Understanding Paris's Cycling Revolution

March 2023





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Contents

Executive Summary	5
1. Introduction	7
2. Current Trends	10
Cycling in Paris	10
Cycling infrastructure	13
Shared bikes: Vélib'	14
3. Governance of cycling in Paris	15
Inner Paris cycling development	17
Ile de France cycling developments	20
4. Citizens associations in Paris and Paris Metropolis	24
5. Conditions for radical change: Discussing Paris's revolution with local stakeholders	26
'It is all about political will'. Hidalgo's recipe for success	27
A new vision	28
New institutional structures	30
Hidalgo's political support. Shifting discourses in Paris and beyond	31
A visible change. Building tangible examples of success	35
Unexpected spaces for change	38
The role of citizens	39
6. The limits of the cycling revolution: Conflicts and criticisms	44
Oppositions by car users and the police prefecture	45
The challenge of implementation	47
New emerging tensions between walking and cycling	48
The crucial role of spatial justice	50
7. Summary and Conclusions	54

Executive Summary

This report uses policy literature, field visits, and in-depth interviews with eight key stakeholders to explore the successes and challenges of Paris's cycling revolution. Cycling and, increasingly, walking have been prioritised in city planning with a roll-out of many new infrastructure projects from cycle tracks to School Streets. Growth in active travel sits alongside a continuing decrease in car ownership and use within the city, while cycling has become less unequal. Our interviews and analysis find the following key factors in enabling Paris's ongoing transformation:

- The role of the Parisian Mayor has been crucial, with action by previous Mayors forming a basis for Anne Hidalgo to go further and make active travel policy emblematic of her candidacy and, once elected, mayoralty.
- A vision of an integrated network for cycling and walking has gathered wide support and formed a paradigm shift within city transport policy, even if implementation has not always lived up to the vision.
- The expansion of units and organisations dedicated to active travel has helped build a power base within institutions that, historically, have often prioritised motorised modes.
- Engaged citizens have worked in coalition with policymakers, sometimes supporting policy and sometimes challenging its limitations, for instance around disparities in investment.
- High-profile projects like the transformation of the Seine banks, have helped give momentum to the wider programme by providing 'good examples', while

data on infrastructural change and usage has helped evidence behaviour change.

- National and international attention to active travel has further supported Paris's transformation, reducing the likelihood that policies would be blocked and meaning that pro-cycling policies could gain international attention for the city.
- Unexpected opportunities, such as public transport strikes or the reduction in motor traffic during Covid-19, provided additional evidence of the public's willingness to change behaviour and a chance to build temporary and experimental infrastructure.

However, stakeholders also identified the following challenges, which need to be addressed for the transformation to reach all Parisians inside and outside the city walls, and help institutionalise the prioritisation of active travel in city planning.

- Institutional legacies, such as the high levels of police control over street transformations and experiments and their hostility towards such experiments, continued to block change.
- While there has been substantial change, the quality and quantity of infrastructure has – as elsewhere – not always been what was hoped for. For instance, in some cases space for cycling has been taken from footways rather than space for cars.
- In the context of rapid uptake of walking, cycling, and new e-mobilities, there have at times been tensions and conflicts between users of different modes.
- Implementation has been spatially unequal, to some extent within Paris itself but much more so comparing intramural Paris to neighbouring districts, which is linked to the differing governance structures and patterns of land use and transport development.

1. Introduction

Cities worldwide face growing pressure to decarbonise transport and reduce the detrimental impacts of decades of car-centric development. In response, street-space reallocation programmes – such as pedestrianisation, new cycling infrastructure or low-traffic zones – are increasingly popular.

The implementation of these measures can face several barriers and controversies, often linked to the complex challenges of reshaping urban mobility.¹ Much needs to be learnt in terms of what ecologies of actors and policies are most suitable to accelerate their adoption. It is therefore key that we learn from those places that have reported successful stories of rapidly achieving substantial shifts away from car-use.

Paris is one of those places.

With almost a decade of pledges to becoming a 'cycling capital', Paris set in motion drastic changes to its mobility and mobility planning that have attracted international attention.² The dramatic increases in numbers of cycling trips are part of a commitment to becoming "[a] 100% cyclable" city [...] where you can cycle everywhere, on every street, without ever feeling unsafe".³ In doing so Paris has become a striking example for other cities under pressure to reduce their greenhouse gas emissions and improve air quality and road safety.

¹ For a discussion on controversies and new pedestrianisations, see: <u>Vitale Brovarone et al (2023)</u>. ² See, for example, Possible's leaderboard where Paris wins on most fronts in becoming a car-free city: <u>https://www.carfreemegacities.org/leaderboard</u>

³ Ville de Paris (2021) 'Plan Vélo - dossier de presse jeudi 21 octobre 2021'

This report aims to shed light on the recent changes to Paris's urban mobility, considering how they came about and what enabled such rapid shifts, including what challenges still exist. It proposes a timeline of events, an analysis of key policy instruments used, and decision-making processes adopted. It will consider the different actors who have been involved, within and outside government offices, in transforming Paris's mobility and their accounts of what have been key factors in enabling Paris's success. It will also carefully consider the complex relations between the City of Paris, Greater Paris and the 'Paris region' Île-de-France⁴ in the development of cycling infrastructure and in reducing car-use. It will also consider past and new equity issues and modal conflicts in the region.

The report is based on reviewing the policy literature, field visits and eight in-depth interviews with key stakeholders working on Paris's public space and mobility as further explained in section 4. The report is structured as follows: section 2 introduces cycling trends and the policy context in Paris and Greater Paris; section 3 and 4 introduce the different actors working on urban mobility in the region, including reflecting on the tensions between Paris and its metropolitan region; section 5 and 6 report the findings from the stakeholders' interviews. Section 5 focuses on the conditions that facilitated Paris's 'cycling revolution', whilst section 6 highlights past and present challenges.

⁴ The City of Paris, composed of 20 arrondissements, indicates Intramural Paris (also called Inner Paris). Greater Paris, or the Métropole du Grand Paris (Metropolis of Greater Paris), formally came into existence in 2016 as an administrative structure for co-operation between the City of Paris and its surrounding districts. It includes the City of Paris, the districts of Hauts-de-Seine, Seine-Saint-Denis, Val-de-Marne, plus seven communes in the outer suburbs, including Argenteuil in Val d'Oise and Paray-Vieille-Poste in Essonne, which were added to include the major airports of Paris. The Metropole has a population of 6.945 million persons. Ile de France is the broader 'Paris region', covering eight administrative departments: Paris, Essonne, Hauts-de-Seine, Seine-Saint-Denis, Seine-et-Marne, Val-de-Marne, Val-d'Oise and Yvelines. Unless differently specified, we understand Greater Paris to correspond with what our interviewees have been referring to as 'Paris suburbs'.

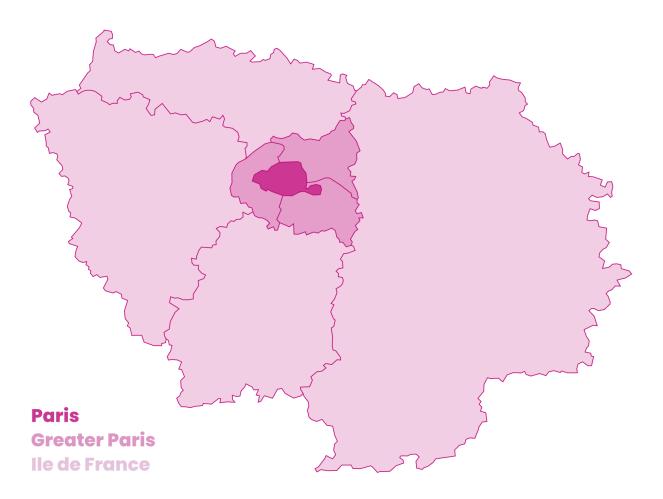


Figure 1: a map showing Paris, Greater Paris and the IIe de France region

2. Current Trends

Cycling in Paris

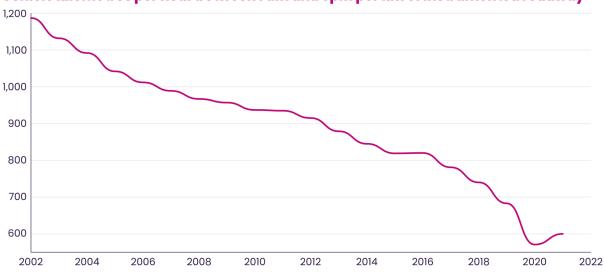
According to figures published by the Council in 2021, cycling represents 5% of trips in Inner Paris⁵, whilst walking represents almost 50% of trips⁶. Car ownership has been historically rather low, with only 33.5% of households owning a car.⁷ In direct contrast with cycling and walking journeys, car ownership and car trips have been consistently decreasing since the 1990s.⁸ The figures below show these trends, reporting the consistent decrease in car use in Paris's main roads and the changes in cycle ownership, peaking in 2020.

