GRANDS ENSEMBLES OF SARCELLES

From the cell to the complex: The paradoxes of a modernity in crisis

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INTRODUCTION

Historical and social context of the Post-War period

In the aftermath of the war, France faced a profoundly altered urban landscape. Bombings had destroyed 452'000 homes and severely damaged 1.4 million others. Simultaneously, the country grappled with a significant rural exodus as people moved to cities, coupled with the impact of decolonization, which brought an influx of returning citizens and new immigrants.. This demographic shift compounded an already existing housing crisis, further strained by outdated pre-war housing policies and a forty-year lag compared to countries like Germany and the United Kingdom in addressing such issues effectively.[1]

The roots of this crisis can be traced to the 19th century, when Paris underwent a major urban transformation under the influence of Haussmann and Napoleon III. Their redesign introduced wide boulevards and standardized buildings, which inadvertently fostered social segregation, with the bourgeoisie concentrated in the modernized western districts while the working class was pushed to the eastern neighborhoods and the city outskirts. Rising rents, the demolition of working-class neighborhoods, and the emergence of the suburbs as residential zones for workers exacerbated this divide. A few public housing initiatives, such as low-cost housing (HBM) introduced in 1890, emerged on the periphery, but they remained insufficient to meet the growing demand.
In response, the post-war period saw the adoption of a radical solution: large housing complexes constructed rapidly on the outskirts of major cities, a massive and rapid housing solution supported by the state. These modular residential complexes offered modern housing to a rapidly growing population, embodying ideals of modernity and social progress. However, the repetitive nature of these cost-effective, standardized designs soon revealed limitations in flexibility and livability. This thesis seeks to explore these challenges, examining how they shaped the quality of life for residents and the broader implications for urban planning.[2]

Housing Issues and the Emergence of Grands Ensemble

The concept of Grands Ensembles first appeared in 1935, in an article from the journal L'Architecture d'Aujourd'hui, inspired by the pioneering project of the Cité de la Muette in Drancy, designed by Eugène Beaudouin, Marcel Lods, and Jean Prouvé.[3] This innovative project, which served as a model for decades, introducing an urban planning approach dedicated to collective housing and attempts to address the housing issue through large-scale planning. It sought to move away from the detached and mass-produced housing, largely inspired by the garden city model, favoring denser living spaces integrated with modern urban infrastructures. Influential architects like Le Corbusier and Maurice Rotival redefined the fundamental principles of modern housing. Drawing on Le Corbusier's «five points of a new architecture": pilotis, flat roofs, open floor plans, horizontal windows, and free facades. These innovations rejected traditional spatial segmentation, paving the way for new housing typologies.

1. Piquéras Christine et alii, Les Grands Ensembles: une architecture du XXe siècle, Paris : D. Carré, 2011, p. 12

2. Plouin Marissa Ellis, « Chicken Coops and Machines of Interminable Errors: A History of the Grands Ensembles in Parisian Suburbs », Berkeley Planning Journal, vol. 20, no 1, 2007., p.45-46

3. Piquéras Christine et alii, Les Grands Ensembles: une architecture du XXe siècle, Paris : D. Carré, 2011, p. 11

The Athens Charter, developed during this era, proposed organizing urban areas into «functional zones»: living, working, moving, and leisure, reflecting a commitment to efficiency and modernity. However, in practice, the large housing complexes built during the Glorious Thirty often mixed modern ideals with academic elements, creating a hybrid architecture that integrated some modernist ideas while preserving more classical elements of urban planning.

Maurice Rotival's 1935 article described the Grands Ensembles as a sustainable and environmentally friendly solution for collective housing, intentionally located far from industrial areas and urban sanitation issues.»[4] These complexes not only represented a technical and architectural innovation, but also marked a radical transformation of daily life. Their distinctiveness stemmed from their unconventional, modern design, which aimed to provide families with better quality of life in green, well-maintained environments—even in urban peripheries.

The philosophy behind Grands Ensembles was rooted in humanism, aspiring to rethink housing for the benefit of better quality of life for families. This vision sought to integrate open, airy spaces closer to nature, balancing urban density with quality living conditions.

Various architects, such as Le Corbusier and Maurice Rotival, questioned the prevailing principles of the time regarding «garden cities,» the typical model of mass-produced and detached housing, and proposed housing based on the five points of a new architecture: pilotis, flat roofs, open floor plans, horizontal windows, and free facades. However, despite the Athens Charter, which advocates for principles and a distribution into «functional zones» — living, working, moving, and leisure — the realities of construction during the Glorious Thirty resulted in hybrid architectures that blended modern and traditional elements, demonstrating both the potential and limitations of the

Reasearch Question

Grands Ensembles philosophy.

The emergence of large housing estates in France, such as Sarcelles, represented a rapid and rational response to the post-war housing crisis. Organized around standardized modular units, these dwellings were designed to effectively meet the needs of a homogeneous population and the family models of the time. Initially celebrated as symbols of modernity and progress, these units are now frequently criticized, often likened to «cages» [5] or described as dehumanizing spaces.

This research seeks to address the question: To what extent have large housing estates, like Sarcelles, succeeded in addressing the post-war housing crisis while creating functional and humane living environments capable of adapting to the evolving needs of their residents? Focusing on neighborhoods such as Les Lochères, the study examines how Sarcelles' rational organization connected modular units to the larger scale of a planned estate integrated into the Parisian periphery. It also investigates how the rigidity of modular

4. Maurice Rotival, "Les Grands Ensembles: problème général et implantation des cités," L'architecture d'aujourd'hui 6 (1935): 57-72.

5. The expression "cages" originates from critiques of modernist housing developments in post-war France. As described by Merlin (1998): "These conditions were said to result in severe cases of social isolation, alienation, and even the coinage of a social illness, 'sarcellitis,' named after one of the first and most emblematic grands ensembles, Sarcelles. Quickly labeled 'chicken coops,' 'rabbit cages,' 'dormroom cities' and 'barracks,' they even engendered the expression 'hard French' to signify the brutality of their architecture and their embodiment of Le Corbusier's 'collective machines for living.'",

Plouin Marissa Ellis, « Chicken Coops and Machines of Interminable Errors: A History of the Grands Ensembles in Parisian Suburbs », Berkeley Planning Journal, vol. 20, no 1, 2007, p. 44)

typologies, rooted in a homogeneous vision of the family and tailored to a crisis context, limits their current ability to evolve in response to the diversity of family structures and contemporary lifestyles. These limitations expose fundamental flaws in their initial design, which assumed a static model of life.

This research emphasizes the current state of these housing units and their ability to meet the expectations of today's residents. By identifying both the strengths and weaknesses of this model, the study aims to lay the foundation for a critical analysis that can guide the development of future housing projects designed to address these challenges.

Methodology

To address these issues, this research adopts a multi-scalar methodology, focusing successively on the neighborhood, the block, the building, and the housing unit. It begins with a study of the Lochères neighborhood within Sarcelles, assessing its organization, program, and its place in relation to other neighborhoods, highlighting the recurring principles of building placement and large-scale standardization.

The analysis then shifts to the block around Kennedy Park, with particular attention given to the connections between buildings, their spatial arrangement, entryways, and the integration of specific spaces like the park, considered a notable exception.

At a finer scale, the study examines a representative building, analyzing how its placement and design influence accessibility and use, entryway design, staircase configuration, and the relationship between materials and the lived experience of its residents. Finally, it focuses on the housing unit, exploring its internal organization, how functional spaces are distributed and connected, and its connection to the outside, particularly natural light and accessibility.

The goal is to provide a critical assessment of the studied spaces by exposing their strengths and limitations to determine to what extent they still meet contemporary needs and reflect the expectations of today's residents.

1

SARCELLES

A response to the housing shortage

At the end of World War II, France faced a significant housing shortage, exacerbated by massive destruction and a growing population. To address this crisis, innovative solutions were implemented, blending modern architecture with new urban strategies. How did urban planning, shaped by figures like Le Corbusier, respond to these challenges? What were the outcomes of large-scale reconstruction efforts, such as Sarcelles, and what new questions did these projects raise about modern living spaces? This chapter explores these issues while leaving room for reflection on the balance between modernity and quality of life.

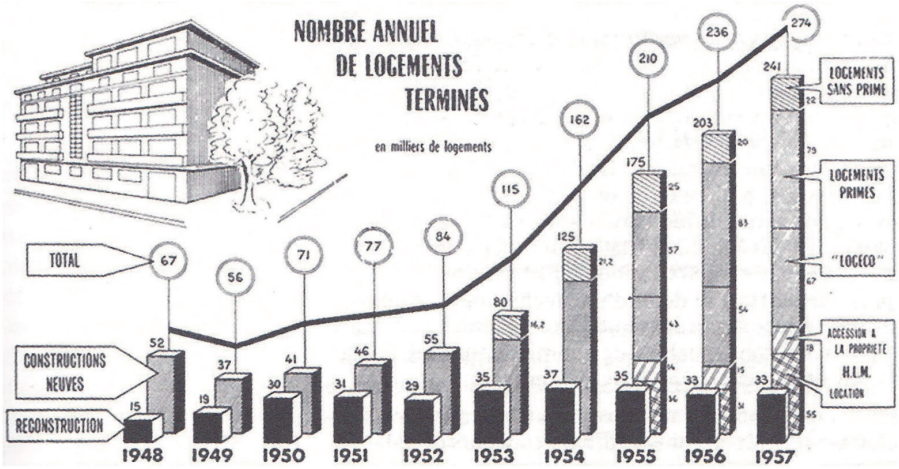


Figure 1: Annual number of completed housing units in France between 1948 and 1957

1.1 Contexte

At the end of World War II, the human and material toll in France was particularly heavy: 400'000 dead, as many wounded, 1.5 million returning prisoners of war, and millions of displaced people. In terms of housing, 400'000 homes were completely destroyed, 1.5 million damaged, 450'000 declared unsanitary, and 300'000 uninhabitable. This crisis was further intensified by rural depopulation, a post-war baby boom, and soaring inflation. Pre-existing rent control measures from the interwar period and limited new construction had already degraded the rental housing stock, deepening the crisis.

Initially, reconstruction efforts prioritized essential infrastructure, partially supported by the Marshall Plan. Focus was directed toward restoring transportation networks, industrial facilities, and destroyed homes. However, new construction was limited due to the state's budgetary constraints.[6]

By 1953, with the reconstruction deemed nearly complete, attention shifted to social housing under the Courant Plan. This graph clearly illustrates the transition between the 1950-1953 period, primarily marked by post-war reconstruction efforts, and the subsequent years, where new constructions, notably characterized by the rise of Grands Ensembles, became predominant (Figure 1). Among the measures implemented were the creation of an administration dedicated to urban planning, the allocation of significant funding for social housing, the liberalization of rents for private constructions to stimulate rental investment, and the strengthening of the network of social organizations, including the Pensions Fund. Simultaneously, efforts to modernize construction methods aimed to address the growing demands of the population efficiently.[7]

Social and Political Context in the Rest of Europe

In Europe, the post-World War II housing crisis was widespread. West Germany faced a severe housing crisis due to wartime massive destruction, pre-existing housing shortages, and an influx of refugees. In 1945, the housing deficit reached 6.2 million units, including 1.3 million that were already lacking before 1939, 2.5 million destroyed during the war, and 2.4 million needed for refugees. Despite significant construction efforts, by 1954, 3 million homes were still needed, exacerbated by demographic growth and the arrival of refugees.[8]

The German federal housing policy, established in 1949, marked a turning point by structuring the reconstruction effort and laying the legal foundations with the law of April 24, 1950. Priority was given to social housing to meet the needs of low-income households. Subsidies covered up to half the costs, while low-interest loans supported affordability. An ambitious program to build 1.8 million social housing units over six years was launched, while tax incentives encouraged savings and investment in construction. However, the rush to complete early projects led to criticism regarding the quality and

6. Merlin, Pierre, Les Grands Ensembles : des discours utopiques aux « quartiers sensibles ». Paris: La Documentation française, 2010, p.51-52

7. Ibid, p.55-56

8. Sebastiani Charles. Le problème du logement et l'activité de la construction en Allemagne occidentale depuis 1945. In: Etudes et conjoncture, Institut national de la statistique et des études économiques, n°3, 1956 (11e année). pp. 247-248

comfort of the homes. At the same time, the government sought to balance public support with encouragement for private initiative, developing family homes and adjusting regulations to address social and economic changes.[9]

The United Kingdom faced a major housing crisis, with an estimated shortage of 750'000 homes due to destruction caused by bombings and the halt in construction during the conflict. Despite the constraints posed by a lack of materials and a high public debt (over 200% of GDP in 1950), the government quickly implemented a prefabricated housing program (150'000 units) and encouraged local councils to build, resulting in the construction of one million homes between 1945 and 1955. Simultaneously, efforts to relocate saw 900'000 people moved out of slums during the 1950s and 1960s. Economic growth also drove a significant increase in homeownership, supported by planned towns like Milton Keynes to accommodate rising demand.[10]

After World War II, the housing crisis similarly affected several European countries, though their contexts and responses varied. In France, massive destructions, combined with rent controls and low construction during the interwar period, exacerbated a crisis marked by overcrowding and the poor condition of many homes. In Germany, the challenge was even more pronounced with a deficit of 6.2 million homes, due to the destruction and the influx of millions of refugees. Public policies, such as the 1950 law, structured the reconstruction effort with a focus on social housing, supported by subsidies and low-interest loans. In the United Kingdom, where 750'000 homes were needed, the government responded with prefabricated houses and an intensification of local construction, while facilitating access to homeownership. While each country's context shaped its response, they shared a common goal: to rebuild homes and address an unprecedented social emergency.

Architectural context

In response to this situation, the state implemented an ambitious policy of reconstruction and modernization. Initially, efforts prioritized vital infrastructure such as bridges, roads, and factories. The construction of new housing progressed slowly, with only 150'000 units built before 1950.[11] However, legislative measures like the 1% Housing Law (1953)—which required companies to finance housing for employees—accelerated reconstruction. Alongside this national initiative, many architects engaged in a quest for renewal, aiming to modernize architecture and address contemporary challenges.

The modernist movement, heavily influenced by Le Corbusier's ideas, promoted a rational, technophilic, and efficiency-oriented aesthetic from the 1920s onwards.[12] Although his concepts had limited influence before the war, they became predominant in the following decades, profoundly shaping the design of large housing complexes.

9. Sebastiani Charles. Le problème du logement et l'activité de la construction en Allemagne occidentale depuis 1945. In: Etudes et conjoncture - Institut national de la statistique et des études économiques, n°3, 1956 (11e année). pp. 248-253

10. Pettinger, Tejvan. "History of UK Housing." Economics Help, January 30, 2023. https://www.economicshelp.org/blog/15814/housing/uk-housing-history/.

11. Merlin, Pierre. Les Grands Ensembles : des discours utopiques aux « quartiers sensibles ». Paris: La Documentation française, 2010, p.58

Le Corbusier's "Ville Radieuse," proposed urban models that inspired the characteristic barres and towers of post-war projects. These urban forms, combining height and density, were also inspired by American skyscrapers, symbols of modernity and consumer society. These visions were debated and formalized at the first International Congress of Modern Architecture (CIAM), leading to the publication of the Athens Charter in 1943. This document became a kind of "manual" for a new generation of architects, advocating for functional cities structured around geometric and rational principles.[13]

The conceptual field of the "intermediate space" emerged in reaction to the radically rationalist and technocratic tendencies of the modernist movement, which must first be understood in terms of its intentions. Indeed, the CIAM (International Congress of Modern Architecture) was founded in 1928. It brought together prominent architects who agreed that the contemporary city, characterized by poor living conditions and unorganized growth, exhibited dysfunctions. The members of CIAM were thus in search of a redefinition of urbanism. In 1933, the famous Athens Charter, a true manifesto of modern urbanism, was presented by Le Corbusier and adopted by the CIAM members. It advocates for the separation of functions (living, working, relaxing, moving), thereby formulating the dissociation between roadways and built structures. Article 16 states: "From now on, habitation and circulation will be assigned independent zones. The house, therefore, will no longer be attached to the street by its sidewalk. It will stand in its own environment, where it will enjoy sunlight, fresh air, and silence."[14]

This quest for rationality, championed by architects inspired by the principles of the Athens Charter, faces the complexity of social and urban dynamics. The strict separation of functions — living, working, leisure — results in spatial fragmentation that oversimplifies a more nuanced reality, where these functions naturally intertwine.[15] By aligning architecture with industrial principles, designers often neglected the qualitative aspects of space, including its identity and human-centered diversity. This reinforced a sense of impersonality and disconnection for residents.

