

THE (A)TEMPORALITY OF THE URBAN LAYOUT LISBON'S ALMIRANTE REIS AVENUE IN PANDEMIC TIMES

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ABSTRACT

Public spaces of cities worldwide have suffered transformations related to the effects of the COVID19 pandemic and measures undertaken to tackle it. Lisbon is not an exception and one of the most significant and debated transformations was the introduction of a cycleway in Almirante Reis Avenue.

Almirante Reis avenue configures the longest straight line of Lisbon's urban layout, characterized by a permanent urban dynamic, compacity and overlapping of functions. During 2020/21, the avenue partition transformations related to the introduction of a cycleway underwent sequent alterations aiming at its adjustment in the traffic system of this major arterial street of the city, not without political arguments and public opinion in favour and against these changes.

The present article reveals the partition transformations that occurred since the opening of the Almirante Reis Avenue, in 1903, contextualizing the changes undergone during the pandemic period in a longer time frame. This framing allows us to acknowledge both the metamorphosis of the partition and the persistence of the urban layout as essential factors of the avenue character.

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Methodologically, interpretative morphological drawing is used to reveal and place in evidence forms and coincidences otherwise hidden. Based on historical photographs and cartography, each period of the avenue evolution is redrawn in sections with the same scale and representation criteria, retracing the preexisting form and highlighting transformations.

The comparative reading of Almirante Reis Avenue time strata allows to reveal the partition transformations from the distinct resulting sections and partition diagrams. Furthermore, this interpretative drawing series reveals a persistence, namely in the form of the layout of the avenue. Commonly understood as a major transformation, the introduction of the cycleway is revealed as one more ephemeral transformation of the partition, dependent on the spirit of the time. The partition metamorphosis across almost 120 years of the life of the avenue was always supported by the same width of the section. The atemporality of the urban layout of the avenue confirms the longevity of a public space urban element that stands the test of time, with or without pandemic.

Introduction

Throughout history, public spaces of cities have been shaped by the response of human societies to different events, including diseases and epidemics. Since the introduction of sewage systems by the Romans, until the influence of cholera in the 19th century on the initial network of modern streets, epidemics and infections have always had a critical role in shaping cities and had an obvious impact on public life (Hays, 2005; Shah, 2016).

The street has always been the public space to serve basic survival, including communication and entertainment needs, and perform several political, religious, commercial, civic, and social functions. Thus, streets in cities embody the public spaces for the community's activities of all kinds (Lofland, 1998). Streets and public spaces of cities worldwide have suffered transformations related to the effects of the COVID19 pandemic and measures undertaken to tackle it. The pandemic has brought changes and transformations in public life, including travel patterns and people activities, as well as in the use of public space. Thus, cities had a unique opportunity to make essays, test and change the public space, namely through transformations in the street partition. Lisbon is not an exception and one of the most significant and debated transformations was the introduction of a cycleway in Almirante Reis Avenue.



Figure 1. formaurbis LAB, Rua da Palma and Avenida Almirante Reis in Lisbon's urban layout, 2014. + António Passaporte, illustrated postcard n.º 87 LISBOA – Avenida Almirante Reis, 1938?.

This avenue configures the longest straight line of Lisbon's urban layout, characterized by a permanent urban dynamic, compacity and overlapping of functions. The urban linear system of the valley bottom shows a wide diversity of building periods and uses, standing out the commercial function, derived from the good accessibilities. (Fig. 1)

During 2021, the avenue partition transformations related to the introduction of a cycleway underwent sequent alterations aiming at its adjustment in the traffic system of this major arterial street of the city, not without political arguments and public manifestations in favour and against these changes. A quick google search returns thousands of online results regarding the polemic that was still ongoing in mid 2022 and political decisions regarding the transformation of the cycleway were announced in the sequence of the January 2022 municipal elections that have given the city a new mayor from a different political party.

Since June 2020, Almirante Reis Avenue partition was adapted and reshaped, taking advantage of the automobile traffic reduction during the confinement periods that were established as a health measure to prevent the virus spreading. The introduced transformations, such as the new cycleway, have redefined the street partition.

