

NASRIN  
SERAJI

BIG  
HEAVY  
BEAUTIFUL



DESIGN FOLIO  
FACULTY OF  
ARCHITECTURE  
UNIVERSITY OF  
HONG KONG

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## Project Details

### Author

Nasrine Seraji AADIPL FRIBA

### Practice

Atelier Seraji Architectes & Associés

### Title

Big Heavy Beautiful : 212 Housing Units, a Childcare Centre and a Bus Depot

### Output

Building, Infrastructure, Landscape

### Function

Housing, Bus depot and maintenance centre, Nursery and Crèche. A garden for residents and a courtyard space for children

### Practical Completion

2017-2018 (project awarded to ASAA in 2007)

### Client

Paris Transport Authority, Logis Transport, City of Paris



## Funding Body

RATP, Municipality of Paris, The Greater Paris Region (IDF)

## Budget

59 million EUROS

## Area / Size

30000m<sup>2</sup> - 120000m<sup>3</sup>

## Contractor

Eiffage Construction and Eiffage Immobilier

## Capacity

900 inhabitants, 99 children, 133 buses

## Contributing partners

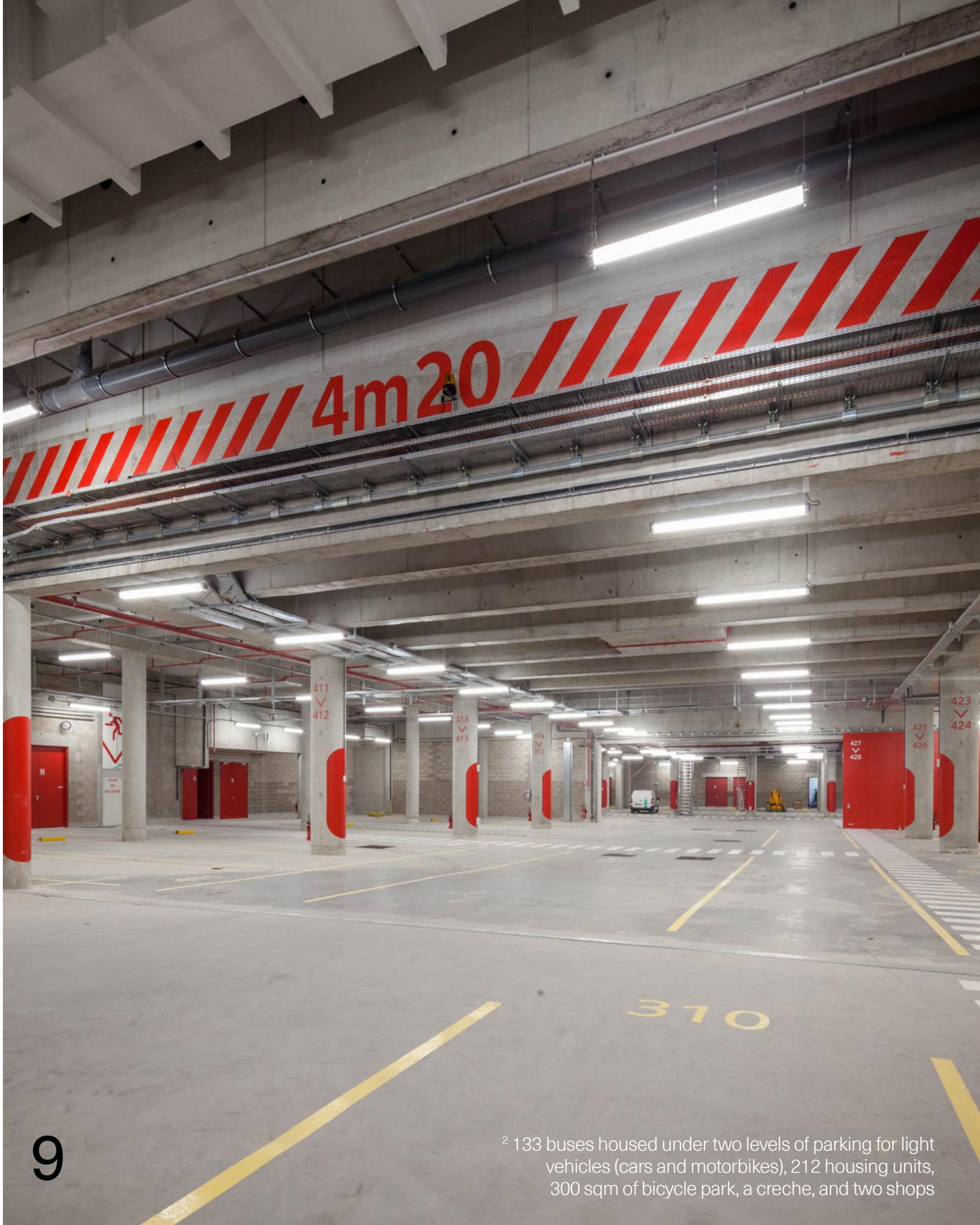
Kephren (structural engineers), MDETC and Michel Forgue (quantity surveyors), Aalto Engineering (M&E services and sustainability engineers), LASA (acoustics), CASSO (security), Atelier Seraji Architectes et Associés (urbanists, architects, landscape architects, graphic designers and signage)



<sup>1</sup> A 42 sqm car-free open space on the third floor of the city of Paris. A playground for the children inhabiting the 212 apartments. A turning platform for the fire-fighters.

## Summary of the Work and its Significance, Originality, and Rigor

Big Heavy Beautiful (BHB), or Les Ateliers Jourdan-Corentin-Issore, is a multi-use architectural complex consisting of several distinctive programmes located in the 14th arrondissement of Paris. The project was selected through an international architectural competition organized by the Paris Transport Authority (RATP) in 2006 to renovate and restructure a bus depot which had been in use since the late 19th century and did not suffice neither in its storage and maintenance capacities nor its technological compatibility to cope with new hybrid buses (Gas and electric) and the new computer technologies which are used



to manoeuvre the vehicles.

The project's originality stems from the series of seemingly contradictory programmes it supports, each of which is allowed to project their own autonomy and specificity. Such a diverse array of programmes offers a particular urban quality that suggests a city within a city—the renovation of an industrial site in the city's centre that incorporates new technologies and electric bus infrastructure superimposed over housing, a kindergarten, a day care centre, as well as retail to generate a new form of social housing.

Nine major meetings and interviews with the public prompted changes that were subsequently incorporated into the project during the construction period. An hourly photographic record of the 32-month construction was broadcasted



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to the neighbourhood through the support of an NGO association. This ensured that the public felt they were an active, participatory force in the project's materialisation.

The project's rigor is also embedded in thousands of iterative drawings and 3-D models produced throughout the design and construction phases. 3-D BIM modelling was used for the first time by the contractors in a housing project which enabled the various teams, including architects, engineers, and the contractors, to work around the same changes and variations of the project (in the construction phase).

BHB demanded thorough research into five domains considered crucial to the design of extra large-scale architecture in Paris, including *historical*, *structural*, *material*, *typological*, and *sociological* investigations.

<sup>3</sup> The visions of Eugène Henard on the three dimensional city guided us to our conceptual thinking throughout the project and how the 21st century negotiates this superimposition in a sustainable manner

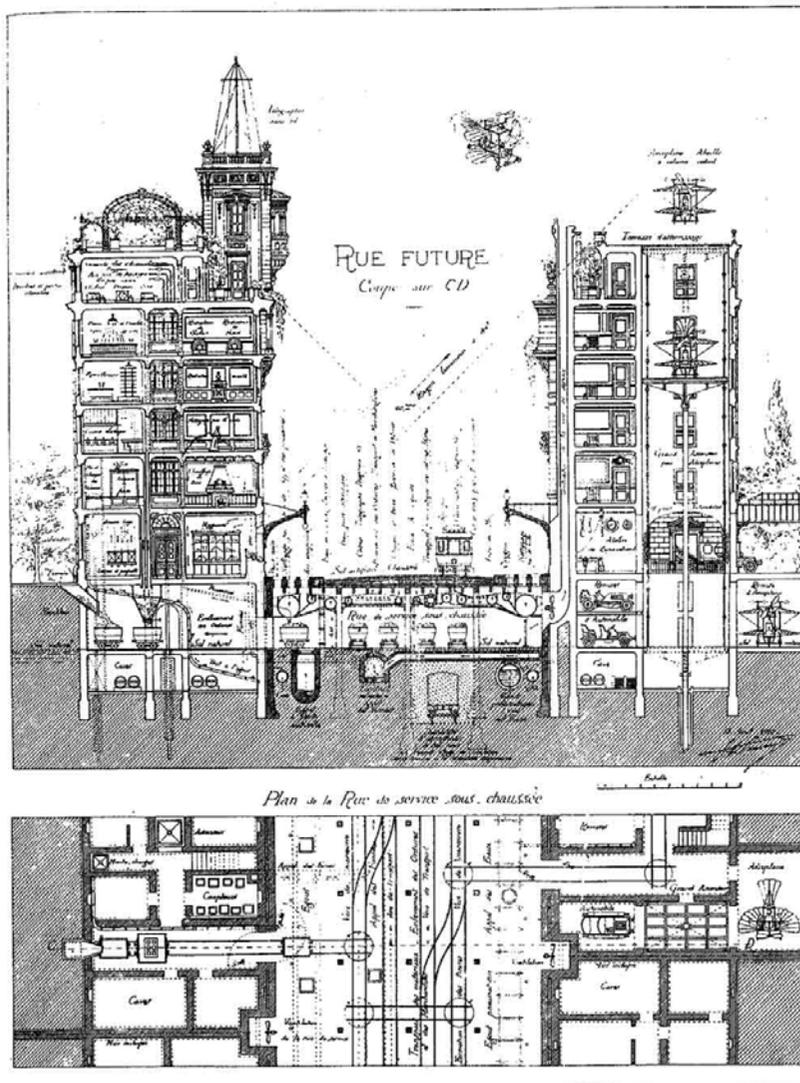
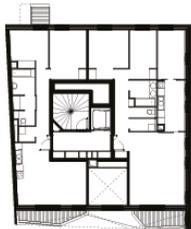
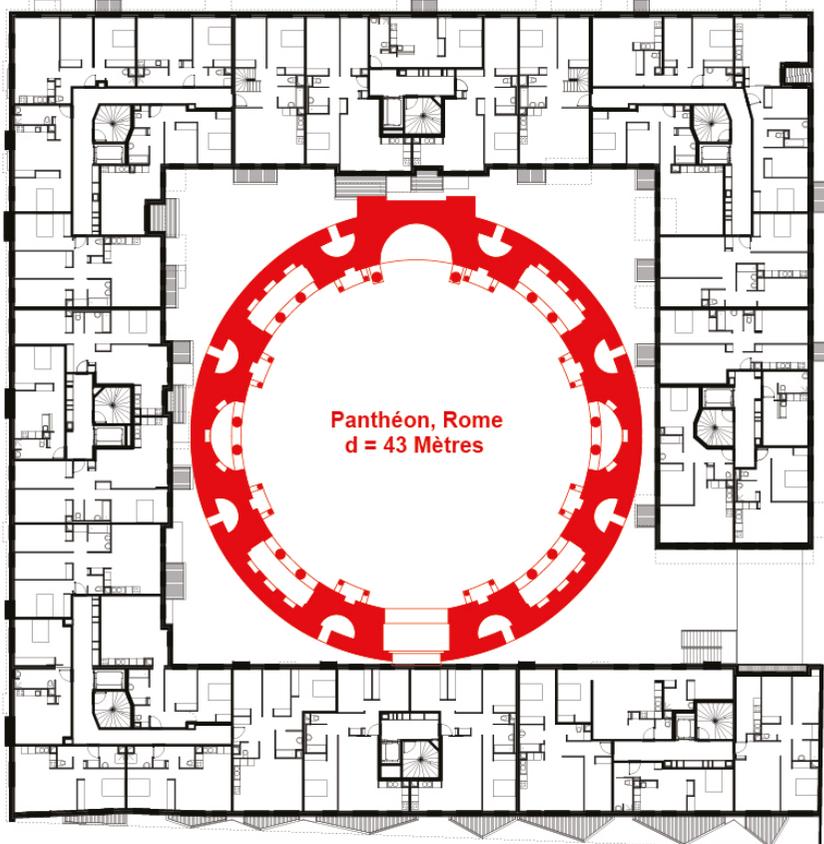


FIG. 2.