The outskirts of large cities, previously composed of inexpensive agricultural land, then become urban laboratories where this modernist utopia is realized. The large housing complexes, designed as "machines for living" surrounded by nature and organized around fast roads, aim to optimize the relationship between housing, work, and leisure.[16] These projects also reflect the rise of an influential technocracy, where experts, backed by technical expertise, guide the development of the territory. However, this vision has been criticized. The break from traditional urban models and the distancing from city centers lead to geographic and social isolation, as denounced by authors like Pierre Sudreau. Buildings disconnected from street and neighborhood life further highlighted the limitations

12. Fourcaut Annie, « Les Grands Ensembles ont-ils été conçus comme des villes nouvelles ? », Histoire urbaine, vol. n° 17, no 3, Société française d'histoire urbaine (SFHU), 2006, p.17

13. Casarin, « Les frontières invisibles dans la ville française : les Grands Ensembles d'aujourd'hui entre « cités-ghetto » et mouvements pour la reconnaissance », p.5

14. Le Corbusier, La Charte d'Athènes; suivi de Entretien avec les étudiants des écoles d'archi tecture, Minuit, Paris, 1957, p.40

15. Fourcaut Annie, « Les Grands Ensembles ont-ils été conçus comme des villes nouvelles ? », Histoire urbaine, vol. n° 17, no 3, Société française d'histoire urbaine (SFHU), 2006, p.17

16. Casarin, « Les frontières invisibles dans la ville française : les Grands Ensembles d'aujourd'hui entre « cités-ghetto » et mouvements pour la reconnaissance », p.5

of standardized design and rigid functionalism.

This new rational and functionalist philosophy reflected the dominant ideological currents of the modernist movement and played a key role in shaping the form and function of the large housing complexes. Other movements, more technologically focused but aligned with the era's socio-political ambitions, also advocated for standardization and architectural repetition. These industrial tools allowed for massive and rapid production, while promoting equality in access to housing. Uniformity, far from being merely a quantitative response, also reflects an ideal of egalitarianism central to the welfare state. Each housing unit, designed according to standardized typologies, aims to meet the needs of a typical family: a couple with two children.[17]

17. Fortin, Jean-Patrick, French architect and urban planner, co-founder of the Paris Belleville school of architecture, specialist in Grands Ensembles, Notes on the Grands Ensembles de Sarcelles, Personal archives, 2011. Document shared during a personal visit on November 8, 2024.

1.2 The large housing complexes as a response to the crisis

The concept of large housing complexes emerges as an architectural and urban solution. From an urban and architectural perspective, these large-scale residential developments—often exceeding 1'000 units, such as HLM (Low-Income Housing)—were primarily located on the outskirts of major cities like Paris.[18] These complexes were designed to address the housing shortage by using modern construction techniques, such as concrete and prefabrication, enabling rapid construction. While these methods allowed for quick progress, they often came at the expense of urban cohesion and design quality. Nevertheless, these elements helped improve the living conditions of residents by introducing modern amenities like hot water and central heating.

The concept of Grands Ensembles can also be understood in a broader sense, as theorized by Jean-Luc Godard in 1967, as the statistical ensemble of possible states of a system, where the fundamental unit of humanity is governed by collective laws that transcend it. This theoretical vision suggests that the Grands Ensembles, while being a response to the urgent housing needs, also embody a social and urban organization dictated by collective principles.[19] However, despite their functional efficiency, they raised questions about quality of life, residents' identity, and the relationship between architecture and individual aspirations. These tensions reveal a conflict between the collective ambitions of housing policies and the lived realities of their inhabitants.

By the 1960s, architectural critics began to surface. Critics condemned their gigantism, monotony, and lack of integration into the urban fabric. Poor public transportation and the absence of local amenities exacerbated social isolation, particularly women, who suffered from boredom and loneliness. The separation of functions (housing, commerce, services) and the absence of emotional connections to the places where people lived limited social interactions, fueling tensions and exacerbating inequalities. Social change also contributed to segregation, with the arrival of more vulnerable and foreign populations, while the middle classes moved out. Social criticisms intensified in the 1970s, making the housing complexes symbols of poverty and exclusion, despite efforts to improve them.

Physical deterioration and socio-economic isolation turned many of these areas into "ghettos," marked by stigmatization and inadequate rehabilitation efforts. These issues created a cycle of marginalization. Efforts to build a collective identity often clashed with residents' rejection of public authorities and their limited participation in community life.[20] The large housing complexes thus reflect the tensions between collective ambitions and individual aspirations. While their modularity and functional efficiency helped address a housing crisis, they also raise questions about the relationship between architecture, identity, and quality of life. These issues pave the way for a deeper reflection

18. Merlin, Pierre. Les Grands Ensembles : des discours utopiques aux « quartiers sensibles ». Paris: La Documentation française, 2010, p.61-62

19. Maurer Jacqueline, « Cadre de vie". Jean-Luc Godard's „Deux ou trois choses que je sais d'elle" (1967), French TV and Architectural Discourse », Kwartalnik filmowy, no 109, Institute of Art of the Polish Academy of Sciences, 2020, p. 68-85.

20. Merlin, Pierre. Les Grands Ensembles : des discours utopiques aux « quartiers sensibles ». Paris: La Documentation française, 2010, p.83-92

on how these complexes have evolved over time and adapted to contemporary needs. In this context, studying the case of Sarcelles—a prominent housing development in the Paris suburbs—provides valuable insights. It offers a practical lens to explore the evolving tensions between social, architectural, and urban dynamics, shedding light on how these complexes have adapted (or failed to adapt) to contemporary needs.

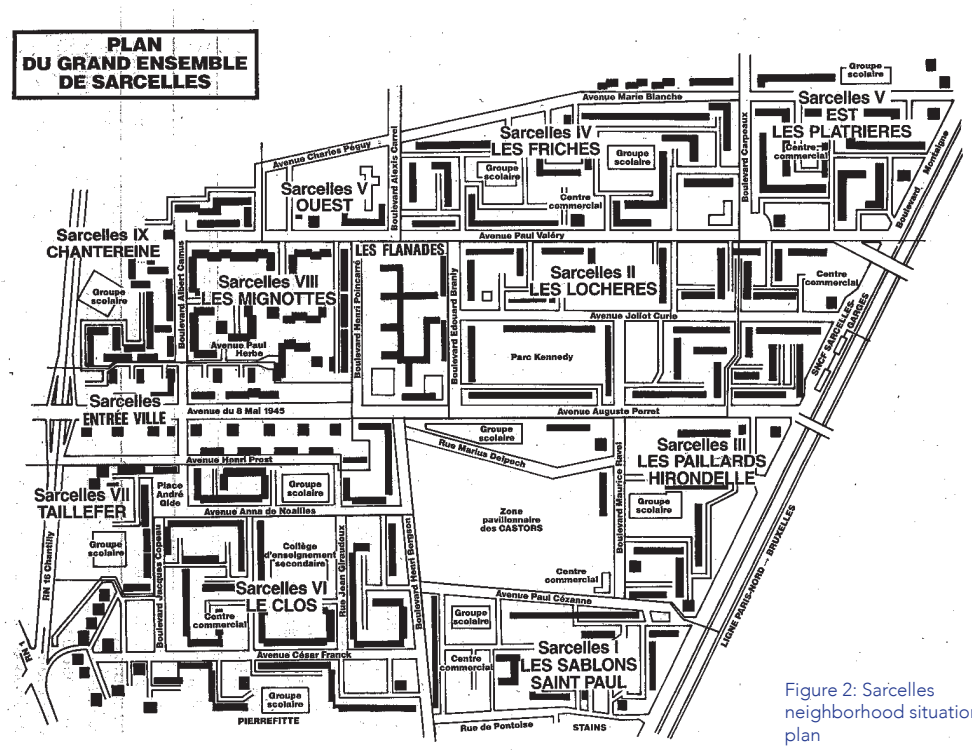


Figure 2: Sarcelles neighborhood situation plan

1.3 Sarcelle

The projects like Sarcelles-Lochères exemplify concrete attempts to address the social, economic, and architectural challenges of the time. Although Sarcelles was not the first large-scale housing project built on the outskirts of Paris, it quickly became a symbol of urban modernity, hailed as "the largest construction site in Europe," it attracted the attention of journalists and sociologists eager to study what was seen as the future of urban France.[21]

The Sarcelles-Lochères housing complex, one of the largest in France with its 12'368 units, began its development in 1954 in the municipality of Sarcelles, located in the Val-d'Oise department in the Île-de-France region, north of the Parisian suburbs. Spanning over 20 years, it was built in ten neighborhoods (Figure 2).[22]

- Les Sablons Saint Paul (I)
- Les Lochères (II)
- Les Paillards- Hirondelle (III)
- Les Friches (IV)
- Les Platrières (V)
- Les Clos (VI)
- Taillefer (VII)
- Les Mignottes (VIII)
- Chantereine (IV)
- Les Flanades-Entrée de Ville (X)

The history of Sarcelles, and more specifically of the Lochères housing complex, is rooted in a pioneering participatory construction initiative led by the "Castors" movement. This group of future homeowners, in the early 1950s, chose to self-organize to build their own houses on 36 identical plots. These modest masonry constructions with simple rendered finishes were characterized by their simplicity and uniformity. Their establishment on what was primarily agricultural land, known as Les Sablons, marked an initial step in urbanization. The area, comprising small market garden plots and a woodland called the Bois de Lochères, offered affordable and well-located land relative to Paris and the industrial northern suburbs.[23]

In 1953, under the leadership of F. Bloch-Lainé, the Caisse des Dépôts et Consignations revolutionized its role by mobilizing popular savings to address the housing crisis and eradicate substandard living conditions.[24] This company, created specifically to address the housing crisis in France, disrupted the initial model by acquiring and developing land, constructing and renting housing, and ultimately managing entire territories. In response to the crisis, the SCIC (Real Estate Company of the Central Deposits and Consignments Fund) acquired land to launch an extensive construction program. The SCIC planners identified the area as ideal for development due to three key advantages: its proximity to a northern suburban train line, its accessibility via a main road connecting to Paris, and its surrounding environment, which included countryside, parks, forests, and a lake.[25]

Jacques-Henri Labourdette, the commissioned architect, designed the famous "Cézanne block," 260-meter-long building housing 120 family apartments This prototype became the foundation for Sarcelles' urbanization,

21. Cupers Kenny, « The expertise of participation: Mass housing and urban planning in post-war France », Planning perspectives : PP, vol. 26, 2011, p.37

22. Casarin, « Les frontières invisibles dans la ville française : les Grands Ensembles d'aujourd'hui entre « cités-ghetto » et mouvements pour la reconnaissance », p.23

23. Fortin, Jean-Patrick, French architect and urban planner, co-founder of the Paris Belleville school of architecture, specialist in Grands Ensembles, Notes on the Grands Ensembles de Sarcelles, Personal archives, 2011. Document shared during a personal visit on November 8, 2024.

24. Fourcaut, Annie, et Danièle Voldman. « Penser les crises du logement en Europe au XXe siècle ». Mouvement social 245.4 (2013): 3-15

25. Mulvey Michael Joseph, « Sheltering French Families: Parisian Suburbia and the Politics of Housing, 1939-1975 , p.95

expanding from 440 housing units to a comprehensive plan of 12'000 homes.[26] Labourdette also collaborated with landscape architect Jacques Camand to create self-contained urban units integrated with a shared communal space. [27] These constructions quickly multiplied to meet the quantitative targets set by the State, culminating in the creation of a large housing complex accommodating thousands of units. In successive phases, the architect and his team added low, elongated four-story buildings made of Montmorency stone, along with a few 15-story towers, all in accordance with an access road plan developed by the SCIC engineers.
Three distinct phases can be identified during the twenty years of continuous construction in Sarcelles. The first phase (1954–1958) addressed an acute housing crisis, with still limited long-term planning. In May 1956, SCIC launched a second project and began constructing 1'180 identical apartments, named Les Lochères. Subsequently, SCIC continued building new structures in Sablons and Lochères before developing five new neighborhoods, each comprising between 1'200 and 1'500 apartments (Quartier Saint-Paul, Quartier des Paillards-Hirondelles, Quartier des Plâtrières, and Sarcelles Ouest).[29]

> "I acknowledge having started Sarcelles without knowing much about urban planning. But since 1965, I have worked to diversify the city, to recreate the street by narrowing the space."[28]

This innovative strategy, which combines industrial planning and urban development, marks the emergence of a unique model in France, centered around pragmatic coordination and the creation of new professions within a single institution.[30] Following the construction of affordable housing units without elevators but equipped with modern amenities (central heating, hot water, multiple windows), the quality of life for residents improved significantly.

Sarcelles would become a welcoming place for a cosmopolitan population, including Pieds-Noirs and Jewish people from North Africa, as well as a community from the French Caribbean.[31] Starting in the 1960s, the city faced an urgent need for coherence and public infrastructure. The Lochères neighborhood, initially built in a piecemeal fashion, began to take shape around new projects, such as the Flanades shopping and business center, inaugurated in 1964. This space would become a central hub connecting the various neighborhoods of the large housing complex. In 1967, a thermal power plant was inaugurated to serve the new neighborhoods, and public facilities started to emerge. By 1968, street nameplates replaced block numbers, giving the neighborhood a more human and organized appearance.[32] By the end of 1974, Sarcelles had completed 12'368 housing units, 67% of which were social housing, as well as the establishment of public infrastructure such as schools, community centers, daycare facilities, and sports amenitiess.[33]

26. Duquesne Jean, Vivre à Sarcelles?: le Grands Ensembles et ses problèmes, Paris : Cujas, 1966,p.40

27. Bernadette Blanchon, « Pratiques paysagères en France. De 1945 à 1975 dans les Grands Ensembles d'habitation », rapport de recherche, École nationale supérieure de paysage de Versailles, Plan construction et architecture, 1998.

28. Henri-Labourdette Jacques, Jacques Henri-Labourdette, architecte: une vie, une oeuvre, Nice : Éd. Gilletta-"Nice-matin", 2002

29. Conacos Henry, Sarcelles, ou, Le béton apprivoisé, Paris : Editions sociales, 1979, 267 p.66

30. Fortin, Jean-Patrick, French architect and urban planner, co-founder of the Paris Belleville school of architecture, specialist in Grands Ensembles, Notes on the Grands Ensembles de Sarcelles, Personal archives, 2011. Document shared during a personal visit on November 8, 2024.

31. Duquesne Jean, Vivre à Sarcelles?: le Grands Ensembles et ses problèmes, Paris : Cujas, 1966,p.94

Thus, a new city of 40'000 inhabitants emerged, managed by a single landlord who also acted as the developer, landowner, operator of the heating network and facilities, and employer of the fifty caretakers or managers responsible for collecting rent and looking after the tenants.

