

The Boulevard Périphérique, anonymous
oeuvre of the Parisian technocracy:
dissecting a design process at the
crossroad of technical reason, social
imagination and politics

Justinien TRIBILLON
PhD in Planning Studies

University College London
Bartlett School of Planning

I, Justinien TRIBILLON confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Primary supervisor: Professor Claire COLOMB
Secondary supervisor: Professor Ben CAMPKIN

Examiners:
Professor Michael HEBBERT, University College London
Professor Antoine PICON, Harvard GSD

Abstract

The Boulevard Périphérique of Paris, a 35km ring road built around the city between 1956 and 1973, is a politically-loaded infrastructure whose omnipresence in the landscape is inversely proportional to the amount of critical literature dedicated to it. Was its design process the expression of an ‘apolitical’ professional expertise seeking to maximise efficiency? What role did political, social and aesthetical considerations, often reframed as ‘technical reason,’ play in its construction? To address these questions, based on archival work this thesis analyses the ‘social imagination’ of the technocrats who designed the ring road, focusing on the administrative correspondence of civil servants working at the Paris prefecture as they communicated internally, with elected officials and with citizens. I recontextualise their design choices within their professional and cultural discourses, practices and imaginaries to analyse the Boulevard Périphérique as socially produced.

First, I challenge the assumption that the ring road was built in an empty ‘zone’ by demonstrating how specific actors managed to re-route the Boulevard Périphérique, sometimes leading to evictions in suburban towns. Second, focusing on the socio-political construction of noise from road traffic as a nuisance, I argue that the shift from a technocratic government to a democratically-elected mayor in Paris in 1977 impacted engineers’ evaluation of the technical feasibility of retrofitting the ring road with noiseproof walls. Third, I uncover evidence about the correlation between the social status of the ring road’s neighbours and their capacity to impact on its design, demonstrating the ability of social elites to push for its concealment in their vicinity. Altogether, this thesis dissects the ring road as a ‘design entanglement’ by challenging the notion of technical reason as the guiding force of technocrats involved in its construction, throwing light on their biases, the political pressures they faced and hierarchies they were entwined in.

Impact statement

At a time when urban planning professionals and elected officials globally question the future of large-scale infrastructure inherited from post-war urban planning, this doctoral thesis contributes to enhance our critical understanding of the Boulevard Périphérique's construction, offering novel ways to approach this omnipresent infrastructure and renewing the elements of the public debate on its retrofitting, removal and/or evolution. It offers an original understanding of the socio-spatial processes that determined its design, offering a more refined apprehension of the various elements that influenced its construction: political biases, social prejudices, but also reflections on the impact of a technocratic versus democratic government for the city.

From an academic point of view, this thesis contributes to our understanding of the history of Paris's urban planning. It offers the first significant book-length critical research on the ring road of Paris, and in doing so significantly contributes to improve our historical and conceptual understanding of it. It offers original findings on the impact of the new politico-administrative status of Paris in 1975, with the election of a mayor in 1977, on the way urban professionals and politicians apprehended technical issues and urban planning challenges. This thesis develops and applies an original interdisciplinary landscape-infrastructure critical design framework that is paired with a methodology inspired by the socio-history of public action. This thesis also proposes to understand large-scale urban landscape-infrastructure as 'design entanglements,' i.e., the accumulation of elements (including but not limited to artefacts, technologies, practices, ethics, etc.) over time and space.

While these findings pertain to the ring road of Paris, the lessons that we can draw from Paris can be applied, to a certain extent, to all large-scale urban infrastructures impacting the landscapes of cities in the Global North, and arguably worldwide, for they all share key elements—a time period (circa 1930s–1980s), materials and technologies (e.g., concrete, the rise of automobile traffic together with their positive and negative externalities), the emergence of some forms of increased democratic urban planning with the crystallisation of citizen resistance movements that sometimes prevented the initial design to be achieved.

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In loving memory of Jacqueline Tribillon

1952–2019

Architect and Urbanist

In the chronicles of the North, men act in silence; they make war, they conclude peace, but they themselves do not say (nor do the chronicles explain) why they make war or for what reasons they make peace. In the city or at the ruler's court nothing is heard, all is silent. They assemble behind closed doors and deliberate among themselves; the doors open, men come out and appear on the stage. Whatever action they have decided on, they carry it out in silence.

Sergei Soloviev, *History of Russia*, 1851–1879
cited in *Society of the spectacle*, 1974,
directed by Guy Debord

The sound experience which I prefer to all others, is the experience of silence. And the silence, almost everywhere in the world now, is traffic. If you listen to Beethoven or to Mozart, you see that they are always the same. But if you listen to traffic, you see it's always different.
[Cage laughs]

John Cage interviewed in *Écoute*, 1992,
directed by Miroslav Sebestik

Preamble in the form of a glossary

Throughout this doctoral thesis, I have scrupulously translated and, when needed, explained all French terms and phrases, to ensure that all readers, including non-French speakers and those with no prior knowledge of French administration, can grasp all elements of a given situation. At the outset of this thesis, I offer a preamble in the form of a bilingual glossary that readers might decide to read now, and/or come back to punctually as they progress in their reading.

In addition to the following glossary, I also feature three diagrams (Figures 1–3) and eight maps (Figures 4–11) that provide important contextual information for the entire thesis. Like the glossary, readers might decide to consult them now and/or come back to them later.

Abutment

Fr, *culée*. A solid structure, usually a pier or a wall, which provides support to an arch, bridge, or vault. It enables the loads from the structure to be transmitted to the foundations.

Aménagement urbain

Expression to describe the ‘rational’ management of cities, and space more generally (*aménagement du territoire*). The concept that appeared formally in 1949, coined by Eugène Claudius-Petit, is linked to national ‘plans,’ and as such is best translated to as ‘urban planning.’ Without going into details, one could say there are two traditions of ‘city making’ in French professional culture, design-led *urbanisme* traditionally carried out by architects, versus *aménagement du territoire* carried out by engineers, economists, or policy-makers and inspired by economic and regional planning, and political science (Claude 2006). As we will see in this thesis, during the construction of the ring road, the Préfecture de la Seine had a Department for *urbanisme* and an overarching General department for *aménagement urbain*.

See also: Department for urbanism; General department for urban planning.

Antonomasia

In French, unique organisations whose authority span the whole national territory are written with an uppercase: e.g., *les Archives Nationales*, *l’Administration*, *le Conseil des ministres*, *le Gouvernement*. Multiple organisations that have local branches or local iterations are meant to be written with a lowercase, e.g., *le conseil municipal*, *la préfecture de police* (Imprimerie nationale 2002, 132–33). Functions and title are usually written in lowercase (*le préfet*, *le*

président de la République) but according to the Government's styleguide, when referred to on its own (i.e., without *de police de Paris*), one writes *le Préfet* with an uppercase (Gouvernement, n.d.). As we will see in this thesis, there was also a tendency in the 1950s-1970s to rely generously on antonomasia (or reversed antonomasia), i.e., to (ab)use uppercase letters as emphasis: *le Bruit* ('noise'), *l'Architecte* ('architect'), *l'Autorité Publique* ('public authority'), *la Sagesse* ('wisdom'). They followed no rules but seem to be an affected mimicking of Latin and Ancient Greek. On the other hand, to refer to *l'Administration* was then very common, and did follow typographical rules that remain in place today (but has fallen into disuse). It does hint on the perception civil servants had of their professional duties, as they widely referred to themselves and their action as *l'Administration*—i.e., one body spanning the entire territory, despite dealing with local urban planning.

Arrondissement

An administrative district in large French cities. Paris has twenty arrondissements even though the 1st, 2nd, 3rd and 4th have merged their administrations in 2020. 'Arrondissement,' though specifically French, has an entry in the *Oxford dictionary*. It will therefore be written without italics in this thesis.

Banlieue

French word for 'suburb.' It is difficult to convey the cultural load associated with the word *banlieue*. Its sheer fame in the English-speaking world is a testimony to the peculiarity of this word (*Vorort* [German], *periferia* [Italian], or *afueras* [Spanish] do not have entries in the *Oxford Dictionary of English*, for instance). Etymologically, the *banlieue* is the territory under the yoke of a lord, and by extension it became the territory outside the city walls under the influence—formal or imaginary—of a city proper. In Paris, formally and culturally, all that lies beyond the ring road whose path espouses the administrative limits of Paris is *la banlieue*. In general language it is often used with negative connotations, as it is associated with prejudice towards low-income and/or ethnic minority populations living in social housing estates. But since the 1980s it has also been reclaimed by residents, artists, politicians of the *banlieues*—often structural victims of spatial, political, ethno-racial, cultural segregation(s)—as a key element of their identity and often associated with immigrant, religious and class identities. The expression *de l'autre côté du périph* ('on the other side of the ring road') is a commonplace spatial metaphor. In the archives I study in this doctoral thesis, engineers of the Department for roads refer to *côté Paris* ('Paris's side') and *côté banlieue* ('banlieue's side'). The word *banlieue* and the identity that is attached to it is rarely claimed and/or applied to the many wealthy suburbs that surround Paris, especially west of the capital city.

See also: Porte de Paris.

Boulevard des Maréchaux	The <i>Boulevard Militaire</i> ('military boulevard') or <i>Boulevard des Maréchaux</i> ('boulevard of the marshals'), written as a singular or a plural, is the continuous succession of boulevards that run all around Paris, in place of the access road to the former fortifications. They were initially all named after marshals of the First Empire. In the same manner as 'Boulevard Périphérique,' I have exceptionally kept its name in French throughout the thesis, with capital 'B' and 'M' as it is not a common thoroughfare.
Boulevard Périphérique	En, ring road. A common noun in French—Lyon has a <i>boulevard périphérique</i> —that should be written with lowercase 'b' and 'p.' Yet it has been common practice in administrative documentation to refer to ' <i>le Boulevard Périphérique</i> ,' denoting how special and unique this infrastructure is. Like for the Boulevard des Maréchaux, I will use the name Boulevard Périphérique without italics throughout this thesis, as a proper noun.
<i>Ceinture rouge</i>	En, 'red belt,' also <i>banlieue rouge</i> , 'red suburbs.' In the municipal elections of 1919 and 1924, the communists won several mayoral elections in cities of the suburbs all around Paris. The image of revolutionary working classes surrounding the bourgeois City of Paris was formed then. Only 28 'red' cities remain after the municipal elections of 2020, continuing a constant decline of communism's presence since the 1980s.
Council of Paris	Fr, <i>conseil de Paris</i> . Composed of the Paris councillors, it was until the two entities were formally merged in 2019, both the <i>conseil général du département de Paris</i> (i.e., the elected assembly of a <i>département</i>) and the <i>conseil municipal de la ville de Paris</i> (municipal council for the City of Paris). The role of councillors remained very limited until the reform of the status of Paris effective from 1977. In this thesis, I analyse how they acted to influence the route and design of the ring road. <i>See also:</i> 3 rd Commission; <i>département</i> .
Cover	Fr, <i>couverture</i> . Adding a deck or a cover to a road built in open trench.
Corps	In France, civil servants are organised in corps that have specific duties, status, salaries. E.g., prefects are part of the prefectural corps, university professors belong to another, etc. Engineers of the corps des Ponts et Chaussées are part of an eponymous corps, replaced in 2009 by the corps des Ingénieurs des Ponts, des Eaux et des Forêts (IPEF, 'corps of bridges, water and forest engineers'). In French administrative culture we also find <i>grand corps</i> . They have no formal

definition, but they are associated with an increased prestige. They are usually linked to specific *grandes écoles* ('great schools') like the École nationale d'administration (ENA, the National school for public administration), the École polytechnique or the Écoles normales supérieures that are highly selective schools respectively (formally) training civil servants in public administration, engineering and educators. Graduates of the *grandes écoles* often join *grands corps* and—logically—occupy senior roles in civil service, but they are also well represented in politics (e.g., five out of eight presidents of the Republic since 1958 belonged to a *grand corps*) and the private sector: half of the executives at the top of the corporations listed in CAC 40 benchmark French stock market index have graduated from ENA or École polytechnique (Chikh 2013). For sociologist Jean-Claude Thoenig (1973), the success of the *grand corps* is about camaraderie and solidarity among members of a single corps, and from a *grand corps* to another, to a point that it creates a caste, an elite, an establishment *à la française*.

See also: '2.1 Technocratic ideals of urban planning in post-war France'

Cumul des mandats

Literally translated as 'mandates hoarding.' An idiomatic translation could be 'dual mandate'—but there are often more than two—or 'multiple mandate holding.' Until its strict limitation with the law n°2014-125 of 14 February 2014, it was common practice for French politicians to hold several political mandates at one time. For instance, in 1986 Jacques Chirac was Mayor of Paris (1977–1995); prime minister of France (1986–1988) and councillor in Corrèze, a rural *département* close to Limoges (1968–1988), as well as holding other non-elected positions such as head of the majority political party. It was a political tactic—e.g., Mr Dupont (a fictitious character) being at one-time a Member of European Parliament (MEP) *and* a Member of French Parliament (MP) *and* the mayor of a mid-sized town was a way to build national stature while demonstrating one's commitment to one's 'roots'—may they be genuine or fabricated. It was also a source of confusion and corruption—e.g., when the assistant to MEP Dupont paid by the European Union was also the chauffeur of Mayor Dupont in a company car paid for by the French Parliament for MP Dupont. In Paris especially, it carried (then and today still) a significant weight as the local and national scenes were deeply intertwined. Local politicians also often led or aspired to careers at the national level, e.g., in the last presidential elections of 2022, Mayor of Paris Anne Hidalgo was candidate for the Socialist party and president of Région Île-de-France Valérie Pécresse candidate for conservative party Les Républicains.

Deck

Fr, *tablier*. An outdoor platform, usually constructed above the ground, e.g., the deck of a bridge.

<i>Département</i>	Administrative entities created by the French Revolution. As of 2020 there are 101 <i>départements</i> in France. <i>Départements</i> are both local authorities (with an elected assembly and a president) and a territorial subdivision of the State (headed by a prefect). To avoid the confusion with ‘department,’ I will use the French word in italics throughout the thesis to refer to <i>département</i> , unless to write an entity’s full name: Département de la Seine-Saint-Denis, for instance.
Department for roads	Fr, <i>Direction de la voirie</i> , also referred to as <i>Direction de la voirie parisienne</i> , and today <i>Direction de la voirie et des déplacements</i> . The Department for roads is the administrative service at the Préfecture de la Seine and then the City of Paris in charge of designing and supervising the construction of the ring road. It is today in charge of its maintenance and retrofitting.
Department for urbanism	Fr, <i>Direction de l’urbanisme</i> . In charge of housing, urban design, and architecture at the Préfecture de la Seine and then at the City of Paris. <i>See also: aménagement urbain.</i>
Department for youth and sports	Fr, <i>Direction de la Jeunesse et des Sports</i> , also referred to as <i>Direction des Beaux Arts, de la Jeunesse et des Sports</i> (‘Department for the arts, youth and sports’). The department oversees young Parisians and sports. It was a key actor on the green belt of Paris, meant to be an annular space of playgrounds, sports grounds, and parks.
Easement	Fr, <i>servitude</i> . Legal term that refers to a rule attached to a property or a piece of land. I refer often in this thesis to the Zone surrounding Paris, an area where it was forbidden to build (<i>non aedificandi</i>), under military easement. <i>See also: Zone.</i>
Embankment	Fr, <i>en remblais</i> . A compacted earth structure, which is typically trapezium in cross-section, used to carry an elevated road or railway.
General department for technical services	Fr, <i>Direction générale des services techniques</i> . The overarching service in charge of all technical matters in a local authority, headed by a director. In Paris (Seine prefecture then City of Paris), it was renamed <i>Direction Générale de l’aménagement urbain</i> (General department for urban planning) in 1968. <i>See also: aménagement urbain.</i>
General department for urban planning	<i>See: General department for technical services.</i>

Open cut	Or trench. Fr, <i>tranchée ouverte</i> . To create a cutting by removing soil and rock in order to build a road (or canal, or railway) without following the difference in height in a terrain.
Paris (City of)	<i>See</i> : tutelage.
<i>Portes de Paris</i>	<p>En, ‘city gates of Paris.’ Paris has been bounded by a succession of military-cum-administrative walls from the 4th until the early 20th centuries. Since the 18th century, the tolls to pay the excise duty on goods brought into the city were located at the <i>portes de Paris</i>. With the removal of the Thiers wall after 1919, the city gates were physically removed but the collection of octroi was only abrogated in 1943. A light wall and formal entry points had been retained until then. Today, the interchanges that connect the ring road to the local road networks of Paris and the adjacent suburban towns are still referred to formally and colloquially as <i>portes</i>, maintaining in speech and practice the memory of the city gates and the divide between Paris proper and banlieue. In colloquial and formal French, Paris proper is still referred to today as Paris <i>intra-muros</i>, ‘within the wall.’</p> <p><i>See also</i>: banlieue; Zone.</p>
Prefect	<p>A <i>préfecture</i> (‘prefecture’) describes the jurisdiction and the administrative services headed by a <i>préfet</i> (‘prefect’). The prefect is appointed by the State (by decree signed by the president of the Republic following a proposal by the prime minister) and is in charge of the general and territorial administration of the State. In a nutshell, the prefect is the regional/local representative of the State and takes their order from the Government. Among other duties, the prefect is in charge of public security and policing, of checking the legality of acts passed by local authorities, and of implementing national policy locally. The City of Paris and the prefects there have a special status. There were historically two prefects for Paris: the prefect of the Seine and the prefect of police for Paris. The prefect of police is a function specific to Paris, in charge of policing, public order and other matters of security. This function has existed continuously since 1800. The prefect of the Seine was the prefect of the Département de la Seine. The function and the <i>département</i> have existed from 1800 until its reorganisation with the law n°64-707 of 10 July 1964, effective from 1966. The most famous prefect of the Seine was arguably Georges Eugène Haussmann (1853–1870). In 1966, the prefect of the Seine became prefect of Paris, the title of prefect of the Seine disappeared together with the eponymous <i>département</i>. From 1966 until the reform of Paris’s status with the law n°75-1331 of 31 December 1975, effective in 1977, there were a prefect for Paris (and a prefect of police) and a prefect for the newly created Parisian region. With the instauration of a Mayor of Paris, the prefect of Paris lost its role as chief</p>

executive for the City of Paris. In 1977, the function of prefect of Paris was merged with the function of regional prefect. Today the prefect of Paris is also prefect of the Région Île-de-France.

See also: Seine (prefecture of the); tutelage.

Seine (prefecture of the)

The Département de la Seine was an administrative entity created in 1790 and abrogated by the law n°64-707 of 10 July 1964 effective from 1 January 1968. It was headed from 1800 until 1966 by the prefect of the Seine. Upon its abrogation, the local authorities that composed the *département* de la Seine were reorganised into four *départements*: Paris (code 75), Hauts-de-Seine (92), Seine-Saint-Denis (93), and Val-de-Marne (94). The *département* Seine-et-Oise that surrounded the Seine was also abrogated in 1968 and reorganised into Essonne (91), Yvelines (78) and Val-d’Oise (95).

See also: prefect; tutelage.

Tutelage

From 1800 until 1977 (law 57-1331 of 31 December 1975), Paris was under the tutelage (*tutelle préfectorale*) of the State by way of the prefect (of the Seine 1800–1966; of Paris 1966–1977) and the prefect of police. The governing of the city was done by the prefects and their administration. This tutelage is widely understood by historians as a way to limit and control the rebellious people of Paris and the power of the political leader of the city (i.e., the mayor), Paris being also the capital city of the country and the locations of the National Parliament, the Head of State and the Government. The role of the Council of Paris would evolve during the 177 years of tutelage but remained extremely limited in comparison to other municipal councils as we will see in this thesis. In 1977, Parisians elected their mayor by direct universal suffrage for the first time. From then on, the mayor assumed the role of head of the executive for the City of Paris. Until January 2019 Paris was at the same time city (*commune*) and *département*. Both entities were merged in 2019 to become, as per article 72 of the Constitution, *collectivité à statut particulier* (‘local authority with special status’) formally known as Ville de Paris (City of Paris).

Viaduct

Fr, *viaduc*. A bridge carrying a road or railway.

Zone

A 250-metre strip of land that stood outside the fortifications of Paris from 1844 until 1973. Under military easement, it was theoretically forbidden to build on this zone (*area non aedificandi*) but informal housing, then light industries, as well as cafés, theatres, etc. progressively appeared. It became a key space in the cultural and physical landscape of the city, so much so that it would be referred to as *la Zone* (definite article and uppercase to denote a proper noun) and its memory lives on—e.g., in French language *zoner* means ‘to doss

around.’ It was cleared off by the Vichy regime in 1940–1944 and the ring road would be largely built on the Zone.

See also: easement; *Porte de Paris*.

3rd Commission

The Council of Paris has several commissions (the number has changed over time, but the system has been in place for centuries) where appointed councillors are in charge of specific themes. They are working ahead of the introduction of an issue to the Council, in order to provide support to the councillors. In the 1960s, the 3rd Commission was in charge of ‘*voirie de Paris et des travaux affectant la voie publique*’ (‘roads and all works taking place on streets’) and in 1971 was renamed ‘*commission de la voirie, de l’urbanisme et de l’environnement*’ (‘commission for roads, urbanism and environment’). It has been a key stakeholder in the municipal council regarding the ring road.

List of acronyms

APUR	<i>Atelier parisien d'urbanisme</i> The municipal organisation in charge of urban planning research for the Mayor of Paris
BHdV	<i>Bibliothèque administrative de l'Hôtel de Ville de Paris</i> Administrative library at Paris city hall
BNF	<i>Bibliothèque nationale de France</i> French national library
CARP	<i>Comité d'aménagement de la région parisienne</i> Committee for the urban planning of the Paris region
CMP	<i>Compagnie du chemin de fer métropolitain</i> Parisian public transport company, merged with other companies to become RATP in 1949
CNAP	<i>Centre national des arts plastiques</i> National centre for fine arts
CNL	<i>Confédération nationale des locataires</i> National confederation of tenants
CSAORP	<i>Comité supérieur d'aménagement et d'organisation générale de la région parisienne</i> Higher committee for planning and general organisation of the Paris region
CSTB	<i>Comité scientifique et technique du bâtiment</i> The French national organisation providing research, training, testing, and certification services for the construction industry
DATAR	<i>Délégation à l'aménagement du territoire et à l'action régionale</i> Agency for urban planning and regional planning policy of the French national government
DVD	<i>Direction de la voirie et des déplacements (Ville de Paris)</i> Department for roads and mobility (City of Paris)
ENA	<i>École nationale d'administration</i> National school for public administration
HEC	<i>École des hautes études commerciales de Paris</i> Business school of Paris

FFPOS	<i>Fédération française du personnel des organismes sociaux</i> French federation of social security personnel
GPRU	<i>Grands projets de renouvellement urbains</i> Major urban renewal schemes delivered in Paris (initiated in 2002)
HBM	<i>Habitations à bon marché</i> Affordably-priced rental housing units Former name for HLM
HLM	<i>Habitations à loyers modérés</i> Social rental housing units
IPEF	<i>Ingénieurs des Ponts, des Eaux et des Forêts.</i> Engineer for bridges, waters and forests New corps that replaced the corps des Ponts et Chaussées in 2009
OPHBMVP	<i>Office public d'habitations à bon marché de la Ville de Paris</i> Social housing provider for the City of Paris
PAEE	<i>Plan d'aménagement, d'embellissement et d'extension</i> Planning document for embellishment and expansion
PARP	<i>Plan d'aménagement de la région parisienne</i> Urban planning document for the Parisian region Also known as 'Plan Prost'
PCF	<i>Parti communiste français</i> French Communist party
PS	<i>Parti socialiste</i> Socialist party
RATP	<i>Régie autonome des transports parisiens</i> Public company in charge of Paris's public transport
RIVP	<i>Régie immobilière de la Ville de Paris</i> Public housing agency majority-owned by the City of Paris
RIBA	Royal Institute of British Architects
SAGI	<i>Société anonyme de gestion immobilière</i> Housing provider and real estate developer with a minority ownership held by the City of Paris and a majority ownership by private capital

SFIC	<i>Section française de l'internationale communiste</i> French Section of the Communist International French Socialist party (PS) from 1969
SFIO	<i>Section française de l'Internationale ouvrière</i> French Section of the Workers' International French Communist party (PCF) from 1943
SNCF	<i>Société nationale des chemins de fer</i> French public railway company
SRE	<i>Service regional de l'équipement (Région Île-de-France)</i> Regional service for infrastructure
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter 1 Introduction

It is an ugly wall built in a rush, where the fresh mortar has drooled over the bare breeze blocks. On the branded hard hats of the construction workers, a stylised sun rising over the brightest blue skies. On normal days, they are posted on the Grand Paris Express building sites, the major expansion of the regional railway network for the Paris region. But today they have sealed off a foot tunnel under the Boulevard Périphérique, surrounded by police officers in bulletproof vests, with guns in holsters that they wear high on their thighs. In the early hours of that same day, Friday 24 September 2021, the police had cleared the surroundings of Rue Riquet in the 18th arrondissement of Paris of a population of crack users that had settled down there. They were rounded up and bused to a tiny garden right by the ring road, at Porte de la Villette. The story has repeated itself over the years. Before Rue Riquet, they camped out in slum-like conditions at Porte de la Chapelle, on the *colline du crack* ('crack hill') until its dismantlement by the police at the end of 2019 (Cadet-Taïrou et al. 2021).

The prefect of police of Paris, Dider Lallement, explained the choice of Porte de la Villette saying there were 'no neighbours in the immediate vicinity'^{1,1} of the park (Préfecture de Police [@prefpolice] 2021). It is true there are very few immediate neighbours on Paris's side. And yet, the first residential buildings are a mere three-minute walk from the makeshift camp, but located in the suburban towns of Pantin and Aubervilliers, in the *département* of Seine-Saint-Denis. Residents cannot see the camp from their windows—what they see is the ring road viaduct—nor hear the cries at night—they are already deafened by the constant sound of traffic. But they have had to bear the public health and public safety burden of their new Parisian neighbours.

What has angered residents of the newly-nicknamed *quartier de la défoncé* (the 'get-stoned district,' a paronomasia referring to the business district of La Défense, west of Paris) and their elected officials was not only the moving in their neighbourhood of people struggling with a drug addiction in an open-air camp with no infrastructure to host and help them, but also the total absence of consultation

¹ All original texts in French are available in Appendix 3.

or even advanced warning by the prefect of Paris, and the extra insult of a double wall erected on the same day, to provide an ‘indispensable protection to inhabitants of Pantin,’ according to the prefect (Cosnard 2021c) (Figure 12). Until September 2021, a pedestrian crossing under the ring road connected Pantin to Paris and Paris to Pantin, as it continued the Rue Berthier that was severed in 1964 to make way for the motorway. The abrupt sealing off, on both sides, has been interpreted by many as a stark display of Paris disdain for the inhabitants of Seine-Saint-Denis. And for their elected officials, it was an insult to their democratic legitimacy. As for the Mayor of Paris, Anne Hidalgo, she had indeed called upon the government to act and clear Rue Riquet (Hélaine 2021), but she declared being unaware of the evacuation and eventually criticised the mere spatial displacement of the problem, as well as the absence of a perennial solution (*Le Monde* 2021). Commentators, officials, and residents denounced the decision of the prefect to move the group of crack users to one of France’s poorest neighbourhoods for no valid reason, instead of picking more appropriate sites in the south or the more affluent west of Paris.² Also, the appreciation of the space of Porte de la Villette is typical of a certain simplistic (or hypocritical) administrative bird’s-eye view’s understanding of Paris and its boundaries: the blocking of the foot tunnel under the ring road does very little to protect the inhabitants of Pantin. One needs to walk but 50 metres to the Place Auguste Baron, then continue around the piles of the ring road viaduct, walk past the Portuguese market of La Villette to arrive in Pantin, surrounded by housing, cafés, chemists, nurseries, schools, libraries, etc. The wall is stronger as a symbol than a protective measure.

Within days, the ‘crack wall’ or ‘wall of shame’ as it has been dubbed, was covered with graffiti, and a demonstration was organised by Seine-Saint-Denis’s elected officials—to no avail. In January 2022, a project to move drug users again, but this time to a brownfield site owned by the Société nationale des chemins de fer (SNCF, the French public railway company) in the much more bourgeois 12th arrondissement of Paris was almost immediately dropped after Parisian councillors from all parties, consulted in advance, protested vehemently (Cosnard 2022a).

² The neighbourhoods in Pantin and Aubervilliers that are right next to the park are among Région Île-de-France’s 5 per cent poorest, and France’s 10 per cent poorest (Institut national de la statistique et des études économiques 2022a).

There is another side to that story. One that has emerged from archives I had consulted earlier that year, months before this episode of technocratic *fait accompli*. In March 1953, the Council of Paris granted a lease to the City of Pantin to enable them to build the Square³ Jean Jaurès on the Porte de la Villette. Earmarked to receive the ring road, the precarious nature of the lease was specifically mentioned and was regularly reminded to the Mayor of Pantin by the prefecture of the Seine (2276W 241, 55–56).⁴ The garden seems to have been a popular spot for the population of Pantin and the city's only green space then (2276W 241, 15–30). When the Council of Paris voted the funding to build the section of the ring road that would go via Porte de la Villette on 30 November 1959, and the Mayor of Pantin received a notification to clear the park by January 1961 to make way for the construction, he protested and tried to retain the park Jean Jaurès asking for modification of the ring road design. He failed in his endeavour, and in 1964 the *square* was destroyed. But in exchange for the 2-hectare park, the prefect promised to replace it with a smaller one of 1.4 hectares, the Square de la Porte de la Villette, and to build a foot tunnel to allow an easy access from Pantin to the *square* on the south side of the ring road. This space was, so to speak, a leftover, as the ring road path made a curve over Porte de la Villette. When the prefect of police of Paris, acting on order from the minister of the Interior, Gérard Darmanin, decided in 2021 to make the tiny park of Porte de la Villette an open-air camp for a population suffering from crack addiction and sealed off the foot tunnel between Pantin and the park, it was thus the second time that the central State had robbed inhabitants of Pantin of a park meant for them.

The above-mentioned event that took place a few months before the completion of this thesis struck me as tragically representative of the tangled elements that are key to understand the ring road of Paris, from its inception until today. The stakeholders, the temporal and spatial scales, the social imagination that it mobilised illustrate how the Boulevard Périphérique is an infrastructure that cannot

³ A *square* in French is a small public park.

⁴ I have devised a referencing system for the archives I exploit in this doctoral thesis: it is made of the call numbers of each item, and the page number of the PDF that I have compiled. For instance, 2276W 288, 65 is the fonds 2276W, box 288 and page 65 in my PDF. See 'Working with archives: composition of the 2276W fonds, research methods and analysis of administrative correspondence.'

be approached in silos. In this instance, the prefect's decision cannot be understood without taking into account his culture of policing and the role he seeks to assume in regards to public health of course, but also his perception of the ring road as a landscape, his prejudice towards the inhabitants of Seine-Saint-Denis, his understanding of the urban design of Porte de la Villette, his (dis)respect for local mayors and their democratic legitimacy, but also the complex layering of government at a local scale,⁵ the history of the green and red belts and the technical design of the ring road. And when I say 'his,' I refer to the prejudice he holds as an individual *and* a civil servant, the last in a long line of prefects to rule over Paris.⁶

In this example, the ring road can be understood as both landscape and infrastructure, two key terms that I will situate in the next chapter. One could almost say it is the setting for a tragedy: addicted drug users and their policing by civil servants. The political component is transparent, with a direct intervention from the minister of the Interior. Yet, this large-scale urban infrastructure is more than a setting, it is also a stakeholder in this process. The resuscitation of the memory of Square Jean Jaurès is a brief illustration of this intricacy. To understand the scope of what is at stake regarding any decisions that relates to the ring road of Paris today—from a police operation to an ambitious urban planning programme like the covering of a section of the motorway—one needs to position the design, construction and retrofitting of the ring road in its historical context. This was the starting point of this doctoral research: how to study the 'design entanglements' that the Boulevard Périphérique constitute across space and time as one artefact. The second interrogation that animated this doctoral research is the lack of existing critical research on the ring road—this omnipresence in Paris's landscape has hardly been researched: how was the ring road designed?

In this introductory chapter, I first detail the gap in literature regarding the ring road before introducing the research questions and the conceptual framework devised to answer them in this thesis.

⁵ French policy makers and academics have dubbed the complex layering of local, regional, national (and European) governments the *millefeuille territorial*, after the pastry allegedly made of a thousand layers.

⁶ See entry 'Tutelage' in the glossary.

I then briefly introduce my methodology and the sources I have analysed, before reflecting on my position of researcher.

1.1 *Researching the ring road: identifying a gap in the literature*

To use a French expression, the ring road of Paris *fait partie du paysage*, it is ‘part of the landscape.’⁷ It sits there, unacknowledged, unrecognised. Every Parisian, every inhabitant of the suburbs, any visitor will have had some relationship to this infrastructure, an opinion, an experience, an image. It might be a fantasy, it might be a prejudice, it might be the physical experience of crossing it on foot twice a day or driving on it once in a while, or it might be the long-term intimate relationship of living in a flat with windows overlooking the busy motorway. Built between 1956 and 1973, 35-kilometre-long and one of Europe’s busiest roads (Calvet 2019), it is among the most omnipresent pieces of road infrastructure in Paris, by virtue of its sheer size coupled with the preponderant role it occupies in Paris’s cultural landscape. But there has been an extremely limited number of studies that have engaged with this mammoth artefact of the Greater Paris.

In 1991, Jean-Louis Cohen and André Lortie published *Des fortifs au périph*,⁸ as a companion to an eponymous exhibition held at the Pavillon de l’Arsenal⁹ that same year. It remains the most complete and comprehensive work dedicated to *les seuils de la ville* (‘the threshold of Paris,’ the subtitle of Cohen and Lortie’s book). The book and exhibition were the public-facing results of a three-year research project funded by the ministère de l’Équipement, du Logement, des Transports et de la Mer (‘Ministry for Infrastructure, Housing, Transport and the Sea’) and entrusted to the Paris-Villemin School of Architecture where Jean-Louis Cohen held a research professorship (1983–1996; Cohen was also head of research from 1979–1983 at the Ministry for Infrastructure). The final report was co-

⁷ The expression in French implies both a passive presence and a sense of belonging. It could be translated by: ‘it is an everyday feature of the landscape’ and/or ‘it belongs to the landscape.’

⁸ *Fortif*, slang for ‘fortifications’ as a reference to the Thiers wall, the last military fortifications of Paris (1841–1932). A historical introduction to the ring road’s construction is proposed in ‘Chapter 4 The ring before the road: historical context to the construction of the ring road (1841–1943) and initial building steps (1943–1959),’ *Périef*, Parisian slang for Boulevard Périphérique.

⁹ The Pavillon de l’Arsenal is the Paris municipal centre for architecture and urbanism created in December 1989.

authored by Cohen and Lortie (1989) whilst previous interim reports also listed Rémi Baudouï as co-author (Baudouï, Cohen, and Lortie 1988). In May 2021, an expanded re-edition of the long sold-out catalogue was released. It reproduced most of the initial text, with an additional chapter (in fact the conclusion chapter of 1991 significantly expanded to include the many developments that took place in the last thirty years). The new foreword by Emmanuel Grégoire, First Deputy Mayor of Paris in charge of urban planning and the Greater Paris, concludes that, despite its role in history, the Boulevard Périphérique would soon become ‘invisible.’ In their own foreword to the re-edition, Cohen and Lortie write that their initial research project, exhibition, and publication:

have contributed to a profound renewal of the perception and comprehension of the role of the 1860 boundary, moved in 1919, in the *grand-parisienne* metropolitan organisation. ... The current volume reproduces most of the 1991 book, not that it cannot be challenged, but precisely because it constitutes a milestone not only in the historical narratives on the fortifications and the zone, but also in the public policy for these territories it has inspired and stimulated (Cohen and Lortie 2020, 7).ⁱⁱ

Yet, the Boulevard Périphérique is but a section within their book of eight chapters. Outside of Cohen and Lortie’s, there has been very little works that meaningfully engaged with the Boulevard Périphérique. Among the most significant, those of Matthieu Flonneau who wrote his doctoral thesis on the emergence of automobile in Paris from 1910–1977 (2002; published in 2003). Yet his work, often touching on the Boulevard Périphérique, includes this specific infrastructure only as part of a larger analysis of regional road networks and the role of automobile in the Paris region in the 20th century. Among the most significant recent contributions touching on the topic of the Boulevard Périphérique, a paper by Nathalie Roseau (2018)—recently expanded as part of her book *Le Futur des métropoles* (‘The future of metropolises,’ Roseau 2022)—stands out. In her book, she analyses the metropolitan constructions of New York City, Paris and Tokyo, by way of selected infrastructures that act as ‘seismographs’ revealing the scales and temporalities of these cities. In her chapter on Paris, she studies in parallel the ring road of Paris (inaugurated in 1973) and Orly airport (inaugurated in 1974). Her research is based on secondary sources—press clips, grey literature, and scientific literature—and offers an original critical interpretation of the role the ring road played as a vehicle of modernity and a regional infrastructure. Finally, I would also mention the ongoing doctoral research in architecture of

Marion Emery (2019) on the popular resistance to urban motorways in Paris, London and San Francisco at the university of Paris-Est.

Except for historian Flonneau, architects, engineers, and urban designers have dominated the scholarly discourse and research on the Boulevard Périphérique. Besides Cohen and Lortie (architectural historians), and Roseau (a trained architect and engineer now urban studies scholar), there have been several interesting contributions over the years from practicing architects and intellectuals, reflecting on the role and positioning of the Boulevard Périphérique within the Grand Paris. The most refined of such approach is certainly that of the 13-strong collective Tomato (2003), two of which—Pierre Alain Trévelo and Antoine Viger-Kohler—founded architecture practice TVK and curated the exhibition and book *No Limit* (TVK 2008) dedicated to the ‘insertion’ of the Boulevard Périphérique in the landscape of Greater Paris. The vernissage of the exhibition and release of the eponymous publication, commissioned in 2006 by the City of Paris and the Région Île-de-France, took place just a year before President Sarkozy announced the international competition on the Greater Paris (Enright 2016). If Cohen and Lortie’s 1991 book is widely considered a milestone in the scholarly and collective understanding of the edges of Paris, as the authors themselves point out, the exhibition *No Limit* was certainly another key event in the contemporary approach to the ring road. For TVK, the space of the ring road should not be understood as the edges of Paris proper, but as a fundamental infrastructure in the middle of Greater Paris and an urban space in its own right, instead of a leftover.

The Atelier parisien d’urbanisme (APUR, i.e., the municipal organisation in charge of urban planning research for the Mayor of Paris) also conducted several studies of importance since the 2000s (APUR 2001a; 2001b; 2004a; 2004b; 2005; 2014; 2015; 2018) to accompany major urban projects such as the covering of Porte des Lilas (20th arrondissement) and Porte de Vanves (14th arrondissement), as well as the general momentum to rethink the edges of Paris as underused space, as interface with the suburbs and as part of the Greater Paris. As the research body of the Mayor of Paris, the APUR has also played an essential role in the recent consultation on the future of the Boulevard Périphérique (APUR 2019a; 2019b; 2020a; 2021; APUR, L’Institut Paris Région, and Forum Métropolitain du Grand Paris 2019) that materialised in a white paper calling to turn the ring road into a ‘new green belt’ for Paris

(APUR 2022a; 2022b). An international consultation on the future of the roads of the Greater Paris also led to an exhibition of the concepts, renderings, models and maps at the Pavillon de l’Arsenal in 2019 and a publication to accompany the exhibition, with some notable historical essays by scholars Matthieu Mercuriali and Virginie Picon-Lefebvre (2019; Mercuriali 2019a; 2019b).

When it comes to architecture and urban planning, there has been a momentum by public and private sector actors since the early 2000s to develop projects that have engaged with the edges of Paris not as a leftover but as a connecting space between Paris and banlieue. To significant engineering and urban planning projects, like the covers mentioned above, one can add the redesign of Porte Pouchet (TVK and MG/AU, 2008–2021), Porte de Montreuil (TVK, 2017–2026), the urban renewal programme (GPRU, Grand projet de renouvellement urbain) Montmartre-Clignancourt-Poissonniers that encompassed four *portes* in the 17th and 18th arrondissement. As well as new skyscrapers right by the ring road: the Tours Duo (2017–2022, 180 and 122 metres) by Jean Nouvel at Porte de Vitry (13th arrondissement), the Judicial Court of Paris at Porte de Clichy in the 17th arrondissement (Renzo Piano, 2014–2018, 150-metre high), and the future Tour Triangle (2022–2026) by Herzog and De Meuron (180 metres) at Porte de Versailles (15th arrondissement) to name but a few iconic examples.

The Boulevard Périphérique is of course omnipresent in the historical literature on Paris. There is not a piece of writing on Paris—Paris in relation to the banlieue, Paris and its roads, Paris and its edges—that does not mention the Boulevard Périphérique in passing, but always to repeat the same unchallenged commonplaces turned clichés: that the ring road is a fortification, a border, a moat, a wall, a myth, etc. For instance, sociologists Michel Pinçon and Monique Pinçon-Charlot in their books *Les ghettos du gotta* (‘Ghettos of the establishment,’ 2007) and *Sociologie de Paris* (‘Sociology of Paris,’ 2014) dedicate several pages to the ring road as an illustration of wealthy Parisians’ capacity to ‘defend their spaces.’ But they do not offer original research on this issue, they mainly repeat an intuition, an element of Parisian lore. As part of this doctoral thesis, I tested Pinçon and Pinçon-Charlot’s narrative, that remains merely a hypothesis at this stage (see ‘Chapter 7 Covering the ring road’). Altogether, there remains a clear gap in the literature on the Boulevard Périphérique. Outside of urban design/architectural studies and competitions—all commissioned by the State, and/or the City of Paris,

and/or the Région Île-de-France—there has been no major piece of scholarly research entirely dedicated to the Boulevard Périphérique of Paris. There is no comprehensive historical study of this infrastructure, nor research that would combine historical, sociological and political perspectives as I do in this doctoral thesis. We do not know how this infrastructure was imagined and designed; we have no study of the politics of the design of the ring road; we have no critical analysis of the engineering processes that determined the ring road’s shape and route; we have no study that focused on the civil servants (engineers of the Ponts et Chaussées; prefects) who designed it; we have no study of the reaction of local inhabitants to the construction of the ring road. In brief, we have no research to challenge critically—may it be to confirm, refute, refine—the commonplaces and clichés on the Boulevard Périphérique of Paris.

And yet, a momentum exists. There exists a rich and constantly growing literature on the urban planning history of the Paris region: the Grand Paris bonanza launched in the second half of the 2000s by municipalities and the national Government, key anniversaries (such as the 150 years of the annexation of 1860,¹⁰ and the 100 years of the report of 1913 on the expansion of Paris and the law of 1919 to remove the Thiers wall), the declassification of some archives, and evolution in scholarship, have fuelled research on the fortifications (Charvet 2005; 2012; Moret 2012), the annexation of 1860 (Montel 2000; Fourcaut and Bourillon 2012; Gaudillère 2012; Demeulenaere-Douyère 2012), the Zone (Fernandez 1983; Backouche 2012; Cannon 2015; Olivera 2015; Granier 2017; Beauchez and Zeneidi 2019; Beauchez 2022), the red belt (Fourcaut 1992; Bacqué and Fol 1997; Bellanger 2013; 2017; 2020), civil servants in Paris and the suburbs (Bellanger 2001; Bellanger, Girault, and Association Histoire et mémoire ouvrière en Seine-Saint-Denis 2008), the relationship Paris-banlieue (Fourcaut 1988; Fourcaut, Bellanger, and Flonneau 2007; Désabres 2012; Bellanger 2012; Fourcaut 2012), to name but a few topics and references. Among the most ambitious ongoing research endeavour, the project *Inventer le Grand Paris* (‘Invent the Greater Paris’), a multi-disciplinary, multi-institutional initiative

¹⁰ See ‘4.1.2 The Zone *non aedificandi* and the annexation of 1860.’

launched in 2012, is leading on these issues through regular seminars, colloquia and publications.¹¹ This doctoral thesis will contribute to this body of work by focusing solely on the Boulevard Périphérique.

1.2 *Conceptual framework, research questions and methodology*

The theoretical ambition of this doctoral thesis is to take apart the idea of the *technical* in relation to the construction of the Boulevard Périphérique. I do so by identifying the social, cultural and political inputs that make up this complex infrastructure. The ring road is both a road infrastructure (i.e., a technical artefact designed by engineers) and a production of the Parisian technocracy (i.e., of a political government driven by an ideal of efficiency and rationality). In this respect, the ring road is made of several layers of technical reasons including engineering design and public management. In this thesis I challenge the technical reason(s) making up the ring road by focusing on some of the actors at the heart of the process of designing and delivering the Boulevard Périphérique: Parisian technocrats—an elusive concept that I define in the following chapter—and more specifically the engineers at the Department for roads of the prefecture. My aim is to unpack their design process; to understand the explicit and implicit elements that motivated key decisions; to analyse the communication strategies they deployed to convince their peers, superiors and other stakeholders including councillors and the general public; to grasp the way they apprehended their role in the shaping of Paris's landscape and their position in society; to understand the social expectations they projected on infrastructure projects such as the Boulevard Périphérique

The conceptual framework relies on Henri Lefebvre's 'spatial triad' as a macro-level of theorisation. As I explain more in details in Chapter 2, Lefebvre's 'production of space' is devised precisely to describe French post-war *aménagement du territoire* ('spatial planning'), of which the ring road is a perfect example. I also explain the relevance of the idea of technocracy in connection to the historical context of the ring road and detail what I mean by landscape-infrastructure. I also argue that

¹¹ To avoid burdening the reader with a long list of references, I invite them to check the programme's website that offers published papers from previous colloquia, programmes of future events, an exhaustive bibliography, and a repository of documents collected by the researchers contributing to this project.

Lefebvre's spatial triad, however inspiring, is difficult to deploy to analyse the data gathered from fieldwork. I therefore propose a meso-level of analysis, tapping into the works of three scholars—Anique Hommels, Antoine Picon and Barry Allen. I rely on and sometimes combine their respective critical approach to infrastructure in order to structure my engagement with this thesis's research questions.

The primary research question of this doctoral thesis is thus as follows: What role did political, social and aesthetic decisions, reframed as technical reason play in the construction of the Boulevard Périphérique of Paris? It is divided into three sub-questions addressed in three chapters:

(a) To what extent was the route of the Boulevard Périphérique the result of a political process, as opposed to an apolitical technocratic endeavour or a choice determined by historical precedent?

(b) How did the emergence of noise from road traffic as a nuisance, and its impact on the ring road design, reflect the evolution of Paris's governance more than that of a scientific controversy?

(c) To what extent did the social status of the Boulevard Périphérique's neighbours trying to obtain its concealment determined their actions' successes?

In the rest of this introductory chapter, specifically in the next two sections, I detail the journey that has led me to focus on the ring road and the lines of inquiry illustrated by my main research questions and three sub-questions.

The methodology for this thesis is grounded in the socio-history of public action, an empiricist methodology proposed by French scholars Noiriel and others (Noiriel 2006; *La rédaction de Genèses* 1990) that aims to go back to the fundamentals of both history and sociology. Driven by an inductive approach, it encourages the researcher to be guided by the primary sources, most especially archives, in order to analyse the State and its institutions through its actors. Socio-history of public action strives to go beyond a nomothetic interpretation of the case studies chosen, to instead focus on the processes as well as the singularity of each situation and networks of stakeholders.

Having briefly introduced the conceptual frameworks—which I further detail in Chapter 2—and methodology—developed in Chapter 3—I will now explain the journey that has led me to identify the data sources that were ultimately used in this thesis, before reflecting on my position as a researcher.

1.3 Identifying the right data sources: a process of trial and error

Except for the historical synthesis (Chapter 4), which is based mainly on secondary sources, the principal method of research was the analysis of primary sources held in archives. I have focused on the archives of the Department for roads, not hesitating to pursue leads in other fonds that I will now introduce. I had initially envisaged this doctoral thesis to focus on cultural representations of the spatial and social boundary between Paris proper and suburbs, looking at the fortifications, the Zone, and the ring road. The initial methods I had proposed were the collection of press clips in local and national press, and the study of other cultural artefacts from literature, cinema, and photography. Yet, in the first years of my PhD, I mainly focused on developing my theoretical framework around the notion of ‘infrastructure landscape’ after Matthew Gandy (2011). The exploration of the (vast) concepts of ‘infrastructure’ and ‘landscape’ led to a critique of landscape in painting and then photography.¹²

This interest in photography has led me to follow the trail of photographs of the Boulevard Périphérique that I often found in publications and official communication. Because these pictures were often credited as belonging to the collections of the Pavillon de l’Arsenal, I met with their head librarian, Antonella Casellato, in 2019. Casellato explained that most of the photographs of the ring road they possessed were duplicates donated by the Department for roads when the Pavillon de l’Arsenal opened in 1989. I followed that lead and met with Casellato’s peer at the Department for roads, Delphine Kopczynsky. I explained both my doctoral research and my side project focusing on photography. Not

¹² While I have eventually chosen to keep this aspect out of my doctoral thesis, this engagement with art history and art critique led to a number of side projects, including the curation of a photography exhibition, ‘Infrastructure—Visible upon Breakdown’ at the Rencontres de la Photographie d’Arles 2019, sadly cancelled because of Covid and reimagined as a book that will come out in 2023; and the award of a grant from the Centre National des Arts Plastiques (CNAP, National centre for fine arts) in art critique and theory for an ongoing project dedicated to the photographs shot during the construction of the Boulevard Périphérique: ‘Infrastructure landscape and “new topographics”’: the aesthetics of urban motorways and their representation by “industrial” photographers in Paris (1956–1973).’

only did she show me the photographic fonds I was looking for, but she also introduced me to the head archivist of the Department for roads, Jessica Lecènes, who was in the process of listing and transferring an impressive set of documents, recently found by chance in a pile on the ring road after being abandoned there for no obvious reasons—half eaten by rats, damaged by the rodents' urine, and partially destroyed. She let me have a look at the archives she had salvaged—maps, administrative correspondence, renderings, tenders, calculations. I immediately realised I had found the data I needed to carry out my doctoral research for they offered an unpolished window into the design process of the ring road.

This succession of breakthroughs came in late 2019. The onset of the Covid-19 pandemic, together with the requirements of my professional activity that I have maintained throughout my doctoral research (as a self-funded part-time student), prevented me to start the archival fieldwork until January 2021. By the time I got back in touch with Jessica Lecènes, the fonds I took a peek at was inaccessible, in the process of being transferred to the Archives de Paris—a normal process for documents they do not use on a regular basis. It is an understatement to say I was frustrated and disappointed by the eventuality of being stopped in my research for months, if not years, now that I had found what I believed was *the* one fonds I needed. This is when I met with Vincent Tuchais at the Archives de Paris, introduced by Jessica Lecènes. I owe to his incredible knowledge of the available archival fonds most of the data I exploited in this thesis. Mr Tuchais recommended me to start with a series of fonds immediately available and I chose to focus on the ones from the Department for roads, especially 2276W, that included all activities by the Department for roads from 1856 up until 1991. In the third chapter of this thesis, I detail my methods for archival research and introduce the fonds I have exploited.

1.4 *Reflections on the researcher's positionality*

The journey that led me to this doctoral research started in 2015 when I wrote a feature article for *The Guardian* on the Boulevard Périphérique of Paris as an obstacle to the development of the Greater Paris (Tribillon 2015). My initial intention was to write a piece on the insurmountable physical

obstacle that the ring road constituted. I quickly refuted that hypothesis, or at least nuanced it, as I researched that article: from walks to interviews, I realised that the ring road was potentially physically disruptive, but arguably no more than any of the large London urban motorways I lived by at the time. I understood then that my initial apprehension of the Boulevard Périphérique was the heritage of my own bias, the clichés I had grown up with as a Parisian who had lived his entire life within Paris proper, before moving to the suburbs of South London where I lived for about a decade. Paris, a hyper-dense city, allows one to carry out one's entire life without crossing the ring road—from cradle to grave if one wishes to. Like many Parisians, I grew up with the vision of an overwhelming infrastructure that cut through the landscape, a no-man's-land almost impossible to cross. In 2015, I decided to walk along its entirety, an exercise I repeated several times since then: I discovered the multiple crossings available, the life that thrived by its tarmac—as well as the hostility of its architecture, the noise, and the air pollution from car traffic that blackened the cotton-wool pads and tissues I would use in the evening to clear my face and nose.

Growing older in London, a city I was not born into, embracing a different lifestyle and way to navigate urban space—in a nutshell, a suburban way of life—led me to change the way I understood Paris. Discovering new deeply rooted urban myths that I did not relate to (the North/South London divide, for instance), as well as a strange spatial bias (e.g., the impact of London's Tube diagrammatic map on how neighbourhoods/stations are commonly perceived as 'remote'), pushed me to question the ones I carried about my hometown. The development of these biases, such as the vision of the Boulevard Périphérique as a major obstacle between Paris and banlieue, became an endless source of surprise and interrogation. Therefore, the initial idea for my doctoral thesis was to look at cultural representations and the construction of collective memory—an approach that eventually progressed to focus on the process of designing the ring road.

1.4.1 Acknowledging my background: personal relationship to civil service and technocracy

I have wondered how much the familiarity I have developed with the engineers of the Ponts et Chaussées by way of their writings and professional archives is linked to my own education. I was

trained at Sciences Po, one of the *grandes écoles*¹³ whose place in the sociology of post-war France and its elites has been analysed by Ezra Suleiman (1978), Pierre Birnbaum (1977), Jean-Claude Thoenig (1973), Pierre Bourdieu and Jean-Claude Passeron (1964) among others. Sciences Po is arguably not as prestigious as *École polytechnique*, and it is not an engineering school. It is also important to state the obvious: I have graduated at least half a century after the individuals who populate this thesis. By the time I attended Sciences Po, the kind of narrative analysed by Suleiman (1978)—in which pupils were explained they were France’s elites—had mostly disappeared.¹⁴ Or at least, had become less explicit. By this I mean that indeed such mantra had disappeared from the director’s welcome speech, for instance, but I would argue there was an absolute certainty among some pupils at Sciences Po that they would become, or already were—by successfully passing the school’s competitive entrance exam—the country’s elite. In hindsight, I acknowledge a feeling of entitlement, that for some of us crystallised in a conviction that they had been ‘called’ to embrace a glorious future—in politics, business, civil service, journalism, etc. This conviction or pretention is not entirely negative—on the one hand, it feeds into a feeling of superiority and infallibility that can lead to catastrophic leadership; on the other, it is this sense of a call for duty, to dedicate one’s life to serve the public, that has motivated some of my school’s alumni to embrace professional lives as civil servants. In doing so, they chose to earn relatively lower wages in comparison to the private sector and bear increasingly deteriorating working conditions in the context of cuts and reforms to the public sector.

The reason I am mentioning this autobiographical element is because I believe it has facilitated some form of empathy towards the subjects I am studying. Even though I did not end up (yet) pursuing the career in civil service and local politics I had once imagined for myself, I recognise the language, the mannerism, of the technocrats at work. Whilst I have developed some critical distance regarding the figure of the ‘city maker’ that I once had an ambition to become, especially thanks to my academic

¹³ See entry ‘Corps’ in the glossary.

¹⁴ ‘The education of the *grandes écoles* is an education *de luxe* from which an elite must benefit. It is one of the rare cases where France has succeeded in escaping from the formula of equal treatment for all, which does not allow the best to develop. It must be preserved, but reserved for those who are worthy of it. Getting through an educational selection process should not be considered sufficient for meriting such an elite training. One must have moral qualities: desire for work, acceptance of a body or rules, and confidence in those who have the responsibility of applying them.’ Article written by the director of studies of *École polytechnique* in 1963, cited and translated by Suleiman (1978, 66—original emphasis).

journey, I can relate to the sense of duty that animated the technocrats who built the Boulevard Périphérique: while my doctoral research does not focus on this aspect or provide evidence for this, I intuit as genuine their conviction that for all the decisions they took, they were always trying to do the ‘right thing.’ Recognising how real their efforts to do ‘well’ were does not cancel a critical position towards the dubious feeling of power, excitement, and entitlement that they must have also experienced when they drew on maps of Paris the future roads whose construction would lead to the destruction of thousands of homes. Finally, and I will expand on this aspect in a moment, there is also a gender dimension to acknowledge: most of the technocrats that populate this thesis are males and almost certainly all from a white ethno-racial background—like me.

This doctoral thesis is thus necessarily influenced by my own academic and social background. I have implicitly been led to study the works of Parisian technocrats because I feel some legitimacy in studying their traces, and some connection to the works they have undertaken. I have no doubt that a student carrying a different social and academic baggage, with another nationality, another gender, and different biases, would have produced a very different work. Needless to say, I hope many more researchers, of all backgrounds, will study the ring road of Paris in the future. I believe that to situate critically my position with regards to the myth of technocracy and civil service that is very prevalent in France, and to other social, gender and academic backgrounds, is essential to my scientific journey.

1.4.2 The transparency of women

‘Secretaries: are they robots with make up?’ asked an article published in French business magazine *L’Expansion* dated February 1971 and kept on file in the archives of the Department for roads—because it featured another piece on a new kind of silent pneumatic drill (2276W 21, 84). The by-line: ‘We forget that it is still a human being that sits at the typewriter.’ⁱⁱⁱ The article also mentions that this is a profession ‘one-hundred percent female.’

This doctoral thesis is almost entirely populated by men (Figure 13)—and is written by another. In fact, women were everywhere in post-war Parisian administration but almost entirely invisible, often occupied in menial and yet essential clerk works of the pre-digital era: typing documents, implementing the edits handwritten on the drafts, setting up meetings, etc. As they carried out these tasks, they

remained invisible in the correspondence, despite my best efforts to identify and acknowledge them. We can witness their omnipresence in the directories I have used to design Figures 1–3, sometimes at high-level secretarial positions. Outside the offices of the Department for roads, there were also the wives of all these civil servants that took care of their homes and children while they worked long hours—see for instance the obituary of one of the key engineers of the ring road, André Herzog,¹⁵ in Ponts et Chaussées alumni publication *La Rose et le Rouge* that conjure up the

full and well-balanced life he led. A balance he certainly found in an harmonious family life, with his [unnamed, translator’s note] dear wife and his [not ‘theirs,’ translator’s note] seven children (Ozanne 1998, 61).^{iv}

Until the late 1970s, the corps des Ponts et Chaussées was not open to women. Marie-France Cugnet was the first woman to join the École des Ponts et Chaussées as a ‘civilian’¹⁶ in 1959, graduating in 1962. Article 8 of the law of 15 July 1970 granted women the right to sit for the competitive exam to enter the École polytechnique, which effectively opened to women candidates in 1972. Nicole Gontier was the first graduate of École polytechnique and the École des Ponts et Chaussées to join the corps des Ponts et Chaussées in 1977. Other public careers were opened to women much earlier, such as the École nationale d’administration (ENA, National school for public administration). Yvette Chassagne was the first woman to join the ENA school in 1948 and was the first woman to be appointed prefect in 1981. To this day, Paris has never had a female prefect (neither as prefect of the Seine, prefect of Paris, prefect of Île-de-France, or prefect of Police), but two women have been elected to the most powerful local roles: Anne Hidalgo, Mayor of Paris since 2014 and Valérie Pécresse, president of Région Île-de-France since 2015.

¹⁵ André Herzog (1913–1998) graduated from École polytechnique (1933) and École des Ponts et Chaussées (1938). *Ingénieur en chef* (‘chief engineer’) at the prefecture of the Seine from 1941, *inspecteur général des services techniques* (‘general inspector for technical services’) from 1956, *directeur technique de la voirie parisienne* (‘technical director for roads’) from 1961, then *directeur général de l’aménagement urbain* (‘director for the General department of urban planning’) between 1968–1974. He was also a lecturer at École polytechnique (1947–1969) and the École des Ponts et Chaussées (1952–1969) and was appointed vice-president of the Conseil général des Ponts et Chaussées, the overarching body for the corps in 1983. Once retired, he was a councillor in Sceaux (Hauts-de-Seine, 92) and First Deputy Mayor of Sceaux in charge of finance from 1977 and then First Deputy Mayor in charge of urban planning (1983–1989). He is regularly presented as the ‘father’ of the ring road (Ringebach 1998; Ozanne 1998).

¹⁶ I.e., without going through École polytechnique first, and without joining the corps upon graduating.

Women have indeed historically been more present in Paris politics. Member of Parliament (MP) for Paris (1962–1986), senator for Paris (1986–1993) and councillor of the 15th arrondissement for 42 years, as well as president of the Council of Paris (1972–1973), Nicole de Hautecloque (1913–1993) is one of the rare prominent female names we encounter in relation to the Boulevard Périphérique. In fact, she had a limited engagement with the construction of the Boulevard Périphérique, but she was president of the Council at the time of the infrastructure’s inauguration and pronounced with prime minister Pierre Messmer one of the two inaugural speeches. Other female councillors mentioned in this thesis include Jacqueline Nebout (1928–2015), vice-president of the Radical party (1971–1972) then secretary general (1975–1977), councillor (1977–2001) and Deputy Mayor of Paris (1977–1995), as well as an MEP (1983–1984) and regional councillor (1983–1992); communist Madeleine Marzin (1908–1998), awarded the Medal of the Resistance with Rosette,¹⁷ MP for Paris (1951–1958) and councillor of the 20th arrondissement (1945–1951; 1959–1971); communist Christiane Schwartzbard (1931–1999), councillor of the 20th arrondissement (1965–1989).

It is important to be aware of women’s ‘invisibilised’ omnipresence when reading this thesis on the design of the ring road of Paris. Also, it is interesting to note the conservatism of civil service in comparison to politics regarding women’s access to professional and elective opportunities.

1.5 *Structure of the thesis*

This thesis is divided into eight chapters, including this introduction. Chapter 2, ‘Conceptual framework: landscape-infrastructure as critical design framework to analyse the production of Paris’s Boulevard Périphérique’ builds upon the ‘politics of imagination’ of infrastructure, and on the concept of landscape analysed as ‘ideology’. After recontextualising the idea of the ring road as technocratic design, this chapter aims to offer a critical design framework to underpin this doctoral thesis—one that

¹⁷ The Medal of the Resistance was awarded to individuals of collectives that played a key role in the French Resistance during World War II. It has been attributed to 65295 individuals or collectives. The Medal of the Resistance with Rosette is a higher rank, and was awarded to 4596 individuals (Ordre de la Libération n.d.)

emphasises the importance of aesthetics and imagination to analyse diachronically the design of large-scale urban infrastructure networks in relation to urban landscape.

Chapter 3, ‘Methodological framework: socio-history of public action’ details the methodology of this doctoral thesis as based on the epistemological framework called *socio-histoire* (‘socio-history’), and more specifically on the *socio-histoire de l’action publique* (‘socio-history of public action’). Socio-history has been described as a ‘weak label but a strong endeavour’ (Buton 2009 in Payre and Pollet 2013, 7) for its focus on methodology together with an empiricist, inductive approach to primary sources. By *action publique*, or public action, I mean to describe any form of public policy; the actions devised and carried out by the State and all rungs of government, local authorities and other public institutions; and all systems and stakeholder configurations that constitute these institutions and organisations. In this chapter I also explain the methods I have used in the thesis, as well as describe the fonds I have exploited: namely the archives of the Department for roads of the Préfecture de la Seine.

Chapter 4, ‘The ring before the road: historical context to the construction of the ring road (1841–1943) and initial building steps (1943–1959),’ provides a historical background to this thesis. It is a truism to say that all urban spaces are the results of the past events that have shaped them. And yet, this is especially true for the Boulevard Périphérique. The ring road built in 1956–1973 is inscribed in a long historical journey arguably going back to the early 19th century that needs to be synthesised before delving into the analysis of the primary archival materials. It is essential that readers of this thesis, including those who may not have a detailed understanding of Paris’s history, have access to such a synthesis. This initial historical, political and cultural contextualisation remains circumscribed to essential aspects necessary to understand the Boulevard Périphérique today. In a second part, this chapter establishes the early history of the ring road that was built from 1949, i.e., way before the official start date for the construction of this infrastructure (1956) that is usually cited. Based on primary and secondary sources, this second part constitutes an original contribution to our understanding of the ring road, by offering a revised chronology of the Boulevard Périphérique’s construction.

Chapter 5, ‘Negotiating the routes of the ring road: the politics of technical reason’ is the first of three chapters making up the core of this thesis’ analysis. It is often asserted without nuance that the Boulevard Périphérique was built on the ‘empty’ space of the Zone, and that, as a result, its route and design need not be questioned because they are the transparent continuation of a historical precedent coupled with technical reason. This chapter challenges such an assumption by analysing the route and design of the road as the expression of social, political, and administrative choices that go beyond a simple understanding informed by historical precedent and technical reason. Furthermore, it shows an element that will be recurrent throughout this thesis, the instrumentalisation of technical ‘requirements’ to justify decisions that were mostly social and political, i.e., only loosely connected to technical constraints. Specifically, I unearth the many routes and design options that had been envisioned for the two sections I present in this chapter, and I analyse the range of stakeholders and their influence on the ring road’s final route and design.

Chapter 6, ‘The emergence of noise from road traffic as a social issue,’ studies the emergence of noise from road traffic as a ‘nuisance’ in the context of the Boulevard Périphérique. Relying mostly on administrative correspondence produced by the Department for roads that includes internal exchanges, discussions with the cabinet of the prefect and from 1977 with the mayor’s office, and handling of residents’ complaints—I analyse how sound from road traffic emerged as a social issue, how technocrats engaged with this ‘new’ element, and whether it impacted the design of the Boulevard Périphérique. This chapter specifically tests the hypothesis that the appreciation of noise from road traffic of the Boulevard Périphérique changed significantly before and after the City of Paris evolved from a technocratic governance to the introduction of a democratically elected mayoral executive following the law of 1975 regarding the status of Paris.

Chapter 7, the third part of my analysis, ‘Covering the ring road: strategies and social status of the residents who impacted the design of the Boulevard Périphérique’ aims to continue the analysis started in Chapter 5 through the example of the Bois de Boulogne detour. It questions to what extent the social status of the Boulevard Périphérique’s neighbours trying to obtain its concealment determined their actions’ successes. The research presented in this chapter contributes to refining our understanding of the ring road design process, i.e., where the power to influence its form and route lay. This chapter

focuses on three case studies: two examples initiated by private individuals acting by themselves, and one by a group of residents supported by their local councillors. The two case studies by private individuals are located west of Paris, in the 16th and 17th arrondissements, respectively by Porte de la Muette and by Porte de Champerret. One of the requests succeeded, the other did not. The case of Porte de Ménilmontant (20th arrondissement) was initiated by residents of a social housing estate owned and managed by the City of Paris, and was also—eventually—successful.

In the concluding chapter, Chapter 8, I sum up this doctoral thesis's findings, propose some future lines of research enquiry and offer some reflections on the ring road today as part of Paris's landscape.

Chapter 2 Conceptual framework: landscape- infrastructure as critical design framework to analyse the production of Paris's Boulevard Périphérique

It is a commonplace to describe cities as intertwined accumulations of temporal and physical layers, as palimpsests (Fowden et al. 2021). The analytical process of unearthing and analysing these layers offers a dense, almost infinite research path for urbanists and historians. Yet, such historical approaches to the study of urban space can sometimes consist of somewhat simplistic expressions of crude historical determinism, for instance when it is assumed the Boulevard Périphérique has replaced—physically and mentally—the Thiers wall taken down in the 1920s. This historical obviousness that I challenge has arguably restrained scholars' engagement with the ring road of Paris.

When studying infrastructure in urban landscapes, technical, political, and aesthetic choices are often considered in isolation. As I have mentioned in the introduction of this thesis, the literature on the Boulevard Périphérique has arguably been developed in such silos. Existing scholarship has focused on the insertion of the ring road in the urban tissue of Paris, its role in the metropolitan landscape of the Grand Paris, past, present and future and as part of the regional road network (Cohen and Lortie 1991; 2020; Flonneau 2003; TVK 2008; *Les Routes Du Grand Paris* 2019; Roseau 2022). A second body of literature has analysed its role in the urban imaginary of Paris—the ring road as embodiment of the boundary between Paris proper and banlieue—often repeating commonplace and clichés with limited if any real attempt to critique them (Ronai 2004; Pinçon and Pinçon-Charlot 2007, 36–40; Bevort and Rousseau 2013; Tribillon 2015). This second corpus has often ignored entirely the architecture, the physicality and the materiality of the ring road. Yet, I propose to analyse large-scale infrastructures such as urban motorways as the crystallisation of *design entanglements*.¹ The decisions taken by an engineer—to build an elevated highway instead of a tunnel, to erect soundproof walls, to choose

¹ I find inspiration to use the concept of 'entanglements' in the reading of Anna Tsing (2017). Not necessarily connected to Tsing, many authors have found inspiring the metaphor of 'entanglements' to describe space in relation to politics, social constructions and technology—among them Suzanne Hall (2012) after Sarah Nuttall (2009) for instance, but also Sanjay Srivastava (2014). The idea of entanglements is also not far from the metaphor of 'seamless web' of material and social elements in science and technology studies (Hughes 1986).

between the destruction of a church or a housing block—are the expression of technical knowledge ('The calculations confirm this bridge will stand. '), cultural prejudices ('This building is not worth saving. '), socio-political frameworks ('There is not enough budget to build underground. '; 'This mayor's demands are unrealistic. '), and value-based opinions reframed as expertise ('Residents' complaints regarding noise are irrelevant. '; 'This road does not constitute a physical obstacle for pedestrians. '). Depending on the socio-political contexts (e.g., political institutions, influence of civic groups, role of public and private sectors, etc.), such decisions are also the results of negotiation with a number of stakeholders. The accumulation of these elements (e.g., artefacts, technologies, practices, ethics, etc.) over time and space constitutes what I term design entanglements. To approach these decisions in isolation results in a partial and biased understanding of the socio-technical choices that supported the development of any infrastructure in an urban landscape and its change.

This chapter offers a critical design framework to underpin this doctoral thesis: one that emphasises the importance of aesthetics, representation and symbols to analyse diachronically the design of large-scale urban infrastructure networks in relation to the urban landscape. What I mean with diachronicity is to study situations of change unfolding in multiple directions over a long period of time, instead of focusing on specific processes (designing, retrofitting, destruction) at specific moments in time (synchronicity). By critical design framework, I mean a coherent ensemble of theories to analyse the factors influencing the design choices carried out by designers of the Boulevard Périphérique. This critical framework pertains to design in the sense that it is meant to provide tools to critically analyse design choices, no matter the domain such design choices are initially associated with: aesthetics (e.g., beauty, an un/pleasant sound), technical (e.g., the technical feasibility of building a bridge), policy (e.g., the adequation of a design in relation to a political project), economics (e.g., the financial cost of building a road). It is also interesting to reflect on the *sensory* bias of this proposed framework. Indeed, in a typical display of 'ocularcentrism' (Jay 1988), this framework was initially developed with 'seeing' in mind. In my analysis, I also explore empirically how sound challenged such ocularcentric

perspectives on space,² and to what extent the framework proposed can accommodate a multi-sensorial reading of the infrastructural landscape (on listening to infrastructure, see for instance Ouzounian 2020; Miyazaki 2017; El Hajj 2020; on ‘soundscape,’ see for instance Schafer 1969; Belval 2020; Cobianchi, Drever, and Lavia 2021). I demonstrate with the case study presented in Chapter 6 that it is precisely ‘seeing’ that dominated other forms of knowledges (sound, smell, touch, taste), and as such it is interesting to embrace ocularcentrism in order to critique it. I also evidence that the framework is flexible in the sense that it remains relevant to analyse discourses and design choices that are motivated by other senses, and not necessarily by seeing alone.

I have started developing this critical design framework in a separate paper published in *Landscape research* (Tribillon 2022) as I imagine this framework could be relevant to other landscape-infrastructure beyond the ring road of Paris.³ In devising this framework, I specifically wish to address Matthew Gandy’s regret that, as one considers the many overlaps between the notions of landscape and infrastructure, ‘much of [the] emerging literature [on landscape and infrastructure] lacks historical perspective: an overriding emphasis on “policy relevance” has ironically precluded many possibilities for critically rethinking the role of landscape and infrastructure in the contemporary city’ (Gandy 2011, 57). I start this chapter by defining the concept of infrastructure in relation to imagination, before engaging with road infrastructure as landscape in the historical context of the ring road. I then engage with the French technocratic attitude and connects it with Lefebvre’s ‘production of space,’ specifically his spatial triad of *perçu* (‘perceived’), *conçu* (‘conceived’) and *vécu* (‘lived’). In conjunction to Lefebvrian thought, that I argue is inspiring and relevant but difficult to articulate with fieldwork research, I propose a meso-level of theorisation that relies on essential works for this thesis by Anique Hommels (2008), Barry Allen (2008) and Antoine Picon (2018), which I detail in the last part of this chapter.

² See ‘Chapter 6 The emergence of noise from road traffic as a social issue.’

³ I have presented previous versions of this chapter at the conference ‘Infrastructural futures across cities of the global north’ organised by the Manchester Urban Institute (Tribillon 2019), and at the workshop ‘Understanding Change in Urban Infrastructure Landscapes’ organised by the Urban Institute, University of Sheffield (Tribillon 2020). It was recently published as a paper in a special issue of *Landscape Research* edited by Vanesa Castán Broto and Enora Robin (Tribillon 2022). This chapter is a reworked version of the paper published in *Landscape Research*, see also ‘UCL research paper declaration form.’

2.1 *Technocratic ideals of infrastructural landscape*

2.1.1 **Infrastructure and the politics of imagination**

Infrastructure is a rich and diverse concept at the crossroad of technology and imagination. In critical literature and layman English, ‘infrastructure’ became a popular concept because it is evocative. We collectively share a spatial imaginary where our social and economic structures rest on a series of interdependent networks that enable them to function (Picon 2014; 2018). Infrastructure has morphed to become socio-technical metonymy (Tribillon 2021) and this metonymic might is why the Morandi Bridge, achieved in 1967 and that collapsed in Genoa in 2018, was not only the tragic downfall of a bridge but also that of an ‘Italian national myth’ (Mattioli 2019; see also Simonnet 2019). It also explains why the screenwriters for Hollywood ‘blockbuster’⁴ movies never miss a chance to burn down roads, bridges, dams, levies, airports, power plants as comedian John Oliver wittily remarked: in a show he dedicated to infrastructure in the United States, Oliver (2015) explained that ‘infrastructure [is] basically anything that can be destroyed in an action movie.’ (Oliver 2015; see also Truscillo 2020).

Political scientist Theresa Enright argues that in their 2001 book *Splintering urbanism* geographers Stephen Graham and Simon Marvin have positioned ‘new ways of *knowing* and *seeing* space through infrastructure at the centre of a political project of critical urbanism’ by calling for a new ‘spatial imaginary’ (Enright 2022, 101—original emphasis; Graham and Marvin 2001, 427–28). From their critical positioning, Enright argues, a vast body of transdisciplinary works has emerged that has considered infrastructure as optical (Boeck 2011; Chattopadhyay 2012), visual (Parks 2009; Mukherjee 2020; Dyer and Benjaminsen 2017), symbolic (Kaika 2006; Easterling 2014; Anand, Gupta, and Appel 2018), sonic (Ouzounian 2020), as well as form of poetics (Larkin 2013), as spatial aesthetics of race (Summers 2019), and ideologies (Graham and Marvin 2001; Humphrey 2005).⁵ For anthropologist

⁴ According to the *Oxford Dictionary*, ‘blockbuster’ is a term the English language inherited from World War II. A blockbuster is a bomb so powerful it can raze a whole neighbourhood, ‘bust’ a ‘block,’ to the ground.

⁵ Theresa Enright, Brian Rosa and I put together this list of references for a call for paper titled ‘Infrastructural imaginaries and aesthetics’ that we released for the American Association of Geographers’ Annual meeting of 2022. We organised four sessions: ‘Infrastructural Imaginaries and Aesthetics 1: Infrastructuring Pasts, Presents, and Futures’; ‘Infrastructural Imaginaries and Aesthetics 2: Making Sense of Networked Space’; ‘Infrastructural Imaginaries and Aesthetics 3: The Politics of Visibility, Presence, and Exposure’ and ‘Infrastructural Imaginaries and Aesthetics 4: Transport, Mobility and the Production of Space.’

Brian Larkin, '[infrastructures] encode the dreams of individuals and societies, and are the vehicle whereby those fantasies are transmitted and made emotionally real' (Larkin 2013, 333). Infrastructure is made of representations, symbols and images as much as concrete and steel.

2.1.2 Road infrastructure as landscape in the interwar and post-war era

At the turn of the 19th century, roads and motorways acquired a considerable symbolic prominence. The freshly-invented private car and its infrastructure were soon associated with speed, freedom, social status (Barthes 2002; Lefebvre 1967; 1971) and would remain inseparable from the ideology of modernist architecture (Le Corbusier 1923) to such an extent that the city even became the 'correlate of the road' that 'only exists in relation to circulation, and circuits'⁶ (Deleuze and Guattari 1980, 539). In the 1930s, the Front Populaire (Popular Front)⁶ was wary of the grand, elitist, public works programmes ongoing in fascist Italy and Nazi Germany and found it more technically and politically appropriate to adapt the existing network of roads instead of building new ones (Desportes 2005, 289). In Germany on the other hand, the Nazi regime implemented the grand designs inherited from the Republic of Weimar with much decorum and turned the new infrastructure they built into an important cultural artefact of Nazi and German culture. The Reichsautobahnen programme, nicknamed *Straßen Adolf Hitlers* ('Hitler's roads'), was an important part of the Third Reich's propaganda. Not only did it provide a network of safer and faster roads throughout the country, but it was also designed to reduce the high rate of unemployment plaguing Germany (Matzke 2008, 91).

Most importantly for the theoretical concerns in this thesis, the Third Reich's motorway programme initiated a new techno-cultural relationship to the German landscape through iconography and a renewed architectural practice. Alwin Seifert, the 'father' of landscape design in Germany, developed an original narrative of '*völkischen Landschaft*'—best translated as 'nationalist' or 'ethnic landscape'—where the technical, aesthetic, political, and cultural aspects of infrastructure and landscape merged to fulfil Germany's ambition to create an '*inneren Raumeinheit*,' an 'interior spatial unity' whilst creating a '*Volksgemeinschaft*,' a 'national community.' The Reichsautobahnen was the

⁶ An alliance of left-wing parties in power from June 1936 until June 1937 in France.

first major programme launched by Hitler upon reaching power (Reitsam 2004). Historians Schütz and Gruber (1996) described Hitler's roads as '*völkisches Gesamtkunstwerk*,' a 'nationalist total work of art.' The example of Alwin Seifert's landscape design practice, that combined notions of aesthetics, nationalism, political propaganda and technical choices, illustrate the equivocal nature of road infrastructure in relation to landscape. This approach to road design was immensely influential in France, Italy, Germany from the 1930s and well into the 1970s (Alonzo 2018; Zeller 2007). In France, this understanding to road infrastructure as a political, technical and cultural achievement gained momentum at the same time as the idea of a technocratic government.

2.1.3 Technocratic ideals of urban planning in post-war France

Technocracy could be described as the government of society by an elite of technical experts, that would privilege a 'rational' and 'scientific' administration over democratic legitimacy. The term was coined in the first half of the 20th century in the United States and imported to France after World War I (Dubois and Dulong 1999), though Picon (2007) maps out an archaeology of 'technocratic ideals' in relation to social thought going back to the 18th century, and especially to the utopian movement of Saint-Simonianism in the 19th century (Picon 2002). In France, the technocratic 'movement' gained momentum from the 1930s, in response to the financial crisis of 1929 (Dard 1995; Fischman and Lendjel 2000) then during and after World War II (Paxton 1972; Rouquet 1999; Cupers 2014; Baruch 2014; Baudouï 2020). It reached its climax during the first years of the Fifth Republic (1958–) as the regime switched from a parliamentary to a semi-presidential system (i.e., enabling a strong top-down mode of government) precisely during the construction of the ring road (1956–1973). It then quickly receded at the end of the 1970s (Belhoste, Dahan-Dalmédico, and Picon 1994; Gaïti 1999; Lortie 1997; Picon 2007).

In France, this technocratic attitude is commonly understood as the apanage of civil engineers, trained in highly selective schools such as the *École des Ponts et Chaussées* (created in 1747), the *École des mines* (created in 1783) and the *École polytechnique* (created in 1794) that 'reinforced the elitist nature of the profession by transforming it gradually into a meritocracy based on the mastery of advanced science' (Picon 2007, 199). To these prestigious engineering schools one can add the *École*

nationale d'administration (ENA) founded in 1945 to train the country's top civil servants. Yet, considering the year of its foundation, it is notable that none of the prefects that played a key role in the construction of the ring road had trained at ENA.

Among the key historical components of French engineers' 'technocratic attitude,' Picon identifies their capacity to 'see themselves as judges in charge of determining ... the most useful projects ... for the community' (2007, 200) and to consider themselves as 'arbitrators of interests' (2007, 203). He also points out a strong connection between engineering and social utopia, a belief in the 'equivalence between technological progress and social welfare' (2007, 205) as well as a 'non-specialised and somewhat messianic ... approach of technology ... as in their ambition to use it to service society' (2007, 202–3). Picon also notes French engineers' 'tendency to reason in terms of negotiations and adjustments rather in terms of blunt confrontation' (2007, 203). In his 1973 study of the corps des Ponts et Chaussées, *L'ère des technocrates* ('The era of technocrats'), sociologist Jean-Claude Thoenig observed similar attitudes to those identified by Picon. Thoenig also specifically studied the corps's shift from rural to urban space that took place after WWII: in 1970, the 'engineers of Ponts et Chaussées [saw] themselves as the urban planners of France: they believe[d] in urban planning almost as much as they believe[d] in science. They ha[d] faith in the city'ⁱⁱⁱ (Thoenig 1973, 89). Sixty-three per cent of the respondents to Thoenig's study believed France was significantly backwards with regards to urban growth. When it comes to aesthetics, Thoenig (1973, 94) also described an emerging technocratic approach to the city that 'mark[ed] the upsurge of an understanding of urban planning related to economic utility,' underlining the emergence of a technocratic, rationalist, approach to city design. He also analysed that for Ponts et Chaussées engineers at that time, 'instead of beautiful, the city [was] useful.'ⁱⁱⁱ I will argue in this thesis that the aesthetic culture of the engineers of Ponts et Chaussées working in Paris did play a significant role in their design choices. Yet, this is not necessarily a countering of Thoenig's understanding, for 'usefulness' could also include engendering an aesthetically pleasing response.

The concept of technocracy is difficult to use scientifically: its popularity—as a negative term overused by French politicians and the media to describe remote and aloof civil servants (in Paris, in Brussels, etc.)—is inversely proportional to its fate as a critical concept in social sciences, where its

blurriness and recurrent uses in demagogical discourses have prevented its scientific posterity past the 1970s. Sociologists and political scientists Vincent Dubois and Delphine Dulong (1999), in a collective work they have edited, have aimed to reinstate ‘technocracy’ as a critical concept, by developing two levels of analysis: on the one hand technocracy as a label, on the other the transformation of political practices associated with technocracy. By mobilising the concept of technocracy, I do not specifically aim to question the myth of the technocrats in French society, nor study the rise of the technocratic phenomenon (Thoenig 1973; Birnbaum 1977; Suleiman 1978), but to analyse the everyday practices of the civil servants that designed the ring road in light of the technocratic culture that was so pregnant at the time—a professional culture nurtured by centuries-old technocratic attitudes described by Antoine Picon in the paper cited earlier. Furthermore, there is a strong case to consider Paris from 1945 until 1977, and most especially from 1958, as an ‘ideal-typical’ technocratic government. Paris was under central government’s tutelage with the prefect as head of the executive supported by an administration busy updating the hardware of Paris—a highly technical task. The municipal assembly was weak, limited to a tokenistic democratic role as my findings demonstrate.⁷ I argue that the concept of technocracy is highly pertinent to apprehend the design of the ring road. In essence, the Boulevard Périphérique is the anonymous oeuvre of the Parisian technocracy, an oeuvre this thesis will take apart.