<sup>4</sup> Iterative scale studies of the central court

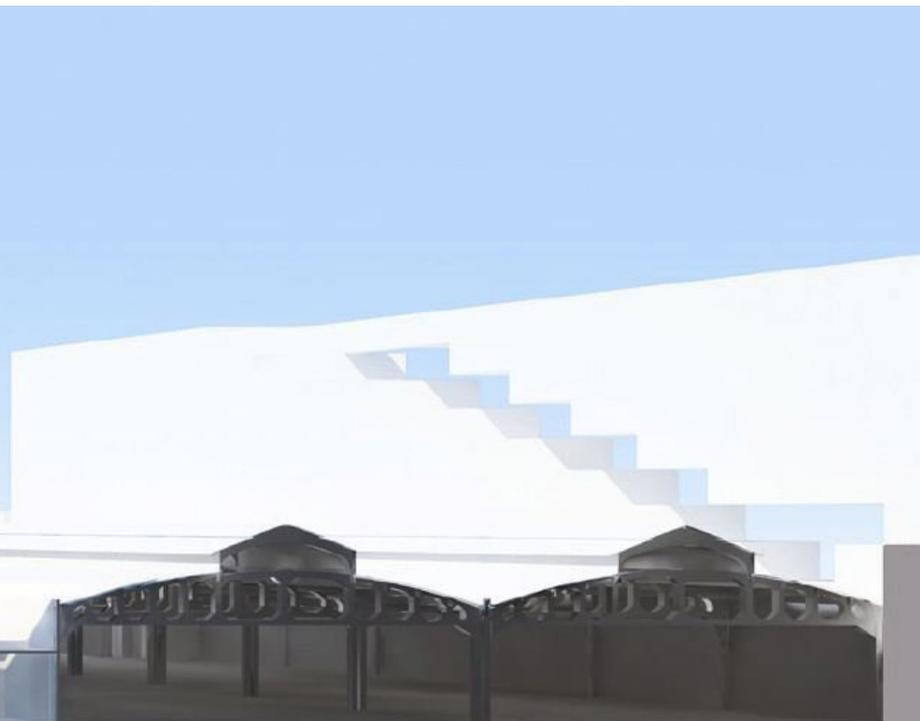


<sup>5</sup> Sectional perspectives showing the complex superimposition of programme and ownership. Section perpendicular to the Boulevard Jourdan.





PROJET 2008



15

<sup>6</sup> Sectional perspectives showing the complex superimposition of programme and ownership. Section parallel to Boulevard Jourdan.







## Originality

BIG HEAVY BEAUTIFUL derives its originality from three aspects: The first concerns its status as an original commission by the Paris Transport Authorities (RATP) to improve and upgrade an existing 19th century bus depot-maintenance centre into approximately 300 social housing units, 360 students dormitories, a nursery for 99 children, two local neighbourhood shops and various public spaces. Secondly, the architectural and structural design concept re-imagines the bus centre as a new infrastructure type (a supporting box girder), creating a symbiotic relationship between architecture and infrastructure. Finally, the project also imagines how a complex building could activate and

integrate its neighbouring quarters to  
form a coherent city fabric.









## Research Questions

- How can a standard housing typology morph into an infrastructural building through design?
- Can the slab separating the bus depot and the housing be designed as an essential architectural component with the potential of accommodating specific and changing programmatic and environmental conditions over time?
- Can the combination of housing and a bus depot create a new type of transit typology and be understood both as an integral building and as urban infrastructure?
- To what extent can 19th century industrial infrastructures become a catalyst for urban renewal in the 21st century?

# Diversity, y



**30000m2**

**18 ARCHITECTS** 24

# es, but at what price?

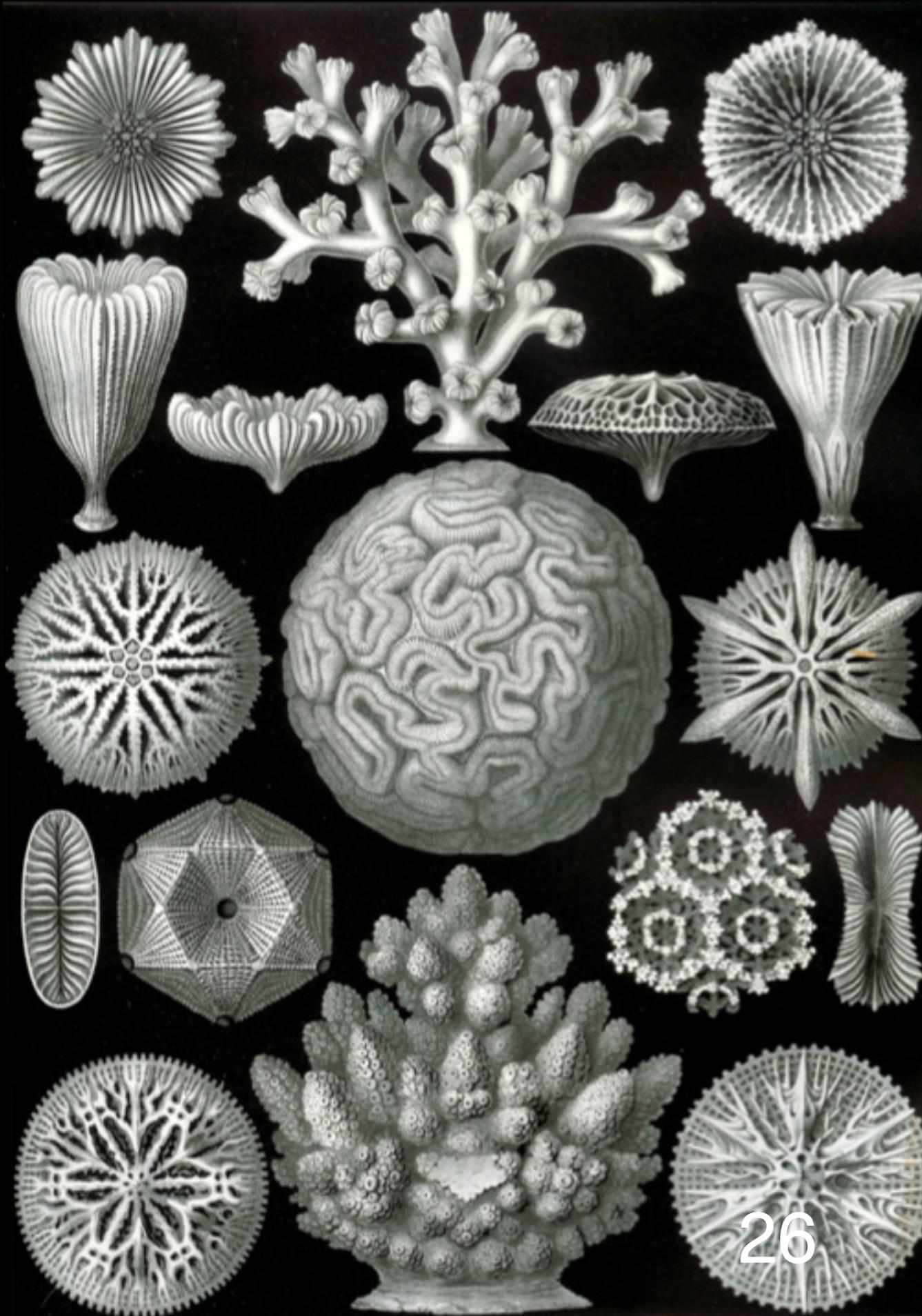


<sup>8</sup> Jean Dubuisson, architect of Montparnasse apartment building (L'immeuble mouchotte) superimposed onto the TGV station. Photographed by Andreas Gursky in the 60s.

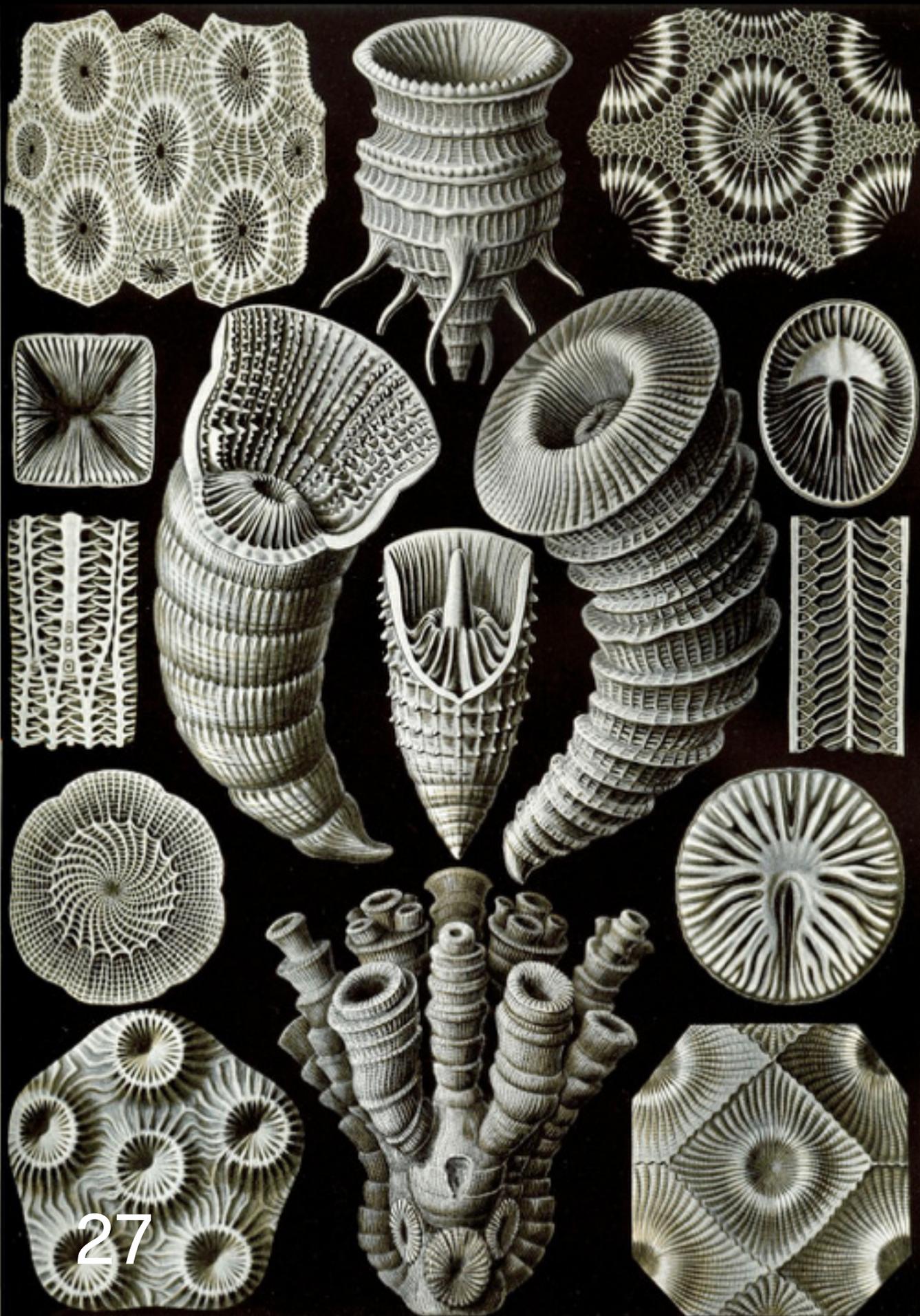
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**54000m<sup>2</sup>**  
**I ARCHITECT**

# STUDIES ON TYPO



# BIOLOGY AND TYPE

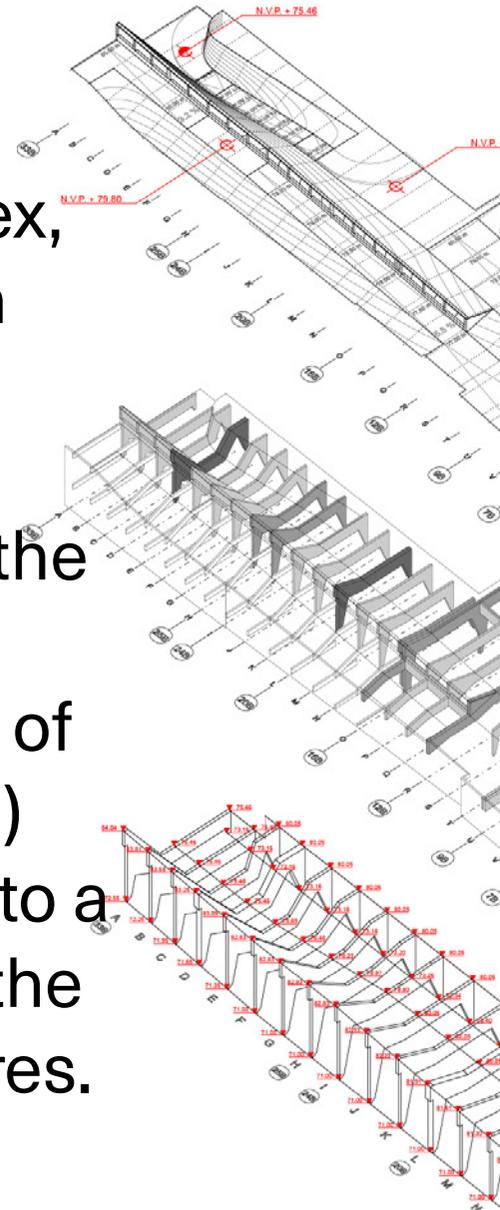


# Rigor

BHB resulted from a comprehensive study of large-scale hybrid infrastructural buildings in Southeast Asia, including Hong Kong, Tokyo, Kuala Lumpur, and Singapore, to understand how complex, mixed-use building types engage with their high-rise super dense urban contexts.