After the initial enthusiasm of Sarcelles residents for their new homes, equipped with modern amenities, the 1960s brought social and spatial discomfort. This phenomenon, nicknamed "sarcellite," reflects the residents' unease with overcrowding, constant noise, and imposing architecture, exacerbated by poor soundproofing and dehumanizing public spaces. According to Cupers, the term symbolizes the disillusionment surrounding France's massive construction boom, where the promise of modern housing for all clashed with the reality of flawed urban planning and unresolved social tensions.[35]

"It is the pain of numbers, of gloom, and of noise; the pain of measured space, of impossible solitude, and of violated silence; the pain of the Large Housing Estates. [...] In a word, it is the world of isolation and overcrowding, of boredom and uproar: in the language of tenants as well as in that of experts, it is hell.""[34]

Sarcellite was born from several factors of discomfort related to the very design of the Grands Ensembles. The overcrowding of spaces, the lack of soundproofing in the apartments, and the overwhelming architecture of the buildings created an oppressive atmosphere. The residents felt trapped in an environment where public and private spaces merged into a palpable monotony.[36] The contrast between the utopia of modern housing and the actual living conditions gives rise to a feeling of disarray.

Life becomes a series of repetitive actions, especially for stay-at-home mothers, who find themselves isolated in a depersonalized and monotonous environment. Social isolation is intensified by the distance from city centers and the lack of local businesses, at least in the early phases of Sarcelles. Nicknamed "dormitory towns," these neighborhoods[37] were no longer seen as places of integration but as spaces of relegation, where residents fela excluded from urban life. This dehumanized urban model, which was initially intended to offer accessible modernity to all, transformed into a symbol of social disconnection and deep unease. The model, originally designed to address the housing crisis, created areas of exclusion where social life was reduced to a bare minimum.[38] This contradiction highlights the failure to reconcile collective ambitions for modernity with the individual needs of residents.
The reality of discomfort, embodied by sarcellite, raises a central question in the analysis of these Grands Ensembles: how could an urban model intended

33. Roth Catherine, Textes et images du Grands Ensembles de Sarcelles 1954-1976, Collection Les Publications du Patrimoine en Val de France, n°10, 2007.

34. L. Caro, «Psychiatres et sociologues dénoncent la folie des Grands Ensembles », cit. p. 32

35. Brand Philippe, « "Peering Through the Window": Experiencing the Banlieue in Sarcellopolis (1964/2015) », Contemporary French and Francophone Studies, vol. 22, no 4, 2018, p. 445-453

36. Casarin Giada, Les frontières invisibles dans la ville française : les Grands Ensembles d'aujourd'hui entre « cités-ghetto » et mouvements pour la reconnaissance, Italie : Université de Padoue, 2016. p. 24-25

In these "monstrous developments called Grands Ensembles" (idem), "One is no longer at home...
The resident of the Grands Ensembles, block 8, stairwell 14, 11th floor, door 19, does not see shopkeepers on their doorstep to whom they can say good evening..."[39]

to solve the housing crisis come to symbolize dehumanization? The rigidity of typologies and initial functional organization appears increasingly ill-suited to the evolving needs of society. Examining Sarcelles, particularly its modular cells and urban layout, reveals the tensions between the promise of modernity and the challenge of adapting to a changing social landscape.

37. Casarin Giada, Les frontières invisibles dans la ville française : les Grands Ensembles d'aujourd'hui entre « cités-ghetto » et mouvements pour la reconnaissance, Italie : Université de Padoue, 2016. p. 5

38. Duquesne Jean, Vivre à Sarcelles?: le Grands Ensembles et ses problèmes, Paris : Cujas, 1966, 342 p.25

39. Duquesne Jean, Vivre à Sarcelles?: le Grands Ensembles et ses problèmes, Paris : Cujas, 1966, 342 p.98

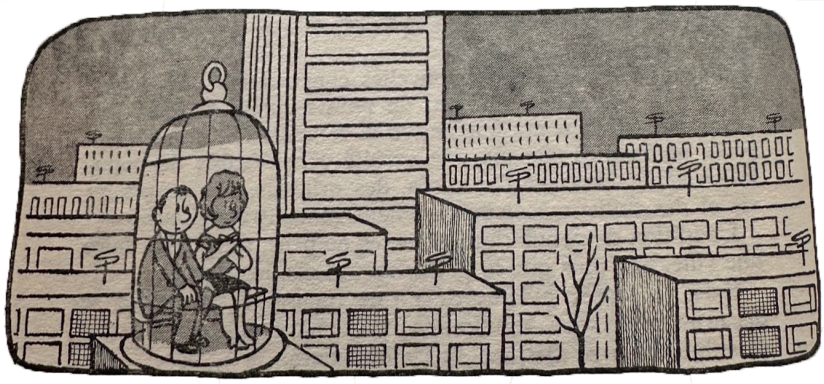
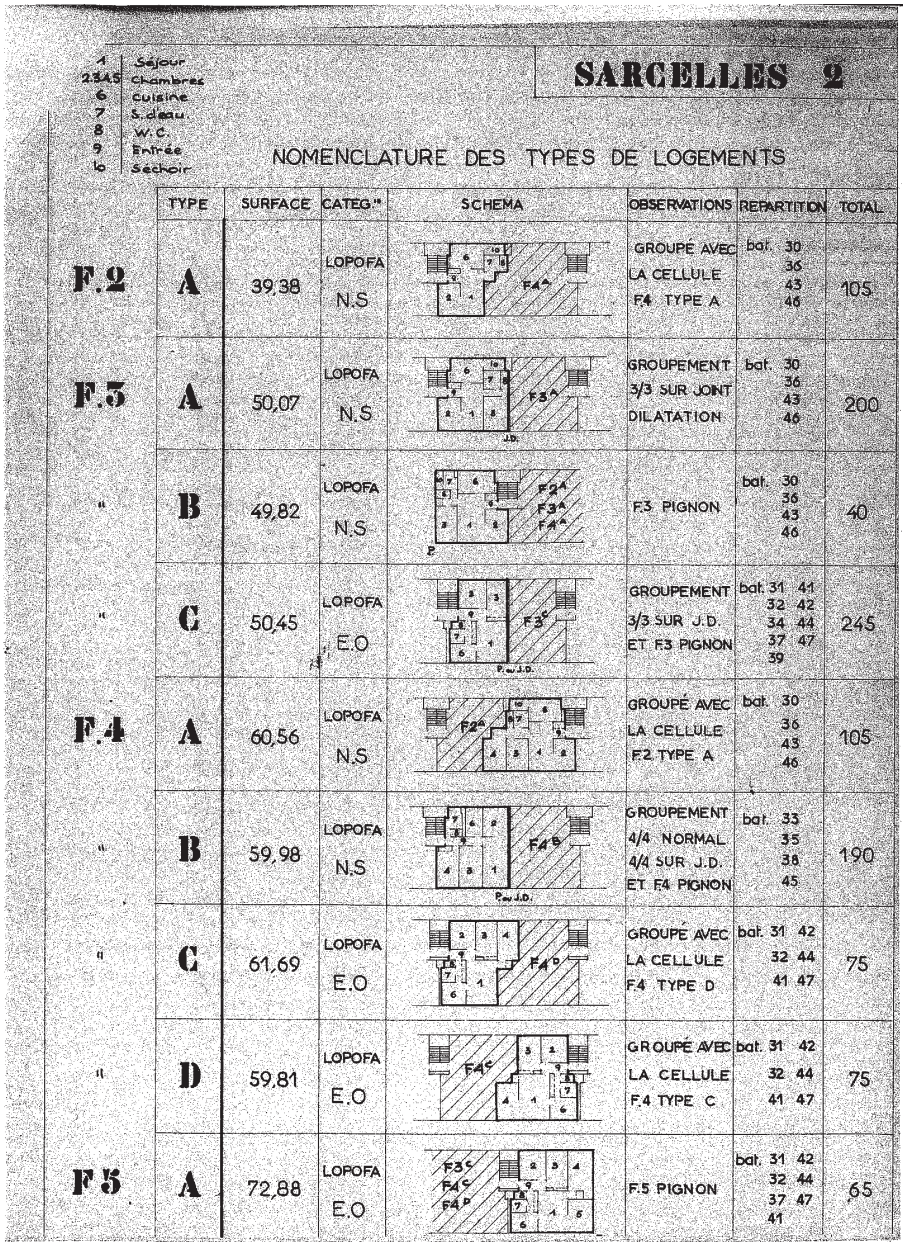


Figure 3: caricature that appeared in the press, denouncing the Grands Ensembles



1 Séjour
2 3 4 5 Chambres
6 cuisine
7 S. d'eau
8 W.C.
9 Entrée
10 Séchoir

SARCELLES 2

NOMENCLATURE DES TYPES DE LOGEMENTS

	TYPE	SURFACE	CATEG.ie	SCHEMA	OBSERVATIONS	REPARTITION	TOTAL
F.2	A	39,38	LOPOFA N.S	F4A	GROUPE AVEC LA CELLULE F4 TYPE A	bat. 30 36 43 46	105
F.3	A	50,07	LOPOFA N.S	F3A J.D.	GROUPEMENT 3/3 SUR JOINT DILATATION	bat. 30 36 43 46	200
"	B	49,82	LOPOFA N.S	F2A F3A F4A P.	F.3 PIGNON	bat. 30 36 43 46	40
"	C	50,45	LOPOFA E.O	F3C P. ou J.D.	GROUPEMENT 3/3 SUR J.D. ET F3 PIGNON	bat. 31 41 32 42 34 44 37 47 39	245
F.4	A	60,56	LOPOFA N.S	F2A	GROUPE AVEC LA CELLULE F.2 TYPE A	bat. 30 36 43 46	105
"	B	59,98	LOPOFA N.S	F4B P. ou J.D.	GROUPEMENT 4/4 NORMAL 4/4 SUR J.D. ET F4 PIGNON	bat. 33 35 38 45	190
"	C	61,69	LOPOFA E.O	F4D	GROUPE AVEC LA CELLULE F.4 TYPE D	bat. 31 42 32 44 41 47	75
"	D	59,81	LOPOFA E.O	F4C	GROUPE AVEC LA CELLULE F.4 TYPE C	bat. 31 42 32 44 41 47	75
F5	A	72,88	LOPOFA E.O	F3C F4C F4D	F.5 PIGNON	bat. 31 42 32 44 37 47 41	65

Figure 4: Nomenclature of housing types showing the different typologies and its repartition in the buildings, from Archives Service of Sarcelles

1.4 The modular cell

To fully understand the case of Sarcelles, it is essential to return to the origin and etymology of the term "modular cell." This concept, frequently encountered in the context of Grands Ensembles, refers to a functional unit designed to meet the basic needs of housing, such as kitchens, bathrooms, and bedrooms. assembled, form larger structures based on principles of standardization and rationalization.[40] The origin of this term dates to the work of Le Corbusier in the 1920s, who referred to the idea of the "machine for living" or "minimum housing." This concept aimed to provide a rational solution to the needs of residents, while integrating the process of mass production of housing.[41]

The etymology of the word "cellule," derived from the Latin "cellula," meaning a small room or small space, highlights the idea of a reduced and functional volume.[42] n the context of the architecture of Grands Ensembles, this cell represents not only a basic modular unit but also a solution designed to meet the large-scale quantitative housing needs. It is part of a logic of housing industrialization, driven by the idea of space rationalization. According to Joseph Quem (2016), the modular cell represents a basic unit, an autonomous but standardized space, which could be produced on a large scale using fast and low-cost construction techniques. This approach maximized functionality through minimal equipment and optimal layouts, ensuring spatial efficiency. The logic of the modular cell shaped the first HLMs (*Habitation à Loyer Modéré* in french, i.e. housing with moderate rent), particularly in the Grands Ensembles of the 1960s and 1970s, where this logic of arrangement and repetition is clear in the housing units.[43]

The term "modular" refers to the ability to arrange these units in different ways to create diverse ensembles while maintaining a homogeneous structure. However, over time, and in light of the criticisms of Grands Ensembles, this logic of standardization has shown its limits, particularly in terms of flexibility in addressing social changes and the diverse needs of residents.

Initially, the "modular cell" offered a pragmatic response to France's post-was housing crisis.Yet, it did not escape criticism for its rigidity and inability to accommodate the diversity of lifestyles. As Bruno Vayssière points out, the uniform repetition of cells in Grands Ensembles led to a loss of urban quality and a disconnection from local social dynamics.[44] Thus, although designed as a functional and homogeneous space, the modular cell failed to adapt to social transformations, often amplifying a sense of monotony and dehumanization.

The modular cell embodies the standardized vision of architects and urban planners in the post-war era, who prioritized standardization over individual diversity. This model, designed in a context where the ideal was homogeneous family structures, raises questions about its relevance today, in an era that values individualism and diverse lifestyles. In Sarcelles, the size of the housing units, defined based on the 1962 census, highlights a major demographic distortion: a young

40.Merlin Pierre, Des Grands Ensembles aux cités: l'avenir d'une utopie, Paris : Ellipses, 2012, p.80

41. Grégoire Allix, « L'utopie manquée des cités-dortoirs », 05.12.2005

42. Larousse Éditions, « Définitions : cellule - Dictionnaire de français Larousse », https://www.larousse.fr/dictionnaires/francais/cellule/14026, consulté le 12.12.2024.

43. Hensman Ravi, « Fantasies of State Power? French Banlieues and the Boundaries of Modernity, 1955-1973 », [s.d.].

44. Voldman Daniele et Vayssiere Bruno, « Reconstruction. Déconstruction. Le "hard French" ou l'architecture française des Trente Glorieuses », Vingtième siècle (Paris. 1984), no 22, 1989, p. 173.

population, with a high number of young children and parents, and a notable absence of elderly people. Childless households represented only 13%, while 29% of households had two children and 20% had three. These statistics reflect a logic that favored the standard nuclear family, disregarding the more diverse realities of the population. These data reveal that the logic of modular cells did not align with the varied realities of family structures, which were not limited to a standard nuclear family.[45]

As a result, this standardization of housing led to a "banalized" vision of the family, out of step with the actual needs of the population. Today, the question remains: to what extent can the modular cell, originally designed for rapid mass production and spatial efficiency, be reinterpreted to better ameet the diversity of contemporary family and social configurations? This reflection on the adaptability of Grands Ensembles in response to social changes and evolving expectations forms the core of the analysis to come.

45. Duquesne Jean, Vivre à Sarcelles?: le Grands Ensembles et ses problèmes, Paris : Cujas, 1966, 342 p.69

2 A READING FROM THE URBAN SCALE TO THE CELL SCALE

Sarcelles, a post-war suburban development near Paris, reflects the challenges of rapid urban planning to address a housing crisis. This analysis examines the typological evolution of its standardized designs, particularly the R+4 buildings, which prioritized density and functionality. Focusing on the Lochères neighborhood, the study explores the modular architecture's impact on spatial organization, living conditions, and urban identity. While these typologies efficiently addressed immediate housing needs, they also highlight limitations in adaptability, personalization, and community integration, underscoring the complexities of large-scale, standardized developments.