⁵ Ville de Paris ('2021) 'SG 84 « Paris 100% Cyclable » - Communication Relative à l'adoption du Plan vélo à Paris (2021-2026)'.

⁶ https://www.carfreemegacities.org/en/home.

⁷ Insee (2023)

⁸ <u>Héran (2017)</u>

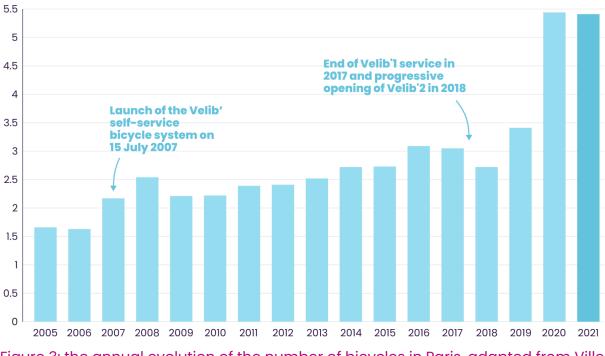












Annual growth index of the number of bicycles between 2005 and 2021

Relative to reference value, annual average 1997

Figure 3: the annual evolution of the number of bicycles in Paris, adapted from Ville de Paris's <u>Key figures for trips to Paris in 2021</u>

Cycling is also increasingly diverse , with a shift from 30% of women in the early 2000s to about 40% in 2020.⁹ Unfortunately, in France no data is collected on ethnicity so we can only consider gender diversity.

Modal shift in Greater Paris is slower, with variations across the different districts. Cycle journeys in the Île-de-France region changed slowly between the late 1970s until the 2000s rising from 590K to 650K daily journeys, but since then have increased more substantially, with 840,000 daily bicycle trips in 2018.¹⁰ 2020 estimate for bike trips, also when a portion of the trip is taken on public transport, report 930K daily trips, i.e. 2.2% of total trips.¹¹

⁹Maire de Paris (2020) 'Paris capitale du vélo 2020'

¹⁰ <u>Omnil (2020</u>). No later data is available.

¹¹ Ville de Paris (2021)

Cycling infrastructure

Increases in numbers of cycling trips are primarily related to a consistent growth in provision of bike lanes. A review of infrastructures introduced between 2005 and February 2020 counted "503 kilometres of bike lanes, with the majority coming in the form of protected lanes (332 kilometres, 66%)".¹² The network is the result of different stages of implementation, with long new corridors from the periphery to the centre introduced during the Covid pandemic, as visible in figure 4. These new lanes are, according to Moran's analysis, "more physically protected, bidirectional, and interconnected than the pre-COVID network".¹³

¹² Moran (2022),

¹³ Ibid

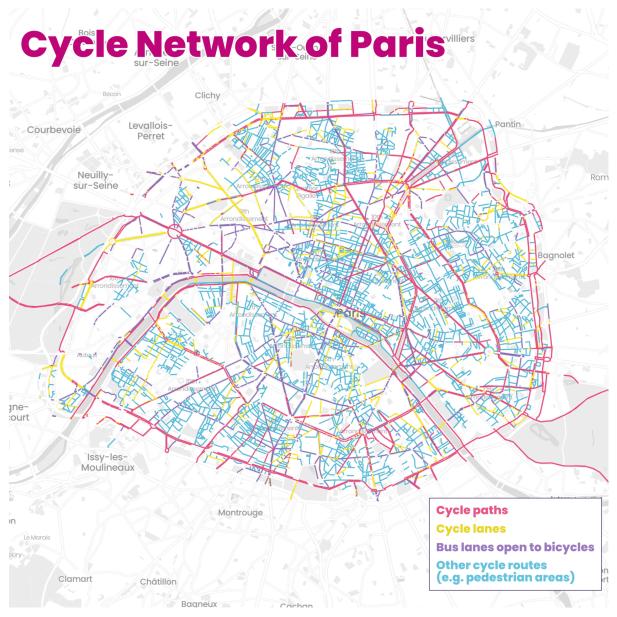
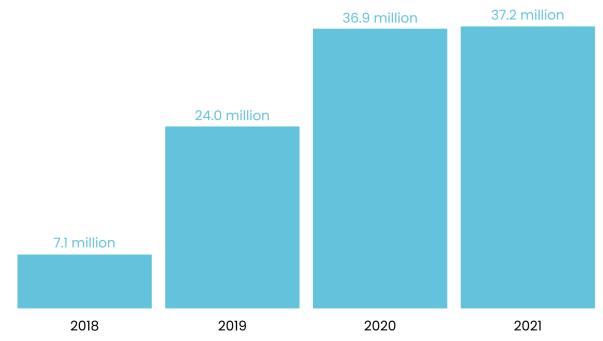


Figure 4: Cycle network of Paris, adapted from Paris Open Data

These corridors, initially introduced as emergency measures, have now been solidified as part of a broader regional plan for cycle connectivity regionally. Currently, a series of other corridors connecting Paris and the surrounding districts is being built as part of the RER-V plan, which will be discussed later.

Shared bikes: Vélib'

An important share of cycle trips in Paris is made possible thanks to the successful shared bike scheme Vélib'. Launched in 2007, Vélib allowed 37.2 million journeys in 2021. As shown in figure 5, Vélib journeys have been growing substantially in the last few years.



Yearly changes in Vélib' journeys

Figure 5: annual changes in Vélib' journeys, adapted from the Ville de Paris' s <u>Report on travel in Paris in 2021 - Cycling</u>

Today the system provides 19,000 bicycles, 35% of which are electrically assisted, distributed across 1,406 stations, 400 of which are outside the City of Paris.¹⁴

¹⁴ Ville de Paris (2021)

3. Governance of cycling in Paris

Transport and mobility planning requires coordination of different actors at different geographical scales and levels of government, which in turn, differ depending on the mode of transport.

Public transport in Paris, and the wider Paris region, is coordinated by a regional body called 'Île-de-France Mobilités' and is financed by the different local authorities (region, departments and the City of Paris) as shown in figure 6. Transport is provided by both national and private companies.

Paris and its agglomeration, institutional framework

Three levels for public transport organisation in Ile-de-France region

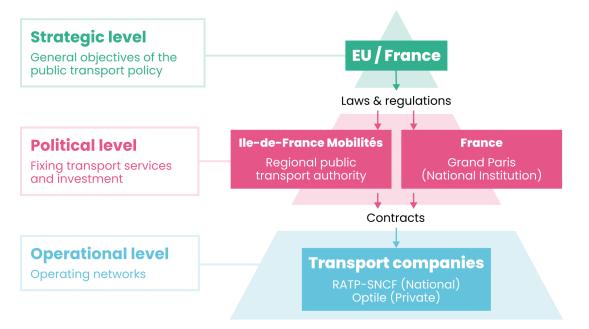


Figure 6: Ile-de-France public transport governance, adapted from <u>Christophe</u> <u>Najdovski's 'Roads and Mobility Parisian Policy'.</u>

As we will discuss, decisions and investments in walking and cycling for Paris, and the different surrounding districts, are largely taken at the local level and guided by the local mayors. In Paris, active travel interventions are implemented by the Department of Roads and Travel, under the responsibility of the Deputy Mayor in charge of mobility. There are, however, several areas of overlapping interventions and coordination efforts facilitated by the Metropole du Grand Paris (Metropolis of Greater Paris) and Île-de-France.

