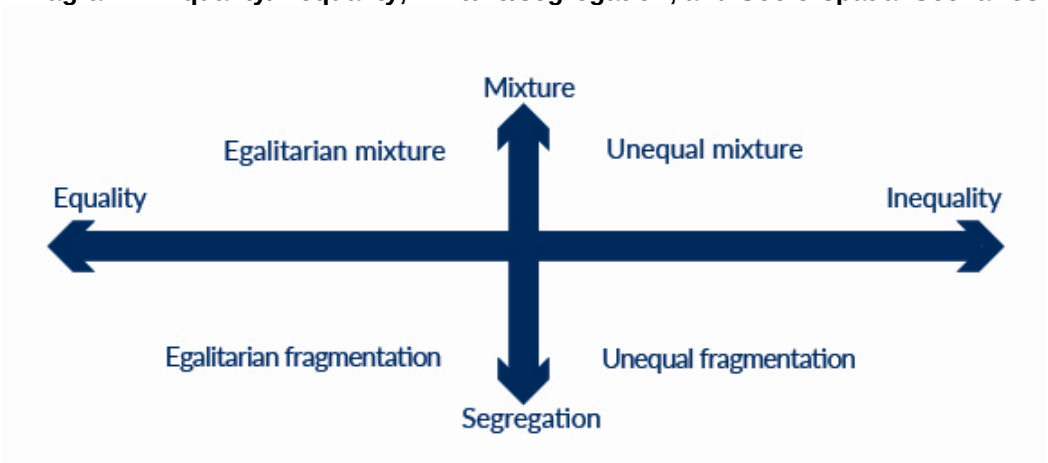
2. Everyday Segregations: Lives and Territories More Fragmented.

The recent trend towards a broader and more complex map of inequalities occurs within a framework of intense interactions with social segregation dynamics. Segregation points to dynamics of separation between groups in various aspects of their daily lives, creating scenarios where the lives of different groups tend to unfold in non-shared spaces, making interaction between them less likely. Segregation implies the (practical) absence of mixed scenarios, expressing the fragility or absence of communities with crosscutting connections: spheres of life where daily life is divided.

The antithesis of inequality is equality, and the counterpart of segregation is the mixture of profiles: daily spaces shared by diverse groups of origins, ages, and classes. When the construction of equality weakens, segregations tend to expand; the progressive crystallization of segregated spheres generates new conditions for the widening of inequalities. Conversely, the existence and quality of mixed spaces, diverse communities with high relational density, act as a promoting factor for horizons of equity, compatible with autonomy and differences (Blanco and Gomà, 2022).

We consider, therefore, two axes that tension social structures: segregation/mixture and inequality/equality (Diagram 1). They are distinguishable but intersect, shaping multiple scenarios at their intersections. At the pole of egalitarian mixture, material well-being is constructed while shared spaces are woven. On the other pole, unequal fragmentation causes mutual reinforcement between separations and inequities. In between, hybrid scenarios emerge: unequal mixture, where geographies of blending may harbor noticeable inequalities in tension, and equal fragmentation, where material redistribution struggles to solidify into diverse communities.

Diagram 1. Equality/inequality, mixture/segregation, and Socio-spatial Scenarios.



Source: Own Source: elaboration, based on Blanco and Gomà (2022).

These are theoretically plausible models, but they crystallize in specific socio-spatial configurations that develop in specific historical and territorial contexts. All scenarios are tendential and unstable since interrelation factors remain active and changing; they can describe various trends, even contradictory ones, coexisting in the same time and place. Therefore, the importance lies not in the theoretical construction itself; it is relevant to try to understand how reality approaches one scenario or another, as well as the social consequences and political challenges this entails.

Do our everyday lives traverse spheres of segregation? Do they do so with more or less intensity in some areas than in others? Do these fragmentations operate as a driver of inequality growth?

The set of existing thematic studies (Blanco and Gomà, 2022) provides valuable elements for an answer. The features that characterize the multiple scenarios of unequal fragmentation are gradually being outlined: spheres of life where inequalities crystallize in logics of segregation between groups, where daily life fractures. In summary, the following aspects emerge:

a) Processes of residential fragmentation rooted in economic and ethno-cultural factors, along with class and gender-biased segregations in daily mobility dynamics, and socio-spatial inequalities in public collective transportation services.

b) Childcare and early education services with strong access inequalities, segregated schools and school enrolment networks, and highly exclusive extracurricular educational spaces. Also, socio-territorial inequalities in cultural participation and the absence of recognition of community cultural assets.

c) Segregated spheres of healthcare based on income levels and health-segregated territories based on levels of urban vulnerability.

d) Geographies of food segregation: "healthy food deserts" in vulnerable neighbourhoods, "food mirages" in areas with healthy offerings not affordable for low incomes, and greater exposure to unhealthy foods in school environments in popular neighbourhoods.

e) Concentrated institutional and collective capacities in municipalities and neighbourhoods with middle-high incomes and low social needs, alongside areas of strong urban vulnerability deprived of municipal resources and the relational capital needed to reverse their multiple disadvantages. The accumulation of these dimensions gives rise to the mosaic of daily segregation; a reality that also creates conditions for the expanded reproduction of inequalities.

In the metropolis of Barcelona, expanded and complex social inequalities are also reflected in terms of urban fractures. Many central spaces remain subject to visible *gentrification* dynamics, with a hidden and peripheral face: a grammar of *vulnerability*.

- Gentrification is not a transient reality; it is an urban expression of economic gaps and power asymmetries. It is inscribed in the logic of social inequalities and their manifestation in residential segregation (Gomà, 2018). It largely operates today as the spatial logic of financialized economy. It is a process of transforming an urban area through which the resident collective is gradually replaced by higher-income populations over time. It involves, therefore, a restructuring of space based on income inequality and results in the expulsion of lower-class inhabitants. This process has an urbanistic dimension: physical degradation followed by reinvestment in fixed capital. Improvements in the built environment increase real estate values and rental prices, generating an expansion of the *rent gap* as a mechanism driving class residential replacement. However, that is not the only dimension. Gentrification also operates in the symbolic sphere. It entails a change in the fabric of social relationships, consumption patterns, and patterns of space use. The new middle classes, with more social capital, appropriate urban areas to deploy lifestyles, projects, and identities. Gentrification, in summary, involves a process of physical and symbolic reappropriation of space by groups with high economic and relational capital. It is an exclusionary dynamic with material displacement and cultural dispossession of popular sectors. In fact, physical space not only frames or supports a network of social relationships but is also a constitutive factor of these. Gentrification, therefore, expresses a complex urban logic of social and spatial differentiation, straddling economic inequalities and power asymmetries.

  In the metropolis of Barcelona, gentrification dynamics are complex. Central spaces, on the one hand, have maintained a strong presence of middle classes rooted in neighbourhoods. Moreover, they have, at the same time, been territories in dispute where gentrification forces have clashed with urban and residential fabrics that are difficult to restructure, with a property regime above 75% that has operated as a anchoring mechanism for the working classes.

Metropolitan spaces, on the other hand, have been configured from the dual logic of the *peripheralization* of poverty (reception areas for migrant populations) and the suburbanization of middle classes (townhouse developments). The most recent phase, in terms of gentrification dynamics, is characterized by three parameters:

a) Processes of displacement are advancing in central territories that sustained urban disputes: from the Gothic and the Born to the Vila de Gràcia; from Poblenou and its waterfront to the Right of the Eixample;

b) The center-periphery gap intensifies on a metropolitan scale: the fracture between a prosperous municipality of Barcelona and a first ring where vulnerability grows: for every person at risk of poverty in the central city, there are 1.7 in the first metropolitan ring (Porcel et al., 2018); and

c) Gentrification in some central neighbourhoods in cities in the metropolitan area and the appearance of highly segregated municipalities at the upper end of the income distribution throughout the metropolitan region: from Sant Just Desvern to Argentona; from Sant Cugat to Matadepera and Ametlla del Vallès.

- At the other end of segregation, urban vulnerability defines areas where risks of exclusion are expressed in a multidimensional way. The Urban Vulnerability Index (UVI) (Porcel et al., 2023) constructs a solid proposal for the conceptualization and measurement of this complex reality. The UVI, in its most recent and precise version, adopts as a theoretical reference approaches according to which urban vulnerability results from the combination and feedback of social and residential vulnerability processes occurring in the territory (Alguacil et al., 2014). The design of the index, therefore, revolves around these two dimensions (social and residential), informed through three indicators each. To complete the UVI, some of the effects deriving from urban vulnerability are introduced: impacts on the housing market and the residential unattractiveness of these areas; the low presence of middle-class population and one that integrates the core of research traditionally studying the so-called neighbourhood effects: the education levels reached by the resident population in the territory (Table 2).

Table 2. Dimensions, Concepts, Indicators, and Data Sources of the UVI

Dimensions	Concept	Indicator
Social vulnerability	Poverty	% of population with income < 60% of the median
	Aging/loneliness	% of population ≥ 75 years old living alone
	Foreign immigration	% of foreign population from low-income countries
Residential vulnerability	High poblational concentration	Urban density (inhabitants/hectare)
	Residential fabrics at risk	% of very old dwellings and housing estates
	Low quality of buildings	% of buildings with low construction quality
Neighbourhood Effect	Low residential attractiveness	Distance to median rent
	Low presence of middle classes	% of population without high incomes
	Premature school drop-out rates	% of individuals aged 25-34 without post-obligatory studies

Source: Author's own elaboration based on Porcel et al. (2023).

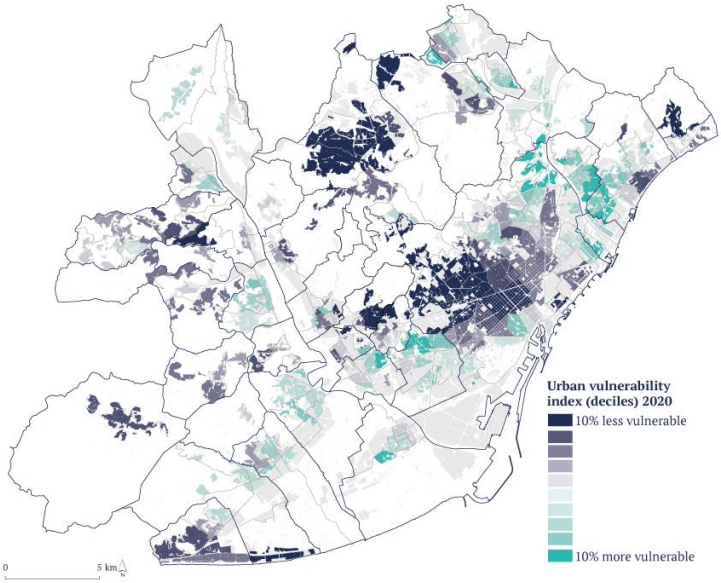
When the UVI is projected onto the territory of the Barcelona metropolis, a logic of urban vulnerability emerges with three key components: concentration (spatial focus), complexity (various connections between social and residential aspects), and persistence (poverty areas become chronic).

a) Concentration. Exclusion strongly manifests along the Besòs and Llobregat axes, affecting extensive transmunicipal areas configured on a clearly metropolitan logic but with a significant impact on certain municipalities as well. Only 10 out of the 36 metropolis municipalities harbour neighbourhoods in the highest vulnerability range. In the Besòs axis, 25 out of 32 metropolitan neighbourhoods with the highest UVI are located. 24% of the population in this area resides in neighbourhoods with a high concentration of sociourban issues, compared to 13.1% in the entire metropolitan area. 45% of Santa Coloma de Gramenet's inhabitants live in neighbourhoods of extreme vulnerability, 33% in Montcada i Reixac, and 28% in Badalona (Figure 1).

b) Complexity. A general pattern of double vulnerability (social and residential) unfolds, with some exceptions: neighbourhoods with high levels of social exclusion where significant urban regeneration processes have taken place (Sant Cosme, Baró de Viver, etc.); neighbourhoods with lower poverty levels but degraded living conditions (Les Planes, La Florida, etc.).

c) Persistence. Sustained improvements in vulnerable neighbourhoods have not succeeded in breaking the urban hierarchies of the metropolis, its socio-spatial inequality structure, which goes beyond the goals of regeneration programs.

Figure 1. The segregated metropolis: the urban vulnerability index



Source: Porcel et al. (2023).

A final element to consider, completing the trajectory of segregations, is the growing role of residential insecurity as a driver of new urban fractures. Data from the latest urban cohesion survey (ECURB, 2022) show a substantial increase in residential mobility in the metropolis. 24% of this mobility is forced due to the inability to meet rental payments. These are invisible evictions, expulsions generated by a speculative and unregulated housing market. The widening gap between incomes and rental prices acts as a lever for segregation and as a factor of uprooting. Invisible evictions break support systems and networks, placing us squarely in the next dimension of gaps: disconnection.

3. Dynamics of Disconnection: Weak Links, Vulnerable Communities

In interaction with broader inequalities and more fragmented territories, dynamics of relational-community weakening emerge. Disconnection points to the erosion or absence of relational frameworks; it outlines processes and situations of community vulnerability. In the former Fordist framework, the basic axis of inequality was expressed in a class structure that polarized income distribution but did not break the cohesion networks. The redistributive policies of the classic welfare model generated higher levels of equality, and class and neighbourhood cultures developed weaving relational densities and community building processes (Rebollo and Pindado, 2022). Later, the stagnation and reversal of some social policies – in contexts of strong neoliberal pressure – not only translated into widening inequalities and segregations but also eroded collective frameworks: more *loneliness* and isolation than bonds and connections (*togetherness*). New logics of relational fracture, beyond the income distribution scheme.

When disconnection dynamics are analyzed from a spatial perspective, diverse scenarios emerge again, depending on the intensity of these dynamics and their intersection with the segregation/mixture axis. Fractured territories, where social fragmentation coexists with strong community vulnerabilities, are configured at one extreme.

Territories of fraternity, where diversity also weaves strong bonds, emerge at the opposite extreme. In tension between these two extremes, fragile territories, where lower segregation is articulated with community weaknesses, generating difficulty in facing crises, and resilient territories, where the capacity to address adverse contexts relies on relational strengths, though traversed by social fragmentation logics (Table 3).

Table 3. Relationships between segregation and links: resulting scenarios

	Low disengagement	**High disengagement**
Reduced segregation	Territories of fraternity *Social diversity with community strength*	Fragile territories *Social diversity with community vulnerability*
High segregation	Resilient territories *Social fragmentation with community strength*	Fractured territories *Social fragmentation with community vulnerability*

Source: Author's own elaboration.

These are also trend-setting and dynamic scenarios. What configurations crystallize in the Barcelona metropolis? This is a complex question. It can be considered that three key elements are present, generating conditions of cohesion or community strength:

a) Proximity facilities, i.e., the set of urban social infrastructures that can help promote links and collective forms of involvement in the territory (community centres, libraries, cultural centres).

b) Associative fabric, as an organized expression of solidarity (organizations, NGOs).

c) Practices of social innovation, such as emerging grassroots initiatives aimed at building well-being through community empowerment and mutual support (urban gardens, cooperative housing, and solidarity economy). Crossing the three connection factors with segregation indicators (metropolis neighbourhoods according to urban vulnerability quintile), it can be observed quite clear (Table 4) that the distribution of facilities, associative fabric, and innovation practices adopts a pattern of inverse relationship with the level of segregation: less presence in more vulnerable neighbourhoods; more cohesion elements in less vulnerable areas (Blanco et al., 2021). For example, in the distribution of social infrastructures, there is a nearly 10-point differential between the highest and lowest vulnerability quintile (16.2% to 25.9%), which increases to 15 points in the associative sphere (13.6% to 28.5%). In the field of social innovation, the differential persists, though smaller (18.3% to 22.1%).

Table 4. Community strength and urban vulnerability in the Barcelona metropolis (%)

Elements of community cohesion	**UVI Neighbourhoods (Quintiles: from less to more vulnerability)**				
	1	**2**	**3**	**4**	**5**
Proximity Facilities	16.2	17.7	20.2	19.8	25.9
Associative Fabric	13.6	16.3	18.4	20.3	28.5
Social Innovation Practices	18.3	22.3	20.3	16.8	22.1

Source: Author's own elaboration based on Blanco et al. (2021).

It is relevant to pay particular attention to this third vector, as it has been the most dynamic in the recent cycle, from the great recession to the post-pandemic period. The socio-spatial distribution of the set of social innovation and mutual support initiatives that have emerged in recent years reproduces the mentioned pattern: collective action is not generated more strongly in low-income neighbourhoods but in middle-class areas with stronger associative articulations and a potent tradition of social participation. Vulnerability, therefore, does not seem to be a sufficient lever to activate solidarity innovation in the absence or weakness of resources for collective action. Citizen practices require, in fact, a certain awareness of risks related to material difficulties or new precarities, but they also require significant pre-existing social capital. The overlay of social innovation (connection) and urban vulnerability (segregation) maps clearly reflects this logic: of more than 250 initiatives developed in the metropolis in pandemic times, 43% correspond to high-middle-income neighbourhoods with low segregation (Nel·lo and Checa, 2022).

In summary, a metropolis with a significant degree of polarization seems to be shaping up between neighbourhoods with low segregation and high community cohesion (territories of fraternity) and vulnerable neighbourhoods with weak community capacities (fractured territories). Thus, a new dimension in the mapping of social gaps emerges. In this section, it is necessary to incorporate a last piece of evidence that operates as a reproducer or even amplifier of relational-community gaps. Not only does the capacity for collective action, but also institutional capacity, present strong socio-spatial inequalities. Let us see.

The average per capita spending of metropolitan municipalities is €1232.2, with a wide disparity between the lowest and highest quartile: €874 versus €1,441.4. 75% of the vulnerable population resides in municipalities in the first segment, and 96% in the 81 cities with expenditures below the average. Regarding the inhabitants of the first quartile, the vulnerable population constitutes 13.2%, reaching only 0.8% in municipalities with higher expenditures. At the other extreme, the affluent population represents only 6.1% of the first quartile and reaches 31.4% of the inhabitants in the municipalities with more resources (Donat, 2021) (Table 5).

Table 5. Municipalities by expenditure quartiles and relative weight of vulnerable and affluent population

Municipalities grouped by quartiles of expenditure			
Quartile	**Average per capita expenditure (in euros)**	**Vulnerable population / Total for the quartile (%)**	**Affluent population / Total for the quartile (%)**
1	874.0	**13.2**	**6.1**
2	1,012.7	4.4	10.5
3	1,143.5	5.6	12.8
4	1,441.4	0.8	31.4
Total RMB	**1,232.2**	**9.1**	**11.2**

Source: Author's own elaboration based on Checa, Donat, and Nel.lo (2022).

The figures indicate, therefore, that metropolitan municipalities with a higher concentration of vulnerable neighbourhoods, necessitating intensive protection and support policies, are also those with lower capacities for public spending. Conversely, those with more affluent neighbourhoods, where social demands are less intense, exhibit higher spending capacities. This inverse relationship between social needs and institutional strengths contributes to and reinforces the metropolitan gap between cohesive and fractured territories (Checa et al., 2022).

In summary, a new, much more complex map of risks and vulnerabilities emerges. The increase in inequalities has not only polarized society but has also created conditions of segregation and disconnection. Without shared spaces and community ties, any equality project becomes more distant and complicated. In Barcelona, the metropolis of inequalities maps out fractures in multiple spheres of everyday life. Territories are delineated where, beyond the absence of diversity, bonds and connections also weaken. Additionally, the cultural dimension of injustices is added: a set of discriminations linked to difficulties in recognizing gender diversities, life cycles, and cultural backgrounds. The following section will provide some insights.

4. Diversities and Discriminations: Gender, Age, and Origin Gaps

Indeed, the current scenario of gaps involves expanded inequalities and their connection to spaces of segregation and disconnection. The changing times also affect sociocultural spheres in three key dimensions: relationships and identities related to gender(s); ages and life cycles; and urban multiculturalism. Various genders, ages, and diverse origins traverse new daily realities, which entail great transformation potential and risks of discrimination to address in building citizenship. Gender gaps, those related to the life course or cultural diversity, barely formed agreements and public policies in the 20th-century social contract. However, the heteropatriarchal, *adultocratic*, and uniformizing reality, seemingly marked only by material inequalities, has given way, in recent decades, to much more complex daily worlds: realms of affective and sexual diversity, less linear life trajectories, and multicultural neighbourhoods and cities.

• Gender Relationships and Identities: In the context of industrial society, gender relations remained substantially unchanged. A reproductive logic of the heteropatriarchal model predominated, involving a skewed construction of the dichotomy between public and private life; attribution and segmentation of roles; asymmetries between the male-dominated and rights-anchored workplace and the female-dominated and unrecognized domestic sphere; invisibility of caregiving; exclusion of the LGBTQ+ agenda. Over the past decades, significant changes have occurred due to the connection between feminist thought, collective action, and public policies: the multidimensional formulation of gender justice in terms of redistribution, recognition, and representation (Fraser and Honneth, 2003), queer theory, intersectionality, the significant increase in the agency capacity of the feminist movement (from #*MeToo* to the March 8 strikes), alliances with the LGBTQ+ community, and the development of gender regimes in post-Keynesian welfare states: policies expanding female employment, the establishment of public care services, and a progressive feminist rights agenda. However, the impacts of the great recession and COVID-19 have once again highlighted significant gaps. Gender-specific discriminations intersect with material inequality axes, ranging from differential risks of exclusion and relational vulnerability to persistent labour gaps connected to maternity experiences, and expanded asymmetries in the intertwined context of caregiving and telecommuting in the pandemic scenario (Moreno et al., 2023).

• Ages and Life Cycles: Industrial society and its welfare model developed within a framework defined by biographical continuities, alongside a scheme of stable age-based role assignments: childhood education, indefinite occupation in adulthood, and social protection in old age. All of this is now subject to intense transformations: a context of vital uncertainties and discontinuities (residential, labour, affective, ideological); overcoming the fixation of specific age roles (lifelong learning, active aging); new temporalities (early childhood, complex emancipations, longer lifespans); and new intergenerational relationships. In this new scenario of diverse and uncertain life transitions, personal itineraries and collective connections are forged, offering unprecedented opportunities for autonomy and mutual support. Life cycles can become spaces where protection is combined with respect for differences, personal self-determination with the creation of shared spaces, and the exercise of the right to decide on a life project under equal conditions. However, ages also gain strength as configurators of vulnerabilities. New and persistent age gaps; intersecting discriminations and inequalities. On one hand, there is an increase in risks of isolation and loneliness with aging, within a framework of fragile care (Lebrusán, 2019), as well as youth discriminations of socio-cultural origin. On the other hand, there tends to be a reproduction of job exclusions in advanced adult ages, impossible emancipations, and high rates of child poverty, especially in migrant-origin families and households with young children.

• Migration and Multiculturalism: Migration dynamics and human mobility are not recent phenomena; they are an essential part of universal history. However, the current scenario redefines them in some key aspects: the global scale of mobility gains strength and the factors generating it expand and transform. Currently, around 300 million people reside outside their country of origin, representing an increase of over 100 million in the last two decades (Pinyol-Jiménez, 2021). Many of these migration trajectories create new life horizons, life projects shaping metropolises where a great diversity of human backgrounds is expressed daily. We live in an urban era, and cities have transitioned towards cultural heterogeneity. Barcelona is a clear example. In 2000, only 3.5% of the city's inhabitants were born abroad; today, they represent 31.3% (ranging from 23% in Sarrià to 62% in Ciutat Vella): a growth from 53,428 to 519,066 people in just over two decades. Current Barcelona hosts residents from 196 nationalities (present in all neighbourhoods and districts, with 161 in Eixample and 138 in Horta-Guinardó); 28 of these nationalities have more than 5,000 residents each. Around 300 different languages are spoken daily in the city. Diversity has been and continues to be the main driver of socio-cultural dynamism in Barcelona: a constant source of creativity and interconnected bonds. However, the reality derived from the migratory phenomenon is also a space where gaps accumulate and intersect. Cultural discrimination episodes based on ethnicity, origin, religion, etc., persistent patterns of inequality and segregation, and a fracture of citizenship are added here.

The state immigration regulatory framework is exclusionary: it tends to generate vital and residential insecurities, as well as difficulties accessing political rights and the job market.

Table 6 compiles some key indicators related to relationships in Barcelona. Systematically, women, older individuals, and those born outside the country experience relational exclusions (isolation and loneliness) and vulnerabilities (weakness of bonds and supports) more than men, adults, and the native population (ECAMB, 2022). The perception of loneliness and fragility of bonds is particularly noteworthy in the 75 and older age group and the foreign-born population. The global discrimination index reproduces gender and nationality gaps; in the age dimension, the discrimination rate concentrates the highest levels in the young population (41.2%) (Murriá et al., 2022).

Table 6. Relational Gaps and Discrimination by Gender, Age, and Origin in Barcelona (%)

	Relational exclusion		Relational vulnerability		Discrimination
	Isolation	Loneliness	Weakness of bonds	Weakness of supports	Global Discrimination Index
GENRE					
Women	7.5	13.6	13.9	12.4	32.6
Men	6.9	8.3	11.1	9.5	24.7
AGE					
Elder (+75)	10.1	19.1	22.2	14.3	5.4
Adults (30-64)	7.4	10.1	11.9	11.2	27.4
ORIGEN					
Rest of the world	11.6	16.9	19.1	16.3	33.1
Spain	5.7	9.1	10.4	9.3	27.4

Source: Own elaboration based on ECAMB (2022).

Table 7 finally allows visualizing housing and occupational gaps in this population group. The intersection between an excluding housing market and a precarious labour market places the young population and their emancipation paths under very challenging conditions (OHB, 2022; EPA, 2023).

Table 7. Young population and the double housing-labour gap in Barcelona (%)

	Young people (16-29 years)	Adults (> 30 years)
Housing market		
Residential exclusion	45.3	21.4
Expense overload	22.1	10.2
Labour market		
Unemployment rate	22.0	8.5
Temporary employment rate	48.3	14.3

Source: Own elaboration based on OHB (2022) and EPA (2023).

In summary, the new diversity patterns related to genders, ages, life cycles, and global migrations acquire an unprecedented daily presence and, far from being temporary realities, become structuring elements of the new social fabric. The challenge here lies in incorporating these new realities into the citizenship project. The collective horizon of social justice depends on overcoming inequalities, segregations, and disconnections. It also depends on recognizing the differences that shape the daily life of the neighbourhoods and cities we inhabit, in the possibility of developing all life projects together.

The complexity of these axes maps the current gap scenario. It is an emerging time where it should be possible to rebuild solidarities and rewrite the social contract. Forging collective projects and governing them democratically.

5. Rebuilding the architecture of solidarity: foundations of a new social contract?

Crisis, transitions, and multiple gaps. A time is unfolding in which rebuilding the architecture of collective solidarity is imperative: a framework of rights connected to the changing times; a range of policies connected to the new structure of risks and hopes.

A new ecosocial agenda must be deployed, and it should be done within frameworks of more democracy and more local politics: where power is placed in the hands of the people and close to the people. New social policies and new ways of producing them must be explored. Three key axes emerge:

- Innovating in social policies. Between the new geographies of multiple gaps and the welfare state inherited from the 20th century, there is a significant gap, a true temporal mismatch. Therefore, it is necessary to rebuild citizenship and rewrite the social contract: weaving spaces of equity (forging equality), diversity (recognizing differences), personal self-determination (generating autonomy), and community (articulating bonds and mixtures). The grammar of possible social citizenship for the 21st century arises from the dual connection of equality with diversity and autonomy with bonds between different people (Gomà and Ubasart, 2021). Materializing equity construction within a diversity framework may require, in terms of public policies, at least four substantive shifts in the terms of the old welfare model: towards predistribution, beyond classical redistributive logics; towards feminisms, beyond dominant gender identities and relations; towards interculturality, beyond traditional integration concepts; and towards ages, beyond adult-centric approaches. Materializing autonomy construction within a fraternity framework (diverse communities) may require four new transformations: shifts towards basic income, to guarantee the material foundations of life and, therefore, real freedom; towards ecosocial transition, to build global climate justice and local sovereignties (water, energy, and food); towards caregiving, as relational common goods aimed at addressing daily vulnerabilities; and towards the urban agenda, to ensure housing and city rights, weaving territories of fraternity and overcoming various daily segregations.