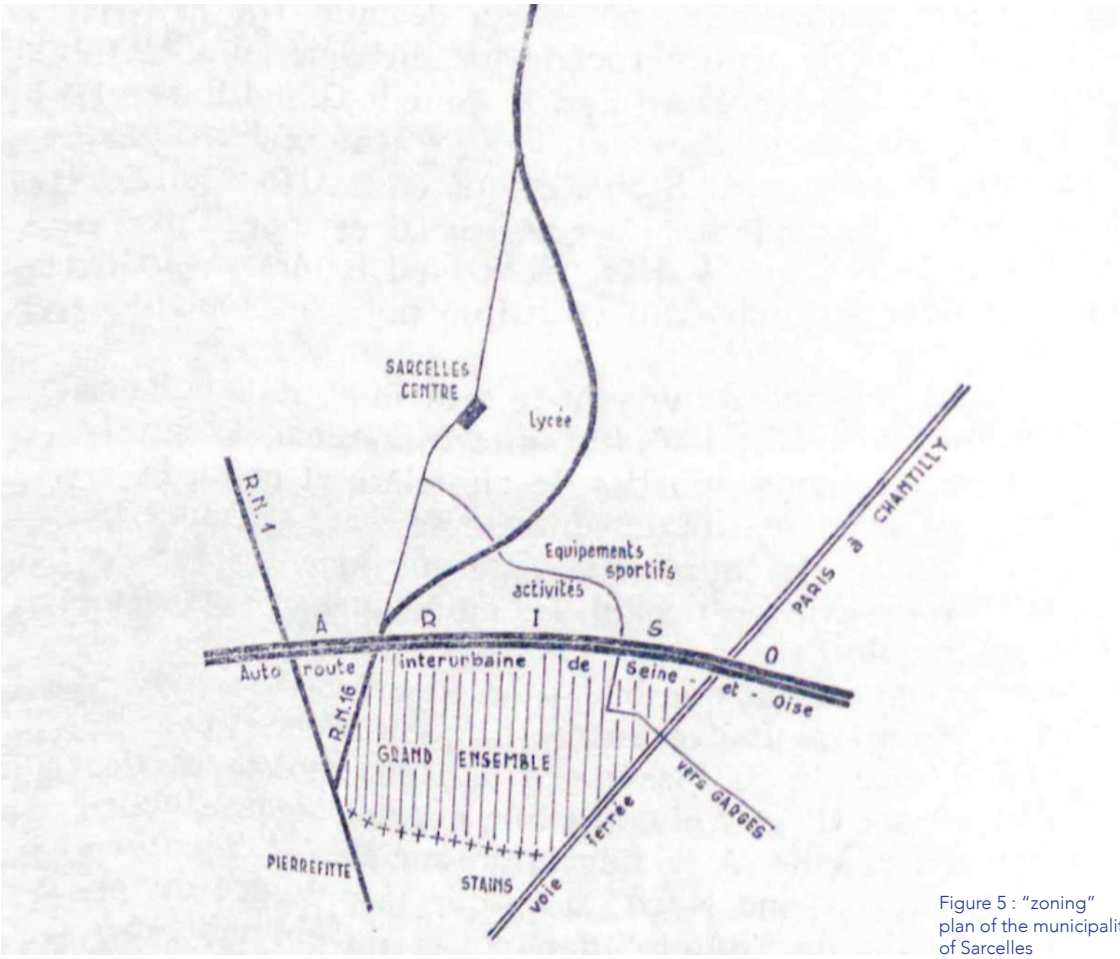


Figure 5 : "zoning" plan of the municipality of Sarcelles

2.1 Urban scale

When conceived, Sarcelles lacked a cohesive urban planning project, instead evolving through circumstantial opportunities. Its development initially revolved around two fundamental scales: neighborhood connectivity and the organization of the urban fabric around blocks. While the initial grid aimed to connect spaces while separating pedestrian and automobile flows, it encountered geographical constraints that partitioned the territory and limited its functional integration.

This lack of foresight led to pragmatic organizational choices, but often constrained by the territory's limitations and the priorities of the time. The initial project envisioned two primary axes, one linking the west to the east, and the other the north to the south, with a central intersection designed to concentrate activities. This urban core was to be complemented by a pedestrian promenade leading to the train station, as well as a secondary network connecting the different neighborhoods. Buildings were designed to separate pedestrians and vehicles, thus promoting a pleasant and functional lifestyle.[46]

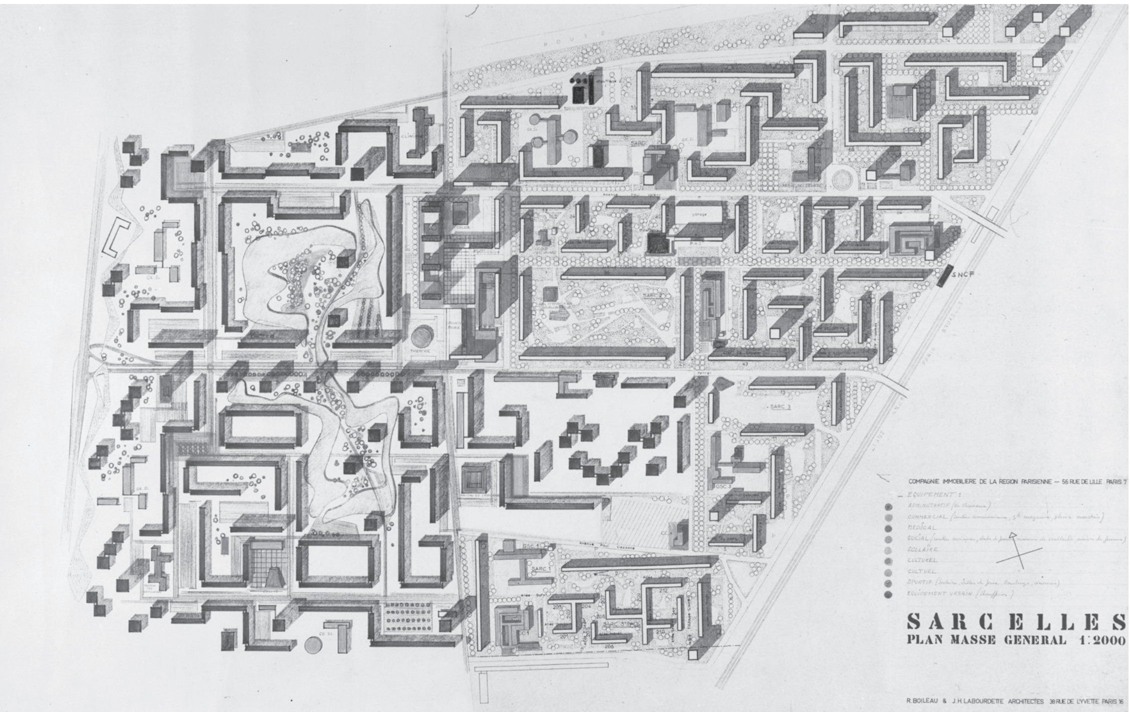
However, this project quickly encountered geographical and organizational limitations that led to a notable isolation of the Grands Ensembles. Natural and artificial boundaries, such as the interurban bypasses to the north, the railway to the east, and informal housing developments to the south, enclosed the territory (Figure 5). This isolation was further reinforced by the placement of essential infrastructure, such as the high school, hospital, stadium, and industrial zones, on the outskirts. By being positioned beyond physical barriers, these facilities did not contribute to the urban vibrancy of the Grands Ensembles, depriving the city of a rhythm and dynamics that could have broken the monotony often criticized in this type of development.[47]

This external isolation, exacerbated by natural and artificial barriers, echoes in the internal organization of the city, where the street structure struggles to create smooth and convergent flows. Internally, the street layout also posed problems. While the grid of streets allowed for basic accessibility, it lacked organization and convergence towards central, symbolic points such as churches, community centers, youth clubs, or commercial squares. The main roads often merely ran alongside housing blocks or shopping centers, without providing them with a true urban function. This layout contributes to a sense of fragmentation, making movement within the city unintuitive and unpleasant, particularly for pedestrians.[48] Despite these initial shortcomings, the current situation shows a notable transformation in the city's connectivity thanks to the development of transportation infrastructure. Today, the city is fully integrated into the metropolitan

46. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.19

47. Ibid, p.33

48. Ibid, p.35


SNCF
SARC 1
SARC 2
SARC 3
THEATRE
COMPAGNIE IMMOBILIERE DE LA REGION PARISIENNE — 56 RUE DE LILLE PARIS 7
EQUIPEMENT :
ADMINISTRATIF
COMMERCIAL
MEDICAL
SOCIAL
SCOLAIRE
CULTUREL
CULTUEL
SPORTIF
EQUIPEMENT URBAIN
SARCELLES
PLAN MASSE GENERAL 1:2000
R.BOILEAU & J.H.LABOURDETTE ARCHITECTES 38 RUE DE L'YVETTE PARIS 16

network and enjoys excellent accessibility. It is served by various modes of transportation, including train, tram, and bus lines, providing rapid connections to the main urban hubs of the region. These connections facilitate north-south and east-west travel, allowing residents to overcome the flaws associated with the city's internal organization. [49]

"These are defined by the layout of a large grid, approximately 400 meters in size, independent of the fast circulation routes. The buildings are accessed by pedestrian pathways; car access to the center of the blocks is prohibited." [50]

This dynamism in transportation is further enhanced by an urban fabric of medium density, which promotes a balance between housing concentration and the fluidity of movement. However, although transportation infrastructure largely compensates for the shortcomings of the initial project, it does not fully resolve the internal issues related to the lack of converging spaces and notable landmarks.[51] Ultimately, the city has evolved from an initial project marked by geographical and organizational limitations to a reality where external accessibility has become a major asset. Modern transportation infrastructure has helped overcome the original isolation, providing the city with an urban connection suited to current needs. However, the enduring lack of iconic spaces and structuring axes highlights the need for future urban interventions to strengthen its identity. While improvements in transportation have allowed Sarcelles to reconnect with its metropolitan environment, the internal structuring of the territory remains shaped by specific urban planning choices, one of the most emblematic being the use of the urban grid.

URBAN GRID

The urban grid in Sarcelles is a flexible, modular structure designed to meet contemporary urban planning needs. It features a unique geometric pattern formed by continuous east-west parallel lines and discontinuous north-south perpendicular lines. These variations create quadrangular plots of different sizes, which can be adapted for various land uses, such as parks or housing. The grid's design ensures a homogeneous density across the area while allowing for architectural diversity, avoiding monotony and adding functional and aesthetic richness.

The grid operates independently of pre-existing infrastructure, making it distinct from traditional city layouts, such as those based on old roads or radial-concentric patterns. It introduces an integrated movement system, separating

49. Architects Building for Capacity, Füzesséry, Stéphane et Landauer, Paul, Étude Urbaine pour la Ville de Sarcelles, Archives personnelles, 27 avril 2021 Document partagé par le bureaux lors d'une visite personnelle.

50. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.32

51. Architects Building for Capacity, Füzesséry, Stéphane et Landauer, Paul, Étude Urbaine pour la Ville de Sarcelles, Archives personnelles, 27 avril 2021 Document partagé par le bureaux lors d'une visite personnelle.

Figure 6: General ground plan (equipment)

vehicular and pedestrian flows for better accessibility and quality of life. This system includes pathways that are offset from the main grid, enhancing safety and independence for pedestrians. The grid is designed to accommodate neighborhood units of up to 1'000 dwellings, with flexible plots that maintain overall cohesion. Its aesthetic dimension reflects a balance of order and rhythm, resembling the abstract compositions of Mondrian, where the interplay of lines and spaces creates a dynamic visual harmony, making the grid both functional and visually appealing.[52]

THE BUILDINGS AND THEIR GENERAL LAYOUT

This modular organization of the grid directly influenced the architectural forms of the developments, which evolved while maintaining a strong adherence to the initial geometric principles. The evolution of the city's architectural and urban planning designs reveals a progression in the way buildings were structured, while still retaining a strong fidelity to the rectilinear nature of the shapes. Initially, the developments were designed with a simple linear organization, with buildings arranged like "sticks" aligned in a rigorous manner. Subsequently, inverted L-shaped configurations, combined in various geometric variations, were introduced, allowing for some diversity in the arrangement of the blocks (Figure 7).

This evolution led to the appearance of U-shaped and even square structures, which have the advantage of creating spacious inner courtyards. These semi-enclosed spaces foster the emergence of local social life by enabling interactions between residents. However, despite these adjustments, the approach remains dominated by an elementary simplicity, characterized by a strict geometry focused on right angles. The 15-story towers and 10-story rectangular buildings, meant to "balance" the lower buildings, reflect this functional yet unadventurous vision. In sum, although some evolutions are noticeable in the design, they remain within the limits of minimalist urbanism, where rigid and standardized forms predominate.[53] (Figure 8)

Green spaces cover nearly a quarter of the total area, with lawns, trees, and rose bushes embellishing the city. A central park of 4 hectares, landscaped with varying elevations, contributes to the image of a garden city. Despite their well-maintained appearance, these areas are more often places of passage than genuine destinations, sometimes lacking social functionality. In contrast, tree-lined promenades, used by walkers, players, and children, show better integration, balancing collective use with minimal maintenance.[54] Thus, despite notable efforts to introduce green spaces and promote local quality of life, the urban planning of Sarcelles remains marked by functional and organizational limitations that reflect the challenges of the original project.

52. Fortin, Jean-Patrick, French architect and urban planner, co-founder of the Paris Belleville school of architecture, specialist in Grands Ensembles, Notes on the Grands Ensembles de Sarcelles, Personal archives, 2011. Document shared during a personal visit on November 8, 2024.

53. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.38

54. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.39-40

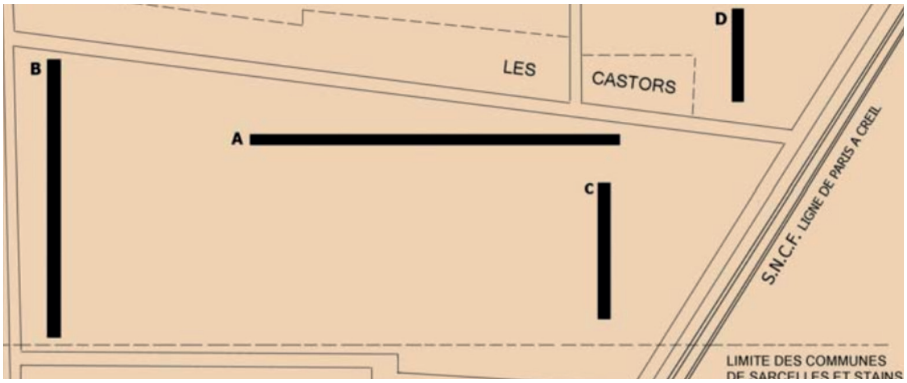
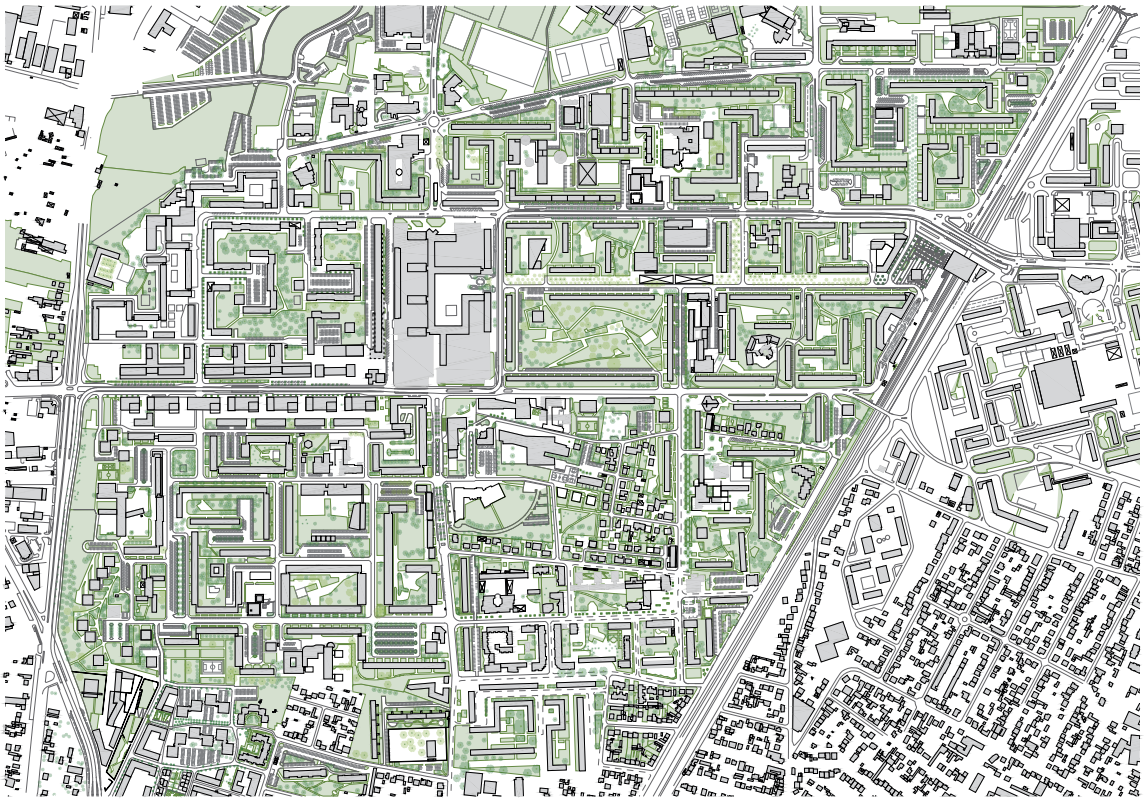