2.1.4 Henri Lefebvre’s ‘spatial triad’ as the Parisian technocracy’s ‘production of space’

The transparent, obvious, familiar, reassuring notion of landscape is a construction, a training of one’s eye. Beauty, nature, a pleasurable prospect that is worth painting or photographing—and by extension, the pleasure of walking by the sea, picnicking by a tree, hiking in the mountains—are cultural artefacts, social constructions that have evolved with time (Corbin 1994b). These concepts, experiences, cultural traits are ‘ways of seeing’ (Berger 1972). Art criticism (Berger 1972) and cultural studies (R. Williams 1973; Said 1978; Cosgrove 1984; Fitter 1995) have explored a ‘darker side of landscape’ (Barrell 1980), by analysing landscape as ‘ideology’ or ‘social hieroglyph:’ as ‘an emblem of the social relations it conceals’ (Mitchell 1994, 15). For instance, in her study on seventeenth-century Dutch

⁷ See also [Figures 1–3](#).

landscape paintings, historian Ann Jensen Adams (2002) argues that the ‘sudden’ awareness of Dutch painters for landscape was not necessarily the culmination of a spiritual civilisation journey but the ‘naturalisation’ of political, spatial and economic events: the enlisting of ‘nature’ in the legitimisation of modernity, the encapsulation of socio-political phenomena within one’s perception of space as ‘given,’ or ‘natural.’ The perception of space, of nature, as well as the representations that reify and perpetuate such perceptions are socially produced, social hieroglyphs in need of deconstruction. The works on an ‘ideology of landscape’⁸ cited above resonates with that of philosopher and sociologist Henri Lefebvre. On the modern city, he writes that

Painters, architects, theoreticians [of the Italian Renaissance] have devised a representation of space, the perspective, from a social practice, itself the result ... of historical changes that modified the relationship ‘city-countryside.’ Horizons and vanishing points ... have determined a representation at the same time intellectual and visual, leading to the dominance of the gaze in some kind of ‘visualisation logic.’ This representation, developed over centuries [from the Italian Renaissance to the 19th century] has been invested in the architectural and urbanistic practice: the perspectives, the code (Lefebvre 1974, 51—original emphasis).^{iv}

Lefebvre’s magnum opus, *La Production de l’espace* (‘The production of space’), published in France in 1974 and translated to English in 1991, is the culmination of a series of writings on space, and specifically urban space, whose publication span roughly matches his tenure at Nanterre University from 1966 until 1973 (Lefebvre 1968; 1970a; 1970b; 1972a; 1972b; 1974). Interestingly, Lefebvre developed his ‘science of space’ within the physical and temporal space of the Boulevard Périphérique, exactly at the time of its construction. From his home in the Marais district (central Paris), Lefebvre crossed the Boulevard Périphérique to teach in Nanterre (a suburban town, 5 kilometres west of Paris), as the Boulevard Périphérique was being built (1956–1973).⁹ His philosophy of space is wired into his observation of post-war *aménagement du territoire* in France (in Paris where he lived, but also in his home region of Béarn), the impact of urbanisation and spatial planning on rural space, the rise of the automobile, and the relegation of working classes and immigrants from the city centres to the banlieues.

⁸ See Gandy (2016) on a wave of ‘neo-marxian scholarship’ in relation to landscape.

⁹ The biographical elements are from the foreword to the 2009 edition of *Le Droit à la ville* written by Hess, Deulceux and Weigand (2009).

In the foreword he writes in 1985 for the third edition of *La Production de l'espace*, Lefebvre proceeds to his autocritique and shares that: 'this book has missed a chance to describe in a direct, precise, if not pamphletary way, the production of the suburbs, ghettos, isolates, fake "ensembles"¹⁰ (Lefebvre 1986, XXVII).'^v

One of the structuring theses of Lefebvre's book is a spatial triad enabling urbanists to 'decipher' the space produced by a society. Lefebvre's triad analyses space as *perçu* ('perceived'), *conçu* ('conceived') and *vécu* ('lived'). Perceived space is the 'secretion' of a society's 'spatial practice' that 'closely associates the everyday reality (the daily schedule) and the urban reality (the journeys and networks connecting workplaces with "private" life, and leisure). A surprising association as it includes within it the most extreme separation between those places it links (Lefebvre 1974, 48).'^{vi} This first notion of 'perceived space,' a passive one, merges both temporal and spatial elements as it reflects on the quotidian of urbanites and the relationship between times of the day, activities, and disjointed locations such as work, home, places for leisure but also roads, train stations, airports. The second element, conceived space, is about the 'representations of space,' the space of 'savants, planners, urbanists, technocrats that "cut" and "arrange" ... It is the dominating space in a society' (Lefebvre 1974, 48),^{vii} one organised around numbers, norms and 'canons.' This is the space of the dominating class: the bourgeoisie, the technocrats—and the car. In his 1967 book *Position : contre les technocrates, en finir avec l'humanité-fiction* ('Stance: against technocrats, put an end to humanity-fiction'),¹¹ he dedicates most of the chapter titled 'The myths of technocracy' to the 'dictatorship of automobile' (Lefebvre 1967, 13). The conceived space is related to design, to conception, and as such it is the only active notion of the triad. Finally, the lived (*vécu*) space is the 'spaces of representation ... through images and symbols,' in other words: culture, and even mysticism. For Lefebvre it is the 'dominated space, therefore imposed, that imagination tries to modify and appropriate' (Lefebvre 1974, 49).^{viii}

¹⁰ In French, post-war Modernist social housing, especially high-rise architectures, have been named *grands ensembles*, that translates as great ensembles (of buildings). Yet, *ensemble* also means 'together,' and Lefebvre plays on the double-entendre here.

¹¹ Released in 1967, the book was published again with barely any edits, but with another title in 1971 : *Vers le cybernanthrope, contre les technocrates* ('Towards the cybernanthrope, against technocrats,' Lefebvre 1971).

Lefebvre's *Production of space*, available in English from 1991, has been presented as the cornerstone of an immensely influential 'spatial turn' in social sciences and humanities that constituted a 'critical re-evaluation of space and spatiality in social thought ... calling attention to its role in the construction and transformation of social life and its deeply power-laden nature' (Warf and Arias 2009, 3; see also Soja 1989; 2009). I have also just explained that, beyond its global relevance, Lefebvre's 'spatial triad' is that of 1950-1970s Paris, making Lefebvre's concepts especially inspiring to analyse the Boulevard Périphérique. And yet, Lefebvre's work stands on a level of abstraction that makes it somewhat difficult to mobilise when analysing empirical materials from fieldwork research. Henri Lefebvre's thought constitutes a macro-level of conceptuality that requires some articulation in order to connect it with the case studies I analyse in this thesis. I do so by devising a meso-level of theorisation grounded in the works of Anique Hommels, Antoine Picon and Barry Allen, that enhance my critical understanding of the Boulevard Périphérique while taking us back to the offices of designers and the prosaic processes of decision-making.

2.2 *Foregrounding the aesthetics of infrastructure as political*

This theoretical framework is rooted in two vast fields of scholarships that often intersect. On the one hand, a body of literature that has engaged with the politics of imagination in relation to infrastructure and landscape that I have already reviewed. On the other, scholarship and approaches to the relation between sciences, technology and society, sometimes described under the label sciences and technology studies (STS), itself a broad designation that not all authors writing in the field self-identify with. For instance, political theorists have questioned the politics of artefacts (Winner 1980; 1986) while sociologists opened technological artefacts to sociological analysis (Bijker, Hughes, and Pinch 1987). Studied artefacts have ranged from nuclear reactors (Winner 1986) to electric bulbs and bicycles (Bijker 1995), combat planes (Law and Callon 1988) to underground public transport systems (Latour 1992), file transfer protocol in laboratories (Star and Ruhleder 1996) to paper directories (Bowker and Star 1999), to cite but a few early examples. This 'new sociology of technology' grew in opposition to technological determinism by developing a socially constructivist approach to technology.

Law and Callon (1988) have for instance described engineers as ‘practical sociologists’ who ‘are not just people who sit in drawing offices and design machines; they are also, willy nilly, social activists who design societies or social institutions to fit those machines’ (Law and Callon 1988, 284–85). In this thesis, I particularly draw on the work of Anique Hommels (2008), Barry Allen (2008), and Antoine Picon (2018). Hommels is an interdisciplinary scholar who position her research as part of STS; Allen is a philosopher of aesthetics and knowledge; Picon is a trained historian, architect and engineer whose academic research engages with different disciplines. Their three respective approaches have in common a critical understanding of technology in relation to imagination and mental representations. The mobilisation of their works enables me to articulate and operationalise the vast concepts of infrastructure and landscape in order to study technical function in relation to aesthetics whilst engaging with notions of professional practices and cultural mindsets in relation to the ring road. Taken together, their respective approaches offer a ‘practical’ path to study Lefebvrian space, as an extension to Lefebvre’s theory. Their complementarity is at the core of the critical design framework presented in this chapter.

2.2.1 Unbuilding processes and Hommels’s ‘obduracy’

Anique Hommels focuses on unbuilding processes in cities with the concept of ‘obduracy,’ which she defines as ‘the clash between new ideas about urban development and the opinions and politics embedded in the urban structures that are already in place’ (Hommels 2008, 7). In her book that studies three large-scale urban redesign efforts in Maastricht, Bijlmermeer and Utrecht in the 1990s, she specifically aims to ‘introduc[e] the city as a hitherto neglected strategic research site in STS’ (Hommels 2008, 196). She develops three conceptual models of obduracy, ‘not to argue which view of obduracy is preferable, but to bring out [their] complexities in terms of the issues and questions they address (or fail to address):’ ‘embeddedness,’ ‘persistent traditions’ and ‘dominant frames’ (Hommels 2008, 21).

Embeddedness highlights obduracy as a relational concept. Cities are a ‘seamless web’ of material and social elements that are increasingly linked in a network. The ‘larger and more intricate a network becomes, the more difficult it will be to reverse its reality. In this way, a slow evolving order

becomes irreversible' writes Hommels (2008, 27). Once a design decision has been taken and implemented, for instance the width of a tunnel in an underground transport network, and that this network grows (more and more tunnels built), the complexity to reverse such design decision (e.g., the need for wider tunnels to accommodate a new type of carriage) increases exponentially. Embeddedness is a key aspect in road infrastructure too: one would struggle to single-handedly withdraw a major thoroughfare from a road network, or decide from one day to the other to ban cars in a given city part of a regional space planned for cars for instance. In this sense, obduracy 'is no intrinsic property of technologies but can only be understood in the context of its ties to other elements within a network ... without assuming a priori that social elements are more obdurate than technical ones' (Hommels 2008, 30).

To define 'persistent traditions,' Hommels calls upon historian of technology Thomas Hughes's concept of 'momentum' (1983) 'that highlights the role of trajectories in patterned technological development that can be used to describe the problems of changing large technological systems during certain stage in its development' (Hommels 2008, 31). Obduracy as persistent traditions could describe specific systems that develop in a supportive cultural context: for instance, the adoption of a technology, the development of factories to produce that technology, the development of adequate tools and equipment, educational institutions teaching the skills to operate it, and the de facto establishment of an imaginary in connection to that technology. Persistent traditions could also be understood as a cultural mindset, a shared imaginary. For instance, Hommels refers to historian of technology Rosalind Williams's analysis of underground space as 'enduring archetype,' and the emergence of an opposition between surface and depth—the latter is where are hidden the less desirable aspects of civilisation (R. H. Williams 1990; Hommels 2008, 33).

Of the three approaches, it is the idea of 'dominant frames' that I find particularly interesting to study the ring road of Paris.

The category of dominant frames consists of conception of technology's obduracy that focus on the roles and strategies of actors involved in the design of technological artefacts. ... The concepts of this category apply to situations in which planners, architects, engineers, technology users, or other groups are constrained by fixed ways of thinking and interacting. As a result, it becomes difficult to bring about changes that fall outside the scope of this particular way of thinking (Hommels 2008, 22).

Hommels relies on philosopher Wiebe Bijker and sociologist Trevor Pinch's concept of 'technological frames' that analyses technological development, where the 'interpretative flexibility' of an artefact gradually disappears to reach 'closure' and fixity of meanings (Bijker, Hughes, and Pinch 1987; Bijker 1995). Hommels shifts this focus on the closure of interpretative flexibility from the development of a technology to its redesign, in the context of urban planning renewal projects. An example of such obduracy is for instance when it is considered impossible to reorganise roads to accommodate the traffic of bicycles because 'roads are meant for cars.' Hommels also insist that 'it is also important to analyse *for whom* a technological is obdurate and *for whom* it is not. An actor with high inclusion in a particular technological frame thinks and interacts very much in terms of that technological frame. It is difficult for such an actor to think of alternative technological designs' (Hommels 2008, 23—my emphasis). Obduracy as dominant frames constitutes a rich ground to apprehend how different actors (civil servants of the prefecture, politicians, inhabitants, etc.)—and within these categories, how professionals with different training (civil servants trained as engineers, as economists, as architects, as statisticians, etc.)—apprehend the Boulevard Périphérique of Paris.

Hommels develops the concept of obduracy in relation to urban redesign projects, focusing on unbuilding processes. In this thesis, I use Hommels's concept to analyse the immediate redesign of the ring road, just after its opening in 1973—specifically an obdurate understanding of noise as pollution for the neighbours of the ring road. In the concluding chapter, I propose the notion of obdurate landscape-infrastructure to describe the ring road of Paris.

2.2.2 Barry Allen's 'fallacy of functionality'

In *Artifice and design*, philosopher Barry Allen proposes an inquiry into art and technology offering critical definitions of fundamental concepts such as *tools*, *artefacts* (as well as reflections on their aesthetics) and the *technical* that he distinguishes from *technology*. For this thesis, I am specifically interested in his critique of technology as

governed by a functional logic of instrumental rationality ... There is nothing 'pure' about technology. It is not a system with its own autonomous rationality. To talk about real-world technology is always to talk about a people, an economy, a history, a tradition of artifice and design. [T]here never could be a 'one best way' to make anything technically complex (Allen 2008, 6).

In his considerations on technical artefacts, Allen takes apart the idea of ‘technical rationality, of the ‘one best way’ as deriving from the ‘contemplative bias of classical Western philosophy’ (Allen 2008, 57), where the observing philosopher interprets artisanal production as perfected expression of a mental ‘template’ that ‘may appear effortless ... but only because of what they cannot see’ (Allen 2008, 56). He supports his contestation of technical rationality by engaging with a variety of fields including anthropology, archaeology, science studies and the critical theory of technology. Citing archaeologist Marcia-Anne Dobres: ‘Clay pots do not “need” to be made in a certain way any more than blade production “requires” prepare platforms of one sort or another. Those performance needs, those fabricative and use requirements (or production standards) rest with the makers and users’ (Dobres 2000, 92–93; cited in Allen 2008, 59). ‘Nothing is made as it is because only that way works’ insists Allen (2008, 59) with support from literature and examples. ‘Anything we make could have been made other ways. The “one best way” simply does not exist’ (Allen 2008, 59). Allen’s take on technical reason constitutes a very interesting intellectual ground to answer the research questions I set out in the previous chapter, specifically as I ask to what extent the route of the Boulevard Périphérique was the result of a political process, as opposed to an ‘apolitical’ technocratic endeavour or a choice determined by historical precedent. Or to rephrase this question, can I find evidence of a technically optimum route for the ring road? Allen, equipped with his critique of technical reason, would probably answer negatively. I test this critical position in this thesis.

In a development to his critique of ‘technical reason,’ Allen also addresses what he calls the ‘fallacy of functionality.’ ‘If form should follow function, why don’t seriously functional artefacts, like aircraft, ships or bridges look more alike?’ (Allen 2008, 126). Analysing projects and writings by prominent engineers of the 19th and 20th centuries, Allen deconstructs the idea that ‘form follows function’ by pointing up the correlation between ‘bad’ aesthetics and ‘bad’ engineering. He concludes that ‘good technical design (good engineering, the best work) is at once aesthetic and structural/mechanical, because the look and feel of a structure or device ... is as much part of the design problem as its structure or mechanism’ (Allen 2008, 146–47). In doing so, Allen disqualifies—without referring to it directly—the concept of ‘structural honesty,’ i.e., the idea that the aesthetics of a construction should *honestly* reveal its use without further ornamentation. Allen argues that there is no

such thing as a purely functionalist form and that there is no obstacle a good engineer cannot circumvent (though, there might be other issues at stake, like financial cost, or the opinion of a client). Allen's demonstration takes apart the reality of an *absolute* function. In essence, Allen demonstrates that technical reason is *social*. And should be analysed as such:

There is ultimately no distinction between a technological solution and a social, political, even aesthetic solution, because what 'works' is conditioned as much by available or invented technology as by the political, economic, historical, and aesthetic contexts that ultimately define any 'technological' problem, as well as the scope of acceptable solutions. (Allen 2008, 19)

Allen's take on technical reason and the fallacy of functionality reviewed above push us to foreground the cultural and aesthetical aspects of infrastructure in order to enrich our understanding of their technical, social and political dimensions. It offers interesting critical tools to apprehend the ring road as complex technology delivered by a technocratic government. Together with Hommels's obduracy, these concepts constitute solid grounds to critique the technical achievement that the construction of the Boulevard Périphérique constitutes.

2.2.3 Antoine Picon's 'social imagination' and tripartite understanding of infrastructure

In the last part of this critical design framework, I focus on Picon's 'social imagination' that he defines as an 'image-based system of representation and values that are shared by various collective stakeholders concerned with infrastructure, including politicians, administrators, operators, maintenance technicians and indeed users (their vision coinciding on some points and diverging on others)' (Picon 2018, 264). Picon's social imagination focuses on stakeholders' *minds*, and in doing so challenges 'the simplified rationality that is often attributed to them ... Images and ideals can colour and modify the strategies that they use to serve their interests, and sometimes considerably so' (Picon 2018, 264). He specifically refers to 'promoters and designers of infrastructure, such as engineers, whose motives stem from visions that can hardly be reduced to the maximisation of the utility function' (Picon 2018, 264). Picon also brings up the notion of 'project,' in order 'go beyond an approach that is too centred on the figure of the creative individual' and focus on collectives' imagination (Picon 2018, 265). Finally, he sees in the concept of social imagination a versatile understanding of politics—may it

be through the ‘stabilisation of the existing order’ or, on the contrary, ‘hatch[ing] projects that shake up existing order’ (Picon 2018, 265).

He supports his argument with the idea of network, that he defines as an ‘imaginary-practical entity,’ in relation to the concept of infrastructure. Network is so omnipresent in our imaginary that it has become naturalised argues Picon, ‘as if networks existed before they were invented by humankind’ (Picon 2018, 265). From this example of networks, Picon offers a ‘tripartite interpretation of infrastructure.’ The ‘material basis’ of infrastructure constitutes a first level, from which ‘a second level of professional organisation and stabilised socio-technical practices unfolds ... that does not only concern administrators, designers and operators of infrastructure’ but also users (Picon 2018, 267). Imagination constitutes a third distinct level that is not *above* the two others, Picon insists, but located at meeting point. ‘Just like space,’ explains Picon referring to Lefebvre, ‘infrastructure is produced at different levels, from the merely technical to more complex forms of social production in which practices and imagination are in constant interaction’ (Picon 2018, 267).

Picon’s social imagination and his take on infrastructure, that echoes Lefebvre’s spatial triad, is especially useful for this thesis because it engages resolutely with stakeholders’ imaginary, the colours, the textures, the sound they connect to infrastructure. This imaginary, this third layer, is a political space that stakeholders invest in relation to infrastructure. Picon’s social imagination offers a generous theoretical ground that I have relied on throughout this thesis, in conjunction with his research on technocracy (Picon 2007; 2002). I use Picon’s tripartite interpretation of infrastructure to analyse the Boulevard Périphérique. I specifically posit that the third layer, the imaginary space of the ring road, has constantly been in motion. Arguably, it existed prior to the two other layers. A consensus existed among all active stakeholders regarding a vision for the ring road, there was a shared desire to see the function promised by the ring road—guaranteed speed for car journeys, the decrease of traffic jams in central Paris—being delivered by this new infrastructure. When the first layer materialised in conjunction with the second layer of socio-technical practices, the third layer turned into a space of frictions and confrontations. The shared vision for a ring road for Paris was shattered by the material experience of the Boulevard Périphérique, with its third layer acting as a conflictual meeting point. I specifically develop this approach in relation to sound in the concluding chapter of this thesis.

2.3 *Conclusion*

The three concepts of obduracy, fallacy of functionality and social imagination offer singular yet complementary approaches for a critical engagement with the ring road of Paris. Their authors have different disciplinary grounding, but all offer a critique of infrastructure in which they warn that technology is never what it seems to be, whilst engaging with ideas of perception and imagination. These concepts invite us to consider a scope of possible sources: maps, blueprints, administrative correspondence, professional periodicals, higher education syllabi, interviews, as well as cultural artefacts to study large-scale infrastructure in order to position a given infrastructural object within a cultural, and/or socio-professional mindset.

The infrastructure-landscape critical design framework presented in this chapter was devised as an intellectual interchange that taps into the varied epistemological traditions of social sciences, aesthetics, and engineering. The diversity of disciplines allows to engage with a number of analytical inputs that would seem irreconcilable otherwise. It provides tools to analyse the aesthetic culture of engineers and technocrats, to dissect landscape-infrastructure as representations of modernity, to engage with technical decisions in relation to socio-economic elements, but also to analyse stakeholders' sensual reaction to urban landscape-infrastructure (from the visual pleasure of freshly-built concrete, to the inconvenience of noise from car traffic). It redefines the key settings of the controversy: in the case of the ring road of Paris, the debate is not about (dis)agreeing if, yes or no, the Boulevard Périphérique is an 'eyesore' but about questioning the politics of aesthetic preferences, different 'ways of seeing:' Whose eyesore? Whose ugliness? Whose pollution? It resituates the design of the Boulevard Périphérique within the specialised knowledge of its time, as well as critically enriches our understanding of the forces that enable or prevent such infrastructure to change over time.

Chapter 3 Methodological framework: socio- history of public action

By its physical magnitude, by the time spent on its construction from the first vote in 1954 until its completion in 1973, by its cost,¹ by its place in the landscape of Paris, the Boulevard Périphérique is arguably the most important infrastructure to be built in Paris in the second half of the twentieth century. And yet, it is an anonymous oeuvre. It does not have a creator incarnate: an architect, an engineer, or an aedile that would have initiated the momentum towards its creation. The ring road of Paris is the city's most mammoth and invisible monument. Indeed, the Boulevard Périphérique is a collective work, the creation of technocracy. In this chapter, I introduce the 'socio-history of public action' as a methodological framework to analyse the ring road of Paris, before introducing the methods, the fonds I have exploited and the limits of the methodology I have used in this thesis.

3.1 Socio-history of public action as methodological framework

The methodology of this doctoral thesis is based on the epistemological framework called *socio-histoire* ('socio-history'), and more specifically on the *socio-histoire de l'action publique* ('socio-history of public action'). I use the phrase 'epistemological framework' because socio-history is not a school of thought or an orthodoxy, but a diverse epistemological discussion that crystallised in the French-speaking academic journal *Genèses*, created in 1990 by historian Gérard Noiriel, together with Gareth Stedman Jones, Susanna Magri, Hans Medick, Robert Salais, Carl Schorske, and Christian Topalov. The editors of *Genèses* rejected the concept of multi-disciplinarity as a 'weak idea that entails deference towards academic silos and the institutions that perpetuate them' (La rédaction de *Genèses* 1990, 2).¹ Socio-historians contest the disciplinary boundaries erected by academia that, according to them, lead to missed opportunities for collaboration. This fluid, or hybrid approach to what constitutes

¹ The final cost published in 1973 was 2,078.5 million francs, 1,925.2 million euros of 2022, with an average cost of 80 million francs (€74 million) per kilometre (*Le Boulevard Périphérique de Paris* 1973, 36).

a discipline is at the heart of the epistemological discussion of socio-history. By *action publique*, or public action, I mean to describe: any form of public policy; the actions devised and carried out by the State and all rungs of governments, by local authorities and other public institutions; and all systems and stakeholder configurations that constitute these institutions and organisations. In line with sociologists Pierre Lascoumes and Patrick Le Galès (2012, 6) I prefer ‘public action’ to ‘public policy,’ as the former acknowledges the multiplicity of actors and configurations that cannot be circumscribed to the classic understanding of policy as devised and carried out by a centralised State in specific and well-identified domains of action. Therefore, I propose to understand the Boulevard Périphérique as the result of public action.

3.1.1 A weak label and a strong endeavour

As Noiriel explains at the outset of his *Introduction à la socio-histoire* (‘Introduction to socio-history,’ 2006), the concept of socio-history combines the founding aspects of both sociology and history as they have been set out in the 19th and early 20th centuries. Noiriel proposes three fundamental principles at the core of socio-history: the rejection of the reification of the social world; a focus on relationships of power (social domination, social solidarity, and the symbolic force of language); and an intellectual endeavour driven by empirical study, hence the recurrent description of socio-history as a methodological *boîte à outils* (‘toolbox’) by socio-historians. This focus on empirical study is

why socio-historians to this day have not felt the urge to define rigorously their domain. Focused on the analysis of precise empirical issues, their endeavour is guided by the care to better understand the world in which we live. The choice of tools and the way they are implemented always depends on the questions the study aims at solving (Noiriel 2006, 9).ⁱⁱ

François Buton has encapsulated the disciplinary hybridisation combined with a strong focus on methodology that defines socio-history as ‘*un label faible et une démarche forte*,’ ‘a weak label and a strong endeavour’ (Buton 2009 in Payre and Pollet 2013, 7). The manifest published in the maiden issue of *Genèses* explains that

[In *Genèses*] we will talk about history because it carries the present within itself. The focus of *Genèses* will be our societies: the processes that have shaped them and the representations they have built by themselves. ...

The contribution of *Genèses* to the debates of today will be to challenge that that goes without saying ..., to challenge the obvious—the obvious for all individuals, the obvious for the institutions, the obvious for the savants—to better understand their role in the conflict and regulations of our society (La rédaction de *Genèses* 1990, 2–3).ⁱⁱⁱ

I have found this challenge to obviousness inspiring. In the previous chapter, I have explained one of the shared elements between the concepts proposed by Picon, Hommels and Allen: no artefact, technology or infrastructure is obvious, or representative of a pure technical functionality where efficiency has been maximised. Furthermore, commonplace and clichés are so common when it comes to the Boulevard Périphérique, as I have explained in Chapters 1 and 2, that socio-historians' commitment to challenge what 'goes without saying' seems especially appropriate in the context of this thesis.

3.1.2 A specific methodology for a socio-history of public action

In the present section, I detail the fundamental aspects of the methodology for a socio-history of public action that have guided me in this thesis. To do so, I draw extensively from Payre and Pollet's synthesis *Socio-histoire de l'action publique* who situate their approach of socio-history within political science, in which they see a

repository and space of controversies more open to attempts of disciplinary hybridisation in comparison to other disciplines that have been institutionalised for a long time and that are therefore more inward looking, stuck on their assets, methods, routines and types of construction of their scientific objects (Payre and Pollet 2013, 35–36).^{iv}

Among the key principles constitutive of a socio-historic study of public action are the application of sociological methods devoid of any nomothetic ambitions, to instead embrace a comprehensive, empiricist and inductive approach. From historical methods originate a critical examination and cross-referencing of sources, a particular attention to anachronism, an effort to contextualise and to rely on facts, and an effort to build up knowledge from the study of traces or clues. An inductive knowledge from primary sources, most especially archives, also entails the 'invention of sources' by the accumulation of an array of varied empirical documents whose nature and materiality need to be questioned. These documents can be very diverse in their nature (archives, prints, oral, iconography, quantitative data, etc.). It also demands some criticality of the researcher towards their own methods :

‘By explaining their research tricks, the concrete process of collecting data and carrying out research, the research works offer what could be described as a genuine socio-historic ethnography’ (Payre and Pollet 2013, 37).^v For them, ‘actors are the results of processes both social and individual’ (Payre and Pollet 2013, 39).^{vi} Therefore, researchers should strive to go beyond a simple dichotomy between idiographic and nomothetic interpretation by focusing on processes, by acknowledging the singularity of case studies and actors studied. Finally, socio-history of public action is also about developing an ambition to analyse the State and its institutions through its actors—and contextualising such actors in their material environment.

3.1.3 Pertinence of the socio-history of public action in relation to the theoretical framework

As I have just mentioned, an inductive approach to fieldwork is a fundamental aspect of socio-history. Equipped with solid research questions and an adequate research protocol, the researcher should allow themselves to be guided by the sources, ‘even if it means being surprised, amazed, even if it means seeing one’s first intuitions confirmed or refuted’ (Payre and Pollet 2013, 41).

The source, the material, the facts, the testimonies are fundamental, and it is not about simply identifying a few examples to support a hypothesis, but to be truly guided by the material in a constant back-and-forth between questions and sources, between problems and examples, by integrating trials and errors, moving back, cul-de-sacs that need to be objectivised and turned into objects of knowledge. ... Socio-historians develop a great awareness to sources, that allows them to enter their terrains with a great intellectual curiosity and by limiting the weight of pre-established models—even though of course the research questions that guide their research endeavour are themselves linked to specific matrices of analysis (Payre and Pollet 2013, 41).^{vii}

The methodology of socio-history of public action comes in support of the critical design framework developed in the previous chapter. It offers an incredibly rich basis to research the social imagination of the designers that built the Boulevard Périphérique of Paris. The empiricist, inductive approach advocated by socio-history is particularly appropriate for this research as the Department for roads does not offer a coherent set of documents for each site (i.e., some apparently ‘minor’ sites might be rich in documents, other projects that could be perceived as major are almost absent from the archives). In the end, one finds the size, or the renown of a given project does not matter much: it is truly the quantity and diversity of available data that makes a good case study. The absence of direct

nomothetic ambitions offers a welcome respite from the academia's growing pressure to deliver 'impactful' research, even though this thesis' findings eventually constitute valuable forms of learning that, I argue, can be easily applied to other settings and socio-professional contexts. Socio-history's focus on relationships of power is also key as I analyse a design process with a clear hierarchy of stakeholders, as I will show in Chapter 5 specifically and throughout the thesis. The methods of socio-history in association with the landscape-infrastructure critical design framework has enabled me to address concomitantly the 'two orders of reality' described by Picon which constitute the social imagination of designers: infrastructure as technical system and infrastructure as social behaviour patterns (Picon 2018, 263).

3.2 *Methods and sources underpinning the literature review*

In this section I briefly mention the methods I have used to research the historical synthesis and historiographical elements presented in Chapter 4, as this process was slightly different from the analysis from primary sources that constitutes the core of my thesis, and that I will present next. This historical synthesis was initially imagined as a chapter to make sure any reader could have a detailed understanding of the historical layers that existed prior to the construction of the Boulevard Périphérique. Yet, it proved to be more challenging than I had anticipated. There are countless books on the history of Paris, but few dedicated to the fortifications, fewer on the Zone, and none on the ring road alone. I have also found many approximations or mistakes in the secondary literature—wrong dates, inaccurate references to laws and regulations, historiographical mistakes, etc. And because the secondary literature on these specific topics is limited, the mistakes tend to be repeated over and over, from source to source. The literature tends to 'stutter,' as authors often do not check the original documents. For instance, it is always the same *one* paragraph of René Mestais's 195-page report that is cited regarding the 1943 project for a ring road where Paris should not 'get drowned in its banlieue' (Inspecteur général chef des services techniques de topographie et d'urbanisme 1943).² This is because

² See '4.4 Early plans for the Boulevard Périphérique: 'The Magistral orb of Paris's crown' (1943).'

it was once used by Jean-Louis Cohen and André Lortie (1991, 246)—and it seems nobody has bothered retrieving and reading the original reference in full since then, a reference that is indeed very difficult to find, but available in the APUR library. This example is not a mistake per se, but an illustration that there is much room for critical historiographical work on the Boulevard Périphérique.

For this historical synthesis, I have used the software Atlas.ti to create my own database, keep track and cross-reference each source, mainly secondary sources. I have systematically marked up each date, theme, individual, site, law (Figure 14). This allowed me to create my own chronology, to list all legal proceedings, and to start establishing relationship between individuals, as well as to keep track of organisations—especially how their formal names changed over time.

The last part of the historical synthesis in Chapter 4 is based on my archival work and looks at the genesis of the Boulevard Périphérique. Because the genesis of the ring road has barely been touched upon by the only reference publication on this topic (Cohen and Lortie 1991), I felt I needed to go back to the document produced by René Mestais I have already mentioned. But I have also used the archives of the Department for roads from the 1940s and early 1950s that I introduce in the next section, as well as cross-referenced them with publications found in different issues of *Travaux* from the late 1949, to dig out the initial project of a ring road—both symbolically and in terms of road design.

3.3 *Working with archives: composition of the 2276W fonds, research methods and analysis of administrative correspondence*

3.3.1 **Locating relevant archival resources**

The historical traces of the Boulevard Périphérique's construction are located in many different archives and media. From its conception until its grand opening, it mobilised nearly all departments of the prefecture and of the city government, and especially the Department for roads. And as soon as its sections opened, the never-ending task of maintenance and improvements started. The publication released by the City of Paris to celebrate its inauguration lists seven prefects, nineteen presidents of the Council of Paris as well as sixty-two technical directors, chief engineers and section engineers who oversaw its construction (*Le Boulevard Périphérique de Paris* 1973, 11). It also lists the 169 contractors

that built the ring road: the tenders published by the Department for roads mobilised construction companies locally and nationally. Because it was a thoroughfare of a new kind, the ring road also demanded new regulations—speed limits, status of the road, maximum levels of sound, vehicles allowed, specific regulations, etc.—and as such involved the minister of the Interior and the prefecture of Police. It necessarily infringed on suburban municipalities in one way or another and was the pretext for large-scale urban planning operations there: the ring road exists in the archives of all the *départements* surrounding Paris, and all adjacent municipalities. As we will see in this thesis, designing the ring road involved all rungs of government—from councillors and mayors to the president of the Republic. It mobilised several ministries at any time, and as such the Boulevard Périphérique lives in their archives too, and those of their ministers. There are of course press clips, newsreels, as well as communication media released by the authorities that included documentaries, photographs, exhibitions. The ring road was a great engineering feat, and therefore the engineers of the Department for roads regularly published about their achievements, with articles on specific *ouvrages d'arts* (a bridge, an interchange, a tunnel) in specialised publications such as *Travaux*, *Annales des Ponts et Chaussées*, *Revue Générale des Routes et des Aéroports*, *La Construction Moderne*, among others, as well as architecture and urbanism periodicals such as *Urbanisme*, *Technique et Architecture*, *L'Architecture française*, *Paris Projet*. These articles on their own could constitute fertile research grounds for a thesis.

The trail of documents left by the ring road's construction is thus immense, spread out in a variety of fonds held by different institutions: a non-exhaustive list would include the Archives Nationales, the Archives de Paris (that host the documents concerning Paris produced by the *préfecture de la Seine*, the City of Paris, the Council of Paris), the archives of the *départements* of Val-de-Marne, Hauts-de-Seine, Seine-Saint-Denis, and the local archives of the twenty-five adjacent municipalities: Gentilly, Kremlin-Bicêtre, Ivry-sur-Seine, Charenton-le-Pont, Saint-Mandé, Vincennes, Montreuil, Bagnolet, Les Lilas, Le Pré Saint-Gervais, Pantin, Aubervilliers, Saint-Denis, Saint-Ouen, Clichy, Levallois-Perret, Neuilly-sur-Seine, Puteaux, Suresnes, Saint-Cloud, Boulogne-Billancourt, Issy-les-Moulineaux, Vanves, Malakoff and Montrouge. One could add all the archives held by contractors, architects, etc. and an unknown number of private archives.

All these actors have had different archival policies and might have changed these policies over the years depending on the choices implemented by their archivists. The archival landscape for the Boulevard Périphérique is also not completely static, chance discoveries still happen. For instance, a stack of damaged papers was found in 2013 in a hollow pile of the Boulevard Périphérique. Saved and referenced by the archivist of the Department for roads, they are now in the custody of the Archives de Paris (fonds 4251W).³ My point is that the intellectual challenge when studying the construction of the Boulevard Périphérique is therefore not *where* to find archives, but *which* ones to use and to what purpose.

3.3.2 Introducing the fonds 2276W and the archives of the Department for roads

For this thesis, I have studied almost exclusively fonds 2276-2277W that contain records of the works carried out by the Department for roads from 1856 until 1991. I have not found relevant data in 2277W and will therefore only refer to 2276W. As for most public archives, the fonds respects a twenty-five-year gag order, which means the latest documents related to the construction of the Boulevard Périphérique have been available since the 2000s.⁴ The fonds 2267W is made up of 450 call numbers, that refer to 450 boxes 30-centimetre-high, 40-centimetre-long and 38-centimetre-deep. Each of these boxes contain about 500-1,000 sheets organised in a slightly different way from one box to another. Most of these sheets are equivalent to an A4 or letter format. We often also find folded maps which can reach several square metres when unfolded (Figure 15).

Most of these sheets are typed, often with handwritten additions. They also regularly hold manuscripts that are often the drafts of correspondence eventually typed by secretaries. The usual configuration is that a single topic is held in one folder. It is likely that to arrange documents by topic was the way employees and archivists of the Department for roads organised their data in order to retrieve information more easily. The content of a folder can sometimes stretch over 50 years or more—

³ See '1.3 Identifying the right data sources: a process of trial and error.'

⁴ Public records in France are ruled by a specific code of law related to heritage (*code du patrimoine*), specifically articles L213-1 to L213-3. Public records that are about administrative or political ruling are released after twenty-five years. If these records contain also personal data, for instance the name of an individual making a claim, they are held for fifty years.

the decisions recorded in the minutes of a meeting held in 1908 might be still relevant to civil servants working the same case in 1968. Minutes, administrative correspondence, might carry the same weight as deeds in the sense that the minute of a meeting constitutes a legal precedent that can be referred to at a later point in time. In this folder, we therefore find all relevant correspondence to a specific case as well as the different drafts (called *projets*) of the replies sent by the Department for roads. Such cases might go from minor issues—a wall has been destroyed by a lorry and needs to be rebuilt; Mr X has written to the prefect to complain that the road where he lives is dirty—to major ones: a school needs to be destroyed to build a section of the ring road, the mayor of a suburban town wants to build a bridge over the ring road. These replies were often drafted by the ground-level engineers on behalf of their superiors. To illustrate this process, let us say that a citizen writes to the prefect of the Seine about a situation that concerns the Department for roads (parking, maintenance, noise, etc.) The staff of the prefect will pass on the correspondence to one or several departments asking for elements to constitute their reply. It is passed on to the general director for technical services, who passes it on to the director for roads, who then passes it on to the chief engineer and then to the local engineer (or several engineers, if the issue relates to several locales) who can provide a very specific answer. Once a first draft is prepared, it goes in the other direction and ascends the hierarchy—validated, amended, rejected by the different administrative rungs one after the other—until it reaches the prefect. This correspondence journey across the hierarchy offers an incredible window into the decision process of the Department for roads. It shows the elements that are selected to be kept or omitted from one hierarchical level to another. It illustrates the communication strategies to convince one's superior or one's colleagues. And of course, it is an unpolished peek at the decisions being taken—including those hypotheses and projects that were never implemented. It can also include ideas, expressions of doubts, critiques, candid comments from colleague to colleague that have never been shared outside the Department for roads.

I argue that administrative correspondence, however dry and impersonal, is indeed some form of epistolary writing that mirrors discussions, and power relations, that crystallises the complex meanders of decision processes. The literary quality of the memos I analyse in this thesis shows that reaching a decision regarding the construction of the ring road was also about convincing, if not persuading, one's superior, one's peer, or an influential politician. The exchanges are written in plain

French—we rarely encounter engineering calculations for instance—and as such they represent a translation of technical aspects. The only calculations that are recurrent and the subject of heated debates are financial. Such administrative literature also shows the kind of social issues reframed as technical reason that we touched on in the theoretical framework: it feeds into our critical understanding of the making of technical reason and the social imagination proposed by Antoine Picon. My analysis of these texts unearths the implicit and explicit social elements they contain. I do so by attentively reading their different versions—analysing how the language used, the grammatical construction, styling and punctuation reveal the substance and aim of the decision processes they mediated— as well as their factual contents (dates, orders, figures, etc.).

Other documents include maps, reports, photographs, surveys, technical publications, sometimes press clips. Maps are of course particularly interesting, but difficult to use. They are often several square metres large, and are therefore difficult to photograph, and/or compare to one another— for lack of space at the Archives de Paris to spread them out. They rarely offer valuable information that would not be available in the written documents. Still, they could certainly be the subject of a dedicated analysis focused on iconography. Surveys and technical publications are documents produced by consultants and contractors. I have rarely used them—unless they are annotated or contradict the official position of the Department for roads. As for photographs, I have mentioned that I am carrying out a side project on that specific aspect,⁵ but there was no room in this doctoral thesis to address this theme in depth, beyond using iconography as illustration—both existing pictures from the archives, and contemporary pictures I have shot myself.

3.3.3 Methods for archival work

In line with socio-history's methods, I initially approached the archives with an intuitive and open mind, equipped with my research questions but with no specific case study in mind, allowing myself to be guided by the sources. By specific case study, I mean a section of the ring road, a *porte*, a viaduct. I initially skimmed through the documents, taking pictures of each relevant element. I took

⁵ See footnote 12, chapter 1.

succinct notes in an Excel file describing the content of each box I opened. During this process, I identified recurrent topics, individuals, organisations, sites, dates that could be of interest for my research. The process of skimming these documents, instead of exploiting them in-depth immediately, helped me develop a more coherent understanding of the process of designing the ring road. It also probably fit my personality, and the way my brain works, making for exciting (and exhausting) short days in the archives, and leaving the slow-burn process of analysis to be carried out in the comfort of my office. I quickly found myself with enough topics to fill several doctoral theses. Aware of my propensity to hoard data and postpone writing, I have alternated fieldwork and writing. I have therefore carried out both fieldwork and analysis in parallel, going back and forth between the two terrains—sometimes the opening of a new box enriched my understanding of an aspect of my analysis that had remained unclear, sometimes I would go back to the archives looking for a very specific element to feed into my analysis.

I have embraced an element of serendipity in my research. The name of a site, of an individual, an expression I recognised might have reminded me of some elements I had read months ago. I would go back through my photographic captures of archival materials to find the traces I remembered. It rarely took me more than a few hours to retrieve the information. This is what happened with the case study of the social housing at Porte de Ménilmontant mentioned briefly in Chapter 6 and extensively in Chapter 7. When I first skimmed through documents in March and April 2021, I did not know this housing estate would become a key case study. In late 2021, I realised this could be an interesting case study to develop—I went back through my captures to read again what I had collected in previous campaigns and retrieved the missing elements that were needed to finalise my analysis. I followed up with a very focused fieldwork period in the archives in February 2022.

As this doctoral research was carried out part-time, I have explored different devices to keep track of my research progress and findings in a consistent way. I have accumulated in a variety of places—physical and digital—a mass of documents, and information that constitute my own database. Bibliographical references, stored digitally in Zotero and in my physical library; documents ‘coded’ in qualitative analysis software Atlas.ti; notes stored in software Scrivener, that I also use to write the first

drafts of my chapters; as well as some research leads recorded in project management software Omnifocus. And of course, all the photographs I have taken in the archives.

3.3.4 Adapting the research protocol to Covid-19

It has been challenging to carry out fieldwork in the Archives de Paris during the Covid pandemic, and I had to adapt my research protocol. When the archives opened again after being completely shut for several months following the first French national lockdowns,⁶ it was mandatory to book an appointment, and these were difficult to secure. Appointments needed to be booked weeks in advance, and it was not possible to secure more than two or three days in a row, and no more than a few days a month. My initial plan to carry out two to three weeks-long fieldwork campaigns had to be rethought. To this difficulty, one needs to add the fact that the fonds 2276W is held in the annex located in Villemoisson-sur-Orge (Essonne), and not on the main site of the Boulevard Sérurier (Paris). This means each box needs to be booked ahead in order to be delivered in one of the two weekly shuttles that connect the annex to the main site, on Tuesday and Thursday afternoons. To order the ‘wrong’ call number with no relevant documents in them for my research could mean two days of wasted time waiting for the next delivery, on top of wasted booked slots.

These elements, together with my life as a self-funded part-time doctoral student with a professional activity on the side, have pushed me to organise my fieldwork in short intense sessions of no more than a few days, and to rely on digital photography to capture the documents. The idea was to capture as much material as possible in one session, and to work from my office in London and then Lille where I moved in May 2020. Over a few intensive days in the archives, I could accumulate enough material to keep me busy for weeks. I bought a photographic stand to place my smartphone, shot images in a resolution high enough with software Adobe Lightroom for smartphone and in a lossless format, that does not compress data, allowing for more flexibility even after the photography is exported. I would initially read the document quickly to understand if it could *potentially* be pertinent for me. If

⁶ The Archives de Paris were closed from 16 March 2020 to 7 July 2020. Open by appointment only from 7 July 2020 until 30 October 2020. They were closed again from 30 October 2020 until 19 January 2021. By appointment only from January until 30 March 2021. Closed again for two weeks from 30 March 2021 until 13 April 2021. Opened by appointment only from 13 April 2021 until July 2021 and opened without appointment from July 2021.

yes, or if in doubt, I would then photograph each sheet. In 2021 and 2022, I have taken close to 10,000 photographs, and went through probably three to four times that number of pages. I have consulted 114 items (boxes) in 10 fonds.

The photographs of the archives were initially stored on Adobe Cloud. They were then exported as DNG (a lossless picture format) and JPEG (a compressed picture format). I assembled each box (e.g., 2276W 288) in a single PDF file that I compressed—to reduce its size—and scanned with an optical character recognition (OCR) software, to make the text searchable with any PDF reader. Text recognition is not satisfactory because it fails to transcribe accurately a great number of words and cannot analyse handwriting. Therefore, I do not rely on it for my research, but it can still produce some interesting chance results—for instance searching for a word across all documents—but always keeping in mind the search results are inaccurate and partial. All documents are saved in multiple locations to reduce the risks of data loss—several ‘clouds’ and hard-drives. I have also devised a referencing system for the archives I exploit in this doctoral thesis, it is made of the call numbers of each item, and the page number of the PDF that I have compiled. For instance, 2276W 288, 65 is the fonds 2276W, box 288 and page 65 in my PDF. I have not attached the PDFs I have compiled in the appendix of this thesis, as they represent thousands of pages, but I am keeping them available to any researcher that would want to consult them. And of course, these documents are freely accessible public records.

3.4 *The limits of archival work*

Analysing the ‘voices’ of the actors of the design and construction of the Boulevard Périphérique through their administrative correspondence has its limits, which I need to acknowledge. While we are free from the hurdles of a semi-direct interview—e.g., empathy of the researcher for their interviewees, unstable memory of the interviewee—we face other shortfalls. Administrative correspondence constitutes a highly controlled expression, that of professionals writing to their peers, to superiors, to contractors, more rarely to members of the public directly (this is the prerogative of the higher rungs of power). The words are chosen carefully, the language is administrative. And yet, as I have already explained, we learn from the different version of a same memo, from the internal notes,

but also by reading documents that were not shared outside the service—such as technical reports. It is those gaps, those ‘cracks’ in an extremely polished writing activity that constitute the data I have used in my analysis.

Archives are necessarily the result of a selection process. Over the years, the archivists decide what to keep and what to discard, as I have already explained. The fonds 2276W do not contain *all* documents produced by the Department of roads since 1856 until 1991. The mass of documents would be even more overwhelming. The documents can also be lost, misplaced, damaged, destroyed by mistake, etc. And beyond the conservation operated by a professional archivist, there is also a question of what the civil servant decided to keep in the first place. Several documents are marked with a mention *À archiver*, ‘to archive,’ often with the topic it relates to. Some documents have been destroyed because they were not deemed worthy of being archived—not everything can be kept. While this would be illegal, we can also imagine that embarrassing documents have also been destroyed. This is a possibility, but I have no evidence to demonstrate that documents have been destroyed with malice.

There is also the question of *what* is recorded. It was not common practice for an engineer to donate their personal archives—if any. I have encountered only one personal archive in my research, that of Antoine Lacroix (1901–1983), Mayor of Kremlin-Bicêtre (1947–1983) and compulsive writer. In general, we do not have access to personal thoughts or diaries. We do not have access to the hearsays, the personal conversations. There is no ethnographic account of the lives in the offices.⁷ The luck that a researcher interested in the pre-digital period has is an easy access to a paper trail that can be followed—e.g., I have explained the various drafts for a single memo that all survive in paper versions. This task would be much more complex with digital files where a digital text document goes from mailbox to mailbox with limited tracking available of who does what.

We also often have access to the minutes of the meetings, that act almost as a legal document. These minutes are shared with all the participants, who validate, annotate, or contest some specific

⁷ To find inspirations in the works of micro-history, e.g., Carlo Ginsburg’s *The Cheese and the worms* (1980); Alain Corbin’s *The life of an Unknown* (2001) in order to research post-war urban planning could constitute an interesting research avenue. An historical approach that would find inspiration in the work of scholars such as Jean-Marc Weller (2018), and Jérôme Denis’s ‘scriptural construction of reality’ (Denis 2018) that I have read as I was finishing writing this thesis are also very exciting critical and methodological prospects.

elements. Some oral exchanges are recorded in a succinct way in writing. When the topic discussed is significant, phone calls or face-to-face discussions are often summarised in follow-up letters ('As per your instruction given over the phone on the...'). Discussion from peer to peer, especially between engineers of the corps des Ponts et Chaussées, are rarely mentioned anywhere. They remain an unrecorded exchange that can have direct consequences on the decision process, and for which we have no traces. On this question of oral communication, the study of the corps des Ponts et Chaussées by sociologist Jean-Claude Thoenig published in 1973 confirms this aspect. Thoenig writes that engineers of Ponts et Chaussées are

not inclined to bureaucracy: their workflows are not regulated, their contacts with the local population are direct and flexible, the organisation of the departments and the posts not often regimented by regulations, etc (Thoenig 1973, 21).^{viii}

It is important to mention Thoenig here refers to the ministère des Travaux Publics ('Ministry for Public Works') and its administration that is made of the corps des Ponts et Chaussées, not specifically those engineers in post at the prefecture of the Seine. But this quote illustrates the culture of this corps. Another excerpt of an interview carried out by Thoenig of a *directeur du personnel* ('personnel manager') is even more telling to illustrate the orality in the practice of engineers of Ponts et Chaussées:

I don't write from department to department, I use the phone, or I meet with the engineers in chief. This takes place from man to man (Thoenig 1973, 48).^{ix}

We sometimes find elusive traces of such meetings, for instance this convocation for a formal meeting at 3 p.m. on 2 December 1970 sent by the director for roads Robert Dussard to all *ingénieurs généraux* ('general engineers) and *ingénieurs en chefs* ('chief engineers'). At the end of the convocation, we find an invitation for lunch extended to all participants at a restaurant next to city hall (2276W 24, 216–217) in the salon 'Normandie.' We have no official records of what was discussed during lunch, but we do have the minutes of the formal meetings that took place in the afternoon (2276W 24, 205–215). It can be expected that the lunch meeting that took place in a private salon in a restaurant next to their office was more informal, discussions were more open, and it would have been the opportunity to prepare the formal meeting, in order to speed it up and make sure it did not go off track, aware that a secretary would be present to record the minutes. The elements presented by Thoenig, and the example I brought

up are some illustrations of the culture of orality that existed in the Department for roads in the 1960s and 1970s, and therefore of the limits of exploiting archives to understand their everyday practice.

3.5 *On writing and translation*

The study of language is an essential part of my analysis in this doctoral thesis. I am stating the obvious when I write that the language I analyse is French, whilst the one in which this thesis is written in English. I have written my thesis in such a way as to make sure readers who are not familiar with French culture, French history, or the French language can fully understand the arguments I develop. I open this thesis with a preamble in the form of a glossary, to support this endeavour and provide terms that are essential to understand from the very first pages. I have translated all the texts I analyse. My translations privilege faithfulness over style. I have tried to remain as close as possible to the original. I have sometimes reproduced the mistakes present in the original—erratic punctuation, spelling mistakes, convoluted grammar constructions. Yet, I have only done so when it brought character, or some elements to the analysis. I have mentioned orality earlier, and even in written documents we find traces of such orality. In a similar fashion to what an email could be today, paper correspondence could be very formal, crafted with care; or, on the other hand, ‘quick and dirty,’ written with haste, anger, passion even. When relevant, I have explained the acronyms, specific cultural references, double-entendre, etc. All original excerpts from French texts are provided in the form of endnotes in Appendix 3: in doing so, I make them available to francophone readers in the original text.

3.6 *Conclusion*

The ambition of this chapter was to present the methodological framework (socio-history of public action), methods, sources of data and analytical approaches used in this PhD in relation to its research questions and to the conceptual framework presented in the previous chapter. It was an opportunity to acknowledge the limits of the methods and the archives that I have relied on. To use the phrase cited above, I have ‘explained my research tricks.’ The administrative correspondence held in

the archives of the Department for roads is everything but dry. There is life, personality, some form of passion, ambition, desire in them. Over several years, we follow the progression in the hierarchy of key actors, for instance engineers André Herzog or François Ozanne. We get to recognise their writings, their style, but also the moment when they are angry, under pressure. We see the subalterns they like, the superiors whose orders they follow with respect, those they despise.

There is materiality in the archives, too. The fragile paper, the letters still sealed, the perfectly creased plans—but also the heavily damaged documents, the hand-drawn maps, the darkened carbon copies, the rusty paper clips and those in pristine conditions that seem to have been attached yesterday. Going through the archives, we follow the evolution of the tools that supported urban planning. From the constraints of hand- and typewriting, to the easiness of early electronically-assisted composed documents in the 1980s. The archives I have exploited in this thesis also represent a key moment in time for administration and urban planners professionals, when the workstation inexorably evolved from artisanal to electronic ways of working—not necessarily improving the quality or reliability of the work archived and the mediatic supports (e.g., the quality and precision of hand-coloured maps has nothing to envy to computer-assisted mapping, but certainly required different skills and more personnel). One may feel pity for the historians of tomorrow who will be analysing e-mail threads (if they have access to them), and electronic copies of documents—that said, I am sure they will come up with yet-to-be-invented electronic archaeological methods. In the materiality of these archives, we also encounter history's 'piling wreckage' described by Walter Benjamin, in his analysis of Paul Klee's *Angelus Novus*. Nowhere is the fragility of democracy more terribly represented than in the strokes of a typewriter striking through *République française*, to write instead *État français*, the formal name of the Vichy regime (Figure 16). Abiding by the constraints of academic writing and within the limits of my skills as a writer, I have tried to express from the archives the past lives they have carried over half a century, like one expresses the juice from a ripe orange.

Chapter 4 The ring before the road: historical context to the construction of the ring road (1841–1943) and initial building steps (1943–1959)

In 1992, mayors from the Paris region were invited to the Pavillon de l’Arsenal for the vernissage of the exhibition curated by Jean-Louis Cohen and André Lortie, ‘Les seuils de la ville, Paris des fortifs au périif’.¹ The urbane cocktail quickly turned sour when elected officials of the banlieue used that platform to collectively demand the restitution of the lands that had been annexed to the City of Paris by Napoleon III in 1859, when the limits of Paris were extended up to the fortifications. This anecdote was recollected by Jean-Louis Cohen in a radio broadcast (‘Conversation sur le périiph’’ 2021) that aired on 7 April 2021 for the expanded re-edition of the exhibition catalogue (Cohen and Lortie 2020), with a new foreword by Emmanuel Grégoire, First Deputy Mayor of Paris in charge of urban planning, architecture and the Greater Paris. In the same broadcast, Grégoire was keen to show how the city’s current approach to the process of making the Boulevard Périphérique ‘invisible’ was vindicated by history and especially by the territorial expansion of 1860. The 1992 anecdote, the deputy mayor’s discourse in 2021, and the re-edition of the exhibition catalogue, are illustrations of the dynamic layering and reencountering of historical events when it comes to the ring road of Paris and the edges of the city proper. In this instance, it is difficult to understand the banlieue mayors’ action at the vernissage if one has no comprehension of the annexation process of 1859–1860, the polemics it created, the scars it has left (spatial of course, but also in one’s apprehension of the State’s attitude as it ignored the will of the people in the suburbs) that remain vivid to this day, and the legacy of this decision.

This chapter’s first aim is to provide a historical background to situate the thesis subsequent analyses of the Boulevard Périphérique. One cannot fathom the cultural, historical, and political context of the ring road today if one does not understand the Commune of 1871, the figure of Georges Eugène

¹ ‘The thresholds of the city [of Paris]. From the fortifications to the ring road.’ See Pavillon de l’Arsenal (1992).

Hausmann, the idea of a Greater Paris dating back to 1910, the influence of the social hygiene movement on Paris urbanism from the late 19th century and well into the 20th century, the *ceinture rouge* ('red belt') of communist and socialist-led suburban cities that crystallised in 1924, etc. The ring road built in 1956–1973 is inscribed in a long historical journey, arguably going back to the early 19th century, that needs to be synthesised before delving into any analysis. This initial historical and cultural contextualisation necessarily remains focused on essential aspects directly related to the research I present in this thesis. In addition to this chapter, I have also provided a more detailed timeline as an appendix. The first part of the chapter goes up to World War II and relies almost exclusively on secondary sources. It is structured chronologically and thematically through three sections: the Zone of Thiers and Hausmann (1840–1912); green belt versus red belt (1912–1940); and the Vichy regime and its legacy (1940–1949).

In the second part, the chapter establishes the genesis of the ring road, unearthing the initial constructed sections of the ring road that were built from 1949, way before the official start date for the construction that is usually cited (1956, after a vote in 1954). Based on primary and secondary sources, this second part constitutes an original contribution to our understanding of the early phases of the ring road, by offering a revised chronology of the Boulevard Périphérique construction.

4.1 *Historical context: the Zone of Thiers and Hausmann (1840–1912)*

4.1.1 **The Thiers wall, a military fortification for Paris**

From 1845 up until the 1930s, Paris was surrounded by military fortifications doubled up by a *zone non aedificandi*, an area under military easement where it was theoretically forbidden to build. If the former were completely removed in the 1920s, the strip of land *non aedificandi*, 250-metre-deep and 34-kilometre-long, survived at least until the 1970s, until the completion of the ring road that was essentially built on it. The fortifications themselves (the bastions) were about 130-metre-deep. Together with the 20-metre-wide military boulevard that ran inside the fortifications, and the outside restricted zone, the last enceinte of Paris occupied an area about 400-metre wide and 34-kilometre long. It

represented a surface area of about 1,200 hectares (circa 12 square kilometres) for a city of Paris that covered 7,800 hectares (78 square kilometres) in 1860 (Figures 6–7; 17–20).

Paris has been bounded by a series of walls that have acted as administrative and fiscal boundaries as well as military infrastructure since the 4th century (Gagneux and Prouvost 2004, Figure X). Yet, the sole purpose of the remaining wall achieved in 1790 and that had survived in the 19th century, the Mur des fermiers généraux ('Wall of the General farm'), was the collection of octroi on goods coming in and out of the city. When president of the Council² Adolphe Thiers³ granted emergency credits to build the fortifications on 13 September 1840 with works starting immediately, Paris had not been fortified since the destruction of the enceinte 'Louis XIII' removed at the end of the 17th century. The French Parliament only enacted a posteriori the construction of the wall with a vote on 3 April 1841.

The impact of the erection of the 'Thiers wall,' as it would be colloquially known, on the spatial planning of Paris was profound. The State chose to surround the capital city with a fortified wall at a time when most European cities removed or retrofitted their own (Cohen and Lortie 1991, 41; Charvet 2005; Saly-Giocanti 2012). The enceinte of Paris was flagged as a major constraint on the development of Paris by contemporary commentators such as César Daly,⁴ at a time of great urban growth. Historian Patricia O'Brien has analysed the construction of the fortifications as *l'embastillement de Paris*, a neologism formed on the infamous Bastille prison-cum-fortress initially coined by politicians François Arago in 1833, a strong opponent to its construction (O'Brien 1975; Arago 1833). The expression would live on to become a commonplace in the second half of the 19th century (Cohen and Lortie 1991, 32). While proponents argued that it was not up to the people of Paris to decide how to defend the 'head and

² President of the Council was a function that disappeared with the Fifth Republic (1958–). It was roughly equivalent to the prime minister in the United Kingdom.

³ Adolphe Thiers (1797–1877) was a lawyer, journalist, historian and statesman. Successful writer, author of an *Histoire de la Révolution française* ('History of the French Revolution,' 1823–1827) he was a key political actor from the 1830s until his death. He worked towards the establishment of a constitutional monarchy after the French Revolution of 1830. Opposed to Napoleon III, he regained power after the fall of the Second Empire. Reactionary figure, Thiers decided to crush the Commune of Paris during the *semaine sanglante* ('bloody week,' 21–28 May 1871). Thiers was president of the Council from 22 February–6 September 1836; 1 March–29 October 1840; and for a single day on 24 February 1848. He was again head of the French executive from 17 February–31 August 1871, and president of the Republic 31 August 1871–24 May 1873.

⁴ César Daly (1811–1894) was an influential French architect, director of the *Revue Générale de l'architecture et des travaux publics*. Awarded the Légion d'honneur (1861) and the Royal Institute of British Architects (RIBA) Royal Gold Medal (1892).

heart' of the kingdom, opponents denounced a fortification that was as much about controlling the people of Paris as stopping possible invading armies (Moret 2008; 2012).

4.1.2 The *Zone non aedificandi* and the annexation of 1860

From 1846, shacks started popping up in the area *non aedificandi* around the fortifications known as *the Zone*.⁵ They housed poor Parisians and blue-collar workers, ragpickers (*biffins*), artisans, Romani, sex workers, immigrants (Leveau-Fernandez 1983, 14–15; Capizzi 2012). Settlements mushroomed without any control and land speculation was rampant: an ambiguous legal situation regarding the military easement fuelled the appetite of speculators and aspiring landowners (on the legal status of the *Zone*, see Sardain 2014). Article 9 of the law of 1841 that formalised the construction of the enceinte had specifically dissociated the erection of the fortifications from the limits of Paris and the collection of the octroi. Both fiscal and administrative boundaries had remained within the limits of the Wall of the General farm of 1790 and President Bonaparte (later, Napoleon III) had renewed publicly that commitment in November 1852 (Montel 2012b, 104). Thus, the fortifications were presented solely as a military infrastructure. The collection of the octroi, that applied outside Paris proper too but at a lower rate, fuelled the occupation of the *Zone*: for the most underprivileged population it meant an increased purchasing power as they remained outside Paris proper and did not have to pay the Parisian tax rate (Montel 2012b, 102). Less taxes and regulations also drove light industries to settle in the military zone and adjacent suburban towns (Cohen and Lortie 1991, 38; Montel 2012b, 102; Leveau-Fernandez 1983).

The *Zone* had already started to emerge as a definite spatial entity in the 1850s when George Eugène Haussmann⁶ started his grand renovation of Paris (1853–1870). Through his urban planning programmes, he managed to crystallise this metaphoric and literal 'in-between' space—in-between Paris and banlieue, in-between legality and informality—by kicking working classes out of Paris proper

⁵ See entry 'Zone' in the glossary.

⁶ Georges Eugène Haussmann (1809–1891) was a politician and civil servant, prefect of the Seine (1853–1870) of Napoleon III. During his term, he carried out significant urban planning works and remains an iconic, (in)famous figure in French (and international) urban planning cultures (Benjamin 2002; Harvey 2003; Jordan 2004).

to make way for a ‘regenerated’ bourgeois city (Pinon 2016, 198). The destruction of Parisian working-class housing by Haussmann in central Paris and the limited housing stock available to rehouse them pushed populations outside of the city proper, and especially into the Zone (Cannon 2015, 19). The emergence of the Zone was also therefore that of new socio-spatial structure of Paris, a renewed class-based spatial segregation of centre versus periphery, east versus west, as analysed by geographer David Harvey (2003). The censuses of 1851 and 1856 showed a significant population increase in suburban towns adjacent to Paris (Montel 2012b, 102). As Leveau-Fernandez (1983, 14) explains, life in the Zone was also an opportunity for blue-collar workers and the least affluent inhabitants of Paris to live a relatively comfortable life in a ‘cottage’ they could not afford anywhere else, surrounded by a garden where they could grow vegetables.

For historian Virginie Capizzi, what worried inhabitants and aediles of suburban towns was not so much the construction of the new fortified enceinte, but the possible redefinition of the octroi and the annexation of whole or portions of suburban towns that now stood within the Thiers wall (Capizzi 2012). That fear came true in 1859–1860. Despite strong local opposition (Montel 2012a), the law of 16 June 1859, also known as ‘Riché law,’ was promulgated on 1 November 1859 and came into effect on 1 January 1860. The annexation meant that from the first day of 1860, eleven municipalities disappeared totally to be incorporated in Paris: Grenelle, Belleville, La Villette, Vaugirard, Auteuil, Batignolles-Monceau, Bercy, Charonne, La Chapelle, Montmartre, Passy became neighbourhoods of Paris. And the territories of nine other towns were amputated as some of their districts were also annexed to Paris: Neuilly, Le Pré Saint-Gervais, Pantin, Saint-Mandé, Ivry, Gentilly, Montrouge, Vanves and Issy. Paris had doubled in size, and now the octroi duties for Paris were collected at the Thiers wall. For Cohen and Lortie (1991, 41) ‘the wall [was] now more of a political and fiscal threshold than a military one.’ⁱ It also reinforced the figure of an ogreish Paris devouring all surrounding municipalities as it expanded.

The occupation of the Zone intensified after the defeat of 1870, as the Army progressively lost any interest in maintaining a continuous military wall all around the capital city (Cohen and Lortie 1991, 66). Napoleon III had declared and lost the war against Prussia. His demise came soon after the

defeat of the French army in Sedan on 1 September 1870 as the Third Republic was proclaimed at Paris city hall three days later. The siege of Paris by the Prussian army from 17 September 1870 to the city's formal surrender on 26 January 1871 demonstrated the relative uselessness of the Thiers wall. Contested by the people of Paris, the surrender led to an insurrection: the Commune of Paris lasted 72 days (18 March 1871 to 28 May 1871), eventually crushed by the regular army serving the Government headed by Adolphe Thiers.⁷

Of course, it was noted that the siege of Paris had lasted for more than three months, much better than the 24-hour defeat of 1814. Yet the shells of the Krupp canons hit Paris without much difficulty, whilst the Prussian long-range weapons remained way beyond the firing lines of the detached forts. And the forts once controlled by the *Versillais*, the loyalist army, had become exactly what Arago had feared: a fatal infrastructure to shoot at the Parisians instead of protecting them. By the end of the 1880s, as technologies of warfare were fast evolving,⁸ the Thiers wall was unanimously considered redundant. The Zone then became an important area in the cultural landscape of Paris. The slopes of the fortifications and the surrounding strip of land were spaces of leisure for the Parisian working classes and *petite bourgeoisie* (Figure 20). The Brothers Goncourt, Emile Zola, Joris-Karl Huysmans, Vincent Van Gogh, have all depicted the Sunday walks on the fortifications and the landscape of the Zone (Cannon 2015; Leveau-Fernandez 1983).

They walked through the city gates, past the Lorraine-sausage and waffle stalls, the cheap wooden taverns and arbours devoid of greenery where jostling crowds of men, women and children were eating fried potatoes, mussels and prawns, and they arrived at the first field, the first living grass; on the edge of the grass, there was a handcard laden with gingerbread and peppermints and a woman selling liquorice water from a table in the ditch... In this strange countryside, everything merged, the smoke from frying food with the evening mist, the sound of people playing *tonneau* with the silence of the sky, the acrid odour of

⁷ Known as the *semaine sanglante* ('bloody week,' 21–28 May 1871), when the Thiers government led the repression against the communards. Mass executions were carried out. The final headcount remains virulently debated today: between 5,700 and 7,400 dead for Robert Tombs (2012), 10,000 to 15,000 for Michèle Audin (2021). I am taking the time to briefly remind readers of these events, not only for their incredible violence and significance in the history of France (and socialism), but also for the multi-layered symbolism they carry within them, and the echo they have borne to this day in relation to the space of Paris (Ross 2008). This is a heavy heritage that interweaves culture, politics, and the built environment and that remains active to this day. In February 2021, in the run-up to the commemoration events planned for the 150th anniversary of the Commune, the conservative opposition in the Council of Paris reiterated their hostility to any endeavour that would 'glorify' the Commune of 1871, sparking a debate with the socialist-led coalition (Cosnard 2021a).

⁸ For instance, with the invention of melinite shells, a highly explosive mixture of picric acid and guncotton more powerful than gunpowder.

fertiliser made from human waste with the fresh smell of young wheat, the commotion of the *barrières*⁹ with the tranquillity of the country, the Fairground with Nature! (Goncourt and Goncourt 1990, 70 cited in Cannon 2015, 28).

A boundary area outside of the octroi that offered goods and pleasures at a cheaper rate, the Zone emerged as a less policed space. Ragpicking, flea markets, circuses, cabarets, prostitution—the Zone was also depicted as a place of filth, of crime, and immorality. A dangerous area where crime was (reputably) high, and where the search for criminals was difficult: the archetypal Paris *bas-fond* described by historian Dominique Kalifa (2013; see also Cannon 2015, 81–86; Fourcaut, Bellanger, and Flonneau 2007, 200–201). A census on the Zone carried out in 1913 counted 30,000 inhabitants, though previous estimates had mentioned up to 200,000 inhabitants. In 1912, a survey of the 777 hectares of the Zone identified 12,132 constructions:

There is currently on the military zone 12,132 constructions of different types; more than half, so 6,805 are but shacks ... with no value and mostly not lived in; 3,134 are light buildings of precarious essence; the remainder, 2,193 buildings, are composed of 966 detached houses, 932 industrial or commercial buildings, 295 multi-storey houses of which only 130 have three storeys or more (Dausset cited in Cohen and Lortie 1991: 67).ⁱⁱ

4.1.3 The social hygiene movement and the removal of the enceinte

The discussion on the removal of the Paris fortifications and their future was key in the emergence of urban planning in France. The design of Paris's edges was a matter of national and even international significance (an example of this would be the coverage in *The New York Times* 1897; 1898a; 1898b). For sociologist and historian Marie Charvet (2005, 21), the debate that went on from 1870 until 1919 on the future of the fortifications constituted a space of 'junction' between arguments around 'social hygiene' and 'national regeneration.' After the defeat of 1870 against Prussia came a long period of questioning for French elites. According to Kalifa (1995, 250), there was a strong feeling of *déclin national* ('national decline'). A movement for social hygiene emerged, that analysed the national failure of France as an issue of 'French backwardness,' *un retard français* (Charvet 2005, 21).

⁹ *Barrière*, barrier or gate in English, is another name for the fortifications. It refers to the octroi barriers, where tax was collected, instead of its military dimension.

The social hygiene movement structured itself around the Musée Social created in 1894, an organisation that brought together politicians, public intellectuals, architects, scientists—at the same time a think-tank (to use an anachronic term), a lobby group and a private club. The social hygiene movement had linked bodies, morality and the built environment in a novel understanding of policy and science, with a stress on ‘quantitative’ data and especially statistics (Charvet 2005, 55). A moral individual—loyal to one’s family and country, that did not commit crime, etc.— required a healthy lifestyle—practice of sports, limited consumption of alcohol and tobacco, etc.— delivered by an adequate built environment—clean, bright, airy and modern houses, large streets, green spaces to play, linger and exercise, etc. It promoted the emergence of a ‘rational’ approach to the policing and designing of cities, a change of scale, and the necessity of establishing plans to control urban growth (Charvet 2005, 124–25; Bellanger 2012, 120).

The *retard français*, this perceived backwardness, was in comparison to the United Kingdom, Germany, Austria or Belgium. Actors of the Musée Social praised London, the quantity of *espaces libres* (‘open spaces’) the city offered, the de-densification of its city proper in favour of the suburbs (Charvet 2005, 70–79). The garden cities movement was also followed with great interest, and an Association des Cités-Jardins de France (‘Association for Garden Cities of France’) was created in 1903 by Georges-Benoît Lévy.¹⁰ But the focal point of French urbanists remained Germany,¹¹ where cities like Köln, Hamburg, Frankfurt had disarmed and removed their military fortifications to replace them with parks and promenades. For historians Charvet, Cohen and Lortie, contemporary commentators analysed these urban design choices as a demonstration of Germany’s strength and self-confidence.

For the urbanists of the Musée Social, the Thiers wall was constraining Paris’s growth, imposing unhealthy living conditions to Parisian working classes that lived in insalubrious housing, deprived of air and sun. In turn, it led to alcoholism, the spread of diseases, weak bodies, and ‘racial decline’ (Kalifa 1995, 37). The fortifications forced Parisians to live in unhealthy urban density, whilst

¹⁰ Georges Benoît-Lévy (1880-1871) was a journalist, intellectual and lawyer. Benoît-Lévy was a key figure in the emergence of urban planning in France in the first half of the 20th century as a member of the Musée Social.

¹¹ On 18 January 1871, in the wake of the French defeat in the Franco-Prussian War, the German Empire was created as a Prussia-dominated national state. The treaty was signed in the Hall of Mirrors at the Versailles Palace, outside Paris.

acting as a hindrance to the development of regional planning by creating a void between Paris proper and suburban towns, at a time when the notion of a metropolitan scale emerged. Finally, the fortifications and the military zone occupied an area of 1,200 hectares, that could be put to better use. In 1912, after thirty years of difficult negotiation, the City of Paris, the State and the Army finally reached an agreement to sell the land of the fortifications and the Zone to the City of Paris (Cohen and Lortie 1991, 126). It was materialised by two conventions signed on 16 and 30 December 1912. Yet, it would take another seven years to be confirmed in a law.

4.2 *Historical context: green belt versus red belt (1912–1940)*

4.2.1 **The legal framework of 1912–1919 for the removal of the enceinte**

The two conventions of 1912 were amended three times (11 July 1913, 27 January 1914, and 29 January 1919) and eventually promulgated by the law of 19 April 1919. The law enacted the decommissioning of the fortifications (article 1) and it stipulated that the military easement for the Zone would be maintained in the form of an easement ‘in the interest of hygiene and public health’ⁱⁱⁱ (article 2). Several exceptions to the easement were listed, for instance for public railway companies and other public services, but also for specific projects like the future Parc des expositions (‘Exhibition centre’), for set military facilities, and for *voies publiques* (‘public thoroughfares’). With these notable exceptions, the Zone *non aedificandi* was meant to remain as an *espace libre* and a *ceinture verte*, a green belt. The land on which the fortifications stood then was free from *non aedificandi* easement (article 3)—which meant that once the military bastions had been removed, the freed space could be filled up with buildings. A portion of this land was meant to be dedicated to the construction of *habitations à bon marché* (HBM, ‘affordably-priced rental housing units,’ archaic name for social housing). This ratio went from 3 per cent in 1912 (convention of the 16 December), to 8 per cent in the amendment dated 11 July 1913 and finally reached 25 per cent in the law of 19 April 1919 (article 11§2). The ownership of the land of the fortifications would be sold to the City of Paris for a price of

100 million francs.¹² The city would need to negotiate the purchase of all properties on the Zone through amicable negotiations or, in last resort, compulsory purchase and evictions. The city was granted 38 years to do so (article 7, convention of 16 December 1912). In an echo to the annexation of 1860, the City of Paris would acquire from suburban towns the municipally-owned land that constituted the Zone. This would be effective via a series of decrees dated 19 March 1925, 3 April 1925, 18 April 1929, and 27 July 1930. The first bastions of the fortifications were taken down from 30 April 1919. By the end of 1920 the whole of bastion 38 had been razed, and the surrounding area levelled (Cohen and Lortie 1991, 126). The works were completed in 1932 (Valade 2008, 126).

4.2.2 A green belt as ‘buffer’ instead of an ‘interface’ between Paris and banlieue

Two projects had dominated the debates that led up to the decommissioning of the fortifications: on the one hand that of the Musée Social, on the other the project of councillor Louis Dausset¹³ backed up by a syndicate of Parisian landlords. The former’s project introduced in 1908 was inspired by Eugène Hénard’s¹⁴ proposals from 1903 and 1904: the Zone would be protected as an *espace libre* structured in a network of gardens, sportsgrounds and playgrounds—as well as a 70-metre-wide circular boulevard to connect this green network. The Musée Social called for the State to give the land gratis, and by this act to avoid sacrificing the future of Paris to short-term financial needs. Up to a third of the land from the fortifications would be sold to fund the building of parks and sportsgrounds. Except for these constructions, the alienated fortifications *and* the Zone would remain under a strict *non aedificandi* easement. In 1908, another series of proposal by Louis Dausset to the city council was at the same time less idealistic and more clearly driven by financial considerations. It did not try to obtain the land for free from the State but proposed to buy it back. And most importantly,

¹² €135 million of 2021, adjusted for inflation. All conversions between French francs to euros of 2021 are adjusted for inflation. I have used the ‘Convertisseur franc-euros’ by the Institut national de la statistique et des études économiques (2022b).

¹³ Louis Dausset (1886–1940) was a politician. He participated in the creation of nationalist antisemitic *Ligue de la patrie française* (League for French patriotism) in 1898. Municipal councillor for Paris (1900–1922) he was president (1901–1902) and budget recorder (1908–1919) for the municipal council, and senator (1920–1927).

¹⁴ Eugène Hénard (1849–1923) was a visionary and influential architect, known for inventing the roundabout. He published a series of ground-breaking publications *Études sur les transformations de Paris et autres écrits sur l’urbanisme* (‘Studies on the transformation of Paris and other writings on urbanism’) from 1904 until 1912 where he proposed several design solutions for the fortifications as well as the whole of Paris, including helipads on top of Haussmannian buildings.

Dausset proposed to ‘*lotir*’ the space left empty by the former fortifications: to subdivide them in plots, sell the land and/or build on it. The *Zone*, though, was to remain as a green belt *non aedificandi*.

The two projects that, if one does not go into details, might seem comparable, were animated by two different philosophies of urban planning and supported by different political actors. The Musée Social’s proposal aimed to create an area dominated by open spaces as an *interface* between Paris proper and suburbs, as well as a green infrastructure for a ‘metropolitan’ Paris that they understood as extending way beyond the limits of Paris proper. The Musée Social critiqued the Dausset project in which they saw the hand of Parisians landlords and landowners. This contemporary critique expressed by Eugène Hénard was that the future green belt, as per Dausset’s project, was not conceptualised as an interface, but as a *buffer* between Paris proper and suburbs. For historian Marie Charvet (2005, 265–70) as well as Cohen and Lortie (1991, 94), Hénard’s analysis was valid and vindicated by the respective historical studies they carried out. For Dausset, the maintaining of the *Zone* as an open space constrained by an easement was a way to deter land speculations from suburban investors—whose properties values would logically increase as they would be integrated into Paris and benefit from its prestige. And for the Ligue pour les espaces libres, l’assainissement, et les sports (‘League for open spaces, sanitation and sports’) that was formed in January 1909 to lobby in favour of Dausset’s project (and whose secretary general was also the director for a lobby group of Parisian landlords), to retain the *Zone* free of buildings was a way to maintain the property values inside Paris *intra-muros* where land was scarce. For Hénard and the Musée Social, the Dausset project was but an instrumentalisation of the philanthropic and hygienist concept of *espaces libres*.¹⁵

¹⁵ I necessarily simplify the debates and opposition between the projects of the Musée Social and Dausset. Also at stake were:

- (a) the interests of the *zonières* landowners;
- (b) the question of the octroi that needed to be collected as one entered Paris;
- (c) the issue of local taxes raised in Paris that would have mechanically decreased together with property values;
- (d) an opposition between the French State and the City;
- (e) and finally, an opposition between the Musée Social whose supporters were mainly among the architectural elites (e.g. Eugène Hénard), national politicians such as Jules Siegfried, and Paris’s civil servants like Louis Bonnier—meanwhile Dausset had the support of Paris’s elected officials, he also has a sluggish political career that could do with a boost.

For an architectural analysis of the controversy see Cohen and Lortie (1991), and for an historical analysis see Charvet (2005).

4.2.3 A ‘brick belt’ around Paris: the mass construction of housing on the fortifications

It was the Dausset project that would dictate the conventions of 1912 enacted by the law of 1919. As a result, the most significant and immediate aspect of the redevelopment of the Zone was the mass construction of housing—the largest housebuilding programme in Paris in the 20th century in terms of housing units delivered. Whilst this ‘annular city’ is often presented as a coherent ensemble, characterised by its red bricks apartment blocks, enclosed central courtyards and inward-looking urban design, Cohen and Lortie also point out that several operators were involved, including the Office Public d’Habitations à Bon Marché de la Ville de Paris (OPHBMVP, a social housing provider for the City of Paris), the Régie Immobilière de la Ville de Paris (RIVP, a housing agency majority-owned by the City of Paris) and the Société Anonyme de Gestion Immobilière (SAGI, a housing provider and real estate developer with a minority ownership held by the City of Paris and a majority ownership by private capital). The ‘social housing belt’ or ‘brick belt’ that has survived to this day is in fact much more diverse from an architectural and urban design point of view than the image most Parisians have of it. Contemporary photographs enable us to grasp the vastness and the contrast between the newly built housing and their surroundings. Bird's-eye views of these housing blocks coming up in a landscape characterised by the 2-3 storeys building on Paris’s side, and the shacks or light industrial buildings still standing on the Zone accompanied by the modest brick constructions in the suburbs, are dramatic. It makes one wonder what kind of ‘suture’ Paris’s urbanists could have expected from such a programme, and we are here reminded of the Musée Social’s critique of the Dausset project for the area: that the edges of Paris would form a buffer instead of an interface with the adjacent suburban towns.

Besides the social housing delivered by the RIVP and the OPHBMVP, several private actors, and most especially the SAGI, also played an important role in the building of for-profit housing. The real estate developer, with engineer Louis-C. Heckly as its top architect, delivered in the region of 20,000 housing units. Heckly, according to Cohen and Lortie, was ‘the most prolific Parisian architect of all times by the sheer volume, if not by the quality of his production’ (Cohen and Lortie 1991, 178).^{iv} By the end of the 1930s, the construction programme was achieved (APUR 2017). The reaction of contemporary commentators is described by Cohen and Lortie as unanimously negative (Cohen and Lortie 1991, 182–87). At best, the architectural elites were ignoring the project, that nonetheless

constituted the largest urban planning operations since Haussmann. If the redesign of the fortifications space was a *cimetière de projets*, a ‘projects’ cemetery’ (Cohen and Lortie 1991, 13), some flagship designs successfully emerged on the fringes of Paris. The works on the Cité Universitaire that was located on the bastions 81, 82 and 83 started quickly after the enactment of the law of 1919. The principle of its development had been agreed in December 1920 by the municipal council, and the acquisition of the land by the foundation in charge of the project was agreed the following summer. The neo-Oxfordian campus inaugurated on 9 July 1925 also evoked the utopia of English Garden Cities. Another iconic project of that time, the Paris Colonial Exposition of 1931, was granted the bastions 4 and 5 as well as the Bois de Vincennes by a convention signed on 9 May 1927.