In fact, the street partition transformations can be used to reveal the street morphology and track its temporal changes. Reading the street from the composition of its partition can reveal both the street's permanent and temporary characteristics, underlining the street's partition ability of being shaped and transformed to respond to a specific need in a certain period of the street formation's time frame. This is manifested by tracing the street partitions and unfolding their adaptation to public life rhythms and inhabitants' needs. Revealing the partition transformations in time allows to place in perspective the much-debated introduction of the cycleway.

Therefore, the present article reveals the partition transformations that occurred since the opening of the Almirante Reis Avenue, in 1903, contextualizing the changes undergone during the pandemic period in a longer time frame. This framing allows us to acknowledge both the metamorphosis of the partition and the persistence of the urban layout as essential factors of the avenue character.

Decoding the form of the avenue in time. Reading the partition

Jacobs (1993) considers that “Streets are defined in two ways: vertically, which has to do with the height of buildings or walls or trees along a street; and horizontally, which has most to do with the length of and spacing between whatever is doing the defining.” (Jacobs 1993: 277). Considering a decomposition of streets in three components: layout, cross-section and partition, when compared to its layout or section, the partition of the street is less permanent, generated from the use or urban role conferred by the contemporary needs of society in each moment. (Proença, 2014: 675)

As Gandelsonas states, drawing is a process that allows us to see formal configurations that are not perceived in reality and therefore affects how we see the city (Gandelsonas, 1991) and in Jacobs work on Great Streets (Jacobs, 1993) it is particularly evident the emphasis given to the representation of the limits of the street, the elements that compose the space, the relation between buildings and street or revealing the uses and atmospheres.

The coding of the graphic representation of the space is therefore essential for its morphological analysis, and according to Anne Vernez Moudon, morphological analysis must consider the shape, resolution and time. (Moudon, 1997, 3-10). In this regard, aiming to reveal the avenue’s transformations in time, the study focuses on a morphological interpretation of the street partition, recomposing the sections of the avenue in each formation and transformation moment.

The morphological interpretation aims to decode the different partition composition of the avenue in the linear time from its formation to contemporaneity, allowing to frame the avenue historically and reveal the various transformations in its partition form.

Therefore, methodologically, interpretative morphological drawing is used to reveal and place in evidence forms and coincidences otherwise hidden. The morphological analysis of street partitions is represented through the classic morphological representation, using cross-sections

to describe the physical and spatial relations that are not as evident from the plan. Thus, each period of the avenue evolution is redrawn in sections and partition diagrams with the same scale and representation criteria.

The comparative reading of Almirante Reis Avenue time strata in the sections allows to reveal the partition transformations from the distinct resulting sections and partition diagrams.

The formation moments of the avenue layout

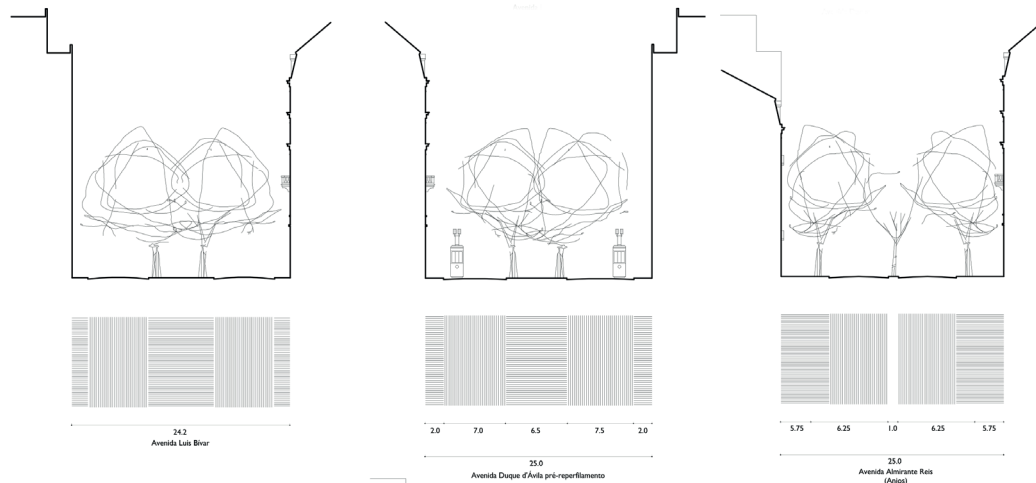
In the last quarter of the 19th century, the need to respond to the city's growth and improve accessibility between the center of Lisbon and an entire area to the north of the city that supplied it, led to the production and realization of a set of plans and projects that, to a large extent, would be articulated in the General Improvement Plan for the City of Lisbon of 1903, coordinated by Frederico Ressano Garcia at the service of the Technical Department of the Municipality of Lisbon.