- Democratizing social policies. The reconstruction of the collective today requires transforming social rights and public policies into spaces of democratic deepening. A new welfare governance model structured by a deliberative public administration, public-community alliances, and collective action defined in terms of cooperation and construction, rather than resistance. Governance oriented towards articulating the common and generating active democracy; far from bureaucratic and market-driven logics. This new paradigm requires at least two major trajectories of change.

  a) Towards a participative and relational public administration. Transitioning towards a model with reference values, flexible and responsible, strategic and creative. An administration with tools to incorporate collective knowledge, articulate dialogue and cooperation, and activate mediation dynamics between actors. The networked architecture distances hierarchical action from administrative apparatuses and tends to replace it with multiple interactions between management scales, organizations, and citizens (Bonet, 2021).

  b) Towards coproduction relationships between public policies and social practices. The creation of policies is also challenged by the project to democratize social citizenship (Nel·lo et al., 2022). The guiding idea of transitioning towards the construction of the common can be materialized in at least three types of initiatives: neighbourhood plans and urban commonalities, to strengthen neighbourhood capacities and activate intercooperation logics (territorial axis); policy co-creation, to ensure the protagonism of the social fabric and people as active subjects of democratic governance (sectoral axis); citizen management of facilities, to transition from public services to common goods (infrastructural axis), what Klinenberg (2021) calls "people's palaces": from *welfare* to *commonfare*.

- Localizing social policies. Over the past years, the neo-municipalist cycle has kept the democratic window open, confronting global markets and state borders; facing logics of unprotectedness and authoritarian formulas (Roth et al., 2019). It has made a responsible bet on reconnecting institutions and citizenship. These are the coordinates that make it possible to position proximity politics as the third axis of the new social contract, from a grammar of daily life (Miralles, 2022). The right to the city operates as a key dimension of well-being production, concretized in a triangulation of public policies.

a) Facing the urban map of injustices, the challenge arises for the (re)social construction of proximity from a strongly innovative perspective. It is about returning to cities the mechanisms of collective solidarity that the 20th century reserved for nation-states and doing so through policies that inhabit the peripheries of those mechanisms: predistribution, caregiving, recognition.

b) Facing the legacy of unsustainable and spatially unjust cities, the challenge is to generate ecosocial transitions based on hybridizing environmental and urban logics. A democratic and feminist urban agenda to guarantee and recover housing, streets, and neighbourhoods; to create mixtures and bonds. Moreover, a proximity ecologism to protect life: climate, air quality, healthy food, and water as a common good.

c) Facing an economic scheme where cities operate as landing platforms for financial capital that inflates bubbles and spreads vital insecurities, the right to the city advocates for a digital transition without gaps; for productive and consumption fabrics with strong components of science, culture, and creativity; for green and cooperative territorial ecosystems.

In summary, in a scenario of great transitions marked by multiple gaps, the 21st-century welfare state can only address the construction of justice through public policies with the capacity to connect equality with differences, personal autonomy with bonds of fraternity. In addition, the 21st-century welfare state can only address the construction of democracy from a new paradigm of public administrations, from the coproduction of policies and social practices, and from a proximity dimension located at the core of the project axis.

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Housing in Barcelona: needs, parks and accessibility crisis

Carles Donat Muñoz[a]

In a context of a global crisis of access to housing, this article analyses the state of the residential system in the city of Barcelona by focusing on four aspects of relevance, which have been worked on by the team of the Barcelona Metropolitan Housing Observatory since its creation in 2017. Firstly, the causes of the stagnation of households in the city during the last intercensal period 2011-2021 are analysed, a situation which breaks a historical trend in the city. Secondly, there is the stagnation of the housing stock and, particularly, of the main housing stock, as well as that intended for rent. Thirdly, the evolution of the housing market is analysed and the distance from the real possibilities of households due to the fact that during the last two decades the average house prices have grown much more intense than the average population income. Finally, the work emphasizes some of the main indicators of accessibility and permanence in housing, such as the theoretical effort to access housing, the rate of housing overload or the reasons for changing housing.

Introduction

Housing has emerged as one of the primary concerns for the citizens of Barcelona, as in many cities worldwide. Indeed, the contemporary housing issue, linked to accessibility, is a common challenge in numerous cities of the global north (European Commission, 2022; OECD, 2021).

However, while there are common processes globally, their translation into different cities varies in intensity. Likewise, the peculiarities of local residential systems have a significant impact on meeting the housing needs of the population. For instance, Barcelona is a city with limited territory, spanning 100 km2. Consequently, population growth, household expansion, and construction are constrained by this territorial context, emphasizing the metropolitan integration of the city (Donat, 2016).

Local peculiarities extend beyond physical space to demographic factors such as the notably aging age structure of the population, transformations in cohabitation patterns with a pronounced prevalence of single-person households, and migratory dynamics in a city where migration has often been the main driver of population growth.

Another distinguishing feature of Barcelona, setting it apart from cities in central and northern European countries, is the shortage of housing for social policies, particularly social rental housing.

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This is a common characteristic with the residential system of Catalonia and the rest of the country (Donat et al., 2021; Trilla & Bosch, 2018). This scarcity contributes to the intensity of the accessibility crisis in major Spanish cities in general and in Barcelona in particular. However, it is not the sole factor, as in other European cities where the social rental housing stock is higher, housing prices in the open market also deviate significantly from household incomes (Housing Europe Observatory, 2022).

Another unique feature of Barcelona is the existence of a substantial rental housing stock, much higher than the metropolitan, Catalonian, or national averages. While not comparable to rental stocks in other European countries, a 30% rental stock is noteworthy in the context of southern European countries, where homeownership predominates.

These are some of the key characteristics of the residential system in the city of Barcelona, sharing commonalities with other cities globally and within the country, yet possessing distinctive features. With this starting point, the objective of this article is to analyse the recent evolution of some of these themes.

To achieve this, updated data from various sources are presented. Firstly, from censuses, collating information from the recently published 2021 Census. It is important to note that the 2021 census operation relied on a methodology of information compilation from records, differing from previous censuses. This primarily affects the counting of the housing stock, as will be highlighted in the corresponding section. Secondly, updated data on average rental prices by Barcelona neighbourhoods, sourced from INCASÒL rental bonds for the second quarter of 2023, form the basis for access effort calculations. Finally, it is essential to mention the inclusion of the latest data from the Metropolitan Survey of Living Conditions, 2021-2022 edition, and the Urban Cohesion Survey, 2022. These are two extraordinary sources in the Spanish statistical context, providing historical series for analysing various elements related to the living conditions of the population, particularly those related to housing.

Following this introduction, the article consists of six sections. The first section analyses the demographic foundations used to quantify housing needs, i.e., population and households, as well as the main factors explaining their recent evolution. The second section delves into changes in cohabitation patterns, a highly impactful aspect precisely in the evolution of households. The third section studies the evolution of the housing stock, specifically the primary housing stock, with special attention to tenure regimes. The fourth section delves into issues related to the accessibility problem, first contrasting the evolution of the average incomes of the population with the average prices of housing and, secondly, with calculations of access effort to rental housing. The fifth section focuses on the economic costs that housing imposes on households and the increased residential instability, especially for households in rental accommodation. Finally, a few paragraphs present the article's conclusions.

1. Demographic Foundations of Housing Needs: Migrations and Age Structure

The analysis of population and household dynamics allows understanding the demographic foundation of housing needs. Based on census data, in 2021, there are 671,177 households in Barcelona (Table 1), representing a decrease of 12,901 households compared to the 2011 census, which recorded 684,078 households. Furthermore, this decline contrasts with the significant growth of 89,626 households experienced during the intercensal period of 2001-2011.

Table 1. Population and households in Barcelona. 1981-2021

	1981	1991	2001	2011	2021
Population	1,752,627	1,643,542	1,503,884	1,611,013	1,627,559
Population living in familiar households	-	1,632,590	1,491,609	1,601,935	1,591,164
Households	579,831	576,640	594,452	684,078	671,177
Average size of households	-	2.83	2.51	2.34	2.37

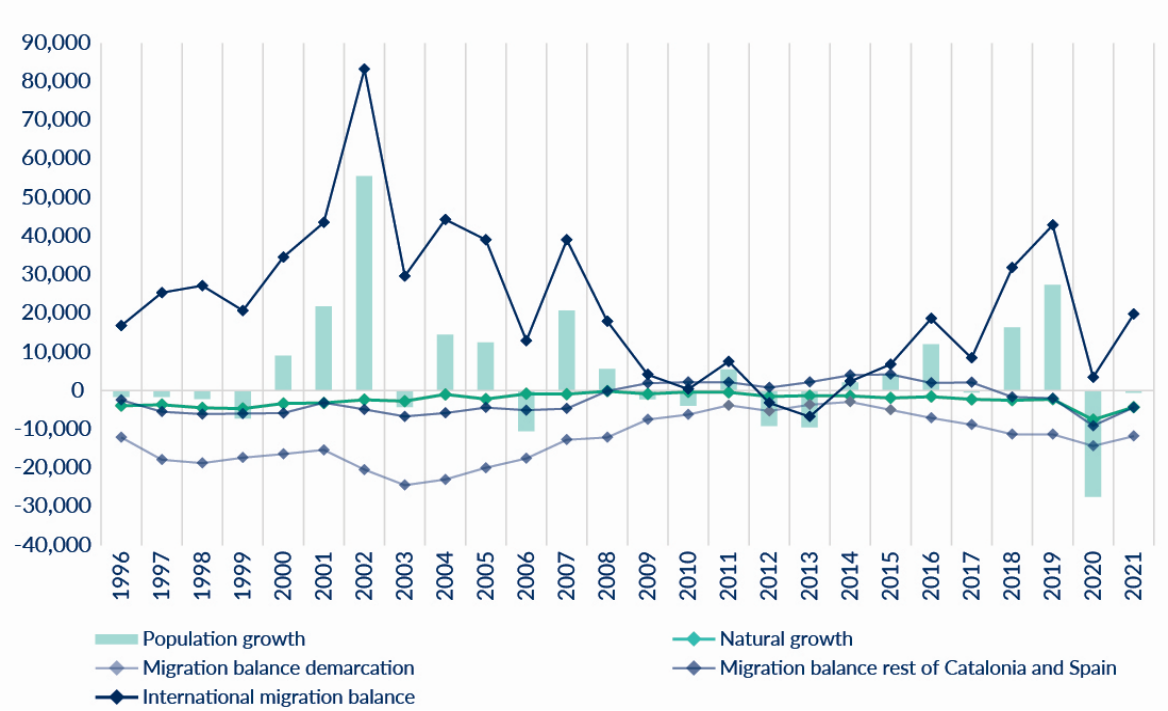
Source: INE, Censos de población y hogares.

Before analysing the causes of this evolution in the number of households, it is important to note that, although census data indicates a decrease in the city's number of households, information extracted from other sources indicates that the most pronounced decline in the number of households occurred at the beginning of the period when the balance due to international migrations approached zero and even became negative[2] in some years. In contrast, in recent years, except for the brief slowdown caused by the Covid-19 crisis, the number of households follows an upward trend.

Indeed, to explain the evolution in the number of households, it is necessary to focus on migratory balances, as well as age structure and changes in living arrangements. These are the main factors behind the generation and destruction of households.

Regarding migrations, during the first half of the 2011-2021 period, as mentioned earlier, there was a decrease in the balance due to international migrations, which has recovered in the second half of the decade (Graph 1). Overall, the balance due to international migrations has resulted in a gain of 112,214 people during the 2011-2021 period. It is worth noting that this increase, while significant, is significantly lower than what occurred in the 2001-2011 intercensal period when 314,430 residents were gained due to the balance of international migrations. Precisely, this difference is one of the main reasons explaining why, during the last intercensal period (2011-2021); the number of households did not experience as notable growth as in the previous intercensal period.

Graph 1. Components of demographic growth in Barcelona. 1996-2021



Source: Author's own elaboration from Idescat, Padró continu de població, Estadística de Variaciones Residenciales and Moviment Natural.

On the other hand, if attention is paid to migrations originating from or heading to another municipality within the province of Barcelona, primarily related to residential reasons, the balances are negative. In other words, there is a net population outflow from Barcelona, resulting in more people and, consequently, more households leaving the city than entering. Specifically, during the period 2011-2021, the migration balance with the rest of the province accounted for a net loss of 73,275 residents. It is important to note that this decrease has been more moderate than in the previous intercensal period when 159,269 inhabitants were lost.

2. According to the information on registered addresses prepared by the Municipal Data Office, in 2016 there were 654,979 homes; in 2017, 658,375; in 2018, 660,816; the year 2019, 662,787; the year 2020, 664,476; the year 2021, 660,063; the year 2022, 662,833 and the year 2023, 668,790.

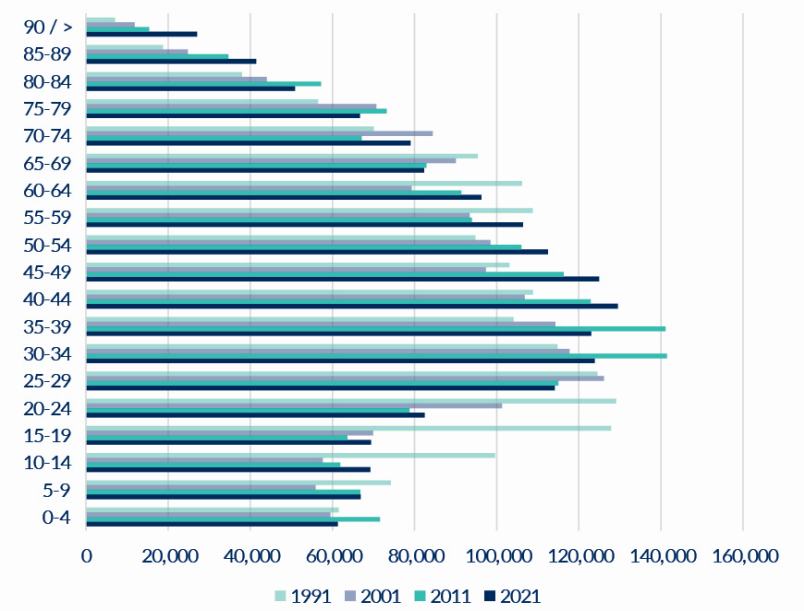
Finally, it should be noted that the migration balance with the rest of Catalonia and Spain has little weight in explaining the population and, consequently, household variations in the city of Barcelona. Thus, in the period 2011-2021, only 4,931 residents were gained for this reason, while in the period 2001-2011, 30,431 were lost.

Overall, the total migration balance for the city of Barcelona during the intercensal period 2011-2021 resulted in a gain of 43,870 inhabitants, whereas during the period 2001-2011, it was 124,460 inhabitants. In conclusion, although Barcelona has seen an increase in residents and, consequently, households during the period 2011-2021 due to migrations, it is important to note a significant slowdown compared to the preceding decade.

Alongside migrations, the second factor with a significant explanatory weight in household evolution is the age structure. On one hand, the number of young individuals indicates the potential number of households to be formed through emancipation, while, on the other hand, the population in the older age groups forecasts household destruction due to mortality.

Focusing initially on the analysis on the youth, it can be observed that in 2011, the cohorts of young individuals potentially expected to emancipate during the subsequent decade had decreased compared to earlier periods (Graph 2). Indeed, in 2011, there were 204,415 young individuals aged between 10 and 24 years (who, during the intercensal period 2011-2021, transitioned to the 20-34 age group), which was 11% less than in 2001 when there were 228,912.

Graph 2. Population by age groups. Barcelona. 1991-2011.



Source: INE, Censos de población.

This decline in the number of young individuals at emancipation ages is compounded by the decrease in emancipation rates over the past decade. This implies that within these age groups, more young individuals have yet to form new households. As a reference point, the emancipation rate of young individuals aged 16 to 29 in Catalonia decreased from 28.9% in 2011 to 19.2% in 2022, nearly a ten-point decrease[3]. Ultimately, the decline in the number of young individuals at emancipation ages, coupled with the retreat in emancipation rates, would be another primary factor explaining the stagnation of the number of households in the city of Barcelona.

Regarding the population in older age groups, in 2011, there was an increase in the population aged 75 and over, where the probability of death is higher, compared to ten years earlier. Specifically, in 2011, there were 180,555 people in these age groups, 29,152 more than in 2001, when there were 151,403 (Graph 2).

3. Source: Observatòri Català de la Joventut.

In these age brackets, the percentage of single-person households is significant, so the mortality of an individual often leads to the destruction of a household. Thus, despite the increase in life expectancy, the concentration of the population in older ages would have resulted in a greater destruction of households during the period 2011-2021 compared to previous intercensal periods.

Overall, factors related to the age structure of Barcelona play a very significant role in explaining the stagnation in the number of households in the city during the intercensal period 2011-2021. On one hand, although the emancipation process always involves the creation of households, these have been much less numerous than in previous periods. On the other hand, the unprecedented concentration of individuals in older age groups would have been the main driver of household destruction in the city.

As the reader may have inferred, these demographic processes are not isolated from other societal dynamics. For example, international migrations are primarily motivated by economic reasons, while metropolitan migrations are often related to the housing market. In contrast, there are others dynamics that exhibit a more autonomous and predictable demographic behaviour, such as the effect of mortality in older age groups on household destruction. Finally, there are processes, such as emancipation, in which population structure (the number of young individuals at emancipation ages) interacts with material possibilities derived from the labour market and the residential system.

2. Changes in cohabitation patterns and household types

The third factor influencing the evolution of households, in addition to migrations and age structure discussed earlier, is changes in the type of households. In this regard, it is important to consider not only the increase in a specific type of household but also the relationship between the population and households, reflected in the number of people living in each type of household. Thus, for a constant number of inhabitants, the presence of households with low to moderate occupancy, such as single-person households (1 person), results in a higher number of households compared to households with higher average occupancy, such as a couple with children (3.6 persons on average in the household in 2021). Taking the example to the extreme, with a population of one million inhabitants, there would be one million single-person households, but only 276,147 households of couples with children.

Single-parent households are the type that has grown the most in the intercensal period 2011-2021, increasing by 16,271 units, from 77,680 to 93,951 (Table 2). In 2021, they represent 14% of the total number of households. Moreover, this increase has influenced the growth of households in the dual sense just mentioned. First, because they have increased, as evident, but secondly, because they have a low average occupancy, and the growth of this type of household has occurred with less population than if it had been with another type (except single-person households).

On the other hand, non-nuclear households have increased by 13,696 units in the last intercensal period, reaching 50,805 in 2021, representing 7.6%. In this case, since they have an above-average size (2.7 occupants), it can be said that they benefit less in the double sense being discussed because forming a non-nuclear household requires more population than other types of smaller households.

Table 2. Household Typology. Barcelona. 2001-2021

	2001		2011		2021		Variation 2021-2011		Averag dimension 2021
Single	155,463	26.2%	198,052	29.0%	207,972	31.0%	9,920	5.0%	1.0
Couples without children	130,531	22.0%	166,475	24.3%	135,294	20.2%	-31,181	-18.7%	2.0
Single parent household	65,941	11.1%	77,680	11.4%	93,951	14.0%	16,271	20.9%	2.3
With no nucleus	32,913	5.5%	37,109	5.4%	50,805	7.6%	13,696	36.9%	2.7
Couples with children	200,350	33.7%	190,647	27.9%	170,172	25.4%	-20,475	-10.7%	3.6
Multiple households	9,254	1.6%	14,115	2.1%	12,990	1.9%	-1,125	-8.0%	5.7
Total	**594,452**	**100.0%**	**684,078**	**100.0%**	**671,178**	**100.0%**	**-12,900**	**-1.9%**	**2.4**

Source: Idescat, Censo de población 2001 and 2011; and author's own elaboration from INE, Censo de población 2021.

The third type of household that has experienced significant growth is single-person households, with an increase of 9,920 units. This type is the most common in Barcelona in 2021, with 207,972, accounting for 31%. In fact, the number of single-person households has increased very intensely in recent decades, fostering household growth in the double sense mentioned earlier. Since they have low average occupancy (1 person), the increase has occurred with less population than if it had been another type of household.

As can be inferred, this relationship between the type of household and the people living in it has significant implications for the residential system. It not only indicates how changes in living arrangements are associated with different housing occupancy intensities but also has implications for an aggregated quantification of housing needs. In fact, the increase in single-person households during the last decades is one of the main reasons explaining why, during periods when the population has decreased, such as the 1991-2001 period, the number of households continued to grow. From this perspective, it's essential to note that during the 2011-2021 period, the increase in the number of single-person households has moderated significantly compared to previous intercensal periods, so this factor has ceased to have such a notable impact on the overall evolution of the number of households.

If the analysis focuses on the types of households that have decreased in the last intercensal period, first and foremost, we must highlight childless couple households. In 2021, there are 135,294 households of this type in the city of Barcelona, representing 20.2%, although they have decreased significantly (31,181) since 2011 when there were 166,475. As shown in Table 2, this is the type of household that has decreased the most and logically has a very significant impact on the double sense discussed, as they have a low average occupancy (2 people), below most household types. Moreover, the evolution during the 2011-2021 period has undergone a change in sign compared to the 2001-2011 period, when this type of household had grown significantly. Therefore, this can be considered one of the main reasons, from the standpoint of household typology, for the stagnation of households during the last intercensal period.

The second type of household that has decreased between 2011 and 2021 is couples with children, which has declined by 20,475 units, a very significant decrease continuing the trend of recent decades. Thus, in 2021, there are 170,172 households of couples with children in Barcelona, with an average occupancy of 3.6 people, representing 25.4% of the total. This decrease can be said to have less impact in the double sense being discussed because, with the same population that no longer lives in these households, many more households of other types with smaller dimensions can be formed. Finally, multiple-person households, which have the highest average occupancy (5.7 people), decreased by 1,125 units during the last intercensal period and were 12,990 in 2021, representing only 1.9%.

In conclusion, the types of households that have grown in the 2011-2021 period are single-parent households, non-nuclear households, and single-person households. In the case of single-parent and single-person households, since they have a lower average occupancy, they have a greater impact on total household growth, as fewer people are needed to form these households. However, it is noteworthy that the growth of single-person households has moderated significantly compared to previous periods. Conversely, the types of households that have decreased are childless couple households, couples with children, and multiple-person households. In this case, the reduction of childless couples, having a lower average occupancy, has a more significant impact, while the reduction of couples with children, also important quantitatively, does not have such a relevant impact on the overall reduction of the number of households.

3. A Declining Stock of Primary Residences with a Decrease in Homeownership

Despite Barcelona being a densely urbanized area, the housing stock has experienced significant growth in recent decades, particularly during the period of the last real estate boom (1996-2007).

If we consider census data, the number of family homes increased from 669,459 in 1991 to 811,106 in 2011, marking a growth of 21.2% (141,647 units) over two decades (Table 3). However, during the last intercensal period, this trend has been interrupted to the extent that the number of family homes has decreased, reaching 808,752 units in 2021.

Table 3. Typology of family homes and tenure regime. Barcelona. 1981-2021

	1981	1991	2001	2011	2021		Variation 2011-2021	
Primary family homes	579,831	576,640	594,451	684,078	671,178	100.0%	-12,900	-1.9%
In property	287,153	354,477	405,090	437,631	409.686	61.0%	-27,945	-6.4%
Renting	268,881	207,199	169,137	205,912	208.467	31.1%	2,555	1.2%
Other tenure regime	23,797	14,964	20,224	40,535	53.025	7.9%	12,490	30.8%
Non-primary family homes	93,675	92,819	163,477	127,028	137,574	-	10,546	8.3%
Total	**673,506**	**669,459**	**757,928**	**811,106**	**808,752**	-	**-2,354**	**-0.3%**

Source: INE, Censos de población y viviendas.

This stagnation in the number of family homes, known as the housing "stock," is not due to a sudden halt in residential construction. In fact, during the period 2011-2021, 12,770 homes[4] were completed in the city of Barcelona. Although these figures are far from the construction levels of the real estate boom period (1996-2007), they are significant in an increasingly urbanized territory.

Unfortunately, public information is not available to delve into the figures for processes such as the loss of homes due to demolitions, the creation of homes through divisions, or the dynamics of changing uses—meaning homes that change their function and are allocated for other purposes (offices, tertiary, hotels, etc.). This change in uses has a dual effect, as some properties transition to residential use, while others change from being homes to serving different functions. These limitations are compounded by the methodological change introduced in the last census, where the counting of the housing stock was done through administrative records.

Another noteworthy aspect is the loss of primary residences, as evident from the 2021 census data. Indeed, in 2021, there are 671,178 primary residences, 12,900 fewer than in 2011. In contrast, the number of non-primary residences has increased by 10,546 units, totalling 137,574 in 2021. Non-primary residences, especially unoccupied homes, have been a recurring issue in each census operation, necessitating complementary studies to significantly reduce the count of unoccupied homes compared to census results. It is essential to remember that contrasting the data on unoccupied homes from the latest 2021 census has not yet been done, but based on previous experience, drawing conclusions from census figures would be premature. On the other hand, data from other studies indicate an increase in homes designated for tourist use during the intercensal period 2011-2021, both licensed tourist use homes (HUT) and those offered illegally on specialized portals (Duatis et al., 2016).

Another feature discernible from the population and housing census is the tenure regime of homes, corresponding to the number of primary family homes. In 2021, out of the 671,178 primary family homes, 409,686 (61%) are inhabited by households in ownership, 208,467 (31.1%) in rental, and finally, 53,025 (7.9%) in other regimes. It is noteworthy that in 2021, there are 27,945 fewer households living in ownership compared to 2011, confirming that this type of tenure regime has been declining since the international financial crisis of 2007.

Conversely, there are 2,555 more households living in rental accommodation. Certainly, the increase in rental households already occurred in the 2011 census when 205,912 were recorded.

4. Source: Housing Studies and Documentation Service of the Generalitat de Catalunya, based on the final construction certificates from the colleges of surveyors.

Therefore, what can be deduced from the 2021 census figures is that although the number of new rental contracts counted has continued to grow[5], the rental housing stock, in contrast, has remained very stable. In other words, the dynamism of the rental market would respond more to turnover within a relatively constant stock than to a net increase in supply.

Finally, regarding the tenure regime, the increase in other regimes, where 53,025 households live, is noteworthy, representing a significant growth of 12,490 households, a 30.8% increase.

Unfortunately, the census statistics do not allow distinguishing these different regimes from ownership and rental, and they will need to be disaggregated in subsequent work using other sources.

In conclusion, during the last intercensal period 2011-2021, the housing stock in the city of Barcelona has stagnated, as has the primary housing stock.

This dynamic contrast with the trend observed over the past decades, during which the stock had increased significantly. Although, unfortunately, data is not available to verify this, the main hypothesis behind the stagnation of the housing stock in general, and especially primary residences, is related to changes in use.

This involves the conversion, through renovations, of properties from residential to offices, tertiary uses, hotels, etc.

4. The Marked Increase in Average Housing Prices and the Widening Gap with Household Real Possibilities.

The trend towards a separation between household incomes and average housing prices, both in the sale of new and existing homes and in rentals, has been observed over the past two decades (Sender et al., 2021). This translates to households, on average, having to allocate a larger portion of their incomes to housing payments.

This dynamic is replicated in other European cities and around the world, leading some authors to refer to it as a global housing accessibility crisis (Galster and Lee, 2021; Wetzstein, 2017), with very relevant repercussions on the living conditions of the population (European Commission, 2022; Serme-Morin et al., 2022).

In fact, the issue of access to and maintenance of housing not only affects the population with fewer resources but is extending to an increasingly larger segment of the population (OECD, 2021).