4.2.4 The ‘red belt’ of communist cities surrounding bourgeois Paris

In the municipal elections of 1919, the socialists won their first suburban cities—such as Aubervilliers and Saint-Denis—that then went over to the Communist party after the Tours Congress¹⁶ of December 1920. This influence was confirmed and increased in the legislative elections of 1924, where the good results of the communists came as a surprise, with 26 per cent of voters in Seine-banlieue and 24.2 per cent in Seine-et-Oise.¹⁷ In a famous article published in reaction to the results in communist newspaper *L’Humanité*, Paul-Vaillant Couturier celebrated ‘a large sprawling red spot ... Paris, capital city of capitalism, is surrounded by a proletariat that is more and more aware of its strength’.^v For historian Annie Fourcaut:

This text is the foundation, for the communists, of the red suburbs [*banlieue rouge*] rhetoric: the [1924] victory was strategically significant, with the encirclement of Paris, the economic and political capital city of capitalism; the suburban working-class proletariat was taking over the revolutionary Parisian people of the barricades. This mobilising—that would last for almost half-a-century—expressed in a strong way the meeting of a young Communist Party ... that was at the time a minority sect, and a share of the working-class settled in the Parisian banlieue (Fourcaut, Bellanger, and Flonneau 2007, 175).^{vi}

¹⁶ The Tours Congress was a chasm in French socialism: the majority of the Section française de l’internationale ouvrière (SFIO, French Section of the Workers’ International) decided to vote in favour of joining the Third International. This majority became the French Communist party; a minority led by Léon Blum and that refused Lenin’s call instead voted to remain in the Second International. The SFIO would be rebranded to become the Parti Socialiste (Socialist party) in 1969.

¹⁷ Seine-banlieue described the municipalities that were part of the Département de la Seine but outside Paris proper. The Seine-et-Oise was a *département* that surrounded the Département de la Seine. Both *départements*, created in 1790, were dissolved in the reform of 1968. See entry ‘Seine (prefecture of the)’ in the glossary.

This is the beginning of the narrative of a *ceinture rouge*, a ‘red belt’ made of red suburbs, municipal communist strongholds, surrounding Paris. As explained by Fourcaut, this image of the red belt surrounding Paris that appeared in the 1920s is to be considered in connection with that of the riotous people of Paris, an older narrative not exclusively connected to the rise of communism. ‘If one wants to understand the meaning of the way the municipal institutions of Paris [were] organised from the French Revolution until the end of the Third Republic [in 1940], one key element must not be forgotten: the central State [was] *afraid* of Paris,’^{viii} writes historian Philippe Nivet (1994, 9—my emphasis). After the French Revolution, and especially the insurrection days of 31 May–2 June 1793 where the Parisian people and their municipal institutions forced an ideological reorientation of the First Republic, Paris was placed under *tutelle préfectorale* (‘tutelage’) by the central State.¹⁸ It was deprived of its mayor and of its municipal assembly. Paris was governed by two prefects: the prefect of the Seine and the prefect of police. The former in charge of administrating the city, the second of policing the Parisians. Prefects were, and still are, civil servants appointed by the State. Throughout the Third Republic (1870–1940), the political majorities of Paris councillors were opposed to national ones. When left-leaning parties were in power nationally, right-wing forces were dominating Paris, and vice-versa. The relation between Paris and the central State was one of constant conflict, power struggle, and humiliations.

In a time of great geopolitical uncertainty—the Russian Revolution of 1917, the end of World War I, the elections of 1933 in Germany, the election of 1936 in France, etc.—the emergence of a revolutionary working-class movement rising in the suburbs of Paris, and that could potentially unite with the remaining ‘red’ neighbourhoods of the capital city was perceived as a real chance/threat. ‘*Faites de votre ceinture rouge une ceinture verte*’ (‘Turn your red belt into a green belt’), wrote French US-based scholar Albert Guérard in his influential *L’Avenir de Paris* (1929, 169), in order to prevent the ‘*angoissante*’ (‘anxiety-inducing’) presence of working-class revolutionaries in the suburbs that could reach the heart of the national government. ‘During our conversations with Frenchmen that were not at all reactionary, we have almost constantly felt this barely hidden inquietude’ (Guérard 1929,

¹⁸ See entry ‘Tutelage’ in the glossary.

168).^{viii} The idea of a green belt as real estate buffer, imagined by Dausset, is here developed as a ‘green’ fortification of a new kind to protect the bourgeois of Paris and capitalist France. Forty years later, Paul Delouvrier¹⁹ would not say anything different than Gérard, demonstrating the persistence of the red fear and an understanding that it could be ‘cured’ by way of urban planning: interviewed in November 1975 by historian Michel Brisacier for his doctoral thesis on de Gaulle and Paris, Delouvrier explained that

We needed to modernise the Parisian agglomeration, this disgusting banlieue [*cette banlieue dégueulasse*] where the power of the communist thrived on the misery and the filth of the faubourgs, we needed to improve the living conditions in the red banlieues (Brisacier 1986, 662 of the appendix).^{ix}

4.3 *The technocratic Vichy regime and its legacy (1940–1949)*

On 22 June 1940, an armistice between the German Third Reich and the French Third Republic represented by Marshal Pétain²⁰ was signed. On 10 July 1940, the Parliament voted to entrust full power to Philippe Pétain, effectively dissolving the Third Republic to replace it by an authoritarian regime with the 84-year-old marshal at its head. In 1972, historian Robert Paxton opened an intellectual breach with the publication of *Vichy France: Old Guard and New Order* where he challenged the established French post-war historiography that presented the Vichy regime as an anomaly. In this vision questioned by the American historian, the ‘real’ France was in London leading the resistance movement against German occupation and therefore post-war France should not be held accountable for Vichy’s actions, and should not be seen as a continuation of Vichy (Paxton 1972). Since the 1970s, there has been a growing body of literature that have expanded our understanding of civil servants, technocrats, and State administration under Vichy and Vichy’s legacy in post-war France (Fourquet 1980; Boucher and Voldman 1992; Hausman 2002; Azéma and Wiewiorka 2004; Baruch 2014; Grenard, Le Bot, and

¹⁹ Paul Delouvrier (1914–1995) was a senior civil servant. A major actor of post-war economic planning in France in several roles, he also participated in the creation of key European institutions and treaties in Jean Monnet’s team. Initially a Vichy supporter during the war, he then joined the Resistance. President de Gaulle appointed him in 1958 as Délégué Général du gouvernement in Algeria, i.e. de facto head of the colonial executive in Algeria. From 1960 until 1969, at de Gaulle’s request, he was in charge of the strategic planning of the Paris region. He was the first Délégué au district and the first prefect of Région Île-de-France.

²⁰ Philippe Pétain (1856–1951) was a diplomat, soldier and statesman. Known as the ‘victor’ of the Battle of Verdun and a key character in the victory of the coalition against the Second Reich, he signed in 1940 the armistice with the Third Reich and was appointed head of the new *État Français* (French State), an autocratic regime that collaborated with the Third Reich. He was found guilty of high treason in 1945, deprived of his citizen’s rights (*indignité nationale*) and sentenced to death. Yet, the judgment was not carried out, because of his age. He died in prison, in 1951.

Perrin 2017; Baudouï 2020; Cohen 2020). Given this existing literature, I will not go into details on the importance of the Vichy regime for urban planning in France and its relation to architecture, but instead will limit my engagement to some key elements specifically relevant to the Boulevard Périphérique.

4.3.1 Clearing the Zone

At the beginning of the 1920s, the Third Republic had initiated a long process to clear the Zone from its inhabitants that was far from being completed in 1940. If the inhabitants of the Zone did not constitute a coherent socio-political group, as Leveau-Fernandez (1983, 32–33) explains, they still represented a significant political force (or at least a mosaic of political groups linked by their precarious inhabitation of the Zone). A new law dated 10 April 1930 had enacted two new conventions (30 June 1928 and 10 July 1929) that brought several significant amendments to the law of 1919 and therefore created a new timeline: instead of 38 years, the City of Paris now had 15 years from 1931 to acquire all properties of the Zone—which meant up until 31 December 1945. Yet, for all those who lived on the Zone before 1919, the City of Paris had to offer a lease of 25 years to the *zoniers*²¹ whose property they purchased. In theory, this meant the Zone could be lawfully occupied until 31 December 1970.

Yet the Vichy regime, formally known as *État français* ('French State,' as opposed to the *republic* that had been abolished), quickly established a legal framework specifically aimed at accelerating the clearing of the Zone in order to redevelop the space as a green belt. Five laws were enacted to speed up the evictions of the *zoniers*—11 October 1940, 21 September 1941 (n°4100 and 4101), 1 March 1942 and then again on 15 July 1942. The law of 4 June 1941 'regarding the execution of a programme of urbanism and equipment to be carried out in the Parisian region'^x unlocked funding aimed specifically at the Parisian region, and especially to rebuild the Zone as a 'belt of playgrounds, sportsgrounds and public promenades.'^{xi} The notice addressed to Pétain that is featured ahead of the law in the *Journal Officiel*²² referred to the Zone as '*cette ceinture lépreuse qui déshonore la capitale*' ('that leprous belt that brings shame to [Paris]'). On 3 July 1943 the Paris octroi was abolished. The

²¹ Inhabitants of the Zone.

²² Publication for all laws and decrees in France.

measure took effect on 1 August 1943. It lifted a major hurdle on rethinking the former fortifications and the Zone as there was no more fiscal requirement to mark the boundary between Paris proper and the suburbs, since there was no more tax to be collected. Finally, the law of 15 June 1943 (article 60) created an additional easement area of 150 metres (starting from the exterior edges of the existing Zone) that expanded further the influence of Paris over suburban towns (sometimes referred to as *zone d'arrachement*, 'toothed area'²³).

None of the legal elements listed above would be contested after the Liberation of 1944 and the fall of the Vichy regime. The legal framework stayed in place. In the opening address to the Commission d'études de la région parisienne ('Commission for studies on the Parisian region') on 5 February 1942, Pétain had announced the clearing of all remaining inhabitants of the Zone. By the end of the Vichy regime in 1944, most of the Zone had indeed been cleared of its *zoniers*,²⁴ an action the democratic Third Republic had not dared carry out, by fear of the public opinion backlash.

4.3.2 The technocratic legacy of the Vichy regime

In the first months of its establishment, the Vichy regime was perceived by some French social elites (including engineers and civil servants) as an opportunity to fix the issues that a sluggish Third Republic could not address, bogged down by a cumbersome Parliament. The defeat of 1940 was analysed with the same argument as the one of 1870: a French 'backwardness,' a weak state, an ageing elite, a lack of innovation (Laurent and Roullier 2005). As Antoine Picon (2007, 203) writes:

The young and ambitious civil servants that gathered ... around the Vichy government ... were also guided by the conviction that traditional politics had to be replaced by rational management based on science and technology.

The *École nationale des cadres de la jeunesse d'Uriage* ('National executive youth school of Uriage') offers a good illustration of the technocratic infatuation of the Vichy regime. The school was created

²³ Toothed in English, *arrachement* in French is not a common term in urban planning parlance in either language. The term translates as 'tearing off,' but can also be translated as 'toothed,' an action in masonry that describes the 'tearing off' of a portion of a wall, in order to rebuild a stronger connection

²⁴ Parts of the Zone remained occupied and were not cleared until 1973 as Madeleine Leveau-Fernandez (1983) explains, for instance next to Levallois-Perret. The aerial photography taken in the 1960s and 1970s confirm this observation.

by regime supporters and attended by aspiring technocrats eager to modernise the French State. Yet, as the Vichy regime developed a collaboration with the German Third Reich, some of the school's educators and students interpreted the principles they learned/taught in the school as an evident call to join the Resistance, while others saw them as an inspiration to remain faithful to the autocratic government of Marshal Pétain. Created in 1940, the school was dissolved in 1943 by Pierre Laval, then head of the Vichy government, whilst its creator General Pierre Dunoyer de Segonzac joined the Resistance. Among Uriage's students were some key figures of post-war urban planning and urban studies such as urban sociologist Paul-Henry Chombart de Lauwe²⁵ and Paul Delouvrier (on Uriage, see Bitoun 1988; Claude 2006, 138; Laurent and Roullier 2005; Cupers 2014, 64). On the emergence of technocracy²⁶ in France in the 1930s-40s, and its post-war legacy and continued momentum, architectural historian Kenny Cupers writes:

While they distanced themselves from Vichy, the postwar governments of the Fourth and Fifth Republics continued to promote expert planning, which was fundamentally shaped by a faith in the centralized state and in its superiority in directing economic and social affairs. The remarkably unscathed confidence in science and technology after the Second World War allowed a range of experts—often the same public engineers that had risen to power during the 1930s and early 1940s—to legitimate themselves at the level of national policy making (Cupers 2014, 6).

The legacy of the Vichy regime is key to understand post-war France. Vichy, for instance, created the Order of Architects (comparable to the Royal Institute of British Architects in the United Kingdom), with the law of 31 December 1940 and thus regulated for the first time the profession of architect. Meanwhile, the law of 15 June 1943 constituted a sea-change for urban planning and architecture in France. Among other elements, it created mandatory building permits (and restricted to the newly regulated profession of architects the exclusive rights to submit one to planning authorities). It was formally abolished by the decree of 27 October 1945 that reinstated instantly most of its content and would remain in place until the major law on architecture of 3 January 1977. As per the Zone, the legal

²⁵ Paul-Henry Chombart de Lauwe (1913–1998) was a sociologist, known as one of the precursors of urban sociology in France. He co-authored *Paris et l'agglomération parisienne* (1952) and *Vie quotidienne des familles ouvrières* (1956). He often collaborated on research and publication project with his wife Marie-José Chombart de Lauwe (1923) who is rarely mentioned as contributor.

²⁶ On technocracy in post-war France, see Cupers (2014) Thoenig (1987), Thoenig and Friedberg (1969), Voldman (1989), Barjot (2006), Picon (2007), Lojkine (1972). On Vichy specifically see Grenard, Le Bot and Perrin (2017) and Baruch (2014).

framework devised by the Vichy regime was carried out after the war without much change, and often with the same civil servants in place. The project for a ring road is a perfect example of this continuity.

4.4 *Early plans for the Boulevard Périphérique: ‘The Magistral orb of Paris’s crown’ (1943)*

As Cohen and Lortie (1991, 240) and others have noted, we find the first mention of a *boulevard périphérique*²⁷ for Paris in a 1943 report, *La Voirie Parisienne: Projet d’aménagement de la Ville de Paris* (‘Parisian road network: urban planning project for the City of Paris’), produced by the *inspecteur général chef des services techniques de topographie et d’urbanisme* (‘chief inspector, head of the technical departments of topography and urbanism’) named René Mestais.²⁸ The publication of this 195-page document in November 1943, that contains many illustrations, maps, and graphs, was not anodyne (Figure 21). At a time of paper shortage, in the middle of a war when resources were extremely scarce (see Morel Journal 2020, 151), the publication of such a consequent report would certainly demonstrate the urgency of the issue of traffic in Paris in the eyes of its author and the administration he headed. I will not dwell on the overarching direction of the report: in a few words, the publication is infused by early 20th century social hygiene philosophy and aims at underlining the relationship between, on the one hand, the quality of road network and its design, and on the other, economic growth, moral, hygiene, ‘Order and Beauty.’

The idea of a *rocade*, a ring road around Paris to double up the Boulevard des Maréchaux was not new. While it had not been detailed then, it was already mentioned in the ‘Plan Prost’²⁹ of 1934.

²⁷ See entry ‘Boulevard Périphérique’ in the glossary.

²⁸ René Mestais (1883–1977) entered the prefecture of the Seine in 1903 as *aide-géomètre* (‘assistant surveyor’) in the Service du Plan de Paris. He ascended the hierarchy and was eventually appointed chief inspector on 16 November 1937. He retired in 1946 but was maintained in post until 31 August 1947. The short obituary published in the *Bulletin Municipal Officiel* in 1977 also mentions that, faced with an increased workload, the Service du Plan was renamed Service technique de topographie et d’urbanisme in November 1941 under Mestais’s leadership, and its remit was increased to include the whole of the Seine (see ‘Décès de M. René Mestais, Inspecteur Général Honoraire Des Services Techniques de La Ville de Paris et Du Département de La Seine.’ 1977).

²⁹ The law of 14 May 1932 authorised the constitution of an urban planning project for the Parisian region, as per the requirements of the Cornudet law of 14 March 1919. The minister of the Interior put the City of Paris in charge of drafting this plan that would include 656 municipalities over three *départements*: Seine, Seine-et-Oise, and Seine-et-Marne. Urbanist Henri Prost—who had already designed the urban planning documents for Casablanca, Fès, Marrakech, Meknes and Rabat in colonial Morocco—was appointed to draft the plan for Paris. Completed in 1934, the document colloquially known as ‘Plan Prost’ was submitted to public consultation on 2 August 1935. It was approved on 22 June 1939 and named Plan d’aménagement de la région parisienne (PARP) in a relative indifference considering the looming war. It was enacted by a law on 28 August 1941 but would never be

Urban planners had well understood, as soon as the 1920s, that the increase of private automobile car traffic would be the key aspect of urban planning in the decades to come. If anything, the rapid rate of this increase was the only surprise of the post-war era for European urban planners (Flonneau 2003). Section 4.5 of Mestais's report is dedicated to *Le Boulevard Périphérique*. It is worth dwelling on Mestais's project, his choice of words, the initial design that he proposed then, as well as the route he contemplated to understand the initial 'spatial project' of the ring road.

The removal of the Zone had initiated the 'Renaissance of Paris,' writes Mestais in the very last sentence of the report (Inspecteur général chef des services techniques de topographie et d'urbanisme 1943, 189).

One cannot imagine that the parks, sports grounds and playgrounds built where the zone stood could be presented without a dedicated boulevard at the periphery to serve them.

And what would happen if Paris was only separated from the banlieue by a simple local road 15-metre wide?

Without any doubt, soon enough, there would be a physical and economical confusion between the Capital city and the adjacent municipalities.

Indeed, if it is advisable that a single administrative entity would govern over Paris and the *département* that surrounds it to coordinate their reciprocal actions, it would be unfortunate from the point of view of urban planning and the Capital's embellishment, that it could be mixed up with its banlieue (Inspecteur général chef des services techniques de topographie et d'urbanisme 1943, 157—as for all citations in this thesis, the letter case is original).^{xii}

This is a first key element to highlight: for Mestais there was both a practical and symbolic aspect to the Boulevard Périphérique. Of course, it was about connecting the facilities on the green belt, as well as Paris and the adjacent suburban towns. But it was also about marking the difference in space between the Capital city (definite article, uppercase 'C' in the report) and *une banlieue* (indefinite article, lowercase 'b,' singular). To use again that phrase taken from the last sentence of the report, the Boulevard Périphérique was imagined as an element of the city pertaining to 'Order and Beauty.' For Mestais, the spatial project of the Boulevard Périphérique was as much about improving road traffic (transport fluxes), as it was an urban planning project that would be a catalyst to reinforce the 'buffer'

implemented (Valade 2008, 127–28). The PARP proposed strategic zoning and the building of five radial roads. It also mentioned a ring road without going into details. Indeed, the 'Plan Prost' was not concerned with Paris proper but with the surrounding area. On the maps published in the newspapers at the time, the space for Paris was left blank.

of the green belt between Paris proper and banlieue. We also understand from the expression ‘physical and economical confusion’ that the idea of a green belt acting as a buffer between the prime real estate of Paris and the less attractive one of the banlieue remained active more than thirty years after the Dausset/Hénard debate.

After explaining that Paris never recovered from the 1860 annexation of suburban towns, i.e., that these towns never quite became ‘Parisian,’ and that insalubrious housing had remained in La Villette, Ménilmontant, la Chapelle, etc., Mestais continues:

It is important to avoid, at all costs, that Paris ‘drowns’ in a banlieue that would bog it down yet again for a century.

Paris, great European salon, needs specific care, sacrifices and attention and must be defined in an elegant and precise way, so that foreigners as they arrive in Ile de France might be able to say: This is Paris, without mixing it up with Levallois, Aubervilliers, Pantin, Vitry or Malakoff. This will be the role vested in the boulevard périphérique, to crown of its beautiful alignments of poplars, elms and planes, the Parisian territory.

This magnificent ‘ring’³⁰ of greenery could be, by the way, bounded by high square towers, of symmetrical architecture, where the pairs would mark the great exits of the Capital.

They would be equipped with powerful floodlights whose jewels of light would trace in the night, the magistral orb of ‘Paris’s crown’ (Inspecteur général chef des services techniques de topographie et d’urbanisme 1943, 157).^{xiii}

It is rather arresting to realise that those are the words that described the initial project of the Boulevard Périphérique. To clarify this aspect further, I need to point out those excerpts are taken from the very first page of the chapter dedicated to the ring road while considerations on its role for automobile traffic only come *after*.

The vocabulary evokes beauty (‘elegant,’ ‘magistral,’ ‘magnificent’), jewellery (‘jewel,’ ‘crown’), monarchy and power (‘crown,’ ‘orb’) and even heroism or religion (‘sacrifices’). To refer to Paris as the ‘great European salon’ was politically loaded, at a time when a series of exhibitions held in 1941, 1942 and 1943, called *La France Européenne* (‘European France’), were organised at the Grand Palais by the Vichy regime and when the collaborationist propaganda pushed the idea of a French nation at the heart of German-led Europe (see Rossignol 1991). The ‘powerful floodlights’ evoke Albert

³⁰ This reference to German urban planning is used as such in the text.

Speer's Cathedral of light (*Lichtdom*), a key element of Nazi rallies aesthetics also used in the Berlin Olympics of 1936.³¹ Meanwhile, the 'high square towers of symmetrical architecture' hint at key architectural styles associated to fascism (e.g., Stripped Classicism) but would also bring up the early 20th century project of Maison-Tours ('House-Towers') imagined for Paris by Auguste Perret. They also conjure a medieval imaginary, that of fortifications protecting the city from barbaric invasions. Finally, the list of suburban towns Mestais cites—Levallois, Aubervilliers, Pantin, Vitry, Malakoff—were all working-class cities of the 'red belt' headed by socialist or communist mayors at the time. We are here reminded of Alwin Seifert's *völkischen Landschaft* and the Reichsautobanhen programme I have mentioned in Chapter 2, that historians Schütz and Gruber (1996) described as *völkisches Gesamtkunstwerk*, a 'nationalist total work of art.' Omnipresent in specialised literature before, during and after the war, 'Hitler's roads' were certainly a key inspiration for Mestais and the original project of the ring road.

On the contribution of the Boulevard Périphérique to the Parisian road network per se, Mestais explains that now that 200,000 people lived where the fortifications used to stand, it was not possible to have all automobile traffic using the Boulevard des Maréchaux anymore. If we implemented a road on the periphery of the Zone to serve its facilities, we might as well plan big, otherwise this very convenient thoroughfare would be immediately clogged, explains Mestais: 'The idea of a very wide boulevard should therefore impose itself for reasons of foresight' (Inspecteur général chef des services techniques de topographie et d'urbanisme 1943, 158).^{xiv} Finally, as all French motorways were meant to converge to Paris, authorities might as well build a ring road to balance the traffic instead of letting it congest Paris's city centre. The road design envisioned by Mestais was a

50-metre-wide road starting from Paris's boundary [that would include] a 3-metre-wide pavement, a two-way thoroughfare of 9 metres; a planted central reservation of 8 metres, two one-way carriageways of 12 metres each separated by a central reservation of 3 metres, and a pavement of 3 metres.

The width of the boulevard would be increased to 60 metres right of underpass approaches.

³¹ Designed by the Reich's architect Albert Speer (1905–1981), the Cathedral of Light was made of 152 anti-aircraft searchlights 12 metres apart aimed upwards that created a long wall of vertical bars. It was used in party rallies from 1934 until 1938 and for the closing ceremony of the 1936 Olympics of Berlin.

Furthermore, an area *non ædificandi* that would vary from 5 metres to 20 metres would be enacted alongside the buildings erected at the boundaries of Paris's territory (Inspecteur général chef des services techniques de topographie et d'urbanisme 1943, 161).^{xv}

It is important to note the words of Mestais as we are about to look at the design evolutions of the Boulevard Périphérique. What the text shows (and the initial blueprints and drawings I will bring up in a moment) is that of a *parkway* instead of the motorway it would eventually become. This Boulevard Périphérique was imagined at ground level, we find no reference to speed, and its road design would be structured by an elegant alignment of trees. The width of this road and the two reservations are the main elements that distinguish Mestais's Boulevard Périphérique from the Boulevard des Maréchaux for instance.

The vision of René Mestais in 1943 constituted the initial spatial project for a ring road around Paris. As I will show in the next section, elements of it would be immediately implemented. Mestais's design pursued the concept of a buffer space between Paris proper and banlieue, an effort to differentiate the capital city from its banlieue. Yet, the infrastructure of the ring road was not necessarily imagined as a *physical* obstacle but as spatial mark—a boundary—between Paris proper and the rest of the metropolis. There was no ambition there to recreate the fortifications freshly razed to the ground. The 'ring' of leisure, sports and communication infrastructure that would come up on the Zone finally cleared out by the Vichy police would also be a catalyst for urban renewal in the suburbs thanks to the extra easement, the *zone d'arrachement*, enacted by the law of 15 June 1943. Mestais's vision would remain influential after the war, and well after his active involvement in the planning of Paris. In his *Solutions aux problèmes de Paris: la circulation* ('Solutions to the problems faced by Paris: traffic') also known as 'Plan Lafay,' the document that convinced the Council of Paris in December 1954 to vote in favour of the opening credits to build the first section of the ring road, councillor Bernard Lafay³² cited Mestais's '*remarquable rapport*' ('remarkable study,' Lafay 1955, 11).

³² Bernard Lafay (1903–1977) was a general practitioner and politician. He was a Paris councillor from 1945 until his death, a conservative senator and several times MP. He was junior and senior minister several times, as well as president of the Council of Paris in 1954 and from 1960 until 1968. He was key in getting the initial section of the ring road voted in December 1954, having published and presented to the municipal council his brochure *Solutions aux problèmes de Paris: la circulation* ('Solutions to the problems faced by Paris: traffic,' 1955) illustrated by architect Raymond Lopez, also known as 'Plan Lafay.'

In the following section, I will use portions of the ring road near Porte d'Italie (Paris 13th) to show how the road design of the Boulevard Périphérique evolved from parkway to motorway, and I will also use this case study to revise the timeline usually associated with the ring road's construction.

4.5 *First steps of the Boulevard Périphérique: from parkway to motorway (1944–1959)*

On the aerial photography taken in August 1944 (Figure 23), we observe that, as Paris was being 'liberated,' a road was being built close to Porte d'Italie and that this road followed the present-day route of the Boulevard Périphérique. A special issue of the professional magazine *Travaux* published in 1949 and entirely dedicated to the General department for technical services sheds some light on this early Boulevard Périphérique, directly connected to Mestais's 1943 project.

In the article dedicated to the roads of Paris, a map (Figure 24) presents a project for the Boulevard Périphérique similar to René Mestais's in 1943 (Figure 21). A photography (Figure 24) also shows a car driving on a functional section of the Boulevard Périphérique between Porte de la Plaine and the Vallée Bridge, yet with works clearly ongoing. As a reminder, the article was published in 1949 while it is usually accepted that the first section of the Boulevard Périphérique had opened in 1960. In fact, the author of the 1949 article explains that works towards a 'temporary' ring road had started in 1942. The article written by Gaston Vanneufville, director for roads, reuses the argument developed by Mestais: now that the area of the former fortifications was inhabited by 200,000 inhabitants, the Boulevard des Maréchaux needed to be relieved from what had become intense traffic.

We have thought that it would be appropriate to take advantage of the empty nature of the zone to establish on Paris's edges a new ring road that we have called 'boulevard périphérique,' that is envisioned as a replacement to the Military Boulevards in the role of facilitating transit of fast traffic.

In its final form, the new road should have a width of 50 metres with two large-capacity carriageways of 12 metres each and on the banlieue side a thoroughfare of 9 metres and a pavement to serve the nearby buildings.

Of course, this project will not be achieved immediately because of the significant spending it would bring on and because the needs in terms of traffic do not impose it yet; we will satisfy ourselves with a thoroughfare of 12 meters and to encroach upon the extra width on the adjacent parks and gardens. Yet, in the South region where traffic on the military boulevard is already difficult, we will adopt right now a

wider design that will include a 9-metre thoroughfare for the adjacent buildings and a 14-metre-wide road for the transit traffic (Vanneufville 1949, 20).^{xvi}

We understand from this article dated 1949 and the 1944 aerial photography that a ‘temporary’ Boulevard Périphérique had been built already in the late 1940s. Furthermore, by delving into other archives I will not comment in detail here, we see that there was a continuous effort to plan for a ring road around Paris throughout the 1940s (see for instance 2276W 284, 8–101). We also understand from analysing the archives that the project would evolve from an urban boulevard in the 1940s to a *voie express*, a high-speed carriageway in the late 1950s. Indeed, the vision pushed by René Mestais and initially implemented in the 1940s was of a boulevard at ground level, lined up with trees, with pavements on each side, and traffic lights. If the width of it denoted the anticipated traffic that would flow through it, there was no reference to speed or mention that this would have been a ‘boulevard with no traffic light’—an omnipresent motto in the 1960s and 1970s. The model was very much that of a parkway (on the history of parkways, see Alonzo 2018, 181–229; Cohen, Hodebert, and Lortie 1996; Cohen and Lortie 1991, 265 also noted the project evolution from parkway to motorway). Furthermore, we can see on initial drawings dated 1943 that this ‘early’ Boulevard Périphérique was connected to the existing street patterns, even minor streets. Take for instance, this map dated October 1942 (2276W 288, 165) where we observe the minor streets Emile Zola, des Châtelets, des Villas (today Rue Louis Marchal), des Pavillons Neufs (today Rue Albert Meunier) in Kremlin-Bicêtre directly connected to the Boulevard Périphérique (Figure 25). Today, not only these streets have no access to the Boulevard Périphérique, but even the major thoroughfare that is Avenue de Verdun (formerly Route de Choisy) and that connects the Kremlin-Bicêtre to Paris is excluded from a direct access to the ring road.

To conclude on this aspect, what Mestais envisioned and partially implemented then next to the Poterne des Peupliers³³ was nothing more than a wider Boulevard des Maréchaux, more conveniently located (i.e., far away from Parisians’s homes) and equipped to accommodate a larger traffic. Yet, in essence, his project was one that belonged to the first half of the 20th century and that was not dissimilar

³³ The Poterne des Peupliers—*poterne* meaning ‘archway’ (or ‘postern’) and *peupliers* ‘poplars’—is the equivalent of a *porte*. It is the last surviving section of the Thiers wall.

(even more conservative) than the early 20th century visions of Auguste Perret and Eugène Hénard mentioned briefly in this chapter. To a certain extent, the project approved by the Council of Paris on 23 December 1954 was still that design defended by Mestais, and praised by Lafay (Figure 22). Yet, we understand from a letter dated 16 February 1956 regarding the approval of a ‘schematic project’ for the Boulevard Périphérique that the Comité d’aménagement de la Région Parisienne (CARP, ‘Committee for the urban planning of the Paris Region’) was actively pushing to immediately turn the Boulevard Périphérique into a *voie express*, a high-speed carriageway, without further ado (2276W 241, 198). The note signed by the chief engineer for the south section (Jean Devault) details which aspects of the design would need to be changed in order to turn the Boulevard Périphérique into a high-speed carriageway. Three years later, on 15 June 1959, the minutes of an interdepartmental meeting dedicated to the legal status of the Boulevard Périphérique bringing together the police prefecture and the prefecture of the Seine also illustrate how the project had evolved. The first key point, explained director for roads Pierre Clairgeon during that meeting, was to give an ‘absolute priority to high-speed carriageway’ (2276W 284, 280).^{xvii} In the minutes of the meeting, we understand that the Boulevard Périphérique would be the first thoroughfare located in a city in France to be classified as *voie grande circulation* (‘major traffic thoroughfare’). Later in the discussion Pierre Clairgeon would add that the ring road *cannot* be considered an *urban* thoroughfare, as a street—in the sense that it could not be considered as part of the urban tissue of Paris. It should be considered an alien element, surrounded by, but disconnected from, the urban setting of Paris. He was supported by the chief engineer for the south section that reminded the audience that the entrance and exit of the Boulevard Périphérique had been marked by boards that clearly indicated this was *not* a ‘normal’ city street.

This is a crucial element to understand how the idea of a Boulevard Périphérique had evolved between 1943 and 1959. From an urban boulevard in the 1940s, the project of the Boulevard Périphérique had morphed to become a high-speed road entirely disconnected from the urban fabric in which it was being built. There was no question of pavement anymore, or access from all minor streets in Paris or the suburban municipalities. The Boulevard Périphérique was now considered an urban motorway, that would exist independently from the surrounding urban fabric to which it was connected via interchanges. By looking at the south section of the Boulevard Périphérique, we can witness the

evolution of its design. Indeed, the section delivered in 1960 near the Gentilly cemetery was redone just a few years later in 1970 together with a new interchange at Porte d'Italie, to deliver the Boulevard Périphérique as it is today. By comparing the initial delivery of the ring road photographed in 1961 to its redevelopment as an express motorway just a few years later, we see the remnants of the 'boulevard' identity disappear. The pavements for pedestrians had disappeared altogether and the Boulevard Périphérique had ended becoming an environment entirely hostile for pedestrians, while the local urban fabric stood completely disconnected from the ring road. (Figures 26–29) By shifting its design from a parkway to a motorway, the Boulevard Périphérique would see its role evolve from a subtle buffer serving the green belt to become a challenging *physical* obstacle between Paris proper and banlieue.

4.6 Conclusion

This chapter aimed at providing a historical context to the creation of the Boulevard Périphérique in 1954–1973. This synthesis focused on the annular space around Paris theorised as a buffer zone between Paris proper and suburbs. The ring road that fully opened in 1973 was the result of a long historical process dating back to the mid-nineteenth century, and it would be a shortcoming to approach this infrastructure without being aware of the historical context from which it derived. The State's control by way of a tutelage on the City of Paris, the 'threat' of a red belt that survived well into the 20th century,³⁴ the ghost of the fortifications surrounding Paris, the figure of an ogriish Paris annexing suburban towns against their will in 1860, the concept of a green belt in relation to land value, the role of the Vichy regime in clearing the Zone and devising an initial project for a ring road, the evolution of the ring road from a parkway to a motorway, are essential elements of that history.

Beyond the cultural historical landscape of the ring road, the legal framework that was constructed from 1912 would also play out well into the 1980s—e.g., as law n°85-729 of 18 July 1985 (Article 42) abrogated the military easements regulated by the laws of 1791, 1851, 1853 and 1919, it

³⁴ Michel Poniatowski (1922–2002), former minister of the Interior and Mayor of L'Isle-Adam in the Département du Val-d'Oise famously announced that if a political alliance that included the communists were to win the presidential elections of 1974, soviet troops would invade Paris the following morning (see *Le Monde* 1974).

would now be up to the City of Paris to maintain or remove the restrictions as part of their local planning document.

This chapter also challenged the established timeline of the Boulevard Périphérique. It analysed the spatial project by René Mestais and the design he envisioned for the ring road. It demonstrated that sections of the ring road were immediately implemented in the 1940s. I have also showed the influence Mestais's designs had on the 1954 project for a ring road as defended by Lafay in front of the Council of Paris, that eventually voted for its construction. In re-establishing this link, I therefore reconnect the project of a ring road to the imaginaries of road designers in the 1930s and 1940s, which were profoundly influenced by Alwin Seifert's philosophy. Some of these early sections were almost immediately retrofitted as the project evolved into an urban motorway. I have also started to show how the evolution of the ring road design from a parkway to a motorway meant the subtle idea of a buffer between Paris proper was lost, replaced by the image of the Boulevard Périphérique as an insurmountable physical obstacle. I will continue this avenue in the next chapter. Finally, to contextualise the focus of Chapter 5 on the routes of the ring road, I have also indirectly shown—by way of three maps illustrating three possible routes for this infrastructure (Figures 21; 22; 24)—that an 'evident' route for the ring road did not exist in the 1930s–1940s.

Chapter 5 Negotiating the routes of the ring road: the politics of technical reason

The inauguration of the Boulevard Périphérique on 25 April 1973 marked the pinnacle of a formidable momentum that had mobilised Parisian urbanists¹ over the previous three decades. This first chapter of empirical analysis is about that momentum: the *construction* of the ring road, and specifically negotiations to determine its path. It delves into two case studies: the construction of the ring road near Porte d'Italie (13th arrondissement) and near the Bois de Boulogne² (16th arrondissement). I have chosen these two case studies because they illustrate two periods of ring road building, its first and final sections. They are different in many aspects but, analysed together, they allow me to form a coherent picture of the process of building the Boulevard Périphérique.

It is often asserted without nuance that the Boulevard Périphérique was built on the 'empty' space of the Zone, and that, as a result, its route and design need not be questioned because they are the transparent continuation of a historical precedent (the Zone, that had itself replaced the Thiers wall) coupled with technical reason. By technical reason I mean, after Barry Allen, the assumption that the form and route of the Boulevard Périphérique are solely explained by the scientific rationality of engineers navigating the physical constraints (geology, hydrology, topography, etc.) and technical constraints (existing networks such as train tracks and the *métropolitain* [the tube], but also water infrastructure, etc.) of the terrain on which the ring road was built. This chapter challenges such an assumption by analysing the route and design of the road as the expression of social, political, and administrative choices that go beyond a simple understanding informed by historical precedent and technical reason. Furthermore, it shows an element that will be recurrent throughout this thesis, the instrumentalisation of technical 'requirements' to justify decisions that were mostly social and political, and only loosely connected to technical constraints. Specifically, I unearth the many routes and design

¹ By urbanists I mean all actors of urban planning and architecture: architects, planners, civil servants, engineers, politicians, surveyors, etc.

² Paris has two *bois*, that are large parks, one west (Boulogne, 846ha) and one east (Vincennes, 995ha).

options that had been envisioned for the two sections of the ring road I present in this chapter, and I analyse the range of stakeholders and their influence on the ring road's final route and design.

The sections around Porte d'Italie were among the first to be designed and delivered. The area near Porte d'Italie was identified as an urgent zone to develop from the 1930s as it was meant to receive the traffic of the Autoroute du Sud ('Motorway of the south').³ Works on the Autoroute du Sud eventually started in 1953 and the first 34-kilometre section (Paris to Le Coudray-Montceaux) was inaugurated in 1960. The stakeholders in this section of the Boulevard Périphérique included the Cité Internationale Universitaire de Paris, the Régie autonome des transports parisiens (RATP, the public company in charge of Paris's public transport), the suburban mayors of Kremlin-Bicêtre and Gentilly, and of course the usual stakeholders that are the City of Paris, the Seine prefecture and its Department for roads. I base my analysis for this case study on the archives of the Department for roads, call numbers 2276W 284 and 2276W 288.

The decision process for the second case study took place later—when the design for most of the Boulevard Périphérique had already been agreed upon, when most works were engaged and several sections already operational. Geographically, this case study is located near the Bois de Boulogne, at the border with the 16th and 17th arrondissements. The Bois de Boulogne has been owned by the City of Paris since 1855, so the need to negotiate with suburban municipalities was almost inexistent. It was listed in 1957. Home to an affluent population since the 19th century, the 16th arrondissement remains today one of—if not *the*—wealthiest Parisian district (see Grange 1993; APUR 2020b). It is also worth bearing in mind that between the time periods covering the first and second case studies, the political situation had changed significantly: the country had adopted a new constitution in 1958 and in doing so had switched from a parliamentary republic to a semi-presidential regime headed by Charles de Gaulle. For this second case study, I use press clips, debates at the Paris municipal council (1965 and 1966), archives of the Department for roads (call numbers 1665W 405, 1665W 465, 1665W 478), and de Gaulle's presidential archives (call numbers AG/5(1)/2672 and AG/5(1)/2688).

³ Later nicknamed *Autoroute du Soleil*, 'Motorway of the sun' and today formally known as A6, for Motorway number 6.

5.1 *Negotiating the route of the Boulevard Périphérique near Porte d'Italie: dissecting the making of a technical rationale (1940–1949)*

Administrative correspondence shows that the project of a ring road was in the making from the year 1940, and that the sections south of Paris were the most ancient. A letter dated 27 October 1942 by the chief engineer for the south section gives a history of the project of the Boulevard Périphérique for the area close to the Gentilly cemetery (2276W 284, 69). In this letter, the chief engineer explained that the principle of a ring road was adopted in August 1940, and that difficulties to establish a route that answered the need for a 60-metre-wide road quickly emerged in the area near the Poterne des Peupliers⁴ where the width between the Gentilly cemetery and the administrative boundary of Paris was only of 20 metres. The Department for roads then imagined two, and subsequently six different routes.

In route n°1

the use of land was optimised, the north of the road would be in contact with the cemetery wall ... This solution had the inconvenient of requiring the eviction of a marble supplier, Mr M***,⁵ whose significant facilities had been built recently. This is why we have presented to the Service du Plan de Paris⁶ around October 1940 a solution that, by encroaching more widely upon the banlieue, would enable to avoid this eviction. The new envisioned route [n°2] also offered the advantage of diminishing the infringement on the park being built next to the Poterne des Peupliers on the former park of the Lazarists.⁷

Acknowledging the pertinence of this new route, the Plan de Paris adopted it in principle, even increased the infringement on the municipality of Gentilly with a route going more to the South [route n°3]. ... The Director of the technical services approved it on 19 February 1941 ...

We prepared the viability studies ... and presented [them] on 9 June 1941. We considered this route to be final.

But on the conference of 5 December 1941 on the urban design of the zone, it appeared that a straightening [*redressement*] of the Boulevard was desirable between the Porte d'Italie and Gentilly to avoid the sinuosities of its initial route, that modification being especially required by the Service des Ponts et Chaussées.⁸ ... On 29 May 1942 we had addressed to Mr Director a project of route that included three variants [n°4, 5 and 6]. Our report actually recommended to withdraw the straightening of the Boulevard and to stick to the route that had been approved on 19 February 1941. ...

⁴ See footnote 33, chapter 4.

⁵ I have chosen to anonymise individuals who do not feature in the archives in their professional or elective capacities.

⁶ Renamed Service technique de topographie et d'urbanisme ('Technical departments of topography and urbanism') in November 1941. The department was headed by René Mestais.

⁷ The Lazarists are members of the catholic Congregation of the Mission founded by Saint Vincent de Paul in 1625. The letter refers to a property that included a 19th century mansion and park situated in the suburban town of Gentilly—before part of the town was annexed by Paris in 1860.

⁸ The Services des Ponts et Chaussées was the administration at the level of the Département de la Seine in charge of building roads in relation to the national network. It is the local representation of a national service.

Since then, no decision has been taken to support one route over another (2276W 284, 69–71).ⁱ

I have reproduced this note *in extenso* as it offers detailed consideration on the route of the Boulevard Périphérique in this portion. I will not focus on the language of it, which is rather impersonal and descriptive, but on the facts that it relates. First, from a historical point of view, its content contributes to revising the chronology of the ring road, as per this thesis's previous chapter. If its formal presentation in a document can be dated to 1943 (see Inspecteur général chef des services techniques de topographie et d'urbanisme 1943), efforts to develop it had started in the summer of 1940, at the time the Service du Plan became actively involved in planning the Zone. This was concomitant to the clearing of the Zone that took place at an unknown date between 1940 and 1944 and to the decision of René Mestais to reshuffle in November 1941 the departments he was in charge of in order to answer 'the increased workload' ('Décès de M. René Mestais, Inspecteur Général Honoraire Des Services Techniques de La Ville de Paris et Du Département de La Seine.' 1977).

The second element to point out in this letter are the *choices* being made, that were not clearly related to any technical element. Why change the route of a major road to avoid the expropriation of a marble supplier? Was it because of the cost of expropriating the artisan and its facilities, described as being of significant size and built recently, would be too high? Was it a question of waste—destroying a new, fully-functioning building could appear as a waste of energy and material, especially at a time of shortages? Was this choice made out of respect for an entrepreneur? I have no explicit answer to provide to this question, but I note the engineer and his staff preferred to infringe on Gentilly's territory and destroy homes—an element that is not even mentioned in the note—than to evict Mr M***. Yet, to temper this statement, I should also mention that, by looking at an aerial photograph taken in 1944 (Figure 23), one can see that the land on which the ring road was meant to go in Gentilly was mainly composed of what appears to be agricultural land. Eviction and destruction of houses would indeed be necessary, but relatively limited. Despite this, the observation I made earlier remains valid: a marble supplier was worth changing the route for, while suburban homes were not even acknowledged.

Third, and it might seem contradictory to the previous remark, the chief engineer for the south section seemed reluctant to infringe on Gentilly's territory. The reason for such caution is not detailed—

the cost of expropriation, ethics, politics could be possible explanations—but we do not recognise in the engineer’s attitude the ogreish figure of the capital city carelessly trampling on suburban towns. According to this letter, it was the national Service des Ponts et Chaussées, in charge of designing roads of national significance (e.g., a motorway), that pushed the Department for roads to change their design for a straight road that would necessarily cut through Gentilly and destroy hundreds of homes in the process as we can see on the map (Figure 30).

Finally, we also observe different *views* on what the route of the Boulevard Périphérique should be. We lack a detailed appraisal from each technician to justify their respective positions, but their understandings of what should be considered a technical imperative varied from an administration to the other. The chief engineer for the south section appears satisfied with the design his services had proposed, whilst the Service des Ponts et Chaussées analysed the design as too *sinuous*—sinuosity being mainly associated with potential dangers for drivers as they needed to follow a bend or a succession of bends. Here, engineers who have almost certainly received the same technical training⁹ developed different opinions as to what makes a safe road. Stopping short of saying the scientific grounds on which their respective opinions were based was not sound, we can at least point out that we are in the presence of a plurality of ‘technical reasons’ that is indeed reflected in the six possible routes listed in this letter.

The draft of a note written on 23 February 1943 allows for an even richer understanding of this initial project. The copy of the draft written by chief engineer Vanneufville is in a poor condition with parts of the sheet torn off (2276W 284, 65; Figure 31). Yet, we can witness more clearly technical reason *in the making* and the complex relation between technicity on the one hand, and the author’s own belief and politics on the other. In the translation below, I reproduce the typed words and the annotations made by hand: the section **in bold** have been added by hands, ~~strike through words~~ have been crossed out.

⁹ The chief engineer for the south section, Léon Buteau, graduated from the École des Ponts et Chaussées in 1927, according to the school’s records. The engineers of the Service des Ponts et Chaussées necessarily attended the same school.

The **initial** project for the route of the Bd Périphérique included between the porte d'Italie and the porte de Gentilly, a succession of straight lines, curves and counter curves with a radius of 125 and 175 metres and a ~~sharp marked~~ angle right of the exit of the Gentilly Cemetery. A sinuous route to cross the Bièvre valley¹⁰ is of course ~~very normal and even satisfying from the point of view of aesthetics~~, but in the aim to answer the demands of car traffic that ~~should become~~ **is planned to become** very active on this boulevard, ~~we have been asked to study~~ the study of a new more straight route **imposed itself**.

The project n°1, explored by my Services, [paper torn off, words missing] **would be appropriate** for traffic since it is not ~~too distanced far off~~ from the straight line but it would force the destruction in Gentilly of a new building of 7 floors, one of 4 and a few others of lesser importance as well as a cinema and would mess up with the local school extension project.

Project n°2 avoids to ~~modify~~ **infringe on** the school extension project, but leads to the destruction of several buildings including the 7 and 4-floor buildings.

The project n°4 advised by ~~Mr MESTAIS~~ **the Chief Inspector Head of the technical services for topography and urbanism** spares the 7-floor buildings but requires the demolition of the significant buildings of the Lazarists and of those **part of the community** of the Sisters of Saint-Vincent de Paul, which seems even more difficult to accept.

I ~~reaffirm~~ **propose** therefore **to select my** project n°2, unless [paper torn off, words missing] in view of the demolitions it required, we come back to the original route—ever so slightly modified [page torn off, words missing] that is indicated on the map ... attached that would offer no radius with a curve inferior to 295 metres and that would lead to more destruction.

Furthermore, the urban planning of Gentilly seems facilitated by this last solution that would save for the municipality the maximum of space south of the Bd Périphérique.

The regulatory conference, towards the examination of the selected project, will be opened under my care as soon as Monsieur the General Director would have indicated me his decision.ⁱⁱ

This draft note (2276W 284, 65) and the final version (2276W 284, 62–63) offer a window into the perception of the engineer's work, the promotion of his work to his superior, and to a certain extent the competition among services. But they are also an opportunity to witness the construction of the technical rationale produced by the Department for roads. In the first paragraph, notions of aesthetics are toned down whilst the 'necessity' of a straighter route for the ring road has now 'imposed itself.' This passive reflective way of writing (in French *s'est imposée*) conveys the idea of an irresistible evidence: it sounds as if the road design would not be efficient without a straight line to accommodate the traffic—proven wrong by the current route of the Boulevard Périphérique in this area. We also witness how the author limited his own involvement (but also that of other characters, such as René Mestais). The use of first-

¹⁰ The Bièvre valley is an element of the topography south of Paris. The Bièvre is a river that takes its source in the Département des Yvelines and used to flow in the Seine. It was culverted gradually since the 12th century and is now flowing underground, to the sewers of Paris. The river used to enter Paris close to present-day Charléty stadium in the 13th arrondissement of Paris.

person pronouns (me, my) is reduced to a minimum, and the reference to René Mestais was replaced by his job title, detaching the Boulevard Périphérique from the individuals that were in charge of its design, crafting the collective anonymity of this infrastructure.

The fourth paragraph is particularly interesting. The project advocated by Mestais would mean the destruction of buildings owned by two catholic religious communities—both linked to Saint-Vincent de Paul. This seemed to be totally unacceptable for chief engineer Vanneufville. Some of these buildings have indeed been saved and still exist today: built in the 19th century, they are certainly of some historical significance but there is nothing exceptional about them from an architectural point of view. Beyond their religious significance, I fail to understand why their destruction would be so unacceptable in the historical context of this letter. It seems the unacceptability of their destruction for engineer Vanneufville was only justified by their religious nature—on the other hand, Mestais did not seem to mind.

For the purpose of this doctoral research, this note is more than a simple window into a civil servant polishing his writing as he addressed his superior. First, it shows that administrative correspondence, however dry and impersonal, is indeed some form of epistolary writing, and deserves to be analysed as such. The epistolary quality of this draft shows that reaching a decision regarding the construction of the ring road was also about convincing, if not persuading, one's superior. It also shows the kind of social element reframed as technical reason that I touched on in the theoretical framework: in that instance, it was the destruction of buildings owned by religious corporations that was considered unacceptable by one stakeholder, and as such, came as an input to a rational decision process eventually presented as 'technical.' This constitutes a first illustration of Picon's social imagination with regards

to what is going on in these stakeholders' minds, beyond their immediate motivations, which can boil down to rational calculations. Images and ideals can colour and modify the strategies that they use to serve their interests, and sometimes considerably so. The simplified rationality that is often attributed to them, whether it involves pursuing material gain or establishing power for themselves, is not enough to explain their behaviour. (Picon 2018, 264)

Last and not least, it shows how—even in its initial version—the different administrations involved in building the ring road would produce, and hesitate between, several routes and designs for each of its sections.

5.2 *Negotiating the route of the Boulevard Périphérique near Porte d'Italie: an exercise in technocratic muscle flexing (1949–1962)*

I would like to focus now on the section of the Boulevard Périphérique between Porte d'Italie and Porte d'Ivry. Together with the section Porte Gentilly–Porte d'Italie, it was one of the first to be envisioned as part of the 1940s project. We can consult in the archives a 1943 map of two slightly different routes for the Italie/Choisy section for instance (2276W 288, 164–165; [Figure 25](#)). At the turn of the 1960s, as the initial section west of Porte d'Italie was about to be opened for traffic (12 April 1960), its prolongation to the east was still being negotiated (first credits voted on 22 December 1960 for the section Porte d'Italie–Porte d'Ivry, opened in December 1966). The thorny aspect of the section Italie/Choisy was the presence of RATP facilities located on the Zone, following a series of agreements and laws enacted in 1919, 1923 and 1927 between the Ville de Paris and the Compagnie du Chemin de Fer Métropolitain (CMP), that eventually merged with other transport companies to form the RATP in 1949. To continue its route east from Porte d'Italie in a straight line, the Boulevard Périphérique would require the destruction of a significant portion of the RATP depot.

As we have seen in the previous section, unlike 'sinuous' design the 'straight line' was the ideal form that the ring road could adopt. For engineers at the time, the straight line was the promise of limited costs (less kilometres to build), less footprint area occupied by the road, and increased safety for drivers. On top of the 'technical' desirability of this solution, to bypass the RATP depot by bending the ring road south would require a significant infringement on the suburban municipality of Kremlin-Bicêtre, leading to considerable destruction and evictions. And it would mean building the ring road on roads outside of Paris's administrative territory. Technically, politically and legally the option that I name 'Route 1' (destruction of the RATP facilities and limited to no destruction in the banlieue) would appear the 'optimal' solution. Yet, by delving into archives over one decade, we witness the continuous hesitation, the different options considered, the impossibility to reach a decision, and the opposition between different stakeholders.

In 1944 already, a note mentioned that the route had been designed in such a way as to 'spare the vast facilities of the CMP [but] will require an important infringement on the municipality of

Kremlin-Bicêtre' (2276W 288, 156).ⁱⁱⁱ Why choose to save the CMP/RATP facilities instead of *Kremlinois* homes? In a note dated 11 September 1953 (2276W 284, 323–325), chief engineer for the south section Devault explored the different options that were considered in 1944 and in 1953. The first route envisioned was the Route 1 that I have already presented. In addition, the engineer also mentioned that on 10 March 1941, the director of the CMP had written a complaint to the prefect asking that the trio of legal agreements signed between 1919 and 1927 were enforced and duly respected. In response, the engineers of the Seine prefecture proposed a Route 2—sparing the CMP/RATP facilities, infringing upon the town of Kremlin-Bicêtre and a Route 3: an underground road that would spare both the CMP/RATP facilities and the houses in Kremlin-Bicêtre. This is the only mention of this route that I have found in the archives, the possibility of going underground was not resuscitated later on. In 1953, as the project of a ring road was rebooted, the discussion was once again relaunched—with no trace of a definite agreement found then. At the end of the 1950s, as the Department for roads started to plan the section east of Porte d'Italie, the issue was once again discussed.

In a note (2276W 288, 183–186) addressed on 21 October 1961 to the director for urbanism, the general director for technical services, Pierre Clairgeon, wrote:

In a note dated 29 June 1960, I shared with you two options to continue the Bd périphérique east of Porte d'Italie. The first one avoided any infringement on the RATP depot, but required the expropriation of land on the territory of the municipality of Kremlin-Bicêtre and Ivry; the second one imposed the demolition of a section of the RATP facilities, the expropriation in the banlieue would have remained restricted to the need of connecting the Bp périphérique to the avenue de la Porte d'Italie (RN 7). Your note on 11 October 1960 mentioned the arguments that would tend to show your support for the second route:

- softening the bend of the Boulevard Périphérique making it more compatible with the nature of the traffic that will use this thoroughfare.
- localisation of the Boulevard Périphérique within the territory of the City of Paris.
- possibility to reconstruct the RATP facilities in a new setting, more in harmony with the ongoing changes taking place in the 3rd sector of the Zone (2276W 288, 183).^{iv}

What we learn from this letter is that the initial approach in 1960 was therefore very much in favour of what I named Route 1 earlier: partial destruction of the RATP depot and very limited infringement upon the Kremlin-Bicêtre. The support for this solution was expressed by various stakeholders in different documents present in the archives of the Department for roads. But then Clairgeon shared that the solution had been met with an *vive opposition* ('strong opposition') from the RATP that proposed a

contre-project ('counter-project'): a *solution mixte* ('mixed solution') that would move the Boulevard périphérique 12 metres to 15 metres south (an option I name Route 4). In exchange of a partial, though limited destruction of their facilities, the RATP had asked to be granted a plot of land east of their property, currently occupied by a sportsground. In turn, the director of the Department for the arts, youth and sports in charge of the sportsground coveted by the RATP was consulted and had retaliated, explained Clairgeon, with a *avis très défavorable* ('strongly negative opinion'), letting Clairgeon know that such project would topple all the land sharing in that part of the Zone agreed in the 1930s.

Furthermore, wrote Clairgeon, the RATP asked for 10 million franc¹¹ to be paid as compensation for the relocation of the facilities impacted by the ring road. On top of this, they also asked the City of Paris to build a dedicated bridge to allow the RATP employees to cross the Boulevard Périphérique easily. Yet, we know from estimates established by the architects of the Department for urbanism that the expropriations resulting induced by Route 2 had been evaluated at 7.25 million francs for 17,143 m² of land in Kremlin-Bicêtre (2276W 288, 207). This 'mixed' solution (Route 4) would be very costly, Clairgeon explained to the director for urbanism, because it would mean a huge payout to the RATP *and* still lead to costly expropriation in the suburban municipalities.

In such conditions, the difficulties faced have led to reconsider the question and, during the meeting that took place on 12 September 1961, in the office of Mr Prefect, you seemed to find more convenient to go back to shift the totality of the expropriation on the banlieue that would satisfy both the RATP and the Department for the Arts, Youth and Sports and would furthermore contribute to envision the implementation of a vast urbanism operation in this locale.

In that spirit ... the studies undertaken by my department have led to the production of the attached project.

...

This document demonstrates the effort my services have put to limit the infringement on the territory of the municipalities of Kremlin-Bicêtre and Ivry, by all means possible, in order to limit the trouble that you might face caused by the above-mentioned municipalities. ...

I ask you to act as quickly as possible (2276W 288, 184).^v

In a note written by the director for urbanism to the prefect of the Seine ahead of the meeting on 12 September 1961 (2276W 288, 20–214), Captier had adopted the same thinking process as expressed by Clairgeon. In the memo, he hinted that Route 1, that did not require to infringe upon the

¹¹ €16.3 million of 2021, adjusted for inflation.

territory of the Kremlin-Bicêtre, would be more satisfactory, but considering the opposition of the RATP and the Department for the arts, youth and sports, he added:

At the end of the day, wouldn't it be wiser to go back to the initial solution that would satisfy both the RATP and the Department for Youth and Sports ... But to go back to the banlieue solution would remain of course subjected to the preliminary agreement of the Municipalities concerned, a new meeting sounds to me necessary, and this time we should invite Dr Antoine Lacroix, MP-Mayor¹² of Kremlin-Bicêtre, and Mr Georges Marrane, Senator-Mayor of Ivry.

The evictions envisioned would indeed require to be followed up with the delivering of a vast programme of reconstruction of the buildings neighbouring the future Boulevard, that would thus be placed in a new setting.

This urban planning and renovation programme that would then be linked to the realisation of the Boulevard would achieve in a harmonious way the redesign and transformations currently ongoing in the 3rd sector of the Zone. ...

As far as I am concerned, considering the situation we are in now, I think that if it were not to raise any specific concerns with the Municipalities of the banlieue, the solution n°1 [Route 2] would be the most rational. It seems less costly, it does not change the scheme for green spaces and playgrounds; last but not least it has the massive advantage to propose, in the banlieue, an urban renewal operation that is highly needed (2276W 288, 209–211).^{vi}

This decision was finally confirmed in a report dated 8 February 1962 by the director for urbanism (see 2276W 288, 190-191 and the map 2276W 288, 192). A letter by the Department for housing dated 13 January 1962 had already informed the Department for urbanism that the approved route would result in the eviction of 197 households representing 473 individuals (2276W 288, 44–47).

This last note written by Captier, director for urbanism, is interesting on several aspects. First, it reveals the power struggle among the different stakeholders of the Boulevard Périphérique. While the proofs I can offer to support my theory are fragile, the conditions imposed by the RATP sound rather excessive, along with the cost of rearranging their facilities. The round number of 10 million francs could be compared with a similar operation realised in 1958, where the RATP had to adapt that same depot to make way for a 25-metre road that preceded the Boulevard Périphérique, and for which they were granted a compensation of 81,114.96 francs¹³ (2276W 288, 132). The list of expenses and

¹² See entry '*Cumul des mandats*' in the glossary.

¹³ The compensation was 8,114,960 *ancien francs*. In 1960, a monetary reform switched to *nouveau franc*. In a nutshell, 1 new franc = 100 old francs. In 1961, the RATP asked for 10 million new francs. Adjusted for inflation, the sum of 1958 would have represented 96,637.58 new francs of 1962.

conditions that would condition the RATP's approval, including their demand that a dedicated pedestrian bridge for their employees be built above the ring road, appear exorbitant and 'insincere.' Yet, it is not challenged by the Paris engineers. Second, that the Department for urbanism and the Department for roads could not convince the Department for the arts to give up a football pitch in order to make way for the ring road also comes through as rather trivial, in the grand scheme of things.

As we have already seen in the previous examples I have reviewed, there is indeed some reluctance to infringe upon the banlieue, and there is also reluctance to destroy houses and evict people from their homes. This reluctance could be explained by the costs induced, and the difficulty of having to start potentially lengthy negotiations with suburban mayors, and eventually with property owners. It could also be that the engineers of the ring road were aware of the social cost of destroying homes. Yet, from reading Captier's correspondence with the prefect, the destruction of housing and eviction of inhabitants of the suburbs do appear as the less challenging, less politically demanding solutions to carry out. Inhabitants of the suburbs and their aediles appear as the weakest party here.

Whilst the solution to infringe upon the municipality of Kremlin-Bicêtre had de facto been taken, Captier—cautiously—mentioned that the *preliminary* agreement of the mayors of Kremlin-Bicêtre and Vitry-sur-Seine must be secured. And, *this time*, he wrote, they should be invited to the meeting. Yet, we are far from a preliminary concertation with the suburban mayors mentioned in the note considering the decision *had been made* already. One should also point out the deference in which he referred to the two mayors—mentioning that one is indeed an MP, the other a senator (who was the presidential candidate for the Communist party at the presidential elections of 1958 and came second after Charles de Gaulle). Yet, the power of negotiations from the mayors that were impacted by the ring road remained marginal—for instance, the Mayor of Kremlin-Bicêtre would only manage to limit the ring road's encroachment to save the free clinic on Rue Voltaire from destruction.

Another element that I have already mentioned, and that will be reiterated throughout this thesis, is that I find no evidence of an a priori opposition to the building of the ring road. Across the political spectrum, there was a widely shared support in favour of building the ring road in the name of the general interest (e.g., improving automobile traffic in Paris). This seemed to be especially the case for the first sections of the ring road to be built, that were also, incidentally, those next to working-class

‘red’ suburban municipalities. The contestations would increase as the ring road continued its way west of Paris, next to more affluent districts.

5.3 *‘It is an opinion, Mr Prefect. It is not a demonstration:’ following the controversy of building the Boulevard Périphérique in the Bois de Boulogne*

Late afternoon on Thursday 23 December 1965. In a plenary session, the Council of Paris was about to start a discussion on the route of the Boulevard Périphérique west of the capital city. Councillor Tollu,¹⁴ on behalf of the 3rd Commission, was getting ready to start his presentation. When they approved the funding of the next section of the ring road on 1 July 1965, between Porte Pouchet and Porte Maillot, the councillors had also requested from the prefect a comparative study of the different possible routes to go by/through the Bois de Boulogne to allow the completion of the ‘loop’ of the ring road. There were then two main options, explained Tollu quoting the memo prepared by the prefect: a ‘long’ and a ‘short’ route, each with its own variants. Tollu started off by describing the ‘long’ route that would go west of the Bois de Boulogne and follow the Seine river (Figure 32). He immediately presented it as ‘impossible.’ He listed the obstacles: 2,000 trees would need to be cut, the ministère des Travaux Publics (‘Ministry for Public Works’) would be against it as they were planning an increased river traffic on the Seine and therefore would oppose a ring road infringing on the river. The ‘long’ route would also lead to a significant number of expropriations—industrial facilities and housing. And so, the position of Tollu and the 3rd Commission was very clear:

Faced with these massive technical obstacles, and social obstacles, the long route, that would as well require a detour and to postpone the completion of the works for another ten or fifteen years, does not seem to be able to be selected, at the very least in its present form. That is why we have oriented our attention to the solution of a short route (Conseil de Paris 1966a, 907).^{vii}

¹⁴ Philippe Tollu (1921–2015) graduated from l’École des Hautes études commerciales (HEC) in 1945. Businessman, he was elected for the first time in 1965, in the 3rd sector formed by the 7th and 8th arrondissements on a conservative list headed by Edouard Frederic-Dupont, then reelected in 1971. An influential politician, among other positions, he was secretary of the Council of Paris and vice-president of the 3rd Commission. The obituary published by the *Bulletin Departemental Officiel* (CXXXIV year, N°77, 6/10/2015) mentions that one of his key actions was to support the transformation of the Tremblay racetrack into a park dedicated to sports and leisure.

Tollu then described the ‘short route:’

the straightest line would go, after the Porte Molitor, to an entrenched passage, to the garden centre of the Fleuriste d’Auteuil, would pursue along the avenue du Général Sarrail, then would go underground under the Jardin des Poètes and under the avenue de la Porte d’Auteuil, it would then go along the Auteuil racetrack on its east side, by following the allée des Fortifications where it would be underground by the buildings and in open cut, in order to enable the necessary ventilation, next to the unbuilt areas, and, would eventually make a light curve towards the west in order to be at least 50 metres away from the buildings on avenue du Maréchal-Manoury and would go under the avenue de la Porte de la Muette (Conseil de Paris 1966a, 907).^{viii}

The councillor listed the positive aspects of this route: the design was *rectiligne*, a straight line, it was consistent with the ‘Plan Directeur’ of 1956¹⁵ (Figure 34), it avoided infringing on the Bois de Boulogne. But soon Tollu moved his attention to all the negative aspects that, in his mouth, quickly appeared insurmountable: it would require cutting 3,000 trees, it would be close to a long range of buildings in ‘very good conditions,’^{ix} it would require an underground interchange to connect the Boulevard Périphérique with the west motorway (today A13) that would be difficult to build and dangerous for drivers. On top of this, the route would be costly and would not allow to open the ring road in time for 1970 (the initial delivery date of the ring road). ‘This is why,’ added Tollu, ‘*with the Administration*, we have sought a solution with a route that would be slightly more west’ (my emphasis but original letter case).^x The variant that Tollu moved on to describe would go *west* of the Auteuil racetrack and *through* the Bois de Boulogne—with a mix of underground and open cut sections. For Tollu and the administration, the solution would be cheaper and more efficient (despite the extra kilometres and the large sections built underground, including under a lake), it would require the destruction of a fewer trees (despite going right through the heart of the Bois de Boulogne) and would limit the negative impact on nearby buildings. Following the exhaustive presentation by councillor Tollu, the chairman announced a (two-hour) dinner recess.

¹⁵ A *plan directeur* is the overarching urban planning document produced by an administration for a city or a region, it is produced at city, regional or national level. The ‘Plan Directeur’ of 1956 for Paris included a schematic route for the ring road (Figure 34).

The debate that took place on December 1965, and whose analysis I will resume in a moment, is a rare example of the municipal council being actively involved in the design of the ring road—if not the *only* example. This specific section of the ring road was discussed at length in December 1965 and then again in June 1966. And it had been the subject of several formal questions addressed to the prefect in the years before. The contestation was especially strong from councillors elected in the 16th and 17th arrondissements—for instance, Bernard Lafay and Pierre-Christian Taittinger¹⁶—who would push for the ‘long’ route (despite the fact that the ‘Plan Lafay’ presented in 1954 did feature the ‘short route’ following the allée des Fortifications (Figure 22).

The administration had deliberately postponed their decision on the route of the Boulevard Périphérique west of Paris, aware that it would be a difficult case. We find evidence of this reluctance in the archives. In a memo addressed to André Malraux, minister for Cultural Affairs, dated 7 Mai 1963, the prefect of the Seine wrote that ‘the section between Porte d’Auteuil and Porte Maillot will come last’ (1665W 405, 188) and that was why its design had not been finalised yet. Though, wrote the prefect, an ‘approximate route features in the Plan d’Urbanisme directeur de Paris.’^{xi} Another memo from the general director for technical services, Pierre Clairgeon, written in January 1964 struck a similar tone. He cited verbatim the Government’s position expressed at the Assemblée Nationale during a debate on 13 Decembre 1963: that other more urgent road projects had been given priority over that specific section of the ring road and that ‘the creation of such an infrastructure would not take place without leading to cruel mutilation in the Bois de Boulogne that would not be acceptable until it would become absolutely necessary (1665W 405, 158).’^{xii} The logic of the argument is striking: for Clairgeon who followed the Government’s position, that section of the ring road would necessarily lead to destruction and therefore had been postponed until it could not be avoided anymore. At the end of the same year, André Herzog, director for roads, wrote that ‘The problem raised by this section of the ring road is so sensitive that it would be better to act extra carefully when sharing any document regarding this issue (1665W 405, 164).’^{xiii}

¹⁶

Pierre-Christian Taittinger (1926–2009) was a conservative politician, a councillor (1953–2009), president of the Council of Paris (1962–1963), senator for Paris (1968–1976 ; 1977–1995), mayor of the 16th arrondissement (1989–2008) and several times junior minister. His family also owns the Champagne wine Taittinger.

Another document from February 1962 illustrates how reluctant the administration was to reach a decision on this section of the ring road. It is a handwritten note (1665W 478, 59–64) drafted by the chief engineer for the north section. In this 4-page document that I assume was meant to be shared with the prefect, he detailed the history of that section of the ring road before asking for instructions on how to continue his work. A handwritten addition at the top of the letter—a handwriting that is not that of the author of the note but probably that of his direct superior—has added *non expédié* ('not sent') underlined twice. And in that same handwriting we read:

Let the boulevard be built up to Porte Maillot on one side, between the Seine and the Porte de Saint-Cloud on the other side, and then you can start the procedure for the Bois [de Boulogne, translator's note] (1665W 478, 59).^{xiv}

And yet, despite all this caution, the Department for roads had already envisioned their favoured route. We find a clear trail of evidence to support this hypothesis in the archives. It would have followed the Allée des Fortifications, going east of the Auteuil racetrack, built in open trenches or underground. In essence, it is the same route as the first variant of the 'short' route described by Tollu in 1965, the same as the 'Plan Lafay' of 1954 and the 'Plan Directeur' of 1956 (Figures 22; 34). Going through the archives of the Department for roads, we have evidence this had remained the favourite route from 1953 until 1965. A series of memos and draft memos (1665W 478, 59–101), typed and handwritten, shows that the Department for roads was quite advanced in proposing a route going east of the Auteuil racetrack. In the consultation process initiated in 1956 and that took place among the relevant departments of the prefecture of the Seine, the Department for roads had even persuaded the Department for the arts and architecture to grant their reluctant approval. But the decree to list the Bois de Boulogne enacted on 23 September 1957 seemed to have put a halt to this momentum. The significant change brought by this new situation was that any modification of the Bois de Boulogne needed to be reviewed and approved by the relevant commission at the Ministry for Cultural Affairs. Yet, this would be no cause for any major change for the Department for roads. In a letter I have already quoted dated 7 May 1963 to the Ministry for Cultural Affairs—that had proposed a meeting to enquire of the Paris administration's progress regarding that section—the prefect wrote that

The shortest route, that involves going by the Bois de Boulogne (on Paris's side) appears like the best choice both in terms of the economic results as much as the entrusted role to decongestion the area next to the 16th arrondissement. It is also the route that will be the less disturbing for the Bois de Boulogne (1665W 405, 188).^{xv}

And finally, as Tollu also mentioned in his presentation, the route was also present in the 'Plan Directeur' of 1956, though in a schematic form (Figure 34). And yet, the solution of going east of the Auteuil racetrack, the 'logical' shortest route that had been favoured by the administration since 1953 and even before, was progressively overcome by an alternative route going *west* of the racetrack. In a memo dated 12 August 1965 from the General department for technical services to the director of the Department for the arts, youth and sports and copied to the chief engineer for the north section, we learn that

In a conference held on 9 July 1965 dedicated to reviewing the route of the boulevard périphérique between Porte d'Auteuil and Porte Maillot, Mr Prefect has *very clearly* taken a position in favour of going west of the Auteuil racetrack. He specified that the route east of the racetrack should be dropped, considering the positions he has taken on several occasions, and considering the reactions that had followed the destruction of the Tremblay racetrack. In such conditions, there is no point to study any solution that would encroach, in whichever manner, on the Auteuil racetrack facilities.

I did not miss the opportunity to remind the Prefect of your clear preference for the solution that would go east of the racetrack, but the position of Mr Prefect seems absolutely final (1665W 465, 25—my emphasis).^{xvi}

We learn a lot from this note written in the summer of 1965. First, that there had been a major change of position at the prefecture. The solution to go east of the racetrack had been dropped, and the prefect would tolerate no coming back. The tone of the letter is as direct as technocratic writing can be. The prefect's decision is presented as unambiguous and apparently irrevocable. Second, we observe that the only reason provided to explain this change of position is the racetrack. There should be no infringement on the racetrack, and any solution that ignored this directive would not be considered. Third, the reason given is the emotion created by the destruction of another racetrack, in Tremblay. In order to build a new stadium for the Paris Olympics of 1972—that Paris did not host in the end—the Council of Paris supported by President de Gaulle voted in 1965 to take down the Tremblay racetrack (this would eventually happen in 1969) and replace it with a new sport infrastructure. Newspaper articles of that time would report the racetrack had nearly fallen into disuse, with no more than thirty races per year. If

the overall programme would eventually be a failure by the end of the 1970s—there was still no new sport infrastructure constructed there—I have not found any expression of the emotion described by the prefect in contemporary press coverage (*Le Monde* 1966a; *Le Monde* 1966b; *Le Monde* 1972; *Le Monde* 1977; *Le Monde* 1980). It might have been that the strong reactions described by the prefect were limited to a small, yet influential community, of horse-racing enthusiasts. We will come back to that in a moment. Finally, we note that, according to this memo, the single element that tipped the balance in favour of a route going west of the racetrack was the preservation of the said racetrack. There is no reference to a technical reason. The decision taken by Prefect Haas-Picard had even suddenly sidelined the expert opinion *ten years in the making* that had clearly expressed a preference for a route going east.

A question necessarily arises: what could have justified the administration’s sudden change of heart? Throughout the archives we find an accumulation of circumstantial evidence that illustrate the pressure the Government, prefects and their administration were under. This pressure or lobbying, I argue, could explain the change in the administration’s position. I have already mentioned the 16th arrondissement was (and still is) a district inhabited by the ‘rich and powerful.’ The analysis provided by sociologists Pinçon and Pinçon-Charlot in their *Sociologie de Paris* explains more precisely this *entre-soi*, the inward-looking hyper-protective character of Paris social elites:

The study of residential practices of the members for Paris great clubs [*grand cercles parisiens*] reveals the power of sociological constraints. The families of the Jockey Club, the Automobile Club, the Interallié, or of the Cercle du Bois de Boulogne, bring together a social elite. These elites live in a very restricted space: the 7th and 8th arrondissement, the north of the 16th and the south of the 17th, as well as in Neuilly and in some rare other municipalities of the west banlieue.

The spatial proximity play an essential role in the non-stop exchanges and therefore in the management of the network of decisive relationships in the reproduction of a dominant position (Pinçon and Pinçon-Charlot 2014, 90).^{xvii}

My analysis of the archives evidences how inhabitants of the 16th arrondissement did not hesitate to reach out directly to prefects and ministers to have their voices heard.¹⁷ I have not observed

¹⁷ The 16th arrondissement will also be the settings to two case studies in Chapter 7: ‘The case of Jean D*** (1968–1970)’ and ‘The case of Henri P*** (1967–1970).’

a comparable phenomenon in the archives I have consulted regarding other sections of the ring road: here we observe a clear feeling of entitlement from local inhabitants. The deference of the prefect towards some of these inhabitants is also quite striking: e.g., this follow-up letter dated 7 March 1967, signed by the ‘Duc d’Audiffret Pasquier’ where the said duke thanked the prefect for inviting him over for lunch, and followed up with some design idea for the ring road. Audiffret Pasquier was the representative for the owners of the flats (*copropriété*) at 43 Avenue du Maréchal Fayolle, by the Bois de Boulogne (1665W 405, 85–86). On another occasion, Prefect Doublet openly moaned about the pressure he was under. In a letter dated 24 January 1967, he wrote:

I have shared with you the various interventions I have been the subject of regarding the ring road going through the Bois de Boulogne.

Again this morning, many MPs elected in Paris have called me out regarding this. I would like to know, in the most precise way, the proportion of the surface area that are covered by slabs. Is there a part of the route that is not covered? (1665W 405, 89).^{xviii}

These two examples are telling but are from 1967, *after* the administration had changed its opinion regarding the appropriate route of the ring road. But others from 1964 illustrate how that pressure had been constant since the early 1960s at least. The most illustrative is probably this letter dated 30 April 1964, sent by the secretary general of the Société des Steeple-Chases de France, an elitist charity then headed by count Gérard de Moulins de Rochefort, that organised steeple-chase competitions at the Auteuil racetrack.

The recent comments shared in the press on 15 April by Monsieur le Préfet de la Seine regarding the future route of the boulevard périphérique connecting Porte de St Cloud to Porte Maillot, going east of the Bois de Boulogne, have incited me to get back in touch with you, following the friendly chat you had granted me on February 7th.

I do believe it is useful to share with you the emotion of a significant number of neighbours of the Auteuil racetrack who, rightly thinking that our Society is directly concerned by the projects developed by your administration in this area, reached out to us in order to ask for precision on the route of the boulevard périphérique (1665W 405, 135).^{xix}

The secretary general continued, letting the prefect know what he thought was the width of the road that could be implemented there without encroaching on the facilities of the racetrack. Added by hand, it was written ‘exact’ next to it, meaning the engineer in charge of this section double-checked the figures communicated by the secretary general. The prefect’s correspondent then added:

I have also noted with satisfaction that the experts were also looking at the possibility of having the route of the ring road going west of the racetrack (1665W 405, 135).^{xx}

This single letter cannot explain by itself the change of position of the administration. Yet it illustrates the extraordinary lobbying taking place for that specific section of the ring road. Paris elites were actively reaching out to the administration to influence the design of the ring road.

We can now go back to the session of the municipal council of 1965 armed with a new critical eye. We know that just a few months before, the prefect had switched sides regarding the route of the ring road—a decision only explained then by the preservation of the Auteuil racetrack. But a few months later, this argument that had seemed essential in the prefect's arbitrage, had but disappeared from the debates.

At 10 p.m. on Thursday 23 December 1965, the discussion on the route of the ring road resumed with the speech of Bernard Lafay, a passionate proponent of the 'long' route, therefore opposed to the prefect's position. His strategy was to persuade other councillors that the administration had not done enough studies to support its position. Lafay's argument was backed by the next speaker, Pierre-Christian Taittinger—also a local councillor for the 16th arrondissement. But the most notable intervention on this topic was that of Pierre Miallet, who spoke on behalf of the communist group. Miallet said that all in all, he agreed with the rest of the councillors who spoke before and would support further studies. He also acknowledged the '*site incomparable*' ('unmatched site') of the Bois de Boulogne, yet he also mentioned that the second main element the communist group was concerned with were the finances of the city, and in that spirit communist councillors would support the shortest route, east of the racecourse: considering it did not infringe upon the Bois de Boulogne and did not require any expropriation. Of course, he said, there would be some technical difficulties, specifically to implement the interchange at Porte d'Auteuil. But nothing that could not be navigated.

Another hurdle that has been mentioned is that the route ... would be close to building's facades there. Here again, [communist councillors] do not think this is an exceptional situation in any way. We have seen elsewhere similar cases, at the Porte d'Italie, at the Porte de Vitry, at the Porte de Bagnole and at the Porte des Lilas, where the boulevard périphérique comes close to buildings. We regret that situation but sometimes how else can you proceed? Here again [when it comes to the route near Bois de Boulogne] we do not think this is a major obstacle (Conseil de Paris 1966a, 912).^{xxi}

The communist group's position, as per this quote and my previous summary of Miallet's arguments, appears pragmatic and sensible. Without polemic, they pointed out that they saw no reason why the Bois de Boulogne should be treated differently than other parts of Paris. They also argued that, indeed, the Boulevard Périphérique could have a negative impact on its immediate surroundings, but that considering the general interest, this might be a necessity. In their attitude, we understand the overall position from socialist and communist aediles that faced the building of the ring road in their constituencies: detrimental but necessary. The motion pushed by Lafay that asked the prefecture to carry out further research before voting on a decision was eventually approved by the Council.

Six months later, on their plenary session of 30 June 1966, Tollu was back to present the project again and at the outset announced that it was time they reached a final decision on this matter. Councillor Tollu reminded the assistance that there were four key elements to keep in mind when making a choice regarding the route: (1) answer traffic's demands (2) limit the disturbance to the sites crossed (3) avoid extra financial burden (4) achieve the ring road in the timeline identified. Tollu insisted on the '*totale objectivité*' ('complete impartiality') of the administration as they studied the different routes. Like he had done six months before, he quickly cast off the 'long' route to focus on the 'short' route variants. Tollu and the administration were set on the route going west of the racetrack—through the Bois de Boulogne and away from the buildings. Tollu exposed a series of arguments to support their position: though longer, the route would be cheaper; though cutting across the Bois de Boulogne, it would destroy less trees. It would also allow to leave the racetrack untouched and fully functioning throughout the building of the ring road. The main obstacle for the other variant would be, according to Tollu and the administration, that the route east of the racetrack would require to move a major water pipe. And that it would make the interchange at Porte d'Auteuil impractical to design and dangerous to drive. The cost of going east of the racetrack was valued at 346 million francs, the cost of going west at 326 million.¹⁸

¹⁸ Respectively €472 and €444 million of 2021, adjusted for inflation.

Lafay was next to speak. He contested the choice of the administration and tried to derail the vote on account of procedure—but failed. He accused the prefect of being biased and explained he was not convinced by the evidence provided by the administration: ‘It is an opinion, Mr Prefect, not a demonstration.’^{xxiii} And later

To the opinions of the technicians who are against it, we could use the opinions of those technicians that are for it; and yet we all know that this kind of dialogue will fall on deaf ears once the Administration has picked a side (Conseil de Paris 1966b, 436).^{xxiii}

But Lafay also congratulated the administration for changing their mind and dropping the route east of the racetrack in favour of the one going west of it. We understand that Lafay considered this route west of the racetrack as ‘less bad.’ Lafay analysed the main argument given by the administration for changing their mind as the proximity of the east route to nearby building. At this point of Lafay’s speech, Louis Baillot, communist councillor for the north of Paris, interjected shouting ‘*Et la porte de Clignancourt!*’ (‘And what about the Porte de Clignancourt!’). With this interruption, councillor Baillot would have reminded the audience that the rest of the city had not been treated with so much care. Not in direct reaction to Baillot’s injection, though very much connected to that issue, Lafay then acknowledged the ‘past mistakes that at least we should learn from for the future.’^{xxiv} This is an important element to underline: for Lafay—a councillor for the 17th arrondissement as well as an MP for a constituency that included both the 17th and 16th arrondissements—the amended route of the Boulevard Périphérique in the Bois de Boulogne was about preserving the inhabitants, and he congratulated the administration on this specific improvement.

Communist Pierre Miallet then voiced his opposition to any attempt at infringing on the Bois de Boulogne, because it was one of the rare green spaces in Paris. He contested the technical impossibility of the route favoured by the administration. On the water pipe, he mentioned at least one other project where a pipe of similar size had been moved simply to make space for an extra lane. He also discarded as a temporary issue the fact that the racetrack of Auteuil would be closed for several months and reminded the assembly that so many other sports/wo/men had to endure similar situations all across the capital city whilst the ring road was being built. He also contested the technical

impossibility of designing the Boulevard Périphérique underground. Regarding the proximity to housing, Miallet added:

we should point out that, for instance at Porte de Vitry and at Porte d'Italie and in the 18th arrondissement, the tenants of the social housing have the 'privilege' of having the boulevard périphérique right next to their windows: it has never been a government matter!