1st moment: the projects between 1877-1903, from Rua da Palma to Arroios

Within this context of development and transformation of the city, with a preliminary design from 1877 and approval of the final project in 1892 (Appleton, 2018), the avenue with the toponymic attribute of Rainha Dona Amélia would finally be inaugurated in 1903. With the express purpose of replacing the role of the ancient road into the city, doubling, and sometimes overlapping the primitive valley route with a rectilinear layout and a regular profile, the Avenue constituted the support for the construction of several private initiative residential neighbourhoods from the beginning of the 20th century and throughout its first half.

At first, the layout of this urban element widened and extended the layout of Rua Nova da Palma between Socorro and Desterro, continuing the legacy of the post-earthquake Pombaline settlements that had only reached Largo do Jogo da Péla. The Avenue, from Desterro and up to the Circunvalação Road, next to the Convento de Arroios, was designed and built with a regular cross section of 25 meters in width, equipped with relatively narrow sidewalks and a central tree-lined platform which consisted of a pedestrian walkway similar to some of the secondary avenues in the Avenidas Novas plan (Proença, 2014: 201-209). (Fig. 2)

The relative small width of this eastern avenue, when compared to the main axis avenues designed and opened during the same period (Avenida da Liberdade: 90 m; Avenida Fontes Pereira de Melo: 30 m; Avenida da República: 60 m), can be justified both by the initial dominant purpose, which consisted of improving access to the city centre,



and by the topographical and mainly cadastral and built pre-existences, which in the southern part of the valley, squeezed between the Desterro Convent limits to the west and Rua do Benfornoso and Largo do Intendente to the east, conditioned the definition of a more generous profile. The contention that existed in the opening of the avenue in the longitudinal direction, initially just to the north of the Desterro Convent, attests to the difficulty of the process of expropriation and demolition of pre-existent buildings (Appleton, 2018). The same conditions gave rise, in this first part of the avenue, to an irregular subdivision structure that was, however, based on specific and highly qualified architectural resolutions, characteristic of the wedge-shaped block corners of the avenue.

2nd moment: the 1927-1928 project, from Arroios to Alameda
The avenue project considered the possible extension of the layout through a uniform ramp until reaching the Sacavém Road in Areeiro. Despite this, the avenue renamed Almirante Reis in 1910, only had its extension designed by António Emídio Abrantes between 1927 (preliminary project) and 1928 (project) as part of the Project for new streets between Avenida Defensores de Chaves, Rua Carvalho Araújo and Visconde of Santarém, and the public housing neighbourhood of Arco do Cego. From this plan were built the block between Instituto Superior Técnico and Avenida Guerra Junqueiro, the Alameda D. Afonso Henriques and neighbouring blocks and the Bairro dos Actores, which in the southern part of the Alameda included the definition of an exceptional space, initially thought as a landscaped square, whose reserve allowed the construction of the Arroios Market – transferred from Alto do Pina – built in 1939.

The less accentuated topography and the relatively sparse built fabric that existed on the land where this part of the avenue was developed made it easier to extend the avenue

Figure 2. Author 1, Cross-sections and partition diagrams of Luís Bívar Avenue, Duque d'Ávila Avenue and Almirante Reis Avenue, 2014.

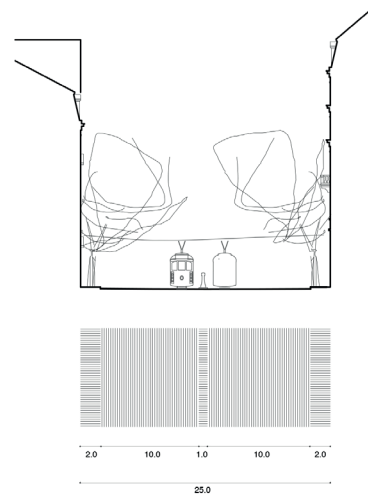
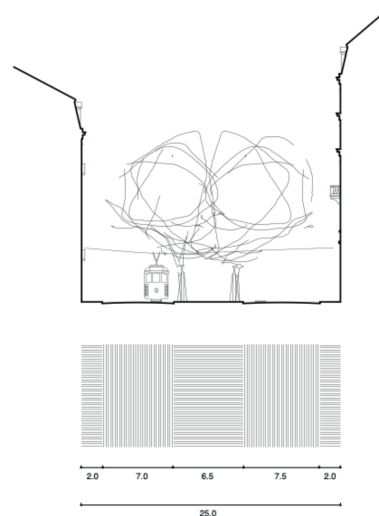