Additional structural studies led to the development of a giant 3-D box girder which would allow the transformation of the bus depot's mandatory (15mx15m) structural grid to be aligned vertically to a 6mX6m axial grid more in tuned with the financial economy of housing structures.

The project's rigor also lies in the political stakes involved as well as its ambitious size and complexity (2.3



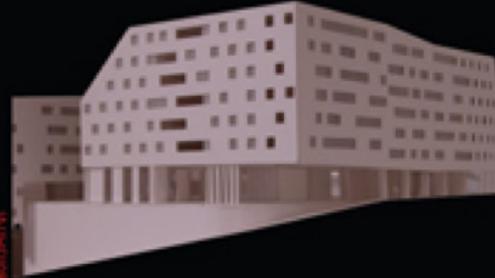
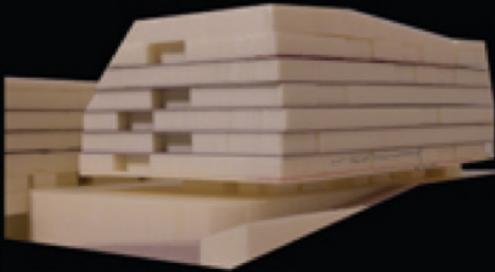


hectares of real estate in central Paris). A six-year design development and fundraising phase, followed by a relatively short construction time (32 months), meant the project was subjected to unusually intense scrutiny from public officials, funding agencies, and the public at large.

The project incorporated the following design methods:

1. Consulted public and private interests to collect information on large housing complexes combined with other specific programmes (children's nursery and a very large bus maintenance and depot) seemingly contradictory in their use and functionality.
2. Engaged design-led research efforts to realize a flexible structure with economical construction methods

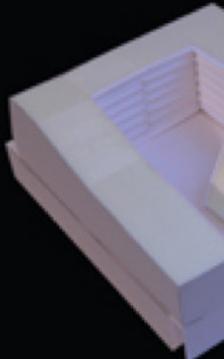
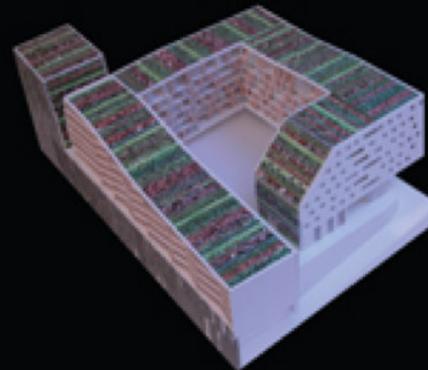
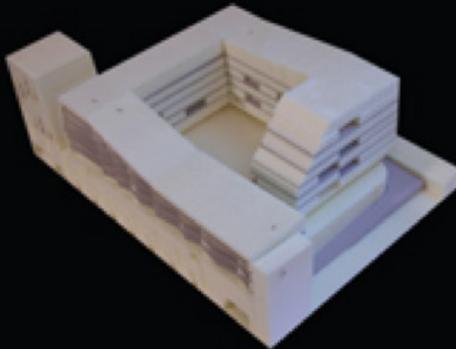




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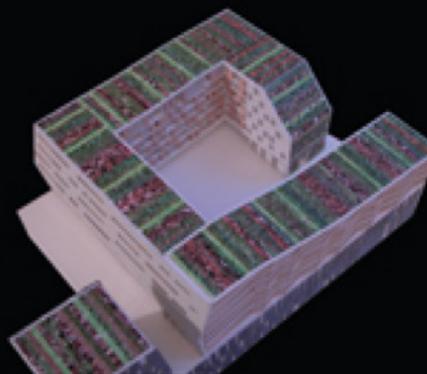
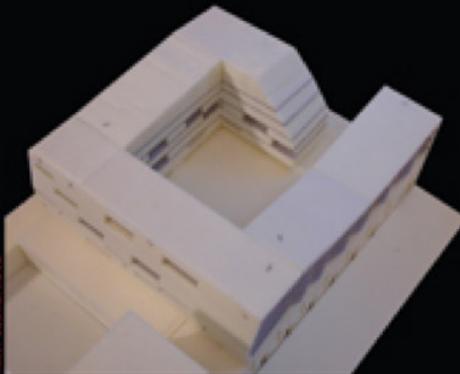
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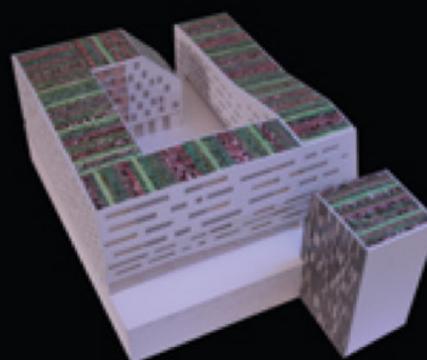
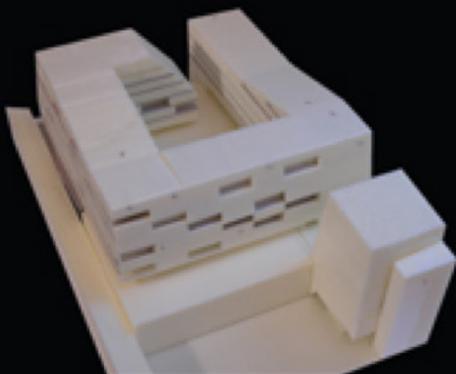
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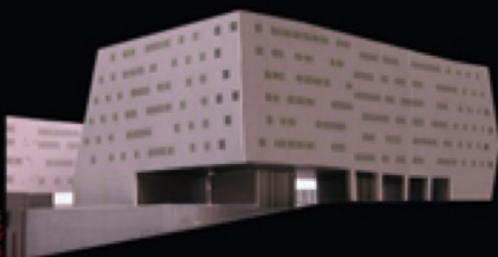
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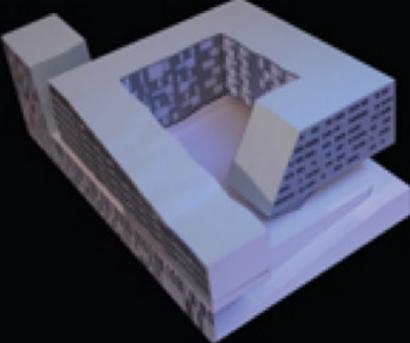
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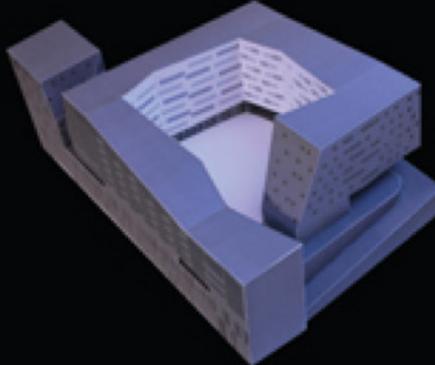
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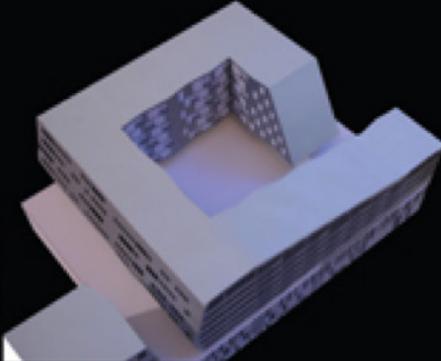
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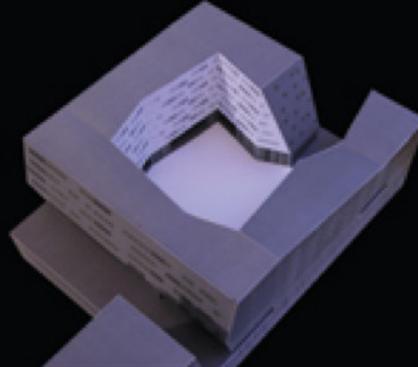
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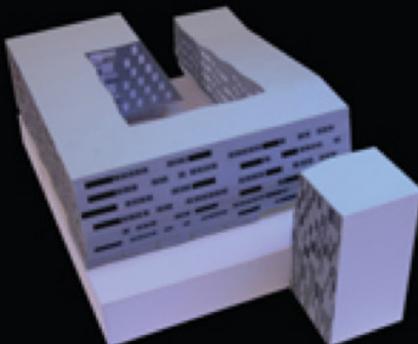
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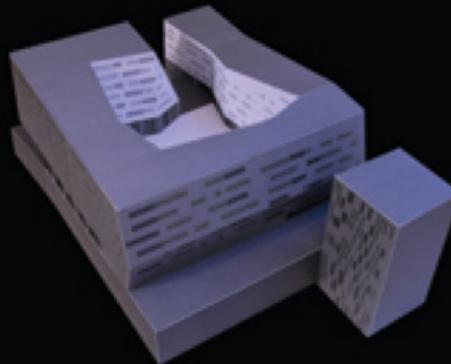
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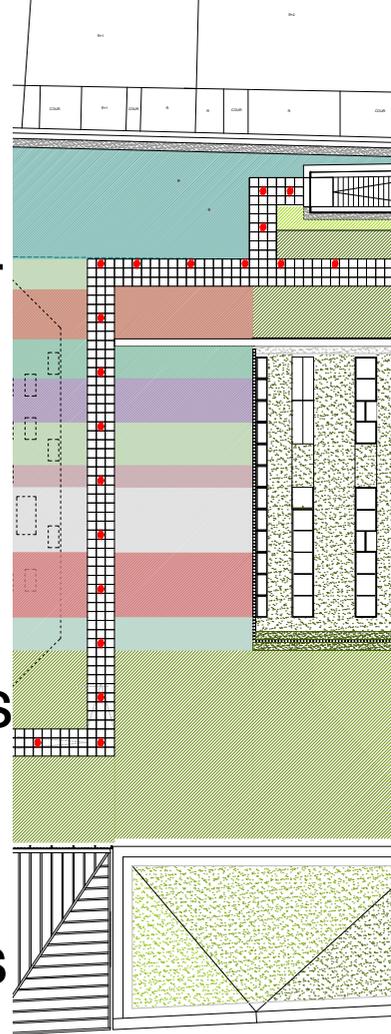
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<sup>11</sup> These models (more than 75 versions) allowed the clients and the public to perceive and appreciate the complexity of architectural design through iterations and testing.