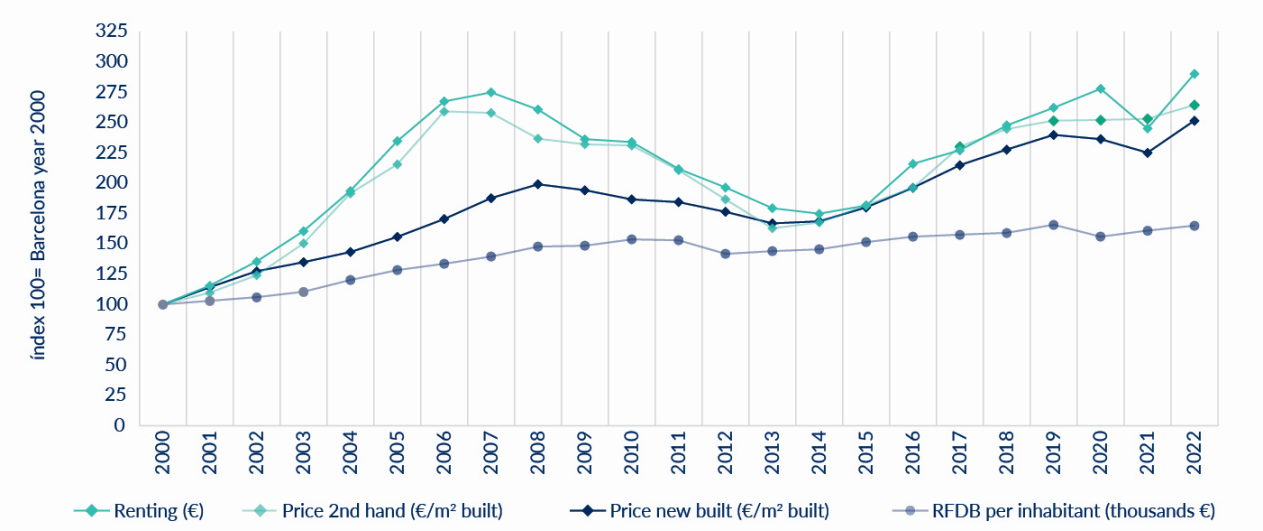
Focusing on the data related to this accessibility crisis in Barcelona, it can be observed that the highly differentiated evolution of individual incomes and average housing prices has not been constant.

Instead, it has undergone different phases closely tied to economic and housing sector cycles (Graph 3): the period 2000-2007, which aligns with the last real estate boom; the period 2007-2013, marked by a burst bubble and an intense economic recession; and finally, the period 2013-2022, characterized by economic recovery and growth, accompanied by price tensions (with the interruption of the Covid crisis between 2020 and 2021).

Nonetheless, during periods of increasing average housing prices, they rise much more intensely than during declines in times of recession, leading to a long-term overall increase in average prices.

5. An example, according to the deposits deposited in INCASÒL, between 2011 and 2021, 503,583 new rental contracts were formalized.

Graph 3. Evolution of Gross Disposable Family Income per Inhabitant and Median Housing Prices. 2000-2021. Barcelona (2000=100)



Source: Author's own elaboration. GDFI: Idescat, 2000-2020 and estimation GDFI 2021-22, from INE and Banco de España, Contabilidad Nacional de España; Average Rental Price: Secretaria d'Habitatge, from deposit registers deposited at INCASÒL; Average Sale Price: Secretaria d'Habitatge 2000-2013 and Secretaria d'Habitatge, 2013-2022, from the Col·legi de Registradors.

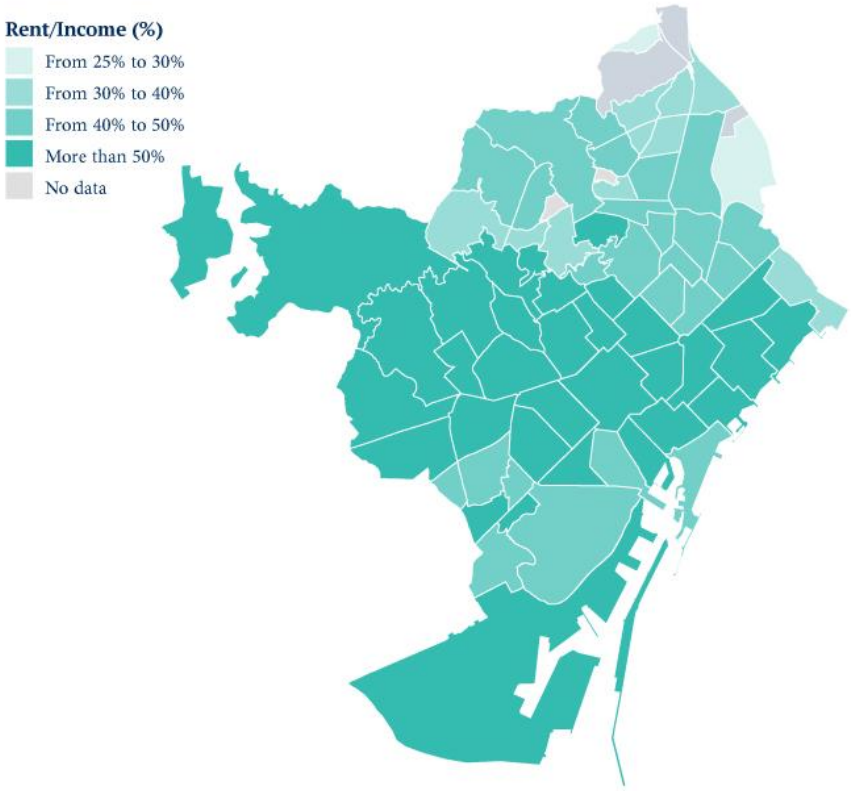
The separation between the growth of household incomes and median housing prices, whether for the purchase of new or second-hand properties or for rent, does not align with the growth of household incomes but always occurs in much larger proportions. In fact, considering the evolution since the year 2000, while household incomes have increased by 64.9%, the average sale price of new construction has increased by 190.1% (2.9 times more), that of second-hand properties by 164.5% (2.5 times), and the rental price by 151.5% (2.3 times).

If the dynamics described are observed considering housing solely as an investment, the data confirm what is well-known in the sector, namely that housing, with greater or lesser intensity, offers positive returns in the long term. However, if the focus shifts to considering housing also as a basic necessity, the data presented reflect a problem, probably one of the main problems of our residential system: the separation between the average incomes of the population and the average housing prices continues to advance, and these move away from the real possibilities of households.

The trend of separation between household incomes and average housing prices, both for purchase and rent, has a direct translation into the difficulties of access to housing for the population. During the real estate boom of 1996-2007, where the main form of access to housing was ownership, this separation between incomes and prices had been partially offset by low and/or seemingly favorable financing conditions (low reference interest rates, loan-to-value ratio, and average mortgage duration). However, after the boom, access to ownership ceased to be an option for many families, and the demand for rental housing increased significantly (Observatori Metropolità de l'Habitatge de Barcelona, 2019). Therefore, to access rental housing, financing conditions do not intervene, so the separation between incomes and average housing prices, as just seen, directly affects households' access efforts.

Thus, if we examine in detail the conditions for accessing a rental property of average price for a household with annual net income of €25,000, we can see how limited their options are in the neighborhoods of the city of Barcelona (Figure 1). In fact, with the prices from the second quarter of 2023, a household with these characteristics could only afford a rental property in the neighborhoods of Ciutat Meridiana and El Bon Pastor, and even in these cases, they would have to allocate almost 30% of their income (28.5% and 28.9%), which is considered the maximum recommended threshold. In the rest of the neighborhoods, the effort for rent payments exceeds this 30%."

Figure 1. Theoretical Effort to Access Rental Housing for a Household with €25,000 Annual Income. Barcelona Neighbourhoods. Second Quarter of 2023



Source: Author's own elaboration. Secretaria d'Habitatge, from the deposit register deposited at INCASÒL.

It is important to note that half (50.4%) of households led by individuals aged 16 to 39 in the metropolitan area do not reach this income threshold (Metropolitan Housing Observatory of Barcelona, 2023). Therefore, without other forms of assistance, whether from the government or family, these are the possibilities they face in the rental market. On the other hand, it should be highlighted that the calculations were based on the average rental price, while there are offers below this average that would make the average access conditions described less expensive. However, in almost all neighborhoods (65 out of 69 with available data), the effort in relation to the average price is not just above 30%, but above 35%, and even in 56 of the 69 neighborhoods, it exceeds 40%.

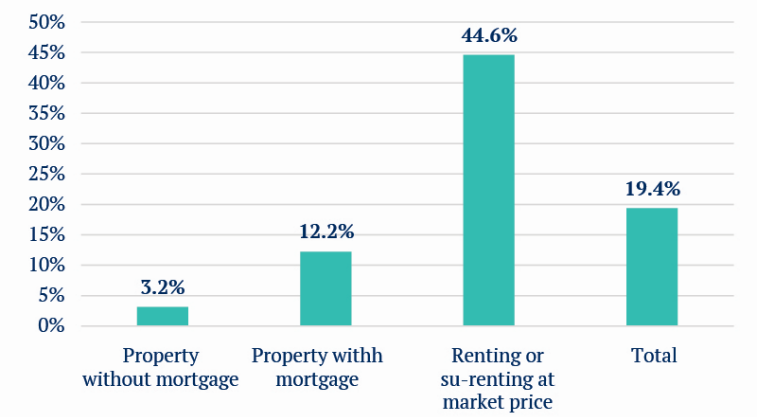
In conclusion, the trend of separation between the population's incomes and the average housing price, common in other cities in our environment, has a clear manifestation in access conditions. In the specific case of the city of Barcelona, it leaves half of young households excluded from the market in a significant part of the city's neighborhoods. Thus, the housing access problem, far from being limited to the most vulnerable population, is increasingly widespread, particularly among younger generations trying to access housing, and in many cases, can only do so in the rental market.

5. Cost and challenges of remaining in the house

The growing gap between household incomes and the average housing price not only has consequences for housing access but also affects the population that has already gained access but must face monthly expenses. These expenses can represent a significant percentage of household incomes and even exceed recommended thresholds, turning housing into an insecurity factor for households, especially those in rental situations, as will be discussed below. An indicator to approximate this reality is the cost-burden rate, which accounts for the percentage of the population living in households that allocate more than 40% of their incomes to housing expenses, including rents, mortgage payments, and utilities.

In the 2021-2022 period, the cost-burden rate for housing expenses in the population of Barcelona is 19.4% (Graph 4). However, this rate differs by tenure type. For the population living in homes that are completely paid off, the rate is very low at 3.2%. In contrast, for the population living in homes with a mortgage, the rate increases to 12.2%. However, among the population living in rental households, the cost-burden rate multiplies and reaches 44.6%. In other words, 44.6% of Barcelona's tenant population living in households allocate more than 40% of their incomes to rent and utility expenses[6].

Graph 4. Cost-burden rate for housing costs by tenure type. Barcelona. 2021-2022.



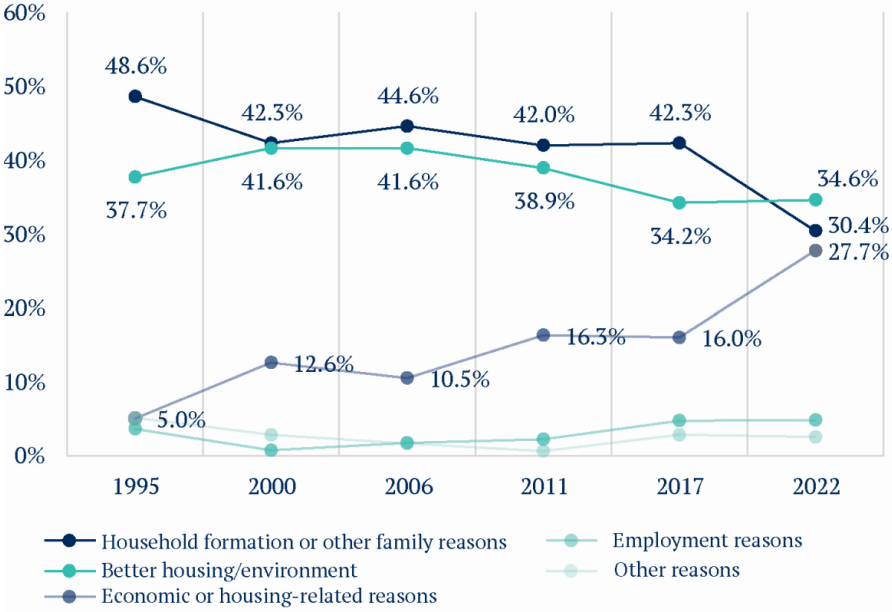
This pronounced burden among households living in market-rate rentals can be attributed to several reasons. Firstly, it is essential to consider that, on average, households in rental properties have lower incomes than those in ownership (Observatori Metropolità de l'Habitatge de Barcelona, 2018). Secondly, it's important to note that a significant portion of the population in rental housing must face rents stipulated in relatively recent contracts, many of which incorporate significant price increases from the last three years. In contrast, a significant portion of the population in owned homes secured their mortgages a long time ago, even before the last real estate boom (1996-2007). Specifically for the population paying a mortgage, it's crucial to consider that the cost-burden data refers to the 2021-2022 period when the 12-month Euribor, the benchmark interest rate for most mortgages, was in negative values. Most likely, with the notable increase that occurred during 2023, the cost-burden rate for the population in owned homes with mortgages will have increased significantly.

Regardless, it is in households living in market-rate rentals where the cost-burden rate has a more noticeable impact, especially considering that the alternative, which would be social housing, is very scarce in the city of Barcelona, and in Spain in general, representing only 1.9% of the housing stock (Donat et al., 2021). All of this greatly conditions the trajectory and life plans of the population, not only at the time of accessing housing but also after gaining access.

Indeed, the increase in housing instability is one of the main consequences of the accessibility crisis, especially during the last decade, in which renting has gained prominence as the tenure type for households (Módenes, 2019) (Graph 5). Thus, until 2006, the two main reasons for the population of Barcelona to change housing were the formation of a household or other family reasons on the one hand, and to improve housing or the environment on the other. In fact, these two motivations practically explained the entirety of residential mobility in the Barcelona metropolitan area.

6. This is a threshold established within the framework of the EU-SILC (The European Union Statistics on Income and Living Conditions), collected by Eurostat, to compare the situation between countries. In Spain, the source collected for this information is the Living Conditions Survey (LCS), which also allows results to be obtained by autonomous communities. Fortunately, in the case of the Barcelona metropolitan area, an extension of the sample is available to go down to the territorial level of the city of Barcelona and the rest of the metropolitan area, in a manner consistent with the official statistics just seen. However, in relation to the method followed by the EU-SILC to calculate the overload rate, a change has been introduced. Indeed, in the case of the population living in households that are paying a mortgage, the EU-SILC surcharge rate does not count as an expense the amortization part of the loan (that is, it only counts interest), since it is Consider it an investment. However, if you want to put emphasis on the payment difficulties that the population has, as is the case in this article, it is more approximate to consider all the expenses included in the mortgage payment. Taking this last approximation as a reference, the overload rate has been redefined, accounting for both interest and amortization of the borrowed capital.

Graph 5. Main reason for the change of residence for the population of Barcelona. 1995-2022.



Source: Idescat and Institut Metròpoli, Encuesta de Condiciones de Vida y Hábitos de la Población, 1995-2011; and Institut Metròpoli, Enquesta de cohesió urbana, 2017 i 2022.

For instance, in 1995, these two motivations represented 48.6% and 37.7%, and together they were the main reason for 86.3% of all housing changes. On the other hand, the rest of the motivations had a very minority weight. Continuing with the year 1995, economic reasons or those forced by housing were only the main reason for change in 5% of residential changes, while labour-related reasons were the cause in only 3.6% of cases. This distribution from 1995 has remained approximately the same during the years 2000 and 2006, with the only change being that the two main motivations have been equalized, but together they have always been the main reason for most of the metropolitan population (83.9% in 2000 and 86.2% in 2006).

From the year 2000, although the two main motivations for changing housing continue to lead the classification, a third has emerged that has gained significant weight: economic reasons or those forced by housing. Indeed, this motivation has gone from representing 5% of reasons in 2000 to 16.3% in 2011, rising to 27.7% in 2022.

This significant increase in housing changes for economic or forced reasons has also become widespread throughout the Barcelona metropolitan area (Porcel et al., 2023). In this sense, it cannot be separated from the accessibility crisis being exposed, but very particularly, from what has happened over the last fifteen years or so, when renting has become the majority form of housing access and gains weight as the tenure type for households. In other words, the burden of paying for housing that many rental households experience not only has an economic impact but also translates into greater unwanted residential instability.

In conclusion, among the population that has already accessed housing, the costs they must bear to pay for it can be very significant, especially among the population living in rentals. Specifically, almost forty-five out of every hundred residents in Barcelona living in rental housing must allocate more than 40% of their earnings to pay for housing, significantly shaping their trajectory and life plans. Also, mainly among lower-income households, the burden of housing costs translates into an element of instability, with the personal and social consequences that ensue.

6. Conclusions

The state of housing, at least over the last two decades, cannot be understood without considering what has been termed the global housing accessibility crisis, which is replicated in other cities worldwide. However, the specificities of each city, each residential system, add, according to the author, as many or more elements of specific analysis, which this work has focused on.

To begin this exploration, it started with quantifying housing needs, i.e., the number of households. It was observed that during the last intercensal period (2011-2021), households in the city of Barcelona stagnated (from 684,078 to 671,177), breaking a trend that had been notably growing in recent decades. Additionally, this stagnation of households occurred simultaneously with a moderate increase in the population, a new situation over the last forty years. The reader can deduce that one consequence is that the average size of households has increased, from 2.34 persons in 2011 to 2.37 in 2021.

Before drawing hasty conclusions, however, it should be noted that this dynamic of household regression was particularly intense during the first part of the intercensal period, coinciding with the economic recession after the international financial crisis. In contrast, in the second half of the decade, an increase in the number of households has been observed, despite the Covid-19 crisis. This might indicate that, rather than a change in trend, it has been a parenthesis. Nevertheless, the evolution should be monitored to validate any of these hypotheses in the future.

With the scenario of stagnant household numbers and increased average occupancy referenced, the main factors explaining this evolution were analysed. Firstly, the impact of positive migration balances due to international migrations was highlighted, which had sharply declined during the first half of the intercensal period, recovering during the second half (with the parenthesis of 2020 due to the Covid-19 crisis). In contrast, migrations to the rest of the demarcation, mainly motivated by housing-related issues, showed negative balances in the city of Barcelona during the period 2011-2021, although these losses moderated compared to previous periods.

Alongside migrations, the influence of age structure on the formation of new households was analysed. It was observed that the population cohorts expected to become independent during the period 2011-2021 had decreased compared to the preceding intercensal period. This reduction in numbers, combined with a decline in emancipation rates, resulted in a slowdown in the formation of new households in these life stages. On the other hand, there has been a high concentration of the population above 75 years in older age groups, leading to a greater impact of mortality, which often involves the dissolution of households.

Finally, to explain the evolution of households in the period 2011-2021, emphasis was placed on household typology. Specifically, it was shown that single-parent households and those without a nuclear family have experienced the most significant growth, while single-person households, although increasing, have done so at a much more moderate pace than in previous decades. In contrast, households that have decreased the most are childless couples, breaking the previous upward trend of intercensal periods; couples with children, intensifying their decline; and, finally, multiple-person households.

After examining the evolution of the number of households and analysing its causes, the study focused on the housing stock, which has remained practically stable during the last intercensal period (808,752 family homes in 2021, 0.3% less than in 2011). This dynamic breaks the trend of the previous decades, but before delving into possible causes, it should be noted that the last census introduced methodological changes when counting the stock. Nevertheless, available data indicate that it was not due to a halt in construction since 12,770 homes were completed during the period 2011-2021.

On the other hand, the stock allocated to the main residence has decreased slightly (671,178 units, 1.9% less than in 2011). In this case, the main causes of the decline probably lie in the change of the main residence to tourist uses. Continuing with the main stock, the tenure regime was analysed in-depth to show that in 2021, 409,686 households (61%) lived in owner-occupied homes, which still remains the majority regime. However, there has been a decrease of 27,945 compared to 2011. Regarding renting, census data show that, despite the dynamism of the market, especially over the last decade, the stock of main residence housing allocated for rent has grown very little, reaching 208,467 units (31.1%) in 2021, only 2,555 units more than in 2011.

Once the quantitative housing needs and stock evolution were analysed, attention turned to issues related to accessibility, which, as known, has become the main housing problem in recent decades. The origin of this problem lies in the structural trend of separation between household incomes and average housing prices. In the city of Barcelona, between 2000 and 2022, while household incomes increased by 64.9%, the average price of new construction increased by 190.1% (2.9 times more), second-hand by 164.5% (2.5 times), and rental by 151.5% (2.3 times).

It should be noted that this trend is structural beyond the phases of the economic cycle. Thus, in periods of economic recession and price contraction, this decrease, adjusted for inflation, does not counteract the growth that has occurred in periods of price increases. The result, as can be deduced, is that in the long term, prices increase, and they do so much faster than the growth of household incomes.

Logically, this divergence of prices from the real possibilities of households has an impact on the difficulties of access to housing, which in recent decades has predominantly occurred through renting. Thus, a typical household with an annual income of €25,000, a threshold not exceeded by half of the households headed by young people aged 16 to 39 in the metropolitan area, could only access a rental property in two neighbourhoods in the city of Barcelona. In the rest of the neighbourhoods, they would be excluded from the market, as in 10, they would have to allocate between 30 and 40% of their income, in 25 between 40% and 50%, and in 31 more than 50%.

But the separation between incomes and prices not only translates into possibilities of access but also into the costs that household economies must bear in paying for housing, which, along with supplies, significantly conditions the material conditions of a significant part of the population of Barcelona, particularly the population that lives in rentals. To approximate this reality, an indicator called the rate of housing cost overload has been used. Well, in the city of Barcelona, 44.6% of the rental population lives in households that allocate more than 40% of their income to the payment of rental and supply costs.

Naturally, this overload conditions the trajectory and life plans of the population, aggravating residential insecurity. In fact, economic or housing-forced reasons have become the reason for changing housing from 5% of the population in Barcelona in 2000 to 16.3% in 2011, rising to 27.7% in 2021. The indicators that have been seen indicate the difficulties of access and permanence in housing in the city of Barcelona for an increasingly large population group, especially for the population that lives in rentals. It is worth noting that these are verified indicators from official sources, allowing the construction of long-term statistical series, essential for diagnosing and quantifying the main dynamics of society and guiding decision-making.

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Promotion of healthy and equitable relationships in formal education contexts

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Interpersonal relationships exert a significant influence on health: when they are equitable, they contribute to well-being, but when they are asymmetrical and hierarchical, they negatively affect health. This article proposes a conceptual framework focused on social determinants of health and principles of equity and justice in relation to relational models and education. The text identifies so-called "structural determinants," such as systemic oppression and socio-historical context that tend to normalize expressions of violence. On the other hand, "intermediate determinants" include individual, psychosocial, behavioral, and community aspects that affect health through relational patterns that can lead to issues such as reduced self-esteem, anxiety, stress, depression, and acceptance of violence. The text suggests six areas of educational intervention to promote healthy and equitable relationships that benefit well-being, health status, and protection against violence. These socio-educational interventions can be effective in fostering more positive and equitable relational models.

Introduction

Interpersonal relationships constitute a crucial social determinant for health, fundamental at both the individual and collective levels (Dahlberg & Krug, 2006; Solar & Irwin, 2010). These relationships are considered healthy when the succession of interactions contributes to well-being, enabling development at both individual and collective levels an being associated with positive affectivity and emotionality. Healthy relationships are inherently equitable; to be a source of well-being, they must be voluntary and address issues related to power. Additionally, to facilitate mutual development, they must be based on interdependence, addressing the diverse needs, realities, and aspirations of the individuals involved. Interpersonal relationships established in any community form a network of simultaneous interactions that are widely heterogeneous. Therefore, their study has often been fragmented into typologies (Aron et al., 1996), such as romantic relationships and mother-daughter relationships, or group dichotomies like teacher-student or employer-workers.

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Social determinants of health encompass all conditions of people's lives that influence their health status (Marmot et al., 2013). These conditions explain most social inequalities in health, understood as systematic differences in health status among various groups of people (Whitehead, 1992). Maintaining healthy and equitable relationships positively impacts health, contributing to physical, mental, emotional, and social well-being (WHO, 1946). However, in research on the relationship between interpersonal relationships and health, the focus has been on understanding the negative health effects of certain relational patterns. Therefore, there is little research on the impact of healthy and equitable models on health, but the negative impact of experiences of violence and discrimination on physical, mental, and social health, including racism (Paradies et al., 2015), and experiences of abuse and violence, such as partner violence (Blanco et al., 2004), is repeatedly confirmed. These violences are manifestations of power relations. Power should be conceived not as something possessed or obtained but as a continuously operating web, a field of domination and resistance forces between individuals and groups (Foucault, 1976). The distribution of power in our society is not equitable, giving rise, therefore, to power relations (Diamond, 2022). Violences are manifestations within power relations exercised systematically and structurally, used for the control and subjugation of individuals, violating their rights.

The connection between interpersonal relationships and health is mediated by education, understood as the process of transferring, acquiring, and creating ways of life (Mata, 2010). Through education, each person acquires the social and cultural meanings of the environment in which they operate. Childhood and adolescence are crucial periods in which, through socialization, relational models are observed, learned, and experienced (Elder GH, 1995). Therefore, they are opportune moments to build relationships based on respect and non-violence. In our society, children and young people often experience violence firsthand, whether at home, in educational centers, or in public transportation (Vives-Cases et al., 2021). These relational models based on the use of violence are normalized and legitimized, favoring the reproduction of violence (Ariza et al., 2019).

Educational contexts are crucial for promoting healthy and equitable relational models. Socio-educational actions in formal education contexts have proven effective in modifying behaviors related to interpersonal relationships, with a positive impact on health (Hinkle, 1974). The World Health Organization recommends intervening through sustainable socio-educational interventions over time (WHO, 1997), as they allow learning to identify violence and act against it. Also, acting in the educational context allows addressing both formal and behavioral aspects, as well as the hidden curriculum, that is, all the knowledge, skills, attitudes, and symbolic values acquired implicitly and unintentionally (Pérez-Marco et al., 2020).

Although research on healthy and equitable relationships has increased in recent years, there is still limited published evidence. On the other hand, before implementing socio-educational interventions, it is crucial to theoretically understand the relationship between health, its inequalities and determinants, and relational patterns, especially in an educational context. There is a lack in the theoretical approach to the promotion of healthy and equitable relationships from an equity and justice perspective.

1. The Use of Conceptual Frameworks to Explain Health Inequalities

Social inequities in health and social determinants of health have been extensively described in scientific literature (Dahlgren and Whitehead, 1991; Solar and Irwin, 2010). Given the complexity of identifying the elements and mechanisms through which social health inequities occur and reproduce, theoretical explanations are often accompanied by graphical representations that synthesize information and facilitate understanding. Conceptual frameworks have proven useful in explaining health inequities at various territorial levels, such as in the case of the Spanish State (Commission to reduce health inequalities in Spain, 2012), as well as in cities or urban areas with specific characteristics that distinguish them from other areas of action, such as the country or autonomous community (Borrell et al., 2013).

Conceptual frameworks have been previously used to illustrate the links established between health and specific types of power relationships. Examples include the conceptual framework describing different processes and contexts influencing health inequities in women and mothers (Trujillo-Alemán et al., 2019) or explaining gender-based violence in the partner environment (Artazcoz et al., 2019), which have advanced understanding of the relationship between social structures, such as patriarchy, and health. They are also used to understand the relationship between capitalism and health, as introduced in the conceptual framework to comprehend the complex relationship between climate change and health in the context of Mediterranean climate cities from a social and climate justice perspective (Marí-Dell'Olmo et al., 2022), or more recently, to describe the social mechanisms explaining the inequitable distribution of the incidence and mortality of COVID-19 (Vásquez-Vera et al., 2022).