We have been told this route would be more expensive even though we have received no clear demonstration of that. But can we calculate the monetary value of the Bois de Boulogne and its conservation? Is it worth some financial sacrifices (*Applauses from the far-left and left groups.*) Will we ever be in a position, even with a lot of money, to establish another Bois de Boulogne in Paris? (Conseil de Paris 1966b, 439).^{xxv}

Most of the remaining debate was filled by the general director for technical services defending his administration's position. He was the last person to speak. The vote was opened shortly after that and the results were clear: 54 in favour, 6 against.

It is worth bringing to the fore several elements of analysis before moving on to the final part of this Bois de Boulogne route story. A first element to consider is that, having consulted all the debates in relation to the Boulevard Périphérique from the early 1950s, I note that no section of the Boulevard Périphérique had been studied so extensively and discussed in such long ways by the municipal council. We know from the elements presented earlier that the administration had changed their opinion regarding the optimal route for the ring road next to the Bois de Boulogne, ahead of the votes at the Council of Paris. From the elements I have been able to consult, this was the only instance when the administration significantly changed the route they had designed. Other changes were only marginal—by marginal, I still mean they might have led to the destructions of hundreds of homes, as we have seen with the previous case study of the Kremlin-Bicêtre. But, even in this case, the 'philosophy' of the ring road had never changed so fundamentally under the pressure of any other stakeholders. This is also an opportunity to point out how little influence the municipal council had on the design of the ring road. What the 3rd Commission would present was the administration's proposal.

Rapporteur Tollu had mentioned the extensive consultation that took place around this route. I have not found the material in the archives to evaluate the nature of this consultation, yet I have shown previously the extraordinary pressure that the administration was under for that specific section of the

ring road. There was strong lobbying from local councillors that were also often MPs, senators, former/future ministers, etc. I also showed the pressure from inhabitants of the 16th arrondissement, part of the country's social elite, and other stakeholders including the Société des Steeple-Chases de France. I could reuse to the profit of my analysis the phrase by councillor Lafay—'It is an opinion, Mr Prefect, not a demonstration.'—and the arguments by Miallet when he doubted the sincerity of the technical arguments presented by the administration and the 3rd Commission. Of course, it is extremely difficult to challenge 'technical' elements, especially 60 years later: and yet, in line with Miallet, one can doubt that a water pipe was enough to derail an entire section of the Boulevard Périphérique, especially when considering this specific section had been in planning for more than a decade. As a support of my argument (and Miallet's), it was for instance common practice for the Department for roads to check with all relevant companies and service providers the potential obstacles to the construction of the ring road. That they would have neglected to reach out to the Compagnie des Eaux until 1965 only appears very remotely plausible.

Finally, we should not forget the sudden change of heart from the administration in 1965, citing the impact on the racetrack as the prefect's main concern. From that moment on, and despite the absence of any technical explanation in the memo of August 1965, the administration and the 3rd Commission in charge of preparing the work of the municipal council, had mobilised all their efforts to justify the 'route number 3,' west of the Auteuil racetrack. The 20 million francs¹⁹ cost difference between the two projects (i.e., a 6 per cent difference) appears negligible on a project that costed two billion francs in total. The argument that trees cut to make way for the 'east' route could not be replanted, whilst the trees cut for the 'west' route could—with no justification of any kind—also appear biased or insincere. Overall, the memo of the administration did not detail any of the technical elements—costing, trees threatened, impact on road design. Their demonstration remained vague. Despite the preparatory work of the 3rd Commission—entirely based on the prefecture's work as the council had no experts of its

¹⁹ €27.3 million, adjusted for inflation.

own—in the end the councillors were left with one choice: to trust or not to trust the administration's appraisal. They tended to do so when it suited their political objectives.

On 30 June 1966, the Council of Paris had voted in favour of the Route n°3, west of the Auteuil racetrack, that was also supported by the administration. This should have been the conclusion of this case that had mobilised politicians and administration for many years—unlike any other section of the ring road. Yet another actor had decided to step in: President de Gaulle.

5.4 *L'État, c'est moi: the role of President de Gaulle in the decision process for the Boulevard Périphérique of Paris.*

February 1967. In a memo, the prefect's staff notified the general director for technical services Pierre Clairgeon that a Restricted council would review the route of the Boulevard Périphérique in the Bois de Boulogne by May of the same year. In the meantime, the prefect wrote, 'Please make sure that no action will be taken to carry out the works that would anticipate on the decision that will be taken. You will please abide strictly to this order' (1665W 405, 87).^{xxvi}

A *Conseil restreint*, or Restricted council is a high-level meeting chaired by the president of the Republic that involves the prime minister, relevant ministers, and top civil servants (and/or high-ranking army officers). As Delphine Dulong (2019) has noted, the number of Restricted councils should have been limited to traditional presidential domains (such as matters of defence, colonial wars, international trade, etc.) but as de Gaulle limited the influence of his prime ministers, he also increased the number of Restricted councils he would hold, and the scope of the issues discussed. Among those, de Gaulle governed upon key aspects of Paris's urban planning (e.g., the renovation of the Halles district in central Paris, the renovation of the Marais district, the development of the Maine-Montparnasse district). In early 1967, de Gaulle decided the route of the Boulevard Périphérique in the Bois de Boulogne was too sensitive to be left to the Council of Paris and the prefect. Or it might be that, unsatisfied, he was already set on changing that route.

Words pronounced by *le Général* regarding the reconstruction of the central Halles district and recorded in the minutes of one of the Restricted councils dedicated to Paris's urbanism illustrate de Gaulle's attitude towards the municipal council of Paris, and the role he envisioned for the State (i.e., for him) in such matters.

The Council of Paris is the Council of Paris, the Government is the Government, and the State is the State: it is out of the question that the Council of Paris should have the last word. ...

We cannot surrender the reconstruction of what will be destroyed to individuals that are only here to do business: this space and its importance forces us to get involved, us, that is to say the State. We must have a plan and impose it; let the City of Paris implement it, yes, but with one condition, it needs to be approved here, otherwise we will have but frivolities and useless things (AG/5/2672, 13).^{xxvii}

These words are, first of all, a telling expression of the vision de Gaulle had of his own role as president in regard to Paris urbanism. We are close to the apocryphal phrase attributed to Louis XIV: *L'État c'est moi* ('I am the State'). A second element to highlight is that President de Gaulle clearly expressed his distrust towards the municipal council. He hinted at the council's avidity, its corruption even—in French, the phrase *faire des affaires* has a negative undertone, especially in his mouth. Finally, he clearly mentioned that all major decisions required the State's approval—i.e., his. It seems that the route of the Boulevard Périphérique in the Bois de Boulogne had become one of those sensitive topics he wanted to personally sanction. A newspaper article published in *L'Équipe* in May 1967 offered an even cruder explanation to de Gaulle's involvement in this issue.

Why was the route voted by the municipal council a long time ago abruptly re-examined in a council ... chaired by the Head of State ...?

Mostly because hearsays had reached the ears of the General de Gaulle that the most direct route going underground under the Allée des Fortifications ... had been dropped to avoid upsetting the rich and political powerful neighbours.

The General doesn't like that kind of insinuation (Nogaret 1967).^{xxviii}

We get a confirmation of *L'Équipe*'s reading of the situation in Michel Brisacier's doctoral thesis on de Gaulle and Paris. In an interview he conducted in 1975, de Gaulle's technical advisor Bernard Ducamin²⁰ recalled that

²⁰ Bernard Ducamin (1928–2012) graduated from ENA and then joined the Conseil d'État (Council of State) in October 1953. In 1962–1963, he was the *commissaire du Gouvernement au contentieux* (Government's ombudsman). He was *conseiller*

Preparatory meetings took place, time passed; Doublet's mind was set—it was the project that was eventually implemented. We convinced everyone. And then the General wanted to hear about it. When we introduced the project to him, he asked: 'Isn't there also something else, that is that we don't want to go in front of the windows of Mr Marcel Dassault²¹? That is precisely why I want the boulevard périphérique to go there.'

Despite his own sympathy for the project, it was not possible to say that the State had chosen the solution that had spared a notable of the regime. The wife of Caesar should not even be suspected (Brisacier 1986, 275).^{xxix}

Interviews conducted by Brisacier also confirmed the despise of de Gaulle for 'money'²² and his entourage's concern, especially Malraux's, regarding the greed of the Council of Paris (Brisacier 1986, 226), as well as the special interest the president and his Government, had for the planning of Paris (e.g., Brisacier 1986, 273).

By analysing the presidential archives, we get a glimpse of the decision process as it unfolded at the Elysée Palace. It would seem it was the president's technical advisor Bernard Ducamin who brought up the issue of the Boulevard Périphérique in the Bois de Boulogne to Charles de Gaulle's attention.²³ Ducamin, who might have followed a request from the presidency's secretary general Etienne Burin des Rozières²⁴ to investigate the matter,²⁵ wrote a note dated 12 January 1967, to General de Gaulle's attention (AG/5(1)/2688, 91–100). For Brisacier, based on interviews he made with Jacques Boitreaud (technical advisor to de Gaulle, 1962–1966) and Bernard Ducamin, de Gaulle got involved because 'his secretary general Burin des Rozières or Tricot practiced "jogging" in the Bois de Boulogne.'

technique (technical advisor) in the cabinet of the minister for Employment, before becoming his chief of staff. He was then technical advisor (1966–1969) to the president of the Republic (Archives Nationales 2017).

²¹ Marcel Dassault (1892–1986) was an engineer, businessman, politician. MP (1958–1986), Senator (1957–1959). He was mostly known for being the founder and CEO of the Dassault Group that initially specialised in aircraft for military and civilian use.

²² '[de Gaulle] didn't like money neither the rich powerful, nor the snobs. You speak of Paris owned by money? France was prosperous, it was getting urbanised.' ('*il n'aimait pas l'argent, ni les puissances d'argent, ni le snobisme. Vous parlez d'appropriation par l'argent de Paris? La France était prospère, s'urbanisait.*') Camille Cabana cited in Brisacier (1986, 661 in the appendix).

²³ Chiaradia (2016) has studied the role of de Gaulle's 196 advisors during his presidencies that constituted the president's entourage. He demonstrates their influence in shaping de Gaulle's policy, how ministers perceived them as competition, and the decisive influence of *technical* advisors that would grow in relation to their expertise in their domains. The opacity of de Gaulle's government, as advisors refused to communicate with the press, shaped the image of a technocratic 'super-government,' where the Élysée Palace was described as *le Château*, the castle.

²⁴ Etienne Burin des Rozières (1913–2012) was a civil servant and diplomat, he was General de Gaulle's *officier d'ordonnance* (batman) during the war. He was appointed ambassador in Poland (1958–1962) before being appointed secretary general of the Elysée Palace i.e., the president's chief of staff in 1962. He occupied this post until 1967, replaced by Bernard Tricot.

²⁵ A memo dated 26 December 1966 from the prefect of Paris (AG/5(1)/2688, 101–109) has been annotated by hand. The annotations are rather critical, and they are not from Ducamin's hands—Ducamin's handwriting is easy to recognise, see for instance AG/5(1)/2688, 93. On the first page of the note, a handwritten annotation is addressed to Ducamin. But there is no signature or date for this annotation.

(Brisacier 1986, 274) Therefore, the involvement of de Gaulle was also indirectly the results of the neighbourhood sociology (and that of the president's entourage). We can safely assume that there were not many technical advisors to de Gaulle who lived at Porte de Clignancourt, or Porte de Vanves, or Porte de Ménilmontant at the time.

The note went back to reviewing the three main routes (the 'long' route, and the two variants of the 'short' route, east and west of the racetrack). The presentation was much more direct than the circumvoluted debates that took place ten months prior, in the sense that it was much blunter than any other appraisal produced by the administration or by the municipal council in the past. The main difference between route number 2 and route number 3, explained the note, was that one came really close to residential buildings, whilst the other did not disturb the neighbours of the Bois de Boulogne but had to go through the *bois*. Ducamin wrote:

The debate has been all the more animated considering [the short route] would create some disturbances for the neighbours; and it is one of Paris's wealthiest neighbourhoods; hence the accusation that such or such route has been picked not for technical reasons but under shameful external influences.

There is no doubt that an infrastructure like this one, that is by essence impassable (except in the presence of a bridge or footbridge) and that is necessarily noisy day and night, can be little desired neighbour for residential buildings despite the commodity it represents in itself (AG/5(1)/2688, 94).^{xxx}

Ducamin's memo comes through as factual and does not appear like he is in favour of a route over another. His penultimate paragraph stated that Paul Delouvrier and Maurice Doublet had adopted²⁶ the solution proposed by the administration and voted by the Council of Paris '*au vu des explications techniques des services*' ('in light of the [involved] departments' technical explanations'). And in his concluding paragraph, he wrote that 'the General de Gaulle might want to judge this matter personally, by hearing the reasons provided by misters Delouvrier and Doublet in an audience, with maps and

²⁶

As head of the District de la région de Paris, it was not Delouvrier's prerogative to decide on the route of the Boulevard Périphérique, though his influential opinion mattered. Even more so since he had the trust and the ear of de Gaulle. Maurice Doublet was appointed prefect of the Seine on 16 September 1966 and was the last to hold the position until it was abolished on 31 December 1967. He would then become the first prefect of Paris on 1 January 1968. Maurice Doublet had inherited the case from his predecessor, Raymond Haas-Picard (1 October 1963–10 August 1966), and had decided to support his predecessor's decision. A lead I have not explored for lack of enough material available is of course that the administration had changed their position regarding the route of the Bois de Boulogne a year or so after a new prefect, Haas-Picard, had been appointed in the post. It is interesting to note that Haas-Picard made a rare career move after he left civil service: in 1967 he became president of the Union des chambres syndicales du pétrole et de l'industrie, a lobby group representing French oil companies. And from 1968 until his death in 1971, he joined the boards of energy companies, luxury hotels and banks (*Le Monde* 1971). I do not imply that Haas-Picard was corrupted, but I want to point out that, he was very well-connected to French business elites considering the rather atypical career he pursued after he left the prefecture.

models to support them' (AG/5(1)/2688, 99).^{xxxii} A loose handwritten piece of paper signed by Ducamin has been filed with the typed memo. It reads:

This memo has been shown to the General de Gaulle on 13.1.67 by [secretary general] Burin des Roziers. Actually, the General was rather well aware, Mr Haas-Picard [prefect of the Seine from October 1963 until September 1966, translator's note] had kept him informed of the issue and it seemed had convinced him then.

What he asks really, is that Mr Delouvrier would review this issue in detail himself, and that it is only mentioned again to him in case he feels the route adopted needs to be reviewed.

I have informed Mr Delouvrier of this position on 14.1.67 in the morning, as well as Mr Doublet.^{xxxiii}

Considering that Delouvrier and Doublet had already expressed their support of the route voted by the Paris Council in 1966, the matter should have ended there. And yet, on 2 February 1967, de Gaulle informed the minister of the Interior that no work should be carried out on the Bois de Boulogne section until he could engage with the matter in a Restricted council to be held in May 1967. In turn, the minister of the Interior instructed the prefect to stop any further action, and the prefect, in turn, the general director for technical services, who, in turn, instructed the chief engineer for the north section to cease any action (1665W 405, 87). According to Ducamin in a letter dated 10 May 1967 to Malraux's chief of staff—the latter was surprised that he was not made aware of the General's decision regarding the Bois de Boulogne—de Gaulle's instructions were given '*proprio motu,*' i.e., at his own initiative during the Restricted council of 2 February 1967 that was not concerned with Paris's urbanism. The General's order was not even recorded in the minutes or in the summary of decisions (AG/5(1)/2688, 125).

In the same letter to the Ministry for Cultural Affairs, Ducamin also told Malraux's chief of staff that de Gaulle's position was 'hostile—until further notice, to the route planned' and added that secretary general Burin des Roziers 'will hear tomorrow at 10 a.m. in his office the position of Delouvrier (in favour of the proposed route) and Doublet, who have, I am afraid, rather good technical arguments' (AG/5(1)/2688, 125).^{xxxiii} What we understand from this series of memos is that between 13 January and 2 February 1967 the president had changed the way he wanted to handle the case. De Gaulle switched from entirely trusting Delouvrier with the matter, to handling this himself. Was it Delouvrier who asked the president to get involved? Was it de Gaulle who acted on his own initiative?

Was it his staff who changed the president's mind? The archives offer no explanation to this abrupt change of attitude.

The Restricted council was scheduled for 19 May 1967. We find on file a preparatory note, probably written by Bernard Ducamin,²⁷ dated 10 May 1967 (AG/5(1)/2688, 21) that followed and expanded on the note from January 1967 cited earlier. The presentation was even more blunt than the memo Ducamin had written a few months prior. For instance, when describing the route 3 that would go through the Bois de Boulogne he talked of '*une importante saignée*' in the Bois de Boulogne—a negative metaphorical term that is literally and idiomatically translated as a *bleeding* or a *haemorrhage*. The hints regarding corruption in the January note had now turned into frontal accusation. Private interests, lobbying, and corruption ('less honourable motives') were identified as the main justification to explain the choice made by the municipal council:

Presented to the Council of Paris ... those routes were discussed in December 1965 and then in June 1966, during debates that were long and muddled, where honest concerns rubbed shoulders with less honourable motives that were the results of different influences and the pressure from private interests that eventually led to the adoption of the route [west of the Auteuil racetrack] (AG/5(1)/2688, 22).^{xxxiv}

The note then proposed a comparative table between the two routes east and west of the racetrack. On the costing, the note mentioned that 'the study would benefit from being more precise in order to be convincing' (AG/5(1)/2688, 23).^{xxxv} On the destruction of the Jardin des Poètes, the memo's author wrote that its preservation did not justify the partial destruction of the Bois de Boulogne. On the impact on the design of the interchange at Porte d'Auteuil, the comments were that no design had been finalised yet and that a complementary study on this issue would here too, be necessary. Ducamin also doubted that the building works would truly prevent the racetrack from pursuing its activity. And finally, on the negative impact of the ring road on the Bois de Boulogne's neighbours, he wrote that

The discomfort identified for the route [east of the racetrack] is indisputable but it would not be superior ... to the discomfort experienced by the residents of the Cité Universitaire or the buildings built right by the ring road north of the city. We would also point out that, by the way, studies carried out beforehand

²⁷ We find the same vocabulary as the one used in the note of January 1967. For instance the '*raisons inavouables*' are here '*raisons moins avouables*.' And it would have been Ducamin's role to write such memo.

by the prefecture of the Seine have shown that noise measurements have identified a level between 75 and 90 decibels at peak time ... on existing sections of the ring road. Whereas, on the Boulevard des maréchaux, the noise goes above 100 decibels (AG/5(1)/2688, 24).^{xxxvi}

To sum up in a few words the position of Ducamin, he asked why would the neighbours of the Bois de Boulogne benefit from a different treatment than the rest of Paris's districts: the prefecture of the Seine had argued on multiple occasions that the impact of noise and other nuisance on the neighbouring buildings of the Boulevard Périphérique had been acceptable, why not consider them acceptable here too?

The note concluded by saying that following a review of the work compiled by the prefecture of the Seine and a site visit, Ducamin considered that the choice voted by the municipal assembly did not seem the most satisfactory, because '*il ne répond pas à l'intérêt du plus grand nombre*' ('it does not answer the interest of the greatest number,' AG/5(1)/2688, 25).

The study of route no. 2 [east of the racetrack], the most direct and that spares the Bois must be seriously considered. New delays will be necessary, because it does not seem from the documents we have been communicated that the project has been examined in a manner as detailed as for route no. 3 [west of the racetrack]. But the preservation of the Bois de Boulogne would justify by itself the delay in building this infrastructure that is possible, one needs to be reminded, because of an important financial contribution from the State (AG/5(1)/2688, 25).^{xxxvii}

This memo that I attribute to Ducamin was followed by another memo signed Jean Maheu²⁸ that detailed possible legal courses of action to act upon this issue, mentioning that the Bois de Boulogne was listed, and that the minister for Culture was unofficially informed of the route of the Boulevard Périphérique but never formally notified, nor had his ministry formally reviewed and approved the design. The folder prepared for de Gaulle's perusal ahead of the Restricted council of 19 May 1967 contains a miscellaneous set of documents including reports by the prefecture of the Seine in favour of route no. 2 [east of the racetrack] but also critical press clips (*Le Figaro*, *Le Monde*, *Combat*), and an interesting letter by architect and historian Roland Bechman (1919–2017) on behalf of the association *Aménagement et nature* that

²⁸ Jean Maheu (1931–2022) was a civil servant who graduated from ENA in 1958. He joined the Cour des Comptes (Court of Audit) the same year. From 1962 until 1967 he was *chargé de mission* (policy officer) in the president's staff. He was also president of the Centre national d'art et de culture Georges-Pompidou (1983–1989), then CEO of Radio France (1989–1995).

calls upon [de Gaulle's] High Authority, the only one that can still prevent this irremediable mutilation that would hurt Paris by requesting a new ... objective and balanced study ... that would place above all the general interest (AG/5(1)/2688, 49).^{xxxviii}

The sentence quoted above has been underlined with a blue pencil—meaning de Gaulle's staff wanted him to notice it (Figure 33). The letter also noted that

In the name of the general interest, the inhabitants of Montrouge, Gentilly, or the Cité Universitaire endure the prejudice caused by the presence of this road under their windows (AG/5(1)/2688, 49).^{xxxix}

Overall, the folder prepared for Charles de Gaulle ahead of the meeting conveyed some hostility to the choice made by the Council of Paris (and therefore to the appraisal of the prefecture de la Seine). The 'technical' explanations provided by the prefecture were repeatedly doubted, and challenged by Bernard Ducamin (e.g., see his annotations AG/5(1)/2688, 60). And yet, despite this incriminating preparatory folder, it seems President de Gaulle eventually rallied Delouvrier and Doublet's point of view. Doublet, interviewed by Brisacier, explained de Gaulle concluded the Restricted council on the ring road saying to all ministers: '*Je vois que vous êtes tous contre moi. Je suis résigné.*' ('I see you're all against me. I give up,' Brisacier 1986, 276). It would still be extremely valuable to consult the minutes of the meeting, but unlike most other Restricted councils, they have not been filed in the presidential archives. I am still working with the team of the Archives Nationales to try and find them, as they might contribute understanding the discussion that took place on 19 May 1967 at the Elysée Palace.

Even without having had access to the minutes of this Restricted council where the fate of the ring road's route as it crossed the Bois de Boulogne was decided, I take several key aspects away from this case study. First, we have an increased understanding of the role de Gaulle envisioned for the State, i.e., for him, in the urban planning of Paris. My analysis complements Brisacier's focus on the Halles district (Brisacier 1986), Nivet (1994) on the role of the Council of Paris in relationship to de Gaulle's presidency and more generally it contributes to the literature on the relationship between the French State and Paris in the early days of the Fifth Republic (Bellanger 2010). A detailed critical study of de Gaulle's relationship to the urban planning of Paris during his terms would constitute a fascinating

endeavour. Second, I have evidenced the poor opinion de Gaulle and his staff had of the Council of Paris. In several memos and minutes of Restricted councils, we understand that for de Gaulle and his entourage, the Council of Paris was under the influence of various lobbies, and even sensible to corruption. Third, we have access to the doubts expressed by de Gaulle's staff towards the route west of the racetrack. These doubts were similar to those expressed by several councillors, including Miallet on behalf of the communist group. Reviewing the documents I have available, more than fifty years later, I tend to share Ducamin's and Miallet's doubts—as I demonstrated throughout the sections of this chapter dedicated to the Bois de Boulogne. It does look as if the administration and then the 3rd Commission decided on a solution—the route west of the racetrack—*before* crafting the technical facts to back it up. In addition to their historical significance, these findings constitute a contribution to the wider debate on the 'politics of evidence' (Parkhurst 2017), a 1960s example of 'policy-based evidence-making' as opposed to 'evidence-based policy making.'

In the following days, de Gaulle's approval of the route was communicated to all relevant services. It had taken an extra year for the president to validate the Council of Paris's decision voted in June 1966. This section of the Boulevard Périphérique, reviewed by several rungs of government including France's highest, would remain as the most disputed of them all.

5.5 *Conclusion: a hierarchy of stakeholders influencing a disputed route*

The study of the routes of the Boulevard Périphérique by the Bois de Boulogne and around Porte d'Italie undertaken in this chapter have demonstrated that the construction of this infrastructure was not a seamless, undisputed process. First, I have challenged the *obviousness* of the route of the Boulevard Périphérique. Indeed, the ring road was built on the Zone: while I have critiqued a simplistic understanding of the Zone as 'empty' right from the outset of this chapter, it is evident that for urban planners at the time the Zone did constitute an optimal space to build this infrastructure that was deemed essential. The reasons were that most of its surface area was owned by the City of Paris and that, compared to Paris or the banlieue, its density—in terms of existing constructions and inhabitants—was of course much lower. Notwithstanding, I have also demonstrated that the route of the Boulevard

Périphérique was the result of negotiation processes between a variety of actors. The path of the ring road—i.e., its footprint but also its design, specifically its elevation—are the results of a design process that involved a wide range of stakeholders, from suburban mayors to the country's highest authorities. A glance at maps of early projects (Figures 21–22; 24) also shows that several different routes had been envisioned over the years, reinforcing these findings.

The analyses offered in this chapter of the sections by Porte d'Italie and by the Bois de Boulogne allow me to propose a refined understanding of stakeholders' influence on the construction of the Boulevard Périphérique. First, the process of designing the ring road was a far cry from caricatures of post-war modernist urban planning where technocrats would build with little or no consideration for the local context. The ring road was the result of lengthy negotiations with a variety of actors. Arguably, the low density of the Zone made this operation possible—other contemporary projects, like the 'Radiale Vercingétorix,'²⁹ that would have created a motorway going through Paris's dense urban tissue were eventually abandoned because of local opposition (Backouche 2018). The general support expressed by councillors, technocrats and, to a certain extent, inhabitants of Paris and suburban towns, also made this operation possible. By the time the ring road had been achieved, the general opinion regarding such projects had already changed significantly: urban motorways were well identified as being a nuisance to their immediate neighbours and new projects would meet strong opposition from locals (Mercuriali 2019a, 56; Roseau 2022, 117–24). In a relative short period of time, two decades at most, as Parisians started to experience urban motorways, we observe a shift in the social imagination conceptualised by Antoine Picon as representations of this infrastructure started to diverge more than they coincided, an element of theorisation I will develop further in chapters 6 and 8.

We can now start to map a hierarchy of stakeholders' influence in the process of designing the ring road. The prefect of the Seine, logically, had the upper hand on this process. It was their administration, namely the Department for roads in close collaboration with the Department for

²⁹ The 'Radiale Vercingétorix' or radial road 'Vanves-Montparnasse,' was a project to build an extension of the motorway A10 so that it would penetrate Paris to the Gare Montparnasse, starting at Porte de Vanves with an interchange on the Boulevard Périphérique. It was voted in 1971 but abandoned in 1977 following local oppositions and the election of Mayor of Paris Chirac that same year.

urbanism, that carried out the conception of the infrastructure. The prefect would answer to national actors such as the Ministry for Cultural Affairs, the prime minister and the president of the Republic. The Council of Paris seemed to have only a marginal influence. The 3rd Commission that prepared all votes regarding the city's road network seemed to essentially follow the administration's lead, as we have seen with the Bois de Boulogne section. Yet, it is difficult to precisely evaluate the influence of the Council: for instance, the administration did change its position regarding the Bois de Boulogne by having the ring road going west, instead of east of the Auteuil racetrack. Paris's councillors (also often occupying other positions of influence in politics, administration, or business) did have a role in this evolution and it is difficult for me to assess their weight in view of the documents I have available.

The RATP, the SNCF, and the Army also emerge as major stakeholders. While the case studies I have studied in this chapter only involve the RATP, other examples of difficult negotiations regarding routes in other sections of the ring road (e.g., negotiations with the Air force next to Porte d'Issy, negotiations with SNCF at Porte de la Chapelle) are omnipresent in the archives. The strength of these stakeholders was embedded in real estate and legal precedents, as well as their capacity to have the ears of the State's top rungs. We observe the continuation of legal agreements, contracts, commitments, negotiated since the early 20th century and even before, e.g., the strength of the RATP's position was rooted in the legal agreements signed in 1919, 1923 and 1927 that the administration did not seem keen to challenge. It is not uncommon in the archives to find stakeholders supporting their claims by producing deeds and legal agreements of course, but also minutes of meetings ten, thirty, or even sixty years old. This is also a matter for reflection regarding the Department for roads' archiving policy. The conservation and organisation of the department's archives is a key element for the running of present-day affairs.³⁰ The ability to easily retrieve the minutes of a thirty-year old meeting where a decision had been taken was essential. We find in the archives documents that remained 'open' for several years as they circulated from departments to departments, being amended, edited, approved, rejected. We can also ask ourselves what happened when a key document was lost, destroyed, or left out—purposedly or

³⁰ This was confirmed to me by the current archivist for the Department for roads, Jessica Lecènes. When I first met her, she mentioned that a significant number of key documents, such as blueprints, are kept in the offices of the team in charge of maintaining the Boulevard Périphérique today and cannot be filed in the archives because they are used regularly.

inadvertently—from an archive folder. It would have been easy to make a decision, a map, a letter, minutes of a meeting, disappear. I have not studied specifically the role of archivists in the Department for roads: for instance who was in charge of archiving a document? Was it engineers when they changed posting? Engineers when they retired? Department's directors? Clerks? Trained archivists? To archive or not to archive, is indeed the question, and archival policy in relation to the urban planning of Paris would constitute a fascinating research lead to continue.

At the lower end of this hierarchy sat suburban mayors and their constituents. Suburban mayors were treated with a relative deference by the prefecture's technocrats, this was especially the case when they simultaneously occupied major national roles.³¹ Yet, their influence on the design of the ring road was very limited. Discussion on the route of the ring road was a *fait accompli* they were presented with, with extremely marginal opportunities to influence it. Yet we do not find evidence of a revolt from suburban mayors against the ring road. If they occasionally opposed the way it was designed as it crossed their municipality (e.g., the Mayor of Pantin trying to save the Jardin Jean Jaurès [2276W 294, 10–55]), there was a general support for the construction of the ring road. Suburban mayors regularly insisted on designing the Boulevard Périphérique in a way that would not remind inhabitants of the previous fortifications, specifically opposing building in embankment, to no avail. At the very bottom of this 'food chain' were inhabitants of the suburbs. As I have shown in the section by Porte d'Italie, it is striking to witness how their existence was barely mentioned. And yet, despite the usual assumptions that the ring road was built on an empty Zone and therefore did not require to destroy homes, a number of expropriations were carried out to build this infrastructure. To count them would be a historical enquiry in its own right, but without specifically investigating that aspect I could roughly estimate the figure at several thousands of households (see for instance 2276W 21).

The contrast is stark with the influence of local stakeholders in the Bois de Boulogne. While my research does not offer a 'smoking gun' proof to explain the change of position from Prefect Haas-Picard as he switched the prefecture's support from a route east to west of the Auteuil racetrack, or a

³¹ See entry '*Cumul des mandats*' in the glossary.

definite explanation to de Gaulle's change of attitude in this matter, I presented a trail of evidence that demonstrates the extraordinary discussion that took place on that specific section of the ring road, and the intense lobbying from a variety of local stakeholders, all part of France's elites (aristocracy, business leaders, top civil servants and politicians) to influence the route of the ring road. And eventually their success in doing so. It is often noted that the Boulevard Périphérique goes underground as it connects wealthy districts of Paris to wealthy suburbs, and my analysis partially vindicates that mainstream opinion. But the influence of France's elites did not really change the infrastructure's elevation, but specifically its route, by pushing it away from the inhabitants of the wealthiest district of Paris. I will develop this approach further in this thesis's last chapter of analysis. It is also essential to point out the dodgy relationship between technocracy and an elite-driven urban planning of Paris. A technocratic management of the city, ideally driven by rational management, also implied opacity in the way the decisions were taken. When the republican, 'meritocratic,' technocratic establishment described by Thoenig (1973), made of members of the *grand corps*, formed alliance and/or merged with the 'classic' elites of money, there was not much to stop them.

Finally, what I started to question thanks to the case studies presented in this chapter is which elements composed the technical reason that justified the route and design of the ring road. My analysis of the Bois de Boulogne case study aimed at demonstrating that technical explanations for the route came *after* the decision to go west of the racetrack was taken by the prefect of the Seine. I also showed with the example of the religious communities of Saint-Vincent-de-Paul in Kremlin-Bicêtre that technocrats' personal beliefs did play a role in the construction of technical reason. I then evidenced that a route 'technically' optimal, such as the one requiring the partial destruction of the RATP depot by Porte d'Italie, could be radically changed to abide by specific demands from different stakeholders. This analysis is supported by Barry Allen's critique of technical reason and especially his 'fallacy of functionality' (Allen 2008, 126). The various routes of the ring road, the different projects I have reviewed in this chapter show that there was no obvious 'one best way' to design the ring road. It was the result of a long negotiation process, that benefitted some actors over others, in a logic of confrontation more than that of maximised efficiency, or maximised benefits for society. The internal debate over the possible destruction of the religious communities' buildings is also a key example to

demonstrate that this highly technical infrastructure was not only determined by its functionality, but also by the designers' 'images and ideals [that can] colour and modify their strategies' (Picon 2018, 264). Here, I have no proof engineer Vanneufville was even conscious of his bias, but I have demonstrated how his personal view would eventually dilute and be included in the design entanglements of technical rationality.

Chapter 6 The emergence of noise from road traffic as a social issue

Composer and educator R. Murray Schafer popularised the concept of ‘soundscape’ in the 1960s (Schafer 1969). This portmanteau word in which we recognise ‘sound’ and the suffix ‘-scape’ that we find in landscape, and which means ‘to shape,’ describes the acoustic environment as perceived by humans. In his *Book of noise* (1970), Schafer proposed a ‘portrait of [our] city’ in the form of a table that ranked sonic items according to their emitted levels of decibels, from the rustling of leaves (20 dB) to jet plane (130 dB) and which included an ‘average’ car heard from 15ft (70 dB) as well as the inside of a subway carriage (94 dB, Schafer 1970, 2). For Schafer and the members of his research group (the World Soundscape Project), in the improvement or preservation of urban sonic environments lay ‘significant battles’ that needed to be fought.

In this chapter, I study the emergence of noise from road traffic as a nuisance in the context of the Boulevard Périphérique. I rely mostly on administrative correspondence produced by the Department for roads—that include internal exchange, discussion with the cabinet of the prefect and from 1977 with the mayor’s office, and handling of residents’ complaints. From these sources, I analyse how sound from road traffic emerged as a social issue, how technocrats engaged with this ‘new’ element, and how it impacted the design of the Boulevard Périphérique. This chapter specifically tests the hypothesis that the appreciation of noise from road traffic of the Boulevard Périphérique changed significantly before and after the City of Paris evolved from a technocratic government to the introduction of a democratically elected mayoral executive following the law of 31 December 1975 on the status of Paris.¹ This chapter contributes to the discussion on the political aspect of technical reason by demonstrating that the impossibility of adapting the design of the Boulevard Périphérique to mitigate against noise pollution was presented as ‘technically’ impossible, until the political and social pressure on engineers brought down the technical ‘imperatives.’ In doing so, this chapter studies a key moment in the history of the ring road’s construction, and more generally in the urban planning of Paris, the

¹ See entry ‘Tutelage’ in the glossary.

shift from a technocratic to a democratic mode of government. Historically, the findings in this chapter contribute to a body of literature in sound studies, science and technology studies, and urban planning history, on the handling of noise by road engineers in post-war Europe (Bijsterveld 2008; Bijsterveld and Bull 2018; Belval 2020; Ouzounian 2020).

This chapter starts with a historical introduction on noise as pollution and specifically noise from road traffic in the second half of the 20th century. It focuses on a series of case studies ranging from 1964 until 1983: the first case study analyses complaints from the residents of a social housing complex and personnel of a high school at Porte de Vanves (14th arrondissement) writing to the Department for roads regarding the impact of the ring road's noise and the administration's response (1964–1969); the second case study analyses the discussions in the form of written correspondence within the Department for roads and with other regional departments in charge of road design regarding the opportunity of implementing noiseproof walls (1969–1970); finally, the last case study focuses on internal correspondence at City Hall regarding how to answer complaints regarding noise from the ring road, including exchanges with the prefecture and suburban municipalities on delivering a programme aimed at noiseproofing the ring road (1977–1983).

6.1 *Historical context: the modernisation of urban noise*

The need to regulate sound in the city did not emerge with the Industrial Revolution, nor with the surge of motorised vehicles in the 20th century. Karin Bijsterveld and Stefan Krebs (2013, 11) remind us that, for instance, Roman Law forbade braziers from installing their workshops in a street where a professor already lived. For these two historians of technology, the elite became 'increasingly obsessed with mastering its own sound' from the 16th century onwards, as 'being able to keep silent became a sign of social distinction and civilisation, whereas making noise was seen as a vulgar, uncivilised behaviour' (Bijsterveld and Krebs 2013, 8). Yet, if the authors point out the ambition of the elites towards their own sonic presence, music and sound scholar Gascia Ouzounian notes that the 'noise complaints have equally come "from above," penned by powerful members of elites classes who have disparaged the noisiness of their lower-class neighbours, freighters, tourists, and other groups they

deemed unsavoury’ (Ouzounian 2020, 129). Noise, that we could quickly define as unwanted sound,² became an issue pertaining to public health and was mobilised by social hygiene movements from the last decades of the 19th century. In the United Kingdom for instance, Ouzounian observes that ‘between 1890 and 1920 the Medical Officers of Health in London ... filed nearly one hundred reports on noise in relation to various London districts’ (Ouzounian 2020, 131). Around the same time in the working-class suburbs of Paris, municipal health officers regretted the uninterrupted noise of refrigeration plants that were active day and night. Among other rules, municipalities limited to fifteen seconds the sound of sirens designed to mark the starts of shifts in factories (Granger 2014, 87). This awareness appeared as scientists and doctors experimented with the physical and psychological harm that could be caused by sound, and started to champion the need to regulate sonic environments (Hui 2012).

In Europe and the United States of America, the early 20th century saw a growing momentum for elite-led anti-noise citizen activism (Bijsterveld and Bull 2018). Julia Barnett Rice, a wealthy Manhattanite who led a successful campaign against boats on the Hudson River sounding their horns at night, is a key historical figure well studied in the historiography of urban noise. ‘Woman starts a war on tooting river tugs’ wrote the *New York Times* on December 10th, 1905. The newspaper also dubbed the graphic notation she had developed to illustrate the intensity and frequency of rivercraft noise the ‘tootometer,’ as Ouzounian (2020, 131) explains. A few years after the foundation of the Society for the Suppression of Unnecessary Noise created by Rice in 1905, the German Association for the Protection from Noise (*Deutscher Lärmschutzverband*) was created in 1908. And if ad-hoc groups did not emerge in France or the United Kingdom at that time, specific noise abatements campaign were formed: for instance the 1928 campaign of the French Conseil supérieur du tourisme (‘Superior council for tourism’) whose motto was ‘*Le silence de chacun assure le repos de tous*’ (‘Everyone’s silence ensures everybody’s rest,’ cited in Attali 1977, 245). Yet, its policy impact remained null as it did not directly lead to any specific urban planning regulations or law to address the issue.

² Noise was initially understood as non-periodic irregular vibrations, it is only in the 1920s and 1930s that noise became defined as ‘unwanted’ (see Bijsterveld 2008, 104).

Such protests were not happening in a vacuum of regulations, however. As with Ancient Rome mentioned at the beginning of this section, we find numerous pre-20th century examples of legislation designed to regulate the sounds of the city, especially from the Middle Ages onwards (see Bijsterveld and Krebs 2013, 6–13; Belval 2020, 32–37; Rozec and Ritter 2003). This ranged from the sound of mills in 17th century Antwerp, to the campaign to limit street music in 19th century London.

Indeed, the sounds produced by various skilled trades were ubiquitous. These and other sounds were subject to many forms of local ordinances, even long before industrialisation. Local bylaws targeting singing and shouting on Sundays, barking dogs, crying vendors, nightly whistling, street music, and making noise in the vicinity of churches, hospitals and other institutions were commonplace. Moreover, in many nineteenth-century European towns, citizens put straw or sand on the pavement in front of hospitals and the homes of the sick to reduce the roar of traffic ... Most regulations prohibited making noise on particular days, at particular hours, in particular places, or without a license. Local regulations that were drawn up to police the noise made by blacksmiths, coppersmiths, mills, and other trades were based on a similar approach: they placed restrictions on both when and where these industrial activities could take place (Bijsterveld and Krebs 2013, 10–11).

Yet, these constituted scattered, diverse bylaws based on local rules and traditions, more than a coherent, scalable, legal framework that engaged with widely accepted notions such as ‘noise’ or ‘noise pollution.’ In France for instance, the Penal Code of 1810 would punish by a fine of eleven to fifteen francs those who made noise troubling the peace of inhabitants (art. 479§8). Historian Christophe Granger also relates the 1882 legal case when residents of the Latin Quarter sued the Sorbonne University, troubled by the constant barking of dogs held captive for vivisection classes, and won (Granger 2014, 96). But the historiography of urban noise shows it is only in the second half of the twentieth century that a more ambitious legal apparatus to tackle noise, indoor and outdoor, really took shape.

A new wave of noise abatement campaigns gathered momentum in the 1950s and onwards, in Europe and the United States (Bijsterveld and Bull 2018). It benefited from the development of several new technologies as well as new norms. For instance, the invention of sound level metres and recorders

in the 1920s, and their miniaturisation thanks to the transistor technology in the 1950s.³ But also the creation of the decibel (dB) unit,⁴ among other units, in 1925.

It is notoriously difficult to scientifically evaluate if a period in history was ‘noisier’ than previous ones—were Shakespeare’s London or Molière’s Paris noisier than today’s? But historians can at least analyse the increased *sensitivity* to specific sounds and their cultural meanings (Folkerth 2002; Smith 1999; Corbin 1994a; Cockayne 2007; Bailey 1996; Thompson 2002; Coates 2005). Yet, the post-war debate for technocrats, scientists, acousticians and musicians did revolve around the belief that the world had never been so noisy, and that (mechanical) noise had become a threat to human health. In essence, it was the crystallisation of social hygiene concerns that emerged in the late 19th century, coupled with tremendous technological progress regarding acoustics (Ouzounian 2020). In July 1967, the United Nations Educational, Scientific and Cultural Organization (UNESCO) titled one issue of their periodical⁵ *Le Courrier de l’UNESCO*, ‘Silence!’ The opening article—titled ‘Down with decibels! Reducing the noise around us’ in the English edition, and ‘*Le Bruit, un fléau qui nous assomme*’ (‘Noise, the plague that knocks us out’) in French—proposed that:

Noise has always been with us, but never has it been so obvious, so intense, so varied and so pervasive as it is today. ... In addition to the serious problems of air pollution and water pollution, we now have to contend with ‘noise pollution’ in many forms. ... Yet anyone who observes present-day conditions of life not only in our cities, but increasingly in the countryside too, can see for himself the direct and indirect effect of incessant noise on modern man: nervous troubles, reduced powers of concentration, inefficient work, increases absenteeism among others (Schenker-Sprüngli 1967, 4).

This *fléau* (‘plague’), with its biblical and medical associations, would echo the book published in France two years before by Maurice Tamboise (1965): *Le bruit, fléau social* (‘Noise, social plague’).

³ E.g., The NAGRA II, commercialised in 1953, weighted about 20 kilograms—an achievement at the time. In 1958, the NAGRA III, was only 5 kilograms. Brüel & Kjær produced the first hand-held transistorised sound level meter in 1960.

⁴ In 1925, the engineers of the Bell Telephone Company invented the logarithmic unit of the ‘bell,’ abbreviated as ‘bel’ and then ‘decibel’ (dB) for ten bels. Widely used, the decibel can be a confusing unit for the general public. Indeed, the decibel unit expresses the ratio of two values of power on a logarithmic scale, a ratio of amplification. A sound recorded at 20dB is ten times louder than one at 10dB. To compare two examples listed by Shafer in the opening of this chapter, the difference between the rustling of leaves (20dB) and the sound of a car (70dB) is 50dB. The perceived intensity of the sound is *not* 3.5 times higher ($70/20=3.5$), instead the human ear will perceive it as 32 times more intense.

To find out the increase in *sound intensity* between two values expressed in decibels, one subtracts the higher dB value from the lower value and divide the result by 10 to get the exponent, raising 10 to the exponent. Therefore the difference between 70dB and 20dB is 50, with an exponent of 5. $10^{\text{superscript } 5} = 100,000$. To find out the increase in *perceived* volume, you replace the use base 2 rather than base 10. $2^{\text{superscript } 5} = 32$.

⁵ The periodical was published in eight languages: French, English, Spanish, Russian, German, Arabic, Japanese and Italian.

Christopher Granger sees in the growing awareness to noise as a public health issue in the immediate after-war France the ‘emergence of a new scientific conception of the sonic world’ (Granger 2014, 89).ⁱ The ministère de la Santé Publique (‘Ministry for Public Health’) created a dedicated commission for the studies of noise in 1952 and in 1955 the Société de médecine publique (‘Society for public medicine’⁶) started a ‘war on noise.’ The same year, the French Academy of Medicine created a Commission contre les méfaits du bruit (‘Commission against the negative impact of noise’). This commission was presided by Dr Fernand Trémolières, who had published the same year *La lutte contre le bruit dans la cité et dans l’industrie* (‘The fight against noise in the city and the industry’) co-authored with Dr Albert Besson, director of the hygiene laboratory of the City of Paris (Besson, Trémolières, and Mazarakis 1955). It should be noted that the book was published with a foreword by Bernard Lafay, whose ‘Plan Lafay’ had managed to convince the Council of Paris to build the Boulevard Périphérique in December 1954.

From the early 1950s, we observed a collective effort to establish ‘objective’ scales to rank noise and their acceptability, such as the table created by engineer Pierre Chavasse in 1952, sensibly similar to those created by Schafer and others (cited in Granger 2014, 90–91). For Granger, between 1955 and 1965, noise in France became a fully-fledged phenomenon, ‘with its own rules and its clear definitions.’ⁱⁱ In 1958, Trémolières created the Ligue Contre le Bruit (‘League against noise’) that brought together social hygienists, doctors, lawyers and technocrats whose objective was to influence policy makers with publications such as *Manuel de lutte judiciaire contre le bruit* (‘Handbook for legal struggle against noise,’ Bouvier et al. 1968) and *Guide du silence et des hôtels silencieux* (‘Guidebook of silence and silent hotels,’ Ligue française contre le bruit 1964). According to Christophe Granger, the ad hoc legal apparatus against noise that was developed in 1960s France was so ambitious that ‘they [were] too many [rules] to be counted.’ⁱⁱⁱ

Besides the interdiction of klaxon and repeated revving, soon written in the Highway Code [*Code de la route*], besides the increased control of the ‘backfiring’ and the establishment of a maximum level of allowed sound (95 dB), the city [of Paris] engage[d] with the immense fabric of everyday noises. The

⁶ An influential non-profit created in 1877 dedicated to interdisciplinary and inter-professional discussion on health.

beating of carpets [was] forbidden ‘except between 7 and 8 a.m.’; the sound of radios ha[d] to be limited (Granger, 2014: 97).^{iv}

Yet, as Granger shows in his focus on the smelting plant of Aulnay-sous-Bois, and the conflict between the workers, the neighbours, the municipality on one side, and the corporation that ran the factory on the other—the former complaining of the deafening noise brought about by new machinery, the latter refusing to take action—noise was often perceived as a necessary externality of economic growth. In 1973, as the factory was expanding even further, the prefect decided to side by the industrialists and took no action to force the company to limit noise pollution, ‘considering the local situation in terms of economy and employment’ (Granger 2014, 98).^v

At the same time, a new framework towards the regulation of noise in urban outdoor spaces, workspaces, and domestic spaces emerged. It was in the latter category that regulations were the most strict and ambitious. As urban planning and sound scholar Nathan Belval (2020, 33) explains, the decree of 22 October 1955 stipulated that a ‘sufficient’ acoustic insulation needed to be installed in housing units. The Comité scientifique et technique du bâtiment (CSTB, i.e., the French national organisation providing research, training, testing, and certification services in the construction industry) produced technical recommendation in 1958 that were initially only applied to newly built State-initiated housing units. It was then extended to all housing units from 1969 as the decree n°69-596 dated 14 June 1969 regarding maximum acoustic levels was enacted (Belval 2020, 33–34). The regulation dated 6 October 1978 established rules regarding the sonic insulation of French homes against external noises (car traffic, train, plane). Rozec and Ritter (2003), Belval (2020) and Granger (2014) all concur that from the early 1970s, there were so many elements of regulations attempting to regulate noise in the city that they had become uncountable.

The multiplication of acoustic regulations demonstrates an intense work carried out by public authorities [in the 1970s] towards the establishment of objective noise indicators enabling them to apprehend situation of sonic nuisance and specifically to evaluate the acoustic impact of transport infrastructure (Belval 2020, 34).^{vi}

The ministère de l’Équipement (‘Ministry for Infrastructure’) created in 1966 became in 1971 ministère de la Protection de la Nature et de l’Environnement (‘Ministry for the protection of nature and the environment’), and created a department dedicated to noise. In 1982, a memorandum created

the notion of *point noir bruit* ('noise hotspots') in places where roads or railway tracks created a sound level of 70 dB(A) or more. This would constitute the backbone of all French legislation on noise in the 1980s and 1990s. On 31 December 1992 the major *Loi Bruit* ('Noise law') was adopted, whose aim was 'to prevent, suppress, or limit the emission or propagation of noises or vibrations who could constitute a danger, by causing excessive distress to people, be detrimental to their health, or damage the environment' (art. 1).^{vii}

In this brief historical I reviewed the genesis and problematisation of noise in urban environments and contextualised the debate on urban noise in France at the time the Boulevard Périphérique was built. It showed the growing awareness of sound as being a nuisance, especially from the late 1950s onwards. Yet the example of the factory in Aulnay-sous-Bois also evidenced that not all technocrats were keen to act upon noise if it meant taking the risk to hurt economic growth, and post-war efforts to modernise the country. The case studies I will now develop are therefore situated at a historical crossroad, precisely at the time where noise had become an unavoidable topic for road engineers and technocrats of the City of Paris.

6.2 *The emergence of noise as a 'pollution': the case of Porte de Vanves*

The first direct complaint kept on file is dated 5 November 1964 and was written by Mr Dumas, administrative secretary of the Fédération française du personnel des organismes sociaux (FFPOS, 'French federation of social security personnel'). The reason why he wrote to the prefect of the Seine on these issues is not clearly explained. The union's headquarters were in central Paris, and they had no explicit relationship to the elements developed in the letter. It would not be surprising, though, that union members that lived in the social housing referred to in the letter had reached out to their union for political support, but I cannot test this hypothesis. The letter focused on an area between Porte de Châtillon et Porte de Brancion in the 14th and 15th arrondissements: most specifically on an annex of the Lycée Buffon and a complex of social housing owned by the SAGI. The letter went:

Mr Prefect,

It is my honour to inform you of the following facts that I am sure will catch your sagacious interest.

Between the Porte de Châtillon and the Porte de Brancion has been built the annex of the Lycée BUFFON and a complex of buildings by the Société Anonyme de Gestion Immobilière [SAGI].

Then was built the motorway known as Boulevard Périphérique South that in this specific part of its route follows very exactly the high school and the residential buildings.

The intensity of the road traffic is so significant that the classrooms of the annex of Lycée BUFFON that overlook the Boulevard Périphérique have to stay closed during the summer, the noise making teaching impossible, and the pupils are thus forced to choke.

The tenants of the SAGI next to the motorway are condemned to suffer for as long as there is traffic a cacophony that prevents them from sleeping even late at night and very early in the morning, meanwhile they too have to keep their windows closed in the summer to avoid being deafened. Bank holidays and Sundays are also spent in conditions that are a challenge to health and to normal living conditions that all families are entitled to.

Besides the grave inconvenience that comes from the noise, one needs to add that of an atmosphere very intensely loaded with toxic and malodorous fumes.

At a time when top medical persons acknowledge the dangers noise represents for people, and the grave mid- to long-term issues that will come out from it, and where, those same authorities are starting to consider the issue of atmospheric pollution in urban centres, it is indisputable that a serious investigation would prove the condition of the pupils in the annex of the Lycée BUFFON and that of the inhabitants of the buildings directly overlooking the motorway, deserve the Public Authorities' attention.

It seems that a mandatory limitation of speed on this section of the motorway Porte de Châtillon – Porte Brancion would allow to sensibly reduce the noise as the engines would not be used at full capacity and the wheels squeaking less on the road pavement.

For us, it is not about denying the right of the users of the motorway to drive it, but to demonstrate that the unlucky neighbours of the ring road, have the right not to be deprived of their sleep, their rest and of a silence even limited (2276W 280, 204).^{viii}

This letter, that I reproduce almost in extenso, is a valuable testimony to the many issues that had already arisen at the time of its writing, from the construction of urban motorways and more largely, in relation to post-war urban planning in 1960s in France. The intensity of road traffic was clearly identified as having a negative impact on Parisians' lives. The letter related the experience of pupils and teachers working by the ring road. The words chosen by Mr Dumas to recount the situation were rather dramatic, full of pathos—'impossible,' 'forced to choke'—yet we cannot doubt the sincerity of the testimonies when they shared the difficulty of their work conditions, between the devil of road traffic and the deep blue sea of suffering from heat with their windows closed.

In the second example developed by the union representative, he detailed the living conditions of the ring road's neighbours: the uninterrupted *vacarme* ('cacophony'), the 'suffer[ing]' of inhabitants deprived of their sleep, deprived of their rest. The noise of the Boulevard Périphérique presented a 'challenge to their health' that ignored their 'right' to 'normal living conditions.' The tone of the letter

and its reasoning echo the position of the writer as a union's representative. More than that, Mr Dumas was union's representative for *social security* personnel, one could say he was used to defend *two* hard-fought social rights: social security for all, and workers' rights. The main angle of his letter was the negative impact of noise from traffic, but he also mentioned a 'toxic' atmosphere and the smell from 'malodorous fumes.' At no point the word 'pollution' was used. The living conditions related in this letter were not theoretical: inhabitants, pupils, teachers, suffered in their flesh of the negative impact of the Boulevard Périphérique on their daily lives. The solutions offered, a limitation of speed on that section of the ring road, were rather conservative. The concluding paragraphs are also enlightening: they offered no contestation of the relevance of the Boulevard Périphérique. Like he did for the right to normal living conditions, Mr Dumas spoke of the 'right' of the users to drive on the ring road—but also concluded by reminding his readers of his earlier argument, saying the neighbours also had a 'right' to sleep and to rest.

The administration's response was rather expeditious. The chief engineer for the south section G. Lecluse drafted a response on behalf of the prefect. Regarding noise, he wrote:

roadways for fast traffic are in trenches, which is in our opinion a favourable design to fight off noise. The surfacing is in pristine conditions. *There is nothing our department could further do.* Maybe we could suggest to the SAGI and the high school's architect to plant some fast-growing trees by the boulevard to create a screen (2276W 280, 200—my emphasis).^{ix}

On 'toxic fumes,' he continued:

It does not look like the neighbours [of the ring road] are penalised in regard to toxic fumes, considering the fluidity of traffic and the absence of any major ramp forcing to change gear. By the way, some sample and testing could be carried out in assessing the situation if useful at all (ibid.).^x

And in a concluding section of the draft response, the engineer developed what was the most common answer by the Department for roads to critics that accused them of having ignored the impact of the Boulevard Périphérique on neighbours: We were there first. At the outset, engineer Lecluse reminded his correspondent that the ring road was an idea dating back to 1940 (2276W 280, 201) on what was then a *non aedificandi* area. The chief engineer for the south section went on reminding the timeline: the

approval of Lafay law of 1953 that granted permission to build on the Zone,⁷ the masterplan for that area developed by urbanist Grande in 1953 that already featured the ring road, the high school, and the housing. In a nutshell, on behalf of the Department for roads, chief engineer Lecluse seems to say: we are not responsible for your predicament, we just focused on the Boulevard Périphérique.

The final note sent back to the director of the Department for urbanism (who would, in turn, send it to the prefect, who would, in turn, reply formally to Mr Dumas) was even more conservative. To the suggestion of a speed limit, the director of the General department for technical services added a paragraph that said

To limit speed on a road as important as the Boulevard Périphérique that is designed in such a way as to enable fast driving would go against the principles that have animated its construction (2276W 280, 197).^{xi}

This exchange, for which no further correspondence can be found in the archives illustrates two major aspects of the Boulevard Périphérique. First, it shows that issues of pollution (noise, air, though the word ‘pollution’ was not yet used) were well identified by residents living by the ring road. They experienced them daily and had identified the Boulevard Périphérique as a clear culprit. Yet, whilst they called for help, and expected some reaction from the administration, they did not challenge the existence of the Boulevard Périphérique per se, neither its pertinence, nor the ‘right’ of automobile users to navigate it. The reaction of the administration was also an illustration of their attitude to such complaints at that given time, that we could summarise in a familiar way: Sorry, but not sorry. Their argument was that nothing else could be done in terms of design to improve the issues examined in the complaint, and that, actually, the situation was not *that* bad. Finally, they did not see themselves as responsible for the situation since the route of the Boulevard Périphérique predated or was developed concomitantly to that of the buildings that now suffered from it.

We find on files another letter, sent four years later, that came from residents in the same group of buildings. It was written by a Mr Pa***, who introduced himself as the president of the residents’

⁷ See entry ‘7 February 1953’ in the timeline, Appendix 2.

association of the SAGI buildings on Porte de Vanves. Dated 6 December 1968, it was addressed to prefect of Paris, Maurice Doublet.

Mr Prefect,

During the second half of November, a campaign took place in the Press, the Radio and the Television, Against Noise [*Contre le Bruit*], that disturbs the rest and the health of the Population of Paris.

This campaign has been directed, or inspired, as far as we understand, by the Paris Police Prefect and we do not doubt it has raised the awareness of many Parisians because it will sound evident to them that there is a need, for many reasons, to take efficient measures against the Noise in all its abusive forms.

... On behalf of the residents of the SAGI buildings (Porte de Vanves, Green Belt) ... we would like to bring your attention to the following issues.

For many years, tenants ... living in the buildings by the ring road ... have been victims of Noise unbearable (in the long run) that has been provoked by the non-stop traffic of automobiles that shake the nerves of the adults, chronically disturb their rest day and night, during the weekdays and the weekends, as well as bank holidays and is often the reason for their children's poor health.

Of course, this situation is not new, but it is nonetheless painful for those who must endure it, that is why for many years we have been talking to different qualified personalities, sending them complaints and pleas on behalf of the tenants, but also suggestions that could contribute bringing remedies to this regrettable situation.

Sadly, until now, our efforts have been in vain, as it seemed nobody is willing to take on the responsibility to implement the solutions.

Yet, those that have been the permanent victims of Noise for so long are convinced that it would have been possible to plan this ahead ... and to cover the boulevard périphérique and then using this cover as a parking, these victims on whose behalf we reach out today have asked us to submit you some of the suggestions.

This suggestion, considering it is not possible to cover the boulevard périphérique ... would be to build an incurved wall that would send back all the sounds created by automobile traffic in a direction opposed to the buildings (2276W 280, 195–196—original emphasis and letter case).^{xiii}

The first notable element in this letter is the reference to the campaign 'Against noise,' indeed organised by the Paris prefecture of Police in November 1968. As we have already seen in the historical section of this chapter, the topic of noise pollution was already relatively familiar in the late 1960s, so much so that the prefect of Police had organised a 15-day campaign to raise awareness on these issues and demonstrate his commitment to resolving it. It should be pointed out though that the campaign aimed at what I would call 'exceptional' noises (honking, shouting, exceptionally noisy vehicles), and not the everyday non-stop yet 'normal' traffic of cars. Daily newspaper *Le Monde* in an article dated 4 December 1968 described the campaign as:

On top [of the catalogue of noise established by the prefecture], 'gratuitous noises' (motorbikes or sportscar revving, honking and other nocturnal noises); then noise from the industrial machines and

building sites; third, ‘noises from the neighbours’ produced by electric appliances, radio and television sets; then street noises (early morning deliveries, rubbish collection, lorries) and then noises specific to certain neighbourhoods such as overhead railway (*Le Monde* 1968).^{xiii}

If noise from automobile was present in the list, there was no explicit mention of how the non-exceptional constant noise of road traffic might be a public health issue. In the fifth and sixth paragraphs of the letter, the author also mentioned that their suffering was not anything new, but that their complaints so far had been largely ignored by the addressees (who are not listed). We find the same dramatic, pathos-laden vocabulary as in the letter from 1964. And the lexical field is marked by the classic association between medical vocabulary and urban phenomena—against the malady of noise from road traffic, the author proposes a ‘remedy.’ A telling small detail is also how they defined their location: *Porte de Vanves*, *Ceinture Verte*. This was underlined, which was not a common way to format an address in French. And indeed, *ceinture verte* bore no meaning may that be from a postal or cadastral point of view (i.e., one does not send a letter to ‘Mrs X, Rue des Fortifications, Ceinture verte, Paris’). By this formatting, the author wanted to underline the absurdity of their situation: they indeed lived in the *green belt* of Paris, that would only be abolished in 1985.⁸ But that green belt seemed to have few, if any, of those elements one would expect to find: vegetation, calm, quietness, etc. The last element to note is specifically the solution proposed. They would prefer a full cover of the ring road in the section close to their homes but also suggested what would be in effect a soundproof wall. They did not detail how they came up with solution: was it their own idea? Or had they found inspiration in examples from other cities, other countries?

The letter then started its journey up and down the hierarchies of civil service. The chief of staff for the prefect of the Seine sent it on 16 December 1968 to the Department for roads for a response on the aspects they were responsible for. From there, it was then dispatched on 6 January 1969 to the chief engineer for the south section with a handwritten note (2276W 280, 193) by his superior asking him to explicitly mention if the permit for the building had been approved before or after the route of the Boulevard Périphérique had been announced. This was the preparation for the usual blame avoidance

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See entry ‘18 July 1985’ in the timeline, Appendix 2.

strategy of the Department for roads, as we have already seen in this section. In the folder, we find a series of reminders dated 21 January 1969, 12 February 1969, 21 February 1969, 28 February 1969, 5 March 1969 from the cabinet of the prefect asking for a response. The cluster of reminders would tend to show some pressure from the prefect's cabinet, but there is no other evidence of this urgency. In a detailed answer on behalf of the Department for urbanism, engineer Gondard started by establishing a quick chronology of the issue, reminding the reader that it had already been mentioned in 1965–1966 following interventions by Paris councillors (2276W 280, 186). He explained that a cover of the ring road in this area had been considered and then abandoned, especially because no agreement on its funding could be found among the stakeholders. He then went on:

The proposal expressed in the petition towards the construction of protective screens designed to bounce the sounds back constitutes a new element that, considering it does not lead to significant spending and does not bring up potentially grave issues in relation to technics and aesthetics, could be very interesting indeed (2276W 280, 187).^{xiv}

This paragraph has been highlighted in the margin (probably by a superior reading the note). In the second part of his letter, Gondard also replied to the concern expressed by Pa** regarding the construction of a new motorway⁹ that was meant to operate a junction here by way of an interchange before penetrating Paris proper. He wrote:

The fears expressed by the inhabitants of this neighbourhood seem entirely justified, especially when considering that the [interchange] will not be built in trenches but at road level, and even, for the motorway, in viaduct (2276W 280, 188).^{xv}

This paragraph has been crossed out with a red pen. This crossed-out paragraph, even though it does not refer specifically to the ring road but to the project of another similar infrastructure in the making, is a good illustration of the attitude of civil servants of the Paris administration. All correspondence with the general public, and to a certain extent with other departments and with politicians, bore an element of communication and politics. The Paris administration was careful not to give (too much) credence to complaints by Parisians, that would in turn give them too much weight to seek political support, or even to fight off, or to sue. The letter concluded in a way that was not too hopeful:

⁹ See 'Radiale Vercingétorix' or radial road 'Vanves-Montparnasse,' footnote 29 in Chapter 5.

It seems that, in these conditions, no radical remedy can be offered when it comes to the road design. That said, it would be appropriate to invite the Department for roads to study the conditions in which some of the issues that arise from road traffic could be resolved, especially the protective screens that are suggested by the petitioners and that could prove efficient in specific situations. At the same time, the SAGI could be invited to study the appropriate measures to soundproof the flats in the most exposed or threatened buildings: screen made of trees, thick windows or double-glazing, etc. (ibid.).^{xvi}

In another contribution to the final formal response by the prefect, this time on behalf of the Department for roads, chief engineer for the south section Lecluse replied in a letter dated 17 January 1969 that

Technically it is not impossible to cover [that section of the Boulevard Périphérique] ... When it comes to the suggestion to create concave screen walls, we ignore everything of the technical validity of such a solution. We would also need to modify the south wall in such a way that it could absorb the sonic energy that the north wall would reverberate. The help of a specialist would be crucial (2276W 280, 177).^{xvii}

And then he concluded, in a rather blunt and unequivocal way:

Like it has already been done for previous complaints, we have drafted a response rejecting Mr Pa**'s demands (2276W 280, 179).^{xviii}

The answer to the prefect by Robert Dussart, head of the Department for roads, was rather bland in comparison to the many elements provided by his engineers. He pushed once again the argument of anteriority of the Boulevard Périphérique route over the design of the SAGI buildings and argued this was therefore SAGI's responsibility. He even magnanimously indicated that 'it seems there has been some progress in the technics for the use of glass that, when combined with some special products, allows to soundproof flats, even in noisy places'^{xix} even though this was not part of his domain of expertise (2276W 280, 173). And he concluded his letter to the prefect's chief of staff:

Also, sound measurements done next to the Boulevard Périphérique have shown that sound levels are inferior to those of the military boulevards^{xx}

In a short follow-up letter dated 10 March 1969, he wrote:

Two solutions are proposed to fight against noise in the identified section ... First, the one I have already explained to you, the sonic insulation of the buildings themselves, the second, proposed by the Department for urbanism, the creation of noise proof walls on the Boulevard Périphérique. An extensive study of both solutions needs to be conducted in order to identify the most advantageous solutions, financially speaking.

I will give instructions so that you can be provided with information regarding the second option whose fulfilment would certainly be very costly and whose financing seems very difficult. It is up to the Department for urbanism to provide information regarding the other (2276W 280, 174).^{xxi}

The Department for roads and the Department for urbanism rejected on each other the responsibility to act on these issues. For the Department for roads, the modification of the design of the Boulevard Périphérique was impossible; for the Department for urbanism (also in charge of social housing), to retrofit all buildings with double-glazed windows was not sufficient to satisfy the residents' demands. The final answer was not kept on file—did they reply? But in a letter dated 17 March 1969, sent by the overarching General department for urban planning that included the Department for roads *and* the Department for urbanism (Figure 2), André Herzog wrote to the president of the SAGI (and not to the residents' association) on behalf of the prefect. The letter was rather impersonal and concealed entirely the discussions that took place within the Paris administration.

Mr President [of the SAGI],

I have been notified of complaints by neighbours of the Boulevard Périphérique (between Porte de Vanves and Porte de Brancion) who ask to reduce considerably the noise of automobile traffic on this thoroughfare.

The conclusion of an internal study by the administration seems to be that the solution lies especially in the improvement of sonic insulation of the flats most exposed to noise. It seems that such a result could be achieved thanks to the progress recently achieved in the technics of glass-making.

I can only invite you to urgently explore the appropriate measures to ensure the insulation of the flats most exposed especially by using thick glasses and double-glazed windows (2276W 280, 171).^{xxii}

In this letter to the SAGI, Herzog seemed to clearly favour one solution over the other, that of increasing the insulation of buildings instead of any change in the design of the ring road. He also relied on Daussart's rather flaky considerations on double-glazing. Herzog did exactly what Mr Pa** complained about in his initial letter: he refused to take the blame (or to take the lead in finding a solution).

What the internal correspondence also reveals is that some civil servants were ready to acknowledge the pertinence of the issues of noise and air pollution, and the potential relevance of acoustic walls. This is what Gondard's letter was about for instance, in it he acknowledged the pertinence of the inhabitants' fear and the potential relevance of establishing protective screens (2276W 280, 188). Yet, none of these discussions was shared with the general public, and there is no evidence that even the prefect's cabinet was made aware of these discussions. The official position of the

Department for roads and the overarching General department for urban planning that reported to the prefect of the Seine was that noiseproof walls were inefficient.

6.3 *Of aesthetics and efficiency: sabotaging the trial of noiseproof walls*

Dating back to the late 1960s and early 1970s, we find on file a series of projects that explored solutions to mitigate against the noise of the Boulevard Périphérique. The issue of noise from road traffic had emerged fully and could not be avoided anymore. In May 1969, Robert Dussart, director of the Department for roads, received from Pierre Lecomte, director of the Division des études routières et grands ouvrages ('Department for roads and major infrastructure') at the newly created Parisian region, the synthesis written by one of his engineers of the British Road Federation Conference on road and environmental planning that took place in Southampton University from 24–28 March 1969. It would be too long to comment the synthesis of the report written by engineer Morançay for the Service régional de l'équipement (SRE, 'Regional service for infrastructure,' 2276W 280, 5–38). In a nutshell, the colloquium engaged with the key issues of noise from road traffic at the time: What *is* noise? How to assess it? And when does it become a threat on public health? Whilst the colloquium relied on quantitative measurements such as decibels and other acoustic pressure units, it also fully acknowledged the social, or subjective, aspect of noise pollution.

A second major focus of the colloquium was on techniques to reduce noise in cities. Five main solutions were devised: to reduce noise at the source (a task for the automobile industry); to clear space around urban motorways with large empty buffer zones; to change legislation (fines for excessive noise, reducing speed); to improve sonic insulation of buildings; to change the design of roads (viaduct, ground-level, dilatation joint, interchange design); to add devices limiting the projection of noise, such as noiseproof walls. The latest solution was discussed rather extensively, and the excerpts that refer to it have been underlined by hand with a pencil. In his initial letter, Lecomte wrote:

My dear *camarade*,

...

The conclusions [of the colloquium], when it comes to solutions, are rather unclear. To reduce noise at the source is a long-term endeavour. The solutions planning to limit urban growth next to major roads are

not relevant when it comes to roads going through existing urban fabric. Underground solutions are well established but costly. That is why together with Mr Laure we are trying to see if the solutions of ‘screens’ high enough could not be developed. I have asked the CSTB to see if they could not pursue the studies they had started. It would certainly require some full-scale trials and I think we could get funding for that. As soon as the CSTB will have gotten back to me, I will let you know and we will be able to go through practicalities together.

Friendly yours (2276W 280, 4).^{xxiii}

The tone of the letter is friendly. The *camarade* (‘comrade’) at the beginning of the letter is the usual address between graduates from the same engineering school.¹⁰ But they also said *tu* to each other, which was rather rare in this type of correspondence, where the formal address *vous* was much more common. Lecomte seemed keen to try the solution of ‘*écrans*’ (‘screens’), that he placed within quotation marks, clearly showing the technology was not well established yet, so much so that it required these punctuation marks to denote the atypical use of the word *écran*.

In his response dated 31 March 1969, Dussart wrote:

I believe the issue of noise for neighbours of the périphérique is very important. And by the way, there is a risk the resolution of this issue will have an impact on the design of some motorways in viaduct (avenue de Neuilly, avenue d’Italie, etc.).

I am in favour of carrying out the measures of noise at your brother-in-law and will give instructions to do so to the Laboratory of Lighting.

For the protective screens, I also agree *in principle* to carry out some trials on some spots we could choose together (2276W 280, 40—my emphasis).^{xxiv}

The letter was copied to engineers Bartin and Boissin, in charge of proposing places where trials could be made. The reference to Lecomte’s ‘brother-in-law’ is rather surprising in this context. It shows two things, first that they have also had discussions *viva voce*, since the other letter we have from Lecomte made no reference to his brother-in-law, revealing the limits of studying administrative correspondence. Second, it shows how ‘experimental’ the issue of noise was for Paris’s administration’s engineers. While I will not dwell on this, there is in the archives much correspondence on research protocols, on equipment to be used (including advertisement for those, quotes, invoices, etc.), and on which service should be in charge of measuring noises. Initially, as this letter also shows, noise measures were

¹⁰ Robert Dussart graduated from École polytechnique in 1950 and from the École des Ponts et Chaussées in 1955; Pierre Lecomte graduated from the same schools in 1944 and 1947.

entrusted to the Laboratoire de l'*éclairage* ('Laboratory for *lighting*') of the prefecture, because they were the ones seen as better equipped to develop new sampling protocols, acquire new machines, and deliver the data required. Last but not least, I have emphasised the 'in principle' Dussart added in his agreement on carrying out trials of screens.

Dated from 1969 and 1970, we find an incomplete series of correspondence regarding the trial of noiseproof screens, a follow-up to the exchange between Lecomte and Dussart (2276W 280, 211–228). The little we have is nonetheless revealing of the attitude towards acoustic walls. On 20 May 1970, Pierre Lecomte wrote to Robert Dussart a letter asking for his formal approval to establish a full-scale trial of noiseproof walls on the viaduct by the Parc des expositions, at Porte de Versailles. The letter specified that the 'dispositions ... have been developed in partnership with your [the *vous* is back] department both in its design and the set-up protocol' (2276W 280, 216).^{xxv} I have found no record of the exchanges between the SRE and the Department for roads (which is no proof that they did not take place). The letter by Lecomte came together with a folder detailing the main objective of the trial, the technical specificities, the way the works would be carried out, and a brief research protocol to measure its impact that included a 'psychological survey' of the residents. But we find no response held on file. Yet, in an undated note addressed to Dussart, the chief engineer for the south section (where the trial was meant to take place) had expressed strong objections to the try-out (2276W 280, 214). In the first paragraphs of his note, he questioned the technical feasibility of the set-up—even though the letter by Lecomte stated this had been developed in collaboration with the Department for roads. Engineer Chemin continued:

To choose a section of the Boulevard Périphérique situated on a viaduct requires the setting up of a device made of reinforced concrete that would be rather rudimentary and in all cases unaesthetic; besides, to implement screens 4.50 metres high, 6 metres above the ground will certainly bring up questions on aesthetical grounds.

To choose a section of the Boulevard Périphérique situated at ground-level or by an embankment would certainly be less criticisable, the wall could be placed in a way that is less against aesthetics (by the schools on Rue de Lagny ... for instance).

When it comes to the project's pertinence, considering it is led by the Regional service for infrastructure, the trial should take place on a section of road that is within their remit, because to carry out this trial on the Périphérique is already admitting that the infrastructure creates unacceptable nuisance since the City of Paris is trying to find remedy, and besides we would be taking all the risks for all the blames associated with trying out a new technology.

In these conditions, two final hypotheses:

- a) the trial is successful and we will have to equip the périphérique in its quasi-totality
- b) the trial is negative and we will find ourselves dealing with a series of complaints regarding our incapacity to propose a solution to the evident problems created by the road's presence (since we have tried to provide with a remedy) (2276W 280, 215).^{xxvi}

There are three key elements to highlight here. The first is a competition between departments of the region, the prefecture (representing the central State) and the city—a perennial feature of bureaucratic life and politics in Paris. In essence, Chemin wrote that if the region wanted to trial noiseproof walls, they should use their own roads, not Paris's. But one can also assume that, if the SRE wished to trial the screens on the ring road, it was because the issue there was thorny and widely known. *Or*, that Lecomte had identified exactly the same political issues that Chemin did regarding the risks associated with the success or failure of the try-out, and preferred to carry out the trial on the Boulevard Périphérique instead of on one of the roads his department directly managed. Chemin also tried to convince his interlocutor that the viaduct above the Parc des Expositions was not the best place to act. Instead of suggesting Porte de Vanves and the SAGI buildings we have already mentioned in the previous section of this chapter—and that were on the territory of the south section he was in charge of—he proposed a site that was not within his responsibility (Rue de Lagny was managed by the east section).

The second element to highlight is the blame avoidance strategy: If we do not publicly acknowledge there is a problem, then there is no problem. This was the essence of his concluding two bullet points. If the trials were successful, then they would be in trouble. If the tests were not successful, then they would be in trouble too. Those two concluding paragraphs, and the irrefutable logic of Chemin's argument, shows the Department for roads' proactive capacity to ignore an issue, in that case, that of noise from road traffic as a nuisance.

The final aspect is the insistence on aspects of aesthetics. The visual aesthetics of the Boulevard Périphérique was mentioned three times in his note. He doubted they had the technical capacity to safely set up noiseproof screens on the viaduct, but mostly explained that the ugliness of the whole device would be controversial. Regarding the first aspect of his remarks, whilst acknowledging my lack of expertise in such matters, it would seem that his alarming vision of the noiseproof walls was overblown.

Of course, one should not risk anachronism in looking at present-day road design to evaluate past attitudes, but in hindsight no accident has ever been provoked by the fall of a noiseproof walls erected on a viaduct in Paris. Further, if the design did not raise concerns with all the other engineers who reviewed the documents, what was the probability of Chemin singling out technical elements that others would have missed? The dominance of visual aesthetics over other aspects of the questions, and especially over other senses such as hearing, is a key element to consider in the crafting of a technical ‘truth.’ The question of the visual aspect of the Boulevard Périphérique was fundamental. This is also mentioned in a letter quoted previously written by engineer Gondard. On aesthetics, another note dated 2 June 1970 by the chief engineer for the north section, Pierre Fauveau, said:

To follow up on the letter by the head of the social housing company to the Head of urban planning, I am letting you know that concerning Sector 8, (indeed), the insulation of the Boulevard Périphérique seems impossible. The [noiseproof] walls are so ugly and inefficient for the higher storeys and the way to fasten them as they solutions proposed by the SRE for the viaduct of the Parc des Expositions are dangerous and completely *unaesthetic and therefore unacceptable*. On top of this, the cost of protecting the buildings is certainly more economic than the insulation of the Boulevard Périphérique for a safer result and without any technical or architectural inconvenience (2276W 280, 109—my emphasis).^{xxvii}

In a handwritten note pinned on that same letter that seems to be some off-the-record addendum, someone whose handwriting I could not identify acknowledged that

It is certain that in a case like this one, the most efficient sonic insulation is [the sonic insulation of flats] even though it has the inconvenience of being efficient only when the windows are closed and that must not be nice during the summer.

The screen like the one at Parc des Expositions is only a palliative and is not really satisfactory neither from the *architectural* point of view or from the point of view of efficiency.

On the other hand, a screen could be efficient if it was designed from the conception of the project and would be incorporated directly to the general *aesthetics* of the design [illegible handwriting]. This would require that an overarching policy of fight against noise would be drafted and to evaluate the money we can save that way overall by these extra spending for the infrastructure (2276W 280, 107–108—my emphasis).^{xxviii}

The words in both the typed note and the handwritten note are very strong. Insulation was ‘impossible,’ the noiseproof walls were ‘ugly’ and useless. Fauveau seconded the point of the view of the chief engineer for the south section, with no reference to each other’s correspondence or predicament. The handwritten note mentioned that the solution was a ‘palliative,’ both useless and unaesthetic. The phrase was even stronger, ‘unaesthetic and *therefore* unacceptable.’ It created a direct causality between the

(visual) aesthetic quality of sound walls and their acceptability, revealing the importance of maintaining some standards of aesthetics for the Boulevard Périphérique. The author of the handwritten note also acknowledged that the insulation of windows only worked when the windows were closed—it was a truism, an obvious fact, but one nobody had pointed out before, knowing that it would be a major blow for the Department for roads. In a letter dated 2 December 1970, Robert Dussart wrote back to the director of urban planning that the

trial of a noiseproof wall ... has not been carried out. ... I did receive the project [sent by the SRE] in May 1970 to carry out a trial of an experimental noiseproof wall to be installed on the viaduct of Parc des Expositions but, considering the objections this project has raised, and most especially in regards to its location, no agreement has been given and the case is still being reviewed (2276W 280, 212).^{xxix}

The opposition of the engineers of the Department for roads would prevail: no experimentation of a noiseproof wall ever took place on the Boulevard Périphérique. According to Jean-Marie Rapin,¹¹ interviewed by Nathan Belval (2020, 365–68) the prefect had vetoed any trial of a noiseproof screen in Paris. It would eventually take place in L’Haÿ-les-Roses (a suburban town west of Paris, in the Département du Val-de-Marne).

What the correspondence studied above shows, is how the Department for roads sabotaged the trial of a noiseproof wall on the Boulevard Périphérique. The trial, championed by the recently created regional administration, was received coldly by Dussart in 1969. It came at a time where noise was already a well-identified public health issue. From the synthesis of the Southampton colloquium, we know that many cities were actively working on identifying solutions to reduce what was not yet called pollution but *nuisance*.¹² Throughout the 1960s, the Prefecture of the Seine repeatedly denied the reality of noise pollution (and, whilst it was not the main focus of this chapter, of air pollution too). And in situations where the Department for roads acknowledged it, the parry was always the same: doubt the genuine impact of the nuisance as denounced by residents and neighbours of the Boulevard

¹¹ Jean-Marie Rapin (?) is an engineer specialised in acoustics. He was deputy director of the acoustics department of the CSTB. He specifically developed the CSTB’s research on acoustic walls on motorways (*Le Moniteur* 2017). He was interviewed by Nathan Belval to share his account of the way the CSTB handled noise in the 1960s-1990s (Belval 2020, 365–68).

¹² Noise and nuisance are of the same Latin origin, *nocere*: to harm.

Périphérique; use the argument of anteriority in order to shift the blame to the (social) housing providers, and therefore put the responsibility on the Department for urbanism or suburban municipalities, when they had their own housing organisations. It would have to wait until the mid-1980s to see the first noiseproof walls eventually installed on the Boulevard Périphérique, following decisive involvement from the newly elected Mayor of Paris.

Here, we can extend Hommels's concept of obduracy when she refers to Bijker's (1995) 'fixity' of artefacts' meaning, to their aesthetical quality.

During the interactions within and between these social groups, one meaning will eventually become dominant: the artefact's interpretative flexibility decreases, its meaning become more stable, and finally it will have a single dominant meaning (Hommels 2008, 22–23).

What is interesting to note here, if we were to reuse Hommels and Bijker's approach, is that the addition of noiseproof walls would not have changed the essential function of the ring road: automobile traffic. The 'fixity,' or stabilisation of its meaning arguably also resided in its aesthetics, i.e., the *display* of automobile traffic. For the engineers of the Department for roads, not only was the addition of noiseproof walls unacceptable because it would have evidenced the shortcomings of their initial design, but it also messed with the visual, the symbolic dimension of the ring road as a showcase of Paris modernisation.