Local plans in Paris are developed in consultation with the police prefecture, Île-de-France Mobilités and public transport providers. As reported in the City of Paris documents¹⁵, cycling plans are also widely discussed with residents' associations and shared with traders' associations and local cycling associations. This is made possible as part of the so-called Joint Bicycle Committee initiated by the previous Deputy Mayor of Paris in charge of transport, Christophe Najdovski.¹⁶

Inner Paris cycling development

1970s to 2014

As mentioned, the development of cycling policy in Paris followed several stages. An analysis by the French transport economist Fréderic Héran traces back such development to the late 1970s, and links it to the cross-party political will of subsequent Paris mayors.¹⁷

Although, at first, most investments were allocated to facilitate motorised transport, starting with the last municipal mandate of Jacques Chirac (1989-1995). During his time as mayor, areas of the city centre were slowly reclaimed for pedestrians, including by reducing parking spaces or introducing paid parking. For example, in 1993, the first 30 km/h zones and cycling facilities were introduced by the 13th arrondissement and, in March 1995, the riverside lanes were reserved for pedestrians and cyclists on Sundays.

¹⁵ Ville de Paris (2021).

 ¹⁶ https://www.eltis.org/sites/default/files/sump_conference_2017_ops2_1_najdovski.pdf
¹⁷ Héran (2017)

In 1996 the first bicycle plan was introduced by then Mayor Tibéri who also supported the construction of, in Henan's account, 180 km of cycle lanes (many shared with buses) on main roads. Tibéri also adopted "ten concrete measures allowing to achieve a better shared public space" aimed at allocating more road space to cycles, including providing adequate cycle parking facilities.¹⁸

These developments paved the way for more substantial actions taken by Bertrand Delanoë's team, after the new Mayor was elected in 2001. The team continued creating lanes for public transport and cycles, widening pavements, creating pedestrian areas and enlarging the programme of 30 KM/h zones. Under Delanoë's administration (2001 – 2014)) in 2007 the Vélib' system started. This is arguably one of the most successful bike-sharing systems in Europe.

2015-2020

In a crescendo of attention towards active travel, cycling became central to the new Mayor's mandate. Elected in 2014, Anne Hidalgo declared her strong commitment to implement measures to reduce car use and make Paris an exemplar of a cycling city.¹⁹

The first Plan Vélo (cycling plan) (2015-2020) introduced under Hidalgo set a clear ambitious target for cycling improvements, aiming to triple the number of cycle journeys by 2020. The plan allocated 150 million euros distributed as follows:

- 70 million for the development of cycle paths.
- 40 million for the integration of the bicycle in the redevelopment of major axes, squares and urban projects.

¹⁸ MDB (1996)

¹⁹ <u>Le Monde (2015)</u>

- 30 million to finance the program for the generalisation of zones 30 and the two-way cycling of these zones.
- 6 million for bicycle parking.
- More than 10 million for assistance with the purchase of bicycles, to which are added the contributions of the Participatory Budget.²⁰

As we will discuss later in the report, the implementation of some aspects of the 2015-2020 plan were accelerated when the Covid-19 pandemic hit, with the so-called 'Coronapiste' considered by many as marking a turning point in the acceleration of cycling in Paris and Ile de France.²¹ At the end of the mandate, the Council reported having achieved important shifts in use of cycle lanes (+47% on average between 2019 and 2020 and +22% between 2020 and 2021).²² Some new iconic infrastructures were also fully functioning, such as the new cycle lane on Rue Rivoli.

However, not all measures announced had been introduced by the end of this mandate. As reported by the 'Observatoire du Plan Velo' (Observatory for the Cycling Plan), only 42% of cycling infrastructures had been implemented to a satisfactory level and only 30% of the 30 km/h zones had been introduced.²³

2021-2026

The 2015-2020 plan, boosted by the Covid-19 pandemic, witnessed a dramatic increase in cycling demand. The introduction to the next plan reported "an explosion in cycling since 2019, proof that Parisians were only waiting for the creation of safe facilities to take up cycling".²⁴ The success was confirmed also by the re-election of Hidalgo in 2021.

²⁰ <u>Ville de Paris (2022)</u>

²¹ <u>van Oosteren (2020)</u>

²² 'Ville de Paris (2022)

²³ https://observatoire.parisenselle.fr/2020/

²⁴ Ville de Paris (2021)

The second Plan Vélo (cycling plan) was developed as part of the second mandate (2021-2026) and aims at "making Paris a 100% cycle friendly city", integrating cycling in all policy areas, working across all relevant departments and boroughs. The plan is backed up by a substantial investment of \leq 250 million and pays stronger attention to Paris's suburbs, with the plan stating that:

> "The City of Paris wishes to increase the deployment of the cycle network integrated into a metropolitan and regional network, to strengthen the supply of parking essential to cycling and to build a global "cycle ecosystem" to organise an environment conducive to its development, capable of anchoring a culture of cycling in the daily lives of Parisians and all users, regardless of their origin".²⁵

Greater attention is given to 'soft aspects' of cycling policy, including the provision of cycle parking facilities, training programmes for new cyclist and planners, community self-repair workshops, with an intention of "building the cycling city in all its dimensions, in terms of [...] all the building blocks that make up what is known as the "cycling ecosystem" of an area".²⁶

Cycling safety is also of key concern and is planned to be addressed by boosting enforcement of compliance with bicycle and pedestrian priorities, requesting a blind spot detection system on trucks, using citizen mapping to understand and address dangerous spots in the network, and improving junction and infrastructure design.²⁷

²⁵ Ibid

²⁶ Ibid

²⁷ Ibid.

Ile de France cycling developments

Contrasting with central Paris, active travel policy and interventions started only recently in the wider IIe de France region. Whilst Paris takes advantage of a centralised administration and mayoralty to develop its coherent cycling policy, the situation in the surrounding Districts is variegated and dependent on the commitment of the local administrations, with different levels of infrastructural improvements before and after the Covid-19 pandemic. These disparities must be taken into account as part of historic tensions between Paris and its suburbs over uneven access, provision and investment²⁸, and of a desired, but so far unrealised, integration at a metropolitan scale.²⁹

A recent report by the French Court of Audit highlighted the 'failure' of the Paris Metropolis project in "reducing inequalities between the territories".³⁰ The study highlights a contemporary situation where the population of Greater Paris:

"Suffers from significant inequalities in income, poverty and poor housing. It includes the department with the lowest household incomes (Seine-Saint-Denis) and the two departments (Paris, Hauts-de-Seine) with the highest. Moreover, these inequalities, which are tending to worsen, are reflected in significant differences in resources and costs between local authorities, despite the financial equalisation mechanisms."

This picture is similar to previous studies highlighting the region's highly uneven distribution of environmental degradation, e.g. air and noise pollution. Historical data on areas of high deprivation³¹ from the French National Observatory shows that 69% of the inhabitants are exposed

²⁸ <u>Mancebo (2015)</u>; <u>Guilluy (2014)</u>.

²⁹ Burgel (2021)

³⁰ Cour des Comptes (2023)

³¹ Defined as Sensitive Urban Areas, Zones Urbaines Sensibles

to environmental degradation and health hazards in Île-de-France.³² Often these are directly linked to infrastructure and services from which Inner Paris benefits, such as the airports or major highways. As reported by a 2015 study:

"A strong correspondence between environmental and social characteristics [exists] among Île-de-France's communes: 50 percent of the communes with degraded environment (pollution, nuisances) are also socially deprived. Symmetrically, nearly 50 percent of those with good environmental conditions are wealthy areas." ³³

Central to critiques of such disparity is public transport infrastructures that favour a 'star-shaped' distribution where 'all lines lead to Paris's, and thus reinforce spatial inequity and inaccessibility for suburbanites.³⁴ This despite only 10% of journeys in Île-de-France being between Paris and the suburbs.³⁵ As a result, 17% of home-work journeys in Île-de-France take more than an hour.³⁶ Plans to improve public transport across the region have been developed and implemented; however, as the reports above highlight, still not at a satisfactory pace and, for some, not with due attention to equity.

We will discuss these issues in section 6. It is however important to stress how the original plan for the creation in 2016 of the Metropolis of Greater Paris, also included increasing commitment to coherent approaches to active travel provision beyond the borders of Inner Paris. One example is the expansion of the shared bike system Vélib in Outer Paris since 2020.

³² Mancebo (2015)

³³ Mancebo (2015), p. 268.

³⁴ Burgel (2009); Enright (2013)

 ³⁵ According to the latest data published at: https://omnil.fr/spip.php?article229
³⁶ Ibid.

As stated by the Metropolis itself:

"Since its creation, the Métropole has been resolutely committed to the development of cycling through its support for local projects in favour of active mobility, as well as through its financial contribution of 4 million euros per year to the <u>Vélib' Métropole</u> union".³⁷

The ambition to improve cycling provision in Greater Paris is reflected in the *Metropolitan Cycling Plan*. The plan promises an investment of "10 million euros per year"³⁸ to increase cycling connectivity, developed also in response to increasing pressure by local cycling groups.