Figure 3. Judah Benoliel, Almirante Reis avenue 1940's extension by the Alameda, with tram tracks in the centre of the avenue, pre 1952, Arquivo Municipal de Lisboa ref. AML/JBN/004543. + Authors, Cross-section and partition diagram of Almirante Reis Avenue with central tramways.

and the streets included in the plan/project. The most significant pre-existences were limited to the Convent of Arroios, then a Hospital, the Vasco da Gama College, where today the Escravas do Sagrado Coração de Maria College is located, and the roads of Arroios and Sacavém. Despite this, the cross-section of the avenue remained 25 meters wide and lost the central platform with trees in favor of the circulation of trams in the central corridor of the road platform. (Fig. 3) *3rd moment: the projects between 1938-1946, from Alameda to Areiro.* The third part of the avenue consists of the extension of the avenue from Alameda D. Afonso Henriques and its culmination in Praça do Areiro. The extension was outlined in the project by António Emídio Abrantes, a decade earlier, but between 1938 and 1946 there was an alteration elaborated by João Guilherme Faria da Costa, informed by the work in progress on the Lisbon Urbanization Master Plan coordinated by Étienne de Gröer. Faria da Costa's proposal revised the layout proposed by Emídio Abrantes and eliminated the radial layout with a focus on Arco do Cego while associating a set of small blocks resulting from this design in a large permeable block, testing in Areiro the model later applied in the Alvalade neighbourhood. By comparison, the conception and design of the Urbanization of the Zone between Alameda Afonso Henriques and Linha Férrea de Cintura gave the urban proposal a modernity - through the use of a wide, carved and permeable urban block model - and an integration in the design logic of the city - through the introduction of an urban hierarchy marked by Praça do Areiro at the articulation of the radial axis of Avenida Almirante Reis and the circular axis comprising the current avenues of Berna and João XXI.



Regarding this part of Avenida Almirante Reis, Faria da Costa's project acted mainly on the west side, forming the current Praça João do Rio, also defining the north end of the avenue with Praça do Areeiro, which would host Cristino da Silva's project for the buildings that make up the square currently named Francisco Sá Carneiro. Between Alameda and Areeiro, the 25-meter width of the avenue section remains, inherited from the inaugural opening, and the tripartition with car lanes in the center and side sidewalks that continued the profile defined between Arroios and Alameda, in this steeper section.

The transformations of the avenue's partition

In the 1930's decade, the Avenue was equipped with public transport that ran on tracks. Although the configuration of the partition north of Arroios, as described, considered this element in its design by the subtraction of the central tree-lined platform, in the south part of the Avenue the introduction of the tram generated the non-exclusive appropriation of one of the traffic lanes in each direction, similarly to other Lisbon avenues in the same period such as Avenida Duque d'Ávila. (Fig. 4) From the late 1950's, the construction of the subway introduced six stations in the three kilometers long Avenue and originated reformulations on the Avenue partition, replacing the tram on most of its path. The section partition became more constant in the most part of the length of the Avenue, with central roadways divided by a narrow central separator, which nevertheless enables the existence of a rarefied tree alignment, and lateral sidewalks, approximately six meters wide, with irregular tree alignments

Figure 4. Eduardo Portugal, Initial type-section of the avenue and the 1930's tram introduction, 1938, Arquivo Municipal de Lisboa ref. AML/POR021056 + Authors, Cross-section and partition diagram of Almirante Reis Avenue with the initial central tree-lined platform and lateral tramways.