6.4 *From technocracy to democracy: the impact of a new mayor for Paris on the issue of noise*

The governance of Paris changed significantly in the 1970s. In 1975, the law n°75-1331 of 31 December reinstated an elected Mayor of Paris, the first since 1871.¹³ In March 1977, conservative candidate Jacques Chirac was elected. This marked a sea change as the government of Paris evolved

¹³ The Commune is often presented as the reason why Paris was deprived of its mayor, as a punishment for its rebellious nature. Technically, this is correct. Jules Ferry, Mayor of Paris from 15 November 1870 to 5 June 1871, was the last to hold the title until the election of Jacques Chirac in March 1977. But the function of Mayor of Paris had only been reinstated briefly for a few months by the republic of 1870. The function of Mayor of Paris was created by the Revolution of 1789 and abolished in 1794 following an insurrection led by Mayor Jean-Baptiste Fleuriot Lescot. The function of Mayor was reinstated briefly in 1848, from 24 February 1848 to 19 July 1848, and abolished again after the June Days uprising (22–26 June 1848) and reinstated again from 4 September 1870 until 5 June 1871 as I have already mentioned. Therefore, the story that the function of mayor was abolished after the Paris Commune is only partial. It is true that a gap of more than 100 years exists between Jules Ferry and Jacques Chirac, but the function of Mayor of Paris had only existed intermittently since the Revolution of 1789.

from a technocratic one—headed by the prefect, i.e., by a civil servant answering to the central State—to a democratically-elected executive government.¹⁴ Logically, this new government was much more ‘political.’ Unlike civil servants, they regularly sought (re)election and had the ambition to reach the country’s highest posts. To take the example of Jacques Chirac, he would be among other prestigious political positions: head of the leading conservative party (1976–1994), prime minister (1974–1976 ; 1986–1988), president of France (1995–2007) and Mayor of Paris (1977–1995).¹⁵

By reading the personal files of the First Deputy Mayor of Paris in charge of finance, Christian de la Malène, we can map an important change in the way the issue of noise as nuisance from the traffic on the Boulevard Périphérique was handled. A first notable evolution, it was La Malène, deputy mayor for *finance*, who was in charge of this topic—this can be observed by the fact that all letters regarding the noise of the Boulevard Périphérique were redirected from the mayor’s cabinet to La Malène’s office. A few months after the new administration arrived in power, Jacqueline Nebout wrote a note to Chirac. Paris’s councillor and deputy mayor Nebout was then in charge of the environment, quality of life, prevention and fight against nuisance and pollution. Her note is representative of a change in the way noise pollution was considered at Paris City Hall.

Object: Nuisances of the périphérique

You have taken action in many domains of the lives of the Parisians except when it comes to pollution.

We need before the [legislative elections of 1978] to carry out two or three operations that engage with the topic of noise and pollution.

Among the choices to be made, the following could be good: I have received yesterday the representatives of inhabitants of the 13th arrondissement that are residents of the social housing of the City of Paris.

These buildings are those located on Rue Franc Nohain: 206 housing units, in other words 1,000 people, as well as the nearby building Rue Marceau with 600 co-owners.

I went there on the 26th of October [1977].

The buildings that we, City of Paris, have built are 7 or 8 metres away from the périphérique the noise and the smell are horrendous.

Yet, here the périphérique is covered over about one-hundred metres, if we could extend that. This cover of 100 metres on each end would be very good.

I am asking the cost of my proposition to Mr DUSSART that had costed the whole of the cover. I will share the figures with you.

Political interest

¹⁴ See entry ‘Tutelage’ in the glossary.

¹⁵ See entry ‘Cumul des mandats’ in the glossary.

I believe there is one—the inhabitants of the 13th [arrondissement] are changing. The ‘zone’ is disappearing. Some gestures [of good will] combined with the consternation created by the division of the left would work in my favour—I haven’t found anyone hostile—but only sad situations—almost grateful that at last I had come to talk with them.

This is a visit to do if you would accept to unlock the credits necessary and that the operation would be reasonable.^{xxx} (Ms 1542 XCI, 11–12—original emphasis)

This note addressed to Chirac is notable for several reasons. First, we note the use of the word ‘pollution’ that was absent from all correspondence a few years prior. The tone is urgent and dramatic. But it is worth noting the vocabulary she chose reminds us of the grand, dramatic tone of the letter by Mr Pa** studied at the beginning of this chapter. The word that I have translated as ‘horrendous’ is ‘*indiscutable*.’ The word does not exist in French. In Spanish it means ‘indisputable,’ ‘unquestionable’ (I have no biographical element to indicate Lorraine-born Nebout spoke any Spanish). Yet here, I would argue the connection is to a range of vocabulary such as *indigne* (‘unfit’), *indicible* (‘unspeakable’), *innommable* (‘unqualifiable’). That is, Nebout, consciously or not, tried to find a word that expressed the abhorrent, ignominious situation she wanted to report. It seems she went as far as to invent a new word that sounded grand and terrible.

Nebout identified the issue of nuisance from road traffic as a low-hanging fruit that would represent quick political gain for Chirac and his allies. This appraisal, read in parallel to the correspondence I analysed throughout the chapter, shows the lack of any action regarding the issue of noise as a nuisance since the inauguration of the ring road in 1973, at least in the area described by Nebout.¹⁶ Her analysis of this issue was a political one: gain could be made by acting on the design of the ring road by implementing mitigation schemes, such as an extension of the cover. In a note written to Mayor Chirac on 24 November 1977, commenting on Nebout’s letter, La Malène wrote that

Covering the périphérique is a very important problem, but probably financially out of reach. The global cost had been established at 400 million [francs]¹⁷ a long time ago ... neither the Region nor the State want to take part, it would probably cost less to destroy the buildings mentioned (Ms. 1542 XCI, 13).^{xxxi}

Yet La Malène also added that:

¹⁶ The area Nebout referred to in her letter has been equipped with a sound wall in 1989 (Figure 33).

¹⁷ €243 million, adjusted for inflation.

My position would be to say that:

- there is indeed an issue,
- that the solution [of covering] the ring road is not a solution because it cannot be funded,
- that this solution needs to be reviewed in order to find other solutions: sound-proofing of some buildings, maybe eventually their demolition and of course rehousing of the inhabitants, covering in some very limited spaces and seeking additional funding, from the State, the Region, etc. (Ms. 1542 XCI, 13).^{xxxii}

And Jacques Chirac added a handwritten note (Figure 36) next to these three bullet points:

I totally agree with this (Ms. 1542 XCI, 13).^{xxxiii}

The position expressed by La Malène and the approval of Chirac set a policy. For the conservative majority now governing Paris, noise pollution constituted indeed an issue, and there was a need to find a solution: but that solution would not be the entire covering of the ring road that remained too difficult to fund. In this 1977 letter, the solutions mentioned briefly by La Malène did not include noiseproof walls, instead he focused on the usual one: soundproofing of homes, demolition, some covering, etc. A few weeks later, councillor for Paris and MP Gilbert Gantier, wrote to La Malène a letter dated 6 January 1978 about the ‘numerous complaints I have received from neighbours of the Porte Maillot [regarding] the noise provoked by traffic on the Boulevard Périphérique’ (Ms. 1542 XCI, 15).^{xxxiv} Gantier explained in this letter he had already been on site with the head of the Department for roads and the chief of technical services in order to ask for a study to mitigate against the noise. In his reply, La Malène explained the position agreed a few months prior in the letter already mentioned (Ms. 1542 XCI, 13) and finished his letter saying ‘it will be out of the question that we do punctual interventions’ (Ms. 1542 XCI, 16).^{xxxv} I will come back to the issue of punctual interventions in a moment.

Dated March 1978, a letter from Lucien Lanier marked the beginning of a new attitude towards sonic pollution. Lanier had been prefect of the Val-de-Marne (1968–1974), prefect of Paris (1975–1977) and was the first prefect of Île-de-France (1977–1981) when he wrote this formal letter. He was also campaign manager for Valéry Giscard d’Estaing, elected president of the Republic in 1974. He was therefore a powerful civil servant, with a political profile too. Giscard d’Estaing and Chirac, both conservatives with a national stature but leaders of different political parties, were in competition for

the top positions. On the letter, he has handwritten *cher* ('dear') before '*Monsieur le Maire,*' and added before his signature '*et mes sentiments fidèles*' ('and my faithful sentiments') demonstrating some degree of familiarity between the two men, and a demonstration of respect from a powerful civil servant to a powerful politician. The prefect of the Région Île-de-France wrote:

I receive many complaints from suburban municipalities, neighbours to the Boulevard Périphérique, that are complaining about the sonic nuisances created by the intense traffic on this thoroughfare. The Regional council of Île-de-France [i.e., the executive council of the newly-created regional entity] has also asked me to make some proposals to solve this situation.

I know the City of Paris has undertaken a study and has started some building works. Debates took place on this topic at the Council of Paris that has not put this line on the budget 1978.

Nonetheless, I think it would be good to establish a multi-year programme among interested parties and to define the financial share for each (State, Region, City of Paris, *départements* adjacent to Paris) (Ms. 1542 XCI, 17).^{xxxvi}

In his response dated 28 April 1978, Mayor Chirac wrote:

I have no objection in principle to emit against this process. You do not ignore, though, the financial burden a systematic programme to fight off sonic nuisance would represent.

The City of Paris will not be able to commit to such a direction until it receives some commitments about the financial contribution that will come [from other parties] (Ms. 1542 XCI, 18).^{xxxvii}

This exchange between the regional prefect and the Mayor of Paris, i.e., the most powerful actors in the Parisian region, is significant because it shows a genuine will to act on sonic nuisance. Just a few years prior, the Department for roads, backed by the prefect of the Seine, had refused to acknowledge the extent of the nuisance created by the noise from road traffic. Secondly, it is important because it evidences the beginning of a coordinated effort to address this issue, especially financially.

To this day, any redesign of the Boulevard Périphérique is a contested issue: the Boulevard Périphérique is on Paris's territory and under Paris's jurisdiction but impacts all surrounding municipalities. On paper, they have no power, but also no reason to contribute financially to any works taking place on the ring road—for the Boulevard Périphérique is not 'theirs.' Funding is, of course, a key element. As we saw in the correspondence with Gantier and Nebout, to modify the design of the Boulevard Périphérique was (and remains) costly. The issue needed to be addressed as a whole, not on a case-by-case approach. This was a matter of public finance *and* political communication. To act punctually for the residents of Porte Maillot, or the inhabitants of Porte d'Ivry meant to finance and

deliver two independent operations of several millions of francs each. They would appear as local programmes that had no regional or even national significance, and therefore it would be more difficult to convince other stakeholders (region, State, nearby municipalities) that they had a duty to financially contribute. On the other hand, to present the fight against noise on the Boulevard Périphérique as a coherent programme that covered the whole of the infrastructure, would push the idea of a ring road of regional and even national relevance. This would allow the city's administration to propose a global costing before convincing other stakeholders to contribute. This is the reason why La Malène warned his interlocutor in the letter cited above that 'it will be out of the question that we do punctual interventions.' For City Hall, the challenge was to retain control of the Boulevard Périphérique, whilst presenting it as an infrastructure of regional and national significance in order to secure the region's and the State's support. Excerpts of a 1980 letter written by La Malène illustrate that position. Christian de La Malène wrote that he was concerned to hear the budget of the region had been increased from 20 per cent to 35 per cent of the operation: 'Does that mean the State will decrease its participation? ... That would be difficult to accept considering the Boulevard Périphérique is not a simple thoroughfare but one of national significance.' And he added, defensively, 'If some municipalities are affected and want to benefit from the works, they will have to take part in the funding' (Ms. 1542 XCI, 77).^{xxxviii} La Malène, signing as senator, wrote also on 25 June 1980 in a letter to MP Frederic-Dupont,

Le périphérique is, without a doubt, a thoroughfare built on a municipal land belonging to the City, but its function is, without a doubt, regional, national and international even. Then, the City of Paris does not plan to dedicate the money of its constituents to protect the municipalities of the banlieue from the nuisance resulting from this traffic. This is especially true considering that many suburban municipalities have built offices and housing within close proximity of the infrastructure entirely after its construction (Ms. 1542 XCI, 88).^{xxxix}

The opposition, if not hostility, between the City of Paris's administration and the neighbouring municipalities in the suburbs, seemed to crystallise around the issue of the Boulevard Périphérique. The arrogance or disdain from civil servants at the prefecture during the time of the Seine *département* had not disappeared with the new democratic government of Paris. The right-wing majority was also sometimes in competition with other mayors for ideological reasons (for instance when they were opposed to communist or socialist mayors), political reasons (when the local political scene was

interpreted in light of national politics, and vice-versa). And sometimes, the unfriendly exchange seemed to be a personality issue more than anything. In a follow-up draft letter proposed by Robert Dussart to Chirac's cabinet in 1978, the Paris administration proposed to share the budget in a similar way to the original funding of the Boulevard Périphérique: 40 per cent for the State, 20 per cent for the region, 40 per cent for Paris. The programme detailed by Dussart in his draft letter amounted to 580 million francs.¹⁸ In a handwritten note on a letterhead of the *secrétariat général*¹⁹ of the City of Paris, written by secretary general Camille Cabana²⁰ that accompanied the letter project, he commented that the overall tone should be more open as the project by Dussart did not leave enough room for negotiation. Cabana also worried: what if the prefect was bold enough to say yes? Did the city have the cash to contribute the 40 per cent they had promised?

It is true that the chances of a positive answer are almost non-existent, and there is only a small risk. But it would not be impossible that the region would offer to split 50/50. I even think it is considering it seriously. And then, would we be able to completely refuse their offer? I am afraid not. ... I would suggest to rephrase and be more conservative (Ms. 1542 XCI, 73–74).^{x1}

In a reply to Cabana's letter, La Malène agreed: 'We need to be more careful, even more so since ... the Region seems to be willing to move forward. It seems they have received some instructions from the Elysée [i.e., from the president of the Republic]' (Ms. 1542 XCI, 76).^{xli} This high-level correspondence between Chirac and Lanier's administrations would unfold over many years, as negotiations over the programme and its funding progressed. In another undated (probably 1980) handwritten note Cabana wrote to La Malène:

I would like to speak with you face to face about this case where I feel we're going to drift off course once again. Billaud [Chirac's chief of staff] talked to the mayor about some arrangement courtesy of the President of the Regional Council. If I got this right, the City would take 20% instead of 40% of the works carried out in favour of the banlieue; the remaining 20% would be financed by the municipalities or the *départements*. Even at 20%, this is not a trifle from a financial point of view.

¹⁸ €323 million, adjusted for inflation.

¹⁹ The *secrétaire général* (secretary general) is the head of the administration of the City of Paris in charge of implementing the decisions of the Mayor of Paris. It is an immensely influential role.

²⁰ Camille Cabana (1930-2002) was a senior civil servant, trained at ENA, his first posting was as under-prefect to Maurice Doublet, then prefect of Isère. He then followed Maurice Doublet as his chief of staff when he became prefect of Paris. He became secretary general in 1977 until 1986.

But most importantly, the main risk seems to be that the covering [of the ring road], the only efficient solution for some sections, is a chimera. It costs millions and millions and it's impossible to do: we're not going to shut the ring road down for 2 or 3 years. Unless we bypass the traffic on the A86. But that will have some effect in 10 or 15 years!

I will say it again, we shouldn't 'take the blame.' We're under fire from everyone on this topic. I don't understand why this chorus of vociferations does not open one's eyes! In two years it will have become unbearable and we will be alone facing the pack! (Ms. 1542 XCI, 99–100).^{xlii}

It would take another few years of negotiation to fund the programme and erect the first noiseproof walls from the early 1980s onwards. But there was a shared agreement among all parties that noise was an issue and that actions needed to be taken. In 1983, the first noiseproof walls were erected, often by the same engineers²¹ who had refused to act a few years before, because they thought then they were technically dangerous, ugly and inefficient. In a series of documents, we can map the change of attitude towards sound. Three years after Nebout's letter asking Chirac to take action to fight against noise pollution, La Malène wrote in a letter dated 9 May 1980:

It is good that the city shows the global effort it puts in increasing the sonic protection for neighbours of the Boulevard Périphérique. It is a topic on which we are often criticised each year for a long time already, it is a topic on which we are a bit weak. Any disposition that would allow us to reinforce our position is welcome (Ms. 1542 XCI, 80).^{xliii}

In the minutes of a meeting that took place on 12 June 1980 on the works to soundproof the Boulevard Périphérique, La Malène's analysis was as an acknowledgement that, regarding sonic pollution

Mistakes have been made. We have built in Paris buildings next [to the Boulevard Périphérique]. And some other communes have let buildings come up on their side.

Initially, the Prefect for the region would categorically refuse to fund measures against noise. But the President of the Republic had intervened, and there was a U-turn and the principle of a participation of the Region and the State had been accepted (Ms. 1542 XCI, 85).^{xliv}

The new administration had adopted a completely new attitude towards the issue of noise pollution. No more denials: all stakeholders were keen to act. For La Malène, the prefect was under pressure by the president's office to move forward. Meanwhile the mayor and his administration were keen to take

²¹ Robert Dussart that had sabotaged the trial of 1970 according to my analysis, was now head of the Department for roads.

action, but did not wish to bear the costs alone. Most especially, they were not keen to cover the costs of works that also benefited suburban municipalities. At the beginning of the 1980s, the issue of noise on the ring road had shifted from a socio-technical issue—noise is subjective, the Boulevard Périphérique cannot be soundproofed, it will be too ugly—to one of politics and finance. The awkward nature of the ring road, a local road of regional and national significance, turned it into a fertile ground for conflict. Yet, the discussion had evolved irremediably from design being an issue pertaining to technicality and aesthetics, to one of finance. Nobody seemed to mind how ugly the walls would be.

It materialised in operations of various amplitude and nature that would be too long to list and that included noiseproof walls (e.g., Maurice d’Ocagne at Porte de Châtillon [14th arrondissement], 280-metre-long; Maryse Hilz at Porte de Montreuil [20th arrondissement], 397-metre-long); new coating (e.g., coating of access roads at Porte de Châtillon interchange in the municipalities of Malakoff and Montrouge, 3,820 square metres; coating of Boulevard de Douaumont in Clichy, 3,150 square metres); sonic insulation of buildings (e.g., social housing Cité des Sablons in Kremlin-Bicêtre, 314 windows in 96 housing units; social housing on 26-28 Rue Ginette Neveu 18th arrondissement of Paris, 806 windows in 202 housing units).

6.5 *Conclusion: trading decibels*

In this chapter, I tested the hypothesis that a change of political regime had significantly impacted the way noise was apprehended as a social and public health issue. As for all social issues, there are a variety of parallel trends to consider. One analysis could be that the reason why Paris’s officials eventually acted upon this issue was that the topic had ‘matured’ enough by the 1980s, hence their sensibility to this problem. But I can dispute this by looking at both the historical context—noise was fully established as a social issue from the late 1950s—and from the correspondence held on file—complaints started as soon as the first sections of the ring road opened. For the inhabitants of the SAGI buildings on Porte de Vanves for instance—and this is one example among many other examples of inhabitants living near the Boulevard Périphérique petitioning to see their situation change—the issue of the ring road as a nuisance was fully established from the early 1960s. In 1964 it was a constant

ordeal that they could experience in their flesh. Yet, the topic had not yet been accepted by the engineers of the Ponts et Chaussées as a socially significant, scientifically validated issue that they could be responsible for. From the correspondence, we observe some ‘cognitive gap’ between the inhabitants of the SAGI buildings and the road engineers. As I demonstrated in my analysis of correspondence, where the former saw pollution, nuisance, the latter saw acceptable noise, the necessary expression of modernity and, a state-of-the-art road where any nuisance has already been minimised.

It is interesting to consider this controversy through the prism of Henri Lefebvre’s spatial triad. We see the ‘perceived’ space of the Boulevard Périphérique (the automobile traffic associated with post-war urbanism that clashed with the resting time of the infrastructure’s neighbours), was in conflict with the ‘conceived’ space of the technocrats that initially dismissed noise as a necessary externality of modernity, and the ‘lived’ space where visual aesthetics and sonic experience also came in opposition. To use Picon’s own triad in dialogue with Lefebvre’s, we see here the disjunction of the three layers of the ring road as infrastructure (Picon 2018, 264). The material basis has been built: the viaduct, the tunnels, the road surfacing. The second layer of socio-technical practices unfolds to handle this infrastructure: from specific rules for users to maintenance protocols, speed limits to interdepartmental collaboration. The third layer of imagination has already turned into something more conflictual: the ideal of speed conflicts with traffic jams and accidents, the externalities such as noise that had been so easily discarded by the designers of the ring road crystallise into genuine trauma for the inhabitants of the ring road—causing depressive states, nervous breakdowns, anxiety, etc. I develop this aspect in my concluding chapter.

Indeed, the cognitive gap was also in the dominating senses that engineers relied upon to apprehend the urban landscape. The appreciation of the impact of the ring road was dominated by a visual perception, what Martin Jay (1988) has described as ‘ocularcentrism,’ the domination of the eye. There was a very limited understanding that the sounds of the city constituted a landscape of its own, Shafer’s soundscape. The notions of aesthetics mobilised by the engineers of the Ponts et Chaussées were *visual*. We also understand from the correspondence that visual aesthetics seemed indeed to be a key element that the engineers of Ponts et Chaussées included in their evaluation of the infrastructure they built or managed. We need to bear in mind this phrase, ‘It is unaesthetic and therefore

unacceptable:’ a confirmation that engineers did not only apprehend the infrastructure they were in charge of building with a purely utilitarian, technical approach. They cared for its *beauty* too, to a point that ugliness was unacceptable. The sound debate is a flagrant example of Hommels’s obduracy, when ‘planners, architects, engineers, technology users, or other groups are constrained by fixed ways of thinking and interacting. As a result, it becomes difficult to bring about changes that fall outside the scope of this particular way of thinking’ (Hommels 2008, 22). Interestingly, this closure of interpretative flexibility was not specifically about the function of this infrastructure—arguably, Parisians still wanted to drive. But the concessions the neighbours of the ring road had to make constituted too big a sacrifice, according to them at least. Therefore, it was not so much the function of the Boulevard Périphérique as part of Paris’s road network that was rejected, but a backlash from the growing awareness of the massive negative externalities the infrastructure had for its neighbours. Furthermore, I argued the fixity of meaning of the ring road, its obduracy, was not encapsulated in its function—road traffic—but in its symbolic value: the *display* of automobile traffic. Negative externalities that the engineers of the Department for roads obdurately refused to acknowledge. When its first section was voted, the ring road was presented as the ‘cure’ to Paris’s slow death, but Parisians soon realised that this medicine should go by as far away as possible from one’s home.

In these documents, we also witness the emergence of a new ‘scientific language’ for road designers, engineers and urbanists: acoustics. From 1971, a *Guide du bruit* (‘Noise handbook’) put together all relevant knowledge on noise for road designers, architects and urbanists in relation to busy roads. Several versions of the drafts are kept on files in the archives: the Department for roads was asked to actively participate in its redaction. The project for an introduction is particularly interesting.

The guide limits explicitly its ambitions to dense traffic, seeking a compromise between several disciplines (road, building, urban planning). For this, it introduces a normalised shared language that is meant to allow, in a way, the trading of decibels A but that cannot claim to acknowledge or a fortiori to measure already all their consequences (2276W 27, 11).^{xlv}

This *Guide du bruit* was, in France at least, the first of its kind. The metaphor of the ‘trading’ of decibel, and the reference to economics, is particularly interesting here. Urbanists’ approach to noise is one that

analyses space in terms of positive and negative externalities, and in terms of trade-offs: I gain access to a high-speed road but my community has to give up some of their silence. It marked a decisive move, away from the juggernaut of post-war urban planning where modernity had to be delivered at all costs, to one where negotiations might be in order.

Ten years later, in 1982, a short booklet *Le Maire et le Bruit* ('The Mayor and the Noise,' 3431W 556) was published by the cities of Blois and Toulouse together with the Ministry of the Interior, the Ministry for the Environment and the Ministry for Health. It started with this statement:

Noise emitted by transports represent the main share of perceived noise: traffic produced up to 80% of urban sonic background (3431W 556, 116).^{xlvi}

We measure here the evolution since the campaign against noise of 1968 that only identified noise as bursts of sound (such as the revving of mopeds or sportscar) that could be curbed via legislation. The identified issue had become the constant *background noise*. That notion of 'urban background noise' is also interesting, we can see the filiation with Schafer's soundscape for instance. Meanwhile, Jacques Chirac made the fight against noise one of a key element of his 1983 re-election campaign with the motto: '*La Paix chez soi*' ('Peace at home,' 3431W 556, 106). The development of research and measurements protocols, the disputes as to which department should be responsible, the guidelines being developed, all these elements—that are present in the archives, and that I have chosen not to cover in this chapter—map a fascinating journey into the emergence of a new notion in urbanism and engineering that should be the subject of a dedicated research endeavour.

Finally, the main hypothesis I aimed to test in this chapter was that the change of political regime—from technocratic management to a mayoral government—had impacted the way noise was apprehended as a social issue. The data analysed in this chapter validate this hypothesis. It might have been the demagogy of politicians eager to gather votes or afraid of losing the next elections, or more nobly the concern for their citizens' wellbeing, but it is notable that a few months after the election of a mayor, the recognition of noise pollution as an issue that needed to be tackled had become policy—even though it would take another six years, and complex negotiations, to have the first noiseproof walls erected. We understand from the correspondence that this push also came from another rung of

power: the president's office seems to have pressured the civil servant, the prefects, to act upon the issue of noise from road traffic. The question of the role of the corps des Ponts et Chaussées in relation to noise as a social issue in urban settings also constitutes an interesting research avenue to pursue, connected to the education they received, to their capacity as individuals and as a corps to change position on these issues, to the research carried out and more generally the role of the General council of Ponts et Chaussées. This would require a dedicated research project. I have analysed in this chapter how the Department for roads sabotaged the trial of noiseproof screens on the Boulevard Périphérique and questioned the technical validity of their attitude. In this case study, we see an expression of the conservatism of this corps, as analysed by Jean-Claude Thoenig (1973), of engineers' obduracy. It took the pressure of a new mayoral executive to make the corps accept a new parameter in the design of road. It also took the 'social' pressure of populations, less and less amicable to the idea of letting large-scale urban motorways disrupt their neighbourhoods (Backouche 2018). And last but not least, it also took the development of a new 'scientific language' of acoustics, that enabled the trading of decibels and its integration in road design schemes.

Chapter 7 Covering the ring road: strategies and social status of the residents who impacted the design of the Boulevard Périphérique

In this third chapter of analysis, I study different strategies used by Parisians to cover the ring road in order to limit its perceived negative impact: visual, economic and social (e.g., the role of cars in Paris); as a spatial obstacle between adjacent banlieue and Paris proper; and in terms of noise. I continue the analysis started in Chapter 5 with the example of the Bois de Boulogne detour by specifically studying to what extent the social status of the Boulevard Périphérique's neighbours trying to obtain its concealment determined their actions' successes. In doing so, I specifically test a commonplace regarding the ring road, sometimes reiterated in the scientific literature without much critique (Pinçon and Pinçon-Charlot 2007, 36–40), that Parisian elites managed to 'defend their space' as the ring road construction threatened their wellbeing, while the working-classes in Paris and the banlieue failed to do so. The research presented in this chapter also refines an understanding of the ring road design process, i.e., where the power lay to influence its form and route.

This chapter focuses on three case studies: two successful and one failed attempts at influencing the design of the ring road. Two of these examples were initiated by private individuals acting by themselves, and one by a group of residents supported by their local councillors. The two case studies by private individuals are located west of Paris, in the 16th and 17th arrondissements, respectively by Porte de la Muette and by Porte de Champerret. These individuals were two wealthy and well-connected men. One of the requests succeeded, the other did not. The case of Porte de Ménilmontant in the 20th arrondissement was initiated by residents of a social housing estate owned and managed by the City of Paris, and was also successful, eventually.

7.1 The HLM at Porte de Ménilmontant (1967–1975)

From the early 1960s, within and right next to a quadrilateral formed by Rue Évariste Galois, Rue de Noisy-le-Sec, Rue des Fougères, and Rue Léon Frapié were located four buildings owned by

the City of Paris's social housing provider, then known as Office Public d'Habitation à Bon Marché de la ville de Paris (OPHBMVP). Concealed, the ring road is today absent from that portion of city (Figure 41). Instead, a series of stadia and playgrounds occupies the footprint left by the motorway that serpentine underground. This design is not the one originally built. It is the result of a struggle between, on the one hand, the circa 600 households that lived on the estate supported by local communist and socialist councillors, and on the other, the prefect of Paris and his administration. To understand the mechanisms at play, I studied the records of the Council of Paris, that I cross-examined with archives of the Department for roads. Yet, even though the case of Rue Léon Frapié has been a significant issue that mobilised the Department for roads over more than ten years (1964–1975), I have only found a small number of documents in the fonds 2276W. I actively pursued this lead in early 2022, with a focused archival research campaign that included consulting with archivists at the Archives de Paris and the Bibliothèque administrative de l'Hôtel de Ville de Paris, with limited results. If some questions remain unanswered, the municipal assembly records and the small number of documents I have selected in different fonds do allow me to analyse the successful struggle of the residents of the social housing at Porte de Ménilmontant to have a section of the Boulevard Périphérique redesigned in the years that followed its opening.

7.1.1 Pre-emptive action

The eight-year long struggle to influence the design of the ring road by Porte de Ménilmontant started in a session of the municipal council that took place on 13 November 1967. The funds and technical folder to build that section of the ring road had been approved in 1964, the building works were well underway in 1967 with the section scheduled to open in 1969. A group¹ of communist councillors asked a *Question orale sans débat*² ('oral question without debate') 'regarding the

¹ Michel Férygnac (1938–2015, French Communist party, PCF, elected 1965–1983); Madeleine Marzin (1908–1998, PCF, appointed 1945–1951, elected 1959–1971); Henri Malberg (1930–2017, PCF, elected 1965–1973 and 1983–2001); Jacques Risse (1925–1988, PCF, elected 1965–1977); Christiane Schwartzbard, (1931–1999, PCF, elected 1965–1989). They were all councillors for the 20th arrondissement. One notes that, except for Madeleine Marzin, they were all elected in 1965 and quite young when elected. E.g., Michel Férygnac was elected in 1965 aged 27.

² Historian Philippe Nivet explains: 'Oral questions are raised during the sessions, at the rostrum. They usually kick off a debate: the other councillors can register to speak during the following debate. Propositions can be filed during the session at the end of the time allowed for the question. The propositions are then redirected to the commissions. To make the process more intelligible, it becomes customary for questions to be regrouped within a given theme, possibly to connect them with specific reports, to have a working session on education, a working session on urbanism, etc. In 1966, the rules are changed. During the

conditions of rest and security for inhabitants concerned by the building works of the ring road between the Porte de Bagnolet and the Porte des Lilas' (Conseil de Paris 1967).ⁱ The main objective of the question was to limit the disruption caused by building works that were taking place during the night—*'un programme sur lequel nous avons un très léger retard à rattraper'* ('to catch up on an ever so slight delay on the schedule') explained the general director for technical service in front of the assembly—and to obtain the construction of a temporary footbridge between Paris proper and the adjacent suburban towns to accommodate the inhabitants of the council estates 'but also the people who come from the banlieue and walk to the only metro station in the vicinity, "Saint-Fargeau"'ⁱⁱ added 29-year old communist councillor Michel Férignac. He continued with a much bolder suggestion.

I take this opportunity to introduce a new proposal, in the name of the Communist councillors of the 20th arrondissement, that is also a demand by the tenants of this council estate. It is related to the noise that the road traffic will generate on this section of the Boulevard Périphérique that is fully exposed—in trenches, that is true, but that are not deep enough to stop the noise from rising up. It would therefore be desirable if this section of the ring road were covered.

This will create new issues, technical but also financial. But I think it is useful to carry out the studies and to retain the principle of a cover, because of, on the one hand, the noise of traffic, and on another, because of the relief that necessarily leads to excessive noise ... as it requires a gear change [to climb up and drive downhill, researcher's note]. ...

For this reason, the tenants of the council estate ask for the ring road to be covered, the slab could be used to host playgrounds for the children (Conseil de Paris 1967, 536–37).ⁱⁱⁱ

The article 2 of the resolution presented by Michel Férignac to the council then stated that

The portion of the Boulevard Périphérique between the streets of Noisy-le-Sec and Léon Frapié, and at least the 30 metres that precede it, will be covered, the slab will be used to implement playgrounds and resting areas for the many children and local population of the neighbourhood (Conseil de Paris 1967, 537).^{iv}

The Council forwarded the proposal to the 3rd Commission for examination, i.e., the cross-party group of councillors specifically in charge of studying all aspects related to urban planning. Ten days later, the proposal was approved by the 3rd Commission. In the session of 23 November 1967, the rapporteur

intersession [i.e., during two sessions that are several months apart, translator's note], the councillor can ask questions in writing that are answered to orally at the next session following the protocol that was in place at the Assemblée Nationale. Only the author of the question can respond back, for five minutes maximum. There is a difference between the oral questions with debate, that are the equivalent to the former oral questions, and the new oral questions without debates, usually more technical than the questions with debate.' (Nivet 1994, 182)

for the 3rd Commission, councillor Tollu, recommended the council to vote in favour of forwarding the proposal to the administration with a positive opinion. The assembly followed his advice, and approved the resolution (1967, C. 133). In effect, this meant that the Council of Paris had voted to cover the ring road between Rue Léon Frapié and Rue de Noisy-le-Sec and to implement parks and playgrounds on the slab. From a contemporary point of view, one might consider this a surprising light-touch approach for what we would today consider a major decision pertaining to urban planning. But when reading the records of the Council of Paris at the time, one notices how little the ring road mobilised Parisian councillors—with the notable exception of the route by the Bois de Boulogne, discussed in Chapter 5. Major decisions, like the approval of entire sections of the ring road, were voted without much discussion.

7.1.2 Playing deaf: an ignoring administration

Three years later, on 1 December 1969, the section of the ring road by the Porte de Ménilmontant opened. It only featured a partial cover of 45 metres (Figure 39), a far cry from the complete covering demanded in 1967. The administration had ignored the resolution voted by the Council of Paris on 23 November 1967. We find no evidence in the *Bulletin Municipal Officiel* (the official records of all debates and votes), or in the archives, that the administration had ever even acknowledged the resolution.

At the beginning of 1970, two petitions by two groups of residents of the social housing by Porte de Ménilmontant were addressed to several key actors of urban planning in Paris including the prefect, MPs, councillors, ministers and the director of the OPHBMVP. One petition was drafted by the Amicale³ Fougères – Léon Frapié of the Confédération nationale des locataires, fédération de la Seine (CNL, ‘National confederation of tenants, federation of the Seine’), branch of the 20th arrondissement (2276W 280, 133). Created in 1916 and still active today, the CNL is an organisation close to the French Communist party, which empowers tenants of social housing to defend their rights by supporting the creation of local branches. The petition is not dated but seems to have been received by the prefect’s

³ An *amicale* is an association or a club.

staff around March 1970. Another petition, signed by Mr M****⁴ on behalf of the ‘Tenants of the estate Fougères-Frapié—Noisy-le-Sec’ is dated 28 January 1970 (2276W 280, 137–138). The two petitions defended similar positions: with the opening of the ring road, the situation regarding noise for inhabitants of the four buildings had become unbearable. In the one by members of the local section of the CNL, they

protest to the Public Authority in charge, of the living conditions that have been created for them.

The noise created by the traffic on the Boulevard Périphérique (that is less than 50 metres away from the buildings) makes impossible any rest for the inhabitants of the estate, night and day, all windows shut.

They remind [their interlocutors] that their Amicale together with the local councillors for Paris had asked as early as 1968, the complete covering of that section of the ring road located between the bridges Noisy-le-Sec and Léon-Frapié.

They reiterate their demand and insist that the works are carried out rapidly, because their current situation is unbearable and will only get worse as traffic increases.

They commit to conduct an active campaign of protest by all legal means available to have their rights to rest respected (2276W 280, 142—original emphasis and letter case).^v

The second petition struck a different tone but bore similar demands.

the rest of the tenants is entirely disturbed, even with their windows closed ...

One can estimate the noise density at peak hours to be between 70 and 80 decibels. At night, between 10 p.m. and 7 a.m. the resonance of the engines of big international lorries that are climbing up the hill from Porte de Bagnolet to Porte des Lilas is so intense that tenants cannot get the rest they are due.

This situation risks impacting profoundly the physical and psychological balance of the families in the buildings.

This petition also points out to public authority that these buildings have been built on a metallic structure, then filled with concrete aggregate, and therefore made more sensible to vibrations. On top of this, the gable ends of the buildings are 16 to 20 metres away from the limit of the ring road, ... hence the amplification of an echo that reaches all flats on all floors (2276W 280, 137).^{vi}

Both petitions also remarked that their demands had been only partly heard in 1967–1968, with a partial cover of the ring road. Indeed, the Department for roads had amended their design for that section of the ring road by adding a 45-metre cover of the ring road. For the councillors and the petitioners, this was thanks to their activism. As we will see further down, the Department for roads had a different understanding of that aspect of the issue. Before studying the debates that took place in the Council of

⁴ A reminder that I have chosen to anonymise individuals who do not feature in the archives in their professional or elective capacities.

Paris in March 1970 and that were directly connected to the opening of the ring road east of Paris and the two petitions, I propose to study the reaction of the administration that has been archived in a series of notes.

Two letters addressed to the petitioners (2276W 280, 134–135; 2276W 280, 140) and one note for the prefect's chief of Staff (2276W 280, 126–127) offered the same arguments. It appears that similar key phrases and arguments were used across correspondence. For instance, a letter to Mr M*** written by André Herzog, then director of the General department for urban planning, explained that

the city has already agreed to considerable financial efforts to limit the disruption to the inhabitants living conditions ... Indeed, while the technical file for that section approved by the Council of Paris on 2 July 1964 only planned for two 20-metre-wide bridges to continue Rue Léon Frapié and Rue de Noisy-le-Sec, specific measures have been implemented to reduce, within reason, the noise pollution. This is why the bridge of Rue Léon Frapié has been extended to the south with a 45-metre-long cover ... On top of this, supplementary trees have already been implemented and more will be installed in this section. ...

A new extension of the cover would lead to very significant extra spending, because of the nature of the terrain there and would make the operation of the ring road more costly because of the requirements to maintain artificial lighting throughout the day.

In order to identify for a convenient solution to this matter, I have asked the Director of the OPHLMVP to let me know about the soundproofing measures that could be implemented to reduce such inconvenience (2276W 280, 134–135).^{vii}

The reaction by the Department for roads displays the key features we have already identified in previous chapters. The distress expressed by the inhabitants in two petitions was requalified as mere 'inconvenience' by Herzog. He explained that his department had already been above and beyond their initial mandate by creating a partial cover, that the city had spent a significant amount of money (an extra 3 million francs,⁵ according to another note 2276W 280, 144) and that, anyway, this would be technically too difficult and too costly to carry out. He then rerouted the blame to the director of the social housing organisation, i.e., the landlord. By doing so, he also deflected the blame to another department of the prefecture, the Department for urbanism.

⁵ €3.4 million, adjusted for inflation.

The note that was prepared for the prefect and the director for urban planning that would be called to speak on the prefect's behalf on 13 March 1970 at the Council of Paris is particularly interesting to study, as we find in the archives a series of heavily reworked drafts. It seems two notes, one by director for roads Robert Dussart, the other by chief engineer for the east section François Ozanne, were produced and eventually merged. The undated one by Dussart (2276W 280, 150–151), started by giving the traditional excuse I have analysed so often in this thesis: the urban planners and the architects in charge of the area knew the ring road was coming when they designed their buildings. 'They were fully aware [of the ring road's positioning] when the location of the buildings was decided.'^{viii} The first paragraph of Ozanne's note (2276W 280, 148–149) comes out as more factual, less blunt, but the argument was similar. Then, Ozanne's second paragraph acknowledged the concessions already made:

To protect them from the noise, the City of Paris has accepted to cover the ring road on a 45-metre length, by increasing the width of the bridge Léon Frapié from 20 metres to 65 metres, which represented an extra spending of 3 million [francs], considering the terrain that is especially bad for the foundations, the protection of the ... buildings mentioned was the only reason for such expense (2276W 280, 148).^{ix}

The paragraph I have just cited has been crossed out in red. The third paragraph of Dussart's note offered a similar argument. In the original draft, it said:

Following the interventions of the local councillors in March 1968, the design for the construction of the ring road between Porte des Lilas and Porte de Bagnole has been modified upon releasing the calls for tenders to limit the negative impact of the traffic on the nearby buildings (2276W 280, 150).^x

This part of Dussart's note has also been crossed out. In the final note it has been replaced by

When delivering the construction works, specific measures have been taken in order to reduce, within reason, the nuisance caused by noise (2276W 280, 144–145).^{xi}

The mention of the councillors' influence on the design of the ring road was left out of the final note, despite being clearly acknowledged in earlier drafts. The note signed by Ozanne also mentioned the extra planting of trees and vegetation that will act as a soundproof screen. He also wrote that '*des études acoustiques détaillées*' ('detailed studies of acoustics') were ongoing and explained that

Of course, the noise from traffic in this section is much more important since the ring road has been opened, the same way that it massively decreased along the Boulevard des Maréchaux (2276W 280, 149).^{xii}

His last paragraph has been crossed out in red, it said:

In any case, it does not seem possible to cover entirely the ring road between Rue Léon Frapié and Rue de Noisy-le-Sec. Only a heavy cover, with a great inertia, would be efficient when it comes to sound and it would represent an expense of 6 million francs⁶ (2276W 280, 149).^{xiii}

And a handwritten addition finished the sentence with

without including the expenses for lighting and aeration it would require.^{xiv}

In the final note, this assessment by Ozanne has been made less definitive but also less precise. It might have been a way to keep all options on the table, while not assuming a technical solution had already been identified:

A new extension of the cover would incur extra spending for the construction works that would be very high because of the quality of the terrain and the cost of operation with the need for permanent lighting and artificial aeration. The extra spending would be approximatively 6 million francs. The available credits do not allow to envision such operation (2276W 280, 145).^{xv}

The note finished by introducing some acoustic measurements collected in March 1970, that ranged from 59 to 80 decibels. And concluded saying

These sound pressures close to the buildings sensibly match those picked up on urban thoroughfares with average traffic (2276W 280, 145).^{xvi}

What we learn from this note and the different drafts made available was that the role of councillors in amending the design of the ring road in 1968 had been silenced, replaced by a focus on the Department for roads' proactiveness in protecting Parisians from the ring road's negative impact. We also recognise an argument often encountered in the previous chapters. The key items of this argument are: the ring road has been approved before these buildings were designed and built; the engineers of the City have already achieved a lot; the amendment to the original design was costly; to do more would be financially impossible; extra trees will act as efficient soundproofing; and the

⁶ €6.8 million, adjusted for inflation.

situation is not as bad as described by the residents and is comparable to other boulevards in Paris. Finally, while we do not have the details of this action, we know from the drafts that the decision of November 1967 voted by the Conseil Municipal was partly implemented in 1968, with the construction of a partial 45-metre cover.

Having studied the notes prepared for the prefect by the Department for roads' staff, we can focus again on the municipal debates where the issue was raised by the communist councillors for the 20th arrondissement, with Michel Férygnac as the main orator. On 13 March 1970, the communist councillor started his address by reminding the content of the discussion that had taken place in November 1967. He continued:

If I come back today to address this assembly, it is because our proposal has not been acted upon. The bridge Rue Léon Frapié has indeed been widened by about forty metres in what we could call a 'mini-cover,' but this is not going to change anything against the issues encountered there.

Besides, since last December, the traffic has opened on this section of the ring road and the inhabitants are suffering its impact. They observe the 'mini-cover' I have just mentioned is not going to solve their problems. Indeed, it has become impossible for the tenants of this social housing to rest, to live normally, may that be day or night ... Angered by this situation, they have once again expressed their protest through their local tenants' club. A new petition has circulated in the households there. Maybe, Mr Prefect, have you already received it? It has been shared with several departments (Conseil de Paris 1970, 167).^{xvii}

Férygnac then read the text of the petition that I have already cited. And pursued:

I am asking you, Mr Prefect, how you are going to follow up on this case. Are you going to take some emergency measures to answer the concerns of the inhabitants? Said otherwise, are you going to build rapidly the complete covering of the ring road there?

Be certain that the tenants there are going to pay very close attention to what you are going to do next. They are paying even more attention because they know of the important works you have undertaken in one other residential neighbourhood of the city, the Bois de Boulogne, to reroute the ring road there to avoid disturbing the neighbours there, which, by the way, seems to me completely normal. But what would be also completely normal, would be to treat the working-class neighbourhoods in the 20th arrondissement the same way.^{xviii}

Férygnac insisted:

Do believe me when I say they are highly sensible to this argument. You can now act with full knowledge of the facts. I wish that you give me all the necessary reassurances that the works we had proposed in November 1967 will be carried out as soon as possible (Conseil de Paris 1970, 166–67).^{xix}

Then Michel Salles, on behalf of the Socialist party (PS) supported the request by Férygnac and underlined the exemplar of the Bois de Boulogne

Monsieur Férygnac, you have reminded us that the Parisian assembly had decided to spare the inhabitants of the wealthy 16th arrondissement to be inconvenienced by the noise from the ring road. We have sacrificed for them a portion of the Bois de Boulogne. What was true for the inhabitants of the 16th arrondissement is also true for those living in the 20th arrondissement. I do not know why our architects have not planned soundproofing strategies in the buildings that you have just mentioned. Since they have not done it, we need to cover the ring road in the sections that you have mentioned (Conseil de Paris 1970, 167).^{xx}

Before studying the answer by André Herzog, on behalf of the prefect, there are several key elements of Férygnac's argument that are interesting to underline: first, a confirmation that besides the partial covering, that Férygnac undermined by talking of a *mini*-cover, the councillors considered that their proposal approved in November 1967 had not been implemented; second, the argument of the Bois de Boulogne pushed by both Férygnac and Salles: they did not condemn the decision regarding the Bois de Boulogne, but denounced the obvious difference of treatments between affluent and working-class neighbourhoods; and third, that Férygnac referred to the petition of the CNL, i.e., the group closest to the Communist party, highlighting a relative politicisation of this issue.

The answer offered by Herzog was, logically, based on the note I have analysed above. He started by explaining the buildings had been designed and built in 1959 with knowledge the ring road would soon be implemented there:

[Architects] have at the time given priority to composition and have indeed built a bit too close to the ring road, but in Paris we lack space, even on the Zone. One has to also say that at the time the issue of noise had barely been studied. Recent studies have, by the way, shown its complexity (Conseil de Paris 1970, 167).^{xxi}

Herzog then reminded the assembly that they had voted in favour of the design on 2 July 1964 and added that

During construction and in agreement with the 3rd Commission, several solutions were studied to limit the propagation of sound towards the two closest buildings (Conseil de Paris 1970, 167).^{xxii}

He then mentioned the sound measurements recently done. He used the argument that if indeed the area near the Boulevard Périphérique was logically noisier since the road's opening, it had also decreased

on the Boulevard des Maréchaux, ‘*ce qui paraît satisfaire, au total, un nombre plus grand d’habitants*’ (‘at the end of the day, this seems to satisfy a greater number of inhabitants’). Herzog then detailed the figures that were presented in the note, with sound pressure going from 60 to 80 decibels. The measurements indeed showed that where there was a cover, that cover was efficient. But the source of those figures, that I have found in 2276W, cast doubts on their scientific trustworthiness.

The original note that detailed the measurement was kept in a different folder (2276W 27, 204) from the main one dedicated to Porte de Ménilmontant. The note titled ‘Noise measurement at the boundary of the ring road by the Rue Léon Frappié [sic]’^{xxiii} had been produced by the Laboratoire de l’éclairage et de la signalisation (‘Laboratory for lighting and signage’) of the Department for roads. As I mentioned in Chapter 6, there was no dedicated laboratory dealing with noise at the Department for roads at the time.

The handwritten note explained the measurements taken, the dates (4 March 1970, from 5 p.m. until 5.30 p.m. and 6 March 1970, from 4.30 p.m. until 5 p.m.) and detailed the results. The author mentioned the meteorological conditions—snow on 4 March 1970, that had melted on 6 March 1970. A sketch was attached, which explained the position of the engineer recording the sound levels (2276W 27, 206). Without a degree in sound engineering (truth is, the engineer in charge of these measurements did not have one either), it is easy to realise the research protocol was rather weak: the collection times were extremely limited; there was no consideration for heights (they only took measurements at ground level) even though soundwaves rise up, and therefore it is likely the 45-metre cover would have had limited efficiency if similar measurements had been taken from the top flats; the capacity of snow to muffle sound was not acknowledged in the note; and then there was no explanation of the recording devices used and the methods. Such methods did exist at the time and were well known. We find much more robust contemporary studies in the archives, for instance the one on the social housing of Porte Pouchet from 1969, led by the Bureaux d’Études Acoustiques, a private sound engineering firm (2276W 280, 112–125). The engineer that conducted the measurements for Rue Léon Frappié mentioned, modestly, in a final paragraph

Please note: These measurements, carried out very quickly, have only an indicative value, and demonstrate the necessity to carefully define the conditions in which such measurements are carried out, especially regarding the weather and the intensity of traffic (2276W 27, 205).^{xxiv}

One should therefore be very critical of such measurements. But Herzog presented them to the Council of Paris as sound and scientifically robust facts that would suffer no contestation. After presenting the results of the measurements, he explained:

Therefore we can conclude that the impact of the existing covering is extremely important for sonic protection.

In any case, these levels in the range of 65 to 67 decibels are relatively low for an urban area. Along the boulevards of Paris, along the Boulevard Saint-Germain, the Boulevard Malesherbes, the Boulevard Saint-Michel, etc. we regularly have 75 to 80 decibels.

One needs to acknowledge that the inhabitants of the 20th arrondissement have been for many years in a relatively privileged situation, enjoying the calm, since there was effectively no car traffic close to their homes. I can understand they do not find this new situation very pleasant. But I think we need to consider that they are not in a specifically bad situation in comparison to other Parisians living by major thoroughfares (Conseil de Paris 1970, 168).^{xxv}

In light of my comments on the acoustic measurements taken in March 1970, Herzog's self-congratulating stance on the efficiency of the 45-metre cover should be received with great scepticism. On the other hand, his remarks on the change of situation for inhabitants, as they went from a Zone pretty much devoid of any motorised traffic to a roaring ring road, do make some sense. But one should add that there had been three years of building works that preceded the opening of the ring road. And still, from the two petitions, we understand the contrast upon opening must have been particularly violent for residents of the social housing at Porte de Ménilmontant. It is difficult to judge today the accuracy of the levels of decibels on central Paris boulevards quoted by Herzog—the questionable methodology for recording sound levels on the ring road could certainly be challenged in this case too. As a point of comparison, a survey made in 2019 recorded sound levels on Parisian boulevards within a range from 65 to 75 decibels, while sound levels were uniformly above 75 decibels for the ring road itself and 70-75 for the Boulevard Périphérique's immediate surrounding areas (Bruitparif 2019).

Herzog then went through the list of arguments already mentioned in the notes (trees as soundproofing, the technical complexity and financial cost). He also rejected the reference to the Bois

de Boulogne, restating the position I have analysed in Chapter 5, that the route eventually built was more economic and less detrimental to the garden's flora.

Férignac responded, and explained he was disappointed by Herzog's comment:

I do not doubt technical issues exist, but I think they can be resolved if we give the Administration the financial means to do so. A covering of this section of the ring road can be realised. The setting up of lighting is also doable since it has been done elsewhere.

Mr Deputy secretary general—It would cost 6 million francs.

Mr Michel Férignac—Exactly what I was saying, it is indeed a financial issue.

But I am asking again the question. Since in some districts of Paris we have rerouted the ring road to avoid disturbing some inhabitants, which is, I will say it again, completely normal, why cannot we on another section of the same road take the necessary measures to give that population the opportunity to live their lives in better conditions?

As I said earlier, we have the capacity to cover this section. I know we could not cover the Boulevard Saint-Germain if the problem arose because we would face other hurdles, but for this section of the ring road, it is completely doable from a technical point of view.

You have mentioned, Mr Director, trees that would be planted and you have said they would allow to partially muffle the sound. I accept that argument for those walking through such planted trees, and for those living on the 2nd, 3rd and even 4th floor, but I am reminding you these towers are 13 or 14 stories high and it is precisely the top floors that suffer most from road traffic. Trees will not change anything about that ...

Mr President [of the Assembly, researcher's note]—Are you putting forward a bill?

Mr Michel Férignac—But Mr President, I have already done so two-and-a-half years ago! I have mentioned this again today in my address, hoping that it can finally be implemented (Conseil de Paris 1970, 168).^{xxvi}

There was no further comment from André Herzog. Following an additional address by councillor Jacques Risse who supported Férignac and critiqued again the prefecture's position, the debate was closed. Férignac refused to put to the vote a new resolution arguing that one had already been voted on that same issue two-and-a-half years before.

7.1.3 U-turn: deciding the full covering of the ring road

A year-and-a-half later, in the session of 25 June 1971, councillor Milhoud on behalf of the 3rd Commission introduced '*un important document du plus vif intérêt*,' ('an important document of the highest interest') produced by the prefect of Paris (Conseil de Paris 1971, 346). This 'Address to the Council of Paris' detailed the 'progression of building works of the ring road of Paris and measures to deal with the protection of the environment.'^{xxvii} The prefect concluded his introductory paragraph

saying ‘The design of the ring road gives a very specific attention to the aesthetics of the infrastructure and the protection of the sites’ (Préfecture de Paris 1971, 86).^{xxviii} The prefect addressed several issues in this document, including the case of Rue Léon Frapié, where he performed a complete U-turn.

within the framework of the policy for nature protection and for the improvement of the conditions of the environment set out by the government, the Administration has sought with much care the solutions that would avoid, near residential buildings, some nuisances due to the intense traffic on the ring road, especially when it comes to noise. Depending on the locations, and in connection to the local characteristics of the ring road, two types of solutions can be envisioned

— either the covering of the boulevard

— or the soundproofing of windows ...

The section of the ring road [by the four buildings of the estate Léon Frapié - Noisy-le-Sec] could be covered entirely.

The design will include a full slab as a connecting space between the two gardens surrounding the buildings. The cost of the works is quoted at 10 million francs⁷ and the total length of the cover (close to 180 m) will require permanent lighting (Préfecture de Paris 1971, 87–88—original emphasis and letter case).^{xxix}

A map of the area was included to the address together with a cross section. It is the only map attached, even though the document refers to other projects of complete and partial covers. This would tend to show the technical design for the cover was well advanced (Figures 37–38).

The document marked a complete change of position for the administration. Unfortunately, I have not been able to identify any source that would explain the administration’s motivations for this evolution. There are no archives of the preparation of the prefect’s note in the fonds of the Department for roads, the debates of the 3rd Commission were not minuted, and I have even tried to exploit a new fonds—the archives of the prefect’s cabinet—where I have found a copy of the speech (PEROTIN/101/76/1 19) but without any preparatory documents archived to understand this fundamental change. Immediate witnesses and stakeholders, such as local councillors of the 20th arrondissement, have passed away. The same applies for all high-profile civil servants involved in the case. Interviews are therefore not an option. It is surprising that there are no traces of this project in the archives of the Department for roads, considering how significant it must have been.

⁷ €10.7 million, adjusted for inflation.

The only explanation available, besides the ongoing pressure of communist and socialist councillors, was the one provided by the prefect in his speech, i.e., a change of policy at the national level—what historians have called the ‘environmental turn’ (Charvolin 2003). Among the most iconic decision, the creation in January 1971 of the ministère de la Protection de la Nature et de l’Environnement (‘Ministry for the protection of nature and the environment’). This came after more than a decade where sets of measures to protect and value the environment were enacted, for instance the creation of national parks (22 July 1960), or the law on water management and fight against pollution (16 December 1964).

Among the measures finally acted by the prefect in his address of June 1971 was indeed the full covering of the space between Rue Léon Frapié and Rue de Noisy-le-Sec. This came five years after the resolution approved by the Council of Paris in November 1967. Councillor Milhoud, on behalf of the 3rd Commission, mentioned in his report on the prefect’s document that ‘[The commission] was especially satisfied of the project to cover the Boulevard Périphérique by the buildings of Rue Léon Frapié and Rue de Noisy-le-Sec, an operation that will enable the junction between existing gardens and that will create a green space that will be especially welcome in that part of Paris’ (Conseil de Paris 1971, 347).^{xxx} In conclusion of his report to the assembly, Milhoud recommended to *donner acte*, ‘acknowledge’ the prefect’s address. Indeed, the prefect was not seeking any vote to enact his proposals—these decisions were, in essence, already taken by the administration. The Council of Paris could only *acknowledge*, which they did, with two minor reservations that were not related to the covering by Porte de Ménilmontant.

The debate continued. The discussion on the prefect’s address had been merged with a question by the councillors of the 20th arrondissement. Jacques Risse, PCF, now spoke. He regretted that it had taken the administration so much time to react considering local councillors had been vocal about the issue of noise pollution for so many years. He insisted that communist councillors’ concerns for the 20th, 18th, and 14th arrondissements (all working-class neighbourhoods then) were not about pitting arrondissements against each other, but to ensure fair treatment of all Parisians.

You will understand nonetheless that we had risen up against the fact that nothing was proposed to solve the issue of noise pollution in working-class neighbourhoods, while considerable amounts were invested to solve this malady in the 16th arrondissement (Conseil de Paris 1971, 348).^{xxxii}

In his argument, Risse castigated the prefecture for its incapacity to anticipate, and for its lack of proactiveness. He also regretted that the focus of the administration was on soundproofing flats instead of reviewing the design of the ring road itself. Among other examples, he mentioned the trial of soundproof walls in the nearby Département du Val-de-Marne.⁸ He also pointed out that the costly soundproofing of windows would necessarily lead to rent increase for tenants and constitute an unfair *impôt déguisé* ('hidden tax'). And he concluded, saying that

we think the Ministry for Environment should not limit its scope to make proposals whose implementation should be paid for by local authorities and the organisations that depend on them. It needs to support it with a real financial contribution in order to enable actual implementation of environmental policies (Conseil de Paris 1971, 349).^{xxxiii}

and received applause from the communist, socialist and radical groups. After a series of interventions from conservative and left-wing councillors all pushing the administration to do more to tackle noise pollution, André Herzog was called to address the assembly.

He did not respond directly to the critiques of councillor Risse regarding the administration's lack of understanding and proactivity. Instead, his response focused on the different technologies to fight against noise pollution that had been mentioned by the councillors who had participated to the debate, and proceeded to briefly evaluate their pertinence. It is interesting to cite his response on soundproof walls:

There are other solutions, such as the construction of lateral soundproof walls, but there are not efficient for tall buildings because the sound goes above such walls, unless they are built with an excessive height. Also, these walls create some inconvenience for the environment at ground level because they interrupt perspectives. It is more natural that these perspectives can go uninterrupted on both sides of the ring road so that we do not have walls that would recreate some form of fortifications around Paris, something that indeed should be avoided (Conseil de Paris 1971, 350).^{xxxiii}

⁸ See section '6.3 Of aesthetics and efficiency: sabotaging the trial of noiseproof walls.'

It is important to remember that just a year-and-a-half before, the same Herzog had explained how a full covering of the Boulevard Périphérique by Rue Léon Frapié was not needed because the planting of trees and vegetation was enough to protect the residents, including those living in top flats. An argument ridiculed by local councillors then who mentioned trees reaching a height of 1.5 metre. There had been no ground-breaking scientific progress in the understanding of sonic nuisance from car traffic between March 1970 and June 1971 that would justify this complete change of stance. The evolution of his position was therefore not justified by some newly acquired knowledge, or an increased scientific understanding of sound in urban space. This new opinion seemed to have been driven by the new policy set out at national level, the government's 'environmental turn.'

This example comes as another expression of a feature that has been recurrent in this thesis: the capacity of Parisian technocracy to take a hypocritical position based on inexistent 'scientific' demonstrations presented as unchallengeable. To come back to the example of flora: trees, no matter their height, would never have effectively protected the high-rise buildings by Rue Léon Frapié and Rue de Noisy-le-Sec, and there is no historical justification to believe the engineers of the Department for roads had to wait until 1971 to find this out.

Finally, it is interesting to highlight the care expressed for notions of aesthetics and perspectives, as well as mention of the desire to avoid recreating spatially or mentally, a fortification around Paris. Such attention is present constantly throughout the archives.

7.1.4 Funding the covering

In June 1971, the administration had finally accepted to build a full covering between Rue Léon Frapié and Rue de Noisy-le-Sec. In appearance, the struggle that had been ongoing since 1967 was coming to an end with the vindication of the inhabitants' and their local councillors' demand. Indeed, the project validated was exactly what was proposed in November 1967. And yet, in the session of 6 March 1972, the group of communist councillors raised this issue again. Ten months on since the prefect's address, the works had not even started. The prefect's representative explained that for the budget of 1971, there were only 1.2 million francs available for the 'protection of the environment of

the ring road^{xxxiv} i.e., not enough to get started on the cover quoted at 10 million francs. Councillor Férignac replied that he found

revolting that the local populations must wait several years maybe to see this part of the ring road actually covered. ... Your answer can only worry us, considering that the project of cover this part of the ring road has been adopted, but that, if I understand correctly, we only have a tenth of the funds required. Without the missing nine tenths, I do not see in which year we will be able to start the works to cover this part of the ring road, even though the project has been approved (Conseil de Paris 1972, 31).^{xxxv}

Without further data to explain this setback, to observe that the funding of a significant and urgent operation had been neglected comes through, at best, as professional negligence, at worst, as obstruction. The budgeting choices reflect the prefecture's reluctance to acknowledge that this fundamental design issue was a mistake that could have been anticipated. By considering the covering of the ring road section between Rue Léon Frapié and Rue de Noisy-le-Sec as a project pertaining to 'the protection of the environment of the ring road,' instead of part of the main budget for infrastructure, the administration had de facto refused to acknowledge that they were to blame for this design issue.

In the session of 22 November 1973, the issue of Rue Léon Frapié was back in the debates of the municipal council, pushed once again by councillor Risse. In June of 1973, Risse had drafted three proposals regarding noise pollution on the ring road, including one regarding the covering of the ring road by Porte de Ménilmontant, that had been forwarded to the 3rd Commission for discussion. The 3rd Commission, represented by councillor Milhoud, having discussed the proposals, expressed their wishes to see the council voting in favour of these propositions, and reminded the assembly that the cover of Rue Léon-Frapié had been approved a year-and-a-half before, but that only 1.2 million francs in 1972, and 4.8 million francs in 1973, had been secured (Conseil de Paris 1973, 907). Risse then spoke. He regretted the delay in addressing this issue and noted that their proposals discussed on that day (22 November 1973) had been filed in June.

We have been intervening for many years, and not only in June, on the impact of the traffic on the ring road's neighbours. And I have also reminded you back in June that we had done so before the actual construction of the ring road.

... This issue is an absolute emergency.

The inhabitants of this neighbourhood are here to remind us of this situation regularly. We understand them because they have to endure each day the aggressions of this constant noise!

In the current situation, all measures delaying the settling of these issues would lead to an extreme exasperation of these people, and I am being polite here! ...

The delay to study these propositions mean that we will not be able to secure the credits for the next budget: this is what we feared in June and that we had wanted to avoid by filing our proposals then. ...

[Mr Prefect] you only propose to put those credits in the budget of 1975, which would mean the soundproofing works would only take place in 1976.

As far we are concerned, we cannot accept such postponement ... The people involved would not understand that.

Last year, credits had been allocated [to the cover of the ring road by Rue Léon Frapié]. They have been reallocated to the [partial covering] of Porte Maillot [16/17th arrondissement, researcher's note], with a promise, as you well remember, to carry out the works in 1974 (Conseil de Paris 1973, 907–8).^{xxxvi}

Risse then expressed his concerns that it would eventually be the City of Paris facing alone the costs of mitigating against the nuisance from road traffic on the ring road.

I have quoted extensively Risse's intervention as it contains several key elements that are worth detailing. First, Risse insisted on the urgency of the measures and reminded the assembly not to be disconnected from Parisians' everyday issues. Risse discussed at length the numerous delays faced by the covering of Rue Léon Frapié and the gap between the approval of the design (June 1971, following the prefect's address, and he did not even mention the vote of November 1967), and the funding of the design without which no action was possible. He pointed out how the prefect wanted once again to delay such action, and in a section of his speech I have not cited, he critiqued the prefect for not having allocated any funding to the ring road in 1974.

What was at stake then was the 'completion' of the Boulevard Périphérique, fully opened in April 1973 and therefore officially achieved. By potentially delaying the funding of any mitigation measures to protect the inhabitants of Paris (and suburbs) against the nuisance of the ring road, the prefect built the foundation for an argument that would consist in saying: the ring road has been achieved, its maintenance is not the State's business anymore, it is down to the City of Paris and should come out of its budget. I would remind readers here that the prefect was a representative of the State, in charge of governing the city within the framework of the tutelage of Paris. It also important to bear in mind the ring road was funded according to a formula where 40 per cent was financed by the State, 40 per cent by the city and 20 per cent by the region. The issue of who paid for 'mistakes' in the original design, for mitigation against negative externalities, for maintenance, and, since the 1990s, for the ring

road's retrofitting, was and remains a fundamental issue today. This was expressed by socialist councillor Michel Salles who came after Risse to back his colleague up:

There are difficulties, grave difficulties! And, Mr Director [for Urban Planning, André Herzog], you know the technical means to put an end to this, we know them too but you know them better than us because we are not technicians, let us put them to use right away in favour of the people.

When the account of the ring road will be closed, it will be up to the City of Paris alone to bear these costs, so, as long as the ring road account is not closed, the participation of the State and the Region will be guaranteed.

So, in the name of health and humanity, hurry! And for financial reasons too! (Conseil de Paris 1973, 908).^{xxxvii}

On behalf of the administration, answering the question by councillor Milhoud, André Herzog confirmed that he expected there could be an outstanding amount available on the general budget of the ring road, that could be reallocated to the covering of the section by Rue Léon Frapié in the budget of 1974. This makeshift budgeting solution that would enable the immediate start of the works on the cover was eventually voted by the Council (1973, C. 176).

In June 1974, the issue of the cover by Rue Léon-Frapié was brought up again by councillor Risse and other local councillors. Building works had—still—not started. The director for roads was reassuring, he explained there had indeed been some slight delays but that the call for tender had just been launched and that works would be able to start before the end of the year (Conseil de Paris 1974, 519–20). At last, in the Spring of 1975, a letter by the prefect of Paris dated 23 April to the Council of Paris updating them on the progress of the Porte de Ménilmontant let the assembly know that the works were now ongoing and that the cover would be finalised before the end of the year.

It had taken eight years for the 600 households of the four social housing complex at Porte de Ménilmontant, supported by their local councillors, to have their voices heard. Their demands had been vindicated by three votes at the Council of Paris (1967 C.133 ; 1971 372 ; 1974 C.54) asking the administration to implement the covering of the area between Rue Léon Frapié and Rue de Noisy-le-Sec. Despite making the lives of the inhabitants there miserable, it took the administration close to a decade to act. While I have acknowledged the unavailability of archives that could have enriched our understanding of the debates that took place within the administration and in the sessions of the 3rd

Commission regarding this covering, we can emit the hypothesis of a reluctant administration for the following reasons: first, the administration was reluctant to acknowledge the issue of noise pollution, despite the advance warning of residents combined with the vocal support of local councillors, and even though noise pollution had already been identified as a major technical and social issue since the early 1950s, as I have already explained in the previous chapter. The Department for roads had only partially met the demands of the Council of Paris and the inhabitants by building a partial cover by the Porte de Ménilmontant. The solutions they proposed, e.g., the plantation of trees, did not convince neither the councillors nor the inhabitants—and I have explained my doubts about the sincerity of the engineers' belief in the efficiency of such mitigation technique. Second, following an 'environmental turn' at the national level, the administration suddenly changed their position in 1971 to commit to the construction of a cover. Yet, it would take another four years to secure the necessary funds to carry out this construction. In the meantime, some of the credits to protect the social housing of the working-class neighbourhoods of Porte de Ménilmontant, whose section of the ring road had opened on 1 December 1969, had been rerouted to build the partial cover of the ring road at Porte Maillot, at the limit of the affluent 16th and 17th arrondissements, on a section that had opened in April 1973. The delay in securing the budget for the area can be interpreted as a reluctance by the Department for roads to acknowledge their 'mistakes' in designing the ring road, as well as a move to close the account of the ring road in order to lay the groundwork for a financial withdrawal from the State after the ring road's official completion in April 1973.

This case study shows how slow and unwilling the administration had been in addressing the plight of social housing residents at Porte de Ménilmontant, and how little care and energy they had invested in addressing this issue, despite the relative simplicity of the technical solution provided. The analysis of this case study also shows the relative innocuousness of the Council of Paris, and how little weight their decisions carried in the administration's design. Through petitions and in seeking their councillors' support, the inhabitants of the housing estates by Porte de Ménilmontant had chosen the most democratic, transparent strategy to influence Parisian technocracy. Eventually successful, it had taken them eight long years to have their voices heard.

7.2 The case of Jean D*** (1968–1970)

On 17 January 1968, the prefect of Paris sent a letter to Jean D***. D*** was addressed using his professional title, *Monsieur le Président*, and the letter was sent to the headquarters of his company. Jean D*** was then the chief executive officer (CEO, *président directeur général* [PDG] in French) of a major French international energy company, *un fleuron de l'industrie française*. The company was (and still is) headquartered on Quai d'Orsay, a prestigious address, a stone's throw away from the Ministry for Foreign Affairs and the Eiffel Tower. Jean D***, who had inherited the company from his father, was a graduate of Paris École des mines, a prestigious engineering school, and for all the reasons mentioned above was an extremely influential individual.

Prefect of Paris Maurice Doublet wrote:

Dear Mister President,

We recently had a chat about the route of the ring road by the Bois de Boulogne, and you specifically brought to my attention the issue of the design for the section next to place de la Colombie.

I can confirm the details of the design, that the ring road at this exact location will go underground. ...

There will be no nuisance for the neighbours of avenue du Maréchal Manoury, in the section going from Rue Ernest Hébert to place de la Colombie.

I am sure this explanation will appease the anxiety you had shared with me

Following the usual salutation, Prefect Doublet added by hand

and my faithful and friendly sympathy (2276W 311, 56).^{xxxviii}

The letter, and especially the handwritten addition shows the mutual respect between prefect and CEO. The handwritten mention at the end is not necessarily about friendship per se, but a recognition that these two individuals are of a similar socio-professional status. They were two *patrons* (bosses) talking as peers. We also understand the issue had first been raised in a meeting, of which we do not know the context (private or formal? scheduled or chance?) nor the date. We also understand that Jean D***, or someone very close to him, lived or had vested interest in a building on Avenue du Maréchal Manoury in the affluent 16th arrondissement. We also understand D*** himself, or his acquaintances, were worried about the impact of the ring road that would soon be built there, on their quality of life or maybe the value of their property.

In Cécile Desprairies's book on Paris during the German Occupation, we learn that the 'block' Suchet-Manoury designed by architect Jean Walter, achieved in 1931 and made of luxury flats, was requisitioned in 1941–1942 by the German Army to host the Navy headquarters in Paris (*Kriegsmarine*), and that the property management company that owned the whole building was represented by someone wearing the same surname as Jean D*** (Desprairies 2019). We can safely assume that Jean D***, or his wealthy family, owned the block. And in a letter I will analyse later, we have confirmation that Jean D*** lived on 1 Avenue du Maréchal Manoury (2276W 311, 14).

It seems the letter by Doublet did not 'appease' the concerns of Jean D*** who wrote another letter by way of one of his company's directors (and son-in-law) Edouard de R*** in February 1968. We learn from this letter that Jean D*** had met André Herzog personally to discuss this issue. Edouard de R*** wrote that

CEO Jean D*** is currently away from Paris and has asked me to let you know he was delighted to make your acquaintance and has asked me to forward you the design for the crossing of the ring road by place de la Colombie that you have reviewed in his company (2276W 311, 80).^{xxxix}

The drawing (2276W 311, 82) is a modification of the design of the ring road going through the Bois de Boulogne, where a 170-metre section, meant to be built in open trench, would now be covered (Figure 42). Either Prefect Doublet had misunderstood the question asked by Jean D*** when they met, or Jean D*** was not satisfied that a large enough section of the ring road would be covered. In any case, the covering of the interchange by Place de la Colombie was not enough for Jean D*** who had decided to try and obtain a more extensive cover of the ring road, as it was meant to pass about 100 metres from his property. There was no immediate response from Herzog or the prefect to the letter dated February 1968.

On 29 April 1968, Herzog received another letter from another of D***'s company's directors. This one was signed Jean P*** and started with 'My dear friend.' Once again, CEO D*** had asked one of his high-profile subordinates to reach out to the Department for roads, this time P*** seemed to also have an existing personal relationship with Herzog.

My dear friend,
I have just heard that you have received a major promotion and that you are now Director of the Technical Services department and I am sending you my heartfelt congratulations.

Also, I am sending you a little dossier, that my President, Mister Jean D***, has had put together by an Architect and that proposes a variant on the current design of the ring road.

I would be very grateful if you could let me know if it would be possible to implement the proposed solution.

I thank you in advance and send you, my dear friend, my best regards (2276W 311, 51—original letter case).^{xi}

Attached to the letter are two unsigned maps established to professional standards (Figure 43) that suggest covering a large share of the ring road as it goes not too far from the ‘block’ Suchet-Maunoury (2276W 311, 53–55).

The strategy by Jean D*** to obtain the covering of the ring road was therefore a mix of personal and professional networks. He also invested in additional studies by professionals to argue his case. We also observe an obvious level of entitlement. Jean D*** did not hesitate to simply send a modified design to the Department for roads, politely asking them to change their blueprints and use his. We also note that Jean D*** only wrote letters to the prefect, his peer, never to subalterns such as Herzog. He used some of his own subordinates to write to the prefect’s subordinates.

In a letter dated 9 July 1968, André Herzog offered a detailed, polite, but negative answer to the request by Jean D***. Herzog explained he had reviewed the proposal sent in February 1968 and moved on to explain the rationale behind the design choices.

The route voted by the Council of Paris is the result of careful studies that have been conducted after long discussions, with the Parisian councillors and with the representative of the Ministry for Cultural Affairs. On top of this, the Bois de Boulogne being a listed site, local and superior commissions have already reviewed the projects they had received. ...

The problems that the route of the Boulevard Périphérique by the Bois de Boulogne created were so important that the project has also been reviewed in an inter-ministries council. The design of it has been approved by this authority, and, for this reason, it cannot be amended in this area.

That being said, within the framework of the confirmed design, some light amendments are studied, and some local improvements are currently being reviewed, with the ambition of limiting the possible nuisance that could result from the presence of the ring road in this area (2276W 311, 74–75).^{xii}

Earlier in the letter, Herzog had also explained that the design of the ring road had been devised in such a way as to respect the landscape of the Bois de Boulogne, with covered and open trenches that would limit its impacts on the neighbours. In this letter, Herzog therefore explained that this section of the ring road had been so disputed, that only marginal modifications could be considered there. The validity of

the argument of the ‘sanctity’ of the Paris assembly’s vote can be questioned, as we have seen with the case study of Porte de Ménilmontant, the Department for roads did ignore it when it suited their endeavour. But the argument that this specific section of the ring road had been so disputed, and approved at the highest level of government, that any modification would be too difficult to get through, appears sensible.

The decision to send this reply was not taken lightly. We have on file a series of handwritten notes (2276W 311, 68–73) that warned the prefect’s staff *not* to send the letter until it had been checked by the prefect. The notes mention a similar case that needed to be dealt with simultaneously, but there is no trace of that other case in 2276W 311. The handwritten note, written by André Herzog, asking to wait for the prefect’s reaction, is dated 22 May 1968 (2276W 311, 70). One can imagine the prefect of Paris indeed had bigger fish to fry then, at the peak of the May 1968 students’ revolt in Paris.

This negative answer eventually sent by Herzog in July 1968 did not put a halt to Jean D***’s effort to have his request vindicated. In June 1969, one of Prefect Doublet’s members of staff wrote to director for roads Robert Dussart (who had replaced Herzog after his promotion) to ask him to come to the next high-level meeting chaired by the prefect on 16 June with the blueprint for the ring road’s construction by Porte de la Muette (i.e., Place de la Colombie). ‘This issue is not on the agenda, but Mr Prefect wishes to discuss this with Mr Dussart at the end of the meeting’ (2276W 311, 64).^{xliii} The specific issue to be discussed was not mentioned, but ten days later we find on files the following note written by Dussart.

At the end of the last meeting, on 16 June 1969, you have asked me about the matter of the technical design of the ring road by Porte de la Muette.

Please find attached a draft letter addressed to Mr D***, Chief executive officer of the company *** (2276W 311, 60).^{xliiii}

The letter (2276W 311, 65–67) drafted by Dussart’s team is similar to Herzog’s answer and developed the same arguments (i.e., the Council of Paris has already voted; the topic is touchy; the site is listed, it has been carefully designed; the impact on the buildings mentioned will be limited). An unsigned handwritten note dated 19 June 1969 probably written by director Dussart for his subordinate in charge of writing the letter on his behalf, asked them to make a synthesis of the letter by Herzog of

July 1968 and the letter by Doublet of January 1968 and specifically asked to mention that noise pollution will remain limited even though the ring road was not covered in that section (2276W 311, 46–47).

We have no records that Jean D*** or any of his ‘allies’ had written again in 1969 to justify the prefect’s intervention at the end of the high-level meeting of 16 June 1969 where that topic was not even on the agenda. This move by the prefect would tend to indicate that D*** had once again lobbied him on this matter, using, once again, the opportunity of a face-to-face meeting, off- or on-record. If a written request had been addressed to the prefect, a copy of it would have been passed on to the Department for roads and would have logically been kept in the archives, there is none.

The answer was therefore, once again, a negative one. It is not clear if that answer was ever used by the prefect’s staff and sent to Jean D***. Indeed, we find a handwritten, undated note (2276W 311, 41) signed with initials that I cannot identify that says, ‘*Cette lettre n’a pas du partir.*’ (‘This letter was probably never sent’). It looks like someone tried to establish the history of this case at a later date, to determine the chronology of events and what had already been shared with Jean D*** and his entourage.

On 15 July 1970, the director for technical services Mr Boissin wrote a short note to the sub-prefect:

As per our conversation, I attach a response regarding the route of the ring road between Passy and La Muette, in the shape of a draft letter to Mr D*** with a schematic map of the section referred to (2276W 311, 31).^{xliv}

We understand from this note that Jean D*** had again interceded with the prefect regarding the covering of the section by the block Suchet-Manoury. The draft letter goes:

Mr President,
You have once again kindly brought to my attention the issue of the route of the ring road at the right-hand side of the Porte de la Muette and the design of the section between Porte de Passy and Porte de la Muette.

The letter would then explain again the design of the section, insisting on all the safeguards set out to protect the landscape and the neighbours.

Since July 1968 [i.e., since Herzog's last letter, tending to confirm the one by Dussart from June 1969 was not dispatched, researcher's note], some details have been changed, that means the axis of the ring road has been shifted west so as to move away from the nearby buildings and to limit the number of trees impacted by the works.

South of Porte de la Muette ... a 65-metre-long cover has been designed to allow pedestrians to use the route des Pins and the allée des Dames (2276W 311, 32)^{xlv}

This element is important, the design had been amended to add a short covered section on the ring road that would ease pedestrians access to the Bois de Boulogne, and potentially limit—to a certain extent—the impact of noise from car traffic. In fact, these elements were already known to D*** in 1968, since they were featured on the map he sent then (2276W 311, 54). The letter went on explaining that to cover the whole section between the Porte de Passy and Porte de la Muette, would mean adding a slab 500-metre-long, 53-metre-wide and representing a surface area of 6,550 square metres. This would cost an extra 8 million francs, explained the letter, and an extra 2 million francs per year in exploitation cost.

Such financial constraints prevent me from giving a positive answer to your request but on the other hand the 100-metre distance planted with trees [between the ring road and] the buildings on avenue du Maréchal Manoury will limit sensibly the nuisance resulting from the traffic on the ring road. Also, the ring road will take over a large share of the automobiles currently using the boulevard Suchet as well as local roads and will certainly improve the situation of the neighbourhood's inhabitants when it comes to the environment (2776W 311, 33).^{xlvi}

The main reason provided by the Department for roads was therefore a financial one. And once again, as per all the previous responses sent since 1968, the engineers of the Department for roads tried to persuade their interlocutors that the ring road was too far from the buildings to have a significant impact.

Jean D*** replied almost immediately, with a letter to the prefect dated 30 July 1970. This time he replied using his personal stationery, that is how I have confirmation he lived on 1 Avenue du Maréchal Manoury (2276W 311, 14). The letter by D*** to the Prefect Diebolt (who had replaced Doublet in February 1969) comes out as both obsequious and conceited.

My dear Prefect,

I do not know how to thank you for the efforts you have put in writing me regarding the ring road and giving me all the details and all the reasons explaining why the solutions had been adopted.

I am embarrassed to come back to you with a little suggestion that, I think, could be considered. Of course, I understand completely that one cannot completely cover the ring road between Route de la Muette and Avenue de Saint-Cloud; but, would it not be possible to extend slightly the cover by Allée des Dames, but just a hundred or so metres, so that to reduce slightly the open-air section between Avenue de Saint-Cloud

and Allée des Dames? That was my point when I mentioned it to you. I believe that Mr Herzog ... is aware of this suggestion and did not seem hostile to it when I mentioned it to him.

I trust fully your benevolence to adopt such solution if it appears appropriate to you. I attach to this letter a map showing the section that I would find agreeable to have covered.

With my apologies for coming back to this issue, please accept, my dear Prefect, *my friendly memory*

PS: And thank you [unreadable] for all your trouble on this issue (2276W 311, 14—mention in italics are written by hand).^{xlvii}

The map attached to the letter (Figure 45) is a photocopy of the one produced by the Department for roads sent just a few days before (Figure 44). On it, a section of the ring road has been hastily delimited by hand with a red ball-pen. A manuscript mention points to that section and indicates ‘*À couvrir si possible*’ (‘To cover if possible’). The person who annotated that map has evidently misread it, for the section highlighted is *already* covered—the sections in dark are those in open air, the one left hollow with dashed strokes goes underground. But we understand from the text that Jean D*** asked for the part between the covered section of Allées des Dames and the covered section of Avenue de Saint-Cloud (i.e., the Place de la Colombie interchange) to be covered too.

The letter was forwarded on 17 August 1970 to the Department for roads and the journey I have described often in this thesis starts again: from the prefect, to the director for roads, to one of his subordinates, etc. A handwritten note written by a member of the prefect’s staff instructed the director for roads to do the following.

It is necessary to establish the additional cost for

– the cover

– the lighting [unreadable]

+ annual expenses for lighting and ventilation

and you need to especially answer negatively explaining that the project has been approved by the Council and that the distance to the buildings and the longitudinal profile are designed in such a way that there will be no nuisance (2276W 311, 20).^{xlviii}

The instructions were clear. Even though the engineer would indeed take the time to provide some calculations, that we even have on file, we already know that, as per the instruction given by the prefect’s cabinet, the answer was going to be negative.

On 13 October 1970, the answer was sent to the prefect who would have then passed it on to D***. It was a negative one, where the extension of the cover was valued at 6.5 million francs and the additional cost of maintenance was estimated at 1.5 million francs. The letter also explained that this

would change the design significantly, by preventing them to build the access roads to the Porte de la Muette interchange. This negative response is the last document of the Jean D*** dossier.

This case study is interesting for different aspects. First, it further illustrates the strategies deployed by Paris's elite to influence the design of the ring road to protect their quality of life (and the value of their properties). Jean D*** activated a mix of personal and professional relationships, asking his high-profile subordinates to reach out to the Department for roads using company stationery, i.e., using the full weight of his influence as a major economic figure. Jean D*** was referred to as 'CEO of ***' in all correspondence, including internal ones, not as 'resident of 1 Avenue du Maréchal Manoury.' Jean D*** himself never wrote to anyone but the prefect(s), calling them 'My dear prefect.' Such salutations were not necessarily a demonstration of *actual* friendship but the highlighting of their respective high social status. In the 1960s, the prefect of Paris and the CEO of a major international company could consider themselves to be part of a similar French elite—even though the former was a representative of a 'republican' elite, and the latter of a recent but classic industrial bourgeois elite who had inherited his wealth and status from his father. I have also noted the personal, face-to-face meetings between D*** and the prefects. We do not know the details and the contexts of such meetings, but D*** obviously had an easy access to the prefect of Paris (i.e., one of France's most senior and powerful civil servant at the time). Finally, we understand the confidence, even conceitedness, of Jean D***. It takes a true belief in one's own value to send a letter with a little drawing hastily put together and a written mention 'To cover if possible.' The carelessness of D***'s intervention, and here I refer to how he misread the map, probably did not play in his favour, as he tried to convince the Department for roads which, as I have shown in this thesis, was proud of the precision and great quality of their work.