The mobility authority of the IIe de France (Île-de-France Mobilités) has also subscribed and contributed to the regional plan. It has helped to introduce a series of incentives for individual purchase of bikes or e-bikes ³⁹, or for local associations and administrations to explore new projects for cycling infrastructure improvements.⁴⁰

³⁷ https://www.metropolegrandparis.fr/fr/plan-velo-metropolitain

³⁸ Ibid

³⁹ https://www.iledefrance-mobilites.fr/le-reseau/services-de-mobilite/velo/prime-achat-velo

⁴⁰ https://www.iledefrance.fr/plan-velo-regional-0

4. Citizens associations in Paris and Paris Metropolis

In the last decade Paris and Greater Paris has seen an explosion of associations devoted to the promotion of cycling, as well as campaigning for car-free streets, School Streets or better air quality. As we will show in the next sections, these actors played a central role in reshaping local and regional mobility plans and are often recognised as such in official plans and documents.

For example, many of these actors are repeatedly mentioned in the latest cycling plan by the City of Paris for their fundamental role in promoting cycling in lower-income neighbourhoods, thanks to their work in providing cycling education, self-repair workshops, or places for encounter and learning around cycling such as the Maison du Vélo (House of the Bike).⁴¹

Most fundamentally, the entire regional cycling plan, RERV, has been developed following the proposal by, and in collaboration with, the 42 associations of the <u>Collectif Vélo</u> <u>Île-de-France</u> (Cycle collective IIe de France).⁴² The plan, which aims to provide a Regional Express Cycling Network matching the equivalent suburban train service RER, consists of 9 cycle 'highways' connecting the main centres of Greater Paris and is currently backed up by a 300 million euros investment by Île-de-France and Paris Metropolis.⁴³

Citizens associations are not only involved in cycle campaigning. For example, the national association Respire,

⁴¹ Ville de Paris (2021)

⁴² https://velo-iledefrance.fr/qui-sommes-nous/

⁴³ <u>https://www.metropolegrandparis.fr/fr/plan-velo-metropolitain; https://rerv.fr/</u>

has been campaigning since 2011 for better air quality, making 'air pollution visible', with a strong presence in Paris and IIe de France.⁴⁴ Respire has been key in supporting the campaign for the adoption of School Streets in Paris and elsewhere.⁴⁵ The association Paris Sans Voiture (Paris without Cars), initially the initiative of a few local residents, has been key in the promotion of the now recurring car-free days in the City of Paris.⁴⁶

In the next sections, we will explore the views of Paris's stakeholders on the central factors that allowed the success of 'Paris's cycling revolution' as well as its shortcomings.

Specifically, we focus on the findings from eight in-depth interviews with four representatives of citizens associations working on issues of air pollution, urban mobility, public space; a French academic working on public space and urban mobility; two public officers in charge of relevant policy areas; and the ex-Deputy Mayor for Mobility, Christophe Najdovski.

Interviews took place online between November 2022 and February 2023 and lasted between 1-2 hours. They were semi-structured and covered the following themes: recent history of active travel in Paris and planned further developments, key actors involved in the governance of active travel, previous and existing challenges including with regard to developments in Greater Paris and spatial justice outcomes. Where participants requested this, we involved an English-French interpreter to facilitate understanding. The interviews audio-recorded, transcribed, were and thematically coded, using a mixture of deductive and inductive coding. The coded themes informed the structure and framing of the next sections of the report.

⁴⁴ https://respire-asso.org/

⁴⁵ https://respire-asso.org/en-2023-rejoignez-le-mouvement-pour-plus-de-rues-aux-ecoles/

⁴⁶ https://www.parissansvoiture.org/

5. Conditions for radical change: Discussing Paris's revolution with local stakeholders

This section analyses how political will, a new vision, new institutional structures, and active citizens created the conditions for radical change, along with unexpected opportunities, and bolstered by tangible examples of progress. Specifically, we found that:

- The role of the Parisian Mayor has been crucial, with action by previous Mayors forming a basis for Anne Hidalgo to go further and make active travel policy emblematic of her candidacy and, once elected, mayoralty.
- A vision of an integrated network for cycling and walking has gathered wide support and formed a paradigm shift within city transport policy, even if implementation has not always lived up to the vision.
- The expansion of units and organisations dedicated to active travel has helped build a power base within institutions that historically have often prioritised motorised modes.
- Engaged citizens have worked in coalition with policymakers, sometimes supporting policy and sometimes challenging its limitations, for instance around disparities in investment.
- High-profile projects like the transformation of the Seine banks, have helped give momentum to the wider programme by providing 'good examples', while

data on infrastructural change and usage has helped evidence behaviour change.

- National and international attention to active travel has further supported Paris's transformation; reducing the likelihood that policies would be blocked and meaning that pro-cycling policies could gain international attention for the city.
- Unexpected opportunities, such as public transport strikes or the reduction in motor traffic during Covid-19, provided additional evidence of the public's willingness to change behaviour and a chance to build temporary and experimental infrastructure.

'It is all about political will'. Hidalgo's recipe for success

Since her candidacy, Hidalgo has shown a strong commitment to improving Paris's cycling provision and public space by reducing car use. As we saw, and as most interviewees recognised, such commitment was not unexpected but emerged as part of the increasing work around cycling and public transport by previous mayors. Interviewees highlighted the importance of the cycle hire scheme Vélib's introduction in 2007 and, in Delanoë's second mandate, the introduction of several kilometres of segregated bus lanes. These changes happen in a context of Parisian local politics where, as one interviewee suggested, "the position of the Mayor is essential in Paris [..] in fact, if we don't have a Mayor who pushes, nothing will happen" (Faustin, researcher).

However, Hidalgo adds a much stronger and emblematic focus on active travel compared to her predecessors. As all our interviewees recognise, with strong political will, she proposed an unprecedented radical approach to mobility in Inner Paris. Christophe Najdovski stressed this clearly in the interview:

"We were also looking at what several cities had already done in Europe. There were a few cities and also smaller cities. When we are talking about Amsterdam or Copenhagen, they are not at the same level of Paris or London. But we also had the conviction that it was not just a cultural aspect. It's not. We are not talking about genetics. The Dutch and the Danish are not different from us. So they had also at the time, in the seventies or in the eighties, the political will to change things. So we had this political will and I also had the chance to have a mayor that was very committed to that change."

A new vision

Hidalgo's strong political will to revolutionise Paris's mobility was translated directly into key investments and infrastructural interventions (see section 2). Since her first mandate, the City of Paris invested 400 million euros in improving cycle infrastructure, with further interventions co-funded by the Ile de France region and the Greater Paris metropolis. These funds complemented earlier investments, including the metropolitan system of Vélib, which has been subsidised by several districts and is now providing e-bikes across the Paris metropolis.

These investments and subsequent interventions have been central to implementing a clear vision contained in the 2015-2020 plan, Paris's first-ever cycling plan (see section 2):

> "To reduce as much as possible all individual motorised journeys that can be made in a way other than motorised and individual. [...] The idea is really to succeed in shifting all this modal share that can be

done otherwise to virtuous modes of transport. And this involves a redistribution of public space which, until very recently, was largely given over to motorised vehicles" (Jordane, council officer).

Particularly crucial to interviewees was the emergence for the first time, thanks to those plans, of an 'ecosystem' and networked approach to urban mobility. For Jean, a campaigner from the Metropolis, this was particularly visible in the approach to cycling:

> "I think at this time [2015] we have for the first time a connection that was long enough and significant enough to start creating a cycle network, because before it was some cycle lane at some place, but with no connection and with no real network. So it was really difficult to go from point A to point B with a synchronised cycle lane all along your journey. So there I think that was the first turning point."

This vision was reinforced, as Jean continues, in the second cycling plan that:

"Confirms and increases the ambition of the city to develop the cycling network. And I think that it's now very clear for everybody in Paris that it's about creating a network [...]. So I think that that's an important change of that vision."

The first cycling plan was followed by the first plan piéton (walking plan), which council officers Jordane and Noa considered a "brave move". The plan marked a paradigm shift in the city, by recognising walking as "a model of travel and its users in their own right" (Jordane), and making "the pedestrian truly a subject in political debates" (Noa).