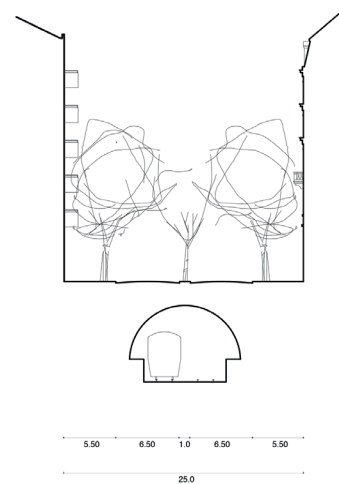


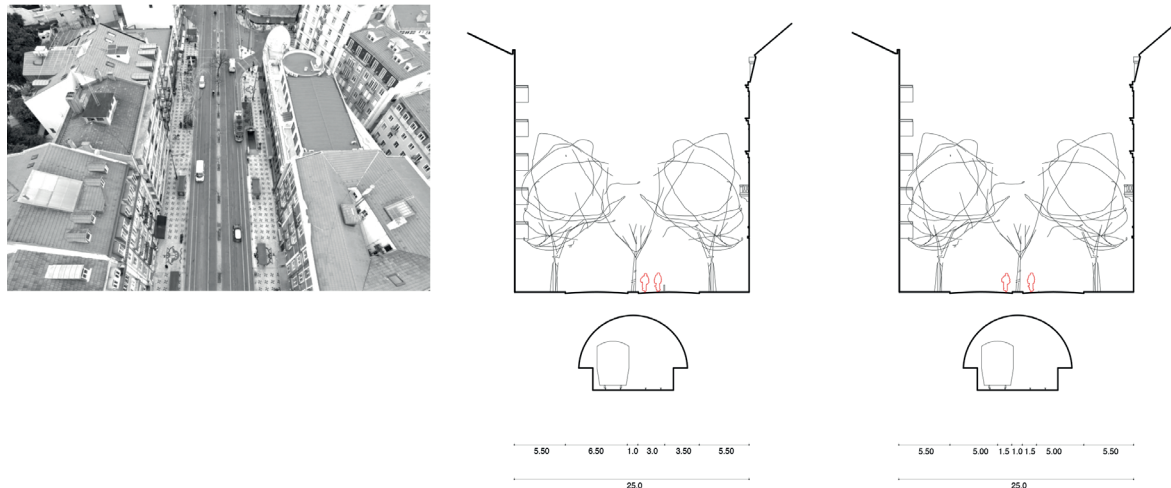
Figure 5. Unknown author, Almirante Reis Avenue construction of the subway line, late 1950's early 1960's. + Authors, Cross-section and partition diagram of Almirante Reis Avenue after the introduction of the subway line.

between Martim Moniz and Alameda and without trees north of Alameda. (Fig. 5). During Lisbon's recent transition to soft mobility modes and because of a tactical urbanism action during one of the confinement periods implemented as a health measure to tackle the pandemic, the Lisbon City Council announced the implementation of a cycleway in the Avenue. The cycleway consisted of a bi-directional cycle lane that was implemented through a pop-up solution, replacing the most central lane of the south-north carriageways. A few months after, in November, in the sequence of political debates, public participation and technical studies, the Lisbon City Council announced reviewing the Almirante Reis bike path and implementing a new configuration at the beginning of 2021, which proposed two unidirectional cycle paths, one in each direction of the avenue, in the centre of the Avenue, narrowing the automobile lanes (Fig. 6).

Persistence and transformation

Avenida Almirante Reis is one of the most remarkable streets of Lisbon and a building block of the city's historical evolution. Since its formation, the avenue has always been an essential linear centre and essential link to the city centre. The avenue has connected and structured city neighbourhoods and facilitated the mobility of people and goods. As mentioned above, the avenue did not exist overnight but rather has been composed in different moments. The execution of each moment has been driven by the realization of essential events in the city. In this sense, it could be said that the avenue has gone through three main transformations.

Over time, the avenue occupied innumerable uses, practices, and functions, where sub-partitions, ephemeral or permanent, have emerged, and the primary street partitions have been divided into more or fewer parts. Also,



additional transformations appeared that complement each other, corresponding to the various roles of the avenue and constituting the total avenue width. Being a significant route in the city, the avenue partition introduces a wide variety of compositions that correspond to the various transportation modes. The avenue partition also composes a variety of pedestrians' and cyclists' needs. Thus, the partition offers a privileged setting that balances the use of automobiles, buses, trams, underground train lines, and soft mobility. Also, it offers a space for public and collective use. Among other partition changes, the avenue had a central pedestrian platform with a double alignment of trees, incorporated tramways that were later removed, had the central platform removed to give space to more roadways and accommodated the introduction of an underground subway line and respective stations.