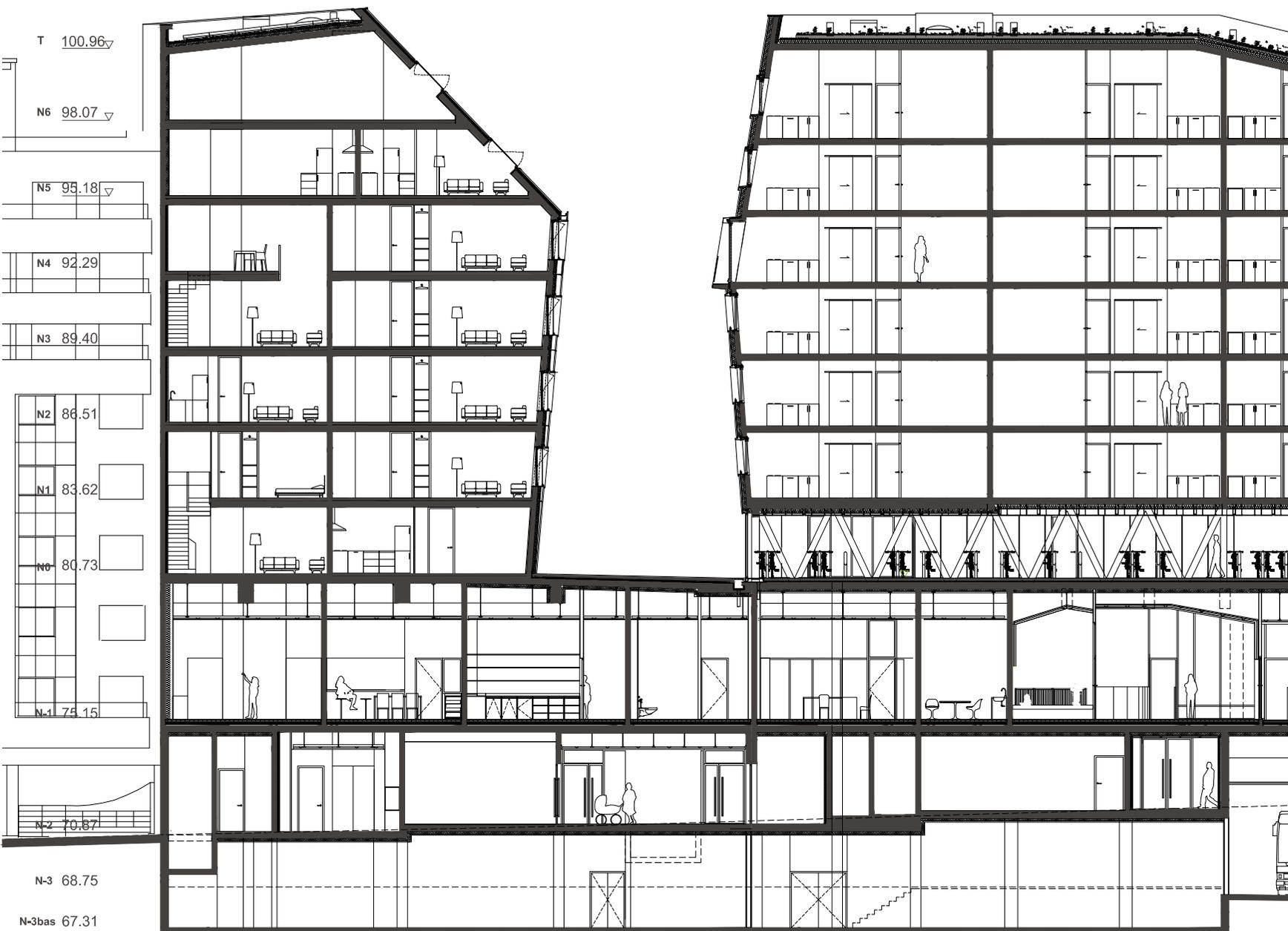
and materials, and passive energy use that could accommodate an array of programmatic needs and evolution over time.

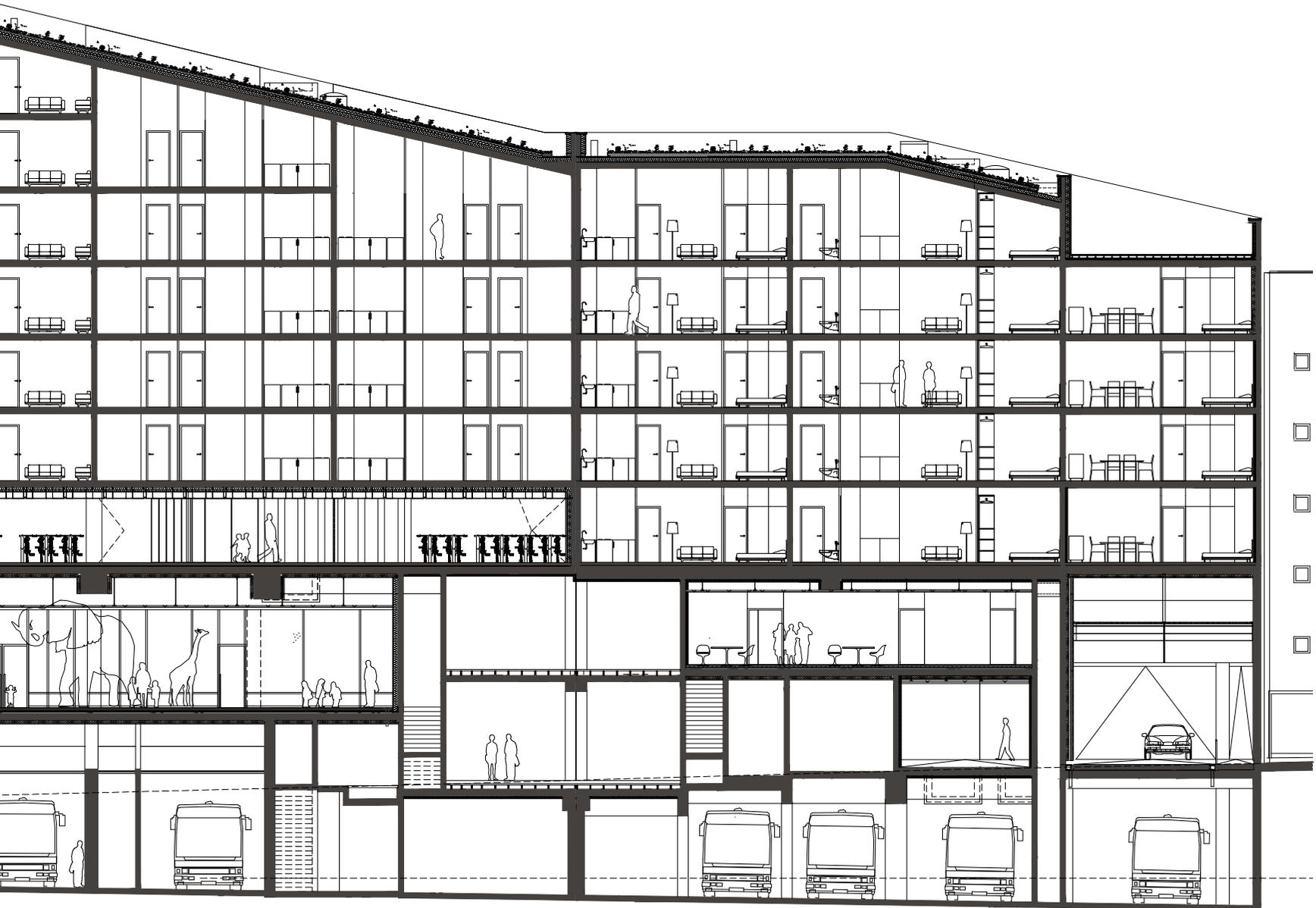
3. Employed iterative methods of drawing and modelling (3-D and physical 1/1 scale prototypes) to generate new ideas for housing projects as a public infrastructure/facility typology.
4. Visited all complex mixed-use projects in Paris, around the world notably Hong Kong, Tokyo, Kuala Lumpur and Singapore in an effort to critically assess the complex mixed-use building type (usually very big in size and very tall) as a piece of the city, integrated and integral to it.



<sup>12</sup> The third floor plan of the city.  
The communal court.  
The children's playground.  
The olive tree courtyard.