All of D***'s attempts failed. The reasons provided by the Department for roads appear all valid: the Bois de Boulogne was a very touchy subject, the request by Jean D*** would be difficult to introduce, and it would lead to significant additional cost. Also, the buildings that Jean D*** owned were (and still are) indeed about 100 metres from the ring road and were indeed protected by trees. The situation was indeed much different from the Rue Léon Frapié where buildings were located about half a metre from the ring road, with no chance that the saplings would ever reach the height it would require

to protect the tall buildings. The results of this case study, in combination with the findings in Chapter 5, would reinforce our understanding of how affluent Parisians in the 16th arrondissement have repeatedly tried to influence the design of the ring road. But it also shows that they did not always succeed in achieving so.

7.3 *The case of Henri P*** (1967–1970)*

On 3 April 1967, Mr Henri P*** of 9 Rue Catulle Mendès in the 17th arrondissement of Paris addressed two letters regarding the design of the ring road by Porte de Champerret. One (2276W 305, 142) was sent to the director of the General department of technical services, another (2276W 305, 131) to the director of the Department for urbanism.

To the director for urbanism, he wrote.

Mr Director,

Like I explained during my visit, I am taking the liberty to suggest a solution to the route of the Boulevard Périphérique right of the sector 9, a solution that takes into account the comments by Mr Tollu on behalf of the 3rd Commission during his address [to the municipal council] last June 30th [during the debate on the route by the Bois de Boulogne, researcher's note] when he asked 'that the department for technical services review the specific issue of the sections close to housing, by Rue Catulle Mendès.'⁹

I think the route represented on the map I have attached would satisfy Mr Tollu (2276W 305, 131).^{xlix}

Henri P*** then described the route he suggested. It would be further out from the limits of Paris proper—and the building where he lived—with the access roads displaced, making way for a 120-metre cover of the ring road. He also added that

I want to point out that according to the departments of Quai de la Rapée with whom I have been in contact, to move the ring road further away could be envisioned, technically speaking (2276W 305, 131).¹

After the usual salutations, came an important post-scriptum.

Like you will see on the maps attached, I have modified the map I had given you when I visited to take into account your suggestion to cover the ring road north of the Rue du Caporal Peugeot (2276W 305, 132).^{li}

⁹ This is not exactly what Tollu said in his address. He specifically recommended that the technical services have another look at the section by Rue Catulle Mendès (see Conseil de Paris 1966b, 436).

To the letter are attached three maps (Figure 46). One is described as the ‘*tracé de l’Administration*’ (‘the route of the Administration’) dated February 1965, and then two suggested routes. One where the ring road is moved further west, and leaves—according to the subtitles— ‘an 80-metre area of green spaces’.^{lii} This one is dated 16 February 1967. A third map titled ‘proposed route creating a 100-metre area of green spaces’ is dated 3 April 1967. The third map also features a cover between Rue du Caporal Peugeot and Rue Jean Moréas, whilst the cover further north by Porte de Courcelles has been shortened.

The letter is interesting for several aspects. First, it offers evidence that Mr P*** had met (and therefore, had access to) the director for urbanism. The connection Henri P*** made to Mr Tollu’s intervention means he was aware of the debates that took place there—as published in the *Bulletin Municipal Officiel*. He has attached three maps established to the highest professional standards, demonstrating his own professional skills or the means he had to hire someone to design the project and represent it on maps. He also referred to the Department for roads as the ‘departments of Quai de la Rapée’—the location of the Department for roads, while the Department for urbanism was Boulevard Morland. In using this paraphrase, he demonstrated his knowledge of the technical services at the City of Paris. And he had also well prepared his move, having met with the relevant departments *ahead* of sending his project.

A last element is striking, we understand from the post-scriptum that the cover by Porte de Champerret was a suggestion from the director for urbanism, which resulted in the third map attached. Not P***’s. This is confirmed in the letter he sent the same day to the director of the General department of technical services.

Mr Director,

Following the meeting I had with Mr Mordillat [engineer, Department for roads, researcher’s note], he told me that in answer to a parliamentary intervention, Mr Herzog had replied that to move further out the ring road west of Paris by the Rue Catulle Mendès could be envisioned technically if the Department for urbanism did not object.

Since then, I have had a meeting with Mr Roussilhe, director for urbanism. He would agree in principle with my proposal, but has since suggested he would prefer that the ring road would be covered from the Rue du Caporal Peugeot until the alignment of Rue Jean Moréas, which would increase the available surface area for sector 9, and would be satisfactory for Mr Tollu—rapporteur of the 3rd Commission—as per his address during the session of the municipal council of June 30th. I have established a map that I take the liberty of submitting you (2276W 305, 142).^{liii}

To this letter he has attached one map, dated 3 April 1967, the one with a cover from Rue du Caporal Peugeot to Rue Jean Moréas.¹⁰

Henri P*** signed his letters *Ingénieur A&M et E.C.P.* which meant he was a graduate of the Arts et Métiers¹¹ and the École centrale de Paris¹²—two prestigious engineering schools. He was also the son of a famous French engineer who created an eponymous company specialised in metal constructions that Henri P*** headed from the 1930s. Henri P***’s sons were also engineers specialised in construction, and specifically metallic structures. In her doctoral thesis on consulting engineers in post-war France, Christel Frapier notes Henri P*** was already a famous well-connected engineer in the 1950s that had the trust of the Ministry for Construction (Frapier 2009, 157). In the archives of newspaper *Le Monde*, we find reference to Henri P*** appointed as an expert on the accident of Boulevard Lefebvre, an HLM of the City of Paris that collapsed on 15 January 1964 during construction, killing 20 workers (*Le Monde* 1964; on this accident see Paskins 2016, 171). When he wrote this letter in 1967, Henri P*** was therefore a well-known, respected engineer who was not only an heir to his father, but also a trusted expert in his own right.

The letter to Mr Roussilhe, director for urbanism has been annotated by hand on 5 April 1967. The handwritten message was addressed to a name I do not recognise. It has probably been written by Roussilhe in his exchange with the prefect’s cabinet

I have received Mr P*** last February [unreadable] But there are two mistakes in his theory. The Department for technical services does not think the project can be amended to such an extent. The ring road cannot find itself at equal distance of the old and new housing, but to a distance that would be correlated to their heights because of the decibels. Hence the answer, to simply acknowledge letting him know his request is being considered and forward just in case to Mr Herzog (2276W 305, 131—original emphasis).^{liv}

According to this note, Mr P*** had exaggerated how open the Department for roads would be to move the ring road further west of Paris, away from the buildings on Paris’s side. It also shows the relative awareness of the issue of noise from the Department for urbanism and the understanding that the impact

¹⁰ The maps were not kept in the archives, but the attached documents are listed at the bottom of the copied letter.

¹¹ Formally known as École nationale supérieure d’arts et métiers.

¹² Formally known as École centrale des arts et manufactures, colloquially known as École Centrale, Centrale or Centrale Paris.

of sound was related to height. From the handwritten note, we also understand the relevant departments were asked to write a polite negative answer.

On 10 April 1967, councillor Tollu wrote to the overarching director for technical services, Mr Clairgeon (the department had had no time to reply yet, of course). This probably means that P*** had also written a letter to Tollu on the same day he wrote to the Department for roads and Department for urbanism. Tollu explained he had received some interesting projects from P*** and asked Clairgeon his opinion (2276W 305, 144). On 2 May 1967, Clairgeon asked Herzog (director for roads) to prepare a draft response.

I attach the letters [from Tollu and P***].

Please share with me your opinion in the form of a draft answer to Mr Tollu.

I bring your attention to the fact that what Mr P*** mentions in the 1st paragraph of his letter is inaccurate; he had been told that the route of the ring road in sector 9 was essentially linked to the masterplan of the sector established by the department for urbanism and that the route of the ring road could only change within a very narrow remit (2276W 305, 144).^{lv}

In parallel, on 16 May 1967, director for urbanism Roussilhe also wrote to Herzog asking him to share his opinion regarding P***'s suggestions (2276W 305, 137). On 19 June 1967, Herzog sent two letters. One was a reply to councillor Tollu's letter of 10 April 1967 (2276W 305, 127) and the other an answer to Roussilhe (2276W 305, 125). In the letter to Roussilhe, Herzog explained that

I am letting you know that, from a strict technical point of view, to move the ring road further west is possible at the conditions that it does not impact the technical aspects of the whole ring road. It is therefore up to you to judge how to follow up to this case, in relation to the impact on the sector 9 (2276W 305, 125).^{lvi}

The letter to Tollu is warmer, and more detailed. Herzog repeated that from a strict technical aspect, it would not be a major issue to push the ring road further west, but he noted it would extend the length of the road slightly. He also explained to Tollu that the major impact would be on the masterplan for the area, and that it was up to the Department for urbanism to address P***'s request. In a second paragraph, as per the director for technical services' request, Herzog also replied to the comments Tollu had expressed on June 30th, 1966, during the debate at the Council of Paris.

Regarding [your address] to the municipal council regarding the possibility to cover the ring road right of Rue Catulle Mendès, I am letting you know that considering this road connects to the boulevard de la Somme, right of future access roads from local roads to the ring road (avenue de la Porte de Champerret

and Rue du Caporal Peugeot), and considering these elements, the covering of this section of urban motorway cannot be considered (2276W 305, 127).^{lvii}

This is the last element we have in the dossier dedicated to Henri P****'s request. In a nutshell, Herzog on behalf of the Department for roads had accepted to consider the possibility of moving the ring road north-west, away from the buildings on Paris's side (and closer to those newly built on the banlieue's side) but did not acknowledge the cover as an option.

Just seven months later, Herzog addressed a note to the chief engineer for the north section. This note is kept in another folder, and we find no reference to Mr P**** anymore. Dated 23 January 1968, it denotes a complete change of position regarding the design of the ring road by Porte de Champerret.

It has been brought to my attention that the presence of the ring road might result in inconveniences for the inhabitants of the buildings of boulevard de la Somme, north of Rue du Caporal Peugeot.

Therefore, I am sharing with you a design that seems doable to me, and whose essential characteristics are the following.

1. The axis of the ring road does not change;
2. The exit coming from the north does not take place before Rue du Caporal Peugeot but only after Avenue de la Porte de Champerret;
3. entrance towards the north is moved and reported to the level of Rue Catulle Mendès;
4. motorways are covered up until Rue Jean Morias [sic];
5. the width of the decks supporting the Avenue de la Porte de Champerret and Rue du Caporal Peugeot is limited;
6. to compensate the extension of the cover by Porte de Champerret, the section in open trench by Rue Barrias is slightly extended.

Please review these options and get back to me with the relevant project (2276W 301, 122).^{lviii}

This constituted a radical change for the design of the ring road by Porte de Champerret. It would be very beneficial to anyone living on Boulevard de la Somme/Rue Catulle Mendès. A significant cover would be created, and it would go up to Rue Jean Moréas. In doing so, it would significantly limit noise nuisance from road traffic for inhabitants of Rue Catulle Mendès. Access roads to the north would be moved to the level of Rue Catulle Mendès. This would potentially increase the traffic by Rue Catulle Mendès, yet considering the access road would go downhill, it meant the sound from accelerating car engines would happen further away from the buildings on Rue Catulle Mendès, after Rue Jean Moréas

instead. In the opposite direction, the access roads from the north—uphill, i.e., requiring changing gears and potentially being very noisy, would now take place *after* the Rue du Caporal Peugeot, further away from Rue Catulle Mendès. Indeed, the route of the ring road itself would not be changed, but in all other aspects the benefits to inhabitants on Boulevard de la Somme/Rue Catulle Mendès would be significant.

The chief engineer for the north section replied on 2 April 1968 with a detailed project—the drawings are not kept on file (2276W 301, 73–74). In the written letter, he listed a series of technical issues that had impacted the design, but overall answered Herzog's—his boss—request. In his feedback sent on 10 April, Herzog asked to consider two possible solutions, a partial covering, or a full covering of the ring road north of Rue du Caporal Peugeot. He also added

3°) in the hypothesis of a partial covering, update the drawing BB by indicating the size of the nearby buildings on boulevard de la Somme, and check the vehicles circulating on the right-hand side lane on the banlieue side will not be visible by the inhabitants of the highest levels of the buildings. ...

It would be good to have the drawings ready (if possible), including my amendments, for the upcoming meeting with the Prefect (2276W 301, 81).^{lix}

The level of care put into this partial cover, the attention for the experience of the neighbours of the ring road is peculiar. I have found no similar case in my research. One must bear in mind the ordeal that inhabitants of social housing at Porte Pouchet, or Porte de Vanves had already started to experience by that time, and the struggle of inhabitants by Porte de Ménilmontant to have a portion of their road covered. And here, on top of building a cover to protect residents from the noise, Herzog asked his engineer to make sure inhabitants of Rue Catulle Mendès and Boulevard de la Somme would not *see* the cars from their homes.

The updated drawings were returned on 24 April 1968 (2276W 301, 84), and Herzog gave his final approval on 3 May 1968 (2276W 301, 85). On the technical drawings (2276W 301, 86), a loose piece of paper with a handwritten note that says '*Solution retenue après mise au point*' ('Selected solution after clarification') has been stapled. In French, a *mise au point*, is a *light* update. This mention is an understatement. The original map date is 25 August 1966. The formal list of modifications in a table on the left-hand bottom corner indicates for the date 16 April 1968: '*Ajouté semi-couverture B.P. à droite rue Cap^{al} Peugeot. Modifié rue Barréas déviée.*' ('Added partial cover ring road right of Rue du Caporal Peugeot. Modified Rue Barréas.'). The cross sections have indeed integrated the height of

the building. And a line to represent the viewpoint from the top of the building has been added. This drawing demonstrates that the cars will be invisible from the top of the buildings (Figures 47–49).

While the folder stored in 2276W 305 was referred to as the Dossier P***, this one from 1968 that contains the final design for the Porte de Champerret does not mention the name of the engineer, resident of Rue Catulle Mendès. Except for one telling detail: in-between documents, we find Henri P***'s calling card. The *Oxford dictionary* reminds us of this old-fashion habit: a calling card was 'sent or left in lieu of a formal social or business visit,' in French a *carte de visite*. On P***'s calling card, '16.7.68' has been written. It could be that a meeting took place on the July 16th, for an update. Or that P*** came by or sent a letter to enquire of the progress on this case. Or that he reached out in person or remotely to thank the Department for roads. In any case, this calling card shows that Henri P*** was still involved in updating the design of the ring road in front of his flat. And the various elements I have mentioned confirm that all this was done to specifically limit the impact of the ring road on those living on Boulevard de la Somme /Rue Catulle Mendès.

In the following years, there were several interventions by councillors that were inquiries regarding the design of the ring road by Porte de Champerret or attempts to influence on its design. I will not comment on all of them but have selected a few of these interventions for what they reveal of the way the ring road has been designed.

On 12 June 1969, councillor Tollu wrote to Robert Dussart, director for roads (2276W 301, 18). He asked specifically that the section north of Rue du Caporal Peugeot would be fully covered and attached a technical drawing to illustrate this suggestion (2276W 301, 20–22). It is unclear where Tollu had obtained this technical drawing drawn to professional standards. Dussart sent his reply on 27 June 1969 (2276W 301, 14):

I am letting you know that as early as the beginning of the year 1968, the department for roads has carried out a clarification [*mise au point*] of the project in this area, which led to the implementation of a partial covering of the ring road north of Rue du Caporal Peugeot, as per the indications on the map attached.

The elements envisioned are the following:

— complete covering of the ring road in both directions north of Rue du Caporal Peugeot on a length of about 60 metres.

- immediately after that, and over a length of about 100 metres, complete covering of the ring road on the east side and partial covering on the west side
- implementation of an embankment with trees between the covered ring road and the boulevard de la Somme
- shifting of the access road beyond the Rue Catulle Mendès.

To adopt such a solution would mean, for the inhabitants of the nearby buildings ... the same advantage than a full covering would offer, that is to say a sensible decrease of the sound impact of the traffic and no direct view of the vehicles circulating on the ring road.

The cost of operating the infrastructure would not require any supplementary lighting and therefore would be cheaper than an underground road.

My department is currently preparing the calls for tender as per the characteristics mentioned above, that are in fact a clarification of the general route as adopted by the Conseil Municipal of Paris on 30 June 1966, and that does not seem to need to be examined again by the municipal assembly (2276W 301, 14–15).^{lx}

The content of this letter is critical in our understanding of the design of ring road. First of all, it shows that Tollu—who had been the rapporteur of the 3rd Commission, i.e., an important councillor actively involved in the urban planning of Paris—was not aware of the design change. If he had not reached out, would the Department for roads had given the assembly and the councillors a formal update? As Dussart wrote, in June 1969 they were in the process of writing the calls for tender.

Second, the Department for roads—probably with the approval of the hierarchy and the prefect—had decided that this *mise au point*, this ‘clarification’ to the original design voted in 1966 did not require to be reviewed and voted by the Council of Paris. As pointed out, the vocabulary of *mise au point* seems to limit the impact of this update. And yet, we do speak of a relatively important change. It is important to remind the reader that it invalidates the usual argument presented to other requests, such as D***’s, that once it had been voted it was not possible to ‘update’ the design.

Another argument to lessen the importance of this update could be the cost. The issue of finance and the availability of funds was a fundamental issue in the construction of the ring road. We could therefore assume that this new design did not lead to an increased cost. But we learn from a correspondence taking place just a few weeks later that this was indeed a major operation from a financial point of view, too. On 17 July 1969, Bernard Lafay wrote to Robert Dussard. He conveyed the anxiety of residents of the area around Porte de Champerret regarding the impact of the ring road on their environment (2276W 305, 99–100). Lafay was aware that the project had been amended to

introduce a partial covering. Considering that Dussart's first reply to Tollu was dated 27 June 1969, it might be that Lafay and Tollu had discussed this issue. Like Tollu a few weeks before, Lafay asked for a full covering of the ring road there. The reply dated 5 September 1969 (2276W 305, 91) was similar to the one offered to Tollu's letter, it detailed the technical details of the added cover and aimed at persuading the councillor of its efficiency. But what is notable here are the elements present in the draft response that were eventually left out. For instance, an early draft of the reply to Lafay explained that

Thus, by increasing the construction cost of the ring road in this section, the selected solution will lead to a notable improvement of living conditions for the inhabitants of this neighbourhood (2276W 305, 94).^{lxi}

This typed paragraph has been crossed out with a pen (Figure 50). Below, a handwritten addition—that has also been crossed out—is even more telling.

Compared to the initial project the extra spending is more than 10 million francs. A full cover like you propose would require spending four million francs on top of this, including 2 million francs for the lighting (2276W 305, 94).^{lxii}

In a move to discourage Lafay to push this issue further, Dussart initially wanted to explain that the partial cover came at a cost of an extra 10 million francs, and that a full cover would reach 14 million francs.¹³ This did not make it to the final letter. It might be that Dussart did not want to attract the councillor's attention to a significant change in the costing of that specific section (let us bear in mind that Lafay was a powerful councillor who had actively opposed the route of the ring road by the Bois de Boulogne just two years before). This amount should be compared to the covering of Rue Léon Fropié that necessitated several votes by the municipal council over several years. Initially costed at 6 million francs, it ended up costing 10 million. And yet, it took years to secure the funds to deliver the works. In that specific section of the ring road by Porte de Champerret—and even though there is always a possibility that the Department for roads had saved money in another section of the ring road in order to balance the account—we understand the administration had indeed changed the design *by themselves* for an extra cost of 10 million francs.

¹³ €16.7 million, adjusted for inflation.

The ring road by Porte de Champerret would end up being partially covered (Figures 51–52). We have circumstantial evidence that the momentum for this change was initiated by Henri P***, a resident of Rue Catulle Mendès, an influential well-connected engineer. The Department for roads modified its design even though it had already been approved by the Council of Paris (but also by President de Gaulle and the Government), without going back in front of the municipal assembly. It is not clear if they had any intention to even give an update to councillors about this change. This *mise au point* costed a significant amount of money, about 10 million francs according to Dussart. All clues lead to the conclusion that this update was done solely to limit the impact—visual and sonic—of the ring road on the inhabitants of Rue Catulle Mendès/Boulevard de la Somme, in the affluent southern part of the 17th arrondissement of Paris.

7.4 Conclusion: technocrats as arbitrators of interests

In July 1973, *Le Monde* interviewed socialist councillor Michel Salles, whose name I have already mentioned in this chapter, regarding the Council of Paris’s role in the governing of the city. The bitterness of the 66-year-old councillor elected twenty years before was underlined by the journalist.

‘What is the point of voting, what is the point of debating in the assembly’ since ‘we have no means ... to influence the administration? We receive the dossiers after [the administration], and [the administration] alone has studied them. From that, our role is limited, no matter if you are part of the majority or the opposition, to say yes or no, that’s all.’ ...

The list of grievances is long: ‘It is disheartening to work in this way, to operate with statutes that are more than one-hundred years old, and to be conscious of our powerlessness, since we are only consulted for our opinion, for the decorum! ... In fact it’s the prefect, and him alone, the “real” mayor of the city and the unique chief of the administration.’ (Durand-Souffland 1973).^{lxiii}

The first finding of this chapter is a confirmation of the powerlessness of the Council of Paris as described by Salles to *Le Monde*. The case study of the HLM by Porte de Ménilmontant is, in that respect, telling. The 600+ working-class households reached out to their councillors for help, and in turn their councillors used the tools they had: their (tokenistic) legislative powers. On file, except the two petitions, we have no direct correspondence between inhabitants of the social housing and the administration. We also have no letters from communist or socialist councillors reaching out directly to

the engineers of the Department for roads. From the analysis of the archives I have provided, it seems all action took place through the most formal channels, at the Council of Paris. It took eight years for the demands of the residents supported by their councillors to be fully heard and implemented. This can be compared to the two years or so it took Henri P*** to have the design of the ring road by Porte de Champerret modified, for works of comparable importance and cost. The three decisions voted by the Council of Paris in favour of covering the space between Rue Léon Frapié and Rue de Noisy-le-Sec were ignored by the prefecture, until civil servants changed their minds, following new policy set at the national level. Since the 1970s, the cover in that specific area of the ring road has been increased further, with a cover south of Rue de Noisy-le-Sec and north of Rue Léon Frapié (Figure 41). The social housing buildings have been destroyed and replaced by lower ones in the 1990s. Further north, the Porte des Lilas has been entirely covered in the 2000s. The evolutions would tend to confirm the major design flaws in the ring road there, since the Department for roads and the City of Paris have spent about three years building this section of the Boulevard Périphérique, then five decades—and counting—dealing with its negative impact. In this chapter, I have also shown how the ‘sanctity’ of the Council of Paris’s decision was used as a trump card when convenient (e.g., the argument that said we cannot modify the design since it has already been voted).

The second takeaway from this chapter is the partial vindication of a commonplace hypothesis about the Boulevard Périphérique, that Paris’s most affluent population did indeed fight hard to ‘defend their space,’ to quote the subtitle of sociologists Monique Pinçon-Charlot and Michel Pinçon’s book *Les Ghettos du Gotha* (2007). We have a wealth of correspondence that has been kept in the archives, of individuals reaching out to the administration—people asking details of the ring road’s design, lawyers working on disputes between home buyers and sellers (the latter had not mentioned to the former that the ring road would be built nearby), and individuals asking for modification of the ring road’s design. Such modifications could range from simple ones, costing a few thousand francs, to more ambitious ones costing millions like the case studies I have selected for this chapter. I have not found similar engagement from the local population for any other sections of the ring road in my exploitation of the archives, and a comparable feeling of entitlement.

The findings contribute revisiting Hommels's concept of obduracy in relation to Picon's social imagination in a more political way. Indeed, we observe a fragmented understanding of the ring road of Paris, as threat and/or opportunity. As initial sections of the Boulevard Périphérique opened, and before the full completion of the ring road—i.e., before this infrastructure could truly fulfil its function as an uninterrupted loop—we observe a degradation in the ring road's perception. The representations attached to it declined quickly, from positive to negative, as Natalie Roseau (2022) noted. The conflictual views were not only a dissonance between the designers of this infrastructure and its users that I have analysed in the previous chapter. It was also a social stratification of space, with the most affluent Parisians anticipating on the impact of the ring road on their neighbourhoods. Their capacity to assess more clearly the negative impact of the ring road can be explained by their social backgrounds, professional networks and education—Henri P*** and Jean D*** were both engineers—but also because their neighbourhoods hosted the last sections to be built. The reason for this delay, as I have shown in Chapter 5, is because the administration had anticipated on the difficulties to make the most affluent Parisians accept the ring road in their neighbourhoods. This delay is also, therefore, political. It evidenced the negative externalities of the ring road, and equipped the most affluent neighbours of the ring road with arguments and motivation to limit disruptions to a minimum.

Yet, the main contribution of this chapter to our understanding of the ring road's construction and the making of major urban infrastructure in Paris at the time also resides in the analysis of the strategies deployed by different stakeholders and the handling of the administration. I have demonstrated the opportunistic hypocrisy of the engineers of the prefecture on specific 'technical' aspects, for instance the impact of soundproof screens made of trees for tall buildings. I have shown, for instance, how the engineers of the Department for roads could change their position quickly without new scientific evidence but to abide by the orders they received from their hierarchy. The 'fallacy' of technical rationality, as per Barry Allen's critique, is here obvious. In Chapter 5, I demonstrated how technical aspects such as engineering design and costing could be tainted with in order to push for a specific argument (e.g., the rerouting of the ring road through the Bois de Boulogne). In this chapter, I have shown how claimants like Henri P*** had managed to form alliances within the administration—bear in mind the interested support of the director for urbanism. More generally, I have also evidenced

a certain connivance based on social status. A CEO did not have the same weight than a group of working-class residents. This might seem evident for those used to the critical study of urban space, but it remains a fundamental critique of the undemocratic technocratic management of Paris up until the reform of 1975 and the election of a mayor in 1977.¹⁴ The comparison of Henri P*** and the HLM residents by Porte de Ménilmontant is striking. Henri P***, in possession of the socio-professional codes to discuss with the prefecture reached his goal in less than two years. It was close to a decade for the Rue Léon Frapié. Here, it is interesting to bring up Jean-Claude Thoenig's analysis of the *grands corps* elite as the 'keystone of [French society's] stratification' that

leads to a reciprocal trust and a shared language that is useful to speed up the way matters are worked out. ... Any society, no matter how changing and liberal, exudes circles of managers united in their relationship of cooperation and competition based on collusion and protections. ... Once the selection has been carried out, the individual is protected from all possible consequence that could result from their actions. (Thoenig 1973, 274)^{xiv}

It is also, of course, important to learn from the failed endeavour by Jean D***. This powerful man did not have the same understanding of *travaux publics*, public works, that Henri P*** had. They did not have the same professional networks to activate, and Jean D*** did not find allies within the administration to carry his case out. And of course, there were genuine technical and financial issues at stake—not all portions of the ring road could be covered, for instance, even west of Paris. It is interesting here to refer to Picon's analysis of French engineers' 'technocratic attitude,' especially when he refers to their capacity to 'see themselves as judges in charges of determining ... the most useful projects ... for the community' (Picon 2007, 200) and as they consider themselves as 'arbitrators of interest' (Picon 2007, 203). This technocratic attitude is perfectly illustrated with the case studies I have analysed: there is something profoundly undemocratic, opaque, in the way Paris technocracy took decisions regarding request they received. In her book *Fast cars, clean bodies*, comparative literature scholar Kirstin Ross studies post-war France through four mythical images. In her reading of Lefebvre's take on technocracy, as part of her chapter on new masculinities, she argues that 'the ideology of

¹⁴ To assess the possible improvements in terms of civic life, ethics and probity made possible by a switch from a prefect-headed to a mayorship would be a research project in its own right.

technocracy as mature rationality divides the world into two: those “in the know” are adults, and everyone else is a child. It thus defines all social opposition as “immature” [and with] time, it comes to define social opposition as a largely artificial phenomenon. Social contradiction becomes a thing of the past’ (Ross 1994, 178).

This chapter of analysis has demonstrated the positive correlation between the social status of the ring road’s neighbours and their success in getting their demands carefully examined by the Department for roads, and eventually heard. From the case studies presented in this chapter, we learn that a well-connected engineer had much more weight than thousands of working-class Parisians. We cannot ignore that genuine technical issues were also at stake, but the ease with which those most influential Parisians had access to the Department for roads is telling. Finally, the connivance I have mentioned was not one based on personal gain—it was not, strictly speaking, corruption. It was a connivance based on social status, on class. In this chapter, I have analysed how Parisian technocracy formed alliances with more established social elites (themselves sons of successful engineers-turned-businessmen) in order to produce the space of Paris. By the late 1960s, notions of visual and sonic aesthetics had already shifted and automobiles speeding on a gleaming new motorway was not a desirable landscape to see from one’s windows anymore—but had it ever been? The way the Department for roads acknowledged and acted upon this evolution, as studied in this chapter and throughout this thesis, demonstrate that the perceived pertinence of demands to amend the ring road’s depended on the social status of those that expressed them.

Chapter 8 Conclusion

Past 8 p.m. on the 25th of May, 2022: the Porte de Champerret is crowded and the Boulevard Périphérique clogged. The evening is quite heavy and humid, it will rain in a moment. I had to take a phone call that could not wait, I am listening and talking while walking around a three-by-six-meter street vent that service the covered section of the ring road beneath my feet. A young man arrives riding his kick scooter, with two weighty-looking plastic shopping bags dangling on his handlebars. He gets off his scooter and glances at me before jumping the fence that forbids pedestrians to get any closer to the Boulevard Périphérique. He is swallowed by the sad looking but dense vegetation that grows on the exterior embankments of the ring road. Where is he walking to, I wonder, a secret drinking spot? A tent where he lives? I hang up the phone, and gaze at this uncanny infrastructure-landscape.

What I am contemplating here is an obdurate infrastructure-landscape, made of building and unbuilding processes, successful or failed. The ring road is thrumming, with its four lanes going clockwise, and four lanes going counterclockwise. On my left stands the partial cover negotiated by Henri P*** to protect his home. I look at the windows of the top flat of 9 Rue Catulle Mendès, and I wonder if his descendants still live there, if the story of *grand-papa* Henri convincing the prefect to cover the ring road in front of the family apartment is one they proudly tell every Christmas at dinner. On my right is the entry gate to Promenade Bernard Lafay. The walk is a grim green space that snakes behind a *butte sonique* ('sonic hill') designed to protect from the noise of traffic the flaneurs, as well as the users of the nursery and professional school built here. On top of noise pollution, the children, residents, professionals living and working here daily are the recipients of increased amounts of harmful particulate matters (PM_{2.5}, PM₁₀), nitric oxides (NO) and nitrogen dioxides (NO₂) than the rest of Paris (Duguet, Delaville, and Courel 2019, 38–39). Indeed, the immediate proximity of the ring road has taken its toll on the elongated park and the buildings: the dirt, the yellowish sickly vegetation are the familiar signs of the Boulevard Périphérique's impact on its immediate surroundings. In his definition of 'artefacts,' Barry Allen challenges the idea that only the purposive results of artefacts should be considered artefactual: 'Smog, trash, and an ozone hole are nobody's purposes, yet they are artefacts

because they are the effects of artefacts, and anything that would not exist were it not for artefacts is an artefact. ... The purposive form is as “made,” as “artificial,” as the unintended, counterpurposive by-product’ (Allen 2008, 48). In the distance I see the entry for the Tunnel Courcelles, opened in 1993, when a 500-metre-long cover was implemented. It was a major improvement for the social housing complex built there in the 1960s on Levallois-Perret’s side—a former working-class stronghold—but within the boundaries of Paris. They are tall building blocks built a few metres from the ring road thanks to the Lafay law of 1953¹ that enabled construction on the green belt if the footprint area for the buildings was compensated with new green spaces in central Paris. From here, I also see the tip of Renzo Piano’s Court of Justice completed in 2018. The public space at Porte de Clichy in front of the tribunal was entirely redesigned to enable improved connections with the adjacent suburban town. But I cannot avoid noticing Piano’s elegant design is symbolically turning its back to Clichy. Its silhouette also brings up René Mestais’s 1943 medieval imaginary of a magnificent ring ‘bounded by high square towers, of symmetrical architecture [that] would mark the great exits of the Capital.’²

From my vantage point, I also ‘see’ the projects that never came to fruition, for instance the full cover at Porte de Champerret, voted in 2001 and eventually cancelled while comparable contemporary operations were carried out at Porte des Lilas and Porte de Vanves: the socialist-led majority headed by Mayor of Paris Bertrand Delanoë explained the city lacked funding while the conservative opposition denounced a political move meant to hurt their champion, Françoise de Panafieu, then mayor of the 17th arrondissement (Hasse 2006). We can also envision, in this space, the recent announcements by Mayor Anne Hidalgo and the APUR, to turn the ring road into a ‘new green belt:’ a ‘green’ ring road with dedicated bicycle lanes and lined up with trees (Anne Hidalgo [@Anne_Hidalgo] 2022; APUR 2022a; 2022b). Will this new vision for the ring road prevail or join the long list of botched projects?

This thesis started with one overarching research question: What role did political, social and aesthetic decisions, reframed as technical reason play in the construction of the Boulevard Périphérique

¹ See entry ‘7 February 1953’ in the timeline, Appendix 2.

² See ‘4.4 Early plans for the Boulevard Périphérique: ‘The Magistral orb of Paris’s crown’ (1943).’

of Paris? That question was subdivided into three sub-questions that I have addressed with as many chapters in this thesis.

(a) To what extent was the route of the Boulevard Périphérique the result of a political process, as opposed to an apolitical technocratic endeavour or a choice determined by historical precedent?

(b) How did the emergence of noise from road traffic as a nuisance, and its impact on the ring road design, reflect the evolution of Paris's governance more than that of a scientific controversy?

(c) To what extent did the social status of the Boulevard Périphérique's neighbours trying to obtain its concealment determined their actions' successes?

In this concluding chapter, I summarise the key findings of my research and set out this thesis's contributions to the history of urban planning and to theory. I also reflect on the limitations of the present research and propose future research avenues.

8.1 Contributions to the history of Paris urban planning

This thesis has offered an ensemble of historical contributions on the history of the Boulevard Périphérique and the history of Paris urban planning from the early 1940s until the early 1980s. First, it contributed to refining our understanding of the overall timeline of the ring road construction and revisited the report published by René Mestais in 1943. Based on the literature review on the relationship between landscape, road design and political commitments, I contextualised Mestais's discourse within the cultural, professional and political setting of its time. I also showed with the example of the initial sections of the ring road delivered by Porte d'Italie how the project of the ring road evolved from a parkway to an urban motorway. In doing so, I expanded on Lortie (1991) and Cohen and Lortie (1991)'s treatment of the project's evolution, by focusing specifically on the implementation of its early design, situating in time and space the redesign in relation to the opening of the interchange at Porte d'Italie in 1970. Based on secondary literature, I have connected the project of the Boulevard Périphérique to a wartime and post-war technocratic effort to rebuild and modernise French cities. In doing so, I demonstrated how the historical genesis of this project was profoundly connected to contemporary political issues, imagination and aesthetic perceptions.

In my first empirical chapter, I have principally addressed my first sub-question: To what extent was the route of the Boulevard Périphérique the result of a political process, as opposed to an apolitical technocratic endeavour or a choice determined by historical precedent? First, this thesis has significantly contributed to our understanding of the way the ring road was designed. It challenged the unrefined assumption that the Boulevard Périphérique was built on an ‘empty’ Zone. Indeed, the Zone was at the time a much less dense space than the rest of Paris proper, but I showed, without focusing specifically on this aspect, that evictions were made in order to make way for the ring road. I proposed a rough estimate of 1,000 to 2,000 households evicted, though specific historical research would need to be carried out on that issue.

Second, this thesis demonstrated that the Zone was not ‘empty’ from political, legal and administrative actors at the time of the ring road’s construction. Focusing on the sections by Porte d’Italie, I have proposed a hierarchy of stakeholders according to their capacity to influence the ring road’s blueprint. I have shown that suburban mayors and inhabitants of cities adjacent to Paris stood at the lower levels of such hierarchies. Yet, I have also shown that civil servants at the prefecture of the Seine did not lightly trample on suburban homes, toning down the figure of the ogreish Paris ‘colonising’ its neighbours.

Third, we can indeed understand administrative frameworks, such as contracts negotiated with the RATP, as quasi-technical constraints, on the same level as material resistance, rules of engineering, etc. Yet, I have also shown that a number of factors—including cultural-cum-religious beliefs on the value of destroying a church over houses, existing legal frameworks, technical disagreements—were progressively reframed as technical reason to progressively disappear in a process superficially understood as technical and therefore apolitical. This process was best exemplified by the case-study of the route of the ring road by the Bois de Boulogne. I have challenged the technical reason offered by the Department for roads and demonstrated the weakness of the various arguments civil servants proposed to justify their choices—number of trees uprooted, cost, technical imperatives in relation to underground water pipes—and showed how inhabitants of the 16th arrondissement and the Paris social elites weighted on the route of the ring road in that area.

Fourth, I contributed to an increased understanding of the role of President de Gaulle in the urban planning of Paris, by analysing minutes of Restricted councils and the presidential archives. The intervention of de Gaulle in regard to the urban planning of Paris has been mentioned by Bellanger (2010) and Nivet (1994), while Brisacier (1986) specifically focused on the case study of Les Halles central district redevelopment. This thesis offered an original focus on the ring road in relation to presidential actions by demonstrating how President de Gaulle kept the upper hand on any significant matter related to the urban planning of Paris, how he disliked the perceived venality of Paris's municipal assembly, and how he also eventually followed the decisions by the prefects of the Seine Haas-Picard and then Doublet, voted by the Council of Paris, and backed by Delouvrier. I have also pointed that there is no other section of the ring road where de Gaulle has been involved in such manner. 'We managed to do great projects because de Gaulle was there. Royal, he would say he embodied the greatness of France, proclaimed that we needed to do great things for this country. It was the spirit shared by a few great prefects, a few great ministers'¹ explained André Herzog to historian Michel Brisacier in 1975, illustrating the technocratic spirit tinted with monarchic imaginary that prevailed at the time (Brisacier 1986, 296).

In my second empirical chapter, I focused on the socio-political construction of noise from road traffic as a social issue with this research question: How did the emergence of noise from road traffic as a nuisance, and its impact on the ring road design, reflect the evolution of Paris's governance more than that of a scientific controversy? I offered a brief literature review on the issue of noise in urban settings, and specifically noise from road traffic where I showed that at the time of the ring road's construction, noise as a nuisance was not a brand-new technical element that engineers had to consider, and that it had been a well-identified social issue since the early 1950s in Europe. I reviewed complaints by inhabitants at Porte de Vanves that poured in as soon as the sections of the ring road by their homes were opened for traffic. I showed the systematic rebuff these citizens received and critiqued the validity of the technical justifications provided by the Department for roads (e.g., the condition of the road surface coating). I also explained how the Department for roads sabotaged trials that the SRE attempted to set up. Finally, I evidenced the ocularcentrism of engineers, how the issue of visual aesthetics

prevailed other aesthetic senses, especially hearing: e.g., how a ring road perceived as made ‘ugly’ by soundproof wall was deemed unacceptable. Most importantly, I demonstrated how the evolution of Paris government from a technocratic government under the State’s tutelage to a Mayor of Paris directly elected by their constituents completely changed what had been presented until then as a purely technical issue, without any noticeable evolution in the scientific understanding of noise from road traffic. In so doing, I demonstrated that the controversy surrounding the implementation of noiseproof walls along the ring road was a social, cultural and political matter, more than a technical one.

In my last chapter I focused specifically on the efforts to conceal the ring road, during, and after its construction. Specifically, I considered the question: To what extent did the social status of the Boulevard Périphérique’s neighbours trying to obtain its concealment determined their actions’ successes? I continued the reflection on the role of noise as a nuisance started in the previous chapter, by specifically focusing on the case study of Porte de Ménilmontant. I evidenced how the perceived unbearable nature of the sonic nuisance from road traffic led to covering the ring road at Porte de Ménilmontant in 1975. I also detailed the long democratic process that the 600 households in the social housing estate there undertook and compared it to two case studies in the 16th and 17th arrondissements. While Jean D*** failed to have the ring road covered near his home, Henri P*** was much more successful in convincing the Department for roads. I have shown that the financial cost of both the interventions at Porte de Ménilmontant and at Porte de Champerret were similar, but that the former was a long, much-debated operation discussed extensively at the Council of Paris, without much motivation by the Department for roads to carry the works out, while the latter was not even discussed in the assembly but agreed on within a few months. These findings contribute to a refined understanding of the way the space of Paris was *produced* in the 1960s-1970s. It demonstrates the prominence of social elites, of the establishment described by Thoenig (1973) but also Pinçon and Pinçon-Charlot (2014). It partly confirms the latter’s theory and common Parisian lore about the ring road of Paris, that the ring road’s ‘invisibility’ (i.e., when it is covered or goes underground) is partly linked to the social status of its neighbours. In essence, this focus on the concealment of the ring road in the 1960s-1970s has demonstrated that the wealthy Parisian establishment could get mobilised despite their

differences—aristocracy, ‘republican’ establishment, nouveaux riches, etc.—to collectively defend their neighbourhoods—the 16th and southern part of the 17th arrondissements.

8.2 *Theoretical and conceptual contributions*

At the outset of this thesis, I proposed an interdisciplinary critical design framework to study landscape-infrastructure and proposed to apprehend the ring road of Paris as a design entanglement. By design entanglement, I meant to describe the accumulation of elements (including but not limited to artefacts, technologies, practices, professional ethics, etc.) over time and space that together constitute the design processes of large-scale infrastructure. I argued that to understand such decisions in isolation, in silos, results in a partial and biased understanding of the socio-technical choices that governed the development of an infrastructure, such as the ring road, and its role in the urban landscape of Paris. This critical design framework is grounded in Henri Lefebvre’s ‘production of space,’ widely understood by scholars as a theory of global relevance, but that was devised within the historical and cultural context of French post-war urban planning, and specifically the *aménagement urbain* of Paris. Lefebvre’s production of space is that of the Boulevard Périphérique. Yet, I also argued that Lefebvrian thought, for instance the ‘spatial triad’ that I specifically focused on, stands on a macro level of theorisation that is not easily ‘actionable’ when it comes to analysing fieldwork data. I therefore proposed a meso-level of theorisation that relied on the research by three scholars—Anique Hommels, Barry Allen and Antoine Picon. While their respective approaches are anchored in different disciplines, they have in common a critical understanding of technology and infrastructure in relation to aesthetics, imagination and mental representations that, I argued, is especially relevant to analyse the landscape-infrastructure of Paris’s Boulevard Périphérique. Their three approaches combined, in dialogue with Lefebvre’s spatial triad, and in conjunction with the methodological approach offered by the socio-history of public action, offered a more practical meso-level of theorisation that enabled me to analyse maps, administrative correspondence, municipal debates, as well as newsreels and press clips.

I mobilised Allen’s critique of technical reason to challenge the path of the ring road. I first presented various iterations of the ring road to demonstrate that several paths had been envisioned,

relying mostly on planning documents, brochures and feature articles published in professional press. In doing so, I demonstrated that there was not one single *obvious* route. I then analysed more focused case studies at Porte d'Italie and by the Bois de Boulogne. In the case of Porte d'Italie, I took apart the way the Department for roads and a range of stakeholders *composed* their technical reason. I analysed the internal debates that took place within the department, and across different authorities—e.g., the Department for roads and the national Service des Ponts et Chaussées. I showed that they envisioned several options there, that ranged from a straight line to a curvy road. Arguably, this would be part of a normal design process among a variety of stakeholders, but I also showed that the engineers did not provide specific technical reasons to go one way or the other. Instead, I showed that legal and political considerations, e.g., getting into a conflict with the RATP or having to foreclose a marble supplier, eventually superseded what had been identified as the most appropriate technical and political decision. Moreover, I argued that the RATP, that itself justified their positions not to move their facilities with technical costing, was not sincere in their proposition. In the case of Porte d'Italie, I also showed that cultural biases, such as religious beliefs, and the perceived social cost of destroying homes, played a role in the final decision. I revealed these biases by analysing different drafts of administrative correspondence that revealed debates within and across departments. At no point the opportunity of destroying or protecting a religious building was acknowledged in the final decision to design the ring road at Porte d'Italie. Therefore, I relied on Barry Allen's concept to demonstrate that there was no 'one best way,' in Allen's words, to design the ring road of Paris. In doing so, I challenged the established simplistic narrative that the ring road has this shape, form and role because it was built on the Zone, in lieu of the Thiers wall. I also revealed some of the cultural biases that eventually merged to make up the technical reason of the ring road, indeed a complex entanglement of social, cultural, aesthetics, technical, administrative, political inputs. My findings support Allen's position that

There is ultimately no distinction between a technological solution and a social, political, even aesthetic solution, because what 'works' is conditioned as much by available or invented technology as by the political, economic, historical, and aesthetic contexts that ultimately define any 'technological' problem, as well as the scope of acceptable solutions (Allen 2008, 19).

I pursued this critique of technical reason, and Allen's 'fallacy of functionality,' i.e., the idea that forms follow function, with the case of the ring road's route in the Bois de Boulogne. I argued that the functionality of the ring road was not improved by the Bois de Boulogne detour, quite the opposite in fact, as it delayed the completion of the ring road by three years and permanently added extra mileage to drivers' journeys west of Paris.

I mostly mobilised Hommels's concept of obduracy in my second chapter of analysis, in relation to the emergence of noise as a social issue. Hommels devised the concept of obduracy in relation to urban redesign projects. I found it especially interesting to study the quasi-immediate redesign of the ring road in relation to sound pollution. I demonstrated that noise was initially disregarded by civil servants at the prefecture, even though it had already emerged as a recognised social issue, most especially in relation to automobile. For instance, I have mentioned the campaign *Contre le bruit* ('Against noise') organised by the Paris prefecture of Police in 1968. The Ponts et Chaussées engineers at the Department for roads contested these claims on scientific grounds: the design of the ring road was optimum, the surface coating was in good conditions, etc. I also demonstrated how sound walls trials were sabotaged by the Department for roads because their aesthetics were considered unacceptable. I have insisted on a phrase that described sound walls as 'unaesthetic and *therefore* unacceptable' (my emphasis), as it demonstrated the importance of the ring road's visual beauty in the eyes of its designers. From this denial, I learned several elements. First, it showed the dominance of *visual* aesthetics over other senses, what historian Martin Jay (1988) has referred to as ocularcentrism—for instance I showed the function of the ring road was also to display automobile traffic. Second, it revealed the closure of interpretative flexibility that had already taken place: for engineers of the Seine prefecture, roads should be beautiful, and were necessarily noisy. Once the ring road opened, the understanding of a new category of actors—residents living right by the ring road—was heavily modified by the experience of active automobile traffic. They then tried to challenge the existing design of the ring road, to *reopen* the infrastructure's interpretative flexibility. Third, it showed a lack of empathy for inhabitants' genuine pain and the prefecture's inability to accept

Parisians' feedback.³ The civil servants' dominant frame of analysis theorised by Hommels was closed off to any form of social *and* technical inputs. Indeed, I showed that the technical understanding of this issue was already well-advanced within and outside France, but had not been yet accepted by the corps as valuable, important, or mature enough. Acknowledging the limits of my analysis—the scope is limited to the Department for roads—I also mentioned that a specific historical study on the way the corps des Ponts et Chaussées understood noise as a nuisance in the 1950s-1980s would be immensely valuable.

Finally, at the beginning of this concluding chapter, I proposed to build on Hommels's concept of obduracy to describe the landscape of the ring road as obdurate landscape-infrastructure. With this phrase, I mean to describe both the visible and invisible aspects of the ring road pasts, presents and futures, i.e., the plurality of possible directions that were carried out or simply envisioned. Architectural historians Jean-Louis Cohen and André Lortie described the ring of Paris as a *cimetière de projets*, 'projects' cemetery,' referring to the many endeavours that never came to fruition over the centuries (Cohen and Lortie 1991, 13). With this phrase, Cohen and Lortie wanted to insist on the difficulty to deliver projects on this peculiar Parisian space, even though, arguably, all urban spaces are cemeteries of projects. The notion of obdurate landscape-infrastructure echoes this understanding, but focuses specifically on the way obduracy impacted the ring road: design carried out and immediately revised, projects cancelled, conflicting imaginaries, future visions for a green infrastructure, etc. It includes a range of intervention, from grand designs—Auguste Perret's Maison-Tours⁴ or René Sarger's Superpériphérique⁵—to everyday design interventions—sonic walls, lighting, maintenance protocols, planting of trees, etc.—implemented or not, visible or invisible.

³ Incidentally, 'feedback' is a word that comes from sound engineering and that gained traction to describe helpful criticism in the 1950s ('Get Looped In on "Feedback"' n.d.).

⁴ See '4.4 Early plans for the Boulevard Périphérique: 'The Magistral orb of Paris's crown' (1943).'

⁵ The Superpériphérique was a private-sector-led project imagined from 1967 to build a toll-funded cable-stayed bridge structure above the Boulevard Périphérique. Designed by engineer René Sarger, it was discussed by the Paris administration, and debated by the Council of Paris in April 1974, but never carried out.

In my third chapter of analysis, I relied on Picon's study of 'technocratic attitude,' to examine the collective strategies of civil servants as they dealt with demands to modify the design of the ring road, during the construction and right after its completion. In conjunction with Kirstin Ross's reading of technocratic mindset in post-war France that considered 'social contradiction a thing of the past' (Ross 1994, 178), and Thoenig's analysis of the *grands corps* as the 'keystone of [French society's] stratification' (Thoenig 1973, 274), I have grounded my analysis in Picon's understanding of technocrats self-perception as 'arbitrators of interests' (Picon 2007, 203). Until the reform of 1975 (implemented in 1977) that substituted as head of the Parisian executive a democratically elected mayor to an appointed prefect, Parisian technocrats had the upper hand on the mechanisms that governed all aspects of urban planning. This was especially the case for the most technically complex, such as the ring road of Paris. In their capacity to retain or share information with different stakeholders, in their monopoly of technical knowledge, in their identity as part of the French establishment, they indeed had an immense capacity to act as arbitrators of interests.

I have extensively relied on Picon's concept of 'social imagination' throughout this thesis. His tripartite understanding of infrastructure, and his conceptualisation of imagination as an 'image-based system of representation and values that are shared by various collective stakeholders concerned with infrastructure' (Picon 2018, 264) offer a generous theoretical ground that I mobilised in different chapters. The findings I presented in this thesis contribute to Picon's social imagination in regard to 'what is going on in these stakeholders' mind, beyond their immediate motivations ... The simplified rationality that is often attributed to them, whether it involved pursuing material gain or establishing power for themselves, is not enough to explain their behaviour' (Picon 2018, 264). I described complex entanglements of technical expertise, cultural biases, political pressure influencing the decisions made by the designers of infrastructure. I also relied on Picon's social imagination to challenge what I would call a superficial absence of rationality, or a concealed rationality. By superficial absence of rationality, I mean inputs that eventually make up technical reason, that we can identify but that do not appear as valid technical explanations on the surface (i.e., destroying a residential area instead of a marble supplier by Porte de Gentilly). By concealed rationality, I mean inputs that have been consciously or

unconsciously concealed (e.g., the reluctance to destroy a religious building that is not grounded in any consideration for architectural heritage).

I have also deployed Picon's tripartite analysis of infrastructure in relation to imagination. I specifically relied on it to analyse situation of conflicts, or frictions. Picon describes three layers to apprehend infrastructure: the material basis constitutes a first layer; socio-technical practices a second one; and imagination a third one. Imagination is not above the other layers, explains Picon, but 'located at the point where they meet' (Picon 2018, 267). The findings of this thesis describe a social imagination attached to the Boulevard Périphérique that has been constantly in motion. I would argue that the ring road's third layer, the imaginary space of the Boulevard Périphérique, pre-existed the two other layers. By the time construction started, the ring road had already crystallised in people's imagination as a project, as a vision. Furthermore, the third layer of the ring road was as a space of political consensus: none of the active stakeholders (civil servants, local mayors, politicians at all levels, residents) had a priori rejected the ring road. No direct opposition clearly emerged at the outset of the ring road project. Stakeholders shared a common desire to see this infrastructure emerge, with no way to assess if their vision(s), once materialised, would have much in common. When the first layer, the material basis of the ring road, emerged in parallel to the second layer of socio-technical practices, the third layer of imagination did not remain an amicable meeting point but morphed to become a space of conflict and frictions.

To analyse the infrastructure of the ring road through the prism of traffic noise offers a good example of this constantly changing tripartite analysis. The issue of noise has itself three layers. The material basis of the ring road is the first—the surface coating of the road, the elevation (a road going up/downhill demands more engine power and leads to more/less noise)—influenced the production and the projection of noise. Other technical elements—the design of cars, their weight, the sound of their engines—belong to the level of stabilised socio-technical practices, the second layer: indeed, it is the carmakers' decisions to design the sound produced by a car, inside (for the driver, the passengers) and outside the compartment (for other car users, pedestrians, etc.) according to manufacturers' specific commercial strategies (Lemaitre and Susini 2019; Campbell 2022). Other elements belonging to the second layer include maintenance protocols for the ring road, retrofitting processes, but also the capacity

of civil servants at the Seine prefecture to accept feedback and their motivation to act upon it. The third layer, imagination, indeed acts as a point of intersection, even though this intersection is a conflictual one: for engineers of the ring road in the 1970s, noise was a necessary element of automobile traffic. For residents living in social housing by the ring road, noise from car traffic could be mitigated against, and was an unbearable threat to their lifestyles. And yet in collective imaginaries, the roaring of a car engine, the screeching of tires, doors slammed, arguably remain an attractive set of sounds—then and now. But the constant hubbub of traffic on urban motorways that continued day and night, weekdays and weekend, had become a permanent threat. Therefore, that third layer dramatically changed with the gradual opening of the ring road, when neighbours of the ring road started suffering from having to deal with the noise of permanent, harmful automobile traffic. Noise *pollution*, soon joined by the notion of air pollution in the 1970s, developed concomitantly and was linked to a rejection of motorway's aesthetics and sheer presence in the city (Centre national des ressources textuelles et lexicales 2012; Backouche 2018; Mercuriali 2019b; Picon-Lefebvre 2019; Roseau 2022).

Overall, I demonstrated the usefulness and reliability of the proposed critical design framework throughout this thesis, and specifically demonstrated the fruitful pairing that could be operated with the methodological approach drawn from the socio-history of public action. For instance, I showed that one cannot understand the internal debates regarding the performance of noiseproof walls that took place at the prefecture if one approaches them solely as a scientific controversy. I demonstrated that the reluctance to install noiseproof walls was not an issue of whether 'yes or no' they would be an effective protection for the inhabitants, but was rooted in the ocularcentrism of engineers at the Department for roads—for whom visual beauty prevailed over other sensory experiences. It was also grounded in the distrust they had for the non-specialist opinions of Parisians as the latter described their predicament, in their disregard of noise as a real nuisance, and in their reluctance to intervene in a domain where they did not already possess expert knowledge. The controversy that superficially revolved around technical expertise (i.e., the sonic protections will not stand, the noiseproof walls will not be efficient) can actually be understood as an entanglement pertaining to socio-political biases (e.g., the relevance of working-class Parisians' opinion), education (e.g., the ability to integrate feedback into one's technical approach

of an issue), professional expertise (e.g., an existing understanding of noise reverberations in relation to traffic), cultural biases (e.g., what is beautiful versus what is ugly). I have added another dimension to this issue by showing how the change of political regime, i.e., the introduction of a Mayor of Paris elected democratically, and the disappearance of the century-old tutelage, also impacted this design controversy. The new administration forced the Department for roads, now under the direct authority of a mayor, to change their position on noiseproof walls and to undertake, in coordination with newly minted regional powers, the retrofitting of large shares of urban motorways. This change of position was therefore not the evolution of a scientific controversy, and only marginally that of a social issue, but a political one where the authority in charge eventually overruled those understood as possessing technical expertise on issues widely considered as technical up until then.

8.3 *Limitations and future research avenues*

In my introductory chapter, I acknowledged several limitations to the research I carried out. This thesis relied exclusively on archives, as well as other historical source such as press clips, debates recorded in the *Bulletin Municipal Officiel*, reports and brochures. Correspondence and printed matter do not have the same quality as oral history: we are limited to the materiality of the document, and its printed, handwritten or drawn content. More than that, I relied almost exclusively on administrative correspondence, a highly controlled form of written expression. I could not question the authors of the correspondence I studied, ask them to clarify a specific aspect, I was not able to come back with follow-up questions, ask for biographical details, etc. I also mentioned in the introduction that archives are the result of a selection process. A variety of actors over time made decision on what to keep and what to exclude. Archives are a mediated source of information to which some form of filter has always been applied. I also mentioned that there is an undeniable oral dimension in the way the Department for roads operated at the time. In his research on the corps des Ponts et Chaussées, published the same year as the ring road's completion, Thoenig also noted that Ponts et Chaussées engineers were 'not inclined to bureaucracy' (Thoenig 1973, 21) with one of his interviewees explicitly mentioning that he preferred a phone conversation or face-to-face meeting to a written letter (Thoenig 1973, 48). The archival

landscape of the ring road is also dynamic and fluctuating: I mentioned that traces of the Boulevard Périphérique exist in a wide variety of places and institutions,⁶ and that many of these fonds have not been studied yet. Many histories of the ring road remain to be written.

The conclusion of a six-year research project could be an appropriate moment to mourn all the topics that I had initially aimed to cover, but that were left out for lack of time, lack of material, or lack of space in the present thesis. Yet, instead of considering them as shortcomings, or frustrations, I see them as avenues for future research, that may be explored by my peers or myself in the future. Among my initial ambitions, I had intended to engage more directly with the concept of landscape and the aesthetics of the ring road. While I did touch on these aspects throughout this thesis, I did not have space to resolutely engage with the aesthetics of traffic in the landscape of Paris: was the vision of urban motorways cutting through Paris a *beautiful view*—for the engineers of the prefecture, for the Parisians, for elected officials? What was the relationship they had to newly built roads in pristine conditions? How did they perceive them as their appearance deteriorated—marked by tyres, damaged by accidents, dirtied by exhaust fumes? For instance, it is interesting to bear in mind the ring road was built at a time when Paris was being cleaned: a major programme to clean Paris's facade was launched in 1963, a year after the 1962 law on architectural heritage. In his memoirs, Charles de Gaulle wrote

Our old cities and ancient villages are building sites about to be granted a new youth. For instance Paris whitens whilst keeping its silhouette, full to the brim with automobiles going round its renovated monuments, being penetrated by three motorways, being surrounded by a ring road, and erects countless new buildings within its walls and the surroundings (de Gaulle 1970, 164).ⁱⁱ

Meanwhile the commercial photographers that captured the ring road on behalf of the Department for roads accumulated elegant pictures that conveyed an architectural quality of the ring road arguably grounded in Modernism (Figures 54–55). How can we reposition the aesthetics of the ring road in its historical context? What was the symbolic value attached to viaducts, embankments, tunnels? What kind of vision of Paris did the ring road's designers imagine for drivers? For onlookers? I have touched on these issues in passing, for instance when I mentioned local mayors loathed the ring road built in

⁶ See '3.3.1 Locating relevant archival resources.'

embankments that they feared would remind locals of the former fortifications.⁷ To focus on these specific aspects of ring road aesthetics would be a fascinating research project.

I initially envisioned to study the Boulevard Périphérique as a ‘green’ infrastructure. I would argue there is an urgent need to critically revisit post-war urban planning in relation to flora and the role of flora in cities. We probably too superficially understand the architecture of the 1950s–1970s as a car-centric, all-concrete approach of space. But some the most ardent debates at the Council of Paris in relation to the ring road were about the number of trees that would be uprooted by its construction. Concerns for the lack of green spaces for Parisians were omnipresent. I have also shown how engineers at the Department for roads utilised trees as sound-screens. But the most surprising aspect for me is how ‘green’ the drawings of the ring road were, in comparison to what the situation is today. The 1964 rendering for the Bercy interchange for instance depicts an infrastructure populated with dense plants (Figure 56). Architectural drawings for the Boulevard Périphérique burst with trees and vegetation, and a critical consideration of this positioning would be very interesting to undertake: were these projections ‘sincere’? Was it a way for the prefecture to persuade their interlocutors of the ring road’s acceptability? Why did it not materialise? Did the trees die because the impact of pollution on vegetation was underestimated? Was there an issue in maintenance? Was the vegetation there even implemented? How to replace the renderings within the emergence of an ecological thought? There is a very interesting connection to be made with our current understanding of vegetation in relation to urban space, vegetation as infrastructure, and climate change (Hebbert 2008; 2014; Angelo 2021). Even more so since the Mayor of Paris announced in May 2022 the city’s ambition to reinvent the ring road as a ‘new green belt’ (Figure 57), with Anne Hidalgo announcing the Summer Olympics of 2024 will be an accelerating catalyst to change the ring road (Floc’h 2022). Vegetation and ‘green’ ambitions are omnipresent in architectural renderings, urban planning strategies and real estate developers’ brochures today. When I go through the archives of the Department of road, the similarity between then and now

⁷ See ‘5.5 Conclusion: a hierarchy of stakeholders influencing a disputed route.’

is striking. What can a historical approach to the vegetation of the ring road contribute to our contemporary approach to ‘greening’ and green infrastructure?

This doctoral thesis has not studied the ring road as a catalyst of the divide between Paris proper and the suburbs. I limited the scope of this research to the ring road itself, in relation to its immediate surroundings, but not as *the* infrastructure that would explain the perpetuation of a segregated space there. Such approach is a valuable research avenue, but I wanted to avoid being stuck in the traditional historically deterministic discourse that has presented the ring road as the latest infrastructure to reproduce the effect of the Thiers wall. As such, I did not engage with the space of the Paris region in relation to socio-spatial and ethno-racial segregation. I have briefly mentioned the Zone of Paris as an in-between space where working classes, immigrant populations, as well as Romani established their homes. I have not written about the *bidonvilles* that housed immigrant workers from North Africa together with their families in the second half of the twentieth century (Viollet 2019). As Paskins (2016) explains in regard to housing, North African immigrants were an essential workforce employed on the construction sites in post-war Paris, and as such they must have worked on the ring road—arguably the single-largest building site in 1960s Paris. This thesis is not a history of the ring road’s construction by way of its construction workers—French nationals and immigrants. This story remains to be written.

8.4 *The Boulevard Périphérique fading out*

The Boulevard Périphérique as a symbolic space embodying the edges of Paris has started to fade out together with the reality of a city proper. Urbanists have played their parts. Not by way of the grand royal gestures, such as the international competition for the Grand Paris (Enright 2016), but by implementing long-term visions to improve the public space connecting Paris and adjacent suburban towns. To redesign public space requires ambition and determination on the one hand, restraint and modesty on the other. The ambition to profoundly change a piece of city and to face the many stakeholders and hurdles that will necessarily get in the way. The determination to carry out a process that will unfold over many years if not several decades. The restraint to limit design intervention to what is needed, to understand the city not in terms of return on investment, but in terms of public space

designed for the many. Modesty because a good public space is one that is immediately adopted, to the extent that one forgets what existed before. The urban renewal schemes at Porte de Vanves, Porte des Lilas, Porte Pouchet, Porte Maillot, Porte de Pantin, Porte de Montreuil, Porte de Clichy, to name but a few, notwithstanding their intrinsic architectural quality, have slowly changed the experience of crossing the ring road between Paris and the adjacent cities in the suburbs. And yet we are far from a ‘stitched’ continuous urban space, for the layers of architecture and infrastructure that constitute the thresholds of Paris, of which the ring road is an obvious one, remain a thick and at times hostile environment.

The buffer of the green belt imagined in the 1910s to mark the distinction between the prime real estate of Paris and the lesser one of the banlieue has remained—in space, at least. In the imagination of Parisians, and in the way they practice this space daily, that distinction has significantly faded—by way of gentrification. The gap between the price of housing in Paris and in the *petite couronne*, the ‘little crown’ of municipalities adjacent to Paris, remains significant. Cross the ring road and the average price drops from €10,520 per square metres in Paris to €5,440 in the *petite couronne* (Les Notaires du Grand Paris 2022). In 2022, to buy a property of 80 square metres in Paris represented 48 years of a schoolteacher’s salary after tax at the beginning of their career, against 22 years in the immediate adjacent suburbs of Paris.⁸ But it is interesting to look at the increase of Paris’s real estate prices in comparison to adjacent suburban towns. Over the last five years, the price of a home increased by 27.2 per cent in Paris, but 29.3 per cent in Seine-Saint-Denis. For instance, the price per square metre increased by 44.2 per cent in Le Pré Saint-Gervais, 44.9 per cent in Montreuil, 53.2 in Saint-Ouen, 56.4 per cent in Pantin (Les Notaires du Grand Paris 2021). The price of real estate is one prosaic illustration of the accrued interest for adjacent suburban towns in comparison to Paris proper. Even the most privileged Parisians are getting used to seeing their children move to the suburbs to buy their first flat, or when they seek a bigger family home (Jabot et al. 2019; Bayardin, Biju-Duval, and Laurent 2021). The Grand Paris Express, the major extension to the region’s public transport system, has accelerated

⁸ Once tenured in the second year of their career, a schoolteacher earns €2,067 before tax and €1,640 after tax (Ministère de l’Education Nationale et de la Jeunesse 2022)Con

and increased this tendency (Rey-Lefebvre 2019). In this multifaceted gentrification process, culture has played a major role. The website *Enlarge your Paris* launched in 2013, for instance, reports on cultural life in the Greater Paris and has contributed to breaking a Paris-centric approach to culture that prevails at a regional and even national level; the hiking trails of the ‘Sentiers du Grand Paris’ created in 2017 lead curious ramblers away from the well-trodden paths of Paris proper, from Versailles to Sarcelles, Montrouge to Sucy-en-Brie (Tribillon 2018). Major events, like the Nuit Blanche 2019 where Paris City Hall closed the ring road to automobile traffic between Porte de la Villette and Porte de Bagnole, allowing pedestrians and cyclists to reclaim it, constitute punctual one-off happenings that carry a long-lasting symbolic and psychological impact. A number of art galleries and cultural spaces of national and international significance have also opened in the suburbs since the beginning of the 2000s (e.g., Thaddaeus Ropac gallery in Pantin, opened in 2012; Fondation Fiminco in Romainville, opened in 2019; the MAC/VAL museum in Vitry-sur-Seine, opened in 2005). They lure a demanding Parisian, regional, national and international audience away from the sleepy arty central districts of the Marais and Saint-Germain-des-Prés.

But the most fascinating expression of the ring road’s evolution over these past few years has been its transformation as a destination to party, to dance under. The ring road as an in-between, unloved, leftover space has always been a place where marginal populations have settled down, for one afternoon, one night, one year. I opened this thesis with the example of the drug users forcefully removed from Rue Riquet and relocated to the Square de la Porte de la Villette in September 2021. And indeed, most of the time, these marginal populations are harassed, pushed away, until they reach a place no-one has the desire or energy to claim for oneself: the interstitial space of the Boulevard Périphérique. Yet, less painful, more artistic forms of marginality have laid claims over the ring road ever since its inception. In 1974, l’École nationale de cirque (‘National school for circus’) created by Annie Fratellini and Pierre Etaix took over a space under the ring road between Porte de la Villette and the Canal de l’Ourcq, and erected a circus tent that remains in place today. The school itself moved to Saint-Denis, but was taken over by Le Périphérique, a residency space for circus artists and performers (Figure 58). In 1979, France’s first ‘roller disco’ opened in an underground space right by the ring road at Porte de Champerret. Boosted by the success of teenage movie *La Boum* (1980) shot there, La Main Jaune was

one of the most famous go-to nightclub of the 1980s, until a slow decline in the 1990s and its eventual permanent closure in 2003 (Cosnard 2022b). Musicians and ravers have found haven by the ring road. Spaces such as night club and arts centre La Station — Gare des Mines opened in 2016 at Porte d’Aubervilliers, with the automobiles on the ring road driving by a few metres from the main outdoor stage; Le PériPate is another example, a pirate night club nested in a pile of the ring road from 2015 and that disappeared in 2020; Kilomètre25, a summer-only 2,000-square-metre space with techno and house DJ sets under a viaduct of the ring road by Pantin created in 2021, presents itself as a *‘lieu de vie des cultures périphériques’* (‘venue for marginal cultures’); le Périph’ music festival had its first edition in July 2022; or le Virage (‘the Curve’), a night club under the ring road at Porte Pouchet. *‘Le périph’ n’aura jamais été aussi central pour les clubbers’* (‘The ring road has never been so central for clubbers.’) announced *Enlarge your Paris* at the beginning of summer 2022. To a certain extent, the ring road is becoming a mainstream desirable space by way of its perceived hostility and interstitial nature. As the urban life within Paris becomes more proper, bourgeois and controlled, its spatial margins are appropriated by loud and cheerful cultural endeavours that actively contribute ‘stitching’ the complex space made of Paris and the adjacent suburban cities.

When you walk under the ring road, when you put your hand on one of its piles, you can feel the arhythmical beat of the traffic above as cars hit with their tyres the expansion joints between the viaduct and its continuing structure. The irregular throbbing of the infrastructure is composed in situ by a mass orchestra of motorised vehicles: from the impatient double snapping of two-wheeled motorbikes; to the deep long-reverberating passage of lorries made of four, six, eight wheels; and then the omnipresent cars with their sets of two-times two synchronous semiquavers. The Boulevard Périphérique is thrumming, undisturbed. Our collective perception of the ring road is slowly changing, clubbers partying under its deck, mayors after mayors making plans to reduce the number of its lanes, to bury it, to fill the anfractuosités of its concrete with plants and trees. And obdurate to announced changes, the infinite loop of the Boulevard Périphérique flows on.

References

- Allen, Barry. 2008. *Artifice and Design: Art and Technology in Human Experience*. Ithaca: Cornell University Press.
- Alonzo, Éric. 2018. *L'Architecture de la voie*. Marseille & Champs-sur-Marne: Parenthèses Éditions & École de la ville et des territoires.
- Anand, Nikhil, Akhil Gupta, and Hannah Appel, eds. 2018. *The Promise of Infrastructure*. Durham: Duke University Press.
- Angelo, Hillary. 2021. *How Green Became Good: Urbanized Nature and the Making of Cities and Citizens. How Green Became Good*. University of Chicago Press. <https://doi.org/10.7208/9780226739182>.
- Anne Hidalgo [@Anne_Hidalgo]. 2022. 'Pour transformer la « ceinture grise » en « ceinture verte » nous avons largement associé les élus du Grand Paris. Tous ces échanges permettent aujourd'hui d'avoir une vision partagée pour l'avenir du périurbain. Nous poursuivons cette concertation. <https://t.co/gVXaW11M6b>'. Tweet. *Twitter*. https://twitter.com/Anne_Hidalgo/status/1526878320377401344.
- APUR. 2001a. 'Les seuils de la capitale: étude de l'interface Paris-Petite couronne'. Volume 1. Paris: Atelier parisien d'urbanisme.
- . 2001b. 'Les seuils de la capitale: étude de l'interface Paris-Petite couronne'. Volume 2. Paris: Atelier parisien d'urbanisme.
- . 2004a. 'Contribution à l'élaboration d'un Guide Méthodologique Pour Les Projets d'aménagement Sur Les Portes de Paris'. Paris: Atelier parisien d'urbanisme.
- . 2004b. 'Porte Des Lilas - Expertise Des Aménagements Bus et de l'intermodalité'. Paris: Atelier parisien d'urbanisme.
- . 2005. 'Les quartiers du boulevard périphérique'. Paris: Atelier parisien d'urbanisme.
- . 2014. *Les Métamorphoses de l'autoroute Urbaine*. <https://www.apur.org/fr/nos-travaux/metamorphoses-autoroute-urbaine>.
- . 2015. 'L'évolution Des Voies Rapides et Des Autoroutes Urbaines Du Grand Paris – Étude Sur La Trame Viaire Du Cœur d'agglomération'. Paris: Atelier parisien d'urbanisme.
- . 2017. 'Les Habitations à Bon Marché de La Ceinture de Paris : Étude Historique'. Paris: Atelier parisien d'urbanisme. https://www.apur.org/sites/default/files/documents/habitations_bon_marche_ceinture_paris_historique.pdf.
- . 2018. 'Note N°110 — Le Boulevard Périphérique Parisien Au Cœur de La Métropole', no. 110 (October).
- . 2019a. 'Atelier n°1 du Boulevard périphérique'. Paris: Atelier parisien d'urbanisme.
- . 2019b. 'Atelier n°2 du Boulevard Périphérique'. Paris: Atelier parisien d'urbanisme.
- . 2020a. 'Atelier n°3 du Boulevard périphérique - Restitution de l'Atelier du 23 novembre 2020', 56.
- . 2020b. 'Évolution Des Revenus Dans La Métropole Du Grand Paris'. Note n°183. Paris: Atelier parisien d'urbanisme.
- . 2021. 'Atelier n°4 du Boulevard périphérique'. Paris: Atelier parisien d'urbanisme.
- . 2022a. 'Livre Blanc : Nouvelle Ceinture Verte et Transformations Du Boulevard Périphérique'. Cahier 2 : Contributions. Paris: Atelier parisien d'urbanisme.
- . 2022b. 'Livre Blanc : Nouvelle Ceinture Verte et Transformations Du Boulevard Périphérique'. Cahier 1 : Corpus commun stratégique. Paris: Atelier parisien d'urbanisme.
- APUR, L'Institut Paris Région, and Forum Métropolitain du Grand Paris. 2019. 'Les Routes Du Futur Du Grand Paris - Synthèse Des Propositions Des 4 Équipes de La Consultation Internationale'. Paris.
- Arago, François. 1833. 'Lettre de M. Arago, Du 17 Juillet 1833, Sur l'embastillement de Paris'. *National*.
- Archives Nationales. 2017. 'Ducamin, Bernard (1928-2012)'. FranceArchives. 9 January 2017. https://francearchives.fr/fr/authorityrecord/Fran_NP_051409.
- Attali, Jacques. 1977. *Bruits: essai sur l'économie politique de la musique*. Paris: Presses Universitaires de France.
- Audin, Michèle. 2021. *La semaine sanglante — mai 1871, légendes et comptes*. Montreuil: Libertia.
- Azéma, Jean-Pierre, and Olivier Wieviorka. 2004. *Vichy 1940-1944*. Paris: Perrin.
- Backouche, Isabelle. 2012. 'Rénover Le Centre de Paris : Quel Impact Sur Les Marges ? 1940-1970'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon. Paris: Éditions de la Sorbonne.
- . 2018. 'Mobilisations urbaines et histoire des vainqueurs. Le cas de l'axe nord-sud à Paris (1959-1976)'. In *La ville est à nous!: aménagement urbain et mobilisations sociales depuis le Moyen Âge*, edited by Isabelle Backouche and Claire Billen. Paris: Éditions de la Sorbonne.
- Bacqué, Marie-Hélène, and Sylvie Fol. 1997. *Le devenir des banlieues rouges*. Paris: L'Harmattan.
- Bailey, Peter. 1996. 'Breaking the Sound Barrier: A Historian Listens to Noise'. *Body & Society* 2 (2): 49–66. <https://doi.org/10.1177/1357034X96002002003>.
- Barjot, Dominique. 2006. *La grande entreprise française de travaux publics, 1883-1974*. Paris: Economica.
- Barrell, John. 1980. *The Dark Side of the Landscape : The Rural Poor in English Paintings, 1730-1840*. Cambridge: Cambridge University Press.
- Barthes, Roland. 2002. 'Mythologie de l'automobile : La Voiture, Projection de l'égo'. In *Œuvres Complètes*, 2:234–42. Paris: Seuil.
- Baruch, Marc Olivier. 2014. *Servir l'Etat français: L'administration en France de 1940 à 1944*. Paris: Fayard.
- Baudouï, Rémi. 2020. 'Les Technocrates Sous Vichy : Modernisation Productive et Antimodernité Architecturale et Urbaine'. In *Architecture et Urbanisme Dans La France de Vichy*, edited by Jean-Louis Cohen, 27–41. Paris: Collège de France.
- Baudouï, Rémi, Jean-Louis Cohen, and André Lortie. 1988. 'Les Projets Urbains Parisiens à l'ère de La Métropole — Projet de Recherche Pluriannuel 1986-1989 — Rapport de La Tranche 1988'. Research Report 591/89. Ministère de l'équipement, du logement et des transports / Bureau de la recherche architecturale (BRA) ; Ministère de la recherche et de l'enseignement supérieur ; Ecole d'architecture de Paris-Villemin. <https://hal.archives-ouvertes.fr/hal-01906004>.

- Bayardin, Vinciane, Sébastien Biju-Duval, and Pierre Laurent. 2021. '90 % Des Parisiens Qui Quittent La Capitale s'installent Dans Une Commune Urbaine'. 143. Insee Analyses Ile-de-France. Paris: INSEE. <https://www.insee.fr/fr/statistiques/5871250>.
- Beauchez, Jérôme. 2022. *Les Sauvages de La Civilisation*. Paris: Éditions Amsterdam.
- Beauchez, Jérôme, and Djemila Zeneidi. 2019. 'Sur La Zone: A Critical Sociology of the Parisian Dangerous Classes (1871–1973)'. *Critical Sociology*, November, 0896920519880948. <https://doi.org/10.1177/0896920519880948>.
- Belhoste, Bruno, Amy Dahan-Dalmédico, and Antoine Picon. 1994. *La formation polytechnicienne: 1794-1994*. Paris: Dunod.
- Bellanger, Emmanuel. 2001. 'L'École nationale d'administration municipale. Des « sans-grade » devenus secrétaires généraux'. *Politix. Revue des sciences sociales du politique* 14 (53): 145–71. <https://doi.org/10.3406/polix.2001.1141>.
- . 2010. 'De de Gaulle à Pompidou, lorsque l'État s'opposait aux élus locaux: l'exemplarité du Grand Paris'. In *Le Grand dessein parisien de Georges Pompidou. L'aménagement de Paris et de la région capitale*, edited by Philippe Nivet, Mathieu Flonneau, Pascal Geneste, and Émilie Willaert, 43–53. Paris: Somogy.
- . 2012. 'Le Grand Paris bienfaiteur et les dynamiques de coopérations Paris-banlieues sous la Troisième République'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon, 289–308. Paris: Éditions de la Sorbonne. <https://doi.org/10.4000/books.pSORBONNE.2418>.
- . 2013. 'Du socialisme au Grand Paris solidaire'. *Histoire urbaine* n° 37 (2): 31–52.
- . 2017. *Ivry, banlieue rouge. Capitale du communisme français, XXème siècle*. Grâne: Créaphis.
- . 2020. 'Devenir Une « ville Rouge » En Banlieue Parisienne et Le Rester'. *Mouvement Social* 272 (1): 81–108.
- Bellanger, Emmanuel, Jacques Girault, and Association Histoire et mémoire ouvrière en Seine-Saint-Denis, eds. 2008. *Villes de banlieues: personnel communal, élus locaux et politiques urbaines en banlieue parisienne au XXe siècle*. Grâne: Créaphis.
- Belval, Nathan. 2020. 'Aménager l'environnement Sonore : Trois Compositeurs à l'épreuve de l'urbanisme'. PhD, Université Paris-Est. <http://www.theses.fr/s92509>.
- Benjamin, Walter. 2002. *The Arcades Project*. Cambridge ; London: Belknap Press.
- Berger, John. 1972. *Ways of Seeing*. London: BBC.
- Besson, Albert, Fernand Trémolières, and Spiro Geraffinos Mazarakis. 1955. *La lutte contre le bruit dans la cité et dans l'industrie*. Paris: Les Éditions de l'entreprise moderne.
- Bevort, Hugo, and Aurélien Rousseau. 2013. 'La Banlieue, Mythe Politique Français'. *Esprit*, 83.
- Bijker, Wiebe E. 1995. *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*. Inside Technology. Cambridge ; London: MIT Press.
- Bijker, Wiebe E., Thomas Parke Hughes, and T. J. Pinch, eds. 1987. *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge ; London: MIT Press.
- Bijsterveld, Karin. 2008. *Mechanical Sound: Technology, Culture, and Public Problems of Noise in the Twentieth Century*. Cambridge ; London: MIT Press.
- Bijsterveld, Karin, and Michael Bull. 2018. 'Sound Waves of Protest: Noise Abatement Movements'. In *The Routledge Companion to Sound Studies*. Abingdon: Routledge. <https://doi.org/10.4324/9781315722191-10>.
- Bijsterveld, Karin, and Stefan Krebs. 2013. 'Listening to the Sounding Objects of the Past: The Case of the Car'. In *Sonic Interaction Design*, edited by Karmen Franinović and Stefania Serafin, 3–38. Cambridge: MIT Press. <https://doi.org/10.7551/mitpress/8555.003.0003>.
- Birnbaum, Pierre. 1977. *Les sommets de l'État: essai sur l'élite du pouvoir en France*. Paris: Seuil.
- Bitoun, Pierre. 1988. *Les hommes d'Uriage*. Paris: La Découverte.
- Boeck, Filip De. 2011. 'Inhabiting Ocular Ground: Kinshasa's Future in the Light of Congo's Spectral Urban Politics'. *Cultural Anthropology* 26 (2): 263–86. <https://doi.org/10.1111/j.1548-1360.2011.01099.x>.
- Boucher, Frédérique Le, and Danièle Voldman. 1992. *Les architectes sous l'occupation: rapport de recherche*. Institut d'histoire du temps présent.
- Bourdieu, Pierre, and Jean-Claude Passeron. 1964. *Les Héritiers: les étudiants et la culture*. Paris: Éditions de Minuit.
- Bouvier, Louis, Charles Bornet, Pierre Loridon, Edmond-Pierre Luce, and Ligue Française contre le Bruit. 1968. *Manuel de lutte judiciaire contre le bruit*. Paris: Ligue Française contre le Bruit.
- Bowker, Geoffrey C., and Susan Leigh Star. 1999. *Sorting Things out: Classification and Its Consequences*. Inside Technology. Cambridge: MIT Press.
- Brisacier, Michel. 1986. 'Paris Dans La Pensée et l'action de Charles de Gaulle'. These de doctorat, Paris 1. <http://www.theses.fr/1986PA010279>.
- Bruitparif. 2019. 'Cartes Du Bruit Des Transports'. <https://carto.bruitparif.fr/>.
- Buton, François. 2009. In *Pratiques et méthodes de la socio-histoire*, edited by Nicolas Mariot and François Buton. CURAPP. Paris: Presses universitaires de France.
- Cadet-Taïrou, Agnès, Marie Jauffret-Roustide, Michel Gandilhon, Sayon Dambélé, and Candy Jangal. 2021. 'Synthèse des principaux résultats de l'étude Crack en Île-de-France'. Note de résultat d'enquête 2021–02. Paris: Observatoire français des drogues et des toxicomanies ; Institut national de la santé et de la recherche médicale.
- Calvet, Catherine. 2019. 'Périphérique Luc Gwiazdzinski : «C'est la portion routière la plus fréquentée d'Europe»'. *Libération*, 31 May 2019. https://www.liberation.fr/france/2019/05/31/peripherique-luc-gwiazdzinski-c-est-la-portion-routiere-la-plus-frequencee-d-europe_1730935.
- Campbell, Peter. 2022. 'Sounds of the Street: A Battery-Powered Symphony for Electric Cars'. *Financial Times*, 18 March 2022.
- Cannon, James. 2015. *The Paris Zone: A Cultural History, 1840-1944*. Aldershot: Ashgate.
- Capizzi, Virginie. 2012. 'Le Mur En Trop'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Centre national des ressources textuelles et lexicales. 2012. 'Pollution'. In *Ortolang*. <https://www.cnrtl.fr/definition/pollution>.