For the officers, the new cycling and walking plans meant that interventions were framed holistically, with a clear aim to "decrease motor traffic [and] all its negative externalities, i.e. pollution, noise, etc. But also the discourse of use of space, i.e. the fact that in Paris it is particularly a problem and an issue, because it is a very dense city and therefore there is little space" (Noa).

The more recent interventions are also seen as pointing to better integration between cycling and other measures, including improvements for walking, introducing School Streets, and greening public space.

> "It's really in the neighbourhoods, in the daily life of the people, where we come to completely transform the life of a micro-district by dedicating the streets, the streets where there are schools only for active travel, and with a huge greening programme. This too is a very strong commitment of this mandate. It's the greening of the city." (Jordane)

Although, as we will show later, the implementation of these plans was often delayed or not of the highest standards, the political will was manifested clearly in a sustained vision for change and with funding.

New institutional structures

To implement the new vision and cater for the increasing focus on active travel, the City of Paris has also restructured its internal organisation. Notably, it constituted a new cross-sectoral working group called 'Mission Vélo' (Cycling Mission), aimed at amplifying policies and actions to improve cyclability. The group is divided into an infrastructural team and a behavioural change team. The number of dedicated officers has also grown by a factor of 10, with the arrival of new personnel with a broader skillset. Together with "continuous work of internal training and changes to the way we work" (Noa), these changes are seen as necessary to deal with the new challenges of working for active travel in a world initially designed to facilitate the smooth and fast movement of motorised vehicles.

For example, the growing volume of cycles on the roads requires more attention "to work on the more peaceful pacification and cohabitation of this multi-use public space" (Noa), considering potential new conflicts emerging between pedestrians and cyclists, which we will discuss later.

The growth of skills and competencies is also facilitated by the increase in "transversal thematic working groups, often at the national level, [with other French cities, with other communities], which also allow for the re-evaluation of ideas and working methodologies, but also for the evolution of national norms. This is because there is also a legislative, regulatory, etc. discourse. "(Noa).

Visits and meetings with planners and officers from other cities working on active travel, such as Barcelona, are of equal importance in facilitating Paris's learning and active travel improvements. As we will show, international attention to the externalities of motorised mobility and examples from other cities facilitating active travel are also key to Paris's cycling revolution.

Hidalgo's political support. Shifting discourses in Paris and beyond

As discussed, Hidalgo was elected on the explicit promise of improving cycling provision. All interviewees considered this full electoral support crucial to the Mayor's success in promoting rapid change. This support was reinforced by evidence of the success of the new policies and interventions introduced over time (see next section), culminating into a re-election, as Cyril comments: "There is also a certain support for this policy, which is clearly not shared by all Parisians, but the fact that Anne Hidalgo was re-elected was an extremely encouraging sign for her, because she was able to say, "well, I have a record on cycling, so I can continue my cycling policy. People also elected me for that"."

For some, such support is potentially an 'easy win' in a city with very low car-ownership rates, especially near the city centre. It is, however, essential to account for the scalar relations in which Hidalgo's work is embedded, as some interviewees remarked:

> "The Mayor of Paris governs the city centre and the inhabitants of the city centre have very few cars, they get around on foot, by metro and recently by bike. So in the end, the people who elect the Mayor of Paris are more in demand of cycling and of removing the cars that pollute and disturb their daily life. This is not necessarily the case on a larger scale in the Île-de-France, for example, where a good part of the population lives far, travels by car, etc. If we really take the case of Inner Paris, we have a demand from the population of the inhabitants to remove cars because they don't actually use them" (Faustin, researcher).

We will discuss later the implications of such disparity of views and travel patterns between Inner and Outer Paris but for now, we highlight how the boundaries of Hidalgo's popularity coincide with Paris' ring road (Boulevard Périphérique). At the same time, there is a clear "strong opposition [between Hidalgo and] the president of the region [...] that necessarily complicates things a lot, because when one of them proposes something, the other one opposes it, etc." (Cyril, campaigner).

Hidalgo's popularity in Inner Paris is also linked to increasing citizen concerns regarding air pollution, poor public space provision, and climate change.⁴⁷ In particular, these concerns were fuelled by the growing attention to air pollution issues with Paris driving "international attention at the end of 2016 when it surpassed Delhi and Beijing as having the worst air quality among major global cities".⁴⁸

For Camille, a national campaigner based in Outer Paris, air pollution has been:

"The main driver for these [road-reallocation] policies since 2014. Why? Because during the municipal campaign we had these two [massive] pollution episodes, so we couldn't even see the Eiffel Tower in the sky. So people were very shocked about what was going on. [...] So it became a political issue and, and Anne Hidalgo used that as well to justify the program that she wanted to enforce about, for example School Streets or Pedestrianisation or to reduce the car use".

According to Jordane, Hidalgo's success has also been facilitated by the national and international attention on reducing motorisation levels and transport-related air pollution, which were felt particularly strongly amongst Parisians.

> "There was an international context where all these questions were topical and where, in fact, it was the direction of history and common sense that gave her reason. You can't oppose the fight against air pollution".

⁴⁷ See for example:

https://reporterre.net/Paris-La-Rue-est-a-nous-demande-aux-candidats-de-reduire-la-place-de -la-voiture ; https://www.parissansvoiture.org/

⁴⁸ <u>Willsher (2015</u>)

The international attention not only helped the council but also strengthened citizens' associations. Adel, a volunteer from a citizen group, reports being approached by a German activist to support them setting up a children's critical mass, given that "Paris is quite a symbolic city. What we do in Paris has a lot of impact in the media."

Finally, a change in discourse is also evident at the national level. In 2020, for the first time in its history, the French national government adopted a bicycle plan:

> "For the first time the French government adopted a biking plan quite recently, I don't know what year exactly, I'd say 2020. A national biking plan with funds allocated to developments that would be made in different territories. And it was a first in France. So what happened? The French government supports cycling. It also supports the plane. It also supports the train. It supports a lot of things, but still, symbolically, it was a first, a national plan [...] the alignment of institutions means that debates between local players, with a State that supports them, actually no longer exists.. it is also changes in the law that make it an obligation to build cycling facilities" (Faustin).

These shifting discourses at the national and international level are testimony of a slow change in trajectory concerning transport and mobility that certainly influence Paris and are, in return, fuelled by Paris's increasing popularity as an 'exceptional case study'. This means that, in response to growing international attention, Paris has also been working to promote an international image of a green city, accessible to sustainable tourism (especially in light of the coming Olympic games), where tourists will be more likely to move on foot and public transport rather than private cars (Faustin). As such popularity grows, a new ecosystem of actors and businesses interested in the development of cycling has also been emerging, including new manufacturers and companies in the 'cycling economy'.

All these factors also mean that active travel (and especially cycling) projects could now expect broader support than before 2015 and were likely to proceed with less opposition, as Jordane remarked:

> "Four or five years ago, there was no consensus on cycling projects. Today, something has happened that we won't go back on, which makes it less complicated to carry out an ambitious cycling project, impacting on motorised traffic, etc."

A visible change. Building tangible examples of success

Sustained and growing political support is also a consequence of the success of Hidalgo's interventions. Despite the initial opposition from car owners and other actors, the changes to the urban fabric visibly show that another city is possible. One key example is, for many interviewees, the pedestrianisation of 3.3 Km of the right bank of the River Seine, formerly a key urban motorway. The implementation of the plan was, for Christophe Najdovski, a 'huge struggle' against different opposing voices, including the police prefecture, which involved even a court case⁴⁹. However, once the plan was implemented:

"Now nobody wants to go back to the former situation. And now it is just a place for pedestrians, cyclists, joggers and we achieved that. So this was also an example of the fact that with a strong political will, we can do and we can shift from one model to another" (Christophe Najdovski).

⁴⁹ <u>Le Parisien (2016)</u>

The tangible and rapid appearance of an entirely different mobility ecosystem, built despite fierce opposition, is for many a key instrument for maintaining and growing political support for broader changes. A council officer, Noa, commented on the intervention as being "particularly important because it demonstrated the potential of how, freeing space from the automobile, can produce space for other activities".