Figure 7: Mass plan of the SCIC program in 1954: 440 housing units organized in four four-story buildings



|0 |50 |100 |200m

Figure 8: Plan Sarcelles, 1:14'000, redrawn from the original plans by Fortin Architecture Urbanisme (may 2010)

2.2 Neighborhoods scale

The original master plan of Sarcelles, designed in 1955, aimed to create a functional environment for housing a large population while organizing the area into distinct, autonomous yet connected neighborhoods. This plan featured massive buildings, including four-story structures, each 300 meters long, along with a second, slightly shorter building. These structures spanned a vast area, and quickly, to complete the project, one- and two-story buildings were added. The heart of each block included a kindergarten, a social center, and a shopping center. The population density reached 37 housing units per hectare, and parking lots were situated away from the buildings, grouped around the perimeter of the site. The master plan also included well-integrated public spaces, with squares of varying sizes and proportions, creating a contrast between volumes, and elevated pedestrian walkways, isolated from vehicular traffic, which was confined to the outskirts of the site. The parking infrastructure included 1'012 spaces, of which 600 were covered and 412 were surface-level. With a higher density, the Sarcelles 9 plan had 102 housing units per hectare and a ratio of 1.35 parking spaces per dwelling. The entrances of the buildings opened onto large, paved squares, complemented by green spaces.[55]

However, despite this functional organization designed to meet the immediate housing needs, the limitations of this model quickly became apparent, particularly on a human and social level. Despite its short-term functionality in addressing the housing crisis, the initial architectural choices quickly proved problematic in terms of human and social factors. The 300-meter long building blocks, initially perceived as an innovative solution, exacerbated the sense of coldness and anonymity, reducing social interactions and the integration of residents within their neighborhood. The scale of the buildings and public spaces, initially considered vast, quickly showed its limitations, as it did not foster a sense of proximity between residents or the development of a true community fabric.[56]

In response to these observations, adjustments were gradually made to address these imbalances and better meet the residents' expectations. The first tensions between density and quality of life materialized through the isolation of certain areas. While public spaces were well-distributed within the plan, their design did not always facilitate smooth social interactions, leading to some fragmentation of the social fabric. The lack of strong social connections between different groups of residents exacerbated the anonymity, creating a gap between the functional dimension and the human aspect of the project. The large public spaces, such as squares and pedestrian walkways, lacked conviviality and failed to create genuine meeting places.

55. Henri-Labourdette Jacques, Jacques Henri-Labourdette, architecte: une vie, une oeuvre, Nice : Éd. Gilletta-"Nice-matin", 2002, p. 70

56. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.36-37

Although these limitations were identified, notable transformations were undertaken to improve the residents' experience. The shopping center, initially designed as a closed space, was gradually transformed into a more open commercial street to better integrate the residents and meet their social needs. Additionally, improvements were made to the facilities and the quality of public spaces, including the addition of small neighborhood squares and the integration of local shops. While these adjustments helped strengthen social ties, they were not sufficient to address the structural issues of the project. The housing density, while providing a rapid response to the housing crisis, did not always create a pleasant and human-centered living environment. Thus, the history of Sarcelles, marked by constant adjustments, highlights the challenges inherent in the design and evolution of large housing estates. The evolution of the master plan for Sarcelles illustrates the difficulty of reconciling the functional imperatives of densification with the need for social and human interactions. While the project effectively addressed the housing crisis in the short term, the initial design did not anticipate the need for adaptability in response to the evolving expectations of residents. This transformation dynamic, which spanned over twenty years, shows how the original vision of the master plan, characterized by long building blocks and a vast organizational layout, was gradually questioned-both in terms of building scale and the development of amenities and urban planning.

Today, Sarcelles embodies both the successes and the limitations of large housing estates, underscoring the need for continuous transformation to better meet contemporary urban and social needs. While the original isolation has been alleviated through the development of transport infrastructures, the absence of a coherent internal organization and marked convergence spaces remains a challenge.

While the improvement of transportation has helped reconnect Sarcelles to its metropolitan environment, the internal organization of the territory remains deeply shaped by specific urban planning choices. Among these, the use of the urban grid played a central role in structuring the neighborhoods, particularly in the Lochères area. This model, although functional on paper, led to a standardization of space and housing in response to the urgent needs of the time. This standardization finds its justification in the demographic and social evolution, driven by the arrival of diverse populations from Paris, overseas territories, and post-colonial immigration, which shaped the multicultural identity of the neighborhood.

EVOLUTION OF POPULATION

The government's program sought to rehouse disadvantaged individuals from substandard housing into homes with essential amenities such as sanitation, kitchens, and private rooms. The Lochères neighborhood housed a diverse population, arriving in successive waves as the buildings were completed. It is a complex mixture: residents from Parisian neighborhoods under renovation, repatriates from Algeria (over 3'000 adults), Eurasians and other repatriates from Indochina, Tunisia, Morocco, or Egypt, as well as Antilleans and people from the provinces attracted by employment opportunities. Approximately 800 Jewish families formed a significant community within the neighborhood. The neighborhood also accommodated students and trainees, mostly from Sub-Saharan Africa, initially housed in a dedicated building. Furthermore, construction workers and those from the "Citroën residence," often Spanish or Portuguese, lived on the outskirts of the community in precarious conditions. Finally, despite the regional diversity of French residents, statistics often obscure these origins, only noting the broad geographical categories. This diversity made Lochères a social microcosm and a reflection of the migrations and historical upheavals of the era.[57]

The Lochères neighborhood, around the Kennedy Park, is a typical example of a large suburban area in the Paris metropolitan region, with a history marked by immigration and an urban layout characteristic of the 1960s-70s. Today, it is a multicultural neighborhood facing socio-economic challenges such as unemployment, poverty, and image management.

The analysis of the two scales of the city of Sarcelles reveals an urbanism shaped by an ambitious initial project, but limited by geographical, organizational, and social constraints. At the city scale, the urban grid structure allowed for a functional organization of the territory despite an original isolation caused by natural and infrastructural barriers. While modern transport networks have succeeded in reconnecting Sarcelles to its metropolitan environment, the internal organization remains fragmented, marked by a lack of converging spaces and iconic landmarks.

The large housing complexes, particularly those in Lochères, have hosted a diverse, multicultural population, while facing the limitations of a spatial organization that struggles to promote human interactions and community cohesion.

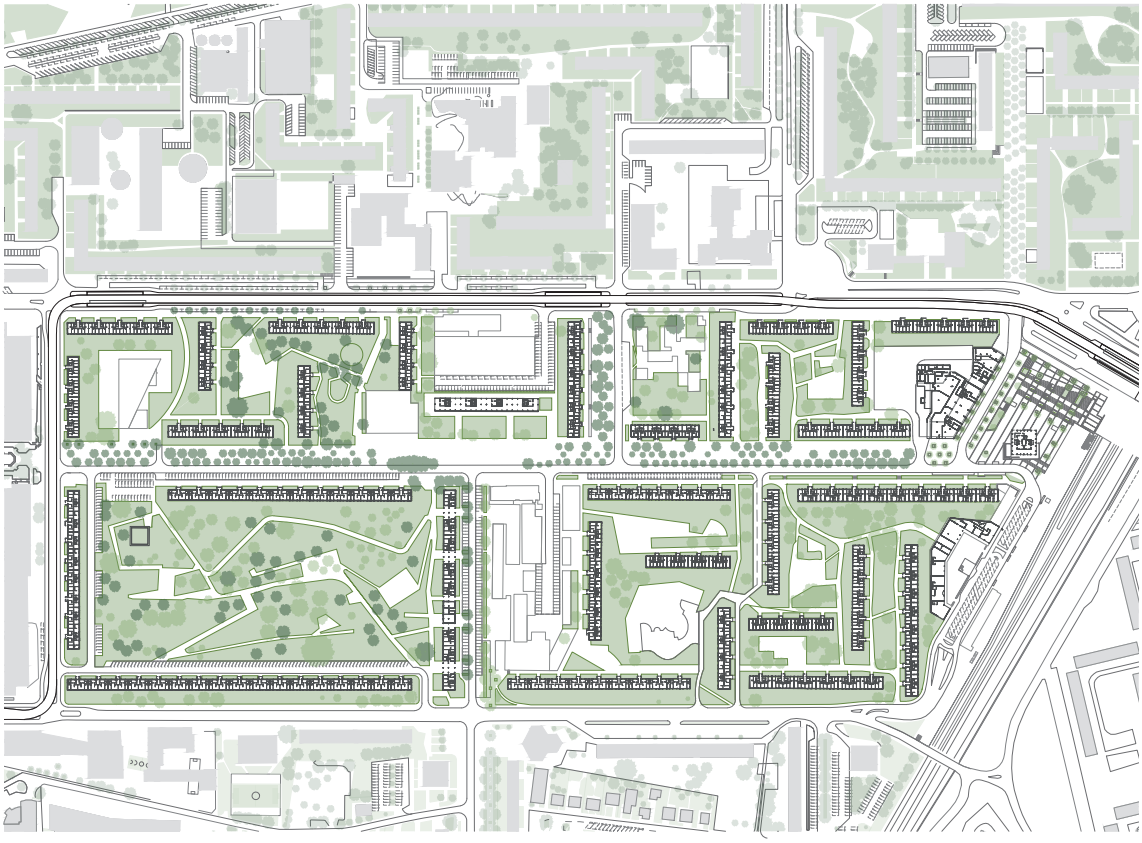
Sarcelles' demographic evolution, marked by successive waves of diverse populations, underscores the urgent need for adaptable housing to meet residents' changing needs.

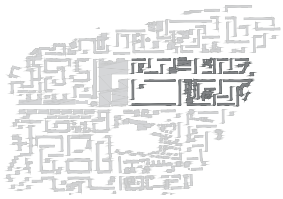
57. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.43-45

The Lochères neighborhood, a true multicultural microcosm, embodies this dynamic while revealing the current socio-economic challenges.

To support this evolution, it is essential to design adaptable and flexible housing units capable of integrating solutions for large families, young professionals, and aging populations. These new architectural and urban proposals should focus on better integration between built spaces, meeting areas, and social infrastructures, while drawing inspiration from past successes and correcting the shortcomings of the initial model.
The future of Sarcelles hinges on aligning its historical identity of diversity and inclusion with a human-centered, adaptable urbanism suited to contemporary needs.

Figure 9: photo of resident, circa 1958





0 10 50 100 200m

Figure 10 : Lochères district map, 1:6'000, redrawn from the original plans by Fortin Architecture Urbanisme (may 2010)

2.3 From Lochères neighborhoods…

The Lochères district, located within the larger Sarcelles development, stands out for its central role and significant evolution compared to other neighborhoods like the Sablons. Designed to address the limitations of the original project, it combines increased density, a more rigorous organization, and modernized architecture. Unlike the long blocks and abstract green spaces of the Sablons, the Lochères neighborhood favors a layout of blocks defined by streets, open courtyards, and integrated landscaping. With its numerous cultural, sports, and commercial facilities, the Lochères district stands as an iconic model of the large housing complexes while asserting a more refined and cohesive urban identity.

The Lochères district's identity sharply contrasts with the principles behind the Sablons' development. The Lochères neighborhood stands in opposition to the principles that shaped the Sablons, where simplicity, economy, and abstract green spaces dominated. In the Sablons, the green spaces adhered to an idealized vision detached from local realities, and the architecture remained functional but impersonal. In contrast, the Lochères assert a strong identity: each building, through its uniqueness and placement, expresses a singular work of art.[58]

Thus, the Lochères district stands as a unique example, while offering a critical reflection on the choices made in the Sablons. While the latter laid the foundations for functional urbanism, focused on simplicity, economy, and the omnipresence of abstract green spaces, the Lochères incorporate some of these principles but provide a singular and grounded interpretation. Furthermore, the importance of the Lochères, both due to its vast area and the number of residents it houses, makes it a key symbol of the issues related to the "urban cell."

In this urban evolution logic, the specific characteristics of the Lochères illustrate the ambition to create a more structured and harmonious ensemble model. The Lochères neighborhood presents features that make it a representative example of the large housing complexes of the period. Its strategic location, cultural and sports facilities, central market, and the diversity of its residents make it a structuring space at the metropolitan level. With an average density of 50 housing units per hectare, it stands out due to its organization in blocks separated by streets, offering vast open courtyards, connected by alleys and planted walkways. These spaces, barely visible from the streets, contribute to the neighborhood's identity and represent an important heritage element. This neighborhood model is particularly distinguished by the rigorous and thoughtful organization of its buildings, which help reinforce its urban identity. The placement of

58. Fortin, Jean-Patrick, French architect and urban planner, co-founder of the Paris Belleville school of architecture, specialist in Grands Ensembles, Notes on the Grands Ensembles de Sarcelles, Personal archives, 2011. Document shared during a personal visit on November 8, 2024.

buildings in the Lochères district is characterized by a strict organization that highlights their autonomy. Each building, varying in length, adopts a pure geometric form and is placed at a sufficient distance from the others, always greater than its height, to preserve the independence of its volume and façade. This arrangement avoids direct interaction between the buildings and creates an orderly urban composition, where the façades, uniform in their treatment, become a central element of the architectural identity. This logic of repetition and alignment contributes to the expression of a unique common space, designed as a coherent and functional collective space, while maintaining a strong singularity in the organization of its elements.[59] In keeping with this urban organization, the architecture of the Lochères buildings reflects a specific aesthetic and functional pursuit. The architecture of Lochères is based on an alternation of three types of buildings: five-story plastered buildings, massive stone constructions with elaborately designed façades, and structures with marked horizontal lines, combining band windows and various materials. These buildings, organized in a repetitive manner, are punctuated by more singular elements, such as the Flanades towers or the "biscottes."[60]

Beyond the architecture, the landscaping plays a crucial role in creating this urban balance, contributing to the identity of the neighborhood. The landscape, conceived as a balance between built structures and green spaces, is another central element of the area. The "one housing unit, one tree" rule applied during its construction helped integrate vegetated spaces into the heart of the urban organization. This approach is notably reflected in the creation of the central park, designed by Jacques Camand, a vast rectangular space located at the center of the large complex. This layout reflects a desire to combine functionality and quality of life within a harmonious environment.[61] This successful integration of built and vegetated spaces illustrates the ambition of the Lochères, which stand as a modern and balanced response to the limitations of previous projects.

The Lochères district asserts itself as a refined answer to the constraints of the Sablons, combining controlled density, rigorous organization, and landscape integration. Its varied and structured architecture, along with its functional amenities, give it a unique urban identity while meeting the needs of the residents. This evolution marks a key stage in the design of large-scale housing complexes of the era and paves the way for reflection on the scale of housing through emblematic typologies, such as the R+4 buildings, which sustainably shape the urban landscape of Sarcelles.

59. Fortin, Jean-Patrick, French architect and urban planner, co-founder of the Paris Belleville school of architecture, specialist in Grands Ensembles, Notes on the Grands Ensembles de Sarcelles, Personal archives, 2011. Document shared during a personal visit on November 8, 2024.

60. Architects Building for Capacity, Füzesséry, Stéphane et Landauer, Paul, Étude Urbaine pour la Ville de Sarcelles, Archives personnelles, 27 avril 2021 Document partagé par le bureau lors d'une visite personnelle.