Many of these conceptual frameworks include interpersonal relationships as "social and community networks" (Dahlgren and Whitehead, 1991), emphasizing their importance in addressing the adverse effects of social inequalities on health. Some conceptual frameworks also incorporate 'social cohesion and social capital' (Solar and Irwin, 2010). However, these conceptual frameworks do not explicitly include interpersonal relationships as a social determinant of health. This is a limitation in addressing health processes, such as the impact of violence, where interpersonal relationships are a key determinant, but also in understanding the well-being provided by some relational models.

The objective of this article is to propose a conceptual framework of interpersonal relationships as social determinants of health and health inequities in children and young people. A proposal for the applicability of this conceptual framework will also be presented, aimed at promoting healthy and equitable relationships through socio-educational interventions in formal education contexts, including the second cycle of early childhood education, primary, and secondary education.

2. Conceptual Framework for Healthy and Equitable Interpersonal Relationships

The conceptual framework of social determinants for healthy and equitable interpersonal relationships, as presented in Figure 1, is based on recent work (Forcadell-Díez, Juárez Martínez, et al., 2023). This conceptual framework builds upon previous frameworks describing structural determinants and includes mechanisms that generate and sustain social hierarchies (Solar and Irwin, 2010). It explains that these determinants result from the unequal distribution of power (Whitehead, 1992) and also influence interpersonal relationships (Foucault, 2018).

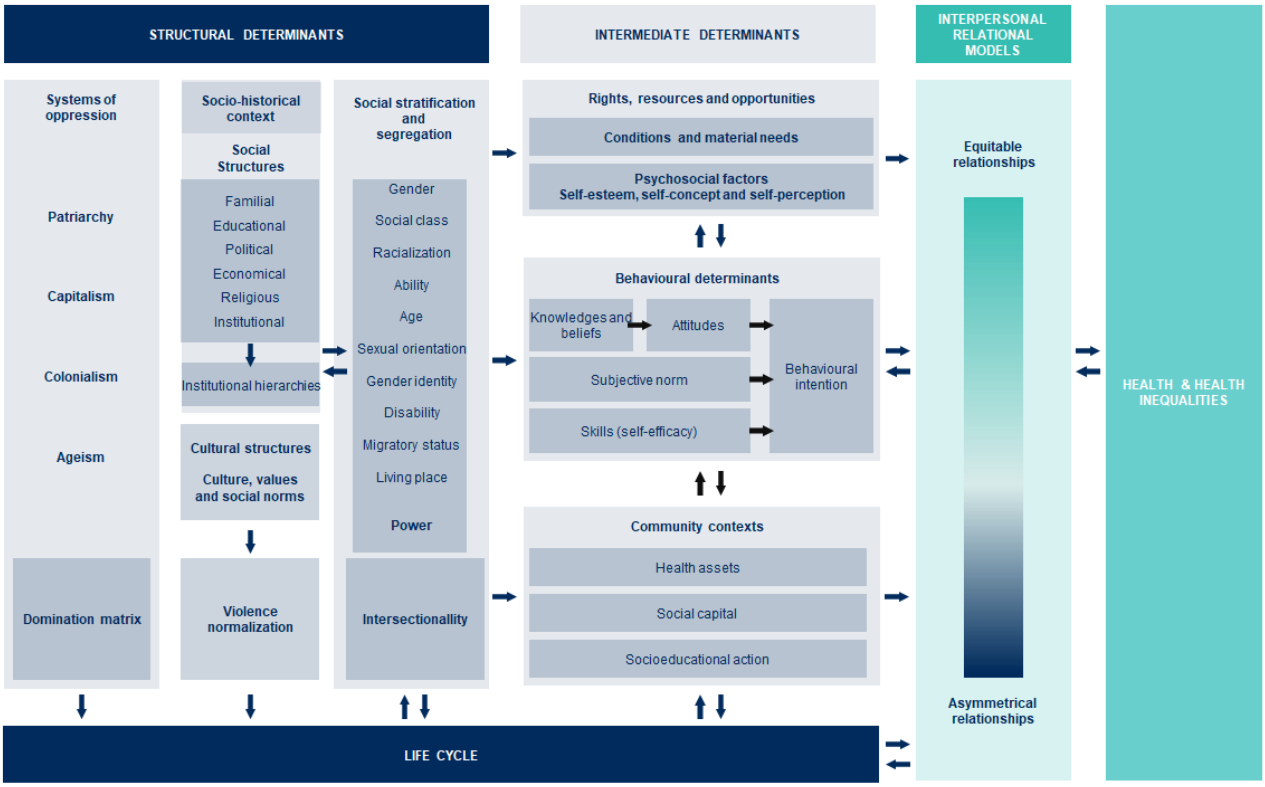
2.1. Structural Determinants

The structural determinants of social organization include systems of oppression, social and historical context, and social stratification and segregation. Firstly, systems of oppression are shaped by patriarchy, capitalism, and colonialism. Their effects are not independent but act collectively, distributing power and resources inequitably among social groups.

Patriarchy is a binary, sexist, cis-heteronormative, and monogamous model of social organization based on exclusive dichotomies such as feminine-masculine. It stereotypes the masculine as superior, undervalues the feminine, and reduces sexuality and affectivity to the complementarity of the woman-man binomial (Anne Fausto-Sterling, 2000). The implications of this system include social norms, institutional systems, nuclear monogamous family, division between the public and private spheres, separation between productive and reproductive work, and beauty standards.

Capitalism is a model of social and economic organization based on the privatization and unequal distribution of the means of production within power relations, leading to the progressive accumulation of capital and power in a minority of the global population—the dominant social classes (Krieger et al., 1997). The capitalist system generates social norms, taking the owning class as a moral and behavioral reference, and stereotypes of social class are generated from childhood that perpetuate inequities (Pearce et al., 2019).

Diagram 1. Factors determining healthy and equitable interpersonal relationships in the adolescent and youth population.



Source: Own elaboration based on the conceptual framework by Forcadell-Díez, Juárez Martínez, et al. (2023).

Colonialism is a form of global social organization where a hierarchy of human groups is created through physical attributes and stigmas that socially identify and disqualify their bearers through processes of social comparison, based on stereotypes and prejudices, shaping the racist imaginaries of colonizing states. Racism impacts health and its inequalities from childhood and throughout life through social, psychological, and economic mechanisms such as acculturation, segregation, discrimination, and deprivation (Cheng et al., 2015).

The last system of oppression presented in this conceptual framework is ageism, an organizational condition of society that allows adults to maintain a position of superiority over children, adolescents, young people, and the elderly. An adult-centric dichotomy between youth and old age emerges, socially obliging individuals to place adults. This dichotomy denies childhood, adolescence, and the elderly as political subjects and negatively influences self-perception during these stages, such as the idealization of youth associated with beauty, energy, and potentiality, perceived as a set of standards to aspire to and maintain (Duarte Quapper, 2012).

Secondly, the structural determinant we call socio-historical context refers to the social, political, and cultural mechanisms that shape and maintain social hierarchies at a given historical moment (Solar and Irwin, 2010). This socio-historical context is the product of the correlation of forces that occurs in the field of power relations at a specific moment and context.

Social structures include the different systems that exist in a society and consist of hierarchical relational patterns between social groups. An example is the education system. The hierarchies of political institutions choosing a type of educational curriculum, educators executing it in the classroom, economic institutions and their ability to determine what should be learned from a utilitarian perspective, and religious institutions, whose morality permeates educational relationships. Power relationships produced within the nuclear family are also transferred to educational spaces.

Cultural structures refer to the symbolic dimension shared by a society, including social norms, beliefs, and values. These become, within capitalist, patriarchal, and colonialist systems, a dominant ideology, a set of ideals of behavior, depending on one's position, and what the consequences are of breaking or adhering to norms. For example, these structures establish who should perform caregiving tasks and behavioral guidelines for sex-affective relationships framed in romantic love (Simon et al., 1992). A central aspect of social and cultural structures deals with the legitimization of the use of violence: against whom, when, and how the use of violence is permitted. Today, social norms legitimize the use of violence by groups in dominant positions as structural violence. There is also symbolic violence, related to the cultural, that legitimizes structural violence (Galtung, 1990).

Institutions arise from the amalgamation of social and cultural structures with the aim of organizing social activities through symbolically imposed spaces as facts. Individuals assume roles based on their position within the institution, giving rise to processes of subjectivation and inscription within a symbolic order, thereby assuming an educational function (Foucault, 1975). The violence exerted by power is deemed necessary for the reproduction of institutions and the ensuing power relations.

In the third place, the structural determinant referring to social stratification involves the categorization of individuals into hierarchical groups based on axes of power such as gender, social class, race, functionality, age, desire orientation, gender identity, migratory status, and place of residence (Krieger et al., 1993; Palència et al., 2017). The intersectional perspective (Crenshaw, 1991), crucial for understanding relational models, posits that power axes combine differentially, resulting in a multiplier effect of power axes in generating inequities. These power axes define a particular position within systems of oppression and power hierarchies, determining personal experiences and a differential exposure to certain relational patterns (Krieger, 1999). These stratifications inherently lead to population segregations that enable phenomena such as school bullying and classist, sexist, racist, and LGBTQI-phobic violence, profoundly impacting health and its inequities (Perez et al., 2015; Vives-Cases et al., 2021).

2.2. Intermediate Determinants

Through social stratification, determinants unevenly distribute rights, opportunities, and resources among the population. Intermediate determinants refer to individuals' specific experiences influencing health processes, particularly material conditions and lifestyles. Firstly, material conditions, which vary according to axes of power, shaping differential realities from childhood onwards. Needs are socially constructed and satisfied through interpersonal interaction. The satisfaction of material needs will influence health and related behaviors (Hanson & Chen, 2007). Social stratification processes from childhood determine how and with whom interpersonal relationships are established. Family relationships, school relationships, friendships, and time use are key psychosocial factors during childhood, with adolescent relationships adding to these. All are affected by power axes and impact individuals' health (Piontak & Schulman, 2016). Experiences of material deprivation, social exclusion, violence, and discrimination, as well as other stressful events during childhood and adolescence, impact health through somatization (Krieger, 1999). Self-perception is an example of a psychosocial factor strongly influenced by the context that affects health through self-esteem. This occurs in individuals whose bodies do not conform to the norm, where discrimination strongly alters the self-perception and self-esteem of those who experience it, influencing the rejection of their own bodies (Leiva et al., 2013).

Secondly, behavioral determinants, i.e., lifestyles: individual and collective attitudes and behaviors closely linked to relational patterns. Ultimately, it is important to bear in mind that particular lifestyles are conditioned by both dominant ideology and material conditions. Multiple models identify behavioral determinants such as knowledge and beliefs, attitudes, subjective norms, skills and self-efficacy, and behavioral intention. Knowledge and beliefs refer to what an individual or group knows or perceives to know about an action, including perceived benefits and difficulties. It gives rise to the attitude towards a behavior (De Vries et al., 1988). In perpetrating violence, a favorable or unfavorable attitude is crucial and depends on the perceived benefit/harm balance.

Subjective norm is an individual or group's perception of pressures to perform a behavior, perceived as thought or done by influential people in the environment. It is deeply influenced by social norms. In the case of caregiving tasks, the norm acts as an obligation for women, socially sanctioning those who do not comply and exempting men (Salvador-Piedrafita et al., 2017). In sexual-affective relationships, the subjective norm will facilitate behaviors that a person expects from others, based on myths of cis-heterosexual and monogamous romantic love. In this sense, in adolescence, the perpetration of violence is related to the perception that it will be approved by the group (Lipsey & Derzon, 2012).

Social skills are linked to self-efficacy, including expectations of success in performing a particular behavior. Perceiving oneself as capable of resolving conflicts, individually and in groups, is closely related to self-efficacy in terms of social and communicative skills, such as empathy and assertiveness, as well as emotional and affective management strategies (WHO, 2020).

Thirdly, community contexts where we find assets, factors, or resources for health recognized by a community as health promoters, well-being, and reducing inequities, as previously mentioned (Morgan and Ziglio, 2007), strengthening interpersonal and intergenerational relationships and building collective resilience to health stressors. It includes individual, community, and associative resources, as well as institutional ones (Pérez-Wilson et al., 2015); services and the physical environment, including green and leisure spaces (Borrell et al., 2013).

Social capital refers to resources available to individuals and groups as a result of their participation in community networks and social movements, and emerging mutual knowledge and recognition. This is closely related to health (Trujillo-Alemán et al., 2022). In this regard, it has been demonstrated that the involvement of adolescents and young people in the community is key to reducing violence (O'Donnell et al., 1999). Agency, conceived as the collective capacity to counteract oppressions exercised by power, is key to transforming relational patterns through organization and resistance (Emirbayer & Mische, 1998). Thus, future interpersonal relationships, already real in the present, are imagined, tested, and disseminated in opposition to hegemonic models. The concept of agency goes beyond collective resilience and is understood as the ability to transform adverse realities.

Socio-educational interventions aim to improve the knowledge, beliefs, attitudes, and skills of a community. They usually rely on community strategies commonly used in education and health promotion. Over the past decade, interventions aimed at promoting healthy and equitable relationships, particularly addressing gender inequities, with diverse perspectives, have emerged. Among them, gender-transformative interventions grounded in critical pedagogies have been effective in transforming power relations based on gender (Arconada-Melero et al., 2019; Cahill et al., 2018; Emakunde-Instituto Vasco de la Mujer, 2015; Vives-Cases et al., 2019). The gender-transformative approach aspires to transform social relationships, putting an end to the perpetuation of social norms and attitudes that produce-reproduce gender inequities (Gupta, 2000).

2.3. Life Cycle

The life cycle perspective underscores the importance of life stages in understanding health phenomena and inequities at individual, population, and generational levels. Processes and experiences over time influence interpersonal relationships, as well as health and its determinants (Elder GH, 1995). The accumulation of advantageous and disadvantageous experiences is relevant, involving the adoption or rejection of specific individual and collective trajectories (Willson et al., 2007). The life cycle perspective is critical in childhood and adolescence: relationships established in these stages, facilitated by material conditions, lifestyles, and community contexts, foster the subjugation and consolidation of relational patterns that will significantly influence health processes. Moreover, axes of power impact lived experiences, including interpersonal relationships. This is evident in the case of gender, which intertwines continuously during socialization in the construction of affectivities and sexualities (Carpenter, 2010).

2.4. Relational Models

Unlike other more general conceptual frameworks where relational models are considered an intermediate determinant of health, located in the section on social capital, social networks, or psychosocial aspects (Dahlgren and Whitehead, 1991; Solar and Irwin, 2010), in this conceptual framework, structural and intermediate determinants influence health and its inequalities through relational models.

Interpersonal relationships are central to the individual and collective life and development of individuals and are one of the main social determinants of health. The concept of healthy relationships, defined earlier, arises from the need to conceptualize relational models where interpersonal interactions are based on well-being. On the other hand, equitable relationships help promote gender equality in key economic, political, and social life activities, as well as in access to essential services (UNESCO, 2020). These factors enhance the health and well-being of individuals and societies. In contrast to this relational model are asymmetrical relational models, with hierarchical and dominant relationships between individuals and groups being their ultimate expression.

Violence operates on the basis of social norms that legitimize it and is systematically and directionally used for the control and subjugation of individuals affected by violence (Heise, 1998). Interpersonal relationships are a significant social determinant of health (Pietromonaco and Collins, 2017). It has been demonstrated that relational models based on violence, such as gender-based violence (Artazcoz et al., 2019), disproportionately affect the most disadvantaged population, generating greater health inequality (Krieger, 1999). It is established that in childhood and adolescence, the experience of violence is associated with lower self-esteem and higher levels of aggression (Pius Kamsu Moyo, 2020).

2.5. Health Inequity and Health

Health maintains a bidirectional link with interpersonal relationships, based on the characteristic gradients of relational models. This is because interpersonal interactions are diverse, ranging from affection, respect, and mutual support to discord, aggression, and boundary violations (Rook, 1989). As previously noted, healthy and equitable relationships contribute to the health and well-being of individuals and communities. Satisfaction with family, school, and friendship relationships is associated with subjective well-being from childhood and acts as a protective factor against violence (Iñiguez-Berrozpe et al., 2021).

Conversely, asymmetrical relationships negatively impact health in multiple ways. The main effects are associated with being a victim of violence in its various expressions: discrimination (Cave et al., 2020), gender-based violence (Eby et al., 1995), sexual abuse (Briere and Elliott, 1994), physical assaults (Norman et al., 2012), and bullying (Armitage, 2021). Specifically, these relationships are linked to decreased self-esteem and self-concept; increased feelings of guilt; anger, sadness, anxiety, stress, and depression; communication difficulties; reduced social problem-solving skills; normalization and justification of violence, aggression, and learned helplessness; and physical or sexual aggression, suicide, or homicide (Cornelius and Resseguie, 2007).

3. Applicability of Promoting Healthy and Equitable Relationships in Formal Education

The proposed conceptual framework allows for the identification of five areas of intervention for promoting healthy and educational relationships in formal education contexts, derived from the application of Bronfenbrenner's ecological model (Bronfenbrenner and Ceci, 1994).

In this way, the elements of the conceptual framework are organized in response to different levels of educational and school structure: structural determinants could be modified by influencing elements of the macrosystem, such as educational policies. Intermediate determinants could be modified by influencing the microsystem, particularly through specific socio-educational interventions.

1) Actions on Educational Policies. Educational policies regulate educational institutions and are closely linked to social structures and dominant ideology, norms, and social values. Modifications in legislative texts can introduce changes in governance, educational curricula, and school spaces, impacting the promotion of healthier and more equitable educational models. For example, the United Kingdom has enacted laws to include the promotion of healthy and equitable relationships, as well as emotional and sex education, in educational curricula (United Kingdom, 2017).

2) Actions on the School's Educational Project, Organization, and Governance. These elements shape a dominant school culture and enable the hegemony of certain models. To transform relational models, it will be necessary to favor social norms and values that promote equity, critical thinking, and cooperation. Actions include rethinking the school's organizational structure, the educational project (Bernstein, 1982), school regulations, the use of spaces and playgrounds, architecture and accessibility, signage, images and graphics, materials used, celebrations, arrangement of elements in classrooms, and developing protocols for preventing and addressing violence. Involving and engaging children in decision-making processes at the school and classroom levels is essential (Agud et al., 2014). Care must be taken, however, to ensure diversity and avoid exacerbating inequities.

3) Training Actions for Educators. Within educational relationships, educators give meaning to discourses and practices, becoming positive or negative reinforcements for certain relational models. Training educators will contribute to their critical awareness of their impact on students and enable the effective promotion of healthy and equitable relationships (Forcadell-Díez, Bosch-Arís, et al., 2023). It will also enhance the effectiveness of school actions.

4) Socio-Educational Interventions to Promote Healthy and Equitable Relationships among Students. Socio-educational action aimed at influencing relational models must necessarily involve the critical awareness of both educators and students as subjects with transformative potential. Starting from a holistic transformative approach and grounded in critical pedagogies, collective critical reflection and dialogue promote the development of knowledge, skills, and attitudes that foster prosocial behaviors, reduce acceptance and perpetration of violence, and encourage collective organization (Luna and Rubio-Martín, 2022). These interventions should be evidence-based and have an equity and justice perspective. Such socio-educational interventions not only promote changes in relational models but also lead to the reduction of social inequities in health.

5) Actions on the Community. The involvement of the educational community in school practices from a cooperative perspective ensures the continuity of promoted educational actions, guaranteeing coherence and promoting social capital (Martínez-Odría, 2007). Additionally, the school community should be considered in decision-making processes: cooperation with families, entities, and associations, as well as the involvement of the school in community life, facilitate the dissemination of healthy and equitable relational models.

4. Strengths and Limitations

As a strength, the evidence gathered by this conceptual framework allows considering interpersonal relationships as a social determinant of health, enabling the understanding and addressing of social inequities in health.

Furthermore, this conceptual framework helps identify areas of intervention, and in this regard, socio-educational interventions, whether in formal educational contexts or beyond, involve group relationships. This perspective, which extends beyond the individual, is crucial when discussing the promotion of healthy and equitable relationships.

On the other hand, positivism in education has favored the cognitive-behavioral perspective, making it challenging to find evidence from a critical or community-oriented standpoint. Finally, concerning systems of oppression, we have not referred to ableism as one of them.

The limited evidence we have found on this topic approaches it from a segregational or paternalistic perspective. Additionally, the diversity of bodies, functionalities, and abilities must be taken into account in future interventions aimed at promoting healthier and more equitable relationships.

5. Conclusion

The proposed conceptual framework, based on existing evidence, can facilitate the design of effective socio-educational interventions to promote healthier and more equitable relational models. The framework identifies structural and intermediate determinants, as well as areas that need addressing, particularly systems of oppression and social stratification based on power axes, as well as affective and emotional aspects, social skills, and social problem-solving. Additionally, five areas of intervention have been identified to promote healthy and equitable relationships in formal educational settings: educational policies, the school's educational project, organization, and governance, training for educators, socio-educational interventions to promote healthy relationships among students, and community relationships.

6. Recommendations

The promotion of healthy and equitable relationships through socio-educational interventions in formal education is a growing field, and it is essential to anticipate the emergence of new innovative socio-educational interventions. A theoretical model facilitating the design of socio-educational interventions for promoting healthy and equitable relationships with a transformative focus, directed at students, educators, educational contexts, school organization, physical and symbolic spaces of schools, norms and social values, educational community, and educational policies, is necessary.

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Key words: Energy transition, cities, renewable energy, energy rehabilitation, citizen participation

Are cities the key to making the energy transition a reality?

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This article emphasizes the crucial role of cities in the energy transition, highlighting the limitations of the current energy model marked by fossil fuel dependence, high energy prices, and social inequalities. The text analyzes and advocates for a more sustainable and decentralized energy vision in urban environments, emphasizing the active role of citizens and the environmental and social benefits of the energy transition. The article examines and proposes the Barcelona Climate Agreement, aiming for carbon neutrality by 2030. It underscores the importance of local renewable energy generation and advocates for energy-efficient building rehabilitation. Heat and cold networks and citizen participation are highlighted as essential elements for a successful energy transition. The conclusions emphasize the need to promote an energy culture that drives effective and collective changes.

Introduction

When we talk about energy today, we are discussing a complex reality, a highly uncertain energy market, volatile and highly dependent on a few.

The energy industry is unique: competitors are few, they sell everything they produce, and customers have no option not to consume. It is clear that the current energy model has economic (high energy prices, limited resources), social (inequality, energy poverty), and environmental (greenhouse gas emissions, air pollution) limits. Decidedly, the system is not working, and therefore, nothing is more urgent than changing this energy market and making the energy transition a reality.

By energy transition, we mean the necessary structural changes to move from a system dominated by fossil energy to one that predominantly uses clean and renewable energy sources. This restructuring must significantly change energy generation and consumption patterns, promoting sustainable development based on equity and social justice. This transition encompasses technological, social, cultural, economic, and environmental aspects, including a more active role for citizens.

Moving in this direction will not only involve reducing greenhouse gas emissions but also generating additional benefits such as improved health, air quality, employment opportunities, and promoting equity, among others. In a broader sense, energy transition also involves democratizing energy, as renewable energies can be established in a decentralized manner, benefiting the entire population.

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Ensuring the future means producing locally, using renewable energy sources, managing all local resources well, and being more efficient, learning to spend less for the same services and comfort.

1. We need to change the energy model, and we need to do it quickly

The current situation, with more frequent and intense extreme weather events causing increasingly dangerous impacts on nature and people, is clearly the consequence of climate change that needs to be stopped. Actions must be taken to reduce and avoid greenhouse gas emissions, seeking solutions to move forward without leaving anyone behind.

In this sense, the Barcelona City Council has presented the Climate Agreement of the City, setting the ambitious goal of becoming a carbon-neutral city by 2030[7].

Energy systems and the way we generate and consume energy have a clear impact on greenhouse gas emissions, and therefore, action is needed to change the current energy model. This is why we say that the Energy Transition is no longer a choice but a necessity that must be embraced now, doing more, but above all, doing differently.

To do things differently, we need to create an energy culture, as only with the necessary information and knowledge can we make decisions. Therefore, working on environmental education and communication, technical advice, and creating qualified professionals are essential to developing projects tailored to the needs, promoting significant investments in renewable energy and energy efficiency as an everyday reality.

If we consider energy as a right, then actions need to prioritize energy generation, reduce demand, save energy, reduce dependence on fossil resources, and act to reduce energy poverty, protecting the most vulnerable. These are the pillars on which we must act and make this action possible.

Energy has ceased to be a sectoral area of work to become a structural policy that must bring together all actions related to energy and its stakeholders. Coordinated work in all energy-related areas will generate invaluable synergies, with the joint responsibility of the private sector and the citizenry.

This perspective of energy as a structural policy carried out with joint responsibility will be the firm and necessary steps to transition to the new energy model we need to make a reality.

2. Barcelona Aims to be a Protagonist in Climate Neutrality

In this need, cities become true protagonists of change. Cities are where the most significant progress can be made towards energy transition, as they represent 75% of global energy consumption and 80% of CO2 emissions. Therefore, cities play a crucial role in this challenge.

Barcelona aims to be a protagonist, and for years, it has been part of the group of cities driving innovative projects in sustainable energy. Now, the city wants to create its own energy future by simultaneously developing energy efficiency, net and renewable production, and a collective mindset change to make it possible. This change requires determination, involving and empowering citizens, rethinking financing solutions, designing new governance models, and understanding urban planning as a tool to move towards a more sustainable and low-carbon model.

Local governments do not have competencies in significant areas of energy regulation, such as planning, execution, and operation of infrastructures. However, they have the capacity to influence major axes of energy management.

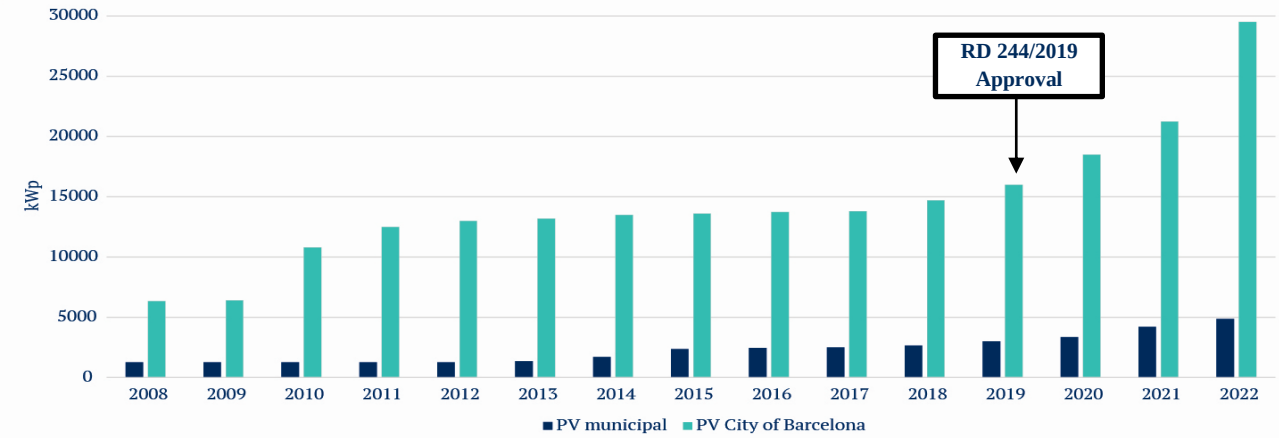
7. For further information, see: https://ajuntament.barcelona.cat/premsa/2023/09/15/barcelona-presenta-a-europa-el-compromis-per-la-neutralitat-climatica-al-2030/.compromis-per-la-neutralitat-climatica-al-2030/

Cities can act on energy access with local generation, purchase, and supply projects; achieve energy savings through demand management and energy efficiency tools, and influence knowledge, awareness, and the extension of a new energy culture.