- Charvet, Marie. 2005. *Les Fortifications de Paris. De l'hygiénisme à l'urbanisme, 1880-1919*. Rennes: Presses Universitaire de Rennes.
- . 2012. 'La Suppression Des Fortifications Au Conseil Municipal de Paris à La Fin Du Xixe Siècle : Prendre Acte de La Croissance de La Ville'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Charvolin, Florian. 2003. *L'invention de l'environnement en France: chroniques anthropologiques d'une institutionnalisation*. Paris: La Découverte.
- Chattopadhyay, Swati. 2012. *Unlearning the City: Infrastructure in a New Optical Field*. University of Minnesota Press.
<https://www.jstor.org/stable/10.5749/j.ctt32bcvv>.
- Chiaradia, Éric. 2016. 'Les conseillers du général de Gaulle à l'Élysée (1959-1969)'. In *Charles de Gaulle : Archives et histoire*, edited by Nicole Even and Isabelle Chave. Pierrefitte-sur-Seine: Publications des Archives nationales.
<http://books.openedition.org/pan/383>.
- Chikh, Sabrina. 2013. 'Face patterns of CAC 40: the persistence of the French elite'. *Gestion* 2000 30 (2): 79–91.
- Chombart de Lauwe, Paul-Henry. 1952. *Paris et l'agglomération Parisienne*. Paris: Presses Universitaires de France.
- . 1956. *La Vie Quotidienne Des Familles Ouvrières: Recherches Sur Les Comportements Sociaux de Consommation*. Paris: Centre national de la recherche scientifique.
- Claude, Viviane. 2006. *Faire la ville : Les métiers de l'urbanisme au XXe siècle*. Marseille: Parenthèses Editions.
- Coates, Peter A. 2005. 'The Strange Stillness of the Past: Toward an Environmental History of Sound and Noise'. *Environmental History* 10 (4): 636–65.
- Cobianchi, Mattia, John L. Drever, and Lisa Lavia. 2021. 'Adaptive Soundscape Design for Liveable Urban Spaces: A Hybrid Methodology across Environmental Acoustics and Sonic Art'. *Cities & Health* 5 (1–2): 127–32.
- Cockayne, Emily. 2007. *Hubbub: Filth, Noise & Stench in England 1600-1770*. New Haven: Yale University Press.
- Cohen, Jean-Louis, ed. 2020. *Architecture et urbanisme dans la France de Vichy. Architecture et urbanisme dans la France de Vichy*. Conférences. Paris: Collège de France.
- Cohen, Jean-Louis, Laurent Hodebert, and André Lortie. 1996. *Le parkway, dispositif métropolitain*. Paris: Ecole d'Architecture Paris-Villemin.
- Cohen, Jean-Louis, and André Lortie. 1989. 'Un Système de Projets Parisiens à l'ère de La Métropole. La Ceinture, Des Fortifications Au Périphérique'. Research Report 661/90. Ministère de l'équipement, du logement, des transports et de la mer / Bureau de la recherche architecturale (BRA) ; Ministère de la recherche ; Ecole d'architecture de Paris-Villemin. <https://hal.archives-ouvertes.fr/hal-01908840>.
- . 1991. *Des fortifs au périf : Paris, les seuils de la ville*. Paris: Éditions du Pavillon de l'Arsenal.
- . 2020. *Des fortifs au périf : Paris, les seuils de la ville*. Paris: Éditions du Pavillon de l'Arsenal.
- Conseil de Paris. 1966a. 'Approbation Partielle Du Tracé Du Boulevard Périphérique à l'ouest de Paris'. *Bulletin Municipal Officiel de La Ville de Paris* 17 January 1966 (Séance du jeudi 23 et vendredi 24 décembre 1965): 906–13.
- . 1966b. 'Rapport de M. Tollu Relatif à La Fixation Du Tracé Du Boulevard Périphérique à l'ouest de Paris. — Rejet de La Question Préalable Sur Le Mémoire Préfectoral Faisant l'objet d'un Rapport.' *Bulletin Municipal Officiel de La Ville de Paris* 16 July 1966 (Séance du 30 Juin 1966): 431–43.
- . 1967. 'Question Orale sans Débat de M. Michel Férygnac, Mme Madeleine Marzin, MM. Henri Malberg, Jacques Risse et Mme Christiane Schwartzbard à M. Le Préfet de Paris Relative Aux Conditions de Repos et de Sécurité Des Habitants Concernés Par Les Travaux Du Boulevard Périphérique Entre La Porte de Bagnolet et La Porte Des Lilas'. *Bulletin Municipal Officiel de La Ville de Paris* 21 Novembre 1967 (Séance du 13 Novembre 1967): 536–37.
- . 1970. 'Question de MM. Michel Férygnac, Henri Malbert, Jacques Risses, Mmes Madeleine Marzin et Christiane Schwartzbard à M. Le Préfet de Paris Sur Les Conditions de Vie Des Locataires Des Groupes H.L.M. Sis à Proximité Du Boulevard Périphérique, Entre Les Rues de Noisy-Le-Sex et Léon-Frapié (20è), et La Nécessité de Couvrir Totalelement Cette Partie Du Périphérique.' *Bulletin Municipal Officiel de La Ville de Paris* 31 March 1970 (Séance du 13 Mars 1970): 166–69.
- . 1971. 'Question de MM. Jacques Risse, Jean Gajer, Henri Malberg, André Sibaud, André Voguet, Louis Régulier, Rolan Wlos et Henri Derrien à M. Le Préfet de Paris Sur Les Mesures Que Compte Prendre l'Administration Pour Remédier Au Bruit Provoqué Par l'intense Circulation Sur Le Boulevard Périphérique. — Acte Donné à M. Le Préfet de Paris d'une Communication Sur l'état d'avancement Des Travaux Du Boulevard Périphérique et Les Aménagement Prévus Au Titre de La Protection de l'environnement.' *Bulletin Municipal Officiel de La Ville de Paris* 19 July 1971 (Séance du 25 Juin 1971): 346–50.
- . 1972. 'Question Orale sans Débat de MM. Michel Férygnac, Jacques Risse, Mme Christiane Schwartzbard, MM. Henri Malberg et Henri Meillat à M. Le Préfet de Paris Sur Les Aménagements Projetés Entre Les Rues de Noisy-Le-Sex, Des Fougères, Léon-Frapié et Marie-Anne-Colombier.' *Bulletin Municipal Officiel de La Ville de Paris* 24 March 1972 (Séance du 6 Mars 1972): 30–31.
- . 1973. 'Renvoi à l'Administration, Avec Avis Favorable, de Deux Propositions Tendrant à Remédier Aux Nuisances Résultant de La Circulation Sur Le Boulevard Périphérique. — Résolution Tendrant Au Dégagement Des Crédits Nécessaires Pour La Couverture de Ce Boulevard à Proximité Du Groupe d'immeubles Fougères — Léon-Frapié—Noisy-Le-Sex—Porte de Ménilmontant (20e).' *Bulletin Municipal Officiel de La Ville de Paris* 11 December 1973 (Séance du 22 Novembre 1973): 907–9.
- . 1974. 'Renvoi à l'Administration d'une Proposition Relative à La Couverture Du Boulevard Périphérique Aux Abords de La Porte de Ménilmontant'. *Bulletin Municipal Officiel de La Ville de Paris* 19 July 1974 (Séance du 24 Juin 1974): 519–20.
- 'Conversation sur le périf'. 2021. <https://www.pavillon-arsenal.com/fr/conferences-debats/cycles-en-cours/hors-cycle/11985-conversation-sur-le-periph.html>.
- Corbin, Alain. 1994a. *Les cloches de la terre: paysage sonore et culture sensible dans les campagnes au XIXe siècle*. Paris: AMichel.
- . 1994b. *The Lure of the Sea : The Discovery of the Seaside in the Western World, 1750-1840*. Berkeley: University of California Press.
- . 2001. *The Life of an Unknown*. New York: Columbia University Press.
- Cosgrove, Denis E. 1984. *Social Formation and Symbolic Landscape*. London: Croom Helm.

- Cosnard, Denis. 2021a. '« Légende noire » contre « légende rouge » : la difficile commémoration des 150 ans de la Commune de Paris'. *Le Monde*, 19 February 2021. https://www.lemonde.fr/politique/article/2021/02/19/la-commune-de-1871-un-anniversaire-sous-haute-tension-a-la-mairie-de-paris_6070470_823448.html.
- . 2021b. 'Blocages en série pour les bâtiments censés enjamber le périphérique de Paris'. *Le Monde*, 26 March 2021. https://www.lemonde.fr/economie/article/2021/03/26/a-paris-blocages-en-serie-pour-les-immeubles-ponts-prevus-au-dessus-du-peripherique_6074493_3234.html.
- . 2021c. 'Crack à Paris : l'Etat bâtit un mur pour bloquer les consommateurs'. *Le Monde*, 26 September 2021. https://www.lemonde.fr/politique/article/2021/09/26/a-paris-la-police-batit-un-mur-pour-bloquer-les-consommateurs-de-crack_6096113_823448.html.
- . 2022a. 'A Paris, le préfet de police renonce à déplacer le « marché au crack » dans le 12e arrondissement'. *Le Monde*, 28 January 2022. https://www.lemonde.fr/societe/article/2022/01/28/a-paris-le-prefet-de-police-renonce-a-deplacer-le-marche-au-crack-dans-le-12e-arrondissement_6111382_3224.html.
- . 2022b. 'La nouvelle vie de La Main jaune, une des discothèques les plus mythiques de France'. *Le Monde*, 3 July 2022. https://www.lemonde.fr/m-le-mag/article/2022/07/03/la-nouvelle-vie-de-la-main-jaune-une-des-discotheques-les-plus-mythiques-de-france_6133121_4500055.html.
- Cuppers, Kenny. 2014. *The Social Project: Housing Postwar France*. Minneapolis ; London: University of Minnesota Press.
- Dard, Olivier. 1995. 'Voyage à l'intérieur d'X-crise'. *Vingtième Siècle. Revue d'histoire* 47 (1): 132–46. <https://doi.org/10.3406/xxs.1995.3184>.
- 'Décès de M. René Mestais, Inspecteur Général Honoraire Des Services Techniques de La Ville de Paris et Du Département de La Seine.' 1977. *Bulletin Municipal Officiel de La Ville de Paris* XCVI (133): 1045.
- Deleuze, Gilles, and Félix Guattari. 1980. *Mille plateaux*. Paris: Éditions de Minuit.
- Demeulenaere-Douyère, Christiane. 2012. 'L'« annexion » Vue de l'Est Parisien : Inquiétudes, Espérances et Insatisfactions...'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Denis, Jérôme. 2018. *Le Travail Invisible Des Données. Éléments Pour Une Sociologie Des Infrastructures Scripturales*. Paris: Presses des Mines.
- Désabres, Pascal. 2012. 'Prolonger le métro en banlieue : débats, enjeux politiques et réalisations, 1919-1946'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon, 259–74. Paris: Éditions de la Sorbonne. <https://doi.org/10.4000/books.porsbonne.2415>.
- Desportes, Marc. 2005. *Paysages En Mouvement*. Paris: Gallimard.
- Desprairies, Cecile. 2019. *Paris dans la Collaboration*. Paris: Seuil.
- Dobres, Marcia-Anne. 2000. *Technology and Social Agency: Outlining a Practice Framework for Archaeology*. Oxford: Blackwell Publishers.
- Dubois, Vincent, and Delphine Dulong, eds. 1999. *La Question Technocratique: De l'invention d'une Figure Aux Transformations de l'action Publique*. Strasbourg: Presses Universitaires de Strasbourg.
- Duguet, Anca, Damien Delaville, and Jérémy Courel. 2019. 'Focus Sur Le Boulevard Périphérique'. Paris: Institut d'Aménagement et d'Urbanisme d'Ile-de-France.
- Dulong, Delphine. 2019. 'Les poisons et délices de la Cinquième République. L'histoire politique de la coordination du travail gouvernemental'. *Revue française d'administration publique* 171 (3): 587–601.
- Durand-Souffland, Jean-Michel. 1973. 'Un conseiller de Paris Le beau métier si l'on était responsable...'. *Le Monde*, 11 July 1973. https://www.lemonde.fr/archives/article/1973/07/11/un-conseiller-de-paris-le-beau-metier-si-l-on-etait-responsable_3098291_1819218.html.
- Dyer, Sophie, and Eline Benjaminsen. 2017. 'Spectral Topographies'. In *Wired Capital*, edited by Justinien Tribillon and Catarina de Almeida Brito, 2:34–47. Migrant Journal. London: Migrant Journal Press.
- Easterling, Keller. 2014. *Extrastatecraft: The Power of Infrastructure Space*. London: Verso Books.
- El Hajj, Tracey. 2020. 'Tactical Network Sonification: A Listening Technique for Science and Technology Studies'. PhD, Victoria: Department of English, University of Victoria.
- Emery, Marion. 2019. 'La Contestation Des Projets d'autoroutes Urbaines - 1956-1973. Paris En Regard Des Grandes Villes Étasuniennes et Européennes, San Francisco et Londres.' These en préparation, Paris Est. <https://www.theses.fr/s304148>.
- Enright, Theresa. 2016. *The Making of Grand Paris: Metropolitan Urbanism in the Twenty-First Century*. Cambridge: MIT Press.
- . 2022. 'The Infrastructural Imagination'. *Journal of Urban Technology* 29 (1): 101–7. <https://doi.org/10.1080/10630732.2021.2001715>.
- Fernandez, Madeleine. 1983. 'La Zone Mythe et Réalité'. Paris: Ministère de la Culture, Direction du Patrimoine.
- Fischman, Marianne, and Emeric Lendjel. 2000. 'La contribution d'X-Crise à l'émergence de l'économétrie en France dans les années trente'. *Revue européenne des sciences sociales. European Journal of Social Sciences*, no. XXXVIII–118 (August): 115–34. <https://doi.org/10.4000/ress.696>.
- Fitter, Chris. 1995. *Poetry, Space, Landscape: Toward a New Theory*. Cambridge: Cambridge University Press.
- Floc'h, Benoît. 2022. 'Les Jeux Olympiques de Paris, Enjeux Politiques Pour Emmanuel Macron et Anne Hidalgo'. *Le Monde*, 21 July 2022.
- Flonneau, Mathieu. 2002. 'L'automobile à La Conquête de Paris, 1910-1977 : Formes Urbaines, Champs Politiques et Représentations'. These de doctorat, Paris 1. <http://theses.fr/2002PA010507>.
- . 2003. *L'automobile à la conquête de Paris: chroniques illustrées*. Paris: Presses de l'École nationale des ponts et chaussées.
- Folkerth, Wes. 2002. *The Sound of Shakespeare*. London ; New York: Routledge. <https://doi.org/10.4324/9781315811994>.
- Fourcaut, Annie. 1988. *Un siècle de banlieue parisienne 1859-1964 guide de recherche*. Paris: L'Harmattan. <https://catalogue.bnf.fr/ark:/12148/cb36634625t>.

- , ed. 1992. *Banlieue Rouge 1920-1960 : Années Thorez, Années Gabin : Archétype Du Populaire, Banc d'essai Des Modernités*. Paris: Autrement. <https://catalogue.bnf.fr/ark:/12148/cb376667062>.
- . 2012. 'La Construction Des Grands Ensembles : Reconquérir Paris et Régénérer La Banlieue'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Fourcaut, Annie, Emmanuel Bellanger, and Mathieu Flonneau. 2007. *Paris-Banlieues conflits et solidarités historiographie, anthologie, chronologie, 1788-2006*. Grâne: Créaphis.
- Fourcaut, Annie, and Florence Bourillon. 2012. *Agrandir Paris (1860-1970)*. Paris: Éditions de la Sorbonne.
- Fourquet, François. 1980. *Les Comptes de la puissance: histoire de la comptabilité nationale et du plan*. Paris: Éditions Recherches.
- Fowden, Elizabeth Key, Suna Çağaptay, Edward Zychowicz-Coghill, and Louise Blanke. 2021. 'Historical Distance, Physical Presence and the Living Past of Cities'. In *Cities as Palimpsests? : Responses to Antiquity in Eastern Mediterranean Urbanism*, edited by Elizabeth Key Fowden, Suna Çağaptay, Edward Zychowicz-Coghill, and Louise Blanke, 3–26. Oxbow Books. <https://directory.doabooks.org/handle/20.500.12854/78041>.
- Frapier, Christel. 2009. 'Les ingénieurs-conseils dans l'architecture en France, 1945-1975: réseaux et internationalisation du savoir technique'. Paris: Université Paris I - Panthéon-Sorbonne.
- Gagneux, Renaud, and Denis Prouvost. 2004. *Sur Les Traces Des Enceintes de Paris*. Paris: Parigramme.
- Gaïti, Brigitte. 1999. 'Décembre 1958 Ou Le Temps de La Révélation Technocratique'. In *La Question Technocratique: De l'invention d'une Figure Aux Transformations de l'action Publique*, edited by Vincent Dubois and Delphine Dulong, 137–54. Strasbourg: Presses Universitaires de Strasbourg.
- Gandy, Matthew. 2011. 'Landscape and Infrastructure in the Late-Modern Metropolis'. In *The New Blackwell Companion to the City*, edited by Gary Bridge and Sophie Watson, 57–65. Malden, MA: Wiley-Blackwell.
- . 2016. 'Unintentional Landscapes'. *Landscape Research* 41 (4): 433–40. <https://doi.org/10.1080/01426397.2016.1156069>.
- Gaudillère, Bernard. 2012. 'L'annexion de la banlieue parisienne devant les Chambres 1841-1859'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon, 113–27. Paris: Éditions de la Sorbonne. <https://doi.org/10.4000/books.pSORBONNE.2395>.
- Gaule, Charles de. 1970. *Mémoires d'espoir : 1, Le Renouveau, 1958-1962*. Paris: Plon.
- 'Get Looped In on "Feedback"'. n.d. *Word History (Merriam Webster)* (blog). Accessed 20 July 2022. <https://www.merriam-webster.com/words-at-play/the-history-of-feedback>.
- Ginzburg, Carlo. 1980. *The Cheese and the Worms*. London: Routledge & Paul Kegan.
- Goncourt, Edmond, and Jules Goncourt. 1990. *Germinie Lacerteux*. Paris: Librairie Générale Française.
- Graham, Stephen, and Simon Marvin. 2001. *Splintering Urbanism*. London ; New York: Routledge.
- Grange, Cyril. 1993. 'Les classes privilégiées dans l'espace parisien (1903-1987)'. *Espace Populations Sociétés* 11 (1): 11–21. <https://doi.org/10.3406/espos.1993.1552>.
- Granger, Christophe. 2014. 'Le coq et le klaxon, ou la France à la découverte du bruit (1945-1975)'. *Vingtième Siècle. Revue d'histoire* N° 123 (3): 85–100.
- Granier, Anne. 2017. 'La Zone et Les Zoniers de Paris, Approches Spatiales d'une Marge Urbaine (1912-1946)'. These de doctorat, Lyon. <http://www.theses.fr/2017LYSEN078>.
- Grenard, Fabrice, Florent Le Bot, and Cédric Perrin. 2017. *Histoire économique de Vichy*. Paris: Perrin.
- Guérard, Albert Léon. 1929. *L'Avenir de Paris. Urbanisme français et Urbanisme américain. La Beauté de Paris en danger. L'Extension. La Circulation. L'Industrie et Paris port de mer. La Charte du plus grand Paris*. Paris: Payot.
- Hall, Suzanne. 2012. *City, Street and Citizen : The Measure of the Ordinary*. Routledge. <https://doi.org/10.4324/9780203118597>.
- Harvey, David. 2003. *Paris: Capital of Modernity*. New York ; London: Routledge.
- Hasse, Benoît. 2006. 'Travaux de couverture : le 18e attendra'. *Le Parisien*, 22 August 2006, sec. /paris-75/. <https://www.leparisien.fr/paris-75/travaux-de-couverture-le-xviii-e-attendra-23-08-2006-2007265498.php>.
- Hausman, Tami Dawn. 2002. 'Mobilization and Modernization in Vichy France: The National Renovation of Paris, 1939–1945'. PhD, New York: Institute of Fine Arts, New York University. <https://search.proquest.com/docview/305540236/abstract/D66F162398E34A9DPQ/1>.
- Hebbert, Michael. 2008. 'Re-Enclosure of the Urban Picturesque: Green-Space Transformations in Postmodern Urbanism'. *The Town Planning Review* 79 (1): 31–59.
- . 2014. 'Climatology for City Planning in Historical Perspective'. *Urban Climate*, ICUC8: The 8th International Conference on Urban Climate and the 10th Symposium on the Urban Environment, 10 (December): 204–15. <https://doi.org/10.1016/j.uclim.2014.07.001>.
- Hélaïne, Florent. 2021. 'Crack à Paris : Anne Hidalgo Se Rend Rue Riquet et s'en Prend à l'Etat'. *Le Parisien*, 21 September 2021. <https://www.leparisien.fr/paris-75/crack-a-paris-anne-hidalgo-se-rend-rue-riquet-et-sen-prend-a-letat-21-09-2021-US4ZAY6NXVCFRBOVTPOFVP2KPE.php>.
- Hess, Remi, Sandrine Deulceux, and Gabriele Weigand. 2009. 'Préface'. In *Le Droit à La Ville*, by Henri Lefebvre. Paris: Anthropos.
- Hommels, Anique. 2008. *Unbuilding Cities: Obduracy in Urban Sociotechnical Change*. Edited by Wiebe E. Bijker, W. Bernard Carlson, and Trevor Pinch. Cambridge: MIT Press.
- Hughes, Thomas Parke. 1983. *Networks of Power: Electrification in Western Society, 1880-1930*. Baltimore ; London: Johns Hopkins University Press.
- . 1986. 'The Seamless Web: Technology, Science, Etcetera, Etcetera'. *Social Studies of Science* 16 (2): 281–92.
- Hui, Alexandra. 2012. *The Psychophysical Ear: Musical Experiments, Experimental Sounds, 1840-1910*. Cambridge: MIT Press.
- Humphrey, Caroline. 2005. 'Ideology in Infrastructure: Architecture and Soviet Imagination'. *The Journal of the Royal Anthropological Institute* 11 (1): 39–58.
- Imprimerie nationale. 2002. *Lexique Des Règles Typographiques En Usage à l'Imprimerie Nationale*. Paris: Imprime nationale.

- Inspecteur général chef des services techniques de topographie et d'urbanisme. 1943. 'La Voirie Parisienne Projet d'aménagement de La Ville de Paris'. Paris: Ville de Paris.
- Institut national de la statistique et des études économiques. 2022a. 'Revenus, Pauvreté et Niveau de Vie En 2019 Par Iris'. Montrouge: INSEE. <https://www.insee.fr/fr/statistiques/6049648>.
- . 2022b. 'Convertisseur Franc-Euro | Insee'. 25 April 2022. <https://www.insee.fr/fr/information/2417794>.
- Jabot, Danielle, Issam Khelladi, Émilie Moreau, Sandra Roger, Henri Ciesielski, and Raphaël Rinck. 2019. 'Transformations Sociales Dans La Métropole Du Grand Paris'. 99. *Insee Analyses Ile-de-France*. Paris: INSEE. <https://www.insee.fr/fr/statistiques/4181198>.
- Jay, Martin. 1988. 'The Rise of Hermeneutics and the Crisis of Ocularcentrism'. *Poetics Today* 9 (2): 307–26. <https://doi.org/10.2307/1772691>.
- Jensen Adams, Ann. 2002. 'Competing Communities in the "Great Bog of Europe": Identity and Seventeenth-Century Ducht Landscape Painting'. In *Landscape and Power*, edited by W. J. T. Mitchell, 35–76. Chicago; London: University of Chicago Press.
- Jordan, D. P. 2004. 'Haussmann and Haussmannisation: The Legacy for Paris'. *French Historical Studies* 27 (1): 87–113. <https://doi.org/10.1215/00161071-27-1-87>.
- Kaika, Maria. 2006. 'Dams as Symbols of Modernization: The Urbanization of Nature Between Geographical Imagination and Materiality'. *Annals of the Association of American Geographers* 96 (2): 276–301. <https://doi.org/10.1111/j.1467-8306.2006.00478.x>.
- Kalifa, Dominique. 1995. *L'encre et le sang : récits de crimes et société à la Belle Époque*. Paris: Fayard.
- . 2013. *Les bas-fonds : histoire d'un imaginaire : histoire d'un imaginaire*. Paris: Seuil.
- La rédaction de Genèses. 1990. 'Manifeste : Sciences sociales et histoire'. Edited by Gérard Noiriel. *Genèses* 1 (1): 2–3.
- Lafay, Bernard. 1955. *Solutions aux problèmes de Paris : la circulation*. Paris: Comité du nouveau Paris.
- Larkin, Brian. 2013. 'The Politics and Poetics of Infrastructure'. *Annual Review of Anthropology* 42 (January): 327–43.
- Lascoumes, Pierre, and Patrick Le Galès. 2012. *Sociologie de l'action publique*. Paris: Armand Colin.
- Latour, Bruno. 1992. *Aramis, ou, L'amour des techniques*. Textes à l'appui. Anthropologie des sciences et des techniques. Paris: La Découverte.
- Laurent, Sébastien, and Jean-Eudes Roullier, eds. 2005. *Paul Delouvrier, un grand commis de l'Etat*. Paris: Presses de Sciences Po.
- Law, John, and Michel Callon. 1988. 'Engineering and Sociology in a Military Aircraft Project: A Network Analysis of Technological Change'. *Social Problems* 35 (3): 284–97.
- Le Boulevard Périphérique de Paris*. 1973. Paris: Imprimerie municipale. <https://bibliotheques-specialisees.paris.fr/ark:/73873/pf0000259463?posInSet=14&queryId=a00a9ef5-94f1-4486-9b29-f82b9a732310>.
- Le Corbusier. 1923. *Vers Une Architecture*. Paris: Les Éditions G. Crès et Cie.
- Le Monde*. 1964. 'Les experts', 18 January 1964. https://www.lemonde.fr/archives/article/1964/01/18/les-experts_2111332_1819218.html.
- . 1966a. 'L'hippodrome du Tremblay va être transformé en parc de sports', 24 September 1966. https://www.lemonde.fr/archives/article/1966/09/24/l-hippodrome-du-tremblay-va-etre-transforme-en-parc-de-sports_2680153_1819218.html.
- . 1966b. 'La grande misère de l'équipement sportif dans la région parisienne', 26 December 1966. https://www.lemonde.fr/archives/article/1966/12/26/la-grande-misere-de-l-equipement-sportif-dans-la-region-parisienne_2684904_1819218.html.
- . 1968. 'Une "cellule de lutte contre le bruit" va être créée par le préfet de police', 4 December 1968. https://www.lemonde.fr/archives/article/1968/12/04/une-cellule-de-lutte-contre-le-bruit-va-etre-creee-par-le-prefet-de-police_2509560_1819218.html.
- . 1971. 'Décès de M. Haas-Picard ancien préfet de la Seine', 16 August 1971. https://www.lemonde.fr/archives/article/1971/08/16/deces-de-m-haas-picard-ancien-prefet-de-la-seine_3062865_1819218.html.
- . 1972. '"Inventé" par le Général de Gaulle, le grand projet de parc de loisirs du Tremblay est définitivement abandonné', 17 April 1972. https://www.lemonde.fr/archives/article/1972/04/17/invente-par-le-general-de-gaulle-le-grand-projet-de-parc-de-loisirs-du-tremblay-est-definitivement-abandonne_3035613_1819218.html.
- . 1974. 'Après la "déclaration" télévisée de M. Poniatowski " Un acte inamical " estime l'ambassade d'U.R.S.S.', 18 May 1974. https://www.lemonde.fr/archives/article/1974/05/18/apres-la-declaration-televisee-de-m-poniatowski-un-acte-inamical-estime-l-ambassade-d-u-r-s-s_3087913_1819218.html.
- . 1977. '"Ce sera le "Racing" de l'est" (le général de Gaulle). "Je ne veux plus rien promettre" (M. Roland Nungesser). Le Parc du Tremblay quinz ans après', 11 January 1977. https://www.lemonde.fr/archives/article/1977/01/11/ce-sera-le-racing-de-l-est-le-general-de-gaulle-je-ne-veux-plus-rien-promettre-m-roland-nungesser-le-parc-du-tremblay-quinze-ans-apres_3081249_1819218.html.
- . 1980. 'Depuis 1960, une course d'obstacles', 15 July 1980. https://www.lemonde.fr/archives/article/1980/07/15/depuis-1960-une-course-d-obstacles_2795694_1819218.html.
- . 2021. 'Crack à Paris : la police évacue les secteurs des jardins d'Éole et de Stalingrad', 24 September 2021. https://www.lemonde.fr/societe/article/2021/09/24/crack-a-paris-la-police-evacue-les-secteurs-des-jardins-d-eole-et-de-stalingrad_6095863_3224.html.
- Le Monde*. 2017. 'Vient de paraître : «L'acoustique du Bâtiment. Manuel professionnel d'entretien et de réhabilitation»', 19 July 2017. <https://www.lemoniteur.fr/article/vient-de-paraitre-l-acoustique-du-batiment-manuel-professionnel-d-entretien-et-de-rehabilitation.815684>.
- Lefebvre, Henri. 1967. *Position : Contre Les Technocrates, En Finir Avec l'humanité-Fiction*. Paris: Éditions Gonthier.
- . 1968. *Le Droit à La Ville*. Paris: Anthropos.
- . 1970a. *Du rural à l'urbain*. Paris: Anthropos.
- . 1970b. *La Révolution Urbaine*. Paris: Gallimard.
- . 1971. *Vers le cybernanthrope*. Paris: Denoël.

- . 1972a. *Espace et Politique (Le Droit à La Ville, Second Volume)*. Paris: Anthropos.
- . 1972b. *La Pensée Marxiste et La Ville*. Paris: Casterman.
- . 1974. *La Production de l'espace*. Paris: Anthropos.
- . 1986. *La Production de l'espace*. Paris: Anthropos.
- Lemaitre, Guillaume, and Patrick Susini. 2019. 'Timbre, Sound Quality, and Sound Design'. In *Timbre: Acoustics, Perception, and Cognition*, edited by Kai Siedenburg, Charalampos Saitis, Stephen McAdams, Arthur N. Popper, and Richard R. Fay, 245–72. Springer Handbook of Auditory Research. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-14832-4_9.
- Les Notaires du Grand Paris. 2021. 'Prix Au M2 Standardisés Des Appartements Anciens Par Commune d'Ile-de-France à Fin Décembre 2021 et Évolutions Des Prix Sur 1 an et 5 Ans'. 2021. https://notairesdugrandparis.fr/sites/default/files/Prix%20T4%202021_0.pdf.
- . 2022. 'Prix Au M2 Des Appartements Anciens Sous-Jacents Aux Indices Notaires-INSEE'. 2022. <https://basebien.com/PNSPublic/DocPublic/Historiquedesprixdesappartementspardep.pdf>.
- Les Routes Du Grand Paris*. 2019. Paris: Éditions du Pavillon de l'Arsenal.
- Leveau-Fernandez, Madeleine. 1983. 'La Dernière Enceinte de Paris, 1840-1970'. Université de Paris-VII.
- Ligue française contre le bruit. 1964. *Guide du silence et des hôtels silencieux*. Paris: GEPS.
- Lojkin, Jean. 1972. *La politique urbaine dans la région parisienne, 1945–1972*. Paris & La Haye: Mouton.
- Lortie, André. 1997. 'La modernisation de Paris'. In *Le Paris des Polytechniciens : Des ingénieurs dans la ville, 1794-1994*, edited by Bruno Belhoste, Francine Masson, and Antoine Picon, 213–22. Paris: Action Artistique De Paris.
- Mattioli, Guglielmo. 2019. 'What Caused the Genoa Bridge Collapse – and the End of an Italian National Myth?' *The Guardian*, 26 February 2019. <https://www.theguardian.com/cities/2019/feb/26/what-caused-the-genoa-morandi-bridge-collapse-and-the-end-of-an-italian-national-myth>.
- Matzke, Michael. 2008. "'Die Straßen Adolf Hitlers" — Reichsautobahnen 1933–1941'. Magister der Philosophie (Mag. phil.), Vienna: Universität Wien. http://othes.univie.ac.at/1740/1/2008-10-13_8501745.pdf.
- Mercuriali, Mathieu. 2019a. 'Les Autoroutes Du Progrès'. In *Les Routes Du Grand Paris*, 30–75. Paris: Éditions du Pavillon de l'Arsenal.
- . 2019b. 'L'intégration Des Autoroutes Urbaines'. In *Les Routes Du Grand Paris*, 107–25. Paris: Éditions du Pavillon de l'Arsenal.
- Ministère de l'Éducation Nationale et de la Jeunesse. 2022. 'La rémunération des enseignants'. Ministère de l'Éducation Nationale et de la Jeunesse. 2022. <https://www.education.gouv.fr/la-remuneration-des-enseignants-7565>.
- Mitchell, W. J. T. 1994. 'Imperial Landscape'. In *Landscape and Power*, edited by W. J. T. Mitchell, 5–34. Chicago; London: University of Chicago Press.
- Miyazaki, Shintaro. 2017. 'Algorithmic Horizon'. In *Wired Capital*, edited by Justinien Tribillon and Catarina de Almeida Brito, 2:48–57. Migrant Journal. London: Migrant Journal Press.
- Montel, Nathalie. 2000. 'Chronique d'une Mort Non Annoncée : L'annexion Par Paris de Sa Banlieue En 1860'. *Recherches Contemporaines* 6.
- . 2012a. *Faire le Grand Paris: avis des habitants consultés en 1859*. Mémoire commune. Rennes ; Paris: Presses universitaires de Rennes ; Comité d'histoire de la ville de Paris.
- . 2012b. 'L'agrandissement de Paris En 1860 : Un Projet Controversé'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcât and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Morel Journel, Guillemette. 2020. 'L'édition d'architecture sous Vichy : loi de pénurie et exception'. In *Architecture et urbanisme dans la France de Vichy*, edited by Jean-Louis Cohen, 151–66. Conférences. Paris: Collège de France. <http://books.openedition.org/cdf/8878>.
- Moret, Frédéric. 2008. 'Fortification Territories: Fragmentation and Hierarchisation of Parisian Spaces in the 19th Century'. In *Frontiers and Identities : Cities in Regions and Nations*, edited by Lud'a Klusáková and Laure Teulière., 13. Pisa: Pisa University Press.
- . 2012. 'La Construction Des Fortifications de Paris'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcât and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Mukherjee, Rahul. 2020. *Radiant Infrastructures: Media, Environment, and Cultures of Uncertainty*. Sign, Storage, Transmission. Durham: Duke University Press.
- Nivet, Philippe. 1994. *Le Conseil municipal de Paris de 1944 à 1977. Le Conseil municipal de Paris de 1944 à 1977*. Histoire de la France aux XIXe et XXe siècles. Paris: Éditions de la Sorbonne. <http://books.openedition.org/psorbonne/1112>.
- Nogaret, Jean. 1967. 'Les "Dessous" Du Périphérique'. *L'Équipe*, 31 May 1967.
- Noiriel, Gérard. 2006. *Introduction à La Socio-Histoire*. Repères. Paris: La Découverte.
- Nuttall, Sarah. 2009. *Entanglement: Literary and Cultural Reflections on Post-Apartheid*. Johannesburg: Wits University Press.
- O'Brien, Patricia. 1975. 'L'Embastillement de Paris: The Fortification of Paris during the July Monarchy'. *French Historical Studies* 9: 63–82. <https://doi.org/10.2307/286005>.
- Oliver, John, dir. 2015. 'Infrastructure'. New York: HBO.
- Olivera, Martin. 2015. '1850-2015 : de la Zone aux campements'. *Revue Projet* 348 (5): 6–16. <https://doi.org/10.3917/pro.348.0006>.
- Ordre de la Libération. n.d. 'La commission nationale'. Musée de l'Ordre de la Libération. Accessed 11 July 2022. <https://www.ordredelaliberation.fr/fr/la-commission-nationale>.
- Ouzounian, Gascia. 2020. *Stereophonica : Sound and Space in Science, Technology, and the Arts*. Cambridge: MIT Press.
- Ozanne, François. 1998. 'André Herzog (33), 1913-1998'. *La Jaune et La Rouge*, December 1998.
- Parkhurst, Justin. 2017. *The Politics of Evidence: From Evidence-Based Policy to the Good Governance of Evidence*. Routledge Studies in Governance and Public Policy. London: Routledge. <https://doi.org/10.4324/9781315675008>.

- Parks, Lisa. 2009. 'Around the Antenna Tree: The Politics of Infrastructural Visibility'. *Flow* (blog). 2009. <https://www.flowjournal.org/2009/03/around-the-antenna-tree-the-politics-of-infrastructural-visibility>lisa-parks-uc-santa-barbara/.
- Paskins, Jacob. 2016. *Paris under Construction : Building Sites and Urban Transformation in the 1960s*. New York : Routledge, Taylor & Francis Group.
- Pavillon de l'Arsenal. 1992. 'Les seuils de la ville | Expositions | Pavillon de l'Arsenal'. 1992. <https://www.pavillon-arsenal.com/fr/expositions/9628-les-seuils-de-la-ville.html>.
- Paxton, Robert O. 1972. *Vichy France: Old Guard and New Order, 1940-1944*. New York: Knopf.
- Payre, Renaud, and G Pollet. 2013. *Socio-histoire de l'action publique*. Paris: La Découverte.
- Picon, Antoine. 2002. *Les Saint-simoniens : Raison, imaginaire et utopie*. Paris: Belin.
- . 2007. 'French Engineers and Social Thought, 18–20th Centuries: An Archeology of Technocratic Ideals'. *History and Technology* 23 (3): 197–208. <https://doi.org/10.1080/07341510701300262>.
- . 2014. *La ville des réseaux - Un imaginaire politique*. Paris: Manucius.
- . 2018. 'Urban Infrastructure, Imagination and Politics: From the Networked Metropolis to the Smart City'. *International Journal of Urban and Regional Research* 42 (2): 263–75. <https://doi.org/10.1111/1468-2427.12527>.
- Picon-Lefebvre, Virginie. 2019. 'Du "Freeway" à La "Vitesse Lente" Des Voies Urbaines'. In *Les Routes Du Grand Paris*, 127–43. Paris: Éditions du Pavillon de l'Arsenal.
- Pinçon, Michel, and Monique Pinçon-Charlot. 2007. *Les ghettos du gotha comment la bourgeoisie défend ses espaces*. Paris: Seuil.
- . 2014. *Sociologie de Paris*. Repères 400. Paris: la Découverte.
- Pinon, Pierre. 2016. *Atlas Du Paris Haussmannien*. Paris: Parigramme.
- Préfecture de Paris. 1971. 'Communication Au Conseil de Paris (372)'. In *Mémoires Au Conseil de Paris*, 345–384:86–94.
- Préfecture de Police [@prefpolice]. 2021. 'Opération en cours | Évacuation de la rue Riquet. #Paris19 Consultez notre communiqué de presse 📢 <https://t.co/cXhdQ2yYtl>'. Tweet. *Twitter*. <https://twitter.com/prefpolice/status/1441312887151030275>.
- Reitsam, Charlotte. 2004. 'Reichsautobahn im Spannungsfeld von Natur und Technik'. Habilitationsschrift, Munich: Fakultät für Architektur der Technischen Universität München. <https://mediatum.ub.tum.de/doc/635732/635732.pdf>.
- Rey-Lefebvre, Isabelle. 2019. 'Grand Paris : le pari perdu de la mixité sociale'. *Le Monde*, 29 June 2019. https://www.lemonde.fr/economie/article/2019/06/29/grand-paris-le-pari-perdu-de-la-mixite-sociale_5482978_3234.html.
- Ringenbach, Pierre. 1998. 'André Herzog Nous a Quittés'. *Sceaux Magazine*, May 1998.
- Ronai, Simon. 2004. 'Paris et La Banlieue : Je t'aime, Moi Non Plus'. *Hérodote*, 28.
- Roseau, Nathalie. 2018. 'L'infrastructure sismographe. Temps, échelles et récits du boulevard périphérique parisien'. *Tracés. Revue de Sciences humaines*, no. 35 (December): 49–74.
- . 2022. *Le Futur Des Métropoles*. Genève: MétisPresses.
- Ross, Kristin. 1994. *Fast Cars, Clean Bodies: Decolonization and the Reordering of French Culture* (version 1st edition). Cambridge: MIT Press.
- . 2008. *The Emergence of Social Space : Rimbaud and the Paris Commune*. Radical Thinkers Ol. 31. London ; New York: Verso.
- Rossignol, Dominique. 1991. '1. La France européenne'. *Politique d'aujourd'hui*, 175–84.
- Rouquet, François. 1999. 'La Technocratie Sous Vichy: Opportunité, Continuité et Représentations'. In *La Question Technocratique: De l'invention d'une Figure Aux Transformations de l'action Publique*, edited by Vincent Dubois and Delphine Dulong, 55–75. Strasbourg: Presses Universitaires de Strasbourg.
- Rozeq, Valérie, and Philippe Ritter. 2003. 'Les avancées et les limites de la législation sur le bruit face au vécu du citoyen'. *Géocarrefour* 78 (Vol. 78/2): 111–19. <https://doi.org/10.4000/geocarrefour.196>.
- Said, Edward W. 1978. *Orientalism*. New York: Pantheon Books.
- Saly-Giocanti, Frédéric. 2012. 'Détruire Les Enceintes et Ouvrir La Ville Au Xixe Siècle : Le Cas Allemand'. In *Agrandir Paris (1860-1970)*, edited by Annie Fourcaut and Florence Bourillon. Paris: Éditions de la Sorbonne.
- Sardain, Marie-France. 2014. 'Les servitudes militaires autour des fortifications au XIXe siècle'. *Revue historique des armées*, no. 274 (May): 3–14.
- Schafer, R Murray. 1969. *The New Soundscape: A Handbook for the Modern Music Teacher*. Scarborough: Berandol Music Limited.
- Schafer, R. Murray. 1970. *The Book of Noise*. Wellington: Price Milburn & Co.
- Schenker-Sprüngli, O. 1967. 'Down with Decibels!' *Le Courrier de l'UNESCO*, July 1967.
- Schütz, Erhard, and Eckhard Gruber. 1996. *Mythos Reichsautobahn*. Berlin: Christoph Links.
- Simonnet, Cyrille. 2019. *Morandi à Gênes: Autopsie d'un Pont*. Marseille: Parenthèses Editions.
- Smith, Bruce R. 1999. *The Acoustic World of Early Modern England: Attending to the O-Factor*. Chicago ; London: University of Chicago Press.
- Soja, Edward William. 1989. *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*. London ; New York: Verso.
- . 2009. 'Taking Space Personally'. In *The Spatial Turn: Interdisciplinary Perspectives*, edited by Barney Warf and Santa Arias, 11–35. London: Routledge.
- Srivastava, Sanjay. 2014. *Entangled Urbanism: Slum, Gated Community, and Shopping Mall in Delhi and Gurgaon*. Delhi: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198099147.001.0001>.
- Star, Susan Leigh, and Karen Ruhleder. 1996. 'Steps Toward an Ecology of Infrastructure: Design and Access for Large Information Spaces'. *Information Systems Research* 7 (1): 111–34. <https://doi.org/10.1287/isre.7.1.111>.
- Suleiman, Ezra N. 1978. *Elites in French Society: The Politics of Survival*. Princeton: Princeton University Press.

Appendix 1 Figures

Please note that for copyright issues, the figures for this thesis have not been included in the deposit.

Appendix 2 Timeline

1790	Completion of the Wall of the General Farm (<i>Mur des fermiers généraux</i>). <i>Départements</i> of Seine and Seine-et-Oise are created.
September 1792	First Republic (1792–1799 [1804]).
12 Messidor 1799 (VII)	Decree regarding the functions of prefect of Police for Paris.
18 Brumaire 1799 (VII)	Coup d'état. Consulate (1799–1804).
28 Pluviôse 1800 (VIII)	Law creates prefects, sub-prefects, prefectures. The administration of Paris shared between prefect of the Seine and prefect of Police.
1803	Prefecture of the Seine moves in at Paris city hall.
1804	Napoleon anointed emperor. First Empire (1804–1814/5).
30–31 March 1814	Battle of Paris. French army defeated by the Sixth Coalition (Russia, Austria, Prussia).
March-May 1814	Paris occupied by the Coalition forces.
18 June 1815	Battle of Waterloo. French army defeated.
2–3 July 1815	Battle of Issy. French army defeated by the troops of the Seventh Coalition (United Kingdom, Netherlands, Hanover, Nassau, Brunswick, Prussia). Coalition forces enter Paris.
1818–1820	First project to fortify Paris developed by the Commission for the defence of the kingdom (<i>Commission pour la défense du royaume</i>). No follow-up action taken by Louis XVIII.
1830	Creation of Committee for the fortifications (<i>Comité des fortifications</i>). Two designs are discussed: a continuous fortified wall surrounding Paris, and a series of detached forts further out from the city proper.
27–29 July 1830	July Revolution in Paris. King Charles IX ousted, replaced by king Louis-Philippe.
17 July 1833	François Arago understands the projected design of the fortifications as a device designed to oppress and threaten the people of Paris instead of protecting them and denounces ' <i>l'embastillement de Paris</i> ,' a neologism formed on the infamous Bastille Prison-cum-Fortress (Arago 1833). The expression would live on to become a commonplace in the second half of the 19 th century.
26 April 1836	Adolphe Thiers, president of the Council of ministers (i.e., head of the national executive), creates a new Commission for the defence of the kingdom that reaches a compromise on 6 July 1838. The commission's final report, presented in 1839, features a design combining the continuous wall with the series of detached forts.
15 July 1840	The Treaty of London marks the alliance of the United Kingdom, Russia, and Austria to support the Ottoman Empire. The latter is in a feud with Muhammad Ali, ruler of Egypt, backed by France. Thiers is concerned with the diplomatic and military consequences of the Treaty for France and

- decides to move ahead with the construction of the fortifications. Yet, for Patricia O'Brien (1975, 66), the Eastern Question is but an excuse to move on with the building of the fortifications of Paris.
- 10 September 1840 Royal ordinance declares the fortification of *utilité publique* (public utility i.e., the project is granted special benefits to facilitate its delivery). Three days later, emergency credits are granted by the Government and building works start immediately.
- 29 October 1840 The Thiers government falls. Thiers's successor, General Soutt, drafts a bill to formally allocate 140 million francs to the project retroactively.
- 3 April 1841 A bill to build the fortifications is adopted with comfortable majorities in both chambers of the Parliament and the law is enacted, despite the vehement opposition spearheaded once again by Arago together with Lamartine. The law also establishes a *zone de servitude militaires* ('zone of military easement') or *zone non aedificandi* (article 8).
- 1845 The fortifications of Paris, colloquially known as 'Thiers wall,' are completed. The fortifications themselves (the bastions) are about 130m-deep, to which one needs to add an outside area 250m-deep, a *zone non aedificandi* where construction is forbidden by an easement. Together with the 20m-wide military boulevard that runs inside the fortifications, the Thiers wall occupies an area about 400m-wide and 34km-long. It occupies a surface area of about 1,200ha (circa 12 km²) for a City of Paris of 7,800ha (78km²) in 1860. The legal basis for the creation of the 'Zone' is the laws of 10 July 1791 and 17 July 1819. Paris is exceptionally endowed with a *single* zone of military easement, where usually there are three. The law of 1791, confirmed by the imperial decree of 10 August 1853, stipulates a first zone of 250m where no construction is allowed, including the planting of trees. This is the kind of zone that existed outside the Paris fortifications. Then, usually would come a second zone that extended up to 487m from the fortifications where constructions made of earth and wood were tolerated, as long as they were ready to be destroyed upon requisition; and then a third zone of 974m where the constraints were limited to seeking approval for the digging of ditches and erection of dykes (Sardain 2014, 3 ; see also the article 5 of the imperial decree of 10 August 1853).
- 1846 Shacks start to pop up in the Zone around the fortifications.
- February 1848 Revolt in Paris. King Louis-Philippe ousted. Second Republic (1848–1852) proclaimed.
- 8 July 1852 Ownership of Bois de Boulogne transferred to City of Paris by law (*senatus-consulte*) to become a public park.
- November 1852 President Louis-Napoléon Bonaparte reaffirms publicly the commitment to maintain Paris's fiscal and administrative boundaries within the boundaries of the Wall of the General farm of 1790.
- 2 December 1852 Coup d'état. Louis-Napoléon Bonaparte is proclaimed emperor. Second Empire (1852–1870).
- 1853–1870 Georges Eugène Haussmann prefect of the Seine.

- 24 July 1856 Judgment by the Council of State¹ (*Conseil d'État*) reaffirms the military constraints on the Zone and orders the destruction without compensation of all the buildings erected on the Zone (Sardain 2014, 4–5; Cohen and Lortie 1991, 38; Leveau-Fernandez 1983, 28). Yet, according to Madeleine Leveau-Fernandez and others the decision goes largely unheeded.
- 1854 A Commission for administrative districts (*Commission des circonscriptions administratives*) is created. Haussmann presents a first project to expand Paris to the west. The commission, formed of elected officials from Paris and suburban towns, is unanimously against the project.
- 1 November 1859 The 'Riché law' is enacted: the territory of Paris is expanded beyond the Wall of the General Farm up until the Thiers wall.
- 1 January 1860 Paris's annexation of suburban municipalities as per the Riché law is effective. The annexation means that from the first day of 1860, eleven municipalities disappear totally to be incorporated in Paris and become Parisian neighbourhoods: Grenelle, Belleville, La Villette, Vaugirard, Auteuil, Batignolles-Monceau, Bercy, Charonne, La Chapelle, Montmartre, Passy. The territories of six other towns are amputated as some of their districts are also annexed to Paris: Ivry-sur-Seine, Montrouge, Saint-Mandé, Issy-les-Moulineaux, Neuilly-sur-Seine, Saint-Ouen. Paris had doubled in size, and now the octroi duties for Paris are collected at the Thiers wall.
- 17 July 1870 France declares war to Prussia.
- 1 September 1870 Battle of Sedan. French army defeated.
- 4 September 1870 Napoleon III stripped of its powers. Third Republic (1870–1940) proclaimed at Paris city hall.
- 17 September 1870 Prussian Army besieges Paris.
- 26 January 1871 City of Paris formally surrenders.
- 1 March 1871 Prussian Army parade on the Champs-Élysées.
- 18 March 1871 Insurrection by the people of Paris who mark their oppositions to Adolphe Thiers government's decision to surrender to Prussia. Considered the first day of the Commune of Paris (March-May 1871).
- 21–28 May 1871 'Bloody week,' the Commune is crushed by the *Versaillais*, the forces loyal to the government, named so after the town of Versailles where the government of Thiers had found refuge after the revolt of Paris. The Thiers government leads the repression against the Communards. Mass executions are carried out. The final headcount remains virulently debated today: between 5,700 and 7,400 for Robert Tombs (2012), 10,000 to 15,000 for Michèle Audin (2021). The Commune of Paris, the first ever socialist regime, had lasted for 72 days.
- 22 November 1879 Motion in the Council of Paris proposes to invite the prefect of the Seine to start a discussion with the State on decommissioning Paris fortifications. This constitutes the first step towards removing the Thiers wall.

¹ The Conseil d'État is a government body that acts as legal adviser to the government and as the supreme court for administrative justice.

- 24 July 1882 Senator Martin Nadaud puts forward a bill to decommission the fortifications in national Parliament. The bill is not discussed by the end of the parliamentary session and lapses.
- 11 June 1883 Councillor Yves Guyot proposes a bill to decommission the fortifications to the municipal council. Adopted with a large majority. Negotiations between the City of Paris and the State towards the decommissioning and purchasing of land of the fortifications can start. A negotiating commission (*Commission de négociations*) is created.
- April 1884 The department for promenades and gardens (*Service des promenades et plantations*) puts forward a full design proposal, under the leadership of Adolphe Alphand² and chief engineer Gustave Ernest Bartet, to ‘haussmannise’ the ring of Paris (Cohen and Lortie 1991, 70) by building an urban boulevard and subdividing the freed land into plots in order to erect buildings. But there is no concretisation of the designs as the negotiations for the transfer of land fall through a first time in 1886.
- 25 February 1889 A new commission is created to push through for the decommissioning of Paris fortifications. It rejects a project that would have only decommissioned a portion of the wall (between Porte d’Auteuil and Porte de Saint-Ouen) and that would have replaced it by a new fortified wall built further out in the suburbs.
- 1894 Creation of the Musée Social: an organisation that brings together politicians, public intellectuals, architects, scientists, and that sits at the crossroad of a ‘think-tank’ (to use an anachronic term), a lobby group and a private club. The social hygiene movement linked bodies, morality and the built environment in a novel understanding of policy and science, with a stress on ‘quantitative’ data and especially statistics (Charvet 2005, 55). A moral individual—loyal to one’s family and country, who does not commit crime, etc.—requires a healthy lifestyle—sports, limited consumption of alcohol and tobacco, etc.—facilitated by an adequate built environment—clean, bright, airy and modern houses, large streets, green spaces to play, linger and exercise, etc. It promotes the emergence of a ‘rational’ approach to the policing and designing of cities, a change of scale, and the necessity of establishing plans to control urban growth (Charvet 2005, 124–25; Bellanger 2012, 120).
- 1895 The minister for War accepts for the first time to acknowledge the pertinence of decommissioning the fortifications in their entirety.
- 1897 New commission that includes representatives of the military, the *département*, and the city is created but fails to agree on a price for the land. Council of Paris approves the creation of a metropolitan railway (*métropolitain*).
- 17 February 1898 A law for the financing of a partial decommissioning of the fortifications from Point-du-Jour to Porte de Pantin is voted. The law makes the situation more complex by depriving the City of Paris of its initiative. Indeed, article 6 stipulates that the conditions for the decommissioning of the fortifications would be ruled by a law. Therefore, the law confirms that a

² Adolphe Alphand (1817–1891) was head of the Service des promenades et plantations from 1855 under Prefect Haussmann, and *directeur des travaux de Paris* (head of Paris Works) from 1871

- decommissioning will happen, but also removes the city its ability to act in its own terms through direct negotiations.
- 1900 New project by finance minister Joseph Caillaux is proposed to the Council of Paris and offers a compromise on the financial estimate of the land of the fortifications. The city rejects it on the basis that, once again, it only addresses a portion of the fortifications whilst Paris seeks a complete decommission.
- 1903 Creation of the Association for Garden Cities of France (*Association des Cités-Jardins de France*) by Georges-Benoît Lévy.
- 1903–1909 Publication of *Études sur la transformation de Paris* ('Studies on the transformation of Paris') by Eugène Hénard.
- 1904 The Army drops the idea of enclosing Paris in a new continuous fortified wall.
- January 1908 Jules Siegfried,³ president of the Musée Social, creates a specific section inside the organisation dedicated to urban planning: the Section for urban and rural hygiene (*Section d'hygiène urbaine et rurale*) who brought together Louis Bonnier,⁴ Georges Benoit-Lévy, Eugène Hénard, Jean Claude Nicolas Forestier,⁵ among others.
- 1908 Two new bills are presented, one by MP Jules Siegfried on behalf of the Musée Social at the Assemblée Nationale, another to the Council of Paris by councillor Louis Dausset. The bill by Siegfried is not discussed by the end of the parliamentary session and lapses.
- January 1909 The League for open spaces, sanitation and sports (*Ligue pour les espaces libres, l'assainissement, et les sports*) is formed to lobby in favour of Dausset's project.
- 31 December 1910 Creation of the Hybrid commission for the fortifications and the expansion plan for Paris (*Commission mixte des fortifications et du plan d'extension de Paris*).
- December 1912 Conventions of 16 and 30 December: the City of Paris, the State and the Army reach an agreement on the decommissioning of the fortifications.
- 1913 Census of the Zone counts 30,000 inhabitants, though previous estimates had mentioned up to 200,000 inhabitants. In 1912, a survey of the 777 hectares of the Zone had counted 12,132 constructions.
- 1 August 1914 General conscription in France. WWI (1914–1918).
- 14 March 1919 Cornudet law voted. It becomes mandatory for municipalities of more than 10,000 inhabitants to establish a Planning document for embellishment and expansion (PAEE, *Plan d'aménagement, d'embellissement et d'extension*).

³ Jules Siegfried (1837–1922) was a politician and creator of the Musée Social in 1894. He was Mayor of Le Havre (1876–1886) and elected several times as MP and senator. He was the initiator of the law of 30 November 1894, known as 'Loi Siegfried' that promoted social housing.

⁴ Louis Bonnier (1856–1946) was an architect and painter, he drafted the new urban planning and architecture regulation for Paris in 1902, design an extension plan for the city in 1912 and participated in the creation of the Institut d'urbanisme de Paris.

⁵ Jean Claude Nicolas Forestier (1861–1930) was an urbanist and landscape designer. He was the author of *Grandes villes et systèmes de parcs* where he imagined metropolitan-scale networks of parks and gardens in relation to the city. He elaborated these ideas in a scheme for Paris in 1923 that was influential in the development of the green belt that replaced the fortifications and the Zone.

- 19 April 1919 Conventions of 16 and 30 December 1912, amended three times (on 11 July 1913, 27 January 1914, and 29 January 1919), promulgated by a law.
- 30 April 1919 First bastions taken down.
- 20–26 December 1920 Tours Congress: chasm between socialist French Section of the Workers' International (SFIO, *Section française de l'Internationale ouvrière*) and the communist French Section of the Communist International (SFIC, *Section française de l'internationale communiste*), later known as the French Communist party.
- 30 June 1924 Prefect of the Seine, Hyppolyte Juillard, introduces to the Council of Paris a preliminary project for the fortifications of Paris and adjacent military zone. The project developed by the Design office for expansion (*Bureau d'études de l'extension*) between 1919 and 1924 aims at reorganising the space of the fortifications and earmarks a large share of the land for the RIVP created in 1923. Another share is meant for public facilities and infrastructure, whilst 68.86ha out of 444ha are to be sold to cover the city's expenses in carrying out this real estate operation. The ambition of this grand urban design scheme is to 'put down the barrier that was limiting Paris in order to allow freer communication of Paris with its banlieue' (prefect Juillard cited in Cohen and Lortie 1991, 148).ⁱ
- 5 July 1924 VIII Olympic Games open in Colombes.
- 9 July 1925 Cité Internationale Universitaire de Paris inaugurated.
- 1925 International Exhibition of Modern Decorative and Industrial Arts in Paris where Le Corbusier presents his 'Plan Voisin.'
- 9 May 1927 Paris Colonial Exposition of 1931 is granted bastions 4 and 5 as well as the Bois de Vincennes.
- 15 March 1928 Creation of the Higher committee for planning and general organisation of the Paris region (CSAORP, *Comité supérieur d'aménagement et d'organisation générale de la région parisienne*) that includes all municipalities within a 30-km radius starting from Notre-Dame cathedral.
- 1929 Publication of *L'Avenir de Paris* by Albert Guérard.
- 10 April 1930 New law enacts the conventions of 30 June 1928 and 10 July 1929. The City of Paris can now renounce to develop portions of the Zone as open spaces, but in exchange has to report the same amount of *espaces libres* on the area of the fortifications, now cleared. The law of 1930 also creates a new timeline: instead of 38 years, the City of Paris now has 15 years from 1931 to acquire all properties of the Zone—which means up until 31 December 1945. Yet, for all those who lived on the Zone before 1919, the City of Paris has to offer a lease of 25 years to the *zoniers* whose property they purchased. In theory, this meant the Zone could be lawfully occupied until 31 December 1970.
- 1932 The removal of the Thiers wall has been fully completed (Valade 2008, 126).
- 14 May 1932 Following the law voted that day, Henri Prost is appointed on behalf of the City of Paris to draft the plan for the three *départements* of Seine, Seine-et-Oise, and Seine-et-Marne, later known as Plan d'aménagement de la région parisienne (PARP, Urban planning document for the Parisian region) or 'Plan Prost.'

6 February 1934	Violent far-right demonstrations in Paris.
2 August 1935	PARP submitted for public consultation. The PARP proposes strategic zoning and the building of five radial roads. It also mentions a ring road without going into details. Indeed, the 'Plan Prost' is not concerned with Paris proper but with the surrounding area. On the maps published in the newspapers, the space for Paris is left blank.
May 1936	Popular Front elected.
1937	Beginning of construction works for the west motorway, west of Paris.
22 June 1939	PARP approved.
1 September 1939	Germany invades Poland. WWII (1939–1945). France declares war on 3 September.
22 June 1940	Armistice between German Third Reich and French Third Republic represented by Marshal Pétain is signed.
10 July 1940	The Parliament votes to entrust 'full power' to Philippe Pétain, effectively dissolving the Third Republic. French State also known as Vichy France (1940–1944).
3 October 1940	First law on the status of Jews enacted by Vichy.
11 October 1940	Law enacted, designed to accelerate the eviction of the inhabitants of the Zone.
16 November 1940	Law suspends local democracy in cities of more than 10,000 inhabitants, mayors and councillors are now directly appointed by Vichy.
31 December 1940	Law regulates for the first time the profession of architect and creates the Order of Architects (equivalent to the Royal Institute of British Architects in the United Kingdom).
4 June 1941	Law 'regarding the execution of a programme of urbanism and equipment to be carried out in the Parisian region' ⁱⁱ unlocks funding aimed specifically at the Parisian region, and especially to rebuild the Zone as a 'belt of playgrounds, sportsgrounds and public promenades.' ⁱⁱⁱ The notice to Pétain that is featured before the law in the <i>Journal Officiel</i> refers to the Zone as a 'leprous belt' (<i>ceinture lépreuse</i>).
28 August 1941	PARP enacted but will never be implemented.
21 September 1941	Two laws (n°4100 and 4101) are enacted to speed up the evictions of inhabitants from the Zone.
1 March 1942	Law enacted, designed to 'urgently redevelop the land of the Zone' ^{iv} and accelerate eviction of inhabitants.
29 May 1942	Vichy makes it mandatory for Jews to wear a yellow star on their clothes.
15 July 1942	Law enacted to speed up the eviction of inhabitants of the Zone.
16–17 July 1942	Vel' d'Hiv roundup. 13,152 Jews arrested, including 4,115 children.
15 June 1943	Major law relating to urban planning and architecture in France. Among other elements, it creates a mandatory building permit (and restricts to the newly regulated profession of architects the exclusive rights to submit one to planning authorities). Article 48 also creates the Committee for the urban planning of the Paris Region (CARP, <i>Comité d'aménagement de la région parisienne</i>) as well as a new easement area (<i>zone de servitude</i> in the law but

- also known in other documents as *zone d'arrachement*) of 15m from the edges of the former *non aedificandi* zone (article 60).
- 1943 Publication of *La voirie parisienne projet d'aménagement de la ville de Paris* by René Mestais. First mention of a 'boulevard périphérique.'
- 1 August 1943 Paris octroi is abolished on 3 July 1943, effective from August 1943.
- 3 June 1944 Provisional Government of the French Republic (1944–1946).
- August 1944 Liberation of Paris.
- 27 October 1946 Constitution promulgated. Fourth Republic (1946–1958).
- 1947 Publication of *Paris et le désert français* ('Paris and the French desert') by Jean-François Gravier.
- 7 February 1953 Law n°53-80 known as 'Lafay law' that facilitates the construction of housing on the Zone as it modifies the laws of 1919 and 1930: there could be an exception to the easement *non aedificandi* in a surface area not exceeding 20% of the Zone in total, on the condition that all land used to erect buildings is compensated by the recreation of green spaces in Paris proper. The ring road, though, does not need this law as it is not considered a construction but a road infrastructure, that is excluded from the restrictions *non aedificandi*.
- 18 December 1954 Bernard Lafay presents his report *Solutions aux problèmes de Paris : la circulation* to the Council of Paris, also known as 'Plan Lafay.'
- 23 December 1954 The Council of Paris formally approves the allocation of funds towards the construction of an initial section of the ring road on 23 December 1954, in the south of Paris, in order to connect with the south motorway.
- 1956 Construction of the first section of the ring road, Porte d'Italie—Porte de Châtillon starts.
- 28 September 1958 Referendum on a new constitution. 21 December, Charles de Gaulle elected president of the Republic. Fifth Republic (1958–).
- 12 April 1960 Section Porte d'Italie—Porte de Châtillon is completed. Inauguration of the south motorway up to Corbeil.
- 17 October 1960 On prefect of Police Maurice Papon's orders, violent repression against pacific demonstrations by Algerians in Paris despite the curfew imposed on 'French Muslims from Algeria.' Hundreds of deaths.
- March–April 1961 Exhibition *Demain... Paris* at the Grand Palais, on the major urban planning projects for the region of Paris.
- 2 August 1961 Law creating the District of the Paris region (*District de la région de Paris*), with Paul Delouvrier at its head (*délégué général*) in charge of coordinating regional urban planning for Paris. Delouvrier under direct authority of the prime minister.
- 8 February 1962 Demonstration for peace in Algeria at Charonne station, 9 dead and hundreds of injured after police intervention.
- 18 June 1963 Creation of the Service for urban planning and regional planning policy (DATAR, *Délégation à l'aménagement du territoire et à l'action régionale*) under the authority of the prime minister.

14 March 1964	Creation of 22 French regions following the decrees of 7 January 1959 and 2 June 1960.
10 July 1964	Law n°64-707, Département de la Seine abolished, replaced by the City of Paris as a local authority with special status. Creation of the <i>départements</i> of Hauts-de-Seine, Seine-Saint-Denis, Val-de-Marne, Essonne, Yvelines, Val-d'Oise and Seine-et-Marne.
1964–1967	Construction works for the urban motorway on the north banks of the Seine river (<i>voie expresse rive droite</i>).
December 1966	Section Porte d'Italie—Porte d'Ivry of the ring road completed.
10 August 1966	Paul Delouvrier appointed first regional prefect for Paris.
10 February 1967	Section Porte de Saint-Ouen—Porte des Lilas of the ring road completed.
3 July 1967	APUR is created.
22 December 1967	Inauguration of Seine riverbank motorway.
1 January 1968	Maurice Doublet last prefect of the Seine becomes prefect of Paris.
19 January 1968	Decree n°68-57 devising the powers of the prefect of Paris and the organisation of the departments in their authority.
3 May 1968	Student riots. Police enters the Sorbonne university to clear off student protesters.
30 June 1969	First series of prefect decrees regarding the reorganisation of the Paris administration, second round of decrees on 18 July 1970.
October 1969	Section Porte de Saint-Ouen—Porte d'Asnières of the ring road completed.
13 December 1969	Inauguration of RER from Nation to Boissy-Saint-Léger.
20 January 1970	Inauguration of motorway 16 Paris to Rungis.
21 February 1970	Inauguration of RER La Défense-Étoile.
5 March 1970	Section Porte des Lilas—Porte d'Ivry of the ring road completed.
April 1970	Section Porte de Châtillon—Porte de Saint-Cloud of the ring road completed.
18 July 1970	Second series of prefect decrees regarding the reorganisation of the Paris administration, in addition to those of 30 June 1969.
December 1970	Porte d'Italie interchange completed.
January 1971	Section port de Saint-Cloud—Porte Molitor of the ring road completed.
23 November 1971	Inauguration of RER Etoile-Charles-de-Gaulle-Auber.
15 December 1971	Project of a new motorway on the south riverbanks of the Seine approved by the Council of Paris.
23 December 1971	Radial road 'Vanves-Montparnasse,' also known as 'Radiale Vercingétorix' approved by the Council of Paris.
20 January 1972	Section Porte de Molitor—Porte de la Muette of the ring road completed.

- 25 April 1973 Section Porte Dauphine—Porte d’Asnières completed, the final section of the ring road. Inauguration of the ring road by prime minister Pierre Mesmer and president of the Council of Paris Nicole de Hautecloque.
- 1975 Following the struggle of the inhabitants of the social housing complex, the ring road is covered between Rue de Noisy-le-Sec and Rue Léon Frapié (Paris 20th arrondissement).
- 6 May 1975 Law regarding the organisation of the Paris region, renamed Région Île-de-France with an assembly elected by universal suffrage.
- 31 December 1975 Law on the status of Paris. End of the tutelage by the State, election of the Mayor for Paris. Effective from 1977.
- 31 January 1977 Centre d’art et de culture Georges-Pompidou à Beaubourg inaugurated.
- 25 March 1977 New status of Paris effective. Municipal elections, Jacques Chirac becomes Mayor of Paris.
- September 1977 The project for a radial road Vanves–Montparnasse is abandoned.
- 8 December 1977 Last section of RER A is inaugurated.
- 1978 First demonstrations for the covering of the ring road in Malakoff (Fourcaut, Bellanger, and Flonneau 2007, 461).
- 10 May 1981 Socialist François Mitterand elected president of the Republic. No Soviet tanks in sight on the Champs-Élysées the following day.
- July–September 1981 Riots in Lyon suburbs.
- 3 December 1981 Inauguration RER B Châtelet–Gare du Nord.
- 2 March 1982 Law towards decentralisation of power to local authorities (7 January, 2 March, 22 July).
- Oct.–December 1983 March for equality and against racism (*marche pour l’égalité et contre le racisme*) nicknamed Beurs’ march (*marche des beurs*).
- 18 July 1985 Law n°85-729 of 18 July 1985 (Article 42) abrogates the military easements regulated by the laws of 1791, 1851, 1853 and 1919, it would now be up to the City of Paris to maintain or remove the restrictions as part of their local planning document.
- 20 March 1986 Jacques Chirac becomes prime minister after the legislative elections.
- 25 September 1988 RER C Montmorency–Ermont–Invalides opens.
- December 1988 Opening Pavillon de l’Arsenal.
- March 1990 Riots in Chanteloup-les-Vignes (Yvelines).
- 1992 RER A extended to Disneyland (Marne-la-Vallée).
- 1990 Publication of *Les passagers du Roissy-express* by François Maspéro with the photographs of Anaïk Frantz.
- May–June 1991 Riots in Val-Fourré, Mantes-la-Jolie.
- 1991 Publication of the report by Jean-Marie Delarue *Banlieues en difficulté: la relégation* (‘Struggling suburbs: demotion’) Publication of *Des fortifs au périph* by Jean-Louis Cohen and André Lortie.
- 1 April 1992 Opening of station La Défense, Métro line 1.

1993	Covering of the ring road at Porte de Courcelles (17 th arrondissement)
8 January 1993	‘Royal law’ regarding the protection and promotion of urban landscapes, and architectural heritage.
1995	Release of film <i>La Haine</i> directed by Matthieu Kassovitz, that depicts riots, police violence and racism in the Paris banlieue. Contributes strengthening the image of a segregated Parisian space between Paris proper and the suburbs.
7 May 1995	Jacques Chirac elected president of the Republic.
22 May 1995	Jean Tibéri elected Mayor of Paris.
August 1995	In August, from 7 a.m.-6 p.m., specific areas of Paris become pedestrian-only (riverbanks of the Canal Saint-Martin, Mouffetard districts, riverbanks of the Seine).
1996	First ‘Plan vélo’ in Paris, to promote bicycles.
1998	First ‘day without car’ (<i>journee sans voiture</i>) in Paris. The Department for roads is in charge of organising a ‘year of the pedestrian.’
1999	The Observatory for noise (<i>Observatoire du bruit</i>) publishes the first map of noise next to major Parisian thoroughfares.
12 July 1999	Inauguration of Éole, line E of the RER.
25 March 2001	Socialist Bertrand Delanoë elected Mayor of Paris at the head of a coalition with the communists and the greens. Communist Pierre Mansat is appointed representative in charge of the relationship with the local authorities of Île-de-France.
January 2001	Retrofitting of motorway A6b to mitigate against noise pollution.
2003	Publication of <i>La Ville du périphérique</i> by collective Tomato.
Oct.–November 2005	After the death of two teenagers, Zyed Benna and Bouna Traoré, chased by the police, riots break out in Clichy-sous-Bois and across France. On 9 November, the Government enacts a ‘state of emergency,’ enabling exceptional police powers.
2006	The ring road is covered at Porte des Lilas (Paris 20 th arrondissement) and the cover is extended at Porte de Ménilmontant (Paris 20 th arrondissement).
2008	The ring road is covered at Porte de Vanves (14 th arrondissement). A project to cover the ring road at Porte de Champerret (17 th arrondissement) is abandoned. Exhibition and publication <i>No Limit</i> by TVK at Pavillon de l’Arsenal.
2008–2009	International architectural and urban planning competition on the Grand Paris ‘Grand Pari(s) de l’agglomération parisienne.’ At the vernissage of the exhibition where the ten selected projects are presented, President Sarkozy announces his vision for the Greater Paris in a grand speech.
3 June 2010	Law n°2010-597 ‘relative au Grand Paris,’ (‘related to the Greater Paris’). Creates the Société du Grand Paris, in charge of delivering a major extension (200km) to the regional public transport network, nicknamed Grand Paris Express.

- 2010–2017 The Atelier international du Grand Paris is created, following President Sarkozy’s ambition to have a dedicate organisation to carry out research, and promote the Grand Paris. It shuts down in 2017.
- 2011 The ‘Plan biodiversité’ for Paris reinstates the green belt in the green strategy for the urban area.
- 2014-2017 A series of winning projects for the competition Réinventer Paris (‘reinvent Paris’) organised by the City of Paris are *immeuble-ponts* (‘bridge-buildings’) over the ring road at Porte de Vincennes, Porte Maillot and Porte d’Aubervilliers. As of today, they have all been abandoned or delayed by up to a decade (Cosnard 2021b).
- 1 January 2016 Creation of the Métropole du Grand Paris.
- 12 July 2019 First workshop of the Atelier du Boulevard Périphérique, a three-year endeavour led by APUR on behalf of the Mayor of Paris, in collaboration with suburban municipalities, to think the future of the ring road.
- 18 May 2022 Publication of the final report of the Atelier du Boulevard Périphérique. The Mayor of Paris announces the city’s plan to turn lanes of the ring road into bicycles lanes planted with trees.

Appendix 3 Original French citations

Chapter 1 Introduction

- i Dans un secteur sans riverain aux abords immédiats.
- ii ont contribué à un profond renouvellement de la perception et de la compréhension du rôle de la limite tracée en 1860, puis déplacée en 1919, dans l'organisation métropolitaine grand-parisienne. ... § Le présent volume conserve donc l'essentiel de l'ouvrage de 1991, non qu'il soit indépassable, mais précisément parce qu'il constitue un jalon non seulement dans les récits historiques sur les fortifications et la zone, mais aussi dans l'action publique sur ces territoires, qu'il a inspiré et stimulée.
- iii Les secrétaires, des robots maquillés ? ; On oublie encore que c'est un être humain qui tape à la machine.
- iv Il a su concilier toutes ces activités au cours d'une vie bien remplie et très équilibrée. Équilibre qu'il trouvait sans doute dans une familiale harmonieuse, avec sa chère épouse et ses sept enfants ...

Chapter 2 Conceptual framework: landscape-infrastructure as critical design framework to analyse the production of Paris's Boulevard Périphérique

- i La ville est le corrélat de la route. Elle n'existe qu'en fonction d'une circulation, et de circuits
- ii Les ingénieurs des Ponts se conçoivent déjà comme les urbanistes de la France : ils croient à l'urbanisme presque autant qu'ils croient à la science. Ils ont foi dans la ville
- iii L'aménagement urbain marque l'irruption de la fonction d'utilité économique dans le devenir de la cité. ... Plus que belle, la ville est utile.
- iv Peintres, architectes, théoriciens toscans ont élaboré une représentation de l'espace, la perspective à partir d'une pratique sociale, elle-même résultat ... d'un changement historique modifiant le rapport « ville-campagne ». ... La ligne d'horizon, la fuite et la rencontre « à l'infini » des parallèles déterminèrent une représentation à la fois intellectuelle et visuelle, entraînant le primat du regard dans une sorte de « logique de la visualisation ». Cette représentation, en cours d'élaboration pendant des siècles, s'investit dans la pratique architecturale et urbanistique : *les perspectives*, le code.
- v Indication auto-critique : il manque à ce livre d'avoir décrit de façon directe, incisive, voire pamphlétaire, la production des banlieues, ghettos, isolats, faux « ensembles ».
- vi [la pratique spatiale] associe étroitement dans l'espace perçu la réalité quotidienne (l'emploi du temps) et la réalité urbaine (les parcours et réseaux reliant les lieux du travail, de la « privée », des loisirs). Association surprenante car elle inclut en elle la séparation la plus poussées entre ces lieux qu'elle relie
- vii Les représentations de l'espace, c'est-à-dire l'espace conçu, celui des savants, des planificateurs, des urbanistes, des technocrates “découpeurs” et “agenceurs”, de certains artistes ... C'est l'espace dominant dans une société

viii C'est l'espace dominé, donc subi, que tente de modifier et d'approprier l'imagination.

Chapter 3 Methodological framework: socio-history of public action

i idée molle qui présuppose la déférence aux découplages académiques et aux institutions qui les perpétuent

ii C'est pourquoi les socio historiens n'ont pas éprouvé, jusqu'ici, le besoin de définir rigoureusement leur domaine. Tournée vers l'analyse de problèmes empiriques précis, la démarche est guidée par le souci de mieux comprendre le monde dans lequel nous vivons. Le choix des outils et la façon de les mettre en œuvre dépendent toujours des questions que l'étude a pour but d'élucider.

iii On parlera ici de l'histoire en tant qu'elle Porte en elle le présent. Le territoire de *Genèses*, ce sont nos sociétés : les processus qui les ont façonnées et les représentations qu'elles ont construites d'elles-mêmes. ... § L'apport de *Genèses* aux débats du présent sera de nourrir l'étonnement sur ce qui va de soi pour les protagonistes du monde social, d'interroger les évidences—celles de chacun, celles des institutions, celles des savants—pour mieux comprendre leur efficace dans les conflits et la régulation de notre société.

iv Par ailleurs, la science politique est un réceptacle et un espace de controverses plus ouverts pour ces tentatives d'hybridation disciplinaire que ne peuvent l'être d'autres disciplines plus anciennement institutionnalisées et donc plus repliées sur elles-mêmes, sur leurs acquis, méthodes, routines et types de construction d'objets scientifiques.

v En présentant les ficelles des enquêtes, les procédures concrètes de recueil de données et de conduite de la recherche, les travaux mettent en œuvre ce qui pourrait être caractérisé comme une véritable ethnographie socio-historique.

vi L'acteur est le résultat d'un processus tant social qu'individuel.

vii quitte à être surpris, étonné, quitte à voir ses premières intuitions être tantôt renforcées tantôt démenties. § La source, le matériau, les faits, les témoignages sont premiers et il ne 'agit pas de trouver simplement quelques exemples à l'appui d'une hypothèse, mais bien de se laisser guider par les matériaux dans un va-et-vient constant entre questionnement et sources, entre problématique et exemplification, ingérant tâtonnements, retours en arrière, impasses qu'il s'agit d'objectiver et d'ériger en objets de connaissance. ... Les socio-historiens développent donc une très grande sensibilité aux sources, ce qui leur permet de pénétrer leurs terrains avec une grande curiosité intellectuelle et en minimisant le poids des modèles préétablis, même si bien sûr des constructions problématiques, elles-mêmes reliées à des modèles d'analyse, guident leurs enquêtes.

viii Par ailleurs, ce ministère et son administration sont peu bureaucratiques : procédures de travail peu codifiées, contacts avec le public local directs et souples, organisation des services et des postes peu réglementés par des textes, etc.

ix Je n'écris pas de service à service, je téléphone ou je vois les ingénieurs en chef. Cela se passe d'homme à homme.

Chapter 4 The ring before the road: historical context to the construction of the ring road (1841–1943) and initial building steps (1943–1959)

i L'enceinte fait désormais figure d'un seuil plus politique et fiscal que militaire.

- ii Il y a actuellement sur la zone militaire 12.132 constructions d'ordres divers ; plus de la moitié, soit 6.805, ne sont que des baraques en planches ou en carreaux de plâtre sans valeur, et pour la plupart *non habitées* ; 3.134 sont des bâtiments essentiellement légers et d'essence précaire ; le reste, soit 2.193 bâtisses, représente 966 pavillons, 932 édifices à usage industriel ou commercial et 295 maisons de rapport dont 130 seulement ont plus de trois étages.
- iii Dans l'intérêt de l'hygiène et de la salubrité publique, les terrains composant la zone unique des servitudes militaires de l'enceinte de Paris continueront d'être grevés de la servitude *non ædificandi*
- iv [Heckly qui devient ainsi] le premier architecte parisien de tous les temps par le volume, sinon la qualité de sa production
- v C'est autour de Paris une large tache rouge qui s'étend. ... Paris, capitale du capitalisme, est encerclé par un prolétariat qui prend conscience de sa force
- vi Ce texte fonde, du côté communiste, la rhétorique de la banlieue rouge : la victoire offre un aspect stratégique, ave l'encercllement de Paris, capitale politique et économique du capitalisme ; le prolétariat ouvrier de banlieue prend la relève du peuple révolutionnaire parisien des barricades. Ce mythe mobilisateur—qui durera près d'un demi-siècle—exprime de façon forte la rencontre entre le jeune PC (SFIC), qui est alors une secte minoritaire, et une fraction de la classe ouvrière installée en banlieue parisienne.
- vii Si l'on veut comprendre le sens de l'organisation des institutions municipales parisiennes depuis la Révolution française jusqu'à la fin de la IIIe République, un fait marquant ne doit pas être oublié : l'Etat central a peur de Paris
- viii Au cours de nos lectures et de nos conversations sur l'avenir de Paris, nous avons presque constamment senti, chez des Français qui n'étaient point des réactionnaires, cette inquiétude plus ou moins avouée.
- ix Il fallait moderniser l'agglomération parisienne, cette banlieue dégueulasse où le pouvoir communiste ne s'exerçait qu'à travers la misère et la crasse des faubourgs, il fallait rendre les conditions de vie des banlieue rouges meilleures.
- x Loi du 4 juin 1941 autorisant l'exécution d'un programme de travaux d'équipement et d'urbanisme à réaliser dans la région parisienne.
- xi Aménagement, sur la « zone » de l'ancienne enceinte fortifiée de Paris, d'une ceinture de terrains de jeux et de sports et de promenades publiques.
- xii On ne concevrait pas que des parcs de sports et d'agrément eussent été aménagés sur l'emplacement de la zone sans qu'un boulevard ne fût réservé à la périphérie pour les desservir. § D'autre part, qu'advierait-il si Paris n'était séparé de la banlieue que par une simple voie de quartier de 15m00 de largeur ? § Sans le moindre doute, à bref délai, il ne manquerait pas de s'établir une confusion physique et économique entre la Capitale et les communes limitrophes. § Or, autant il est souhaitable qu'une même entité administrative régisse Paris et le département qui l'enserre pour en harmoniser les actions réciproques, autant il serait regrettable, du point de vue de l'aménagement et de l'embellissement de la Capitale, qu'elle se trouvât confondue avec sa banlieue.
- xiii Il importe donc d'éviter, à tout prix, que Paris ne 'coule' dans une banlieue qui l'enliserait à nouveau pour un siècle. § Paris, grand salon de l'Europe, requiert des soins, des sacrifices et des égards particuliers et il doit être défini d'une manière élégante et précise, afin que les étrangers abordant l'Ile de France, puissent dire : Voici Paris, sans la confondre avec Levallois, Aubervilliers, Pantin, Vitry ou Malakoff. Ce sera le rôle dévolu au boulevard périphérique de sertir de ses belles lignes de peupliers, d'ormes et de platanes, le territoire parisien. § Ce

magnifique “ring” de verdure pourrait, d’ailleurs, être jalonné de hautes tours carrées, d’architecture symétrique, dont les couples marqueraient les grandes sorties de la Capitale. § Elles seraient dotées de puissants projecteurs dont les fleurons de lumières traceraient au sein de la nuit, l’orbe magistrale de la « Couronne de Paris ».

xiv L’idée d’un boulevard de grande largeur devrait donc s’imposer pour des raisons de prévoyance.

xv En principe, le boulevard périphérique présenterait une largeur de 50m,00. Il comporterait en partant de la limite du territoire de Paris : un trottoir de 3m,00, une chaussée à double sens de 9m,00, un plateau planté de 8m,00, deux chaussées à sens unique de 12m,00, séparée par un plateau de 3m,00, et un trottoir de 3m,00. § La largeur de ce boulevard serait portée à 60m,00 au droit des trémies des passages souterrains. § En outre, une zone non ædificandi variant de 5m,00 à 20m,00 serait réservée le long des immeubles élevés à la limite du territoire de Paris.

xvi On a pensé qu’il convenait de profiter de la libre disposition des terrains zoniers pour établir à la limite de Paris une nouvelle voie de rocade que l’on a appelée ‘boulevard périphérique,’ destinée à remplacer les Boulevards Militaires dans le rôle de transit à circulation rapide. § Dans son aménagement définitif, la nouvelle voie doit avoir une largeur de 50m avec deux chaussées à grande circulation de 12m chacune et du côté banlieue une chaussée de 9m et un trottoir de desserte des immeubles riverains. § Bien entendu, ce profil ne sera pas réalisé immédiatement, en raison de la dépense élevée qu’il entraînerait et parce que les besoins de la circulation ne l’imposent pas encore ; on se contentera d’établir une chaussée de 12m et d’incorporer provisoirement la surlargeur aux parcs et jardins limitrophes. Cependant, dans la région sud où la circulation sur le boulevard Militaire est difficile, on adoptera tout de suite un profil plus large comportant une chaussée de 9m pour la desserte des immeubles riverains et une chaussée de 14m pour la circulation de transit.

xvii Priorité absolue pour les pistes rapides.