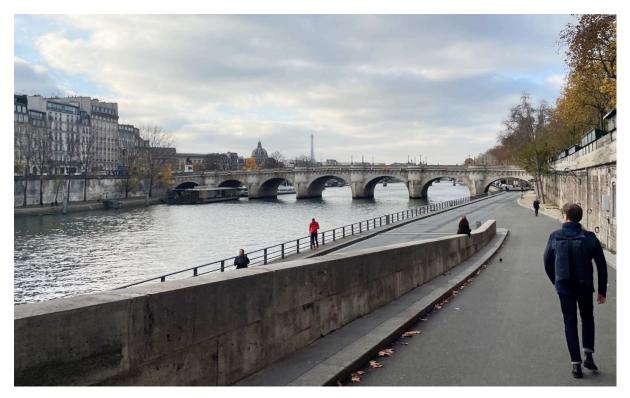


Image: The newly pedestrianised right bank of the river Seine. Credit: Maria Attard

Another council officer, Jordane, used the example of the cycle lane introduced in the Boulevard Sébastopol, which was equally contentious but once introduced showed a substantial and rapid shift in street uses:

> "The best example is the Boulevard Sébastopol, which took, I don't know, three or four years perhaps, to be built. And in fact, the day we delivered it, fifteen days later, it was saturated and today we are already working on improving it. We delivered it in 2019 and, at the time, we were told that there would be no one on

these tracks and that it was totally utopian and that Anne Hidalgo is the only one to bike. [...] In fact, all these measures are being legitimised by the use we see today."

The new interventions, which are visibly thriving with cyclists or pedestrians after a few days, prove that Hidalgo's approach is catering for latent demand. At the same time, they invite other people to shift their journey to active modes. In the view of a local campaigner Cyril, they catalyse:

> "A snowball effect, [thanks to] the fact of seeing people, including people who we would never imagine cycling, [...] elderly people, people with reduced mobility, parents, etc. The parallel development of a certain number of alternatives which allow parents to transport their children, their shopping, etc., means that gradually, there are more and more cyclists".

The creation of new and diversified opportunities for cycling means that more, and more diverse, people are now cycling. As we mentioned in section 2, recent statistics show, for example, how the gender balance of cycling in Paris is shifting towards a more equal distribution.

For our interviewees, the visual impact of rapid and successful road-reallocation initiatives in increasing political support for further interventions, and therefore legitimising Hidalgo's policies, should not be underestimated. As part of this, the regular publication of statistics around increases in cycling uptake or reductions in collisions⁵⁰, and new maps of available cycle lanes, can also contribute to depicting success, and legitimise further interventions, while also deterring opposition and controversies.

⁵⁰ https://www.paris.fr/a-velo

Unexpected spaces for change

Several additional factors enable Hidalgo's strong political will to translate into success. The city of Paris has encountered some crucial unexpected opportunities for change to increase visibility and popularity of cycling, allowing the newly built network to be 'discovered' and populated by many new cyclists.

Firstly, many interviewees mentioned the public transport strikes in 2019 as an important moment for cycling in Paris. In absence of the usual public transport links, many turned to the bicycle as a fast and easy alternative. This is not a novelty for Parisians, as Jordane remarked: "every time there are big strikes in Paris. It's very beneficial for cycling. So everyone gets their bikes out of their cellars".

Similarly, the Covid-19 pandemic functioned as a catalyst for the adoption of cycling amongst those that did not feel safe on public transport. In the view of some interviewees, it unexpectedly provided favourable ground to 'give cycling a go' due to the low levels of motorised traffic. This was however only possible as many sections of the new network were already in place and many others were rapidly introduced as experimental measures during the first lockdown, taking advantage of existing implementation plans.

As Jean, a campaigner confirmed, "[the rapid increase in cycling] that's totally due to the [pandemic] crisis and the fact that the cycle lanes were there. [if we only had] the [Covid] crisis without the cycling lanes, I don't think that we would have the same change".

Similarly, for Adel, another campaigner, the Covid pandemic stimulated a reduction in road parking which, indirectly, allowed a deep transformation of public space conducive to more active travel: "Parking decisions are a big driver of change because the harder it is to park, the more, in Paris, we use other transport solutions. And one of the aspects that was important for that was the terraces of cafes and restaurants that were transformed during the Covid. [...] There was less space for parking, for cars, much less. In my street for example, there were terraces next to each other – and it was very pleasant– instead of having cars. So, it already showed another face of the city" (Adel).

In the words of the Christophe Najdovski, the strikes and the pandemic showcased experiential evidence of a new model of mobility:

> "We had a kind of demonstration that when you are living at a distance of less than ten kilometres from the centre of the city, even if you are outside the city, you can do it. You can. It's not so far, it's not so difficult if you have a good infrastructure, if you can go safely to your work, then a lot of people can do it. And we saw with the different crises, transportation [strikes] and COVID, we saw more and more people and especially women using a bike to go to work".

The role of citizens

As discussed already in section 4, the number of citizens' groups and associations concerned with urban mobility grew substantially in Paris's recent history. Many interviewees recognised their crucial role in shifting narratives and bringing active travel to the centre of public policy.

Citizens' groups and campaigns contributed to three main areas. Firstly, they highlighted the importance and need to reduce car use and its detrimental impacts. Campaigns around road safety, quality of public space or air pollution have increased the visibility of these issues in the public domain. They have been central to building support for the changes ahead. Camille recounts the role of their association in the promotion of School Streets:

> "In 2020, we had the municipal elections for the Mayor and [we] engaged with the different main candidates. [...] we did this online map of air pollution across schools so [they could see] the results, which are very bad; [it allowed us to say] "it's a real health issue and you have to enforce new policies about School Streets". [...] And as we did this online map, as we had a lot of media attention, as we had the parents getting worried and reaching out to us, [the candidates] made this pledge during the political campaign and now they're building School Streets".

By producing new knowledge and evidence of the detrimental impacts associated with motorised mobilities, citizens' groups elicited reactions and commitments from politicians, which, as we saw, was crucial to the following stages of Hidalgo's mandate.

Secondly, citizens' work remained vital in ensuring the council delivered its promises and commitments, especially as implementation revealed significant challenges. Jean, who works with a metropolitan cycling association, remarked:

> "[Our role] it is about [putting] constant pressure on the politician because it's a long term project [...] if you are not there in the local meeting with the people and the public local meeting, if you're not there to meet with the politician, to remind them of their commitment, things are moving very slowly [...] in the city where they have taken commitments, that's where we have to put pressure because it's easier to make commitments, it's more difficult to implement them [...].

I think that in the previous cycling plan, the pressure that was put by the cycling organisation was really important in order that the city council really implement the commitments that were made".

For Jean, campaigners' 'constant pressure' on governors was vital in translating the Mayor's commitments into practical and well-paced actions. Quite remarkably, Adel remembered a message received by a council officer "who thanked us that we 'pushed'".

Thirdly, citizens' groups have enriched the councils' capacity and skillsets, especially in the earlier phases. They contributed with original studies and proposals to the new challenge of re-thinking the mobility paradigm and designing for cycling, a new mode to many of those traditionally trained in transport engineering and planning. The researcher Faustin considers:

> "I think that there was a lot of expertise on both sides. In fact, the cyclists started to produce guides and design guides to describe how to design properly, etc. And on the other hand, the city council's services also learned from their mistakes and from the exchange with these activists."

Faustin's observation is not far from what the Council's officers themselves recognise. For example, Jordane suggested, "the bicycle users' associations have played a very important role, especially during the first mandate", with an important presence at the city, regional and national level. As a consequence, during Hidalgo's first mandate the council constituted a 'bicycle committee' which still "meets about every month to have times of exchange and dialogue with these user representatives" (Jordane). In their interview, Christophe Najdovski remarked on the importance of these exchanges for the development of Paris' cycling ecosystem: "We do accept and we do recognise that [citizens groups] have expertise comparable to our proper expertise of our technical services. And we are discussing with them and we are also trying to define the planning and the infrastructure of, for example, new bike lanes with them. So most of the time we agree together on what we have to do. Sometimes we disagree, but it's part of the discussion. And they are also lobbying with social media today".

With their trusted expertise, cycling associations and citizens' groups have also brought attention to the disparity of investments between Paris and other Districts (see section 6). As mentioned in section 2, the current regional cycling plan RERV adopted by Paris, and several surrounding Districts, Greater Paris, Île-de-France, has been developed by <u>Collectif</u> <u>Vélo Île-de-France</u>. Jordane recalls this as a 'very strong moment':

"In 2020 and 2021, at the time of the elections, [the idea of the RERV] was heard by everyone. The parties appropriated this idea of RERV and of Vélopolitain. They all took it up in their campaigns. I think there is one party that has not. But all the major parties have taken up this idea in their own campaigns and we too, the Mayor of Paris for that matterAnd so we have this common objective of setting up the RERV. Now, to come back to the involvement of the citizen association movement. That was a very strong moment. And so we all made ours that project which we included in our local, regional, metropolitan and other master plans. And as a result, we work together because Paris is the epicentre of the Île-de-France region."