Furthermore, this interpretative drawing series reveals a persistence, namely in the form of the layout of the avenue, placing in evidence the resistance of the avenue urban form in time. The recent transformations of the three-kilometre-long avenue that summon the interest of the present investigation reflect its historical evolution and embody the initial purpose of the avenue by responding to the city's needs and improving accessibility between the city centre and the north of the city. As a response to the increased need to provide mobility options, the avenue responded by adding a central space for cyclists. Thus, Avenida Almirante Reis gained a bike path that transformed the avenue's partition in response to the Covid-19 pandemic. The new composition of the street partition resulted in reducing the traffic lanes into one lane in each direction of the avenue, due to the width available of the street cross-section. The partition transformations have also led to some changes related to the traffic on the avenue to improve coexistence between all modes of transportation,

Figure 6. Author2, Almirante Reis Avenue by Intendente with cycleways, 2021. + Authors, Cross-section of Almirante Reis Avenue with the first and second versions of the cycleway.

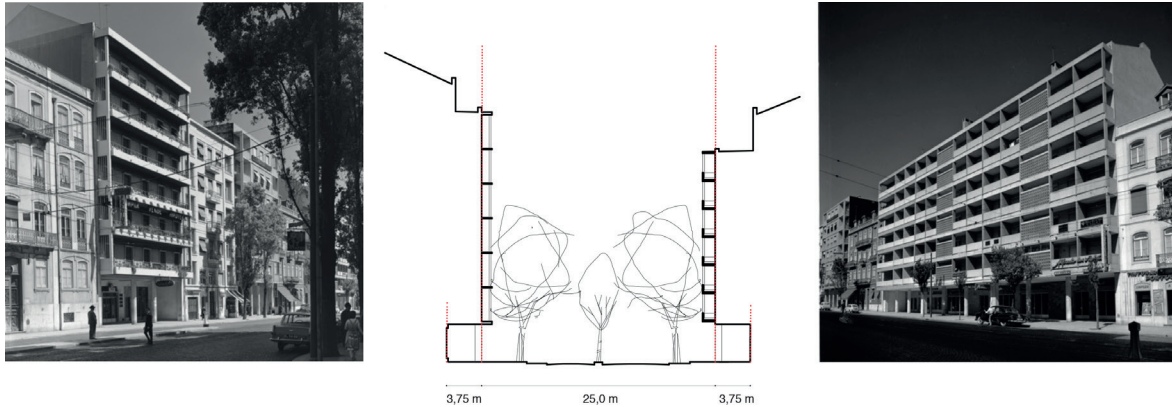


Figure 7. Armando Serôdio, Buildings with recessed ground floor, result of the municipal mandamus application, 1962, Arquivo Municipal de Lisboa ref. AML/SER/005241 and AML/SER/00524. + Authors, Graphical interpretation of the mandamus of 18 November to the 357/CEU/P communication.

including, automobiles, cyclists, trams, buses, and pedestrians. The introduction of the cycleway resulted in taking back the central platform in favour of the new cycleway that runs along with the central platform; an option made due to the existence of tram tracks, metro exits, and trees on the sides. The introduction of a cycleway during the coronavirus crisis and social distancing measures was considered a major transformation of the avenue. Nevertheless, when compared to other partition changes or the mid-century transformations that envisioned the recess of the ground floors to expand the public space of the avenue (Fig. 7), as a result of the mandamus of 18 de november to the 357/CEU/P communication (Ramalhete et alli, 2020), the introduction of the cycleway is one of the softest transformations of the partition that existed in these little more than 100 years period.

Conclusions

Although Lisbon has seen an increase in the number of cycle lanes in the last years, the pandemic period acted as a catalyst for these transformations of Lisbon's roadways. The Almirante Reis Avenue cycleway is a paradigmatic example of these operations. Understood as a major transformation in the vox populi of the foam of the days, when placed in the context of the wider time frame of life of the avenue, we acknowledge that the introduction of the cycleway is just one more ephemeral transformation of the partition, influenced by and inscribed in the spirit of the time. The sequent partition metamorphosis across almost 120 years of the life of the avenue was always supported by the same width of the section. The atemporality of the urban layout of the avenue confirms the longevity of a public space urban element that stands the test of time, with or without pandemic.

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