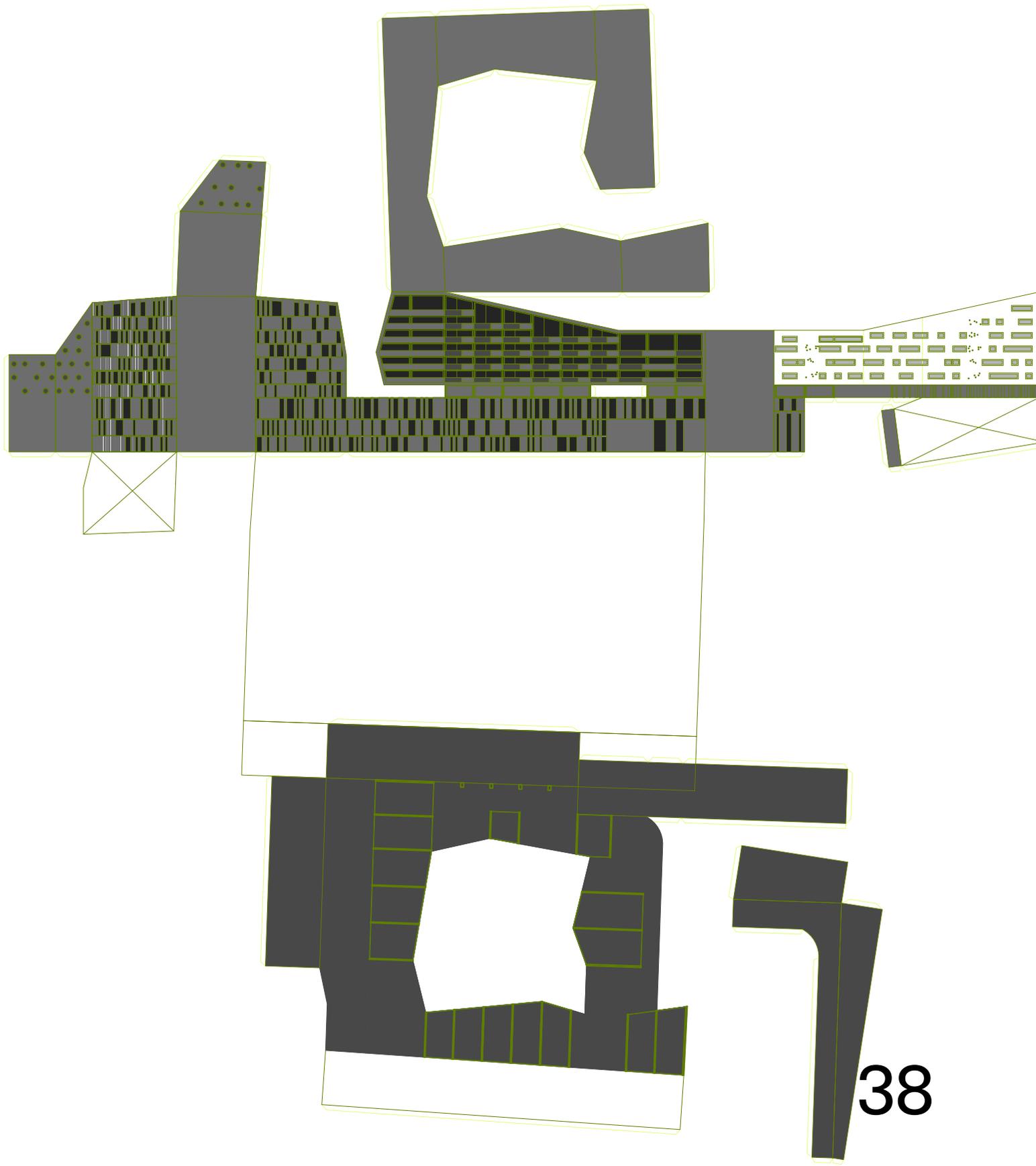


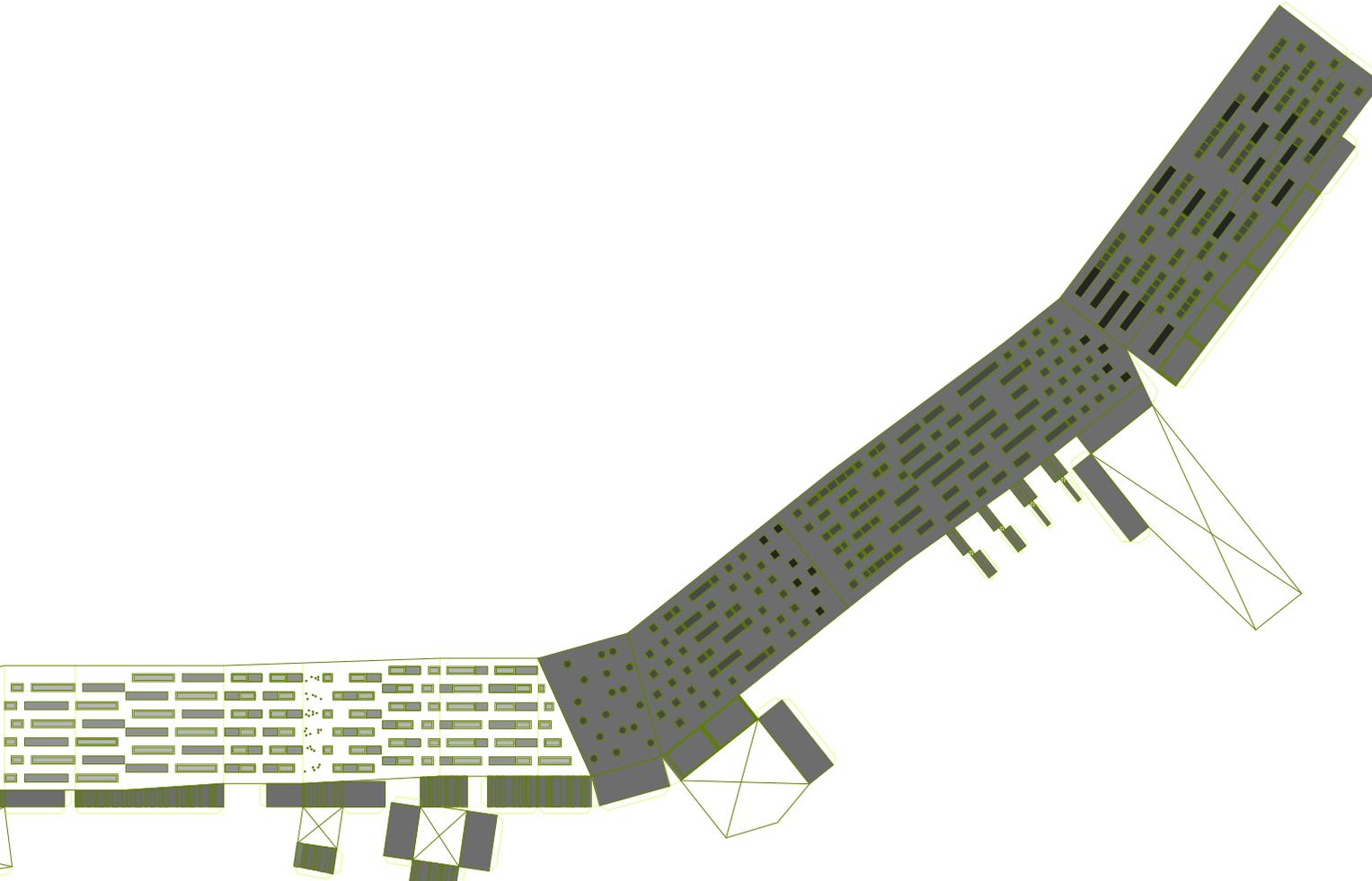




<sup>13</sup> The interlocking programmes : the bus depot, the carpark, the crèche, the bicycle park, the social housing and private apartments are visible in this section parallel to the boulevard. The first project showing different land owner-ships superimposed vertically.

<sup>1</sup> The unfolding of the entire facade of the building superimposed on its elevation and plan to show the continuity of fenestration.





SEDP

LOGIS TRANSPORTS

PH-OPH

RIO

CRÈCHE + H G

AUTO BUS

SAO POLO

CAIRE

MEXICO

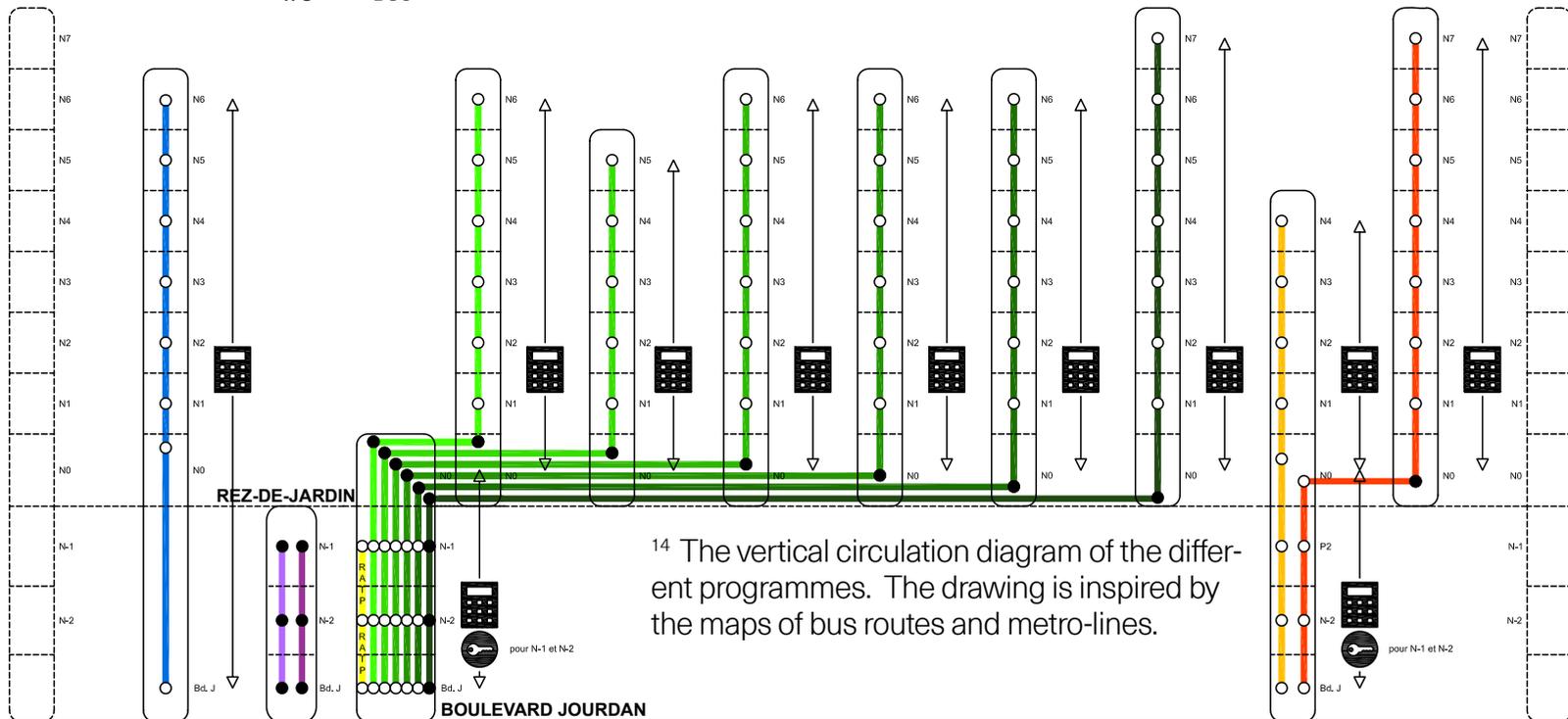
NEW-YORK

BALE

TOKYO

SYDNEY

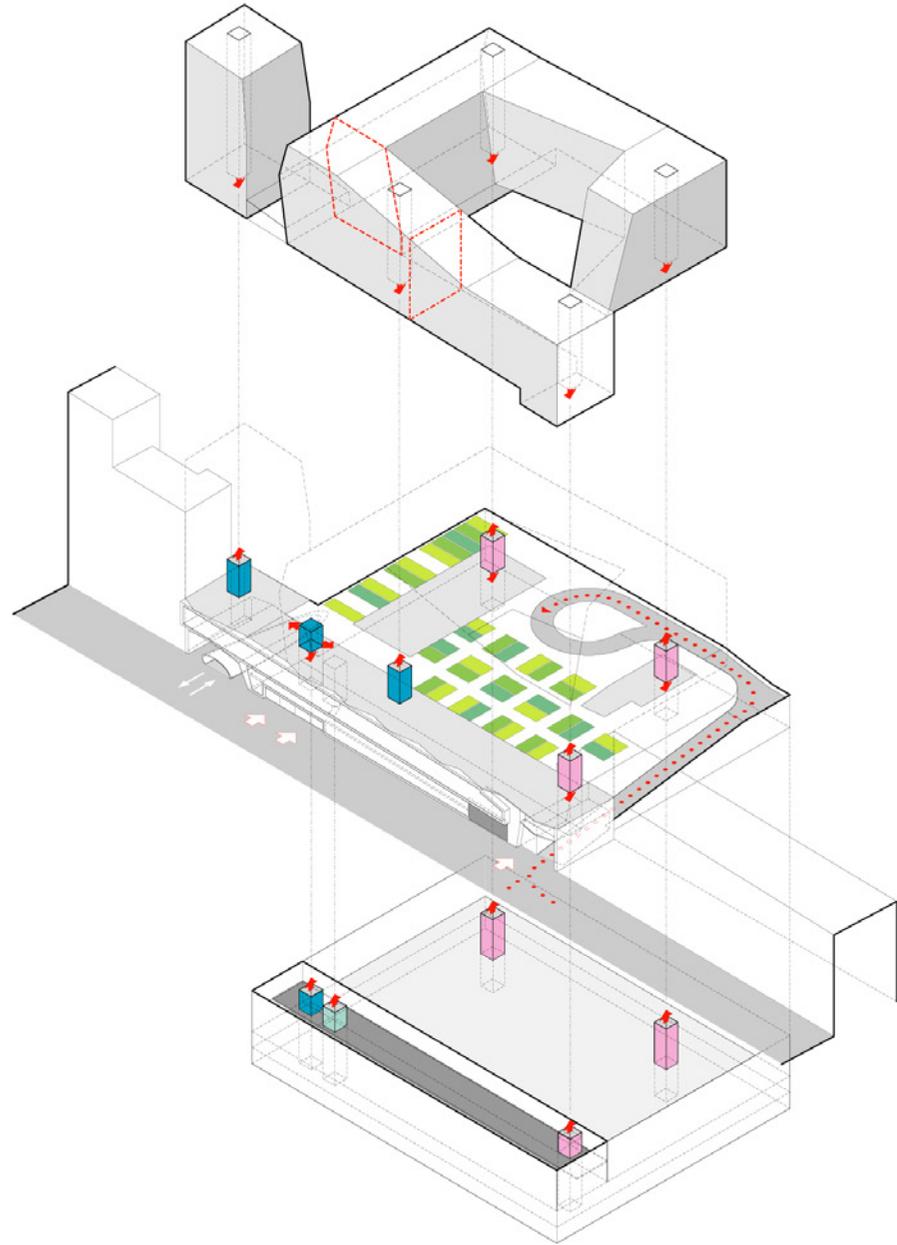
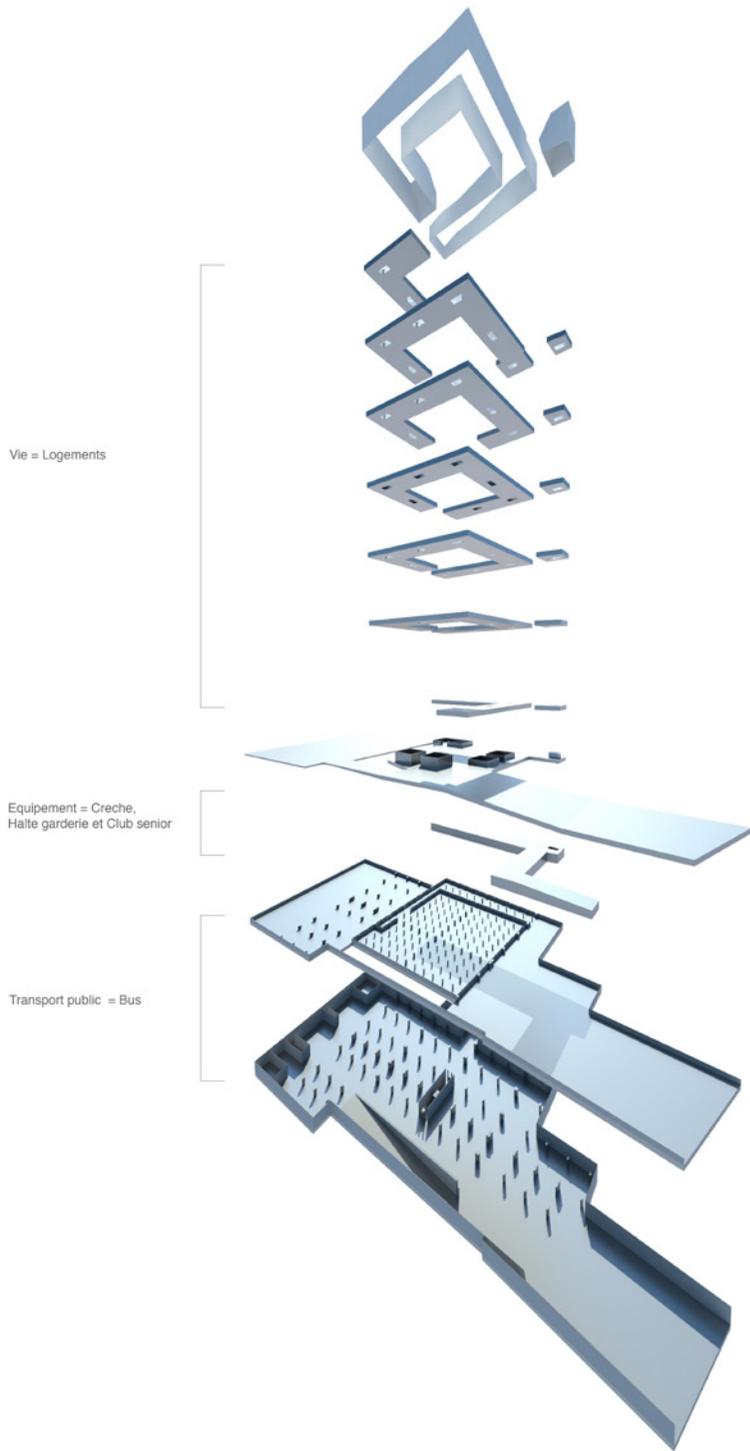
PEKIN