3. Local and Renewable Energy Generation as Everyday Reality

Moving towards this Energy Transition involves overcoming several challenges. The first is normalizing the presence of generation facilities in the city and increasing the demand for solar self-consumption installations in buildings, both in the public and private sectors.

Graph 1. Accumulated photovoltaic power (PV) at the city and municipal levels (kWp)



Source: Barcelona Energy Agency.

Currently, in the city of Barcelona, we have installed almost 29 megawatts peak (MWp), divided between 17 MWp in private and 4 MWp in public installations[8]. The goal is to have a city where self-generation and self-consumption are widespread. In the case of Barcelona, it is proposed that by 2025, 6 MWp of photovoltaic generation can be achieved in municipal buildings (nurseries, cultural facilities, sports facilities, etc.) and in the public space. Additionally, it is also expected to achieve 35 MWp of photovoltaic generation in the private residential, tertiary, and industrial sectors of the city. To achieve this, promoting shared self-consumption and helping drive the exponential deployment of photovoltaic installations is necessary. All available spaces in the city where it makes sense to generate energy, such as building roofs, facades, various urban infrastructures, and public spaces in general, must be utilized.

Image 1. Photovoltaic installations on municipal buildings

Source: Barcelona Energy Agency

In 2020, a municipal decree was approved to promote renewable energy generation in construction projects and municipal urban planning. Another important tool is facilitating investment in these types of installations, making it profitable as soon as possible.

8. The "megawatt peak" (MWp) is the unit of measurement for the output or generation of a solar panel. It reflects the power generated by 1 watt of electrical energy under suitable conditions and orientation of sunlight.

To reduce the investment associated with all of this, one of the avenues available to local administrations is fiscal incentives. Barcelona offers a 50% reduction in Property Tax (IBI) for 3 years to those citizens who have installed a generation facility in their building, whether residential or commercial. In the case of installations in industrial buildings, the IBI discount is 30% for 3 years. Collaborating with the private sector, financing systems for projects are also offered, such as the MES Barcelona program[9].

As important as generating energy is considering how the generated energy will be used. In this regard, current regulations allow for different formulas for managing the generated energy. One of them is shared self-consumption, which opens up the possibility of generating energy where it makes the most sense without concern for surpluses. These energy surpluses can be enjoyed by a nearby consumer, or at least they can be offset. The Barcelona City Council is considering making a portion of the generated energy available to residential and commercial consumers in exchange for economic compensation, allowing the City Council to recover the investment made within the installation's useful life. This initiative aims to enable any consumer to cover a portion of their consumption with renewable energy generated in the city, both in public and private spaces, so that everyone can enjoy self-consumption regardless of whether they have the ability to install and finance their own generation facility directly on their property.

As a city, it is imperative for us to deploy solar energy on rooftops as soon as possible. The "Moment Solar Barcelona" project[10], a joint initiative with Property Administrators and Installers Guild, provides communities with all the information and advice needed for each home or apartment block to generate the energy it requires[11]. This approach aims to persuade and support neighborhood communities throughout the entire process of installing photovoltaic panels, including the preliminary study, commissioning of the panels, and processing available subsidies or offering financing instruments like MES Barcelona.

4. Energy rehabilitation of buildings as a key tool

As important as producing net and sustainable energy is, it is equally crucial not to waste it. This means acting in the field of energy conservation, through initiatives such as building rehabilitation or ensuring that newly constructed energy is nearly zero-consumption.

For a city built as densely and compactly as Barcelona, with a residential roof surface of 62.7 million m2 (representing more than half of the total roof area of the city), the residential sector accounts for a significant energy consumer. The demand from homes thus corresponds to approximately 28% of the final energy consumed throughout the city.

It's worth noting that many of these buildings are over 65 years old, predating regulations on building quality and insulation requirements. Consequently, a large portion of the residential buildings in the city of Barcelona has a very low energy certification (mostly in classes E, F, and G, accounting for over 70%).

In most already-built cities, as is the case with Barcelona, the energy retrofitting of buildings is a key tool for reducing energy consumption while simultaneously improving comfort. In Barcelona's case, the goal is to rehabilitate 10,000 homes annually with energy efficiency criteria. Currently, around 6,000 homes are addressed each year, but not always with energy efficiency criteria in mind.

Therefore, energy-efficient rehabilitation is a fundamental element of the city's energy policy, not only to drive improvements in the energy efficiency of homes and communal spaces but also regarding the positive impact this investment has on health. Better housing conditions lead to a higher quality of life and greater comfort. Reducing the energy needs of buildings is also a way to decrease family expenses, thus reducing inequalities and vulnerability in many cases.

9. Further information may be accessed at: https://ajuntament.barcelona.cat/agenda2030/ca/mesbarcelona
10. Further information may be accessed at: https://www.energia.barcelona/ca/moment-solar
11. Further information may be accessed at: https://www.energia.barcelona/ca/moment-solar

The residential sector faces issues of conservation, accessibility, and energy efficiency. Although energy efficiency is one of the most significant deficits, there isn't a sufficient level of concern or social awareness about this matter.

Hence, it's crucial to highlight that when proposing energy-efficient rehabilitation for a building, it requires interventions with substantial initial investments: around 3,500 to 10,000 euros per dwelling when addressing building envelopes[12], and from 12,000 to 40,000 euros per dwelling for comprehensive interventions (including building envelopes and installations). These amounts are not easy for building and homeowners to assume and, in some social sectors, can be considered nearly impossible.

To amortize the energy savings obtained through rehabilitation, scenarios of high energy prices and high energy consumption for heating (driven by higher energy consumption in homes) would be needed. However, this is not the case in Barcelona. The city's temperate climate with mild winters means that heating consumption is not excessively high. This reality becomes even more apparent with the current climate emergency. Therefore, the city's energy savings potential is lower, making it more challenging to amortize these investments in the short term.

Another crucial factor to consider is property structure. Most city homes have a horizontal property regime, meaning a set of dwellings forming a building established as communities of owners. This implies that decisions need to be made collectively, reaching agreements among different dwelling owners, who may not necessarily be the current residents, given the significant number of homes under lease.

To make energy-efficient rehabilitation a reality, there is a need to enhance the culture of maintenance in society. It must be understood that certain expenses in homes are necessary to ensure minimal efficiency, providing comfort and well-being. Additionally, efforts should be made to find instruments that make these necessary investments more manageable.

5. Heating and Cooling Networks: an interesting solution for advancing the city's climate neutrality

Another important avenue to explore is that of district heating and cooling networks that utilize residual resources, thereby saving network energy and reducing greenhouse gas emissions. This is possible in certain urban environments that have undergone or are undergoing significant urban transformations.

Urban climate control networks are highly efficient systems for producing heat and cold generated from the use of renewable or residual resources, providing heating, cooling, and hot water, resulting in a 30% energy savings compared to individual conventional systems such as boilers or air conditioning units.

These heating and cooling networks also bring significant space and initial investment savings for individual users. Moreover, they reduce noise, vibrations, and eliminate explosion risks.

They also minimize CO2 emissions and reduce maintenance and replacement costs. These networks, therefore, serve as prominent examples of public-private collaboration[13].

In the case of Barcelona, there are currently two operational district heating and cooling networks. Firstly, there is the so-called "Districlima," established in 2002, which was the first urban network created in Spain to distribute heat and cold for heating, air conditioning, and hot water.

12. The term "envelopes" refers to the set of enclosures that separate the habitable spaces from the external environment (air, ground or other building) and the interior partitions that divide the habitable spaces from the non-habitable ones
13. More information at: https://www.districlima.com/ca/

Districlima began operating with the concession of the production plant at the Forum. At present, the network has 18 kilometers of infrastructure and is connected to 100 buildings. Additionally, a third production plant will be added shortly to reach a potential service provision of one million square meters in the Besós and 22@ areas.

Image 2. Heating and colling network Districlima

Source: Author's elaboration from Google Earth and Districlima.com.

The second network, Ecoenergies, was founded in 2009 and operates through a joint tender from the City Councils of Barcelona and L'Hospitalet de Llobregat[14]. The project envisions three production plants. The two already in operation will be supplemented by utilizing the residual cold from the Port's regasification plant. This heating and cooling network is ready to supply 15,000 square meters in the Zona Franca and the Marina del Port Vell. The Zona Franca plant, pivotal to the project, also features a biomass plant that generates electricity and heat from the pruning residues of parks and gardens and other forestry waste.

Image 3. Heating and cooling network Ecoenergies

Source: Author's elaboration from Google Earth and Ecoenergies.cat.

The Barcelona City Council continues to advocate for heating and cooling networks. Together with Barcelona Sagrera Alta Velocitat, it will promote the development of a new centralized heating and cooling system at the Sagrera Station and its surroundings. This would be the third major heating and cooling network available in the city.

14. Further information may be accessed at: https://www.ecoenergies.cat/cat

Once all networks are implemented, it is expected to provide energy coverage to an approximate area of 18.5 million square meters, equivalent to the sum of the surfaces of the Eixample and Sant Andreu districts. The combination of all heating and cooling networks would also result in the reduction of over 50,000 tons of CO2 annually, equivalent to removing nearly 87,000 private vehicles from circulation.

6. Energy Culture

Promoting and facilitating citizen intervention and participation in an energy consensus and empowerment dynamic is another function to promote within the energy action strategy.

The best way to ensure that energy actions work to their full potential is by enabling the population to participate in decision-making processes. Therefore, the best available tools will be provided, and new ones will be created to adapt to emerging needs, with the goal of making social participation more efficient and profound.

First-hand experimentation and resource rationalization through co-responsibility are effective strategies for knowledge and change promotion.

The increase in energy culture is primarily directed at citizens in their daily lives but also at individuals working in public buildings, private companies, schools, universities, and training centers in general.

7. Conclusions

We must embark on the path of energy transition, and we must do so expeditiously. Achieving a system based on renewable energies, decarbonized, and with a high level of electrification of energy consumption is essential. The journey ahead will undoubtedly require changes in practices, which are neither easy nor immediate. However, undertaking this route is a matter of intelligence because it is in our best interest, and, in some cases, we might even say, out of selfishness. In any case, improvements and advantages will only come if we manage to make a collective change that leaves no one behind.

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"The 15-Minute City": redesigning urban life with proximity to services

Carlos Moreno[a]

This article presents a comprehensive exploration of the concept of the "15-Minute City," an urban planning model aimed at redesigning cities to ensure that all essential services are within low-carbon proximity. We discuss how this model is grounded in urban theories prioritizing human scale, sustainability, and social cohesion. Practical implementation strategies, associated challenges, and the crucial roles of technology and community participation in its realization are examined. The significant impact of the model on urban mobility is equally considered, emphasizing that it extends beyond traffic management to fully integrate accessibility and service proximity. Finally, reflections are offered on the future relevance of the model, its alignment with global sustainability goals, and its potential to adapt to emerging challenges, thereby redefining urban life for current and future generations.

Introduction: proximity as a pillar of urban planning

Evoking the "15-Minute city" refers to a concept of urbanism that prioritizes accessibility to services and versatile spaces within short distances, promoting a polycentric environment where residents can meet most of their daily needs in a low-carbon manner (Moreno, 2022). The emphasis is not on the rigidity of time in a specific figure but on creating a capillary network of services that fosters an integrated and sustainable community life. This model has inspired numerous variations worldwide (X-Minute City, Neighborhood, Y-Minute Territory, Neighborhood), all under the umbrella of what we term "happy proximity," an idea seeking to enhance urban life quality by reducing vehicle dependency and reinforcing economic and social cohesion. It is within this conceptual framework and for simplicity's sake that the recurring expression "15-Minute city" is to be understood in this text.

The notion of balanced and sustainable urban life has been an elusive goal in the history of metropolitan development. The "15-Minute city," as a concept in urbanism, offers a fresh and pragmatic vision to achieve this goal. It is an extensive research task initiated in 2010, gaining worldwide popularity after being adopted by the Mayor of Paris, Anne Hidalgo, in November 2019, and the Mayor of Milan, Giuseppe Sala, in March 2020, leading the "Global COVID-19 Recovery Task Force" of C40 Cities, created during the pandemic, and by C40 Cities as a whole in July of the same year (C40, 2020).

This proposal seeks a reorganization of urban areas so that citizens can meet their essential needs through proximity, favoring low-carbon mobility and promoting physical health by walking or cycling.

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This approach implies a profound reconfiguration of urban life, where proximity becomes the organizing principle of the city.

The significance of this approach lies in its multifaceted ability to reduce carbon footprint, strengthen local communities, and improve urban life quality. It redefines the relationship between space and time in the urban context, encouraging greater social interaction and a sense of belonging among residents. The “15-Minute city” and its counterpart for medium and low-density areas, the “Territory of the 1/2 Hour,” are more than just a measure of distance; they are a reimagining of urbanity and territoriality advocating for sustainability, accessibility, and quality of life through four pillars: a) proximity, b) density, c) mixture, and d) ubiquity (Moreno et al., 2021).

Contrary to the ideal of a successful city defined by its speed and expansion in the Athens Charter of 1933 and Le Corbusier's functionalism (CIAM, 1954) spread worldwide, this concept proposes a successful and livable city with access to daily needs through low-carbon accessibility in the outskirts. This includes not only shops and services but also schools, parks, medical services, workplaces, or cultural centers. The implementation of this vision requires an interdisciplinary approach covering economics, sociology, public health, ecology, and technology, among other fields.

The purpose of this article is twofold. Firstly, it seeks to analyze the practical implementation of the “15-Minute city” model in different urban contexts, illustrating how it adapts and modifies based on local characteristics and needs. Secondly, it aims to evaluate the tangible and intangible benefits promised by this model, as well as the criticisms and challenges it faces in its adoption.

Throughout this interdisciplinary exploration, case studies will be examined, innovative urban policies will be reviewed, and the idea that a restructuring towards proximity could be the answer to many persistent problems in contemporary cities will be tested. Ultimately, this analysis aims to provide a profound understanding of how the “15-Minute city” could reshape the future of urbanization, placing people and the environment at the center of urban planning agendas.”

1. Theoretical foundations: rooting the “15-Minute City” in contemporary urbanism

The concept of a city where all essential services are within close proximity is not only appealing but is also grounded in robust urbanistic principles supported by theories of urban development and numerous studies and practices over time. The “15-Minute City” is founded on principles of inclusive mobility, spatial efficiency, social equity, and sustainability, all essential concepts for the design of contemporary urban areas (Allam et al., 2021):

a) Urban Mobility and Human Scale: Modern urban planning theories emphasize the importance of calibrating the city to human scale, a concept that has evolved significantly since urbanists like Jane Jacobs advocated for vibrant streets and mixed urban functions (Jacobs, 1961). This principle is a cornerstone of the “15-Minute City” model, emphasizing accessibility and connectivity for pedestrians and cyclists, displacing the car as the central axis of urban design.

b) Sustainability and Urban Resilience: Designing a compact and multifunctional city that promotes the proximity of essential services is not only a response to the climate crisis but also a strategy to increase the resilience of urban communities. By reducing long-distance travel, greenhouse gas emissions are diminished, resources are preserved, and air quality is improved, contributing to the health and well-being of residents (IPCC, 2021).

c) Equity and Social Cohesion: A “15-Minute City” provides equal access to services and public spaces, fostering social equity and cohesion. Closing mobility gaps offers equal opportunities for all citizens, promoting inclusion and reducing social disparities.

d) Proximity Economy: The proximity of services reinforces the local economy by promoting the flow of capital within the community and supporting the growth of local businesses. This economic model fosters a network of more personal and less dependent commercial exchanges, thus driving the economy on a more human and sustainable scale.

e) Technological Innovation and Citizen Participation: Modern technology and community involvement play vital roles in the effective implementation of the “15-Minute City”. The collection and analysis of data provided by smart technologies enable urban planning that dynamically responds to the needs of the population. Active resident participation ensures that urban development reflects the desires and needs of the community, creating a sense of belonging and empowerment.

f) Interdisciplinarity in Urban Planning: The intersection of various disciplines such as geography, ecology, sociology, and economics enriches the theory and practice of the “15-Minute City”. Each field contributes unique perspectives that, when integrated, provide a holistic approach to addressing the complex challenges of urbanization. For example, geographers contribute mapping and spatial analysis techniques to identify optimal areas for neighborhood-level service development, while economists can assess the impact of these services on the local economy.

g) History and Evolution of Urbanism: The “15-Minute City” also draws support from the history of urbanism, from Perry's (1929) designs of the Neighborhood Unit to Ebenezer Howard's garden cities (Aguado Moralejo, 2021) to the principles of New Urbanism (Steuteville and Langdon, 2008) and the work of the renowned urbanist Jan Gehl (2010), aiming to restore the human dimension of cities. This model is presented as the natural evolution of these theories, adapting them to contemporary challenges and the expectations of a society increasingly aware of the importance of sustainable development.

h) Urban Psychology and Quality of Life: From the perspective of urban psychology, the proximity of services positively affects the mental health and happiness of citizens. Urban spaces designed to encourage social gatherings and outdoor activities contribute to greater life satisfaction and the creation of more cohesive and resilient communities (Simmel, 1903).

These theoretical foundations delineate the framework within which the “15-Minute City” develops and thrives. The application of these principles is not only a response to current issues but also an anticipation of the future needs of cities.

2. Benefits of service proximity: enhancing urban life

The urban shift towards service proximity is a rising trend that promises to improve the quality of life in cities. The benefits of this approach are multidimensional, ranging from improving public health to revitalizing the local economy. The vision of the “15-Minute City” is not only a response to the need for environmental sustainability but also a means to foster stronger and more resilient communities:

a) Improvements in Public Health: One of the most evident benefits of the “15-Minute City” is its positive impact on the health of its inhabitants. Promoting walking and cycling as primary modes of transportation not only reduces lifestyle-related diseases but also enhances mental health by reducing stress associated with long commuting times. For example, cities like Copenhagen, which have invested in bicycle and pedestrian infrastructure, have seen overall health improvements and a reduction in mortality related to pollution and inactivity (Allam et al., 2022).

b) Environmental Benefits: The reduction of reliance on motorized vehicles has a clear environmental benefit. Fewer cars on the streets mean fewer greenhouse gas emissions and better air quality. The “15-Minute City,” by encouraging short-distance travel, directly contributes to the fight against climate change. Cities like Paris have begun experimenting with this model by closing streets to car traffic and transforming them into green and pedestrian spaces.

c) Local Economic Revitalization: Concentrating services within walkable neighborhoods can revitalize local economies. Farmers' markets, neighborhood shops, and local services thrive when residents choose to consume locally. This fosters a circular economy and supports small businesses. In Melbourne, Australia, local commercial corridors have thrived thanks to policies promoting economic activity within walkable distances.

d) Cohesion and Social Capital: Neighborhoods designed with service proximity foster greater interaction among neighbors, reinforcing cohesion and social capital. The possibility of spontaneous encounters and participation in community life increases when people spend more time in their neighborhoods. In Portland, Oregon, the implementation of mini plazas and community spaces has been observed to encourage social interaction and a sense of community.

e) Efficiency and Accessibility in Time Use: The concept of the “15-Minute City” also enhances efficiency and accessibility in time use. Reducing travel time allows people to dedicate more time to recreational, family, or rest activities, instead of losing it in traffic. Pontevedra shows that it is possible to limit traffic in certain areas, allowing spaces to be used more efficiently, freeing up time for social life and recreation.

f) Traffic Reduction and Mobility Improvement: Decreasing car usage leads to a significant reduction in traffic, alleviating congestion and improving mobility for all road users, including emergency services and public transportation. Cities like Amsterdam have led the way in demonstrating how bicycle and pedestrian infrastructure can coexist with efficient urban mobility.

g) Increase in Urban Safety: Neighborhoods with more pedestrian and cyclist traffic tend to be safer due to increased natural surveillance. The constant presence of people on the streets acts as a deterrent to criminal activity and enhances overall safety.

h) Resilience in Crisis: The proximity of essential services has proven crucial in times of crisis, as evidenced during the Covid-19 pandemic. Neighborhoods that could access basic goods and services without traveling far had significant advantages in terms of continuity and well-being. In Seoul, the quick response to the pandemic was facilitated in part by the density of neighborhood-accessible services.

The benefits of the “15-Minute City” are clear and varied, offering improvements in health, the environment, the economy, and social cohesion. These concrete examples demonstrate how theory can translate into practice, yielding tangible results for citizens and their communities. The next section will examine the challenges that this model faces and how it can adapt to different urban contexts.

3. Challenges and critiques: assessing the complexities of the proximity urban model

While the “15-Minute City” presents numerous advantages, it also faces significant challenges and has been the subject of criticisms questioning its viability and effectiveness. Understanding these points is crucial for realistically evaluating the potential of this urban model and designing strategies to overcome its limitations.

a) Implementation Challenges: Transforming existing cities to adapt them to the 15-minute model involves a series of logistical and structural challenges. Cities historically designed around automobiles must undergo profound changes in their infrastructure, requiring a decisive assertion as a public policy of urban or territorial planning and detailed planning. Additionally, in many cities, real estate speculation and commercial interests may resist changes that prioritize public spaces over private development.

b) Diversity of Urban Needs: Each city has its own idiosyncrasies and specific needs, meaning that the 15-minute model cannot be applied uniformly. Differences in population density, the geographical distribution of services, and mobility cultures require personalized adaptations, complicating the standardization of policies and strategies.

c) Inclusion and Equity: A common criticism of the model is that it can lead to gentrification and the displacement of less privileged populations if not handled carefully. Improving neighborhoods and introducing proximity services can increase housing prices, excluding those with fewer resources. It is essential that policies accompanying urban transformation include measures to preserve socioeconomic diversity and broadly promote social mixing.

d) Economic Viability: Critics have also raised concerns about the economic viability of the "15-Minute City." They argue that the concentration of services may not be sustainable for certain types of businesses or that the reduction of traffic may negatively impact industries that depend on long-distance transportation. Multiple studies show that this is a paradigm shift that is materializing after the pandemic.

e) Resistance to Change: The cultural change required for the adoption of the "15-Minute City" model should not be underestimated. Entrenched habits of car dependence and expectations of convenience can be significant barriers. The transition requires behavior adaptation and a widespread acceptance of new mobility patterns.

f) Need for Citizen Participation: The success of the model depends largely on active citizen participation. However, achieving a level of community involvement that allows co-creation of the city can be a challenge, especially in contexts where distrust of authorities is high, or political culture is apathetic.

g) Infrastructure and Technology: The technological infrastructure needed to support a "15-Minute City" is considerable. Cities must invest in smart technologies that enable data collection and analysis for effective planning. This can be an obstacle, especially in regions with budget constraints or a lack of technical expertise.

Addressing challenges and critiques of the "15-Minute City" model is crucial when considering its potential benefits. Overcoming these challenges requires careful consideration of local circumstances and the implementation of inclusive and sustainable policies.

4. Urban design and planning strategies: forging the future of cities around human proximity

The transformation of our metropolises into "15-Minute Cities" represents a revolution in how we conceive and experience urban spaces. This transition, more than a series of isolated interventions or a traffic plan, is a holistic reinvention of the urban environment that places people and their daily needs at the center of planning. It is a response to the growing demand for urban environments that are both vibrant and sustainable, promoting health and well-being and fostering a stronger and more resilient community (UN-Habitat, 2023).

Cities embarking on this journey recognize that proximity is not only a matter of physical distance but also of accessibility and connection. It is not just about bringing people closer to services but weaving a network of experiences and opportunities that enrich daily life. The strategies they adopt are as diverse as the cities themselves, reflecting the diversity of their histories, geographies, and cultures. These strategies must be flexible enough to adapt to demographic and technological changes and robust enough to address the challenges of climate change and economic or health crises that may arise.

To navigate this paradigm shift, urban planners and policymakers must employ innovative and multidisciplinary thinking.

They must link considerations of urban design with inclusive public policies, leverage technological advances for smarter planning, and ensure that economic growth goes hand in hand with social equity and environmental sustainability.

The urban spaces of the future must be designed with the flexibility to evolve alongside the communities that inhabit them, allowing cities not only to grow but also to learn, adapt, and thrive.

The ambition is high: to create cities that are more than just a place to live, work, and play, but spaces where every street, building, and square promotes rich and meaningful interaction. This requires a reassessment of traditional urban priorities and a new valuation of time and space in the life of the city. Commitment to this model is not an easy task or a quick solution, but it is an essential step toward creating a future urban environment that is worthy of future generations.

We will explore how cities worldwide are addressing these challenges and using innovative strategies to create urban environments that reflect the principles of the “15-Minute City”. These actions not only respond to current needs but also lay the groundwork for long-term resilience and adaptability, ensuring that cities not only survive but also thrive in the uncertain landscape of the future:

a) Redesign of Urban Infrastructure: Redesigning urban infrastructure to promote pedestrian and cyclist mobility extends beyond simply adding bike lanes and wide sidewalks. It also involves the implementation of intelligent signaling systems, intersections prioritizing the safety of pedestrians and cyclists, and the development of parks and green corridors that connect different areas of the city. In Paris, the “Plan Vélo” (Paris, 2021) aims to double bike lanes and reduce car parking spaces to encourage alternative mobility.

b) Zoning and Mixed Land Use: Effective mixed land use requires careful planning to balance residential life with commercial, industrial, and leisure activities. Flexible zoning policies allow spaces to adapt to multiple uses over time, fostering the vitality and adaptability of urban areas. In Copenhagen, mixed-use developments in the Nordhavn area are creating a new neighborhood from scratch, designed to be sustainable and people-centered.

c) Incentives for Local Development: Incentives for local businesses can include not only financial support but also assistance in marketing, management, and training for entrepreneurs. This helps create a diversified economic fabric resistant to economic shocks. In Portland, the Neighborhood Prosperity Initiative program (Portland, 2021) has revitalized commercial districts through investment in the identity and business capacity of urban areas.

d) Integration of Green and Public Spaces: Creating green and public spaces goes beyond simply providing parks, extending to the integration of nature into the design of buildings and streets. In Buenos Aires, the crisis generated by Covid-19 has facilitated the “renaturalization” policy of the city, with green streets incorporating vegetation that enhances biodiversity and manages stormwater.

e) Sustainable Transport Policies: Sustainable transport policies must be comprehensive and systematic, integrating bicycles, public transport, shared vehicles, and other forms of electric mobility. In Amsterdam, the approach has been not only to create bicycle infrastructure but also to restrict car access to the city center and expand the public transport network.

f) Technology and Data for Smart Planning: Smart planning also involves the development of applications and platforms that facilitate mobility and access to services. Singapore, for example, uses advanced traffic management systems and apps that provide real-time information on transport options, making navigating the city more efficient and accessible.

g) Active Citizen Participation: Citizen participation benefits from the creation of digital and physical platforms for debate and decision-making. Many cities use tools like tactical urbanism and participatory budgets to directly involve citizens in the creation and improvement of their urban spaces.

h) Affordable Housing Policies: Affordable housing policies can include the construction of social housing, rent regulation, and the promotion of cooperative ownership. Vienna has been able to maintain diversity and affordability in its city center through a strong investment in social housing, avoiding the gentrification that often accompanies proximity-focused urbanization.

i) Integration of Public Services: The effective integration of public services requires planning that puts them at the heart of communities. Helsinki has innovated with the integration of services with the concept of the “city library,” creating spaces that are both learning centers and cultural activity hubs (Urban Next, 2018).

The aspiration to reshape our cities around the ideal of the “15-Minute City” is an initiative being adopted in cities worldwide. This global drive towards more human and accessible urban planning is based on a shared recognition that the quality of urban life can and should be improved. Urban design and planning strategies must, therefore, be as dynamic and diverse as the populations they serve, incorporating the uniqueness of each place and its people.

To materialize this vision in a variety of urban contexts, it is essential to have a commitment to innovation and adaptability. Successful tactics and policies in one city can serve as inspiration or a starting point for another, but they must always be adjusted to accommodate cultural, economic, and environmental differences. Collaboration between urban planners, the business sector, citizens, and other key actors is crucial to fostering a rich dialogue that can translate into effective actions and vibrant and sustainable urban environments.