42

6. The limits of the cycling revolution: Conflicts and criticisms

This section analyses how political will, a new vision, new institutional structures, and active citizens created the conditions for radical change, supported through unexpected opportunities and tangible examples of progress. Specifically, we found that:

- Institutional legacies, such as the high levels of police control over street transformations and experiments and their hostility towards such experiments, continued to block change.
- While there has been substantial change, the quality and quantity of infrastructure has – as elsewhere – not always been what was hoped for. For instance, in some cases space for cycling has been taken from footways rather than space for cars.
- In the context of rapid uptake of walking, cycling, and new e-mobilities, there have at times been tensions and conflicts between users of different modes.
- Implementation has been spatially unequal, to some extent within Paris itself but much more so comparing intramural Paris to neighbouring districts, which is linked to the differing governance structures and patterns of land use and transport development.

Oppositions by car users and the police prefecture

As many other cities have witnessed, when the paradigm of car-centric mobility⁵¹ is challenged, conflicts are likely to emerge, particularly from people who habitually drive. We have already mentioned the opposition to the pedestrianisation of the Seine and similar initiatives. Although car journeys are made by a minority in Paris, tensions were present, especially during Hidalgo's first term. Cyril recalls how "as soon as we said give up your cars, in any case, reduce your use, it was war, it was war straight away".

For Cyril, a response to these criticisms was to shift the discussion to children's health and work with parents and schools because "when we say we want to improve children's health, we want to fight against air pollution, it's much more difficult to say to us, [...] "No, we don't care about children's health". My assessment of these three four years is that it helped move the subject forward".

It is worth noticing how many interviewees associated the opposition of car users with specific resistance to change by the police prefecture. Different interviewees reflect on the role of this actor in slowing down the pace of implementation. Amongst others, Jordane highlights this clearly considering that, especially during Hidalgo's first mandate:

> "It took us a long time to come up with emblematic projects because there were a lot of objections, including from the police prefecture, which had to give its opinion on certain roads and who were not yet ready to give way to cars in favour of bikes"

⁵¹Brovarone et al (2023)

The police prefecture in Paris has wide powers and, as Cyril clarifies, "there are certain roads where the police prefecture can decide whether or not certain arrangements are made, for example certain cycle tracks which stop all of a sudden and then resume further on".

In addition to opposing changes to road layout, police action also extends to citizens initiatives. Adel explains the wide conflict and highlights how the police prefecture has been affecting road reallocations but also her work with residents by reducing their ability to organise open street or play streets events :

> "These are the difficulties and contradictions that we have had in Paris. There are two powers that are often quite conflicting when it comes to transport, the Mayor's office and the police prefecture. The police prefecture has a lot of power on the roads, on the streets and it has the power to prohibit or authorise gatherings, demonstrations, to open the streets. It's a historical power since a very long time because Paris was a revolutionary city. And so we controlled it by giving a lot of power to the prefects. And [now for us this creates] a lot of trouble to organise events. ..[especially because] the police prefecture in general likes cars [...] if there weren't the difficulties with the prefecture of police, [the transformation] would be much faster and deeper".

As we discussed in section 5, the council responded to opposition with strong political will and the 'power of evidence' of the growing success of Paris's cycling revolution. The criticisms have however not ended.

45

The challenge of implementation

Other criticisms of Paris's plans arrive from many associations generally supportive of improvements to active travel provision. Despite the promising picture of investments and commitment Paris promotes locally, nationally and internationally, limitations exist on various fronts, as promoters themselves highlight.

A first issue is linked to the slow pace and quality of the infrastructural changes, with an evident geographical variation. As mentioned, the citizens' led Observatoire du Plan Velo observed that, in October 2022, only 30 out of the 180 km of cycle lanes planned for 2026 were introduced.

Inconsistencies also exist on the built network, as Cyril highlights:

"There are plenty of places where, for example, the cycle paths have been built on the pavements, which makes it quite complicated to use them, knowing that the pavements are already very, very busy with urban furniture, vegetation, etc. So, in certain places, it is extremely complicated for pedestrians and cyclists alike to circulate without literally crashing into each other".

Cyril remarks how differences in the quality of the network are also evident between different areas. Within Paris, differences exist between the East where "rather than remove a lane of traffic, they preferred to bite into the pavement a little bit" and the West where pavements are bigger and renovation took place. More substantially, disparities exist when comparing Inner and Outer Paris, as we will discuss in the next sections.

New emerging tensions between walking and cycling

Cyril's comment links to a second issue emerging from the boom in the number of people cycling in a city where walking is historically the most popular travel mode: many interviewees report how Paris is seeing increasing conflicts between pedestrians and the new cyclists.

As Cyril mentioned earlier, this is partially linked to poor design of infrastructure, where cycle lanes are introduced by restricting pavements, or to generally poor cycling infrastructural provision. Noa brings a complementary perspective highlighting how conflicts emerge from the narrow focus of interventions and policy on the 'cycling revolution', which has prevented bringing public attention to the collective benefits associated with the mobility transition:

> "There has been a tendency in recent years to put a lot of emphasis on, to put a lot of value on, cycling policies. The new ones, the cycle transformation in Paris, which was actually quite a revolution. There has been a lot of talking about it. The impression has been given that actually everything was done for the bikes, without necessarily valuing the fact that it was a collective benefit, let's say even for those who don't cycle and of course for pedestrians. There was no ability, perhaps, to sufficiently value all the policies that were also made for pedestrians. In the mediatisation of communication these policies have taken a bit of a back seat, and so there is a bit of an impression that they are forgotten by everyone, that in Paris they only care about cyclists and that's the only goal, and so now it's really becoming a problem, in the sense that the conflict [between walking and cycling] is so high".

Such framing of the intervention has elicited negative reactions by pedestrians who felt further deprived of the already limited space assigned to them on public roads. Noa stresses the importance of an ecological approach to urban mobility to deal with the conflict. The improvement in the provision, with more protected cycle lanes, wider pavements and better intersections mainly via the implementation of the Pedestrian Plan, should be linked to 'educational campaigns', especially where, as Christophe Najdovski remarks,

> "Pedestrians, especially the oldest people, do have some problems in adapting to that big increase because it changes their perception of what is the city and what are the streets. So we need also to accompany that with communication and also to say to some cyclists that they should respect the other users more, and especially pedestrians, who are the most vulnerable of all the users".

Part of this challenge is to communicate adequately and, as Noa says, "to put forward the benefits for all categories of people. When, for example, you create new cycling facilities, [...] the benefit is not exclusively for cyclists. The benefit is also for the inhabitants of that street who will have less noise, who will have a whole range of things". Similarly, Noa observes the difficulty of reimagining road safety in a context where car danger has been normalised⁵², but other ecologies of actors, objectively less life-threatening, might feel menacing.

> "We all grow up knowing that we must not end up under the wheels of a car. And so, it is as natural to tell ourselves that the car can be a danger and that we must therefore be careful. And we have it in our heads that the space of the road belongs to the car and that

⁵² <u>Walker et al (2022)</u>

if you are a pedestrian you have to be careful, to pass through it for as little time as possible".

A different conception of road space use and road safety is therefore needed to allow for new forms of coexistence when car journeys are replaced with active travel ones.

The crucial role of spatial justice

As discussed in section 3, concerns exist with regard to social and spatial justice in Inner and Outer Paris. These concerns are also repeated in the interviews undertaken for this project as the fundamental background to consider when assessing the equity aspects of Paris's cycling revolution. Cyril observes how "you can really see a gap between the historic centre of Paris [...] there, everything is perfect, everything is well done, everything is well designed. And then the further away you go, the more it stops existing."

This situation of geographical disparity is particularly evident when considering the North-East of Inner Paris, "where there is the highest population density" and the Seine Saint-Denis, "which is also the poorest department in France [and] a huge place of passage for road freight" as areas of concern. Specifically for the latter, Cyril observes how multiple overlapping crises affect the local population:

> "[We observe] the triple punishment of an extremely polluted territory, whether in terms of air pollution or noise pollution, and a need for access to the capital. Most of the workers, or at least precarious workers, live there, but work in Paris in poorly paid jobs, and on top of that have to cope with public transport, which is both saturated and of very poor quality, with a lot of problems, and active travel which would allow them to get away a little [but does not exist]".