## Significance

BHB proposes the reinvention of standard housing typologies, both in France and around the world. Its intellectual significance has been discussed in the architectural as well as the popular press in France, Europe, the Middle East and Asia. BHB has redefined long-standing stereotype assertions of developers and housing associations in the social housing debates: repetition, monotony, cheap materials, cheap details, and maximum 20% fenestration due to shortage of funds are no longer acceptable.

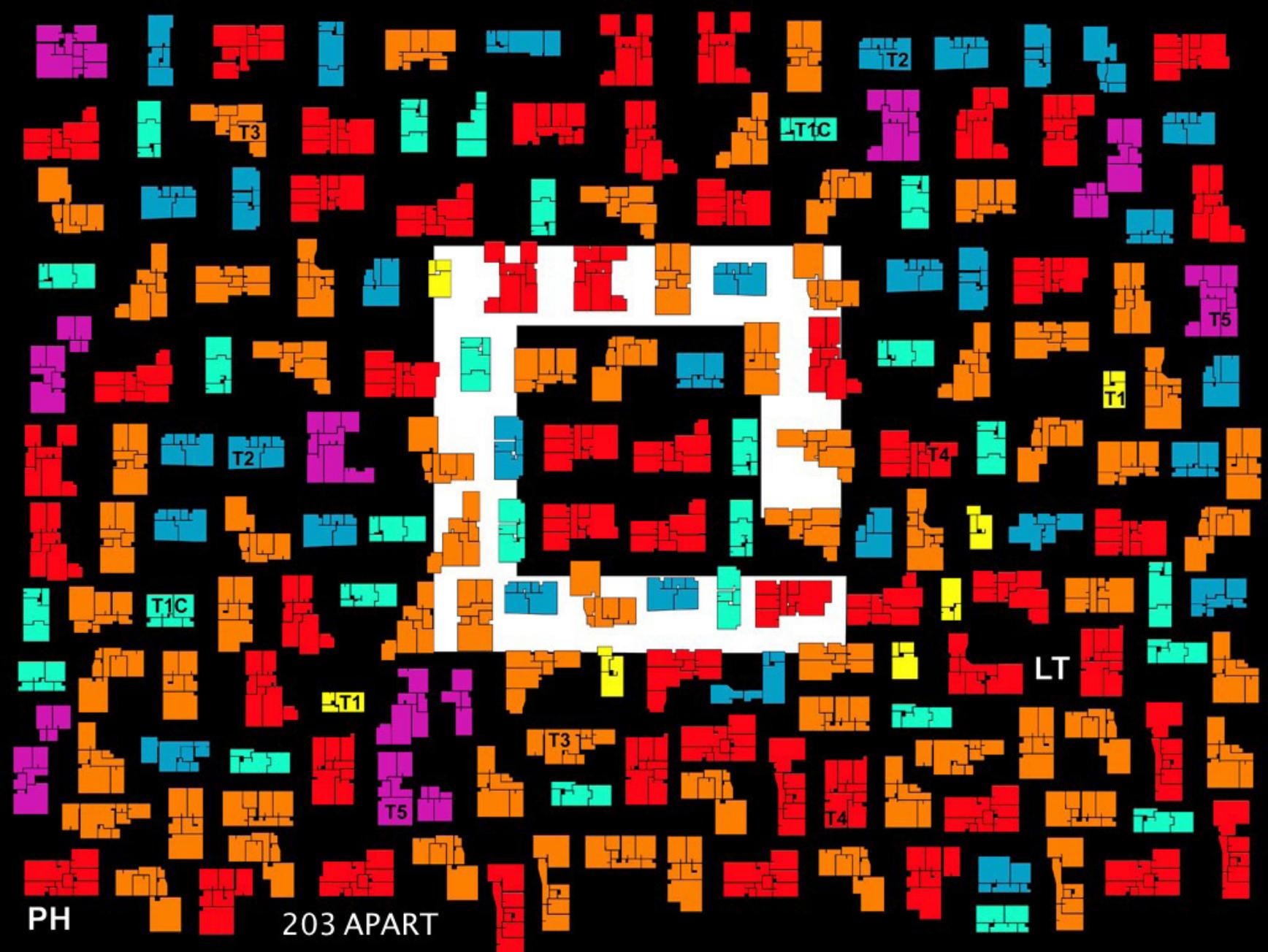
The significance of the project also lies in its extra large size, location, complexity of its various programmes, and numerous client bodies as well as its impact both in the city and on other



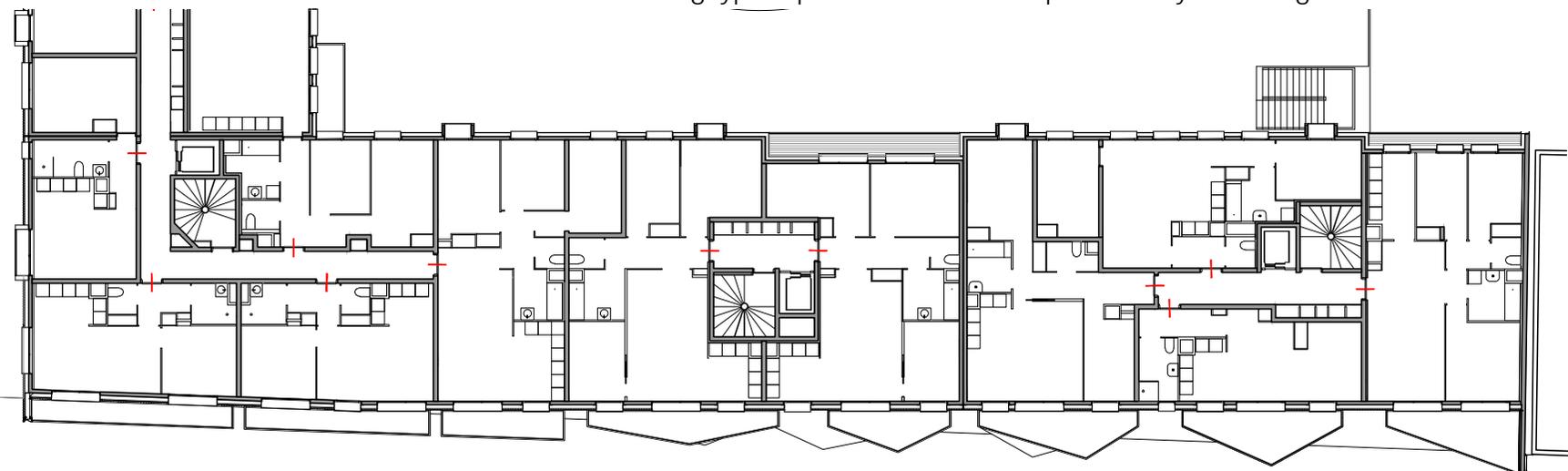
<sup>15, 16</sup> These axonometric drawings demonstrate the programmatic superposition of the different ownerships.

projects of the same type. It is one of the largest single building sites in Paris, located on two hectares of Parisian real estate valued at an average of 12,000 Euros per square meter. Our design—a hybrid building consisting of a bus depot and maintenance centre superimposed against housing and public amenities, including a day-care centre and nursery—offered a new building type that aimed to improve public transportation efficiency around the area, enhance pedestrian activity around the site, and respond to the needs of neighbourhood residents.

The project was inaugurated by the Mayor of Paris, the prefect of the region (IDF), and the now minister of Transport and Mobility as a model project for a smarter metropolitan city.



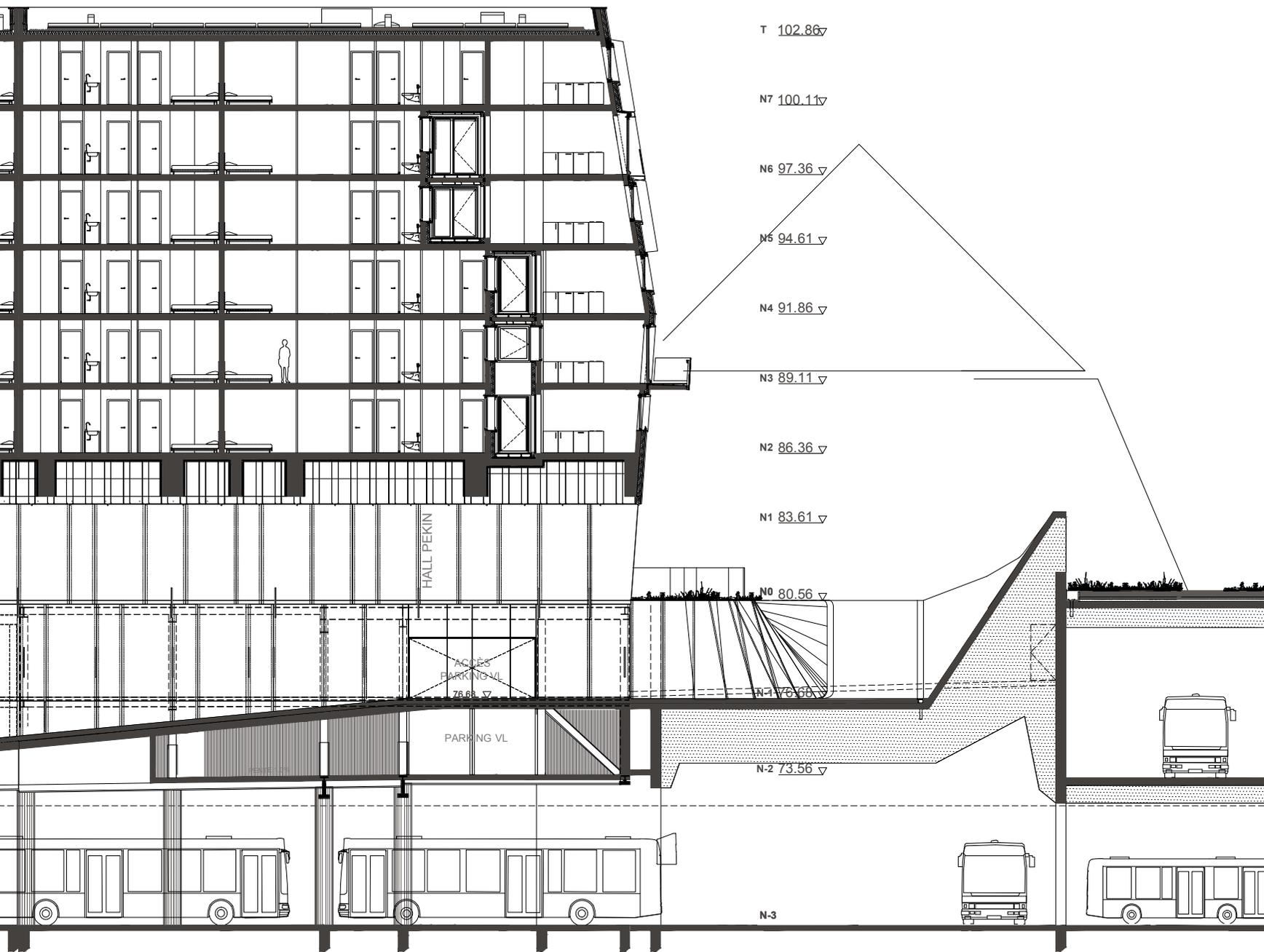
<sup>17</sup> The social housing types spread on the land required if they were single detached houses.