Through a holistic and participatory approach, urban planners and policymakers can transcend the traditional limitations of city design and, instead, foster the creation of spaces that truly reflect the needs and aspirations of their citizens. By doing so, they are not only improving the habitability and resilience of cities but also reaffirming a commitment to creating an urban environment that is inclusive, equitable, and designed for human well-being in its broadest sense.

The universality of the concept of the “15-Minute City” underscores its relevance on the world stage. From the expanding metropolises of Asia and Africa to the historic cities of Europe and the varied urbanizations of the Americas, this model is being explored and adopted as an approach to more sustainable and human-centered urban development. It reflects a new era of urban responsibility, where distances are measured not only in kilometers or miles but in the quality of human connections and access to a full and healthy life.

The “15-Minute City” is emerging as a new paradigm in urban planning, one that promises to redefine the fabric of our cities and the daily lives of their inhabitants. As this concept continues to gain momentum globally, it becomes a powerful tool to address the urban challenges of the 21st century, creating cities that are not only more efficient and sustainable but also more welcoming, vibrant, and humane (Moreno, 2024).

5. Technology and innovation: catalysts of the “15-Minute City”

The model of the “15-Minute City” is not a static entity; it is a living organism that grows and adapts through the integration of advanced technologies and innovative practices. In this digital era, technology plays a crucial role in facilitating and advancing this urban model. Innovations in data collection, analysis, and citizen participation are enabling cities to better understand and respond to the needs of their residents:

a) *Big Data* and Predictive Analysis: Cities are utilizing big data to make informed decisions about urban planning and mobility. Predictive analysis allows urban planners to understand traffic patterns, travel trends, and real-time service needs, facilitating more dynamic and adaptive urban planning. For example, in Singapore, data collected from sensors and smart devices are being used to optimize traffic flow and enhance the public transportation experience.

b) Citizen Participation Platforms: Digital technologies are revolutionizing how communities engage in urban planning. Online platforms enable citizens to express their opinions, vote on initiatives, and contribute ideas for the development of their neighborhoods. Helsinki has used digital tools to promote participation in urban project development, ensuring they reflect the needs and desires of residents.

c) Intelligent Transport Systems (ITS): ITS utilizes communication technologies to improve transport efficiency and safety. These systems can control traffic, manage public transport networks, and provide real-time information to users. In cities like Amsterdam, ITS has contributed to creating a more cohesive and accessible mobility system, reducing the need for long and complex journeys.

d) Sustainability and Energy Efficiency: Technology is also at the core of urban sustainability. Smart buildings and efficient energy networks are essential for reducing cities' carbon footprint. In Copenhagen, technology is being used to enhance energy efficiency and promote the use of renewable energy, contributing to the city's vision of being carbon-neutral by 2025.

e) Digital Urban Planning and 3D Modeling: 3D modeling and augmented reality tools allow planners and the public to visualize urban development projects before construction. This not only improves the design process but also encourages greater transparency and public participation. San Francisco has used 3D models to plan and communicate urban changes, enabling citizens to visualize and understand the impact of new developments.

f) Mobile Applications for Urban Services: Mobile applications are making urban services more accessible than ever. From parking payment to reserving spaces in public facilities, these apps make city life more convenient and efficient. In Seoul, a wide range of governmental and community services is available through applications, providing residents with access to the information and resources they need.

Technology and innovation are cornerstones in building the “15-Minute City”, not only in terms of infrastructure and services but also in creating an open and dynamic dialogue between the city and its citizens. With the integration of smart systems, participative tools, and sustainable solutions, cities are forging an urban future that is more responsive, connected, and livable.

6. Community participation and governance: cornerstones of the “15-Minute Cities”

The realization of the “15-Minute City” concept is based on significant community engagement and effective governance. These elements are not only crucial for the acceptance and success of the model but also foster a sense of ownership and responsibility among residents. Community participation and collaborative governance thus become essential catalysts in the transformation of cities:

a) Community Participation in Urban Planning: Active community involvement in urban planning allows the voices of citizens to be heard, ensuring their needs and desires are reflected in the development of their surroundings. Initiatives such as community design workshops, public forums, and online consultations can help gather a broad range of perspectives, fostering transparency and trust in the planning process. In cities like Porto Alegre, Brazil, the implementation of participatory budgets has allowed residents to directly decide on the allocation of funds for urban projects, resulting in a more equitable distribution of resources and engaged citizenship.

b) Inclusive and Responsive Governance: Effective governance for the “15-Minute City” must be inclusive, considering the needs of all population groups, including those historically marginalized. It must also be responsive, capable of adapting and responding quickly to emerging changes and challenges. Collaborative governance involving multiple stakeholders, including local governments, businesses, NGOs, and citizen groups, is fundamental to developing solutions that are sustainable and widely supported. Examples of this can be found in cities like Melbourne, where collaboration between the city government, universities, and community groups has led to innovative projects promoting sustainability and community cohesion.

c) Digital Tools for Participation and Governance: Digital tools are revolutionizing how communities engage with their governments and participate in the governance of their cities.

d) Online platforms like Decidim in Barcelona allow citizens to propose, debate, and vote on municipal policies and projects. These tools not only facilitate broader and more diverse engagement but also enable citizens' ideas and concerns to be quickly incorporated into decision-making.

e) Education and Community Empowerment: Education is a vital facet of community participation. Civic education programs and workshops on urbanism can empower citizens to participate more effectively in the planning process. In Copenhagen, educational efforts have increased awareness of sustainable urbanism and fostered a culture of active participation in urban development.

f) Integration of Community Participation in Governance: Community participation must be integrated into governance processes to be effective. This involves establishing clear and consistent channels for citizen participation at all stages of the planning and urban development process. In cities like Montevideo, Uruguay, neighborhood councils play a formal role in urban planning, ensuring that community perspectives are an integral part of decision-making.

g) Transparency and Accountability: Transparency and accountability are fundamental to effective governance and maintaining community trust. Governments must be transparent in their planning processes and be accountable for results and the use of resources. In Toronto, Canada, open data initiatives and progress report publications enable citizens to track and evaluate government performance in key areas such as urban development and mobility.

h) Innovative Governance Models: Governance models that promote collaboration and flexibility are emerging as effective approaches for urban development. These models often feature less hierarchical structures and greater autonomy for local communities in decision-making. In Helsinki, “neighborhood contracts” are an example of how the city delegates authority and funds directly to neighborhoods for specific urban improvement projects, incentivizing innovation and local participation (NY Times, 2020).

Community participation and effective governance are indispensable for the success of the “15-Minute City.” Active citizen involvement, inclusive and responsive governance, and the use of digital tools to facilitate these processes are elements that enable cities to adapt to the needs of their inhabitants. By engaging the community at every step and fostering transparent and collaborative governance, cities can ensure that their efforts to achieve proximity and accessibility align with the needs and desires of those they serve.

7. Reconceptualization of urban mobility in the “15-Minute City”

The model of the “15-Minute City” presents itself as a radical innovation in urban planning, challenging the traditional notion that urban planning should focus on traffic and vehicle circulation. This avant-garde approach goes beyond conventional traffic calming interventions and zoning for reduced traffic. At its core, it proposes a reinvention of urban life, where mobility is intertwined with accessibility to a complete range of services and facilities that enrich the daily lives of citizens.

The “15-Minute City” advocates for an environment where proximity is not merely measured in terms of distance but in the quality and integration of urban life. It envisions a space where residents' needs, from access to education and health to leisure and work options, are embedded in the very fabric of the community.

This integration means that reducing or managing traffic is only a part of the issue; the true measure of success is the availability of vital services within a short and pleasant walking distance.

We assert that the model cannot be reduced to creating urban “islands” of accessibility within a sea of car-oriented infrastructure.

It is not merely a series of pacified blocks or neighborhoods with traffic calming; it is a commitment to a comprehensive vision that spans from the presence of multiple urban services throughout the city to green space planning, public transportation system design, and the promotion of community interaction.

This model implies a profound transformation in the conception of urban infrastructure and mobility. It requires a redesign of urban spaces to be inherently multifunctional, where mobility is understood as the capacity to access a rich and full urban life without relying on individual private transport. A successful “15-Minute City” is one where traffic planning becomes a tool to achieve a larger goal: optimal urban quality of life characterized by health, sustainability, and social cohesion.

Therefore, the impact on urban mobility within the framework of the “15-Minute City” must be assessed not only in terms of transport efficiency or congestion reduction but also in how it facilitates a more connected daily life and satisfies fundamental human needs. Mobility becomes a means to a higher end: the full realization of human potential within the urban environment.

a) Redefinition of the Mobility Concept: The “15-Minute City” invites us to rethink the concept of urban mobility. It involves mobility that prioritizes human well-being and access to basic services, promoting the integration of daily life rather than viewing movement simply as the act of going from one place to another. Mobility in this context is holistic, encompassing physical, social, and digital aspects.

b) Integration of Mobility with Daily Life: Instead of designing transport systems to maximize vehicle traffic efficiency, the “15-Minute City” focuses on how mobility systems can enhance the quality of life. This means creating environments where transport is an integrated part of daily life, not an end in itself. For example, in cities like Freiburg, Germany, residential areas are designed so that essential services are within walking distance, reducing the need for long journeys and fostering a more united community.

c) Improving Accessibility and Reducing Car Dependency: One key to improving mobility in the “15-Minute City” is reducing car dependency. This is achieved not only through traffic restrictions but also by offering attractive and practical alternatives such as efficient, safe, and frequent public transport networks, bicycle and pedestrian infrastructure, and promoting the use of shared electric vehicles. Cities like Utrecht have transformed their mobility with multimodal systems, including extensive bike lanes and improvements in pedestrian infrastructure.

d) Urban Development and Sustainable Mobility: The “15-Minute City” model promotes urban development centered on sustainability. This involves planning that reduces the need for long-distance travel and promotes active mobility. In Copenhagen, for example, the ambition is for over 50% of journeys to be made by bicycle. Sustainable mobility becomes a cornerstone of urban planning, contributing to a healthier and less polluted environment (Tools of Change, 2022).

e) Innovation in Transport Systems: Innovation in transport systems is essential for the success of the “15-Minute City”. This includes the implementation of intelligent traffic technologies to the development of mobile applications that facilitate intermodality. These innovations enable residents to plan and carry out their journeys more efficiently and in harmony with their schedules and personal needs.

f) Impact on Equity and Social Inclusion: Mobility in the “15-Minute City” has a profound impact on equity and social inclusion. Making services and opportunities easily available to all, regardless of their economic capacity or physical mobility, promotes a more equitable city. Public transport systems like the London Underground have adopted tiered fare policies and accessibility improvements to ensure that all citizens can move around the city with ease.

g) Measuring Success in Urban Mobility: The success of mobility in the “15-Minute City” is measured not only in terms of traffic flow or travel speed but in the quality of urban interactions and access to a fulfilling life. Analysis tools and citizen satisfaction metrics are employed to evaluate the effectiveness of mobility systems and their contribution to the overall well-being of the community.

Mobility in the “15-Minute City” is an integral facet that impacts every aspect of urban design. Its success is based on creating an urban fabric that supports human well-being and promotes a balanced life, where movement and access are easy, natural, and enjoyable. Mobility strategies must be multifaceted, innovative, and people-centered, supporting an urban model that is both dynamic and sustainable.

8. Future and sustainability: cities as pioneers in the fight against climate change and social innovation

At the forefront of sustainable urban design and social innovation, the “15-Minute City” model emerges as a transformative strategy in response to the global call to combat climate change and foster resilient communities. Organizations such as C40 Cities and United Cities and Local Governments (CGLU) have been instrumental in promoting a future vision where cities play a pivotal role in addressing environmental and social challenges. Initiatives like CGLU's Pact for the Future of Humanity (CGLU 2022) and the establishment of the Global Proximity Observatory by UN Habitat, C40 Cities, CGLU, and the ETI Chair of the Paris Sorbonne Business School illustrate international commitment and cooperation in redefining urban spaces for the future.

These global alliances underscore the urgency of reimagining our cities in terms of comprehensive sustainability, resource efficiency, and quality of life. The “15-Minute City” encapsulates this vision, proposing an urban environment where sustainability is not merely an addition but the core of urban planning. This holistic approach not only addresses the need to reduce greenhouse gas emissions and improve resource management but also focuses on creating cohesive and economically dynamic communities.

The concept of the “15-Minute City” aligns with global efforts to forge a sustainable future, as reflected in the United Nations' Sustainable Development Goals (SDGs). It is not just about reducing distances or altering traffic patterns; rather, it advocates for a cultural shift towards sustainability and community interdependence. Cities within the C40 network, for instance, are committed to bold actions that translate theory into practice, implementing zero-emission policies and human-centered urban developments that are both innovative and inclusive. International collaboration and knowledge exchange through platforms like the Global Proximity Observatory Sustainable highlight the importance of sharing experiences, strategies, and lessons learned. These alliances enable cities worldwide to adapt and apply the principles of the “15-Minute City” in a way that respects their unique contexts and addresses their specific challenges.

As we move towards the future, the “15-Minute City” emerges as a global framework for urban innovation through the design of proximity services. It responds not only to the climate urgency but also redefines what it means to live in a city. The emerging strategies and policies of this model promise to address current environmental concerns while building the necessary resilience to face the uncertainties of tomorrow (Global Observatory, 2023).

a) Resilience to Climate Change: The “15-Minute Cities” incorporate resilience as a key principle, preparing urban communities to face and adapt to the impacts of climate change. This is achieved through the integration of green spaces that enhance biodiversity and stormwater management, the promotion of active and sustainable mobility, and the implementation of infrastructure that reduces carbon emissions. These collective efforts in sustainable urban planning are fundamental steps towards mitigating the effects of global warming.

b) Economic Sustainability: The “15-Minute City” model also focuses on economic sustainability. By fostering local economies and proximity trade, it stimulates economic growth within the community and reduces dependence on long and complex supply chains.

The local economy becomes more robust and less susceptible to fluctuations in the global market, as seen in cities that have successfully promoted local markets and small businesses.

c) Social Equity and Universal Access: One of the most significant implications of the model is its potential to improve social equity. Urban planning that allows all citizens, regardless of age, ability, or socioeconomic status, to access services and opportunities is a foundation for a fair and equitable society. The “15-Minute City” is inclusive by design, ensuring that all residents benefit from its resources.

d) Public Health and Well-being: Health and well-being are critical aspects of the long-term sustainability of cities. The “15-Minute City” model promotes an active lifestyle by making walking and cycling the most convenient and enjoyable forms of transportation. This not only has a positive impact on physical health but also improves mental health by reducing the stress associated with long commutes and fostering social interactions.

e) Adaptability and Urban Growth: “15-Minute Cities” must be able to adapt to emerging trends and population growth. This means designing spaces that can change and evolve over time. Flexible planning allows neighborhoods to develop and respond to future needs, which is essential in a world where change is the only constant.

f) Technology and Sustainable Innovation: Technology and innovation will continue to play a crucial role in the sustainable development of cities. From smart buildings to clean energy networks and autonomous transport systems, the integration of sustainable technologies is key to building cities that are efficient and environmentally friendly.

g) Global Challenges and Local Solutions: “15-Minute Cities” face the challenge of translating global goals into local actions. This requires a deep understanding of local dynamics and the ability to implement solutions that, while globally informed, are finely tuned to the local context.

Looking towards the future, they offer a vision of sustainability that encompasses environmental resilience, economic prosperity, social equity, public health, and urban adaptability. By placing these principles at the center of urban planning, cities can not only ensure their own sustainability but also contribute to global efforts to build a greener, fairer, and healthier future. The “15-Minute City,” therefore, is not an end in itself but a way of thinking and acting that prepares our cities for the challenges and opportunities of tomorrow.

9. Conclusion: happy proximity in the “15-Minute City”. A austainable urban future

The “15-Minute City”, more than a utopian urban idea, has proven to be a viable model for the future of urban planning. Its essence lies in a commitment to quality of life, sustainability, and equity, promoting a vision of cities that favor service proximity and accessibility for all residents. Throughout this analysis, we have explored the various facets and dimensions that compose this innovative approach, from the theory and foundations that underpin it to the practical strategies and challenges it faces.

We have seen that the “15-Minute City” is a response to the growing need for more humane and sustainable urban spaces. It is not merely about restricting traffic or promoting active mobility but a complete reimagining of urban life, where proximity and accessibility become the norm. This model promises transformations ranging from improvements in public health and social well-being to local economic revitalization and community cohesion. The environmental benefits are undeniable, with a reduction in greenhouse gas emissions and improved air quality as direct results of reduced car dependence. However, the benefits extend beyond the environment, fostering a culture of community participation and inclusive governance that places citizens at the heart of urban decision-making.

Emerging technology and innovation are crucial for facilitating the transition to these cities of the future. Big data, predictive analysis, citizen participation platforms, and smart transportation systems are just a few examples of how technology can support the viability and implementation of the model.

These digital tools enable more precise planning and dynamic urban management that can adapt to the changing needs of the population. However, this model is not without challenges.

Gentrification, economic viability, and resistance to change are significant obstacles that need to be addressed with careful policies and an inclusive approach. Community involvement and collaborative governance are essential to overcoming these challenges, ensuring that urban development is fair and beneficial for all.

Looking to the future, “15-Minute Cities” have the potential to align with the UN's Sustainable Development Goals (SDGs) and play a crucial role in the global fight against climate change. Resilience and adaptability are defining characteristics of this model, which must be able to evolve with emerging trends and the needs of future generations. The happy proximity at the core of the “15-Minute City” is not only viable but essential. It is a call to action for urban planners, politicians, entrepreneurs, and citizens to collaborate in creating cities that are not only efficient and sustainable but also vibrant, inclusive, and conducive to human well-being. The “15-Minute City” is not a doctrine or strict guidelines to follow; above all, it is a vision that reimagines our cities as spaces of proximity, community, and harmony with the environment.

The happy proximity of the “15-Minute City” represents an opportunity to redefine urban life for tomorrow. It is a commitment to an urban future that embraces the complexity and diversity of the human experience and recognizes that sustainability and quality of life are two sides of the same coin. With each step towards this model, cities are getting closer to becoming spaces of coexistence, creativity, and sustainability that we aspire to for ourselves and future generations.

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Experiences

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The Amunt! Pilot: Integrated and comprehensive attention for sociolaboral inclusion

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The Amunt! Project (2022-2023) has been an experimental pilot initiative driven by the Barcelona City Council and the Ministry of Inclusion, Social Security, and Migrations. The project aims to test and evaluate a new socio-labour service that, through a more comprehensive and integrated approach, improves the inclusion of individuals in the city benefiting from the Minimum Living Income. Operating as a "one-stop-shop," the service establishes a single methodology for the entry and follow-up of individuals, providing access to a diverse set of actions. The model is based on three interconnected elements: comprehensive reception and diagnosis of the individual, their enrolment in one or more actions tailored to their profile, needs, and interests, and personalized support to help them navigate their journey. While impact evaluation results are pending, this document presents and analyses the project's experience and implementation.

1. Context and Background

The Minimum Living Income (IMV) holds a prominent place in the recent evolution of Spain's minimum income guarantee system (Arriba González de Duana and Aguilar Hendrickson, 2021b). Urgently introduced during the pandemic spring of 2020, it integrated a non-contributory benefit into Social Security, recognized as a subjective right for households with considered insufficient incomes. By the end of 2021, with the approval and implementation of Law 19/2021 establishing the IMV, this first nationwide minimum income program was solidified. It coexists today with regional minimum incomes and local emergency social aid, among others. The political and academic debate sparked by this change has been significant and adds to discussions on the need to review active employment policies, the role of social services, and the relationship between protection and activation.

Specifically regarding the IMV, the national government, through the Ministry of Inclusion, Social Security, and Migrations (MISSM), simultaneously launched a set of projects aimed at increasing its effectiveness. From the regulations governing them, it is evident that MISSM assumes that if the monetary benefit alone proves insufficient to reduce the vulnerability of its beneficiaries, it should be linked to active policies enabling their full social and labour inclusion.

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These interventions, in collaboration with autonomous communities, municipalities, or third-sector social action entities, have been deployed throughout 2022 and 2023, funded by the Recovery, Transformation, and Resilience Plan from the European Recovery Instrument (Next Generation EU). The projects are subject to external impact evaluations, conducted by CEMFI (Center for Monetary and Financial Studies) and J-PAL (Abdul Latif Jameel Poverty Action Lab), employing experimental RCT (randomized controlled trial) methodology, with results expected in 2024.

The Barcelona City Council, through the Area of Social Rights, Health, Cooperation, and Community, has been responsible for Amunt!, one of these projects. To launch it, valuable previous experience was drawn upon. Since 2014, the Làbora program, a public-social cooperation initiative aimed at the labour insertion of unemployed individuals using municipal social services, has been in place. Additionally, since 2008, Barcelona Activa, in collaboration with SOC, has implemented the Comprehensive Care Device in Priority Neighbourhoods (previously known as Work in the Neighbourhoods). Furthermore, between 2019 and 2022, Barcelona Activa executed the Bridges to Employment and Inclusion project, which included comprehensive socio-labour insertion pathways. Finally, Amunt! takes over from the B-MINCOME pilot (2017-2019), a comprehensive policy combining municipal emergency social aid with active socio-labour inclusion policies (educational, labour, and community-based), also evaluated with RCT methodology (Riutort, Laín, and Julià, 2023).

2. Experimental Design and Target Population

Fundamentally, the Amunt! project has been an active municipal policy that, for a year (from September 2022 to September 2023), offered various inclusive activities or services with a certain comprehensive –personalized– and integrated –intersectorial– vision. The target population for the intervention was 1,000 individuals from different households receiving the Minimum Income Vital (IMV) in the city of Barcelona. Few exclusion criteria were applied: only individuals over 65 years old were excluded, and, for technical and professional criteria, individuals from cohabiting units involved in studies or with child protection measures were excluded. Individuals with disabilities or those not using social services were not excluded.

The selection process for individuals had to meet the requirements of the impact assessment type to which the project was subjected. The Randomized Controlled Trial (RCT) experimental methodology is based on the comparative analysis of a group receiving the intervention (the treatment group) and another group not receiving it (the control group), both randomly selected from a defined universe of potential participants with similar characteristics. Randomization had to be carried out on a population adequately informed about the project and its evaluation, and prior signed consent had to be collected on paper. This involved a fairly complex contact process, requiring significant time and resources.

During June and July 2022, the Barcelona City Council contacted up to 5,472 potential participants who met the criteria identified from data provided by MISSM. They were contacted via letter and/or SMS and subsequently invited to one of the 60 informational sessions organized in different city facilities. 1,648 people attended, of whom 1,182 decided to participate in the project (21.6% of the contacted universe, 71.7% of attendees at the sessions), accepting the possibility of being part of the control group. Descriptively, these individuals were mostly women (63.9%) aged between 25 and 55 years (73.3%), although 24.3% were over 55 years old; 61.9% were of Spanish nationality, but there were more born outside Spain (65.9%); 18.4% had some recognized disability; 52.1% indicated a basic educational level, and 71.5% had not worked in the last six months.

Since, despite efforts, this number of individuals was smaller than planned, as the ideal goal was to have around 2,000 for two equally sized groups, evaluative teams determined that the treatment group would consist of 749 individuals and the control group of the remaining 433.

Randomization balanced the two groups. However, to reach the target of 1,000 individuals served by the Amunt! service, a second recruitment of individuals with similar characteristics to those already selected was conducted[15]. It was a different process, as those who agreed to participate would all receive the service and would not be part of the project's impact assessment for methodological reasons. An additional 80 people were successfully incorporated. Therefore, in summary, the total number of individuals targeted by the intervention was 829 people.

3. Description of the Intervention Model

3.1. Unique Reception and Support Process

One of the distinctive features of the Amunt! intervention is its reliance on a unique entry and follow-up process for individuals. The project's integration began with an initial reception conducted by professionals from a specific social services team to obtain a psychosocial diagnosis of the individual. Subsequently, and in coordination with the initial reception, a second reception was conducted by professionals from a job insertion team (orientation, training, and exploration). This second reception aimed to achieve a diagnosis in terms of employability and needs and interests, potentially linked to training activities. After sharing the results of the reception between the teams, which allowed for a comprehensive profiling of the individual, they worked with the individual to enrol them in one or several activities from the project's catalogue (linked to four areas: social, educational, employment, and community) that were not only aligned with their needs but also with their potential and interests. Additionally, to facilitate the activity, the individual received individual support, primarily from a professional from each of the two mentioned teams, who shared a common reference for the individual within the project framework.

The design of Amunt! is inspired by the basic logic of the one-stop shop (Askim et al., 2011; Minas, 2014). In other words, through a single entry point, access to services and activities that are usually offered—with varying degrees of coordination—separately or within specific sectors is provided. Behind Amunt! lies a multidimensional conception of inclusion.

Therefore, the project is not oriented—solely—to formal labour market integration or improving employability but also aims to contribute to emotional well-being, social relationships, and community participation.

The diversity of activities—especially the emphasis on the development of social and community activities—and the plurality of actors executing them indicate this approach.

3.2. Catalogue of Inclusion Activities and Services

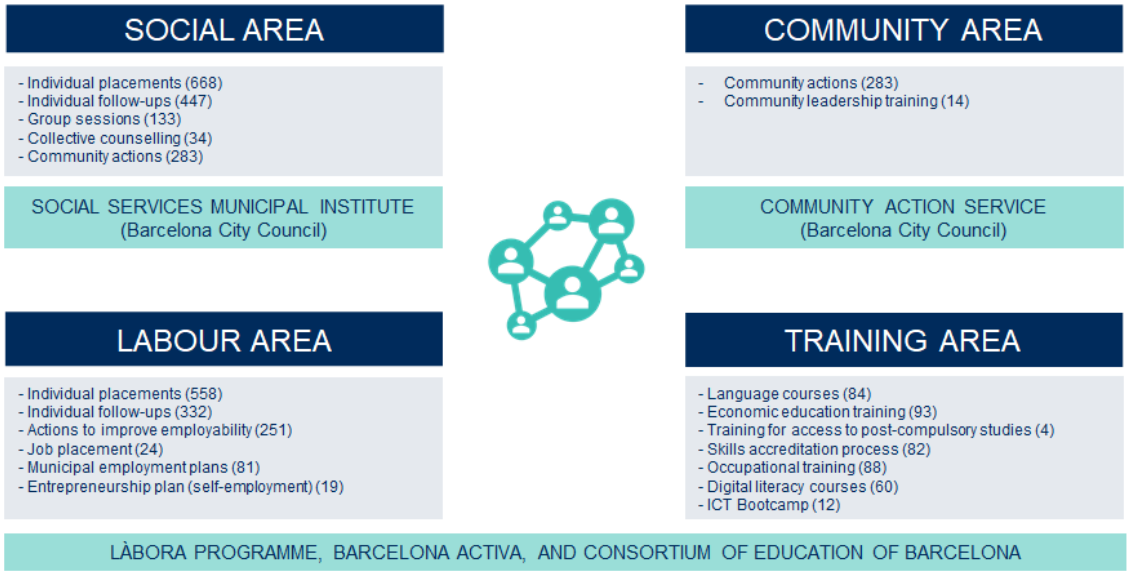
The actively participating actors in the intervention included the Municipal Institute of Social Services (IMSS), the Directorate of Community Action Services (SAC), Barcelona Activa, the Barcelona Education Consortium (CEB), and social entities from the Làbora program, represented by ECAS (Catalan Entities for Social Action).

At the governance level, a coordination and joint workspace was established for all these actors, led by the municipal area with the support of the Metropolis Institute. This working group or "core group" met regularly on a biweekly basis.

The catalogue of activities carried out within Amunt! was not created ad-hoc but was based on the actions typically offered by each of these actors, presented here in a framework of comprehensive and integrated perspective (Diagram 1).