The reality of areas where inhabitants have to cope with poor public transport and active travel provision, lower incomes and exposure to environmental degradation is contrasted with "the South-West of Paris, [where] there are wealthy people who can largely afford to change their vehicle, who have very good quality transport and who, as a result, have no problems at all" (Cyril).

Similar concerns are expressed by Adel, whose campaigning work on reducing car use has been increasingly engaging with Outer Paris; one of their demands is "to improve public transport in the suburbs and from suburb to suburb. Because often, we are obliged to go to Paris and leave again. Which is stupid" (Adel). Coherently with such consideration of uneven provision and exposure to pollution, Adel's group has been designing their last marches to "starting in the suburbs and arriving in Paris or the opposite, to show the link between Paris and the whole suburbs".

The criticisms around investments that facilitate mobility and access of a highly mobile and well served elite (including international visitors) are also referenced in the changes planned for the upcoming Olympic Games in 2024. As Cyril suggested, the games:

> "Will be a huge accelerator, for better or worse. We can also see that from an ecological point of view, there are huge concerns. But as a result, Paris and the Region are carrying out enormous work to set up and develop active mobility, develop public transport, etc. But overall, it's thought out more for the Olympic Games, for the tourists who will come rather than for the local populations. Sometimes it's done properly and both benefit. Other times, it's done to the detriment of the local populations."

These lived or perceived disparities complicate the work of active travel campaigners and planners in Outer Paris. Firstly, districts outside Paris, pressured by the overlapping environmental and social crisis they are witnessing, have limited capacity for active travel provision. Noa highlights how:

> "One of the difficulties that these neighbouring municipalities often have and that is also of a financial order, that they are often smaller municipalities, sometimes with other problems, because they are often a bit more working class, [...], therefore with other social difficulties and therefore also in terms of budget, perhaps a bit less endowed than in Paris. So that can definitely make some big disparities".

Secondly, those regions would also require more substantial and challenging efforts due to the much higher levels of car dependency compared to Inner Paris, which might make active travel policies look unrealistic. For Noa and many other interviewees, high car dependency is directly linked to the differential and centralised public transport provision, which is "relatively less dense" between the neighbouring districts.

Similarly, Faustin talks of a traditional opposition between the city centre, where people tend not to use cars and see them as a nuisance, and people from suburbs that are 'in need' of them due to the dispersed land use patterns and lack of realistic public transport options. This means that even if investments for active travel are pursued in the outer districts, they are often discredited by the majority of residents and lack that public support which has instead been key to Paris's success:

> "Outside the ring road, things are also happening. It's been years since the tramway came out. There is the Grand Paris Express project. There are cities, notably

during the Covid period, such as Montreuil, which have made a lot of cycling improvements. So things are also happening in the suburbs. Except that in the collective imagination, these actions are only relevant to the centre. And so outside, there will always be cars. Or it's the same thing for Paris and the provinces, i.e. I'm one of the people who supports these developments, who tries to propose them. And they tell us: your view is a Parisian view. Maybe it works in Paris, but it can't work here. Here, people have their cars. And so this caricature of the confrontation between Paris, the Île -de-France or Paris and the rest of the metropolis is replayed in each city. Between centre and periphery."

However, both Noa and Faustin recognise the effort of some of the Outer Paris Districts that have demonstrated "more political will because they are of a more Parisian orientation, thus more in continuity with [its active travel policy]" (Noa). In such a context, the RERV project is undoubtedly perceived as a great scheme with the potential to reduce this disparity "But it takes time. And I guess also it takes time to make everyone on the same page and then to build, then everything" (Camille).

7. Summary and Conclusions

This report analyses the actors, policies and events at the core of Paris's so-called 'cycling revolution', its historical development and current challenges.

By engaging with academic studies, policy literature and stakeholders' interviews, we have uncovered a complex picture behind current changes in Paris's mobility. We see how current developments in Paris should be situated as part of a slow but clear trajectory of increasing attention to the development of public transport and active travel to contain the spread of car-centric planning and related externalities. Key has been, for example, the development of an exemplary bike-sharing system, Vélib, that has provided a cheap and easy-to-use active travel option since 2007. Concerns with transport-related air pollution and congestion, along with attempts to provide better public space, have also been present in the capital, and increasingly at the national level, for several years.

However, active travel, and cycling in particular, has only become central to the re-thinking of urban mobility in Paris since 2015, thanks to a number of planned and unexpected opportunities.

Central to change is a strong political will by Mayor Hidalgo, who promotes both a robust vision for the future of the capital and substantial investments to implement said vision. Such political will enabled the implementation of ambitious interventions, such as pedestrianising the right bank of the river Seine and the new cycle lane on Boulevard Sébastopol. Although not without significant criticisms and controversies, the interventions are able to cater for substantial suppressed demand and show a tangible and undisputed success in a short space of time. This rapid change is undoubtedly facilitated by the already very low level of car use in the city, and by a number of unexpected opportunities for change that emerged during the implementation of her vision. The public transport strikes in 2019 and the restrictions linked to the Covid-19 pandemic both provided suitable grounds for high uptake of cycling amongst Parisians. Existing plans for infrastructural development allowed the city council to take advantage of these moments.

Similarly, a strong presence of civic society associations and campaigns working on air pollution and health, public space and active travel created a fertile ground for a cultural shift where walking and cycling are normalised as primary mobility modes.

Our study reveals, however, that much is still to be done to ensure widespread adoption of active travel, which aligns with equity objectives in the city and broader region.

Firstly, although plans and funds are in place, there is still much to be done to ensure consistent and widespread high-quality active travel infrastructures with appropriately protected lanes and intersections. It's a challenge that many cities face and that also requires more resources, new skills and expertise as transport planning departments were not traditionally set up to work in such a way. However, as we saw, it's a change that Paris is progressively taking into account, including increasingly recognising the importance of adequate planning and provision for walking.

Secondly, a much more significant challenge exists when considering Paris's cycling revolution in relation to the city's outer regions, where historic economic disparities are substantial. Here the pace of change has been much slower due to a combination of a complicated governance structure, much higher rates of car use and longer-distance journeys, insufficient public transport provision, and the relative scarcity of economic resources in Outer Districts. Improvement plans are ready to be implemented, both for public transport and for a highly ambitious regional cycling network, but faith is still to be built on their delivery and ability to tackle social justice issues in the region.

As much as Paris and its hinterland have a long journey ahead to make active travel the centre of their mobility systems, they serve as an important example for many other cities that are looking to go in a similar direction and for which the example of Amsterdam or similar exceptional cities might seem too far away. As Jordane highlighted:

"[I hope that] Paris can be used to have this counterexample of a [...] city that has been built for the car since the 50s and 60s in an unconditional way, with urban motorways, things that seem completely crazy today. Building a motorway on the banks of the Seine is completely incongruous in 2022, but nevertheless we had it, we were entitled to it for several decades and in fact we are the visible, argued proof, with supporting figures and images that it is in fact possible [to change this]." (Jordane)

As such an example, Paris also serves as a reminder for other cities that re-thinking urban mobility is a complex and multifaceted challenge which requires continuous adjustment and learning. The example of Paris's renewed attention to walking is key in these terms. Undoing and redoing public space on different principles is a 'work in progress' where new conflicts and needs emerge as change unravels. As such, openness and co-learning allow for such a transition to take place.

Such a journey of co-learning also requires, as highlighted by Cyril, "to reconcile politics and the citizen [...] to show that it's

really done for the population and that it's not just political considerations [...] reintegrating citizens into the heart of these issues [...]. And on this side, I think that we can also take inspiration from what certain suburban cities in Paris are doing to integrate these people and, in any case, to get closer to a real citizen consensus".

Such a journey also requires critical attention to issues of spatial justice. If active travel is to become a realistic option for climate mitigation and liveable cities, long-distance journeys and public transport provision need to be an integral part of the picture from the beginning. This means also avoiding the creation of 'premium spaces' where all interventions are concentrated, but also carefully taking into account the potential gentrification effects, and adopting adequate mitigation measures.

In such terms, the success of the RERV proposal and the importance of citizens' desires and expertise in shaping objectives and plans for the future remain central to the story of Paris's cycling revolution and its future.