Plan Niveau N6

<sup>18</sup> Detail partial plan showing the transversal double oriented social housing units.





<sup>19</sup> The ramp from Boulevard Jourdan crossing the entire length of the building and moving upwards toward the main courtyard of the building allowing the fire-fighters access as well as the light vehicles entering the parking level and the bicycles moving to their parking spaces. This drawing demonstrates the capacity of structure to be integrated into architectural design.





<sup>20</sup> The continuous sleep and play rooms for the children. The lower walls are dividing the playrooms while the higher walls dividing the sleep rooms not allowing the children to disturb the ones who are sleeping.



<sup>21</sup> A full-height water/wet room for the children to play indoors in the summer months.

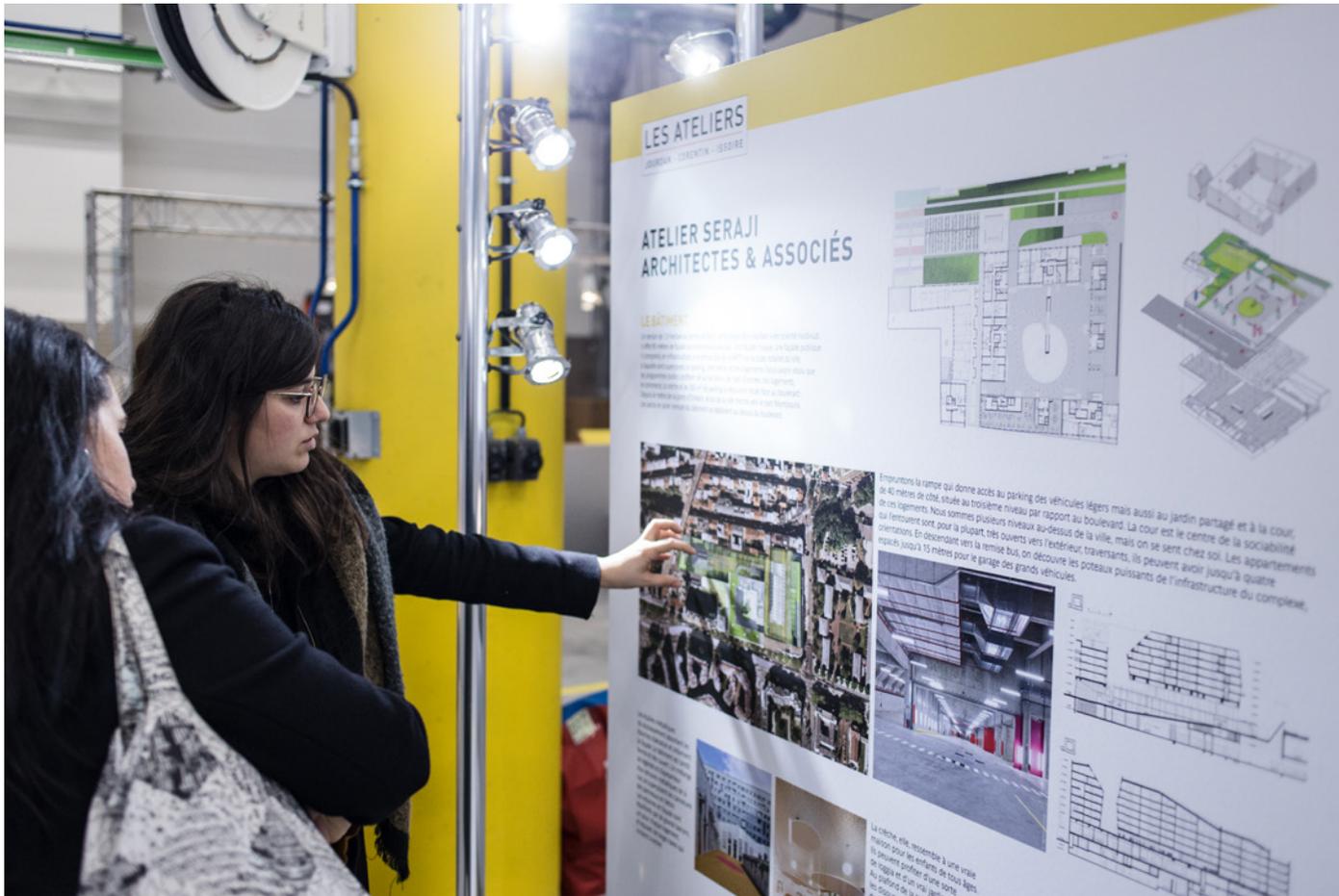


## Dissemination and Evidence of Peer Review

Big Heavy Beautiful has only entered the public domain in the past year, following its inauguration by the mayor of Paris, the President of the Region of Ile de France, the minister for transport, and other dignitaries. Over 1300 people attended the complex's opening, and it has received very positive reception from the Parisian press and architectural journals.

In June 2007, I curated an exhibition titled Collective Housing In Europe at the Pavilion de L'Arsenal in Paris that further disseminated the knowledge and research undertaken for the BHB project to architects around the world.

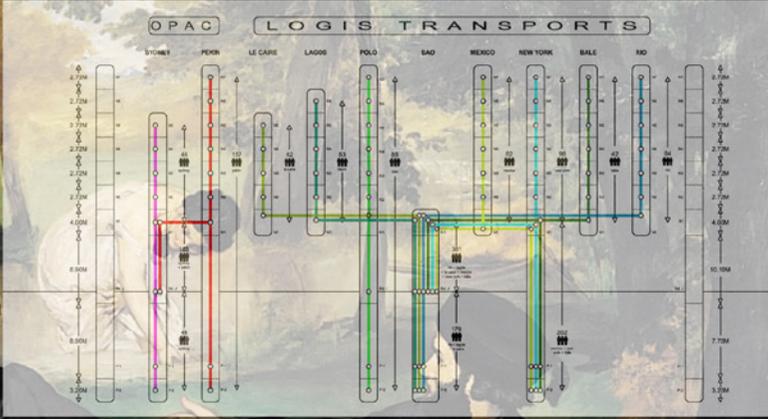
The project is currently undergoing



a post-occupancy impact study of the building's effects on the neighbourhood, its impact on the city's transportation system, inhabitants' circulation patterns as well as community building amongst the inhabitants. This information will inform future multi-programme hybrid building proposals subsidised by the RATP and the city of Paris.

I have been invited as keynote speakers of many workshops, lectures, and conferences on housing and have discussed the capacity of such buildings as a smarter way to compactness in dense cities, the ecological consequences, and how architects can contribute to actively reducing the carbon footprint of heavy and large buildings.

Alejandro Bernal, my chief assistant architect on the project went on to



# BIG HEAVY BEAUTIFUL

PRÉSENTATION D'UN ÉDIFICE COMPLEXE DANS LE XIV<sup>e</sup>  
PAR NASRINE SERAJI – AA DIPL RIBA DIRECTRICE DE L'ENSAPM

« Hénard n'était pas le même genre de futuriste que Marinetti, mais il nous a aidés à voir l'avenir pendant quelques minutes au moins, en juin 2007, quand nous avons gagné le concours pour ce centre de remisage d'autobus, 180 logements et une crèche. La coupe de Hénard pour la « rue future » se réalisait... À Paris, le sous-sol est très dense. Le métro, le RER, les dépôts de la RATP... L'infrastructure souterraine des Halles... Cette densité fonctionnelle du Paris souterrain est aussi nécessaire à la vie de la ville que la densité résidentielle des bâtiments nobles en surface... Le sous-sol du XIV<sup>e</sup> arrondissement a dû être très en vogue auprès des sculpteurs qui utilisaient le plâtre de Paris. Il ressemble à un trou gigantesque et vide, parcouru de tunnels et de réservoirs. Dans ce quartier, chaque bâtiment doit d'abord consolider le sol, comme un peu plus loin et un peu avant, le Pavillon Suisse lors de sa construction à la Cité Universitaire... Nous consolidons notre sol avec nos niveaux de remisage des bus, le parking et les services de maintenance de la RATP. L'idée d'utiliser le transport public comme fondation de notre bâtiment est extrêmement stimulante. Comment faire se rencontrer les « trois établissements humains », travail, vie et loisir ? »

Mercredi 10 mars 2010 à 12h30  
Amphi 2 des Loges

ÉCOLE NATIONALE SUPÉRIEURE D'ARCHITECTURE PARIS-MALAQUAIS  
14 RUE BONAPARTE, 75006 PARIS. TEL : 01 55 04 56 50. WWW.PARIS-MALAQUAIS.ARCHI.FR



A BIG AND MIGHTY PROJECT FOR THE TRANSPORT  
AUTHORITIES OF PARIS-133busses, 213housing units, a  
kindergarten with 96beds and 4000m2 of green space  
to connect them...30 000m2 of urban-matter.



10 years of perseverance, 10000 A0 drawings, 700  
meetings, 50 lectures and 12 books, 16170 cups of  
coffee, 7000LT of water and 30,000 euros of dinners  
etc... architecture is slow.

use this experience as his research thesis under the title of “Résilience et renaissance de l’industrie en ville” (Resilience of industries in the City) for his post-master in architecture.

Lectures (Selected):

2014

‘Le lodgement n’est pas un produit’,  
Maison de l’Architecture Occitanie-  
Pyrénées : RVA 2014, Toulouse, France

2011

Big, Heavy, Beautiful | Paris 14e, France,  
2007 | 28000m<sup>2</sup> / 98000 m<sup>3</sup>, Akademie  
der Bildenden Künste Wien, Vienna,  
Austria

2010

BIG HEAVY BEAUTIFUL, ENSA Paris-Malaquais, Paris, France

2009

Vers une architecture de l'environnement bien tempéré, Centre Scientifique et Technique du Bâtiment (CSTB), France

*« En 1923, le livre de Le Corbusier, "Vers une architecture" nous décrit avec conviction la force de l'architecture en tant que la "machine à habiter". Quarante cinq ans après Reyner Banham publie "The Architecture of the well tempered environment", (l'architecture de l'environnement bien tempéré), pas encore à ce jour traduit en Français!... En 2009, la question du climat et l'environnement est devenue le débat incontournable de nos sociétés. L'architecte peut être instrumentalisé ou devenir un vrai pionnier d'une vision intelligente esquissant une autre vie.... La marge, très étroite et les tentations amples... »*



**VERS UNE ARCHITECTURE  
DE  
L'ENVIRONNEMENT BIEN TEMPÉRÉ**





# Bibliography

Alonzo, Eric, Les apories de l'hybride – pour une nouvelle relation entre architecture et infrastructure, in A. Sellali, (ed.), Marnes – Documents d'architecture, Marseille, Parenthèses, École d'architecture de la ville & des territoires à Marne-la-Vallée, September 2016.

Fenton, Joseph, Hybrid Buildings, *Pamphlet Architecture N°11*, New York, Princeton Architectural Press, September 1985.

Hénard, Eugène, “The Cities of the Future”. Royal Institute of British Architects, *Town Planning Conference*, London, 10-15 October 1910, (London: The Royal Institute of British Architects, 1911):345-367.