15. In this second case, they were individuals benefiting from the Child Aid Supplement (CAPI), within the framework of the IMV benefit. None of these individuals had been contacted during the initial recruitment.

Diagram 1. Intervention scope, activities, participants, and actor



Source: Own elaboration.
Note: Based on project monitoring data, the number of participants for each activity is indicated in parentheses.

The social realm activities were carried out by the same team of social care professionals who had conducted the receptions (for 668 individuals, as the remaining declined to receive the service for various personal reasons or because they could not be contacted). During the project, the team performed orientation, support, and social and psychological accompaniment tasks—typical of social services professionals—in individual, group, and community sessions. The purpose of the care, beyond attempting to increase the autonomy of the individuals served, was also to facilitate their participation in project activities until completion. Additionally, the team carried out other actions such as coordinating collective advice sessions (34 attendees) on topics such as consumer rights, energy rights and habits, generic legal advice, or the municipal aid simulator. They also provided small-scale training and mentoring in basic economic education to help participants manage their individual and family finances[16].

Regarding community action, various activities were deployed by a team of three municipal social educators in close collaboration with the social care team. These actions included group dynamics, workshops, cultural outings in the city, and community leadership sessions aimed at working on people's social connections, relational skills, territorial roots, and their capacity for collective self-organization. The goal was for individuals to increase their social capital and knowledge about the socio-community fabric and local facilities, as well as to improve their emotional well-being by breaking situations of social isolation or unwanted loneliness. Up to 283 people participated in actions of this type at some point.

Activities directly related to the integration of individuals into the formal economy were carried out by social entities associated with the Làbora program and Barcelona Activa. Làbora professionals, in addition to leading the labour diagnosis of the reception process (for 558 people, as reception was not entirely relevant for those who were strongly removed from employability), also provided support and guidance in achieving activities and worked with individuals to enhance competencies for employment. They conducted sessions dedicated to improving employability (reviewing skills and interests, reinforcing skills and competencies, assisting in crafting resumes and preparing job interviews, etc.), benefiting 251 people. They also conducted research and selection of job offers (successfully placing 24 people). This team was distributed across nine service points throughout the city. In addition, Barcelona Activa implemented employment plans (six-month work experiences in municipal projects of collective interest) and a plan to support individuals interested in starting a business (self-employment) within the framework of the Social and Solidarity Economy. The participants in these activities were 81 and 19, respectively.

16. The specific professional practice of this team is analyzed in more detail in section 5 of this article.

Finally, the catalogue included training activities. CEB was the main actor in implementing them, specifically: language courses in Catalan, Spanish, and English (84 participants); specific training for preparing for the entrance exam to post-compulsory studies (4 participants); support in the process of accrediting professional competencies acquired through previous work experiences (82 participants); and a series of occupational training courses at level 1, with no access requirements and associated with a professional auxiliary category (88 participants).

Regarding training activities, it is also worth mentioning that Barcelona Activa and Làbora developed technological training. The former conducted 40-hour courses on basic digital skills (digital literacy) that allowed for diagnosis, basic training (basic use of computers and smartphones, internet navigation, communication tools, document creation, etc.), and individualized technological support (60 participants). On the other hand, Làbora offered a TIC Bootcamp (12 participants), which was an intensive training (850 hours) in full-stack web development. Interestingly, this training was primarily aimed at women, with the intention of addressing the gender digital or technological gap and promoting their integration into the ICT industries.

4. Characterization of the Participant Population

One of the weaknesses of the Amunt! project design, as explained in more detail in section 5.4, is that there was not enough prior knowledge about the population that would be served. Being beneficiaries of the IMV suggested that they were likely not only in a situation of unemployment or lack of income. However, there were not enough descriptive elements available to assess their degree of vulnerability. As the project progressed, its leaders and intervention teams gradually understood the type of population they would be working with.

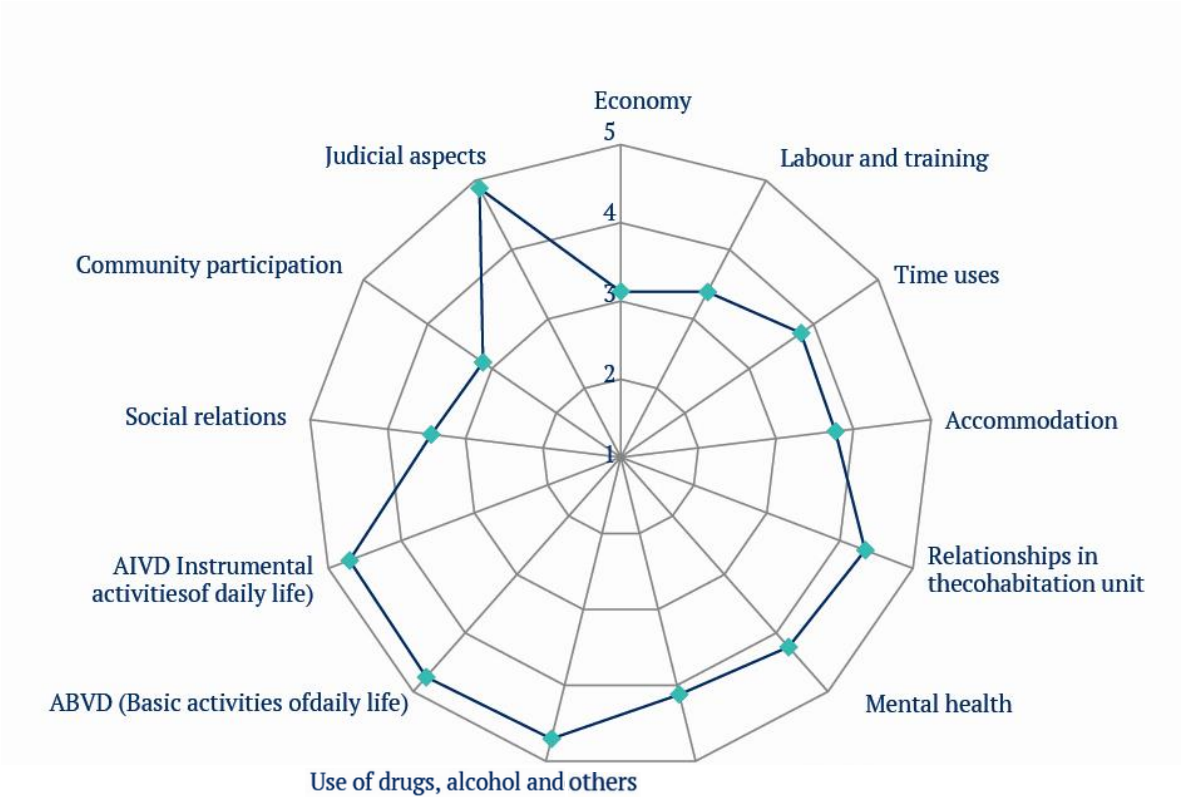
The initial lists sent by MISSM to the Barcelona City Council (April 2022) were cross-referenced with the Social Care Information System (SIAS), revealing that 26.8% of the people did not appear in it. This meant that they had never had contact with municipal social services. Furthermore, 62.8% of the registered individuals did not have open attention at that time.

Recruitment informational sessions were revealing, making it evident that the population being served often included individuals with communication difficulties, language barriers, physical and mental health issues, or cognitive limitations, among other situations. It seemed that the population to be attended to was in a more complex situation than expected, a diagnosis that the reception process confirmed.

In these initial individual interviews, the team used, to the extent possible, the SSM-Cat (*Self Sufficiency Matrix*), a diagnostic support tool. This tool allows professionals to measure a person's self-sufficiency or autonomy by analysing different categorized aspects of their daily life (13 domains or 17 in cases of individuals with dependents). Self-sufficiency is defined as a person's ability to achieve an acceptable level of functioning, taking into account the supports they have (from family or friends, but also professionals) to achieve or maintain this level. SSM-Cat includes five levels of self-sufficiency, with level 1 for situations of serious problems and/or unsustainable situations, and level 5 for maximum self-sufficiency. The tool, which IMSS has started to use, facilitates diagnosis and helps in professional decision-making by guiding intervention and follow-up. The clear representation of different dimensions makes it suitable for assessing the appropriateness of comprehensive approaches. The tool was considered not only for diagnostic purposes but also to measure the correlation between improvements observed in different domains and the itineraries undertaken in the project (as it was administered at the end of the project when possible).

The matrix below (Graph 1) aggregates the average scores in the 13 fundamental dimensions of self-sufficiency for 581 participants in Amunt! during the reception, as assessed by the tool. In very general terms, individuals showed low self-sufficiency in domains related to the economy, community participation, work and training, and social relations. These are the areas where the lowest levels of self-sufficiency were observed. It is also worth noting that the domains of time use and housing had scores below the level indicating significant self-sufficiency. This result primarily points to profiles of individuals facing economic, employment, and relational difficulties.

Graph 1. SSM-Cat Self-Sufficiency Matrix. Evaluations of the Amunt! Reception process.



Source: Own elaboration.

As the project progressed, the social care team began to identify more clearly the prevailing situations and profiles among the participating individuals, which can be summarized into three main categories. Firstly, there were the unemployed individuals (predominantly long-term unemployed), and although some were not actively seeking employment, they might have been part of active employment policies, whether or not linked to municipal social services. Secondly, individuals in situations of severe job precariousness were identified – referred to as "working poor" (Eurofound, 2017; Rodríguez Cabrero et al., 2019) – who held one or multiple jobs in the informal economy, the incomes from which served as a supplement to the shadow of the IMV[17].

Therefore, these were employable individuals, close to the job market – in fact, they were already part of it in some way – but lacking certain skills. In the third category, individuals clearly distant from the job market were identified, as they faced strong structural barriers (e.g., language ignorance, illiteracy, severe disabilities, or notable mental health issues, with or without a diagnosed disorder). For this third profile, employability would not be the priority dimension in their improvement process. The team also identified emotional distress as one of the common aspects among most individuals served.
Their narratives often included elements such as hopelessness, disarray in daily life, insecurity, or suffering related to difficulties in future planning and, in some cases, linked to diagnoses of anxiety and depression (Benach et al., 2010).

5. Implementation of the Project: Professional Practice and Limitations

The implementation of Amunt! has involved putting into practice a different model of action than usual, resulting in a social intervention that distances itself from the attention provided by municipal social services and a specific coordination among various sector actors involved in the project. The following sub-sections address these issues and discuss the main limitations that have hindered or complicated the project's implementation.

17. Spain has one of the highest rates of occupational poverty in Europe: it affects 16% of households and continues to rise (Lanau and Lozano, 2022).

5.1. The Purpose of Amunt! From the Current Model to a New Proposal

The ordinary model of socio-labour inclusion of the social services of the Barcelona City Council is implemented according to the following procedure: when a person approaches or is already attended to by social services for the first time, their demands related to the job market are considered and recorded within the SIAS. The problematic or needs regarding job search and/or demand are identified, and the response is assessed based on the weight that employability has in their improvement plan.

Primarily, the professional attention of social services focuses on offering resources according to the available catalogue, where the Làbora program, carried out in collaboration with social action entities, is the most prominent. This public-social collaboration aims to promote employment among users of social services through reception actions, professional orientation, training in basic and technical-professional skills, and the management of a protected labour market for individuals facing more significant challenges in entering the regular job market. However, access to the Làbora program is usually reserved for individuals who explicitly express a job search demand, live in the city, have knowledge of Catalan and/or Spanish, and do not present significant barriers to entering the job market (e.g., individuals with a disability level exceeding 33%). Aware of the intensive care that some profiles would require and the shortcomings of the current model to support it, social service professionals often prioritize the difficulties of individuals and, in practice, end up limiting referrals to the service.

On the other hand, and less frequently, some social service users are referred to the comprehensive care devices managed by Barcelona Activa. However, such resources or others that are directly accessible to the public, such as local entities serving specific groups, are not included in the predefined catalogue of social services. Therefore, individuals are referred to them only if the professional is aware of them and deems it professionally appropriate.

The fact that the use of available resources, whether considering referral to the Làbora program or another catalogue or neighbourhood resource, is primarily based on discretionary criteria (i.e., the final decision is made by the professional based on the case assessment) results in highly heterogeneous professional practice. The outcome is the implementation of a socio-labour inclusion model characterized by a lack of uniformity in both referrals and the application of criteria regarding coordination with other services and resources. In fact, these tend to become isolated without a more defined and articulated network collaboration.

Furthermore, the current model is limited in offering personalized and comprehensive care. Firstly, although theoretically, the receiving resources develop individual socio-labour itineraries, diagnostics usually give little weight to the person's interests and specific context. In many cases, the itineraries proposed to individuals are predefined in advance. For example, the assigned activity is linked to the systematic categorization of the person based on their employability level (whether they are further away or closer to the job market), as in the Làbora program, or based on their belonging to a specific sociodemographic group. This can be critical, as the lack of participation by the person being served in defining their work plan hinders the identification of both their potentials and specific needs (Martínez Sordoni, 2022; Laparra Navarro and Martínez, 2021; Carrión Molina, 2020; Lara Montero et al., 2016).

Secondly, even though it is increasingly problematic to assume that employment automatically guarantees inclusion – according to Lanau and Lozano (2022), in Spain, more than half of the poor households in which one or more members enter the job market continue to be in poverty – today, the diagnosis of needs continues to be governed by an overly labour-centric vision of inclusion (Carrión Molina, 2020; Zalakain, 2017). Many individuals who seek social services and are referred to this socio-labour inclusion circuit not only have a problem related to the sphere of work but also present other personal circumstances that need to be addressed. In fact, there is ample evidence that inclusion programs exclusively based on the labour dimension are insufficient to improve the situation of households or individuals with multiple issues (Laparra Navarro and Martínez, 2021).

In this sense, the limited coordination between municipal social services and available socio-labour inclusion resources is an obstacle to implementing a comprehensive approach, as is the fact that within the process of exploring needs, the assessment of their relational and community network lacks centrality. Beyond influencing their well-being, relationships are strategic for work activation or improvement (Granovetter, 1983; Ibáñez, 1999; Requena, 1991).

5.2. A Different Social Care Approach

The social care teams of the Amunt! project have implemented a model with multiple innovative elements compared to the ordinary care provided by municipal social services. Firstly, the functions performed by the team have been reconsidered, leading to changes in its configuration and the methodology of care used.

On one hand, the team adopted a "case manager" model in which each participating individual had a designated professional responsible for their care process[18]. What has been innovative in Amunt! is that in assigning this reference, a professional role not usually considered was incorporated: that of a psychologist (Carmona Barrales and Fernández Trujillo, 2020). From the initial reception, the psychologist took on the reference for all those individuals who were currently being served or had previously been served by specific services for women (PIAD), male violence (SARA), or homelessness. Subsequently, the psychologist also took on the reference or co-reference for those individuals who, because of reception and the start of the intervention, were identified as requiring more intensive attention regarding certain aspects related to emotional distress.

The main function of the psychologist has been focused on facilitating the adaptation of these individuals to the activities planned in their itineraries, providing attention aimed at balancing their abilities, possibilities, and expectations. The various professional teams involved in the project have noted that this professional figure has been crucial for setting and achieving satisfactory goals among the individuals she served. The psychologist offered them specific emotional support and served as a lever or bridge for referral or coordination with specialized mental health services. The inclusion of a psychologist in the social care team responds to a greater emphasis on integrity and acknowledges that, in the case of some individuals, addressing emotional or psychic discomfort is a necessary condition to initiate any improvement process that increases the chances of social inclusion.

On the other hand, the decision was made to provide care in spaces different from the usual ones. This decision aimed to avoid the stigmatization that typically falls on social services centres and choose spaces that facilitate the establishment of trust and the use of alternative methodologies. Following a territorialisation logic and from a community approach, proximity facilities in different neighbourhoods were chosen to hold both individual appointments and collective care. Additionally, there was a commitment to expand the range of types of spaces, and individuals were served in various contexts different from the classic professional office (e.g., workplaces or training centres, homes, or public spaces).

The social care model of Amunt! has placed the transformation of the bond between the professional and the individual served at its core, along with other changes in the methodological field. Beyond the figure of the psychologist, all professionals have provided closer attention, generating a more horizontal bond, a more accurate and proactive case follow-up, direct and agile communication (use of WhatsApp, calls, the possibility of unscheduled appointments, etc.), and a sensitive approach to the emotional distress and needs of individuals. To make this possible, it was necessary for the team to collectively address strategies to regulate the bond and establish limits, and, on the other hand, for professionals to have lower ratios than those usual in social services.

18. However, for those individuals who were being assisted by municipal social services, the reference social professional was maintained, and the professionals from the social care team at Amunt! coordinated with them.

Furthermore, in Amunt!, there has been a desire to break with the logic and dynamics of social care based on the prescription of resources, giving a much more active role to the individual in defining their process. This is based not only on a more comprehensive co-diagnosis of their needs but also on basing the intervention on their interests and potentials. In this way, not only the paradigm in the conception of individuals' changes – they shift from being passive demanders of resources to active subjects with opportunities and decision-making capacity – but also the role of the professionals. The latter have had to incorporate a high level of flexibility into their role and base their intervention much more on accompanying and supporting individuals to achieve agreed-upon objectives than on the allocation and control of resources.

This process has led professionals to take a step forward and evolve from a person-centred care (PCC) model to a self-directed support model, which refers to the process where the professional's intervention is based on personalized accompaniment and support to the individual according to the informed decisions they make based on the guidance they receive, the available resources, and the rhythms they set themselves (Manthorpe et al., 2011). For example, to assess if a person was ready to be referred to job orientation resources, their willingness and preferences were taken into account, which also determined the employability diagnosis and the proposed itinerary. That is, through a co-production or joint construction between the individual and the professional to agree on the intervention objectives, resources are presented and mobilized based on the circumstances and determinations of the participant. This way of proceeding facilitates that the person being served has control and the final decision on the process by which their support needs are met.

5.3. Intersectoral Collaboration: Mechanism for Service Integration in the Amunt! Project

The Amunt! project has aimed to implement a type of single-window service integration (Askim et al., 2011; Minas, 2014). The integration in Amunt! has not occurred through the fusion or structural reassignment of competencies – in fact, the different involved parts have not lost their autonomy – but it has been fostered through a particular intersectorial collaboration. In this section, we delve into some aspects of this integration to determine its intensity. The effectiveness of the service integration in Amunt! is related, on the one hand, to how collaboration occurs between professionals from different fields (social, labour, educational, and community) and, on the other hand, to how it benefits the individual being served.

At the beginning of the project, collaborative work made it possible for the diagnostic tool to collect items of interest from all involved parties, thereby facilitating the identification of a greater number of needs and potentials of the individual that might not have surfaced otherwise. The goal was to have a more comprehensive view of the person. Furthermore, the multidisciplinary teamwork aimed to jointly assess the participating individuals – especially cases with particular or complex circumstances – and mutually support each other in making decisions about the most suitable inclusion activity for the person or what supports or adaptations were necessary for them to carry it out. The "motor group" meetings and bilateral relationships between actors facilitated this shared decision-making. However, at times, this dynamic of combining different expertise has not been efficient enough. For example, the digital monitoring tool that teams could use and consult did not fulfil all expected functionality. Additionally, communication between teams lacked some fluidity and systematization. Moreover, a more formalized approach would have been helpful for decision-making and review to gain agility and avoid possible misunderstandings. Nevertheless, collaboration has been effective because, despite obstacles, it has contributed to maximizing the fit between the participating individual and the inclusion activity carried out.

Conducting an intervention without losing sight of the holistic situation of the person and, therefore, providing the most personalized care possible, necessarily required teams to practice close collaboration and adapt – reducing access requirements, providing support for reconciliation as much as possible, adapting methodologies, offering half-day work, etc. Teams had to be flexible in the execution of their activities and admit exceptions; otherwise, many individuals with strong structural barriers would not have been able to carry them out. This was especially the case for training and employment activities, which were more demanding.

This flexibility was achieved thanks to the ability of responsible actors to adopt an even more inclusive perspective than they usually profess, taking more into account the personal circumstances (health, relational, etc.) of each individual. It was also thanks to mutual support between actors. For example, the creation of a technical unit (qualified by professionals as an "observatory") integrated by the psychologist from the social care team, a trainer from the Làbora team, the technical referents of the employment plans, and the program coordinator from Barcelona Activa. Its main objective was to ensure that people participating in an employment plan succeeded, facilitating the coordinated resolution of incidents and the adaptation of action lines.

Despite these achievements, the intersectorial collaboration in Amunt! has not been sufficiently balanced between the social care teams, job guidance (Làbora), community action, Barcelona Activa, and the CEB. The strongest and most stable collaborations occurred between social care and job guidance as a reflection of the shared referentiality produced after the chain of two receptions (see section 3.1). The close collaboration between professionals, who worked as a tandem, is perhaps the most evident embodiment of the integration of social and occupational services. Another notable collaboration has been that established between social care and community action, which jointly led community activities. Here, integration is almost total and exemplifies what community social services would be (Aguilar Hendrickson, 2020; Ajuntament de Barcelona, 2018; Cortés Izquierdo and Llobet Estany, 2006).

The Barcelona Activa and CEB teams, faced administrative difficulties that delayed their full integration into the intervention, placing them at a secondary level in the overall interactions of the project. Barcelona Activa, experiencing fewer delays, was able to interact more with the other actors, especially with the Làbora teams and, to a lesser extent, with the CEB. This fact illustrates the usual integration or collaboration that occurs between the educational and activation fields in employment insertion policies. On the other hand, the CEB team had a less active role in the collaborative dynamics of case assessment, and calendar demands forced them to focus on execution. Due to these circumstantial reasons, it was a poorly interconnected team. This qualifier also applies to the community action team, which, in addition to the union with the social care team, did not have the connectivity expected with the rest of the professional teams because the project, in its conceptualization, emphasized a vision of inclusion that gave significant weight to the relational dimension. The peripheral location of this team can be explained by the lack of previous relationships between this area and policies linked to economic promotion and employment (Rebollo and Morales, 2013: 313), as well as the limited time available in Amunt! to attempt this, given the shortened execution schedule experienced by Barcelona Activa and the CEB.

5.4. Limitations and Challenges of the Project

The implementation of the Amunt! project has not been without difficulties. In addition to the usual uncertainties that surround innovation pilot projects, there have been complications arising from the legal and normative framework governing the project's development. The legal and management context has been particularly complex since the project was framed within a call subject to a subsidy granted by another administration (MISSM) and external funding. Specifically for Amunt!, funds had to be allocated using different legal-administrative formulas according to the diversity of participating agents. This challenging management resulted in a significant delay in the start of some project activities, leading to the main consequence of a shortened intervention period. Although the project end date was extended by three months, it was insufficient to cover the gap. Furthermore, changes in project leadership during its course presented a challenge in terms of governance and leadership.

The calendar misalignment has been the transversal cause of most deviations from the initial design. On one hand, the delay in commencing work and educational activities until the first and second quarters of 2023, respectively, made it impossible for individuals to overlap or sequence more than one activity. Consequently, some key elements of the project, such as the realization of a sequential inclusion activity itinerary tailored to each person's profile and interests, or the intended central role of community action, were distorted and lost their planned centrality.

This delay also resulted in dissociation between the initial reception phase's diagnosis or profiling and the needs, interests, or circumstances of individuals at the actual activation moment of certain resources or actions.

On the other hand, some activities could not be executed. In some cases, the reason was the lack of interested participants or an eligible situation for activity implementation, such as the "second chance school" service for young people aged 16 to 25 from participating households who dropped out of education, level 2 occupational training, or community entrepreneurship activities. In other cases, the rejection was related to the execution difficulties of certain activities within the project's limited schedule, either because it was impossible to complete their certification (dual-mode vocational training or other certifiable reskilling programs) or because there was not enough time to carry them out within the deadlines of public procurement (such as the development of a mobile app or the implementation of the OECD test of basic skills for adults).

Another challenging aspect of the implementation had to do with the fact that the finally participating individuals were in situations that made some of the resources and activities included in the initial design inadequate. The result of this deviation was the cancellation of certain actions or the need to adapt others (for example, enabling part-time work in employment plans or the need to offer more support and follow-up). That is, the lack of more information at the beginning about individuals and the subsequent inability to introduce substantial changes to the activity catalogue due to the mentioned calendar problems resulted in some of the included activities being irrelevant, and others that could be relevant for some profiles (for example, more pre-employment activities) were not available to the project.

Finally, another type of difficulty encountered was achieving the adherence and continuity of project participants. Behind this limitation are issues related to both the project's design and the adversities of scheduling. On one hand, the fact that participation was entirely voluntary and did not involve any kind of economic incentive or conditionality - as was the case with B-MINCOME - posed a challenge in terms of generating initial interest in the project and maintaining it over the months. Moreover, this challenge is even greater when situations of life complexity are accentuated, as has been the case. On the other hand, project continuity was also threatened by the delay in starting activities, as this translated into demotivation in some cases and ultimately led to abandonment by some participants.

6. Concluding Remarks: Preliminary Results and Pending Challenges

Although the impact assessment of the project will not be available until 2024, it is possible to highlight some achievements and results identified during its implementation, both among participants and among professionals and organizations involved.

On one hand, many participants have expressed that the attention received within the framework of Amunt! has been significantly different from their experiences in other instances or previous projects, especially concerning municipal social services. The shift in focus and methodology driven by Amunt! has allowed individuals who claimed to have felt invisible to public administration, in their own words, to experience a different approach through their participation in a project that has given more prominence to their voice, situation, or specific needs. The project has not emphasized the conditionality of financial aid but rather respected their decisions and the voluntariness of their participation. In general, participants have felt more accompanied, listened to, and respected, enabling them to make better decisions and use resources more meaningfully.

Thus, according to the evidence gathered with the project, it seems possible to affirm that unconditional policies and methodologies aligned with person-centred care and/or self-directed support generate more satisfying experiences among individuals in their use of resources. This, in turn, contributes to their empowerment and improves their perception of services, both in terms of their effectiveness and usefulness, as well as the treatment received from professional teams.

The multiple changes in perspectives and methodologies implemented in this project have helped deploy an innovative care model capable of generating, on one hand, closer and more horizontal participant-professional relationships and, on the other hand, a more personalized and empowering approach. This has been possible mainly by articulating care and itineraries not only based on people's needs but on their potentialities and interests, giving more central importance to addressing emotional well-being, including community policy, intervening with people in different facilities and spaces than usual, or establishing more agile and accessible communication channels. This innovative model was also possible due to the exceptional nature of the project itself, as a pilot, which could adapt and flexibilize resources.

On the other hand, it is worth noting some achievements among the organizations involved and their teams. The Amunt! project has managed to, at least: shift the role of the social care team towards a more supportive and accompanying role rather than prescriptive of resources (a change that has generally increased satisfaction among professionals); provide psychosocial care to IMV beneficiaries who had no previous contact with social services; expand the coverage of labour and training activation services to more complex profiles by flexibilizing and adapting access and use of resources; test a tandem of social care and career guidance as shared referentiality for the person, based on intense coordination and a territorial proximity perspective; promote intersectorial governance dynamics among professionals from different services.

However, there are still pending challenges. One significant challenge from the integrated perspective of the project is that intersectorial collaboration should have been more symmetrical. It is true that limitations associated with the reduction of the implementation calendar have made this difficult. It is also worth noting that the challenge was enormous considering that, with very little time, teams from three areas of municipal policy (social, economic, and community), social entities (Làbora program), and a consortium (CEB) between the Barcelona City Council and the Catalan Government had to leave their sectoral perspective behind and work together with an integral and integrated vision as shared as possible to positively impact the people served. Moreover, having to do it with shared diagnostic and monitoring tools that have not worked satisfactorily and in a framework of integration that maintains the autonomy of the parts in the execution of their own activities implies that it has been a complex process not without conflicts. For example, teams have often been pushed by lack of time toward intersectorial collaboration more marked by the needs of participants than by the achievement of more strategic organizational objectives for the modeling of service integration. However, both the fact that some of the people who made up the teams already knew each other and had participated in the B-MINCOME project – with some degree of intersectorial collaboration – and everyone's professional commitment seem to have been key to tackling the challenge and overcoming the multiple difficulties that have arisen throughout the process.