Chapter 5 Negotiating the routes of the ring road: the politics of technical reason

i le terrain était utilisé au mieux, l’alignement nord de la voie venant en contact avec le mur du cimetière ... Cette solution avait l’inconvénient de nécessiter entre autre, l’expropriation d’un marbrier, M. M***, dont les installations importantes étaient de date récente. C’est pourquoi nous avons présenté au Service du Plan de Paris vers le mois d’octobre 1940, une solution qui, empiétant plus largement sur la banlieue, permettait d’éviter cette expropriation. Le nouveau tracé (N°2 du croquis) projeté présentait un autre avantage celui de nécessiter une moindre emprise sur le parc en cours d’aménagement à la porterne des Peupliers sur l’ancien parc des Lazaristes. § Reconnaissant le bien-fondé de cette modification, le Plan de Paris l’adopta en principe, et, aggrava même l’emprise sur la commune de Gentilly pour suivre un tracé passant plus au sud (N°3 du croquis) ... Le 23 janvier 1941 M. le Directeur Général des Services Techniques était officiellement saisi de ce tracé et par note en date du 19 février 1941 donnait son accord au Service du Plan de Paris. ... § Les études de viabilité faites à la section SUD ont été poursuivies en tenant compte des alignements ayant fait l’objet de cet accord et en particulier nous avons présenté le 9 juin 1941 le projet de terrassements généraux ... Nous considérons que ce tracé était définitif. § Or à la conférence du 5 décembre 1941, sur l’aménagement de la zone, il apparut qu’un redressement du Boulevard était souhaitable entre la Porte d’Italie et celle de Gentilly afin d’éviter les sinuosités du tracé primitif cette modification était particulièrement demandée par les Services des Ponts et Chaussées. ... le 29 mai 1942 nous avons adressé à M. le Directeur un projet de tracé mis au point comprenant trois variantes (N°4, 5 et 6 du croquis). Notre rapport préconisait d’ailleurs l’abandon du redressement du Boulevard

- pour nous en tenir au tracé ayant fait l'objet d'un accord du 19 février 1941 ci-dessus rappelé. ... Aucune décision n'a été prise jusqu'ici sur principe de l'un ou de l'autre des tracés proposés.
- ii Le projet initial de tracé du Bd Périphérique comportait, entre la Porte d'Italie et la Porte de Gentilly, une succession d'alignements droit, courbes et contrecourbes de 125 et 170 mètres de rayon et un angle ~~vif~~ **prononcé** au droit de la sortie du Cimetière de Gentilly. Un tracé sinueux pour la traversée de la vallée de Bièvre est évidemment ~~très normal et même satisfaisant du point de vue esthétique~~, mais, dans le but de répondre aux nécessités de la circulation ~~qui est appelée à devenir très active~~ sur ce boulevard, **l'étude d'on a demandé d'étudier** un nouveau tracé plus rectiligne **s'est imposée**. § Le projet N°1, étudié par mes Services ~~serait ex-~~ [*words missing*] **convient** pour la circulation puisqu'il s'éloigne écarte peu de la ligne mais il oblige à démolir dans Gentilly un immeuble neuf de 7 étages, un de 4 et quelques autres de moindre importance ainsi qu'un cinéma et bouleverse les projets d'extension du [*words missing*] scolaire envisagé par la commune. § Le projet N°2 évite de ~~toucher~~ porter atteinte au projet d'extension du groupe scolaire, mais entraîne la démolition de divers [immeubles] dont celui de 7 et celui de 4 étages. § Le projet N°4, préconisé par ~~M. MESTAIS~~ **M. l'Inspecteur G^{rl} Chef des S.T. de Topographie et d'urbanisme** épargne l'immeuble de 7 étages mais nécessite la démolition des importants bâtiments des Lazaristes et d'une grande partie de ceux ~~des~~ **sont compris dans la communauté des Sœurs de St-Vincent de Paul**, ce qui paraît encore plus difficile à ~~faire~~ admettre. § Je ~~maintiens~~ **propose donc de retenir le mon** projet N°2, à moins que [*words missing*] des démolitions qu'il nécessite, on ne revienne au projet initial—très légèrement modifié qui est indiqué en retombe sur le plan au 1/2500° joint [*words missing*] [pré ?]senterait aucun rayon de courbure inférieur à 295m., ne n'entraînerait aucune démolition. § En outre, l'aménagement de Gentilly paraît plutôt [*words missing*] par cette dernière solution qui réserverait à la commune un maximum d'espace au sud du Bd Périphérique. § **La conférence réglementaire, en vue de l'examen du projet retenu, sera ouverte par mes soins dès que Monsieur ... Général m'aurai fait connaître sa décision.**
- iii Le tracé ... adopté de manière à laisser subsister les vastes bâtiments des ateliers du chemin de fer métropolitain, a nécessité des emprises importantes, sur la commune du Kremlin-Bicêtre, lesquelles entraîneront les expropriations correspondantes.
- iv Par note en date du 29 juin 1960, je vous ai communiqué deux solutions de prolongement du Bd périphérique à l'Est de la Porte d'Italie. La première évitait toute emprise sur les ateliers de la R.A.T.P. mais nécessitait l'expropriation de parcelles sur le territoire des communes du Kremlin-Bicêtre et d'Ivry ; la seconde imposait la démolition d'une partie des ateliers de la R.A.T.P., les expropriations en banlieue étant limitées à celles nécessaires à l'aménagement convenable du débouché du Bd périphérique sur l'avenue de la Porte d'Italie (RN 7). Votre note du 11 octobre 1960 m'a signalé les arguments qui vous paraissaient militer en faveur du second tracé : § - adoucissement du coude du boulevard périphérique plus compatible avec le caractère de la circulation qui doit emprunter cette voie ; § - localisation de l'assiette du boulevard périphérique dans les limites du territoire de la Ville de Paris ; § - possibilité de reconstruction des ateliers de la R.A.T.P. dans un cadre nouveau, plus en harmonie avec les transformations actuelles en cours dans le 3^{ème} secteur zonier.
- v Dans ces conditions, les difficultés rencontrées ont amené à reconsidérer la question et, au cours de la conférence qui s'est tenue le 12 septembre 1961, dans le cabinet de M. le Préfet, vous sembliez trouver préférable de revenir à l'expropriation totale sur la banlieue qui, donnant satisfaction à la fois à la R.A.T.P. et à la Direction des Beaux Arts, de la Jeunesse et des Sports permettrait, de plus, d'envisager la réalisation d'une vaste opération d'urbanisme dans la localité. § Dans cet esprit ... mes services ont entrepris de nouvelles études évitant toute atteinte aux installations de la R.A.T.P. Ces études ont abouti au projet que je vous adresse ci-joint. ... § Ce document met en évidence le souci de mes services de réduire l'emprise à réaliser sur les parcelles de terrain situées sur le territoire des communes du Kremlin-Bicêtre et d'Ivry et de

limiter, dans toute la mesure du possible, les difficultés que vous pourrez rencontrer auprès des municipalités intéressées. ... § Je vous demande d'intervenir aussi rapidement que vous le pourrez

vi Les conférences ont donc été amenés à se demander si le parti le plus sage ne serait pas, en définitive, de revenir à cette solution initiale, qui donnerait satisfaction à la fois à la R.A.T.P. et à la Direction de la Jeunesse et des Sports. ... Mais la possibilité du retour à la solution Banlieue restant évidemment subordonnée à l'adhésion préalable des Municipalités intéressées, une nouvelle conférence m'apparaît nécessaire, à laquelle devraient être conviés cette fois, M. le Docteur Antoine LACROIX, Député-Maire de KREMLIN-BICÊTRE, et M. Georges MARRANE, Sénateur-Maire d'Ivry. § Les expropriations envisagées devront, en effet, être suivies de la réalisation d'un vaste programme de reconstruction des immeubles riverains du futur Boulevard, qui se trouverait ainsi placé dans un cadre nouveau. § Cette opération d'urbanisme et de rénovation, à laquelle l'implantation du Boulevard pourrait ainsi se trouver liée, compléterait d'une manière harmonieuse les aménagements et les transformations actuellement en cours dans le 3^e secteur zonier. § [...] Pour ma part, au point où en sont arrivées les études, j'estime que si elle ne devait pas soulever de trop graves difficultés politiques de la part des Municipalités de Banlieue, la solution n°1 serait la plus rationnelle. Elle semble devoir être moins onéreuse : elle ne remet pas en cause le plan des espaces verts et des terrains de jeux du secteur ; elle a enfin l'énorme avantage de provoquer, en banlieue, une opération de rénovation urbaine hautement souhaitable.

vii Devant ces énormes difficultés, difficultés techniques, difficultés sociales, le tracé long, qui par ailleurs conduit à une rallonge, ce qui reporte peut-être la fin des travaux à dix ou quinze ans, ne semble pas pouvoir être retenu, tout au moins dans sa forme actuelle. C'est pour cela que nous nous sommes orientés vers la solution du tracé court.

viii la ligne la plus droite conduirait, après la Porte Molitor, par un passage en tranchée, aux pépinières du Fleuriste d'Auteuil, longerait l'avenue du général Sarrail puis passerait en souterrain sous le Jardin des poètes et sous l'avenue de la Porte-d'Auteuil, longerait ensuite le champ de courses d'Auteuil à l'est, en empruntant l'assiette actuelle de l'allée des Fortifications où, elle serait en souterrain au droit des immeubles et en tranchée ouverte, afin d'assurer la ventilation nécessaire, au droit des zones non bâties, et enfin, s'incurverait légèrement vers l'ouest, de façon à s'éloigner à plus de 50 mètres des alignements actuels de l'avenue du Maréchal-Maunoury et passerait sous l'avenue de la Porte-de-la-Muette

ix à proximité d'un long alignement de façades d'immeubles en très bon état

x C'est pourquoi avec l'Administration, nous avons recherché un tracé situé légèrement plus à l'ouest.

xi Selon le programme prévu pour la réalisation des diverses tranches, le tronçon compris entre la Porte d'Auteuil et la Porte Maillot figure en dernière place ; c'est pourquoi les dispositions générales de l'ouvrage ne sont encore qu'au stade de l'avant-projet. ... Il figure schématiquement au Plan d'Urbanisme directeur de Paris, approuvé par le Conseil Municipal en Janvier 1963.

xii le problème de la création d'une voie à grande circulation rapide traversant le Bois de Boulogne a sollicité depuis plusieurs années déjà l'attention des pouvoirs publics. Mais il a été considéré d'une part, que des travaux plus urgents devraient être entrepris par priorité, d'autre part, que la réalisation d'un tel ouvrage n'irait pas sans entraîner pour le Bois de Boulogne de cruelles mutilations auxquelles on ne peut se résoudre sans nécessité absolue.

- xiii Le problème posé par ce tracé constitue un point tellement sensible qu'il me semble préférable de faire preuve de la plus grande prudence dans la communication de tout document concernant cette question.
- xiv Laisser exécuter le boulevard jusqu'à la Pte Maillot d'une part, entre la Seine et la Pote de St Cloud d'autre part, avant d'entamer la procédure pour la traversée du Bois.
- xv Le tracé le plus court, qui consiste à passer en bordure du Bois de Boulogne (côté Paris) se présente dans les meilleures conditions tant du point de vue du résultat économique à atteindre que du rôle à lui impartir pour décongestionner la zone proche du 16^{ème} arrondissement. C'est également celui qui perturbera le moins possible le Bois de Boulogne.
- xvi Je vous informe qu'au cours d'une conférence tenue le 9 juillet 1965, en vue de l'examen du tracé du boulevard périphérique entre la Porte d'Auteuil et la Porte Maillot, M. le Préfet a pris très nettement position en faveur du passage à l'ouest du champ de courses d'Auteuil. Il a précisé que le tracé à l'est du champ de courses devait être abandonné, compte tenu de la position qu'il a déjà prise en diverses occasions, ainsi que des réactions qui ont suivi la suppression de l'hippodrome du Tremblay. Dans ces conditions, il ne saurait être étudié une solution qui toucherait, en quoi que ce soit, les installations du champ de courses d'Auteuil. § je n'ai pas manqué de souligner votre nette préférence pour la solution avec passage à l'est du champ de courses, mais la position de M. le Préfet semble définitivement arrêtée.
- xvii L'observation des conduits résidentielles de membres des grands cercles parisiens révèle la puissance des contraintes sociologiques. Les familles du Jockey, de l'Automobile Club de France, de l'Interallié, ou du Cercle du Bois de Boulogne, rassemblent une élite mondaine. Elles habitent dans un espace très limité : les 7^{ème} et 8^{ème} arrondissements, le nord du 16^{ème} et le sud du 17^{ème}, ainsi qu'à Neuilly et dans quelques rares autres communes de la banlieue ouest.
- xviii Je vous ai fait part des différentes interventions dont j'avais été l'objet en ce qui concerne la traversée du bois de Boulogne par le périphérique. § Ce matin encore, de nombreux députés de Paris m'ont interpellé à ce sujet. Je voudrais connaître, de façon très précise, l'importance des superficies couvertes par des dalles. Existe-t-il une partie de tracé supérieure à 300 mètres non couverte ?
- xix Les récents commentaires de M. le Préfet de la Seine, rapportés dans la presse du 15 avril, au sujet de la future implantation du tronçon de boulevard périphérique reliant la Porte de St Cloud à la Porte Maillot, en passant à l'Est du Bois de Boulogne, m'incitent à reprendre langue avec vous, après l'aimable entretien que vous aviez bien voulu m'accorder le 7 février dernier. § Je ne crois pas inutile, en effet, de vous faire part de l'émotion d'un certain nombre de riverains du Champ de Courses d'Auteuil qui, pensant à juste titre que notre Société est directement intéressée par les projets de votre administration dans ce secteur de la ville, s'adressent souvent à elle pour obtenir des précisions sur le tracé du boulevard périphérique.
- xx J'ai par ailleurs noté avec satisfaction que les spécialistes étudiaient également le projet d'un tracé de boulevard contournant par l'Ouest le champ de courses.
- xxi L'autre objection vient de ce que le tracé le long des avenues du Maréchal-Lyautey et du Maréchal-Franchet-d'Espérey se situe près des aliments d'immeubles importants. Là encore nous ne pensons pas que ce soit une situation exceptionnelle. Nous avons vu ailleurs des cas analogues, à la Porte d'Italie, à la Porte de Vitry, à la Porte de Bagnolet et à la Porte des Lilas, où le boulevard périphérique passe au pied des immeubles. Nous le regrettons, mais en certaines circonstances comment procéder autrement ? Là encore nous ne pensons pas que ce soit un obstacle décisif.
- xxii C'est une opinion, Monsieur le Préfet, ce n'est pas une démonstration.

- xxiii Aux avis des techniciens défavorables au projet on pourrait exposer ceux des techniciens qui y sont favorables ; mais chacun sait que ce genre de dialogue est un dialogue de sourds, une fois que l'Administration a pris son parti.
- xxiv les erreurs passées doivent au moins servir d'enseignement pour l'avenir
- xxv D'ailleurs, nous pouvons faire remarquer à cet égard que, notamment à la Porte de Vitry, à la Porte d'Italie, et dans le 18^e arrondissement, les locataires des H.L.M. ont le 'privilège' d'avoir le boulevard périphérique sous leurs fenêtres : on n'en a pas fait une affaire d'État! § On nous dit que ce tracé coûterait plus cher, bien qu'on ne nous en ait pas fait la démonstration évidente. Mais peut-on chiffrer la valeur monétaire du bois de Boulogne et de sa conservation ? Ne vaut-elle pas quelques sacrifices financiers ? (*Applaudissements à l'extrême gauche et à gauche.*). Sera-t-on jamais en mesure de rétablir, même avec beaucoup d'argent, un second bois de Boulogne à Paris ?
- xxvi Je vous prie de bien vouloir veiller à ce que d'ici là aucune mesure d'exécution ne soit engagée qui pourrait préjuger de la décision qui sera prise. § Vous voudrez bien vous conformer strictement à cette directive.
- xxvii De toute façon le Conseil de Paris est le Conseil de Paris, le Gouvernement est le Gouvernement et l'État est l'État : il n'est pas question que le Conseil de Paris impose son plan en dernier ressort. ... Il ne faut pas livrer la reconstruction de ce qui va être détruit aux gens qui ne penseront qu'à faire des affaires ; cet emplacement et son caractère imposent que nous nous en mêlions, nous, c'est-à-dire l'État. Nous devons avoir un plan et l'imposer ; qu'il soit fait par la Ville de Paris, oui, mais à une donation, qu'il soit accepté ici, sinon on aura des extravagances et des choses sans intérêt.
- xxviii Pourquoi, brusquement, ce tracé adopté par le Conseil municipal depuis longtemps a-t-il fait l'objet d'une nouvelle discussion en Conseil interministériel présidé par le chef de l'État ... § Mais surtout parce que des bruits étaient parvenus aux oreilles du général de Gaulle suivant lesquels on avait écarté le tracé direct en souterrain sous l'Allée des Fortifications ... pour ne pas mécontenter certains riverains fortunés et politiquement puissants. § Le général n'aime pas ce genre d'insinuation. »
- xxix Des réunions préparatoires inter-directions se tiennent. Le temps passe ; la religion de Doublet est faite—c'est le projet qui a été réalisé. On convainc tout le monde. Et puis le général décide d'évoquer le problème à lui. Quand on lui a présenté le projet, il a interrogé : « N'y a-t-il pas un argument supplémentaire, à savoir qu'on choisit d'éviter de passer sous les fenêtres de M. Marcel Dassault ? Pour cette raison, je veux que le boulevard périphérique passe là-bas. § Malgré sa sympathie personnelle, il ne fallait pas qu'on dise que l'État choisissait la solution qui épargnait un notable du régime. La femme de César ne pouvait pas être soupçonnée.
- xxx La discussion a été d'autant plus vive que ce dernier tracé peut comporter des variantes entre la Porte d'Auteuil et la Porte Maillot mais, dans tous les cas, entraîne certaines gênes pour les riverains ; or il s'agit de l'un des quartiers les plus riches de Paris ; d'où l'accusation que telle ou telle implantation est choisie non pour des raisons techniques mais sous des influences extérieures inavouables. § Il n'est pas douteux qu'une voie de ce genre, qui est par nature infranchissable transversalement (sauf pont ou passerelle) et qui est forcément bruyante de jour et de nuit, est d'un voisinage peu souhaitable pour des immeubles résidentiels malgré la commodité qu'elle représente par elle-même.
- xxxi Le Général de Gaulle pourrait peut-être juger personnellement de l'opportunité de la solution dont il s'agit en s'en faisant expliquer oralement les raisons par MM. Delouvrier et Doublet au cours d'une audience, cartes et maquettes à l'appui.

- xxxii Cette note a été montée au Général de Gaulle le 13.1.67 par M. Burin des Rosiers. En fait, le général était assez largement au courant, M. Haas-Picard l'ayant entretenu du problème en son temps et paraissant l'avoir convaincu. § Il demande au fond que M. Delouvrier revoie le problème de près lui-même et qu'on ne lui en reparle si, à l'issue de ce nouvel examen, il lui apparaît que le tracé adopté doit être revu. § J'ai informé M. Delouvrier de cette position le 14.1.67 au matin, ainsi que M. Doublet.
- xxxiii Ceci dit, je crois que, compte tenu de la position du Général -hostile jusqu'à plus ample informé, au trajet prévu- il n'y a pas intérêt, du point de vue de la sauvegarde du site, à retarder l'examen de l'affaire. Sinon, ce sera un imbroglio inextricable par rapport à la Ville notamment. § M. Burin des Rosiers doit se faire exposer demain matin à 10 heures dans son bureau le point de vue de MM. Delouvrier (favorable au tracé projeté) et Doublet, qui ont, hélas, d'assez bon arguments techniques. Je vais lui suggérer de vous faire signe.
- xxxiv Soumises au Conseil Municipal de Paris (qui pour 40%, participe au financement de la construction du boulevard périphérique, le complément étant assuré, pour 40% par l'État et, pour 20% par le District), ces diverses solutions donnèrent lieu, en décembre 1965, puis en juin 1966, à des débats longs et confus, au cours desquels les préoccupations de saine gestion voisinèrent avec des motifs moins avouables, fruits d'influences diverses et de la pression d'intérêts privés qui conduisirent finalement à l'adoption de la solution n°3.
- xxxv L'Étude gagnerait à être plus précise pour être, sur ce point, convaincante.
- xxxvi La gêne signalée dans l'hypothèse du tracé n°2 est incontestable mais elle ne serait pas supérieure, pour les riverains des boulevards des Maréchaux, à celle éprouvée par les résidents de la cité universitaire ou des immeubles implantés le long du périphérique, au nord de la capitale. On observera d'ailleurs que, selon des renseignements fournis antérieurement par la Préfecture de la Seine, des mesures de bruit ont établi entre 75 et 90 décibels, en plein circulation et à 20m des chaussées, le niveau des bruits sur les tronçons déjà construits du boulevard périphérique. Or, sur les boulevards militaires le bruit dépasse 100 décibels.
- xxxvii L'étude du tracé n°2, le plus direct et qui épargne le Bois doit donc être sérieusement envisagée. Des délais supplémentaires seront nécessaires car il ne semble pas ressortir des documents communiqués, que le projet ait été examiné de façon aussi approfondie que le tracé n°3. Mais la sauvegarde du Bois de Boulogne justifierait à elle seule ce retard dans la réalisation de l'ouvrage, qui est rendue possible, il faut le rappeler, grâce à un important coussin financier de l'État.
- xxxviii fait appel à votre Haute Autorité qui seule peut encore éviter cette irréversible mutilation dont Paris serait la victime et provoquer avec toutes les garanties désirables une nouvelle étude objective et pondérée de l'opération projetée, faisant passer avant tout l'intérêt général
- xxxix Dans l'intérêt général, les habitants de Montrouge, de Gentilly, ou de la Cité Universitaire supportent le préjudice que leur cause le passage de cette voie sous leurs fenêtres.

Chapter 6 The emergence of noise from road traffic as a social issue

- i l'avènement d'une nouvelle conception scientifique du monde sonore.
- ii Important reste que, entre 1955 et 1965, à peu de choses près, le bruit devient un *phénomène à part entière*, avec ses règles propres et ses découpes bien nettes.
- iii une catégorie à part entière des politiques publiques. La réglementation qu'ils inspirent est ambitieuse. Au point que les mesures prises en ces décennies défont l'inventaire.

- iv Outre l'interdiction du klaxon et des accélérations répétées, bientôt portée dans le Code de la route, outre la surveillance des « pétarades » et la fixation d'un seuil de bruit dûment contrôlé (quatre-vingt-quinze décibels), la ville s'attaque à l'immense texture des bruits quotidiens. Le battage des tapis est interdit, « hormis de sept à huit heures du matin » ; les appareils de radio doivent être « mis en sourdine »
- v Au regard des problèmes d'emploi et d'économie dans le département
- vi La multiplicité des textes de réglementation acoustique traduit un travail intense des pouvoirs publics à cette période, en vue d'objectiver des indicateurs de bruit permettant d'appréhender les situations de nuisances sonores et en particulier d'évaluer l'impact acoustique des infrastructures de transport.
- vii Les dispositions de la présente loi ont pour objet, dans les domaines où il n'y est pas pourvu, de prévenir, supprimer ou limiter l'émission ou la propagation sans nécessité ou par manque de précautions des bruits ou des vibrations de nature à présenter des dangers, à causer un trouble excessif aux personnes, à nuire à leur santé ou à porter atteinte à l'environnement.
- viii Monsieur le Préfet, § Nous avons l'honneur de vous informer des faits suivants qui ne manqueront pas de retenir votre vigilante attention. § Entre la Porte de Châtillon et la Porte Brancion ont été construits l'annexe du Lycée BUFFON et un groupe d'immeubles de la Société Anonyme de Gestion Immobilière. § Par la suite a été construit l'autoroute dit Boulevard [sic] Périphérique Sud, qui en point précis de son parcours longe très exactement le lycée et les immeubles à usage d'habitation. § L'intensité du trafic routier y est telle que les classes de l'annexe du Lycée BUFFONT ayant façade sur le Boulevard [sic] Périphérique qui doivent à la belle saison rester closes, le bruit rendant les classes impossibles, les élèves étant ainsi contraint à étouffer. § Les locataires de la S.A.G.I. riverains de l'autoroute sont condamnés à subir aussi longtemps que dure le trafic [sic] un vacarme les empêche de dormir tard le soir et très tôt le matin, cependant qu'eux aussi à la belle saison doivent garder leurs fenêtres closes sous peine d'être assourdis. Les jours fériés et les Dimanche y sont passés dans des conditions qui sont un défi à la santé et aux conditions normales d'existence auxquelles sont ont droit les familles. § Outre les graves inconvénients résultant du bruit, s'ajoute celui d'une atmosphère très fortement chargée d'émanations toxiques et malodorantes. § À une époque où les sommités médicales reconnaissent les dangers que fait encourir le bruit aux individus, et les très graves troubles qui à plus ou moins long terme en résultent, où, ces mêmes autorités se penchent sur le problème de la pollution atmosphérique dans les centres urbains, il est incontestable qu'une enquête sérieuse apporterait la preuve que la situation des élèves de l'annexe du Lycée BUFFON et celle des locataires des immeubles directement riverains de l'autoroute, méritent que les Pouvoirs Publics s'y arrêtent. § Il semble qu'une limitation impérative de la vitesse sur le tronçon de l'autoroute Porte de Châtillon - Porte de Brancion permettrait d'atténuer sensiblement le bruit, les moteurs ne tournant plus à plein régime et les roues crissant moins sur la chaussée. § Il ne s'agit pas dans notre esprit de contester aux usagers de l'autoroute, le droit d'y circuler, mais de faire valoir que les locataires, ayant l'infortune d'en être les riverains, ont le droit de pas être privés de leur sommeil, de leur repos et d'un silence au moins relatif.
- ix les chaussées à circulation rapides sont en tranchée, ce qui pensons-nous est une circonstance favorable pour lutter contre le bruit. Les revêtements sont en parfait état. De la part de notre service aucune amélioration ne peut donc être envisagée. Peut-être pourrait-on suggérer à la S.A.G.I. et à l'architecte du Lycée d'effectuer en bordure du boulevard des plantations à développement rapide formant écran.
- x Il ne semble pas que les riverains soient défavorisés au point de vue des émanations toxiques, vu la fluidité de la circulation et l'absence de rampes importantes imposant des changements

- de vitesse et reprises de moteur. D'ailleurs quelques prélèvements et analyses pourrait utilement faire le point à ce sujet si on l'estimait utile.
- xi La limitation de la vitesse dans une voie aussi importante que le Boulevard Périphérique qui présente des caractéristiques permettant une circulation rapide irait à l'encontre des principes qui ont conduit à sa réalisation.
- xii Monsieur le Préfet, Pendant toute la deuxième quinzaine de Novembre, une campagne a eu lieu dans la Presse, à la Radio, et à la Télévision Contre le Bruit, qui trouble le repos et la santé de la Population de Paris. § Cette campagne a été dirigée ou inspirée, à notre connaissance par le Préfet de Police de Paris et sans doute beaucoup de Parisiens ont été sensibilisés par cette campagne, car il leur apparait évidemment qu'il y a lieu, pour de nombreuses raisons, de prendre des mesures efficaces contre le Bruit toutes ses formes abusives. § ... en fonction du mandat que nous avons reçu de nos adhérents de l'Amicale de la S.A.G.I (Pte de Vanves, Ceinture Verte) ... de nous efforcer d'attirer votre attention sur les faits suivants. § Depuis des années, les locataires du groupe de la S.A.G.I, Pte. De Vanves et en particulier ceux qui sont riverains des immeubles construits parallèlement au boulevard périphérique ... sont victimes du Bruit (à la longue) insupportable provoqué par la circulation incessante des véhicules automobiles, qui ébranle les nerfs des adultes, trouble continuellement leur repos de jour comme de nuit, aussi bien en semaine, que le dimanche et les jours fériés et est souvent la cause, pour leurs enfants d'un état de santé maladif. § Évidemment cet état de choses n'est pas nouveau, mais il n'en est pas moins péniblement ressenti par tous ceux qui le subissent, c'est du reste pourquoi depuis plusieurs années, nous nous sommes adressé à plusieurs personnalités qualifiées en leurs adressant les plaintes et les doléances de nos mandants, mais aussi des suggestions pour nous efforcer de contribuer à apporter des remèdes à ce regrettable état de chose. § Hélas, jusqu'à présent nos efforts ont été vains, car de différents côtés il nous est apparu que l'ont [sic] se renvoyait la balle quant aux responsabilités et aux solutions. § Pourtant ceux qui sont les victimes permanentes du Bruit qu'ils subissent depuis trop longtemps, alors qu'ils ont la conviction qu'il est possible, avant la construction de nos immeubles, de le prévoir et de couvrir le boulevard périphérique en utilisant ensuite cette couverture comme parking, ces victimes au nom desquelles nous nous adressons à vous aujourd'hui nous ont chargé de vous soumettre une de leurs suggestions. § Cette suggestion à défaut de possibilités de la construction de la couverture du tronçon du boulevard périphérique ... consisterait en la construction de parois incurvées de renvoi du son (des bruits) provoqués par la circulation automobile, dans le sens opposé aux immeubles de la S.A.G.I.
- xiii Dressé à partir des plaintes reçues, le catalogue permettra d'orienter l'action préventive et répressive. Viennent en tête les « bruits gratuits » (pétarades de motos ou de voitures de sport, coups de klaxons et autres bruits nocturnes) ; puis les bruits des entreprises mécanisées et des chantiers ; en troisième lieu, les « bruits de voisinage » produits par les appareils ménagers, les postes de radio et de télévision et les bruits divers d'appartements ; en quatrième position, les bruits de la Rue (livraisons matinales, enlèvement des ordures ménagères, poids lourds sur certains axes, etc.), et enfin des bruits divers particuliers à certains quartiers : proximité du métro aérien que l'on souhaiterait voir équipé de pneus, sifflement des trains ou annonce du trafic dans les gares, carillonnement des cloches, etc.
- xiv La suggestion formulée dans la pétition présentée et visant à la construction d'écrans protecteurs destinés à renvoyer les sons constitue ici un élément nouveau qui, dans la mesure où il n'entraînerait pas de dépenses importantes et ne soulèverait pas de problèmes techniques ou esthétiques particulièrement graves, présenterait un intérêt certain.
- xv Les craintes exprimées par les habitants du voisinage paraissent donc entièrement fondées, d'autant que les ouvrages prévus ne seront pas ici, en tranchée, mais en surface, et même, pour la voie à trafic rapide, en viaduc.

- xvi Il semble que dans ces conditions, qu'aucun remède radical ne puisse être espéré du côté de la voirie. § Il conviendrait cependant d'inviter la Direction de la Voirie à examiner les conditions dans lesquelles il pourrait être remédié à certains inconvénients majeurs du trafic, et notamment si les écrans protecteurs suggérés par les pétitionnaires pourraient s'avérer efficaces dans le cas particulier. § Dans le même temps, la SAGI pourrait être invitée à étudier de son côté les mesures propres à isoler phoniquement les locaux situés dans les immeubles les plus exposés ou menacés : écrans de plantations, glaces épaisses, ou doubles parois de verre aux fenêtres, etc
- xvii Techniquement il n'est pas impossible de couvrir la partie du boulevard périphérique teintée en rouge sur le plan. ... Quant à la suggestion de faire des murs écrans à profil concave, nous ignorons tout de la valeur technique d'une telle solution. Il faudrait d'ailleurs traiter le mur Sud en parois susceptible d'absorber l'énergie sonore réverbérée par le mur Nord. L'aide d'un spécialiste serait indispensable.
- xviii Comme cela a été déjà fait lors de réclamations précédentes, nous adressons un projet de réponse rejetant la demande de M. Pa**.
- xix il semble que les progrès réalisés dans la technique d'utilisation du verre conduisent maintenant, en employant certains produits particuliers, à une meilleure isolation phonique des locaux, même situés en milieu bruyant.
- xx Par ailleurs, les mesures du niveau sonore faites à proximité du boulevard périphérique ont montré qu'il était inférieur à celui constaté sur les boulevards militaires ou en bordure des voies radiales de sortie de Paris.
- xxi Deux solutions sont proposées pour lutter contre le bruit à l'emplacement considéré ... § La première, celle que je vous ai déjà exposée, l'insonorisation des bâtiments, la seconde, suggérée, en outre, par la Direction de l'Urbanisme, la création d'ouvrages de protection sur le boulevard périphérique. § Une étude poussée de chacune d'elles doit être effectuée pour déterminer la solution la plus avantageuse sur le plan financier. § Je donne des instructions pour fournir les renseignements concernant la première et la deuxième solution dont la réalisation sera certainement très onéreuse et dont le financement paraît très difficile. Il appartient à la Direction de l'Urbanisme de fournir les renseignements concernant l'autre solution.
- xxii Monsieur le Président, § J'ai été saisi de plaintes des riverains du boulevard périphérique (entre la Porte de Vanves et la Porte Brancion) qui demandent de réduire considérablement les bruits de la circulation automobile sur cette voie. § Il ressort d'une étude de la question par l'Administration que la solution semble surtout résider dans l'amélioration de l'isolation phonique des locaux situés dans les immeubles les plus exposés au bruit. Il semble qu'un pareil résultat peut être obtenu en raison des progrès réalisés dans la technique d'utilisation du verre. § Je ne puis que vous inviter à étudier d'urgence les mesures propres à assurer l'insonorisation des locaux les plus exposés notamment par l'emploi de glaces épaisses ou doubles parois de verre aux fenêtres.
- xxiii Mon cher camarade, § ... Les conclusions, en ce qui concerne les solutions à apporter, sont assez peu nettes. La réduction du bruit à la source est une œuvre de longue haleine. Les solutions prévoyant l'organisation de l'urbanisme aux abords des grandes voies ne sont guère applicables dans le cas de voies traversant des tissus existants. Les solutions souterraines sont bien conçues mais coûteuses. Aussi avec M. Laure nous essayons de voir si la formule des « écrans » assez hauts ne pourrait être développée. J'ai demandé au CSTP s'il lui serait possible de poursuivre les études qu'il a entreprises. Il faudra sans doute faire des essais en grandeur et je pense que nous pourrions avoir des crédits pour cela. Dès que le CSTP aura réagi, je te préviendrai et nous pourrions examiner de concert les modalités pratiques à appliquer.
- xxiv J'attache beaucoup d'importance au problème du bruit au voisinage du périphérique. La résolution de ce problème risque d'ailleurs de conditionner la réalisation de certaines voies

- rapides en viaduc (avenue de Neuilly, avenue d'Italie, etc.) § Je suis d'accord pour faire les mesures de bruit chez ton beau-frère et donne des instructions dans ce sens au laboratoire de l'Éclairage. § En ce qui concerne les écrans de protection, je suis également d'accord en principe pour faire des essais sur les emplacements que nous pourrions choisir d'un commun accord.
- xxv les dispositions envisagées ... ont été mises au point après consultation de vos services tant pour les modalités d'accrochage à la structure de l'ouvrage que pour le mode d'exécution.
- xxvi Le choix d'un tronçon du Bd Périphérique situé en viaduc nécessite la mise en place d'un dispositif de bétonnage des poutres de l'ouvrage quelque peu rudimentaire et en tout cas inesthétique ; par ailleurs, la pose d'un écran de 4m50 de hauteur à 6m du sol ne manquera pas de soulever des objections sur le plan esthétique. § Le choix d'un tronçon du Bd Périphérique situé au sol ou en déblai me paraîtrait moins critiquable, l'écran se trouvant alors placé à un niveau moins défavorable à l'esthétique (abord des écoles de la Rue de Lagny sur le Périphérique Est qui a fait l'objet d'une question par exemple). § Sur le plan de l'opportunité, il me semble que, s'agissant d'un projet étudié par le Service Régional de l'Équipement, l'essai devrait plutôt se faire sur un tronçon d'ouvrage dépendant de ce Service, car le faire sur le Périphérique revient déjà à admettre que l'ouvrage crée des nuisances inacceptables puisque la Ville de Paris tente d'apporter un remède, et d'autre part à prendre les risques de tous ordres inhérents à tout dispositif nouveau. § Dans ces conditions deux hypothèses finales : § a) ou bien l'essai est concluant et il faudra équiper la quasi-totalité du développement du périphérique, § b) ou l'essai est négatif et l'on se trouvera en butte à des séries de recours pour incapacité d'apporter une solution aux troubles manifestes apportés par la présence de l'ouvrage (puisqu'il y a eu essai de remède).
- xxvii Comme suite à la transmission citée en référence de la lettre de Monsieur le Directeur Général de l'Office Public d'H.L.M. à Monsieur le Directeur Général de l'Aménagement Urbain du 27 mai 1970, je vous fais connaître, en ce qui concerne le secteur 8, en effet, l'isolement du Boulevard Périphérique seul paraît impossible. Les écrans sont laids et inefficaces [sic] pour les étages hauts et les modes de fixation comme celui projeté par le S.R.E. pour le viaduc du parc des expositions sont dangereux et totalement inesthétiques donc inacceptable. Par ailleurs, le coût de la protection des immeubles est certainement plus économique que l'isolement du Boulevard Périphérique pour un résultat plus sûr et sans inconvénient technique ou architectural.
- xxviii Il est certain que dans des cas comme celui-ci l'insonorisation la plus efficace est celle proposée par le BEA bien qu'elle présente l'inconvénient de n'être efficace que lorsque les fenêtres sont fermées ce qui doit être désagréable l'été. § L'écran type de celui du parc des exposition n'est qu'un palliatif qui n'est pas très satisfaisant tant du point de vue architectural que du point de vue de l'efficacité. § Par contre l'écran pourrait être efficace s'il était pensé dès la conception du projet et s'accordai directement à l'esthétique générale de l'ouvrage. Mais cela demanderait qu'une politique générale de lutte antibruit soit conçue dans un ensemble et que soit chiffrée l'économie réalisée dans le plan général par ces dépenses supplémentaires d'Équipement.
- xxix En réponse à votre transmission du 10 novembre 1970, j'ai l'honneur de vous faire savoir que l'expérience d'écran de protection annoncée dans la note du Service régional de l'équipement n'a pas été faite. À la date du 20 mai 1970, j'ai bien été saisi par ce service d'un projet d'écran expérimental à mettre en place sur le viaduc du parc des Expositions mais étant donné les objections que soulève ce projet, plus particulièrement à l'endroit proposé, aucun accord n'a été donné et l'affaire est encore à l'examen.
- xxx Objet : Nuisances du périphérique § Vous êtes intervenu dans de nombreux domaines, de la vie des Parisiens sauf en matière de pollution. § Il faut avant, les élections, faire deux ou trois opérations se rapportant au bruit et à la pollution. § Parmi les choix à faire, celui-ci pourrait en

être un : j'ai reçu les délégués des habitants du 13^{ème} qui sont les locataires des H. L.M. de la Ville de Paris. § Il s'agit des immeubles situés Rue Franc Nohain : 206 logements soit 1000 personnes ainsi que ceux de l'immeuble Rue Marceau copropriétaire 600 personnes. § He me suis rendue sur place le 26 octobre. § Les immeubles que nous, Ville de Paris, avons construits sur 7 ou 8 mètres du périphérique le bruit et l'odeur sont indiscutibles [sic]. § Or, à cet endroit le périphérique est couvert sur une centaine de mètres, si l'on pouvait prolonger. Cette couverture de 100 mètres de part et d'autre ce serait très bien. § Je demande le coût de ma proposition à M. DUSSART qui avait chiffré l'ensemble de la couverture. Je vous communiquerai les chiffres. § Intérêt politique § Je crois qu'il y en a un—les population du 13^{ème} sont en train de changer. La « zone » s'efface. Quelques gestes et le désarroi qu'entraîne la désunion de la gauche travaillerait pour moi—je n'ai pas trouvé de gens hostiles—mais des situations tristes—presque reconnaissants qu'on aille enfin les voir. § Voilà une visite à faire si vous acceptiez de débloquer les crédits nécessaires et que l'opération soit du domaine du raisonnable.

- xxxix La couverture du périphérique est un problème très important, mais probablement financièrement hors de notre portée. Le coût global avant été chiffré il y a déjà longtemps à 400 millions, je suis sûr qu'il atteindrait bien davantage. Ni la Région, ni l'État n'acceptent d'y participer, il serait probablement moins coûteux de démolir les immeubles en cause.
- xxxixii Ma position serait de dire : § - qu'il y a effectivement un problème, § - que l'étude faite jusqu'à présent n'est pas une solution puisqu'elle n'est pas finançable, § - qu'il faut la reprendre en recherchant différentes solutions : insonorisation peut-être de certains, démolition à terme peut-être et relogement bien sûr de certains autres, couverture dans des endroits très limités avec recherche de subventions, de l'État ou de la Région, etc...
- xxxixiii Je suis tout à fait de cet avis.
- xxxixiv À la suite de nombreuses plaintes que j'avais reçues des riverains de la Porte Maillot, et plus particulièrement du boulevard Maillot
- xxxixv Donc, c'est une affaire à reprendre dans son ensemble et il est hors de question que nous fassions des interventions ponctuelles.
- xxxixvi Je reçois de nombreuses doléances de la part de municipalités de banlieue, riveraines du boulevard périphérique, qui se plaignent des nuisances phoniques provoquées par la circulation intense sur cette voie. Le Conseil régional de l'Île de France m'a également demandé de lui faire propositions pour remédier à cette situation. § Je sais que la Ville de Paris a entrepris une étude et commencé certains travaux. Des débats ont eu lieu à ce sujet au Conseil de Paris qui n'a pas inscrit de crédits sur le budget de 1978. § Je pense néanmoins qu'il conviendrait d'établir entre les collectivités intéressées un programme pluriannuel et de définir les participations financières de chacune (État, Région, Ville de Paris, départements de la première couronne).
- xxxixvii Je n'ai aucune objection de principe à formuler à l'encontre de cette procédure. Vous n'ignorez pas cependant la charge financière que représenterait l'exécution d'un programme systématique de lutte contre les nuisances. § La Ville de Paris ne pourra envisager de s'engager dans une telle direction qu'autant qu'elle aura reçu des assurances fermes sur les concours financiers qui pourront lui être apportés.
- xxxixviii Le fait que la Région ait porté de 20% à 35% sa contribution à de tels travaux doit-il être interprété comme la conséquence d'une révision en baisse de la participation de l'État, dont la région assurerait le relais ? ... En tout état de cause, cela ne saurait signifier que les travaux de protection phonique doivent être effectués au profit des communes de banlieue. § Si certaines

- communes concernées pour une partie de leur territoire veulent profiter des travaux, il faut qu'elles prévoient un financement.
- xxxix Le périphérique est, à n'en pas douter, une voie construite sur un terrain communal appartenant à la Ville mais sa fonction est, à n'en pas douter, régionale, nationale et même internationale. De ce fait, la Ville de Paris n'entend pas consacrer l'argent de ses contribuables à protéger les communes de banlieue des nuisances résultant de ces trafics. Ceci est d'autant plus vrai que de très nombreuses communes de banlieue ont construit bureaux et immeubles à proximité de cet ouvrage et tout à fait postérieurement à sa réalisation.
- xi Il est vrai que les chances d'une réponse positive étant quasiment nulles, le risque est limité. Mais, il ne serait pas impossible que la région vous propose 50/50. Je crois même savoir qu'elle y songe sérieusement. Pourrions-nous en ce cas repousser totalement l'offre ? Je crains que non. Sauf meilleur avis de votre part, je serais enclin à être plus restrictif en insistant davantage sur le second préalable que constitue la capacité budgétaire de la ville.
- xli Il faut être plus prudent, d'autant plus qu'après avoir fait « les pieds au mur », la région semble maintenant vouloir aller de l'avant. Elle semble avoir reçu des instructions vraisemblablement en provenance de l'Élysée.
- xlii J'aurais aimé vous parler de vive voix de cette affaire où je sens que nous allons « dérapier » à nouveau. Billaud a parlé au maire d'arrangements dus aux bons offices du Pdt du Conseil régional. Si j'ai bien compris, la Ville prendrait 20% au lieu de 40% des travaux faits au profit de la banlieue ; les 20% restants seraient financés par la commune ou le département. Même à 20% l'affaire n'est pas mince au point de vue financier. § Mais surtout, le risque majeur me semble être que la couverture, seule solution efficace sur certains tronçons, est une chimère. Ça coûte des millions par centaines et c'est impossible à faire : on ne va pas barrer le périphérique pendant 2/3 ans. Sauf à dériver la circulation sur A86. Mais on en parlera utilement dans 10 ans ou 15 ! § Je persiste à dire qu'il ne faut pas « porter ce chapeau ». Tout le monde nous tombe dessus à ce sujet. Je ne comprends pas pourquoi ce chœur de vociférations ne désille [sic] pas les yeux ! Dans deux ans ce sera intenable et nous serons seuls face à la meute !
- xliii Il est bon que la Ville fasse apparaître globalement l'effort qu'elle fait pour la protection phonique des riverains du boulevard périphérique. C'est un sujet sur lequel nous sommes critiqués chaque année depuis longtemps déjà, c'est un sujet sur lequel nous sommes un peu faibles. Toute disposition qui permet de renforcer notre position est la bienvenue.
- xliv Des erreurs ont été commises. On a construit à Paris des immeubles en bordure. De même des communes ont laissé construire à côté du boulevard. § À l'origine, le Préfet de région refusait catégoriquement de financer les mesures contre le bruit. Mais le président de la République étant intervenu, il y a eu un revirement et le principe d'une participation de la Région et de l'État a été admis.
- xlv Le guide borne explicitement ses ambitions aux circulations denses et à la recherche d'un compromis entre diverses disciplines (route, bâtiment, occupation des sols). Pour cela, il introduit un langage normalisé et commun qui doit permettre, en quelque sorte, les échanges de décibels A mais qui ne peut prétendre à reconnaître ni a fortiori à mesurer déjà toutes leurs conséquences.
- xlvi Le bruit provoqué par les transports représente la part prépondérante du bruit perçu : la circulation fournit jusqu'à 80% du fond sonore urbain.

- i Question orale sans débat ... relative aux conditions de repos et de sécurité des habitants concernés par les travaux du boulevard périphérique entre la Porte de Bagnolet et la Porte des Lilas.
- ii Il est exact que les travaux entrepris ... à cet endroit de la Rue Léon-Frapié, gênent beaucoup, non seulement des locataires de l'Office, mais aussi les personnes qui viennent de banlieue et vont rejoindre la seule station de métro, existant dans ce secteur, celle de « Saint-Fargeau ».
- iii Enfin, je profite de la présente question orale pour présenter une nouvelle proposition, au nom des élus communistes du 20e, qui est aussi une revendication des locataires de ce groupe d'H.L.M. Elle a trait au bruit que va occasionner le trafic routier sur cette partie du boulevard périphérique, qui est à découvert, en tranchée, sans doute, mais pas assez profondément pour que le bruit ne monte pas. Il serait donc souhaitable que cette partie du périphérique soit couverte. § Cela va poser, non seulement des problèmes techniques nouveaux, mais aussi des problèmes financiers. Mais je pense qu'il est utile d'en faire l'étude et de retenir le principe de la couverture, en raison, d'une part, du bruit normal de la circulation et d'autre part, de la dénivellation de la Porte de Bagnolet vers la Porte des Lilas, dénivellation fatalement génératrice de bruits excessifs pour les files montantes comme pour les files descendantes où la rétrogradation est indispensable. Les locataires du groupe d'H.L.M. contigu seront donc dans une situation très inconfortable. ... § Pour ces différentes raisons, les locataires du groupe d'H.L.M. demandent la couverture de cette partie du périphérique ; la dalle pouvant servir d'aire de jeu et de détente pour les enfants
- iv Article 2—La partie du boulevard périphérique entre les rues de Noisy-le-Sec et Léon-Frapié et, au minimum les 30 mètres qui la précèdent, seront couverts, la dalle servant d'aire de jeux et de détente aux nombreux enfants et à la population du quartier.
- v Les locataires soussignés, du groupe H.L.M. des rues de « Noisy-le-Sec, des Fougères et Léon-Frapié » élèvent par cette pétition, une protestation auprès des Pouvoirs Publics responsables, sur les conditions de vie qui leur sont faites. § À savoir que le bruit occasionné par la circulation sur le Boulevard Périphérique (qui passe à moins de 50 mètres des immeubles) rend impossible tout repos des habitants du groupe, de jour comme de nuit, toutes fenêtres closes. § Ils rappellent qu'avec leur Amicale de Locataires, et les Conseillers de Paris élus du secteur, ils avaient dès 1968, demandé la couverture complète du tronçon du Boulevard situé entre les ponts de Noisy-le-Sec et Léon-Frapié (qui n'a été réalisée que partiellement). § Ils réitèrent cette demande et insistent pour que des travaux soient entrepris et menés rapidement, car leur situation actuelle est intenable et ira en s'aggravant avec la circulation plus intense. § Ils s'engagent à mener une campagne active de protestation par tous les moyens légaux en leur pouvoir pour faire aboutir leur bon droit au repos.
- vi le repos des locataires des immeubles du groupe est totalement perturbé, même les fenêtres fermées ... § On peut estimer la densité du bruit aux heures de pointes entre 70 et 80 décibels. La nuit entre 22 heures et 7 heures du matin la résonance des moteurs des gros camions internationaux qui montent la côte de la Porte de Bagnolet à la Porte des Lilas est telle que les locataires ne peuvent avoir le repos qu'ils ont droit. § Cette situation risque d'atteindre profondément l'équilibre physique et psychique des familles de ces immeubles. § La présente pétition attire l'attention des pouvoirs publics sur le fait que ces bâtiments sont construits sur armatures métalliques, avec remplissage d'agglomérés de béton, de ce fait rendus plus sensibles aux vibrations ; de plus les pignons d'angles se trouvent entre 16 à 20 mètres de la bordure du trottoir du périphérique, entre les deux ponts d'où amplification du son qui se répand en écho dans les appartements à tous les étages.
- vii J'ai l'honneur de vous préciser que la Ville de Paris a déjà consenti des efforts financiers très importants en vue de perturber le moins possible les conditions de vie des habitants ... En effet, alors que le dossier technique du tronçon correspondant du boulevard périphérique, approuvé

- par délibération du Conseil de Paris du 2 juillet 1964, prévoyait l'établissement au-dessus des chaussées rapides de deux ponts de 20 m de largeur pour assurer le passage de la Rue Léon Frapié et de la Rue de Noisy-le-Sec, des mesures particulières ont été prises en vue de réduire dans la mesure du possible, les nuisances dues aux bruits. C'est ainsi que l'ouvrage de la Rue Léon Frapié a été prolongé vers le Sud par une couverture de 45 m de longueur ... De plus, des plantations supplémentaires ont déjà été établies et d'autres seront encore aménagées dans ce secteur. ... § Un nouvel allongement de la couverture entraînerait des dépenses supplémentaires de gros-œuvre très importantes, en raison de la nature des terrains rencontrés et en rentrant l'exploitation plus onéreuse du fait de la nécessité d'assurer l'éclairage diurne.
- viii C'est donc en toute connaissance de cause que l'emplacement des immeubles a été fixé.
- ix Pour les protéger du bruit, la Ville de Paris a accepté de couvrir le Boulevard Périphérique sur une longueur de 45 m, en portant la largeur du pont Léon Frapié de 20 m à 65 m, ce qui a représenté une dépense supplémentaire d'environ 3 millions, compte tenu de terrains de fondation particulièrement mauvais, la protection des ... immeubles en cause ayant été l'unique raison de cette dépense.
- x A la suite des interventions des élus du secteur en mars 1968, le dossier d'adjudication des ouvrages du boulevard périphérique compris entre les portes de Lilas et de Bagnole a été modifié au moment de l'appel à la concurrence pour atténuer les nuisances aux immeubles pouvant provenir de la circulation.
- xi Lors de l'exécution des travaux, des mesures particulières ont été prises en vue de réduire, dans la mesure du possible, les nuisances dues aux bruits.
- xii Bien entendu, les bruits de la circulation sont dans ce secteur nettement plus importants avec la mise en service du Boulevard Périphérique, de la même façon qu'ils ont fortement diminué le long des boulevards des Maréchaux.
- xiii Quoiqu'il en soit, il ne paraît pas envisageable de couvrir totalement le Bd Périphérique entre la Rue Léon Frapié et la Rue de Noisy-le-Sec. Seule une couverture lourde, présentant une grande inertie étant efficace sur le plan phonique, celle-ci représenterait une dépense de plus de 6 millions de francs.
- xiv sans compter les dépenses d'éclairages et de ventilation qu'elle nécessiterait.
- xv Un nouvel allongement de la couverture entraînerait des dépenses supplémentaires de gros œuvre très importantes en raison de la nature des terrains rencontrés et des dépenses supplémentaires d'exploitation résultant de la nécessité d'assurer l'éclairage diurne et la ventilation artificielle de l'ouvrage. Les dépenses correspondantes seraient de l'ordre de 6 millions. Les crédits affectés au boulevard périphérique ne permettent pas d'envisager cette réalisation.
- xvi Ces pressions acoustiques à proximité des bâtiments correspondent sensiblement à celles relevées dans les voies urbaines de circulation moyenne.
- xvii Si je reviens aujourd'hui à cette tribune c'est parce que notre proposition n'a pas été suivie d'effet. Le pont de la Rue Léon-Frapié a bien été prolongé d'une quarantaine de mètres par la réalisation de ce qu'on pourrait appeler une "mini-couverture", mais ces travaux ne sont pas de nature à changer quoi que ce soit aux difficultés rencontrées. § Par ailleurs, depuis décembre dernier, la circulation est ouverte sur ce tronçon du boulevard périphérique et les locataires en subissent les effets. Ils constatent que la "mini-couverture" dont je viens de parler n'est pas de nature à résoudre le problème. Il devient, en effet, impossible pour les habitants de ces H.L.M. de se reposer, de vivre normalement, aussi bien le jour que la nuit. ... Excédés par cette situation, ils ont à nouveau émis des protestations dont leur amicale s'est fait l'interprète, ces

jours derniers. Une nouvelle pétition a circulé dans les foyers. Peut-être, d'ailleurs, Monsieur le Préfet, vous est-elle déjà parvenue ? Elle a été envoyée à différents services.

xviii Je vous demande Monsieur le Préfet, quelle suite vous entendez donner à cette affaire. Allez-vous prendre des mesures d'urgence pour donner satisfaction aux habitants concernés ? Autrement dit la couverture totale de cette partie du boulevard périphérique va-t-elle être entreprise rapidement ? § Soyez certain que les locataires du groupe sont très attentifs à la réponse que vous allez faire. Ils le sont d'autant plus qu'ils savent que des travaux importants sont entrepris dans un quartier résidentiel de la capitale, celui du bois de Boulogne, pour détourner le boulevard périphérique afin de ne pas gêner les riverains, ce qui d'ailleurs me paraît tout à fait normal. Mais ce qui serait aussi tout à fait normal, c'est que les habitants de ce quartier populaire du 20ème arrondissement soient traités de la même manière.

xix Croyez bien qu'ils sont très sensibles à cet argument. Vous pouvez donc juger en connaissance de cause. Je souhaite que vous me donniez tous les apaisements nécessaires et que soient réalisés dans les meilleurs délais, les travaux dont nous avons en novembre 1967, proposé l'exécution ...

xx Monsieur Férygnac, vous avez rappelé que l'Assemblée parisienne a décidé d'épargner aux habitants fortunés du 16ème arrondissement d'être incommodés par le bruit du boulevard périphérique. On a sacrifié pour eux une partie du Bois de Boulogne. Ce qui était valable pour les habitants du 16ème arrondissement l'est aussi pour ceux du 20ème arrondissement. Je ne sais pas pourquoi nos architectes n'ont pas prévu de dispositifs d'insonorisation dans les immeubles dont vous venez de parler. Puisqu'ils ne l'ont pas fait, il faut couvrir le boulevard périphérique aux endroits que vous avez indiqués ...

xxi Ceux-ci à l'époque, ont donné la priorité à des compositions d'ensemble et admis effectivement une distance un peu faible par rapport aux chaussées du boulevard périphérique, mais à Paris on manque de place, même sur la zone. Il faut dire aussi qu'à cette époque la question du bruit avait été assez peu examinée. Les études récentes ont montré d'ailleurs sa complexité.

xxii Lors de l'exécution des travaux et en accord avec la 3^{ème} Commission, plusieurs solutions ont été étudiées en vue de limiter les propagations sonores vers les deux immeubles les plus proches.

xxiii Mesures de bruit en bordure du Boulevard Périphérique à hauteur de la Rue Léon Frappié [sic]

xxiv Remarque : Ces mesures, effectuées très rapidement, n'ont qu'une valeur indicative, et mettent en évidence la nécessité de définir soigneusement les conditions dans lesquelles elles sont faites, en particulier en ce qui concerne la météo et les débits de circulation.

xxv Donc nous pouvons conclure que l'effet de la couverture déjà réalisée est extrêmement sensible pour la protection phonique. § En tout cas, ces niveaux de l'ordre de 65 à 67 décibels sont des niveaux relativement faibles pour une zone urbaine. Le long des boulevards de Paris, le long du boulevard Saint-Germain, du boulevard Malesherbes, du boulevard Saint-Michel, etc. on a couramment 75 à 80 décibels. § Il faut reconnaître que les habitants de ce quartier du 20e arrondissement ont été, pendant de nombreuses années, dans une situation relativement privilégiée, jouissant d'un grand calme, puisqu'il n'y avait effectivement pas de bruits de circulation à proximité de chez eux. Je comprends qu'ils ne trouvent pas le changement très agréable. Mais je crois qu'il faut, tout de même, considérer qu'ils ne sont pas dans une situation particulièrement mauvaise par rapport aux riverains d'autres rues ou d'autres grandes voies de Paris.

xxvi Je ne doute pas que des problèmes d'ordre technique se posent, mais je pense tout de même qu'ils peuvent être résolus, dans la mesure où on donnera à l'Administration les moyens financiers nécessaires. Une couverture de cette partie du boulevard périphérique peut très bien

être réalisée. Les installations de lumière sont réalisables aussi puisque cela se fait dans d'autres cas. § M. le Secrétaire général adjoint de Paris—L'opération coûterait 6 millions. § M. Michel Férignac—Oui, c'est ce que je disais ; il s'agit bien, en effet d'un problème financier. § Mais je pose à nouveau la question. Puisque, dans certains quartiers de Paris, on détourne le boulevard périphérique pour ne pas gêner une partie des habitants, ce qui est, je le redis tout à fait normal, pourquoi ne pas prend-on pas, sur une autre section de cette voie, les mesures nécessaires pour donner aux populations en cause la possibilité de vivre dans de meilleures conditions ? § Ainsi que je l'ai dit, on peut fort bien couvrir cette partie du boulevard périphérique. Je sais très bien qu'on ne pourrait pas couvrir le boulevard Saint-Germain si le problème s'y posait, car on se trouverait en face d'autres difficultés, mais, pour cette partie-là du boulevard périphérique, c'est fort réalisable du point de vue technique. § Vous avez parlé, Monsieur le Directeur, des plantations qui doivent être mises en place et donc vous disiez qu'elles permettraient de résorber en partie le bruit. Je l'admets pour les personnes qui circuleront parmi ces plantations, et également pour celles qui habitent au 2^{ème}, au 3^e et même au 4^{ème} étage, mais je vous signale que les tours signalées comportent jusqu'à treize et quatorze étages, et c'est justement les étages supérieurs que le bruit de la circulation du boulevard périphérique se répercute le plus. Ce ne sont pas les plantations qui y changeront grand-chose. ... § M. le Président—Monsieur Férignac, déposez-vous un projet de délibération ? § M. Michel Férignac—Monsieur le Président, j'en ai déposé un il y a déjà deux ans et demi ! Je l'ai rappelé dans mon intervention aujourd'hui, en espérant qu'il puisse aboutir enfin.

- xxvii Boulevard Périphérique—État d'avancement des travaux et aménagements prévus au titre de la protection de l'environnement.
- xxviii Son aménagement fait l'objet d'une attention toute particulière apportée à l'esthétique des ouvrages et à la protection des sites.
- xxix dans le cadre de la politique de protection de la nature et d'amélioration des conditions de l'environnement préconisé par le gouvernement, l'Administration a cherché avec beaucoup de soin les solutions qui permettraient d'éviter, à proximité des immeubles d'habitation, certaines nuisances dues à la circulation intense du boulevard périphérique, notamment en matière de bruit. Selon les emplacements, en raison des caractéristiques locales du boulevard périphérique, deux types de solutions peuvent être envisagées : § - soit la couverture du boulevard ; § - soit l'insonorisation des fenêtres ... § La partie en tranchée d'une longueur de 90 m environ, [entre les immeubles du groupe Léon Frapié – Noisy-le-Sec], peut être aussi couverte dans la même intention. § L'aménagement comportera une dalle pleine assurant la liaison entre les deux parties de jardins environnant les immeubles. Le coût des travaux est évalué à 10 millions de francs et la longueur totale de la partie couverte (près de 180 m – obligera à prévoir un éclairage permanent.
- xxx Elle s'est félicitée, en particulier, du projet de couverture du boulevard périphérique au droit des immeubles de la Rue Léon-Frapié et de la Rue de Noisy-le-Sec, opération qui permettra d'assurer la jonction des jardins déjà existants et de réaliser ainsi un espace vert qui est bien nécessaire dans cette partie de la capitale.
- xxxi Vous comprendrez néanmoins que nous nous soyons insurgés contre le fait que rien n'était proposé pour remédier à ce bruit dans les arrondissements populaires, alors que des sommes considérables étaient affectées à la protection contre ce mal dans le 16^{ème} arrondissement.
- xxxii nous pensons que le ministère de l'Environnement ne doit pas se border à faire des propositions dont l'adoption serait aux frais des collectivités locales et des organismes qui les retiendrait. Il doit les accompagner d'une aide réelle, budgétaire, de nature à inciter à la mise en pratique d'une véritable politique de l'environnement.

- xxxiii Il est d'autres solutions, telles que la construction de murs latéraux antibruit, mais elles ne sont pas efficaces pour des immeubles très hauts parce que le son passe par-dessus de ces murs, à moins que ceux-ci ne soient d'une hauteur excessive. En outre, ces murs présentent, pour le niveau du sol, un inconvénient d'environnement parce qu'ils coupent les perspectives. Il est plus naturel que celles-ci puissent s'étendre d'un côté à l'autre du boulevard périphérique et que l'on ne se trouve pas devant des murs qui reformeraient une sorte de fortification autour de Paris, ce qui paraît devoir être évité.
- xxxiv la dotation affectée aux travaux de protection de l'environnement du boulevard périphérique
- xxxv En tout cas, il est scandaleux que la population riveraine doive encore attendre des années peut-être avant que soit couverte cette partie du périphérique. ... votre réponse ne peut que nous inquiéter en ce sens que même si le projet de couverture d'une partie du périphérique a été adopté, il n'en reste pas moins, si je comprends bien, que nous n'avons que pour un dixième des autorisations de programme qui seraient nécessaires à sa réalisation complète. Sans les neuf dixièmes manquants, je ne vois pas en quelle année on pourra commencer à couvrir cette partie du périphérique, bien que le projet en ait été admis.
- xxxvi Nous sommes intervenus depuis de nombreuses années et non pas seulement en juin de l'année dernière sur les aspects des répercussions de la circulation du périphérique pour les riverains. Et j'ai rappelé en juin que nous étions intervenus avant même la construction du boulevard. § ... il s'agit d'une extrême urgence. § Les habitants des secteurs concernés sont là pour nous le rappeler périodiquement. Nous les comprenons, car eux subissent chaque jour les agressions de ce bruit permanent ! § Dans la situation actuelle, toutes les mesures retardant le règlement de ces problèmes auraient pour conséquence une exaspération extrême de ces populations, et je suis mesuré dans mon propos ! § ... Le retard apporté à l'étude de ces propositions fera que nous ne serons pas en mesure d'inscrire au budget les crédits correspondants : c'est ce que nous craignons en juin et que nous avons voulu éviter en déposant notre proposition à cette époque. ... § [Monsieur le Préfet] vous nous proposez cette inscription dans le cadre du budget de 1975, ce qui voudrait laisser penser que dans le meilleur des cas ces travaux d'insonorisation interviendraient en 1976. § Pour notre parti, nous ne pouvons accepter un tel report, et l'obligation de revenir une nouvelle fois devant notre Assemblée ne peut être acceptée pour un tel problème. Les personnes concernées ne le comprendraient absolument pas. § L'an dernier, des crédits étaient prévus à cet effet. Ils ont été reportés sur d'autres travaux, notamment sur ceux de la Porte Maillot, avec promesse, rappelez-vous, de réalisation en 1974.
- xxxvii Il y a nuisance, nuisance grave ! Et, Monsieur le Directeur, vous connaissez les moyens techniques d'y mettre un terme, nous les connaissons aussi mais vous les connaissez mieux que nous car nous ne sommes pas des techniciens ; et puisqu'il y a les moyens techniques, mettons-les tout de suite au service de la population. § Quand vous aurez terminé le compte du boulevard périphérique, ce sera la Ville de Paris, et la Ville de Paris seulement qui devra supporter ces dépenses alors que, tant que le compte du périphérique n'est pas clos, la participation de l'État et du District nous sera acquise. § Alors, pour des raisons de santé, d'humanité, faites vites et pour des raisons financières également !
- xxxviii Cher Monsieur le Président, § Nous avons eu l'occasion récemment de nous entretenir du passage du boulevard périphérique en bordure du Bois de Boulogne et vous aviez bien voulu à ce propos appeler spécialement mon attention sur les caractéristiques de la section de cet ouvrage à la hauteur de la place de la Colombie. § Je suis en mesure de vous préciser que le boulevard périphérique sera, à cet endroit, en tranchée couverte. § ... Il n'en résultera donc aucune gêne pour les riverains de l'avenue du Maréchal Manoury, dans sa partie comprise entre la Rue Ernest Hébert et la place de la Colombie. § Je pense que cette indication apaisera les inquiétudes dont vous aviez bien voulu me faire part. ... *Bien fidèle et amicale sympathie.*

- xxxix Le Président Jean D*** absent de Paris, m'a chargé de vous faire savoir le plaisir qu'il avait eu à vous rencontrer et m'a prié de vous faire parvenir le projet du passage du périphérique place de Colombie, qui vous avez examiné avec lui.
- xi Mon cher ami, § Je viens d'apprendre que vous avez eu une brillante promotion et que vous êtes chargé de la Direction Générale des Services Techniques et je vous adresse toutes mes félicitations. § D'autre part je vous remet un petit dossier, que mon Président, Monsieur Jean D***, a fait établir par un Architecte et qui comporte une variante par rapport au projet actuel. § Je vous serais très reconnaissant de me dire s'il est possible de retenir la solution proposée. § Je vous en remercie à l'avance et vous prie de croire, mon cher ami, à mes sentiments les meilleurs.
- xli Le tracé adopté par le Conseil municipal de Paris résulte d'études minutieuses entreprises à la suite de longues discussions, tant avec les élus parisiens qu'avec les représentations du ministère des Affaires Culturelles. § De plus, le Bois de Boulogne constituant un site classé, les commissions départementales et supérieures des sites ont été appelées à se prononcer sur le projet qui leur a été soumis. ... § Les problèmes posés par le tracé du boulevard périphérique au droit du Bois de Boulogne revêtaient une importance telle que le projet a fait l'objet d'un examen en Comité interministériel. Les dispositions envisagées ont reçu un accord de cette autorité et, en conséquence, il ne peut être envisagé de revenir sur les caractéristiques des ouvrages dans ce secteur. § Toutefois, dans le cadre du projet retenu, et de légères rectifications sont étudiées et certaines améliorations localisées sont actuellement en cours d'examen dans le but de réduire les nuisances éventuelles pouvant résulter de la présence du boulevard périphérique dans ce secteur.
- xlii Cette question n'est pas inscrite à l'ordre du jour, mais M. le Préfet désire en parler à M. Dussart à l'issue de la conférence.
- xliii À l'issue de la réunion des Directeurs, du 16 juin 1969, vous m'avez entretenu de la question des dispositions techniques envisagées pour le boulevard périphérique aux abords de la Porte de la Muette. § J'ai l'honneur de vous adresser un projet de lettre à M. D***, Président Directeur Général de la Société ***.
- xliv Comme suite à notre conversation, je vous adresse ci-joint les éléments de réponses relatifs au tracé du boulevard périphérique entre Passy et la Muette, sous forme d'un projet de lettre à M. D*** avec un plan schématique de la partie en cause.
- xlv Monsieur le Président, § Vous avez bien voulu attirer à nouveau mon attention sur le tracé du boulevard périphérique au droit de la Porte de la Muette et sur la réalisation du tronçon compris entre la Porte de Passy et la Porte de la Muette. ... § Depuis juillet 1968 quelques retouches de détail ont été apportées au projet, elles ont consisté à déplacer l'axe du boulevard vers l'Ouest de façon à l'éloigner des immeubles et à diminuer le nombre d'arbres touchés par les travaux. § Au sud de la Porte de la Muette ... une tranchée couverte de 65 m de longueur permet le passage des piétons empruntant la route des Pins et l'allée des Dames ...
- xlvi Cet impératif financier me conduit à ne pouvoir donner une suite favorable à votre demande mais par contre l'éloignement de près de cent mètres dans un site boisé des immeubles de l'avenue du Maréchal Manoury atténuera sensiblement les nuisances dues à la circulation sur le boulevard périphérique. D'autre part cet ouvrage qui absorbera une partie non négligeable des véhicules empruntant actuellement le boulevard Suchet et les voies parallèles améliorera certainement la situation des habitants du quartier au point de vue de l'environnement.
- xlvii Mon cher Préfet, § Je ne sais comment vous remercier de la peine que vous avez prise pour m'écrire au sujet du boulevard périphérique en me donnant tous les détails et toutes les raisons des solutions qui avait été adoptées. § Je suis confus de venir vous faire encore une petite suggestion qui, je crois, pourrait être envisagée. Bien entendu, je comprends très bien qu'on ne

puisse réaliser complètement la couverture entre la Route de la Muette et l'avenue de Saint-Cloud ; mais ne pourrait-on pas légèrement la prolonger vers l'Allée des Dames, d'une centaine de mètres, de manière à réduire légèrement l'ouverture qui se trouve entre l'avenue de Saint-Cloud et l'Allée des Dames ? C'était mon propos lorsque je vous en ai parlé. Je crois que Monsieur Herzog, Directeur des Travaux de la Ville de Paris, est au courant de cette suggestion et il ne m'avait pas paru hostile lorsque je lui en avais parlé. § Je fais toute confiance à votre bienveillance pour adopter telle solution que vous estimerez techniquement convenable. Je joins à cette lettre un plan qui montre la partie qu'il me serait agréable, si cela est possible, de voir couverte. § En m'excusant de revenir sur cette question, je vous prie de croire, mon cher Préfet à *mon amical souvenir* § *PS : Et encore merci [illisible] pour toute la peine que je vous ai causée.*

- xlvi
Il faut [illisible] la dépense supplémentaire § - couverture § - éclairage [illisible] + Dépenses annuelles éclairages et ventilations. § et il faut surtout refuser en indiquant que le projet a été approuvé par le Conseil et que la distance aux immeubles et le profil long sont tels qu'il ne résultera aucune nuisance.
- xlvi
Monsieur le Directeur, § Comme je vous l'ai expliqué au cours de ma visite, je me permets de vous suggérer une solution au tracé du Boulevard périphérique au droit du secteur n° 9 ; solution qui tient compte des observations exprimées par Monsieur TOLLU, rapporteur de la 3^{ème} Commission, au cours de son exposé fait le 30 juin dernier au Conseil Municipal et dans lequel il a demandé que « la Direction Générale des Services Techniques revoie la question particulière des parties proches des habitants, près de la Rue Catulle Mendès. » § Je pense que le tracé figuré sur la plan que je vous remets ci-joint donnerait satisfaction à Monsieur TOLLU.
- l
Je vous signale que d'après les services du Quai de la Rapée, avec lesquels j'ai pris contact, l'éloignement du Boulevard périphérique peut être techniquement envisagé.
- li
Comme vous le verrez sur les plans ci-joints, le plan que je vous est [sic] laissé au cours de ma visite a été modifié en tenant compte de votre suggestion de couvrir le Boulevard au Nord de la Rue du Caporal Peugeot.
- lii
tracé proposé créant une zone d'espaces verts de 80 mètres
- liii
Monsieur le Directeur, § A la suite de l'entretien que j'ai eu avec lui, Monsieur MORDILLAT m'a indiqué qu'à une intervention d'un parlementaire, M. HERZOG avait répondu que l'éloignement vers l'Ouest du boulevard périphérique, au droit de la Rue Catulle Mendès, pouvait être techniquement envisagé si la direction de l'Urbanisme n'y voyait pas d'objection. § J'ai eu depuis une entrevue avec M. ROUSSILHE, Directeur de l'Urbanisme. Ce dernier serait d'accord en principe sur ma proposition, mais m'a suggéré qu'il préférerait que le boulevard périphérique soit couvert depuis la Rue du Caporal Peugeot jusqu'à l'alignement de la Rue Jean Moréas, ce qui augmenterait la surface utilisable du secteur n°9, et donnerait satisfaction aux observations exprimées par Monsieur TOLLU—rapporteur de la 3^{ème} Commission—au cours de l'exposé qu'il a fait devant le Conseil Municipal le 30 juin dernier. J'ai donc établi un plan que je prends la liberté de vous soumettre.
- liv
J'ai reçu M. P*** en février dernier. [Illisible] Mais il y a 2 erreurs dans la thèse P***. § 1) La DGST n'estime pas possible de modifier le projet aussi sensiblement § 2) le périphérique ne doit pas se trouve à égale distance des habitations anciennes et nouvelles, mais à une distance proportionnelle à leur hauteur en raison des décibels. § D'où réponse de simple[ment] donner acte indiquant que sa proposition est à l'étude, et communiquer à toute fin utile à M. Herzog.
- lv
Je vous adresse les lettres [de M. TOLLU Conseiller Municipal du 10 avril 1967. De M. P*** du 3 avril 1967] ainsi que les plans qui étaient joints à la lettre de M. P***. § Je vous prie de me faire connaître votre avis sous forme d'un projet de réponse à M. TOLLU. § Je vous signale que l'indication donnée par M. P*** dans le 1^{er} alinéa de sa lettre n'est pas exacte ; il lui avait

été dit que le tracé du boulevard périphérique dans le secteur 9 était essentiellement fonction du plan d'aménagement du secteur établi par la direction de l'urbanisme et que le tracé du boulevard en plan ne pouvait pas de ce fait varier que dans des limites très étroites.

lvi Je vous fais connaître que, du strict point de vue technique, un déplacement vers l'Ouest du boulevard périphérique est possible sous réserve que soient respectées les caractéristiques techniques retenues pour l'ensemble du boulevard périphérique. Il vous appartient donc de juger de la suite à donner à cette affaire, compte tenu des répercussions du projet présenté sur l'aménagement du secteur IX.

lvii Comme suite [à votre demande verbale] au Conseil Municipal concernant la possibilité de couvrir les chaussées à circulation rapide du boulevard périphérique au droit de la Rue Catulle Mendès, je vous informe que cette voie débouche sur le boulevard de la Somme, au droit des futurs rampes d'échanges de circulation entre le boulevard périphérique et la voirie locale (avenue de la Porte Champerret et Rue du Caporal Peugeot), de ce fait il ne peut être envisagé de couvrir les chaussées à circulation rapide dans cette zone.

lviii Mon attention a été attirée sur les inconvénients qui pourraient résulter, pour les occupants des immeubles sis boulevard de la Somme, au nord de la Rue du Caporal Peugeot, de la présence du boulevard périphérique. § 1°) L'axe du boulevard périphérique ne subit aucun déplacement ; § 2°) la sortie en provenance du nord ne se fait plus avant la Rue du Caporal Peugeot mais seulement sur l'avenue de la Porte de Champerret ; 3°) l'entrée vers le nord est déplacée et reportée au niveau de la Rue Catulle-Mendès ; § 4°) les chaussées rapides sont couvertes jusqu'au droit de la Rue Jean Moréas ; § 5°) la largeur des tabliers permettant le passage de l'avenue de la Porte de Champerret et de la Rue du Caporal Peugeot au-dessus des chaussées rapides est limitée à la largeur entre alignements des voies supportées ; § 6°) en compensation de l'allongement de la partie couverte au droit de la Porte de Champerret, la partie en tranchée ouverte est légèrement allongée au sud de la Rue Barrias. § Je vous demande d'examiner ces dispositions et de m'adresser l'étude correspondante.

lix 3°) – dans l'hypothèse de la couverture partielle, compléter la coupe BB par l'indication du gabarit des immeubles riverains du boulevard de la Somme, et vérifier que les véhicules circulant sur la voie de droite de la chaussée côté banlieue ne seront pas visible des occupants de l'étage supérieur des immeubles ; ... § Il y aurait intérêt à ce qu'un plan d'ensemble comportant ces modifications soit établi (si possible) pour la prochaine conférence chez le Préfet.

lx J'ai l'honneur de vous informer que, dès le début de l'année 1968, les services de la Voirie ont procédé à une mise au point du projet dans ce secteur, ce qui a conduit à prévoir une couverture partielle du boulevard périphérique au Nord de la Rue du Caporal Peugeot, suivant les indications figurant sur le croquis ci-joint. § Les dispositions envisagées sont les suivantes : § - couverture complète des deux chaussées à circulation rapide du boulevard périphérique au croisement avec la Rue du Caporal Peugeot et Nord de celle-ci, sur une longueur totale de 60 m environ ; § - immédiatement au Nord de cette partie, et sur une longueur de 100 m environ, couverture complète de la chaussée à circulation rapide côté Est et partielle de la chaussée Ouest ; § - établissement d'un terre-plein planté entre la couverture du boulevard périphérique et le boulevard de la Somme ; - déplacement de la bretelle d'accès au-delà de la Rue Catulle Mendès. § L'adoption d'une telle solution présenterait pour les occupants des immeubles riverains du boulevard de la Somme, les mêmes avantages que ceux résultants d'une couverture complète, c'est-à-dire diminution sensible du niveau sonore des bruits du trafic et absence de vue des véhicules circulant sur les chaussées du boulevard périphérique. § L'exploitation des ouvrages ne nécessiterait, par ailleurs, aucun éclairage permanent comme dans le cas d'un souterrain et, par suite, conduirait à des économies appréciables. § Mes services procèdent actuellement à la préparation du dossier des mises en concurrence des ouvrages correspondants,

sur la base des dispositions susvisées, qui constituent en fait une mise au point du tracé général, adopté par le Conseil Municipal de Paris le 30 juin 1966, et qui ne semble pas devoir nécessiter un nouvel examen de la part de l'Assemblée Municipale.

lxi Ainsi, par une augmentation du coût de la construction du boulevard périphérique dans cette zone, la solution adoptée constituera une amélioration notable des conditions de vie des habitants de ce quartier.

lxii Par rapport au projet initial la dépense supplémentaire dépasse 10 millions de francs. Une couverture totale telle que vous la proposez nécessiterait un investissement supplémentaire de plus de quatre millions de francs donc près de 2 millions pour l'éclairage.

lxiii « À quoi bon voter, à quoi bon débattre en séance, » puisque « aucun moyen ne nous est donné, déplore M. Michel Salles, d'orienter les travaux de l'administration ? On nous soumet les dossiers après qu'elle, et elle seule, les a étudiés. A partir de là, notre rôle se borne, selon qu'on appartienne à la majorité ou à l'opposition, à accepter ou refuser, c'est tout. » ... § Le cahier de doléances est volumineux : 'C'est décourageant de travailler de cette façon, de fonctionner en 1973 avec des statuts plus que centenaires et, surtout d'avoir conscience de notre impuissance, puisque nous sommes consultés uniquement pour avis—pour la forme ! ... Quant aux autres décisions, elles appartiennent au préfet, et à lui seul, puisque c'est lui, en fait, le « vrai » maire de la capitale et le chef unique de l'administration.

lxiv Les membres des Grands Corps sont issus de quelques Grandes Écoles : Polytechnique, l'E.N.A. ... § Toute société, aussi fluide et libérale soit-elle, secrète des milieux de dirigeants unis par des rapports de coopération et de rivalité fondés sur des complicités et des protections. ... § La solution française se caractérise par une sélection extrêmement sévère, très précoce et impersonnelle, renforcée par une formation intensive. Elle entraîne une confiance réciproque et un langage commun utiles pour accélérer le traitement des affaires. Elle permet l'ascension rapide d'éléments jeunes aux plus hautes fonctions. Une fois la sélection opérée, l'individu est protégé contre toutes les conséquences possibles de ses actes. En même temps, les chances ainsi données à un groupe restreint deviennent des privilèges et constituent une rente monopolistique

Chapter 8 Conclusion

i On a pu faire de grandes choses parce que de Gaulle était là. Royal, il disait incarner la grandeur de la France, proclamait qu'il fallait faire de grandes choses pour le pays. C'était l'esprit de quelques grands préfets, de quelques grands ministres. Mais surtout, comme disait Delouvrier, ne pas voir mesquin. Les élus n'osaient pas assumer certains choix devant leur électorat. Bien faire d'un point de vue architectural, c'est la qualité de la vie.

ii No vieilles villes et nos anciens bourgs sont en proie aux chantiers qui travaillent à les rajeunir. Par exemple, Paris blanchi tout en conservant ses lignes, débordant d'automobiles autour de ses monuments restaurés, se pénètre de trois autoroutes, s'entoure d'un boulevard périphérique et dresse d'innombrables immeubles neufs dans ses murs et ses environs.

Appendix 2 Timeline

i faire tomber la barrière qui enserrait Paris et faire communiquer plus librement la ville avec sa banlieue

ii Loi du 4 juin 1941 autorisant l'exécution d'un programme de travaux d'équipement et d'urbanisme à réaliser dans la région parisienne.

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- iii Aménagement sur la « zone » de l'ancienne enceinte fortifiée de Paris, d'une ceinture de terrains de jeux et de sports et de promenades publiques. (Titre Ier, I—Urbanisme)
 - iv En vue de procéder d'urgence à l'aménagement des terrains de la zone