61. Architects Building for Capacity, Füzesséry, Stéphane et Landauer, Paul, Étude Urbaine pour la Ville de Sarcelles, Archives personnelles, 27 avril 2021 Document partagé par le bureau lors d'une visite personnelle.

2.4 … To modular cells

In Sarcelles, R+4 type buildings embody a key typology in the design of large complexes of the time, combining urban density and accessibility. Their limited height of four floors makes it possible to do without an elevator, thus reducing construction and maintenance costs, while guaranteeing a relatively high density. These technical and economic characteristics made R+4 a pragmatic solution to the post-war housing crisis. R+4 buildings appeared from the first phase of construction in Sarcelles, notably with the Sézane bar, demolished decades later. We have chosen to focus our analysis on this typology of buildings, not only for their central role in the design of the Lochères district, but also because they illustrate the solutions adopted during this period to respond to a massive demand for housing. This architectural typology is not limited to its technical characteristics: its integration into the urban framework reflects a more global vision of development in Sarcelles, designed by Labourdette.

IMPLEMENTATION IN THE URBAN FABRIC

The R+4 buildings are integrated according to a precise logic of urban organization, designed by Labourdette. Their location reflects a desire to maintain a balance between the optimization of available space and the well-being of residents. In Sarcelles, we observe three types of relationships between buildings and their immediate environment:

The relationship between the main street and green spaces

The buildings are positioned in such a way as to promote a harmonious transition between the public space (main streets) and the semi-public or private space (green spaces).

The relationship between the buildings themselves

The layout respects a certain spacing, making it possible to avoid an oppressive vis-à-vis and to preserve a minimum of privacy for the inhabitants.

The relationship between the street and other buildings

The buildings are oriented to create fluid circulation while limiting visual and noise pollution for housing located near main roads.

In parallel with this urban organization, the designers also paid particular attention to the design of the housing units themselves, ensuring comfort adapted to the needs of the residents. All the housing units in the R+4 buildings in Sarcelles are bi-oriented, or through, an essential characteristic of their design. This dual orientation maximizes natural light and promotes cross ventilation, thus contributing to thermal comfort and a better quality of life. The layout of the rooms inside the apartments, such as living spaces with access to green spaces and bedrooms sheltered from direct view, reflects particular attention to the privacy of the residents.

The principle of implantation in the Lochères district is based on a thoughtful combination of the orientation of the buildings and the variation of their dimensions according to the

45. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.19

46. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.33

47. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.35

"The character and diversity of Sarcelles are reflected in these different types of building composition and facade expression. Sarcelles is not an identical reproduction of the same building throughout the entire operation." [62]

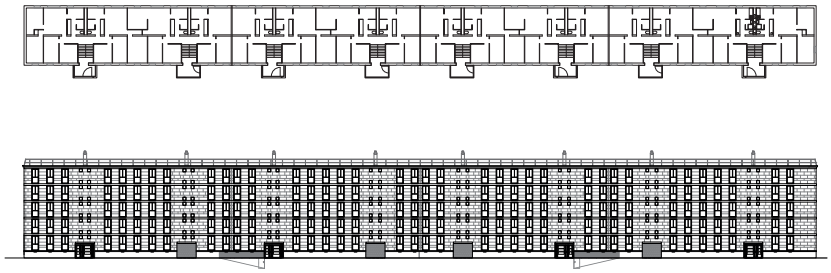
available ground area. The blocks of flats are arranged in such a way as to offer significant visual clearance, thus reducing the feeling of oppression often associated with large complexes. A symbolic urban planning rule, "one dwelling, one tree", reinforces this desire to create a constant visual connection with the green spaces. The latter act as essential breaths of fresh air in an environment dominated by concrete and stone. In addition, the diversity of orientations and lengths of the buildings aims to break the monotony inherent in standardization and prefabrication, processes that are nevertheless omnipresent in the design of these complexes. This strategy helps to break the uniform mass effect and prevent a feeling of alienation among residents, who are often confronted with a monotonous environment. Through this approach, Labourdette seeks to preserve a human scale, thus offering residents a less anxiety-provoking living experience that is more in harmony with their daily living environment.

ENTRANCE SEQUENCE

Once the layout has been defined, the question of the entrance to the buildings takes on particular importance, because it directly results from the interior layout and the orientation of the rooms. The entrance sequences, carefully treated, play an essential role in the composition of the façade. The stairwells are marked by distinct blocks, which break the linearity of the buildings while providing clear visual cues for the orientation of the inhabitants. These entrance blocks, numbered for easy identification, introduce a variation in the façade and contribute to both the functional and aesthetic organization of the building. Beyond their aesthetic role, these devices also respond to essential functional considerations, particularly in the management of split levels. Access to the dwellings is via split levels, a clever configuration that raises the dwellings off the ground.

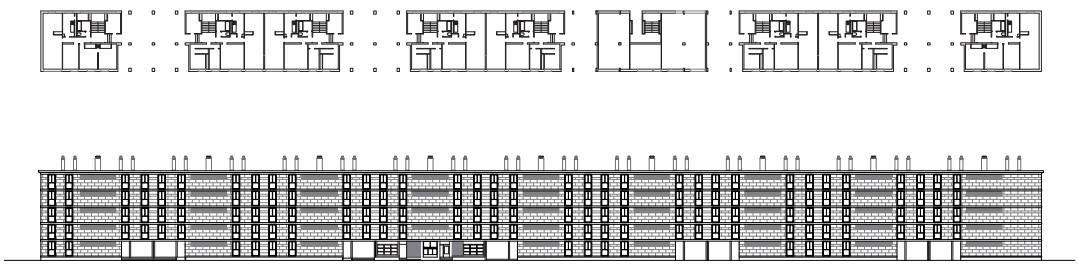
These entrance sequences, directly linked to the interior layout, embody an essential part of the architectural logic adopted in the R+4 buildings. This system pursues several practical objectives: it separates housing from the often damp ground by interposing cellars. The latter integrate a waste collection system connected to the garbage chutes, thus reducing the efforts of the caretakers. This collective logic is radically opposed to the individualism of garden cities, where ground-floor housing often benefited from exclusive outdoor spaces. This withdrawal of the ground floor also guarantees symbolic equality between

62. Henri-Labourdette Jacques, Jacques Henri-Labourdette, architecte: une vie, une oeuvre, Nice : Éd. Gilletta-"Nice-matin", 2002, p. 73



0 5 10 20m

Figure 11: West bar plan/elevation Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles



0 5 10 20m

Figure 12: East bar plan/elevation Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

Figure 13: Kennedy Park bars

Figure 14: Facades of R+4 buildings

Figure 15: Facades of R+4 buildings

residents, by preventing housing located at ground level from benefiting from exclusive access to a private garden. Unlike garden cities, where the emphasis was on individual private spaces, R+4 buildings embody a collective and homogeneous vision of housing. With this in mind, Jacques-Henri Labourdette moved away from the picturesque ideals of garden cities in favor of a rational and standardized architecture, adapted to the urgent needs of the post-war period. Faced with the urgency of the post-war period, this approach was intended to be a pragmatic and effective response, far from the picturesque visions of previous eras. This model, where density and uniformity are combined with ingenious functional solutions, embodies a modern neoclassicism. By linking the individual structure of the apartments to a coherent collective organization, the R+4 buildings stand out as a pragmatic response to the housing crisis, while proposing an egalitarian and functional vision of the city.

While the majority of buildings follow a homogeneous layout, one exception in the neighborhood demonstrates a notable variation in the architectural approach. One building among the first five tranches of Sarcelles stands out for its layout and entry sequence that deviate from the established norm. It is the only through building in the neighborhood, offering entrances at passage level. These are also the only ground-floor dwellings, but their openings were designed to maintain the principle of equality imposed by Labourdette. The difference in level, discreet due to the topography of the land, does not alter the experience of the residents. This building is also characterized by a marked permeability between Kennedy Park and the rest of the Lochères neighborhood. This particularity is all the more evident in a context where four large blocks surround the park, ensuring a visual and functional connection, while avoiding excluding the residents of the Lochères neighborhood. Although its unique location deserves to be mentioned, this building does not reflect the guiding principles that structure the general design of R+4 buildings.

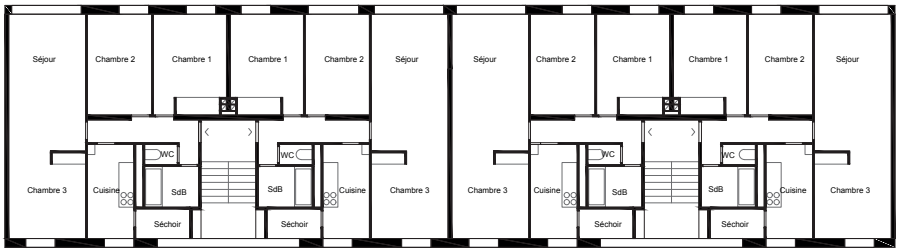
TYPOLOGY

The large housing estates in Sarcelles mainly comprise three types of housing: 4-room (4P), 5-room (5P) and 6-room (6P). These types are largely standardised, in order to respond effectively to the urgent demand for housing in the post-war period. These types addressed the urgent need for post-war reconstruction by optimizing space and resources. Designed to accommodate medium-sized families, the apartments are more generously sized than those of previous housing, representing a notable improvement over the previous situation. For example, a 4-room apartment in these estates measures approximately 58 m², much more spacious than the 12 m² occupied by many families before they moved into these new buildings (Figure 16).

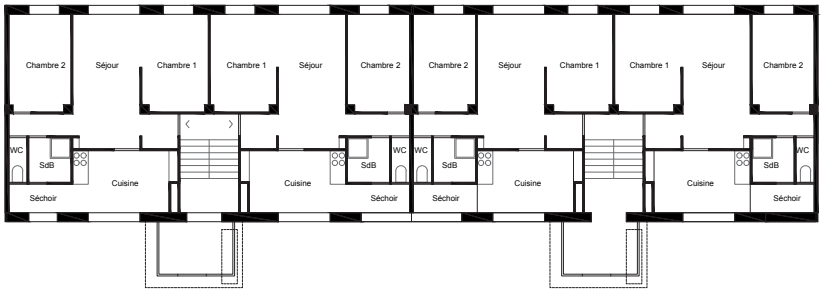
Although these dimensions seem considerable today, they were defined following an in-depth study on the population census, aimed at determining the surface areas and number of rooms adapted to the population in crisis at the time. While this approach made it possible to respond quickly to a housing crisis, it now shows significant limitations in the face of changing lifestyles and the needs of residents. However, these dwellings, although larger than what existed before, lack flexibility, as we will see later.

Within the Lochères bars, we observe three configurations of housing distribution: in some cases, strict standardization is adopted, with 4-room apartments arranged symmetrically around a common stairwell. These apartments are repeated on several levels, thus allowing for rapid and economical construction. This strictly standardized approach contrasts with other buildings where we observe greater typological diversity, integrating several types of apartments within the same building. The surface area of these dwellings varies between 61 and 79 m², in accordance with the standards of the 1950s and 60s for a typical family. Other buildings adopt a similar approach, but with 5-room apartments. Finally, some buildings combine several types of dwellings (4P, 5P and 6P) in the same building. This diversity of composition makes it possible to offer a range of dwellings adapted to varied needs, while preserving a certain architectural coherence.

Living room	16.5 m²
Bedroom 1	11.5 m²
Bedroom 2	10.2 m²
Bedroom 3	10.5 m²
Kitchen	7.0 m²
Bathroom	3.5 m²
	1.5 m²
Dryer	2.5 m²
TOTAL 5P	71 m²



Living room	10.5 m²
Bedroom 1	10.1 m²
Bedroom 2	9.4 m²
Kitchen	9.8 m²
Bathroom	3.0 m²
Wc	1.3 m²
Dryer	2.9 m²
TOTAL 4P	57 m²



Living room	15.7 m²
Bedroom 1	8.8 m²
Bedroom 2	10.2 m²
Kitchen	4.7 m²
Bathroom	1.8 m²
Wc	1.0 m²
TOTAL 4P	57 m²

Living room	15.7 m²
Bedroom 1	8.7 m²
Bedroom 2	9.9 m²
Bedroom 3	13.4 m²
Kitchen	4.7 m²
Bathroom	1.8 m²
Wc	1.0 m²
TOTAL 5P	62 m²

Living room	15.7 m²
Bedroom 1	8.7 m²
Bedroom 2	9.9 m²
Bedroom 3	11.4 m²
Bedroom 4	10.2 m²
Kitchen	4.7 m²
Bathroom	1.8 m²
Wc	1.0 m²
TOTAL 6P	75 m²

|0 |1 |2 |4 |6m

Figure 16: Typical cell plans, Kennedy Park, 1:300, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

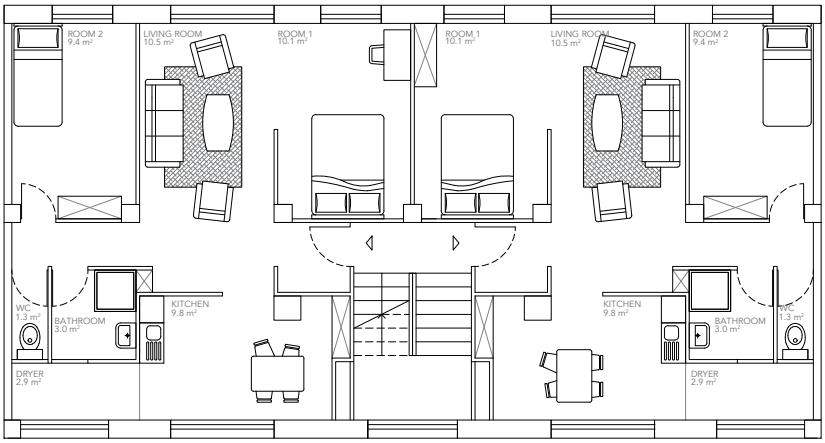


Figure 17: Apartment 4P, North bar, Kennedy Park, R+4, South - North orientation, R+4, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

0 1 2 4m

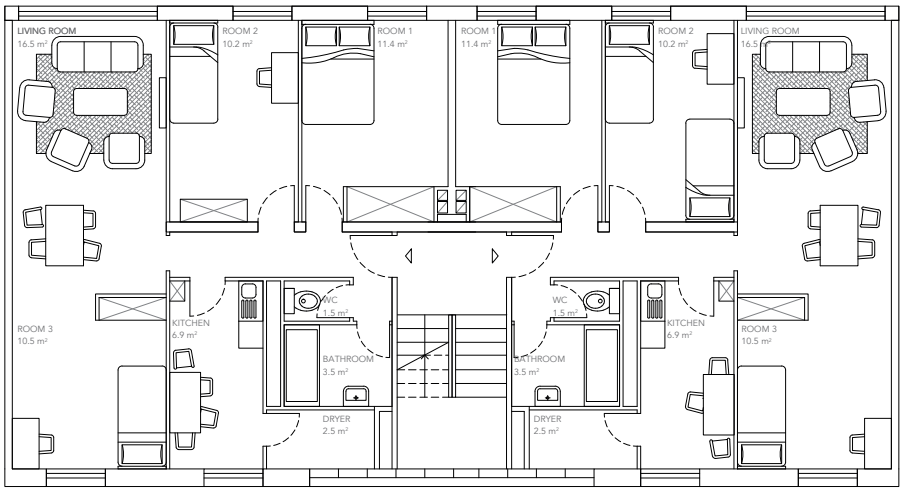


Figure 18: Apartment 5P, East bar, Kennedy Park, R+4, 1:150, West - East orientation, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

0 1 2 4m

DIMENSIONS AND PROPORTIONS

These dimensions shaped the apartment's internal layouts, emphasizing efficiency and functionality. Despite an apparent diversity of configurations in the Lochères tower blocks, we have chosen to focus our analysis on standardized housing without typological mix which you can find in the iconography for an overall view of the types.