In conclusion, the experience of the Amunt! project contributes to the idea that to improve the social inclusion of individuals, it is necessary to pay higher attention to their personal and family realities, as well as their interests and needs, giving them a more active role in establishing their work plan. To make this possible, it is necessary to expand social diagnosis, promote alternative care methodologies, and advance in the integrated execution of services (especially labour and social services), as doing it in a segmented way has limited effectiveness, especially in the case of more complex or challenging profiles (Martínez Sordoni, 2022). In this regard, the transfer of learnings and impacts from the Amunt! project, and subsequent pilot interventions, is crucial, as is the ability of administrations to use them instrumentally to transform their services and structural active policies.

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Special Transportation for People with Reduced Mobility in Barcelona

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This article outlines the special transportation service currently available in the city of Barcelona and explains some of the key considerations for a future proposal regarding transportation for individuals with reduced mobility and special transport needs in Barcelona.

Introduction

The removal of barriers in the environment is a fundamental element in ensuring mobility for all individuals. In the context of the 1980s, when public transportation was not accessible for people with reduced mobility, and they only had the option of private transport for commuting, the Barcelona City Council developed the special transportation service as a specific initiative to facilitate the mobility of individuals with disabilities and reduced mobility, preventing their exclusion. Since then, special transportation has been carried out using buses that combine regular seating with spaces adapted for wheelchairs, as well as both adapted and non-adapted taxi vehicles.

Currently, in Barcelona, over 300,000 trips are made annually using this type of transportation. While accessible public transport alternatives exist today, the number of services has exponentially grown since the 1980s. The demand for the service is real and increasing. To understand the growth in demand, it is necessary to analyze elements of both supply and demand. From the supply perspective, the concept of an accessible route focuses on accessible stops, disregarding the accessibility of exchanges and connections between different modes and lines of the public transportation network. From the demand perspective, an inclusive mobility concept is needed, considering the individual's time-saving needs (e.g., when using a wheelchair or requiring a respirator) or other factors such as the need for assistance (e.g., in collective transport to access social services centers).

In a way, the special transportation model has shifted its focus away from the city's accessibility level; it has ceased to be part of the mobility imagination and has turned towards the realm of social care. The rationale behind this shift lies in the funding of special transportation within the portfolio of social services, separate from Catalonia's major public transportation operators.

This is not a trivial matter, considering, for example, that collective vehicle services have 100% public financing coverage and 90% for taxi journeys—subsidization percentages distinct from other public transportation services.

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According to the Mobility Observatory of Catalonia[19], the operating cost of public transportation in the metropolitan area of Barcelona was €1,944 million in 2019, excluding investment. In the same year, the special transportation service cost around €6 million, meaning it represents a small part of the economic data but is crucial for the inclusion and participation of people with disabilities in the community, accessing various services, or entering the job market, among other examples.

The taxi sector plays a significant role in the special transportation service. Despite the undeniable quality of adapted taxi services, the supply is clearly insufficient. The Royal Decree 1544/2007, regulating the basic conditions of accessibility and non-discrimination for the access and use of transportation modes for people with disabilities, stipulates that municipalities will encourage at least 5% of taxi licenses to be for adapted vehicles. Currently, the offer of adapted taxis in the metropolitan area stands at 3% of the total, still below this goal.

Beyond these policy origins and contextualization elements, the following lines explain the origins of special transportation and describe how the service functions today, concluding with a series of recommendations for organizing transportation for people with reduced mobility in a metropolitan context. Adapting to modern times, organizing accessible transportation, and ensuring fairness in service provision are key elements to keep in mind in the proposed reading.

1.The Beginnings of Special Transportation: A Service for People with Disabilities in a Barcelona Without Accessibility Measures

The commitment of the Barcelona City Council to people with disabilities has been documented since 1799 when it temporarily allocated part of the Saló de Cent as an educational classroom for deaf children, covering their operating expenses. The desire to improve living conditions and the inclusion of people with disabilities has been reflected over time in the adaptation of spaces and services suitable for everyone, as well as in the creation of specialized services to meet the specific needs of people with disabilities. Over the years, through various participation mechanisms, the City Council has driven initiatives to make Barcelona an international benchmark in terms of accessibility and effective work for the inclusion of people with functional diversity.

During the early years of democracy, the disability sector initiated a significant associative movement advocating for their rights and demanding services. The removal of architectural barriers in public spaces was the top demand for people with physical disabilities, given the glaring lack of accessibility in public thoroughfares, buildings, facilities, and transportation. Mobilizations helped bring attention to the exclusionary situation faced by people with disabilities, prompting the administration to open spaces for participation and dialogue with people with disabilities (such as the Special Commission of the Congress of Deputies for studying the problems of disabled people or the meeting of the mayor of Barcelona with representatives of the collective).

At this time, Barcelona implemented new accessibility practices, such as the first pedestrian crossing or the first ramp in a municipal building. However, in the realm of transportation, the elimination of architectural barriers was still considered a long-term project. To address the mobility needs of people with reduced mobility, in 1978, the City Council promoted the "door-to-door service," the first special transportation service for people with reduced mobility in the country. This involved the purchase and operation of a small fleet of five minibuses with a budget of 9,625,000 pesetas. Thus, the Special Transportation Service (STE) was created, which would be under the jurisdiction of the Metropolitan Transport Entity (EMT, one of the entities that integrated the Metropolitan Area of Barcelona at the time of its creation). The goal of the special transportation service was to facilitate access to public transportation for people with reduced mobility while the regular public transportation network became accessible to all. Accessibility reached the city's transportation modes: in 1991 with the first accessible taxi and in 1992 with the setup for the Paralympic Games (including four adapted shuttle bus lines, two circular routes, and the door-to-door service) and the first regular bus lines with low-floor and ramp-equipped vehicles. The first fully adapted metro line (Line 2) was inaugurated in 1995.

19. Further information may be accessed at: www.omc.cat

The commitment to improving accessibility in the city of Barcelona permeated major city projects. In 1992, Barcelona became an international reference by hosting the Olympic Games and the Paralympic Games in the same city and facilities, thanks to having an Olympic Village without barriers and an adapted public transportation system.

Also in 1992, the Special Public Transportation Service was reorganized, with a management model that would last, with some variations, for more than two decades: the Municipal Institute for People with Disabilities (IMPD) transferred the mobile equipment to the EMT, which took over the service, with a financing agreement split equally between the EMT and the Barcelona City Council. The accreditation of service users and the development of service usage regulations were delegated to the IMPD. The company that already operated an accessible line to the airport (aerobus) began operating the special transportation service, expanding its fleet with the acquisition of ten new vehicles.

Over the years, the transportation service has adapted to the needs and regulations of each administration. Regarding the transportation purpose, it is worth noting that in 1993, the Government of Catalonia took over special transportation to school centers and facilities owned by the Department of Social Welfare. Regarding the types of trips, regulations for the STE were developed, defining two types of services: fixed and sporadic trips, which also considered measures to promote the use of regular adapted public transportation.

In the financing chapter, in the year 1999, there was a proposal to include the Special Transportation Service (STE) in the general budget of the Metropolitan Transport Authority (ATM) and to expand the service to the entire metropolitan area. Service improvements were realized in 2005 with the extension of operating hours and territorial coverage to five municipalities (Badalona, Esplugues de Llobregat, L'Hospitalet de Llobregat, Sant Adrià de Besòs, and Santa Coloma de Gramenet). Additionally, the fleet of "minibuses" was renewed and expanded from 10 to 19 units, along with a reduction in the waiting time for passengers on fixed-route microbuses. The Government of Catalonia started contributing to the STE budget in 2002, as part of the framework agreement for social services between the Department of Welfare and Family and the City Council. The financing structure of the service changed again in 2003 when the EMT began contributing 78% of the service cost, and the IMD covered the remaining 22%, following the Program Contract between the Metropolitan Transport Authority and the General Administration of the State (ATM-AGE). This marked the first inclusion of a budget specifically designated for special transportation for people with reduced mobility.

The evolution of the STE aimed to address the needs of people with disabilities, advocating for the adaptation of regular transportation and public spaces. Initially, the goal of adapting the city seemed distant; however, the IMPD chose to promote a model of regular accessible public transportation for the enjoyment of the entire population, complemented by special transportation services for people with reduced mobility. Investment continued between 1995 and 2006 through the Accessibility Plan, and improvements in the city's accessibility became a reality. As a result of the Accessibility Plan, the surface public transportation network achieved 100% accessibility with low-floor buses equipped with ramps, and new tram lines were also 100% accessible. This accessibility extended to neighborhood buses, tourist buses, the funicular, and the Montjuïc cable car. Improvements in the metro network also progressed, addressing both physical accessibility (installation of elevators between the street and the platform, reduction of space between the platform and the metro) and communicative accessibility.

At this point, the "Barcelona Special Transportation Model" involved redirecting special transportation requests to regular public transportation when accessible alternatives existed in the regular transport network. The STE was defined as a complementary transportation option to serve individuals with a disability certificate, reduced mobility assessment, and registered in Barcelona (holders of the white card) when the requested journey couldn't be fulfilled by regular public transportation. In other words:

a) When regular bus, tram, or metro transportation was not available, or when the route was not accessible (referring to public thoroughfares).

b) If the distance the person had to travel to the bus, tram, or metro stop to start the journey, and the distance from the stop to the destination, exceeded 450 meters (for wheelchair users) and 200 meters (for individuals with canes or crutches).

c) When the journey involved more than one transfer.

Thus, when a person requested special transportation, the service's trip allocation and coordination center would proceed to real-time consultation of cartographic information. If the origin and destination points were accessible and there was adapted regular public transportation available, the special transportation service would be denied, and the individual would be informed of the available option of regular public transportation. When TMB's bus fleet became 100% accessible, the number of requests redirected to regular transportation increased significantly, leading to complaints and protests from service users. In response, the IMPD halted the redirection of special transportation requests to regular transportation and initiated a reflection on the complementary nature of the special public transportation service concerning the regular transportation network, use cases, and the service's scope. The analysis was documented in the *Special Transportation Service Study: Functionalities, Trends, and Forecasts* of 2009[20].

2. The regulations for the special transportation service in Barcelona

The IMPD Board of Directors approved the Service Usage Regulations in 2009, which are still in force. These regulations compile the elements mentioned earlier and introduce some adjustments. The complementary nature of special transportation compared to regular transportation is maintained, while the definition of a non-adapted journey on regular public transportation is expanded. This expansion is due to the regulations considering that the distances for a journey to be considered "non-adapted" are now smaller: a distance exceeding 400 meters between the public transport stop and the point of origin or destination for individuals using manual wheelchairs (previously the distance was 450 meters), and exceeding 100 meters for individuals with severe mobility limitations who do not use wheelchairs (previously 200 meters according to the previous regulations).

It is worth noting that the regulations state that special transportation will be granted when the journey is not accessible according to the previous definition and, exceptionally, when the journey is accessible but the person expresses the inability to use it, subject to evaluation by specialized personnel. Although the usage regulations initially foresaw limitations in access to the service based on the mentioned distances and the exceptionality of the limitation based on the individual assessment of cases, it is important to highlight that currently neither of these provisions is applied. Therefore, the accessibility of the transportation network or the accessibility of the streets in Barcelona is not a reason for denying special transportation services.

In fact, these regulations provide the possibility of denying special transportation services for four reasons, but in practice, services are only denied for two of the possible reasons: when a person fails to prove that they are a user of the White Card and in situations of a lack of available vehicles, especially in the case of trips that must be made in an adapted taxi. Thus, the two other envisaged reasons for denying services—availability of an accessible travel option in adapted regular transportation and the commission of infractions in service usage—are not considered.

On the other hand, the usage regulations do not bring about changes regarding the individuals served (individuals with disabilities and reduced mobility criteria, registered in Barcelona, holding a user card for the service (White Card), and needing to make a trip that cannot be done on regular adapted transportation. The territorial scope of the service also remains unchanged, covering trips between the municipalities of Barcelona, Badalona, Esplugues de Llobregat, L'Hospitalet de Llobregat, Sant Adrià de Besòs, and Santa Coloma de Gramenet.
The Usage Regulations also outline the types of services provided (fixed trips, sporadic trips), the schedule and hours when the service is available (from 7 am to midnight, from Monday to

20. It may be accessed at: https://ajuntament.barcelona.cat/dretssocials/sites/default/files/arxius-documents/Estudi%20del%20Servei%20de%20transport%20especial.pdf.

Thursday and Sundays, and from 7 am to 2 am on Fridays, Saturdays, and holiday eves), the types of vehicles used (minibuses, adapted taxis, and non-adapted taxis), and the fares for users when transportation is carried out by taxi (the same price as a single ticket in the Barcelona Metropolitan Area)[21]. Service users can bring a companion at no additional cost as long as they have the Metropolitan Companion Pass.

3. The current status of special transportation services

In recent years, the activity of the special transportation service has increased to such an extent that it is necessary to initiate a reflection on what the objectives of special transportation in the city of Barcelona should be and to assess how these objectives can be achieved. The reasons for reaching this point of collapse are diverse and go beyond the partial implementation of the Usage Regulations, as outlined in the previous section. It is essential to consider other phenomena, which we explain below:

- Growth of the target population for the service: The potential users of the Special Transportation Service are individuals who meet the requirements to obtain the white card. These include being registered in the city of Barcelona, possessing a disability certificate, and having a recognized mobility reduction score. In the year the usage regulations were approved (2009), there were 24,595 individuals meeting the criteria to be considered "potential users" of the service, a figure that has increased by 79%, reaching 43,931 individuals in the year 2022[22].

- Approximately half of the potential users hold the white card, granting access to the special transportation service. However, the actual number of people using the service is much lower, with 3,115 individuals in the year 2009 and 5,434 individuals in the year 2022. This represents a 74% increase between these two dates. Furthermore, it is an aging population sector, with an average age of 59.7 years (although lower than the average age of white cardholders, which is 74.5 years).

- Aging is a significant factor for three reasons when considering the dimension of the special transportation service. Firstly, due to the increasing prevalence of disability in these age groups in Barcelona, meaning there is a growing population with recognized disabilities in the city (9.7% of the population, with 158,948 individuals in the year 2022). Secondly, because the older adults' collective has gained weight in recent years within the total population with disabilities (56,776 individuals in the year 2022). Finally, it is also necessary to consider that the Social Services Portfolio of the Generalitat de Catalunya, approved in 2011, extends the target population of special transportation for people with disabilities to those in a dependent situation, increasing the potential number of users.

- Available fleet of adapted vehicles: The availability of accessible taxis in the Metropolitan Area of Barcelona (318 vehicles out of 10,521 licenses, i.e., 3% in October 2023) has not yet reached the minimum of 5% established by the regulations. The limitation in the supply of adapted taxis in the city has a detrimental effect on the provision of the Special Transportation Service (STE). On the one hand, the limited competition in the service can have inflationary effects on its price. An example of this is the regulation of the public price by the Metropolitan Taxi Institute, with a public price that sets a minimum threshold but not a maximum limit. Additionally, the fact that there has been no price reduction in the tender for the STE by any operator. On the other hand, the lack of adapted taxis affects the availability of STE services in different time slots: the possibilities of providing sporadic services in adapted vehicles are limited by the use of the same vehicles for fixed trips, especially during peak hours.

- Management model: The current service management is carried out through two contracts: one for bus transportation, mainly used for fixed trips, covering 61 daily routes (via 21 IMPD-owned vehicles and rental vehicles, all adapted to the needs of each route and the individuals

21. In the case of bus transport, the Regulations provide that "the price of the journey is the same as that of the rest of urban transport", with the possibility of using individual or multi-trip cards, although this possibility has not been established never in practice, because it is assumed that the people using the service are holders of the Pink Card.

22. Data available at: https://dretssocials.gencat.cat/ca/ambits_tematics/persones_amb_discapacitat/estadistiquesdiscapacitat/

traveling in them, with wheelchair anchors, for example); and a contract for services provided in taxis, averaging 900 daily trips, between regular taxis and adapted taxis.

Through these two contracts, the service is provided in the form of fixed services and sporadic services. Fixed services can be programmed based on an annual request, prioritizing assistance to specialized social service centers for people with disabilities from the Social Services Portfolio and funded by the Generalitat de Catalunya under the Program Contract. Sporadic services cannot be programmed, and therefore, reservations are made within a shorter time frame, as they must be booked a maximum of 48 hours in advance, and the reason for the trip is not inquired. The current management model is based on the type of vehicles. This change in the model compared to the previous situation has added additional tension to contract management. With the increase in fixed services assumed in 2022, the limit of activity for vehicles and the budgetary availability envisaged for the bus contract have been reached. It is noteworthy that bus trips are preferable to taxis in terms of cost to the Administration and in cases where the user regularly requires an accompanying person, a role that is usually present in routes directed to Social Services Portfolio centers. Additionally, the limitation of adapted taxis in certain time slots also impacts the service's activity.

The activity of the two types of trips for the period 2018-2022 is presented below. Despite the decrease in mobility in the years 2020 and 2021 caused by mobility restrictions during the pandemic months, there is an observed increase in activity in the last year of the series.

The activity of the two types of trips for the period 2018-2022 is presented below. Despite the decrease in mobility in the years 2020 and 2021 caused by mobility restrictions during the pandemic months, there is an observed increase in activity in the last year of the series.

Table 1. Special Transportation Service. Evolution 2018-2022

Trips	2018	2019	2020	2021	2022
Fixes services					
Bus	69,260	67,922	32,175	59,410	75,976
Taxi	110,394	110,995	51,162	82,403	109,617
Sporadic services					
Bus	425	734	151	644	737
Taxi	149,517	151,494	95,105	118,408	135,215

4. Challenges of the special transport service

Given what has been explained so far, from the perspective of service management, it is considered necessary to initiate a reflection on what type of Special Transport the city of Barcelona needs and how it should be provided to achieve its objectives, adapting to the needs and possibilities of the current context, in the most equitable and sustainable way possible.

The reformulation of the STE should take into account the following aspects:

Adaptation of the Usage Regulations to the current situation.

To address the current demand situation for the service, a possible development would be to limit the number of services or trips made per person. In the analysis of service provision data, it is observed that a small number of individuals concentrate a lot of activity in journeys: almost 40% of sporadic services are concentrated among 3.5% of users.

Table 2. Typology of users of the Special Transportation Service

Type of users	Number	Persons (%)	Trips (%)
Punctuals	4,520	68.58	12.97
Frecuents	1,839	27.90	49.50
Actives	232	3.52	37.53

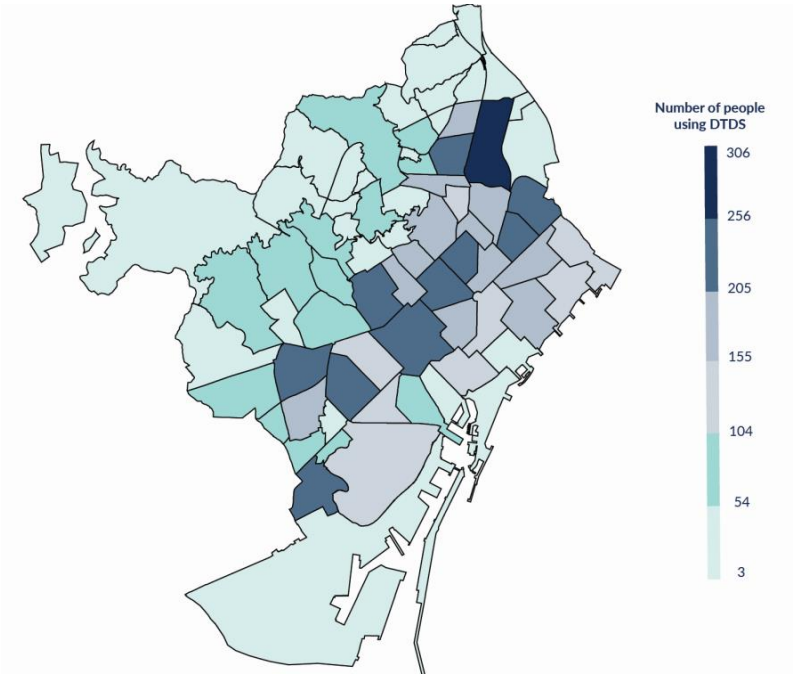
Source: Portell, Morera, and Ramalhinho (2022).

Analysis of seat allocation in specialized social service centers with territorial criteria

Although the territorial distribution of white card users, which grants access to the service, is diverse, users are concentrated in certain areas that do not necessarily respond to terrain topography criteria.

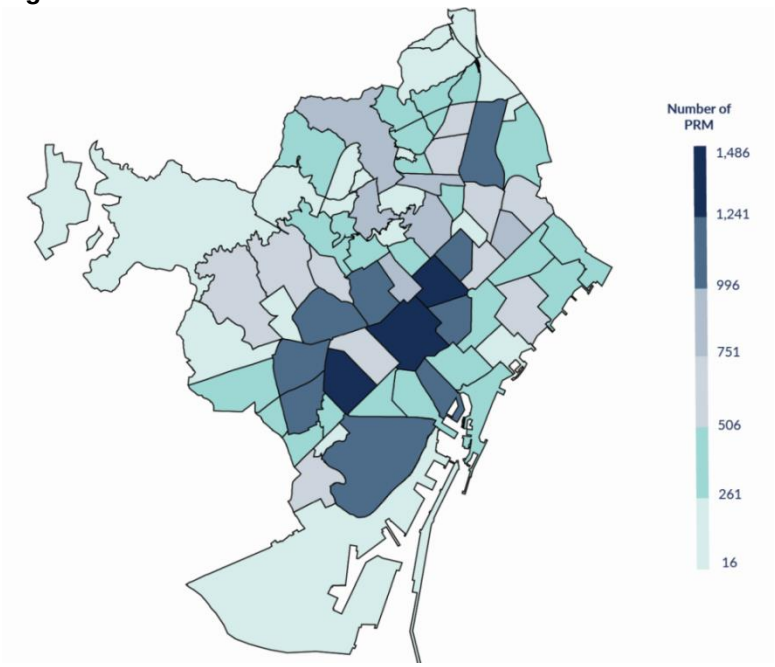
The location of centers in the service portfolio is crucial when requesting special transportation, as seats in these centers are not assigned based on territorial criteria, as is the case with health centers or the scoring system in the school system. Specialized resources for people with disabilities are not territorialized. In other words, a person's place of residence is not a determining factor when assigning a place in a center, so the system does not prioritize proximity between the person's residence and the center, assuming that transportation will be done either publicly or privately. In the case of sporadic services, the location of leisure centers, health facilities, and the availability of public transportation also influence the demand for STE by users.

Figure 1. Territorial distribution of potential service users



Source: Portell, Morera, and Ramalhinho (2022).

Figure 2. Real distribution of the services users



Source: Portell, Morera, and Ramalhinho (2022).

Addressing special transportation to health centers.

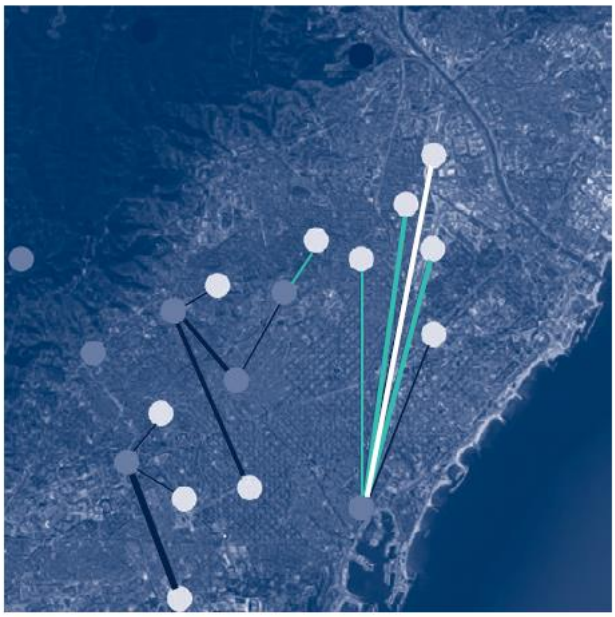
The *Report on the special transport service to health centers* (IMPD, 2022) analyzes the use of health services by users of special transport and estimates that, despite regulatory prohibition, 34% of users use the STE to access health and rehabilitation centers. In the report, to assess this percentage, an analysis of raw data by point of interest is carried out, considering any "health center" identified as the origin or destination in the transport management application. In practice, the concept includes all reference hospital centers in Barcelona and Primary Care Centers (CAP) in the city.

The profile of users of special transport who most frequently travel to health centers is that of a person with reduced mobility, over 60 years old, with a disability level exceeding 65%, residing in different neighborhoods, often in the farthest from the center, specifically Besós, Llobregat, and the mountain, and receiving medical care at Hospital del Mar, Hospital Clínic, Vall d'Hebron, or Hospital de Sant Pau.

The cases presented in the report differ from those established in Instruction 07/2017 of Catsalut on non-urgent medical transport (TSNU), which is an alternative to public transport to health centers. Since cases of non-urgent medical transport prescription among special transport users are currently unknown, it would be necessary to delve into understanding which users of the special transport service may have a prescription for TSNU to optimize the allocation of public resources. The most intense cases in the use of special transport suggest that these are people with disabilities who have a physical impossibility or other exclusively clinical and disability-related causes that prevent them from using ordinary transport to travel to receive health care at a center. Therefore, within the scope of improvements, it is considered necessary to share and compare data on special transport services and non-urgent medical transport and better understand the reasons for substituting one service for another (economic, time-saving, etc.).

Alternatively, it is advisable to review the accessibility of ordinary means of transport to health centers from certain points in the city, as well as the characteristics and mobility needs from the perspective of the situation of people with disabilities using special transport.

Figure 3. Recurrence of sporadic routes to major health centers in Barcelona (Vall d'Hebron, Hospital Clínic, Hospital del Mar)



5. Conclusions

The current special transportation service lacks sufficient public resources to meet the entire demand, particularly considering the high potential demand, limitations in the available vehicle fleet, and a low copayment level from users.

The service has successfully addressed mobility issues for individuals with reduced mobility in regular commutes, funded by the Generalitat de Catalunya as specialized services within the portfolio of services. However, for sporadic mobility needs, individuals often resort to private means (own vehicles or taxis) or use the unevenly provided public special transportation service. As mentioned, a significant number of users have low service intensity, while a smaller group heavily utilizes sporadic services. The effectiveness of sporadic taxi services is considered less than that of vehicles with greater capacity.

Improving the limited availability of adapted taxis in the Metropolitan Area is an area for enhancement. Increased competition in the availability of adapted vehicles would likely limit taxi prices in the private market. Furthermore, having more vehicles would benefit public transportation services, both in individual service concessions and in shared services for two or more users, a modality to prioritize whenever possible.

In the context of limited resources, whether economic or in the fleet, and the current demand dimension, the provision of special transportation services has become exclusive. The consumption of a "trip" by one user automatically excludes the possibility of another person accessing the same resource. The challenge here is to design a service allocation process that ensures equity. Promoting responsible service use is also necessary, emphasizing the need for regulations regarding citizens' shared responsibility for the service.

There has been no incorporation of ecological criteria in the service. The aging of vehicles with more than 9 seats becomes evident when considering their future inability to circulate in Barcelona's Low Emission Zone. The limited possibility of shared taxi journeys is practically confined to fixed services, where shared trips between a wheelchair user and another individual using different mobility aids can be planned well in advance. Urgent changes are needed in contextual elements, including infrastructure for mobility—taxis and buses—and technology in the service to make it ecologically sustainable.

Another issue to address is whether it makes sense to regulate all these elements strictly at the municipal level, allowing significant variations in service provision between neighboring municipalities. Perhaps a supra-municipal planning, regulation, and management approach would enhance the service's effectiveness and efficiency, improving the level of service for the public.

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