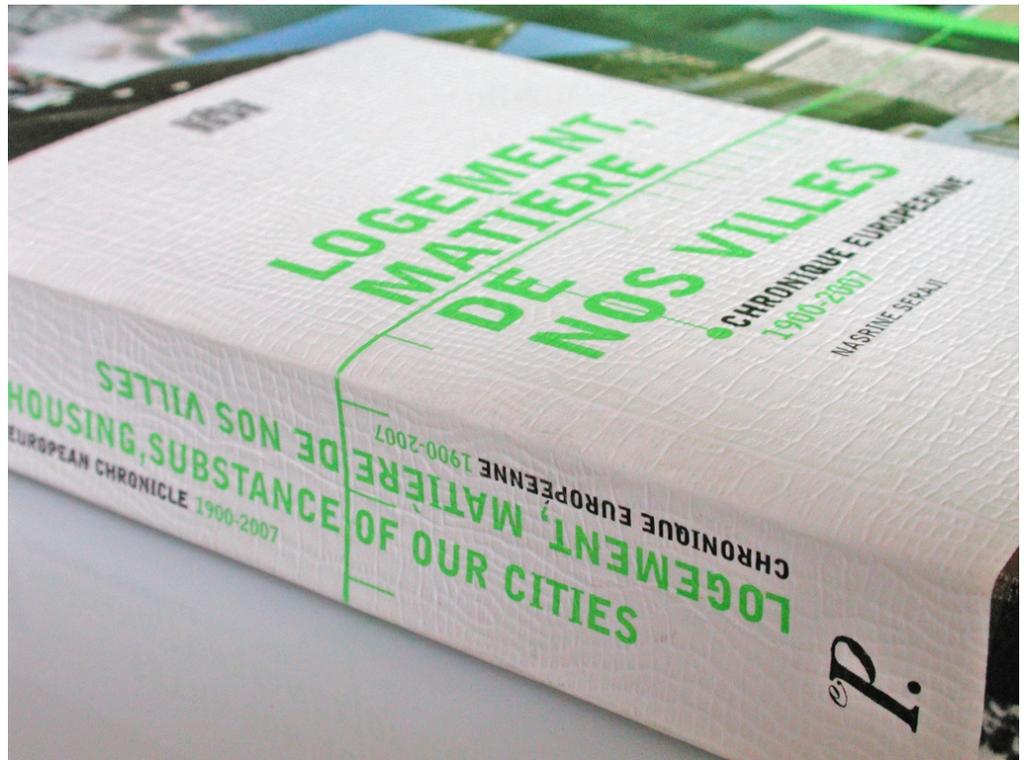
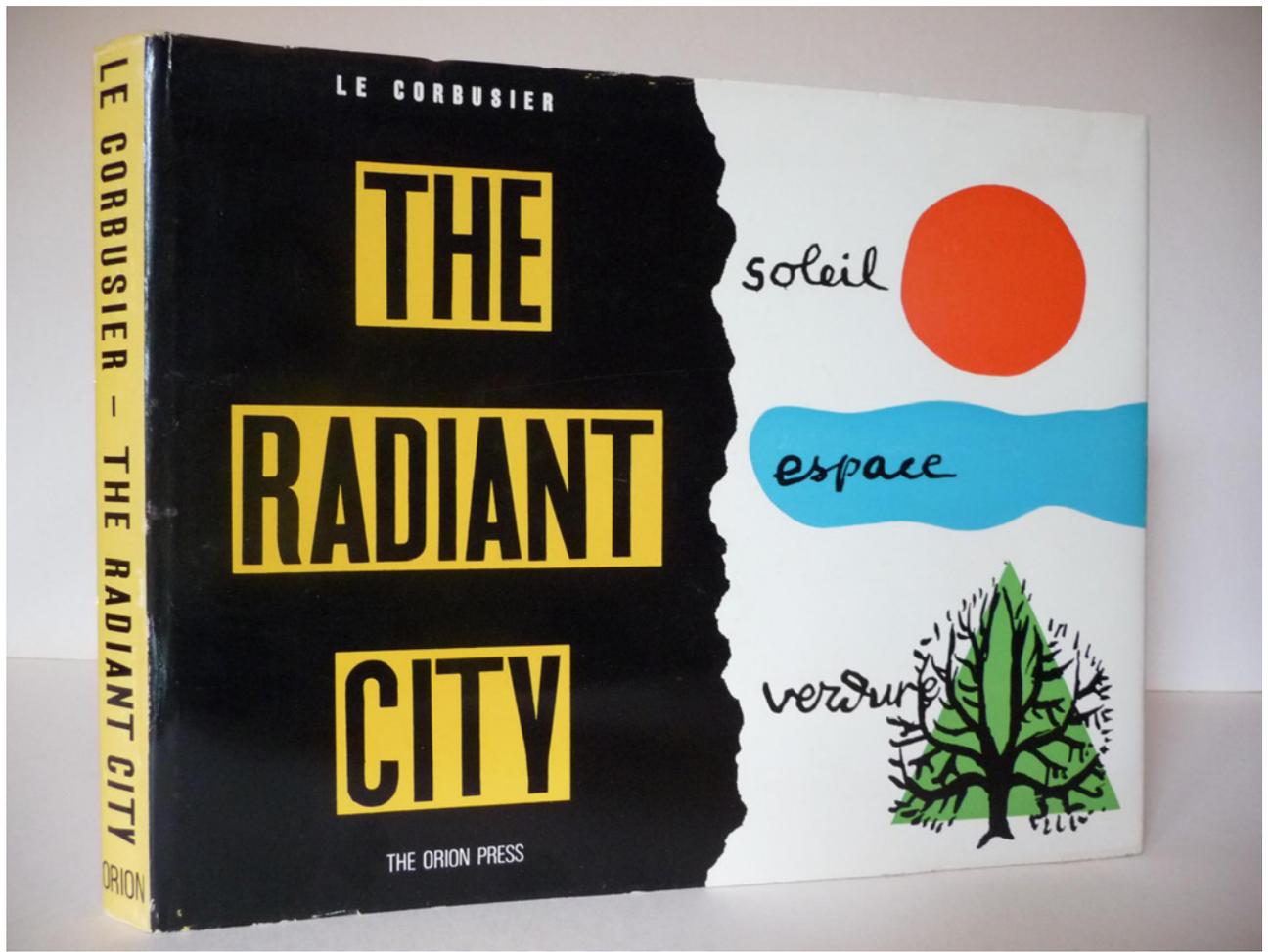
Javier, Arpa Fernandez; Per, Aurora and Javier Mosas (eds.), *This is hybrid: an analysis of mixed-use buildings*, A+T architecture publishers, 2014.

Le Corbusier, *The Radiant City*. New York: The Orion Press, 1933.



<sup>24</sup> Playtime, dir. Jacques Tati.

Tati and his critical eye were amongst many films of the period that inspired our conceptual process of design.



# Appendix

## Related publications by the designer:

Seraji, Nasrine, *Logement matière de nos villes: chronique européenne 1900-2007*, Paris: Editions A&J Picard, 2007.

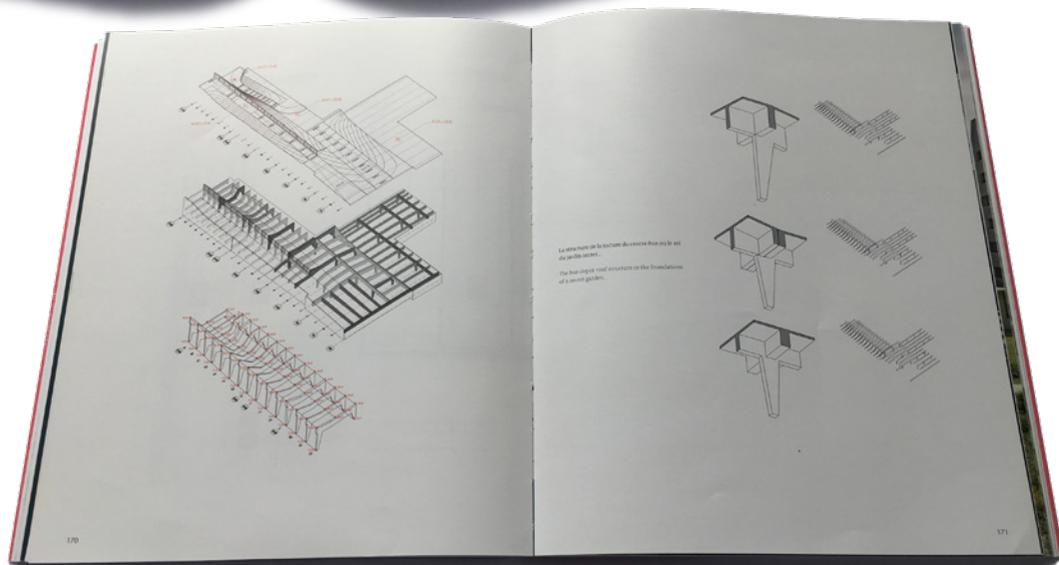
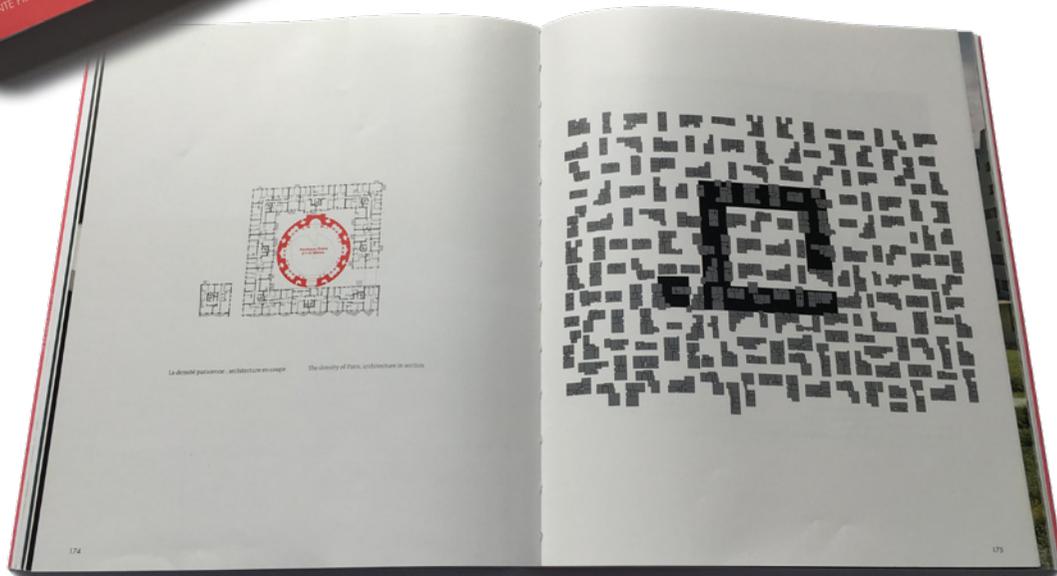
ASAA, *ASAA Logements*, issuu, 2014. Available at: [https://issuu.com/seraji/docs/140311\\_portfolio\\_logment-small](https://issuu.com/seraji/docs/140311_portfolio_logment-small). Accessed: 18 March 2019.

## Books, journals, and references to the project written by others:

Blaisse, Lionel; Scoffier, Richard; Feredj, Remi & Hargreaves, Nick, *Trois architectes: une parcelle de Paris (Three architects : a Parisian plot)*, Bruxelles:

Archives d'Architecture Moderne; Paris: Ante Prima DL, 2012

CSTB, 'Nasrine Seraji: "vers une architecture de l'environnement bien tempérée"', *CSTB edition de juin 2009*. Available at: <http://www.cstb.fr/archives/webzines/editions/edition-de-juin-2009/nasrine-seraji-vers-une-architecture-de-lenvironnement-bien-temperee.html>. Accessed: 18 March 2019.





25, 26, 27, 28 The polychromy of circulations based on the colours associated with the names of each wing of the building.





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The Department of Architecture educates students in an active culture of service, scholarship and invention. Uniquely situated at the crossroads of China and global influence, the Department takes the approach that design is best explored from a sophisticated understanding of both. With a multidisciplinary curriculum emphasizing technology, history and culture, students gain broad knowledge and skills in the management of the environmental, social, and aesthetic challenges of contemporary architectural practice. With opportunities for design workshops, international exchanges, and study travel, graduates of the Department of Architecture are well prepared for contribution to both international and local communities of architects and designers.