These modular cells, although functional in their original design, reveal structural limitations in the face of contemporary requirements. The organization of apartments in the large complexes of Sarcelles is based on a clear functional distribution between living and service spaces, determined by rigid proportions and standardized dimensions. Main rooms face south to maximize sunlight, improving thermal comfort and quality of life. However, this interior comfort is also influenced by the often limited relationship between housing and its external environment. On the other hand, service areas, such as the kitchen, bathroom and stairwells, are grouped on the north side, an arrangement that limits heat loss and maximize energy efficiency.

These dimensions are directly reflected in the interior design choices. The 4-room (4P) apartments, with a surface area of 57 m², are organised around a central space, the living room, designed as the heart of family life (Figure 17). However, the design reveals choices that hinder privacy and the segmentation of activities: the kitchen is separated from the living room only by a low counter, and a bedroom, sometimes used to enlarge the living room, is partitioned by only a half-wall.[63] This layout blurs the boundaries between private and shared activities, limiting functional separation. The bedrooms, measuring 9 m², are designed to accommodate single or double beds, but they do not allow for varying their use or offering flexibility in layout. The cramped bathroom, although optimizing the technical ducts shared with the kitchen, does not meet current expectations in terms of domestic comfort, such as the integration of a washing machine or a drying area.

In the 5-room apartments (5P), with a surface area of 71 m² , a similar layout to that of the 4-room apartments is adopted, but with notable adjustments (Figure 18). The narrower central corridor leads to a more generous living room, which can be enlarged by a bedroom offering a double exposure. This layout, although better thought out, still raises questions about the privacy of the bedroom when it is used as such. In some configurations, however, the living room and kitchen, conceived as centers of daily life, are relegated to the far end of the apartment, accessible only after crossing a long, narrow corridor bordered by the bedrooms.[64] The kitchen, designed exclusively for cooking, illustrates an effort of rationalization compared to the 4 rooms, particularly in the organization of the technical spaces, where separate ducts connect the toilets and the kitchen. Despite these adjustments, the rigid layouts and standardized dimensions hinder modern space personalization.

63. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.43-45

64. Ibid, p.43-45

Figure 19: Photo of interior layout of typical cells

INTERIOR COMFORT

The interior design is rigid with limited flexibility. The layout of the spaces is minimalist, with a fitted kitchen but a limited number of storage spaces. There are no cupboards in the hallways and bedrooms, making it difficult to optimise the space and harming the overall functionality. The lack of storage in the bedrooms and the small size of these rooms limit the layout possibilities. The bedroom, for example, only allows for a double bed, with limited circulation spaces and no additional space for furniture or storage. In addition, the layout of the living spaces, including both a living room and a dining room, makes any change to the layout practically impossible. This design reflects a standardized lifestyle, poorly suited to diverse needs.

These limitations in the interior design are not only related to architectural choices, but also originate in the materials and construction techniques used. The materials, chosen for rapid and cost-effective construction, result in significant comfort issues. The load-bearing concrete walls and chipboard partitions, although facilitating rapid implementation, limit the adaptability of the spaces, thus compromising long-term comfort. This choice of materials, in addition to restricting the possibility of reconfiguring the spaces according to the needs of the inhabitants, also has repercussions on acoustic comfort. Poor soundproofing and metal frames exacerbate noise, reducing quality of life.[65]

While construction choices have a significant impact on acoustic comfort, they also influence other aspects such as the management of natural light, a central element in the perception of the comfort of living spaces. In terms of brightness, large floor-to-ceiling windows provide abundant natural light, which improves the perception of space and the functionality of homes. However, this brightness can become excessive, especially in the absence of sun protection such as blinds or shutters, which poses a problem of visual comfort, particularly with regard to privacy and lighting management. Although the orientation of the windows favors exposure to the sun, the absence of balconies and the presence of false loggias, often poorly suited to domestic use, restrict access to the outdoors, thus limiting the integration of interior and exterior spaces.

65. Duquesne, Jean. Vivre à Sarcelles?: le Grands Ensembles et ses problèmes. Civilisation 1. Paris: Cujas, 1966, p.43-45

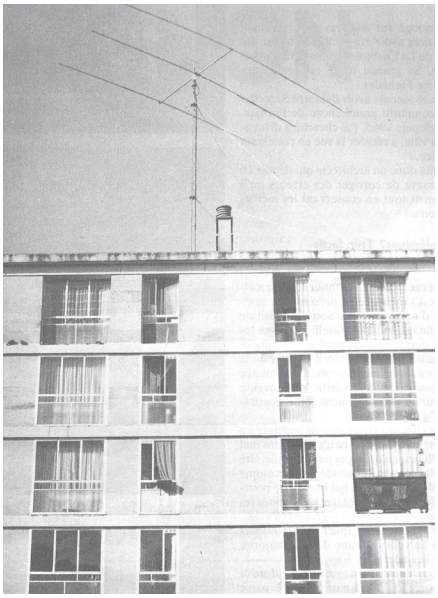


Figure 20: Facades of R+4 bars

REPORT TO THE OUTSIDE

The relationship to the outside in these apartments, marked by rigid architectural choices, accentuates the impression of partitioning and visual isolation. Although each dwelling benefits from windows arranged on the main façade, ensuring a moderate supply of natural light, the alignment and regularity of these openings create a visual uniformity which, far from providing variety, reinforces a certain architectural monotony. The main rooms, such as the living room, benefit directly from openings to the outside, thus providing an impression of openness. However, this openness is partially limited by the size and arrangement of the windows in the bedrooms, creating a feeling of partitioning. In addition, the strict symmetry of the plan, where the façades are rectilinear and without variation in depth, deprives the apartments of outdoor spaces such as balconies or loggias, thus accentuating the perception of isolation. The absence of these intermediate spaces, often seen as a natural extension of the interior living space, limits the connection between the interior and the exterior, reinforcing a feeling of confinement.

Beyond the relationship between the interior of the dwellings and the exterior, this separation also extends to shared spaces, such as stairwells and corridors, which suffer from the same architectural limitations. In addition, common areas, such as stairwells and distribution corridors, are positioned in such a way as to minimize visual connections with the exterior. The stairwells, placed in the center of the building, do not have direct access to the exterior, which limits the visual connection with the exterior environment and creates a feeling of isolation for these circulation spaces. Similarly, the corridors, devoid of openings, accentuate this feeling of confinement. This architectural plan, focused on functional constraints and a desire for uniformity, favors the optimization of the interior space to the detriment of a fluid integration with the exterior, contributing to a less welcoming and more isolating atmosphere for residents.

STANDARDIZATION

The plan shows a rigorous repetition of housing units, characteristic of standardized programs aimed at optimizing construction costs. Each apartment follows a fixed pattern, for example: a living room, 3 bedrooms, a kitchen and reduced bathrooms. This uniformity allows for rapid construction, but it limits architectural and functional diversity. The equipment is minimalist, which can be deduced from the small size of the kitchen, the absence of additional rooms (such as an office or laundry room) and the probable presence of simple elements (sink, water heater).

The plan shows a rigorous repetition of housing units, characteristic of standardized programs aimed at optimizing construction costs. Each apartment follows a fixed pattern, for example: a living room, 3 bedrooms, a kitchen and reduced bathrooms. This uniformity allows for rapid construction, but it limits architectural and functional diversity. The equipment is minimalist, which can be deduced from the small size

of the kitchen, the absence of additional rooms (such as an office or laundry room) and the probable presence of simple elements (sink, water heater).

The addition of built-in storage or the modification of circulations for a more contemporary use. The absence of built-in cupboards or multipurpose spaces illustrates this lack of foresight in the design for future needs. The minimalist kitchen reflects the emphasis on functionality over comfort. The sanitary facilities, placed in a central configuration, seem compact and devoid of refinement or ancillary spaces. The repetitive layout of the apartments standardizes the uses and targets a specific population: families with a limited need for spatial adaptation.

This logic of standardization, which structures the apartments, also extends to the collective spaces, where the priority given to efficiency is often to the detriment of comfort and conviviality. The collective spaces (such as stairwells and entrances) are reduced to the bare minimum, which reflects a desire for efficiency rather than conviviality. This raises the question of living together in this type of habitat. The plan is fixed, without obvious possibilities for transformation. The absence of intermediate spaces, such as loggias, balconies or modular spaces, prevents any adaptation to contemporary needs (such as an extension or reorganization of the space).

The design of the apartments presented here fits perfectly into a logic of standardization: maximum optimization of costs and an immediate response to the housing crisis. This rigor, although functional, has the following consequences:

- A spatial uniformity that does not favor the evolution of uses.

- A virtually non-existent flexibility to adapt to future needs.

- A reduced equipment to a minimum, emphasizing a basic comfort.

While suitable for their time, these designs fall short of modern expectations for comfort, flexibility, and personalization.

0 5 10 20m

Figure 21: West bar elevations Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

3 TOWARD A NEW INTERPRETATION OF GRANDS ENSEMBLES

3.1 Limitations, evolutions, and perspectives for adaptation

In the quest to reinterpret the large housing complexes to meet contemporary needs, the evolution of the housing unit becomes a central focus of reflection. Historically designed to address rapid demographic growth and provide efficient housing within a context of space rationalization, these imposing architectures have pragmatically fulfilled their function. However, today, the question is no longer merely about maintaining this functional efficiency, but rather about reinventing these spaces so that they adapt to the emotional and social aspirations of the inhabitants.

We have seen that they are many problematic with the actual situation of our study case:

Rigidity and Standardization of Housing

The housing units are designed with "rigid and standardized dimensions," poorly suited to the varied needs of contemporary residents.
The interior layout lacks flexibility, with small rooms, limited storage, and minimalist kitchens that are ill-adapted to modern requirements.
The absence of loggias, functional balconies, or modular partitions restricts the adaptability and comfort of the spaces.

Architectural Monotony

The uniformity of building facades and layouts creates "visual monotony" and contributes to a sense of standardization.
The repetition of building typologies, while economical, does not encourage architectural diversity or the expression of local identity.

Deficiencies in Outdoor Spaces

Although green spaces cover a large portion of the area, they are often "perceived as transit zones," lacking real social or convivial functionality.
Pedestrian promenades and parks are sometimes poorly integrated, missing elements that foster meaningful social interactions.

Lack of Connection Between Interior and Exterior

The "rigid and uniform facades" reduce the connection between indoor and outdoor spaces.
Common areas (stairwells, hallways) lack openings to the outside, heightening a "sense of confinement" for residents.

Acoustic and Thermal Issues

Economical materials, such as load-bearing concrete walls, limit the adaptability of spaces and provide insufficient acoustic insulation, reducing overall comfort.

Low Functionality of Shared Spaces

Shared spaces (stairwells, entrances) are minimalist, reflecting a focus on economic efficiency rather than conviviality or social interaction.

Lack of Adaptability to Contemporary Needs

The rigid and standardized designs do not easily accommodate adjustments to meet modern needs, such as remote work or evolving family configurations.

One of the main challenges lies in answering these problems by diversifying housing typologies and flexibilizing spaces, and also be in diapason to

new family and social configurations. The housing models, which were once designed for stable nuclear families, are now obsolete in the face of the diversification of family structures: single-parent families, blended families, intergenerational cohabitation, shared housing, and the increasing number of people living alone. These societal transformations, exacerbated by phenomena such as population aging and the instability of family structures, require a requalification of housing units. We should not go for a different solution for every different situation but a general solution that can adapt to those many situations.

In this regard, it is not about reintroducing a new standardization, but rather enriching and adapting the existing structures to better meet the needs of today's inhabitants. The goal is to rethink spaces to offer more flexibility and adaptability, particularly in the way private and public spaces interact. Such a reinterpretation would not only create more suitable housing but also promote a greater diversity of lifestyles.

These lifestyle changes manifest in various ways: the traditional housewife is no longer the norm, and there is a redefinition of housing. It has evolved from the "metro-work-sleep" routine typical of a specific segment of the population during the era of the Grands Ensembles to a more diverse usage of housing, encompassing work, cohabitation, and shared living among different social groups.

The operational critique of large housing complexes, often viewed through the lens of the obsolescence of their design, highlights the tensions between their functional heritage and their relevance in the face of contemporary demands. While these large complexes were designed for an era when priorities were primarily industrial, their rigidly functional structure no longer meets the varied and changing needs of contemporary societies. Therefore, the rehabilitation of these spaces must go beyond mere heritage preservation to imagine a reconstruction that takes into account the new social, economic, and environmental dynamics of the 21st century.

Beyond simply renovating the buildings, a true reinvention project for these large complexes is emerging—one where housing is reimagined not merely as shelter but as a space adaptable to the plurality of contemporary lifestyles. This involves transforming typologies, from modifying walls to adding entirely new sections to the structures, offering diverse solutions to issues such as rigidity, standardization, and the disconnect between interior and exterior spaces, all while addressing technical challenges like acoustic and thermal performance.

The objective is not to completely replace the existing structures with a new, more flexible typology, as doing so would merely result in another uniform approach to housing and, consequently, impose a different way of life on residents. Indeed, the existing housing is of high quality in many respects and meets the needs of a portion of the population. Our aim, therefore, is to

"offer choice" by diversifying living modes and introducing new typologies selectively, complementing the existing structures.

CONCLUSION

The city of Sarcelles, emblematic of French housing complexes, offers a striking illustration of the ambitions and limitations of architectural and urban responses to the post-war housing crisis. Designed in a context of national reconstruction, Sarcelles aimed to provide modern and functional housing for a rapidly expanding population. The standardized modular units at the heart of this project enabled quick and cost-effective construction, addressing an obvious social urgency.

However, the initial aspirations faced complex realities. Criticism quickly pointed out the flaws of this model: architectural uniformity leading to visual monotony, the rigidity of living spaces poorly suited to the evolving family structures, and the functional separation of spaces often resulting in social disconnection. The phenomenon of "sarcellite," a symptom of boredom and isolation felt by residents, symbolizes the gap between the promises of modernity and the daily reality of the inhabitants.

The analysis of the R+4 buildings in Sarcelles, embodying post-war housing complexes, highlights a complex balance between rationalization and the need for adaptability in urban architecture. Designed in haste to address the housing crisis, these buildings enabled rapid densification and functional space management, combining accessibility and efficiency. However, this approach had its limits, notably the rigidity of the spaces and their inability to adapt to the needs of a contemporary society in constant evolution.

Despite these criticisms, Sarcelles has undergone notable transformations. Transport infrastructure has been developed to improve connectivity, while urban renewal initiatives have sought to revitalize public spaces and create a more welcoming environment. Nonetheless, challenges remain. The rigid structure of the housing and the initial design, based on a homogeneous vision of the family, struggle to meet the diverse needs of a contemporary heterogeneous population.

In this context, Jean-Patrick Fortin began intervening on these housing complexes, bringing an innovative vision focused on sustainability and the reuse of existing structures. He advocates for architecture capable of evolving with social changes while preserving heritage elements. Fortin promotes thoughtful transformations, combining the recycling of foundations, densification through elevation, and critical interventions, allowing these spaces to be revitalized without betraying their identity. The Atelier Silhouette Urbaine, along with other firms, is planning interventions on commercial redevelopment projects or residential neighborhoods. These projects are part of an urban renewal approach aimed at revitalizing the site, making it attractive again on an intermunicipal scale, and addressing the broader goals of France 2030 [66].

These renovation initiatives, both those already carried out and those in development, underscore the crucial importance of rethinking the future of large housing complexes. They demonstrate the ongoing commitment

of urban actors to transform these spaces into dynamic, inclusive, and sustainable living environments that reflect the changing needs of modern society.
The future of housing complexes like Sarcelles therefore relies on a creative reinterpretation of their architecture and social organization. The challenge is to transform these rigid structures into adaptable and inclusive spaces capable of evolving with the changing needs of residents. Looking towards the future, Sarcelles can become a laboratory of urban innovation, where the principles of sustainability, flexibility, and social inclusion redefine the relationship between architecture and its users. In this sense, the evolution of Sarcelles constitutes a case study for rethinking the city of the future, combining modernity and humanity.

66. Le 10 janvier 2023, la ville de Sarcelles a signé une convention de financement avec la Banque des Territoires pour le dispositif « démonstrateurs de la ville durable », dans le cadre du programme France 2030. Ce projet, lancé en 2021, vise à transformer Sarcelles en une ville bas carbone d'ici 2030, avec un focus sur la réhabilitation des logements et la requalification des espaces extérieurs du quartier des Lochères. L'objectif est d'améliorer la qualité de vie des habitants tout en préservant le patrimoine architectural du XXe siècle et en préparant la ville de demain, (« Signature officielle de la convention de financement « Démonstrateurs de la ville durable » France 2030. », Site officiel de la Ville de Sarcelles, https://www.sarcelless.fr/projets/convention-de-financement-demonstrateurs-de-la-ville-durable-france-2030/, consulté le 07.01.2025.)

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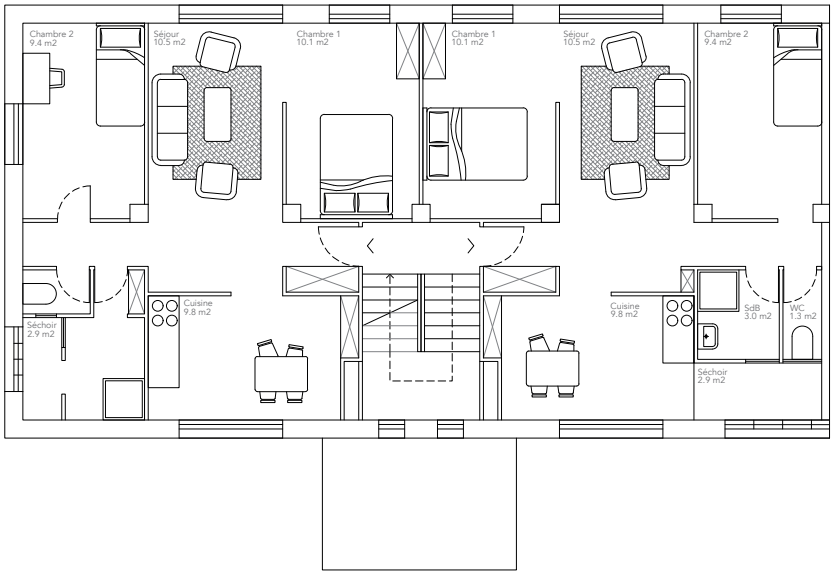
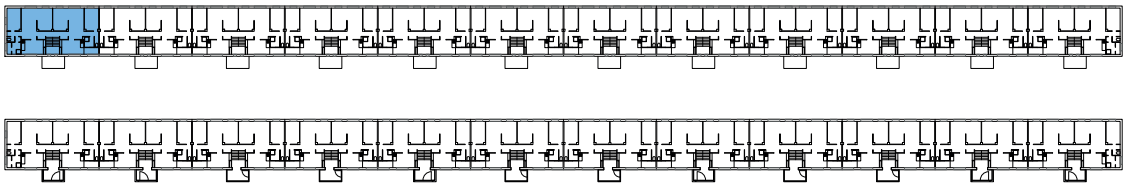


0 1 2 4m

Figure 22: Apartment 4P, North bar, Kennedy Park, R+4, South - North orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles



0 5 10 20m

Figure 23: North bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

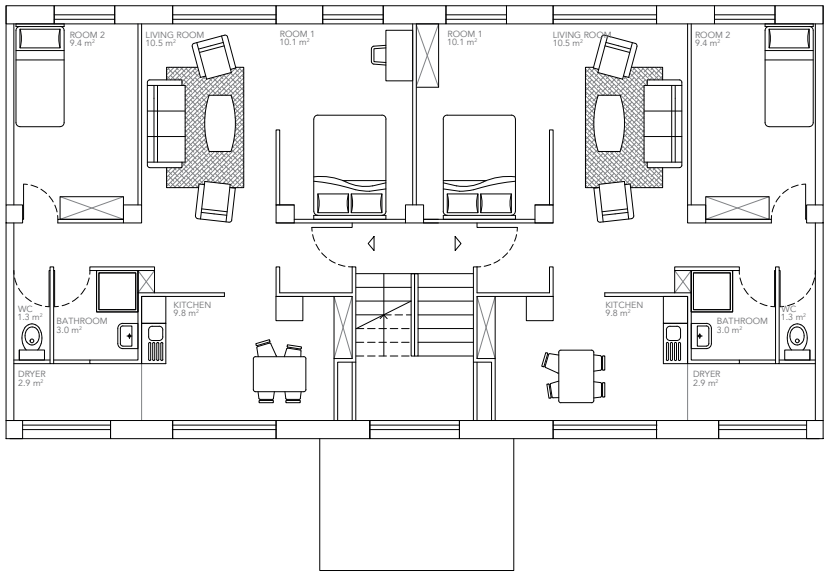


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Figure 24: Apartment 4P, North bar, Kennedy Park, R+4, South - North orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

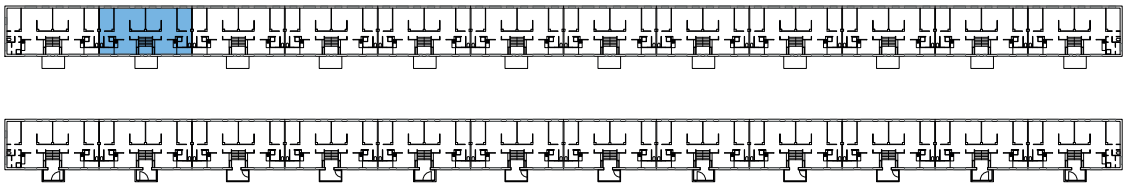

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Figure 25: North bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

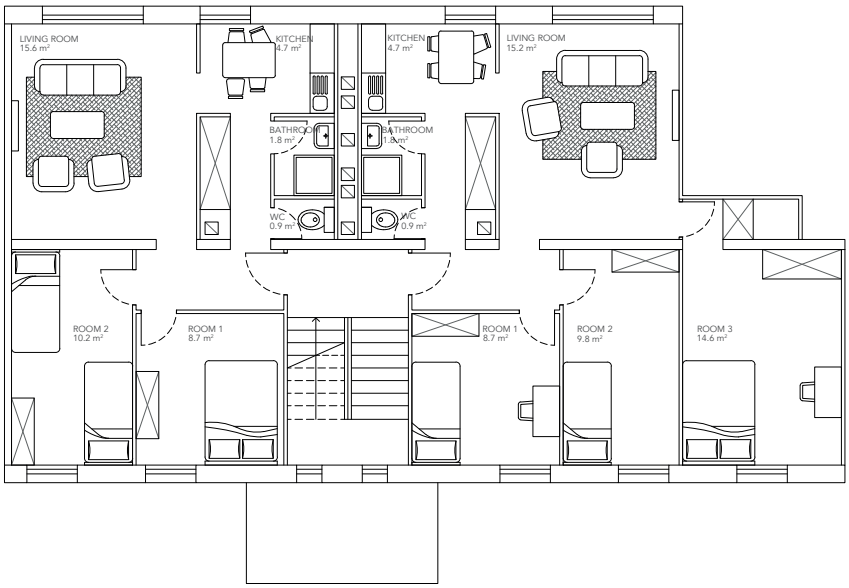

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Figure 26: Apartment 4P / 5P, West bar, Kennedy Park, R+4, West - East orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

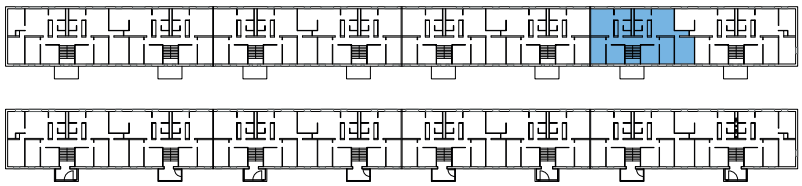

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Figure 27: West bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

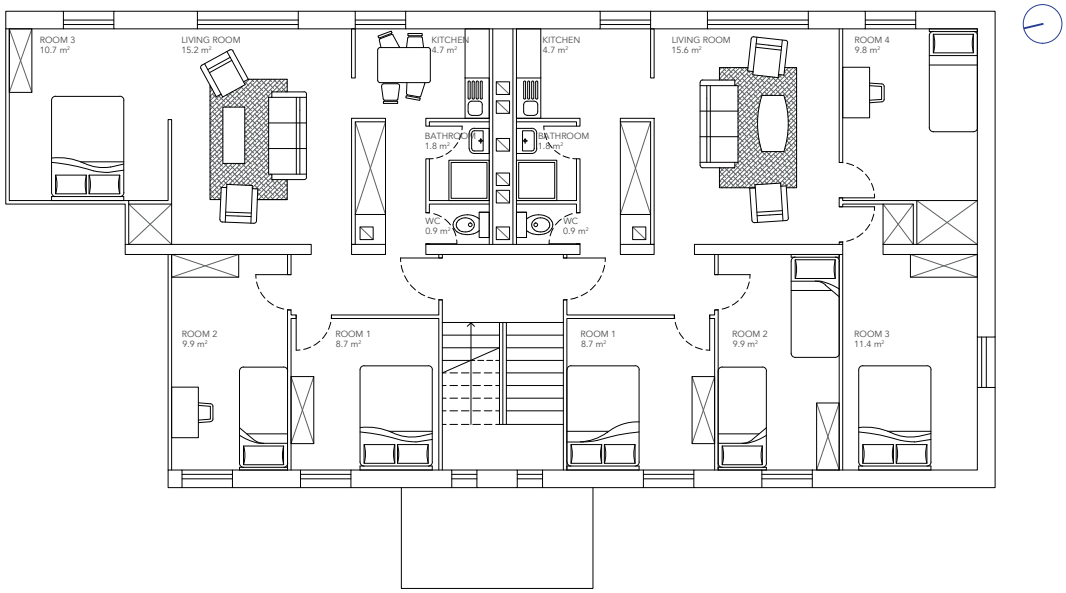

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Figure 28: Apartment 5P / 6P, West bar, Kennedy Park, R+4, West - East orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

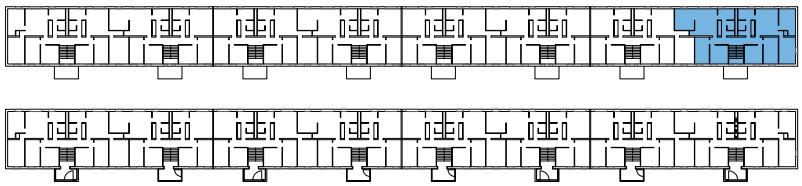

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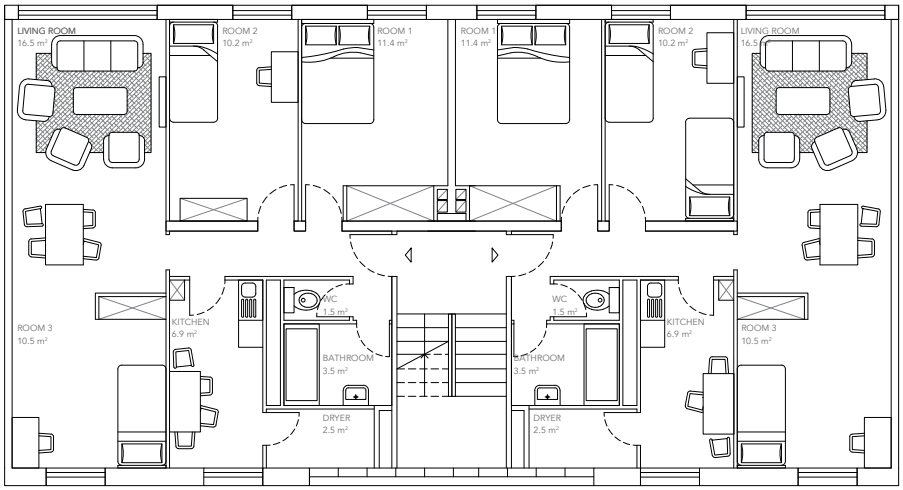
Figure 29: West bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles



0 1 2 4m

Figure 30: Apartment 5P, East bar, Kennedy Park, R+4, West - East orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

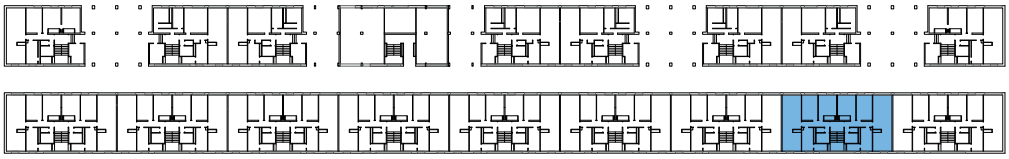


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Figure 31: East bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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FIGURATION TABLE

Figure 1: Annual number of completed housing units in France between 1948 and 1957

Image from:
Guinchat, Pierre, Marie-Paule Chaule, and Lisette Gaillardot. «Il était une fois l'habitat : chronique du logement social en France». Éditions du Moniteur, Paris, 1981, p. 126, cited in Merlin, Pierre. «Les Grands Ensembles : des discours utopiques aux "quartiers sensibles" ». Paris: La Documentation française, 2010, p. 53.

Figure 2: Sarcelles neighborhood situation plan

Plan from:
Service des Archives, Département Ressources, Mairie de Sarcelles

Figure 3: caricature that appeared in the press, denouncing the Grands Ensembles

Image from:
Duquesne Jean, «Vivre à Sarcelles?: le Grands Ensembles et ses problèmes», Paris : Cujas, 1966, p. 98

Figure 4: Nomenclature of housing types showing the different typologies and its repartition in the buildings, from Archives Service of Sarcelles

Photo from:
Service des Archives, Département Ressources, Mairie de Sarcelles

Figure 5 : "zoning" plan of the municipality of Sarcelles

Plan from:
Duquesne Jean, «Vivre à Sarcelles?: le Grands Ensembles et ses problèmes», Paris : Cujas, 1966, p. 34.

Figure 6: General ground plan (equipment)

Plan from:
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Figure 7: Mass plan of the SCIC program in 1954: 440 housing units organized in four four-story buildings

Plan from:
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Figure 8: Plan Sarcelles, 1:14'000, redrawn from the original plans by Fortin Architecture Urbanisme (may 2010)

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Figure 9: photo of resident, circa 1958

Photo from:
Morin Gilbert, Roth Catherine, «Textes et images du grand ensemble de Sarcelles, 1954–1976», Sarcelles: Les Publications du Patrimoine en Val de France, 2007, p.19

Figure 10 : Lochères district map, 1:6'000, redrawn from the original plans by Fortin Architecture Urbanisme (may 2010)

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Figure 11: West bar plan/elevation Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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Figure 12: East bar plan/elevation Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles
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Figure 13: Kennedy Park bars

Photo from:
Service des Archives, Département Ressources, Mairie de Sarcelles

Figure 14 / 15: Facades of R+4 buildings

Photo from:
Service des Archives, Département Ressources, Mairie de Sarcelles

Figure 16: Typical cell plans, Kennedy Park, 1:300, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives

Service of Sarcelles

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Figure 17: Apartment 4P, North bar, Kennedy Park, R+4, South - North orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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Figure 18: Apartment 5P, East bar, Kennedy Park, R+4, West - East orientation, 1:150, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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Figure 19: Photo of interior layout of typical cells

Photo from:
Service des Archives, Département Ressources, Mairie de Sarcelles

Figure 20 Facades of R+4 bars

Photo from:
Service des Archives, Département Ressources, Mairie de Sarcelles

Figure 21: West bar elevations Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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Figure 23: North bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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Figure 31: East bar plan Kennedy Park, 1:1'200, recollection from the original drawings by Fortin Architecture Urbanisme (may 2010) and executive plan from Archives Service of Sarcelles

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