

# A master plan for planting trees in Paris

Ways to climate-friendly city / Wege zur klimagerechten Stadt

Wien

May, 16th 2022

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# The urban planning agency of Paris and Greater Paris

Since 1967

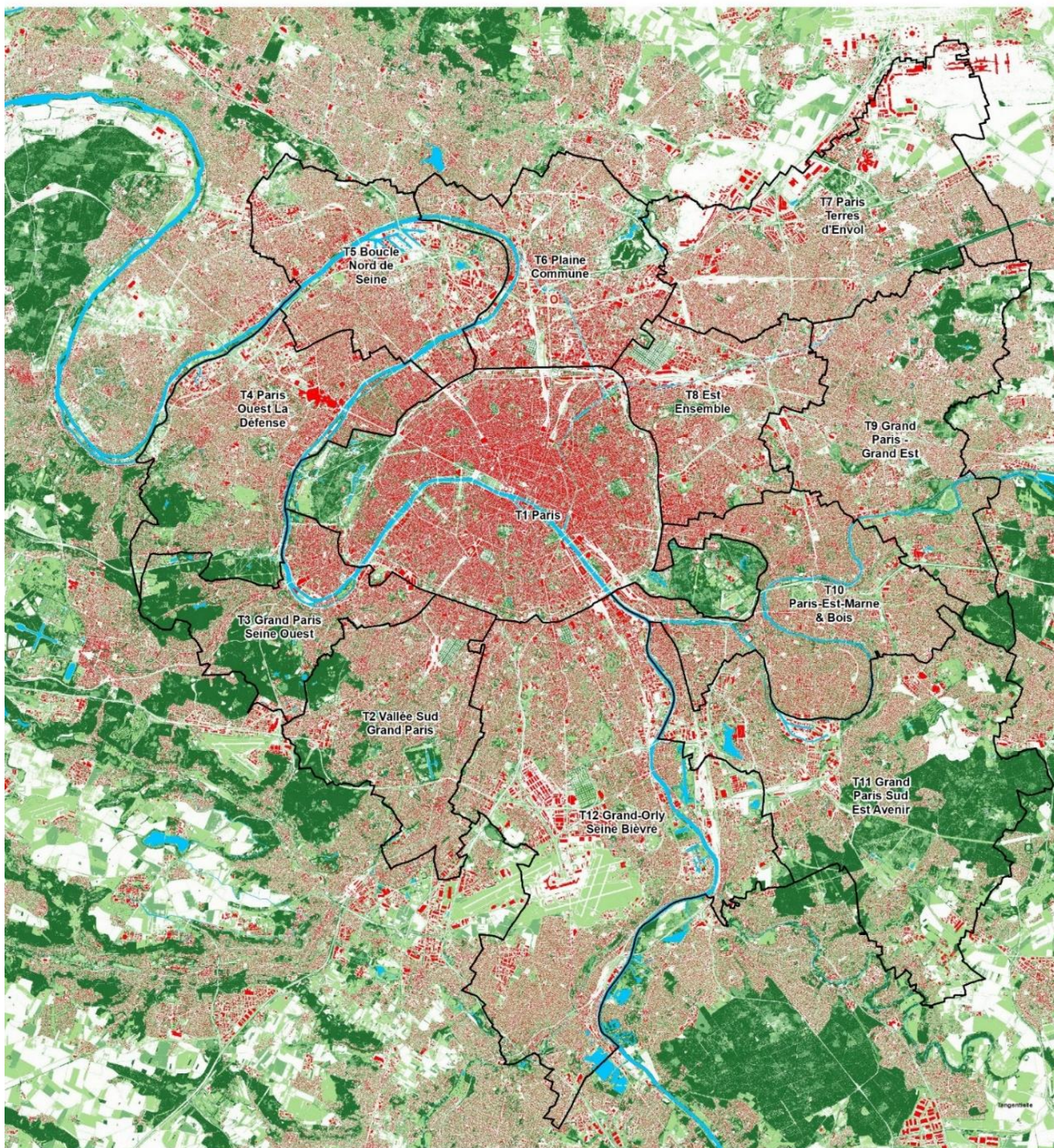
**Association loi 1901** (= Non-Profit Organization)

**80 people** (studies, general services, documentation and databases)

Missions :

- to **amplify the territorial knowledge**
- to **contribute** to drawing up the direction of the City of Paris and greater Paris development objectives, particularly through its **urban planning documents and projects** within Paris and its Metropolitan area.
- to **study and analyze** the anticipation of **urban and societal evolution**, which plays a role in defining **public planning and development policies**,
- to **develop synergies** between our partners and all the actors of the Grand Paris implementation

**29 stakeholders** on Apur board, all public bodies





# Paris is « small »



## France

551,500 km<sup>2</sup>  
(213,000 sqm)  
68,014,000 inhabitants  
(2020)

## City of Paris

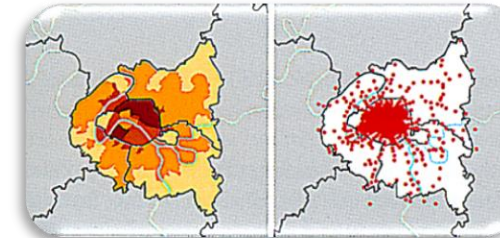
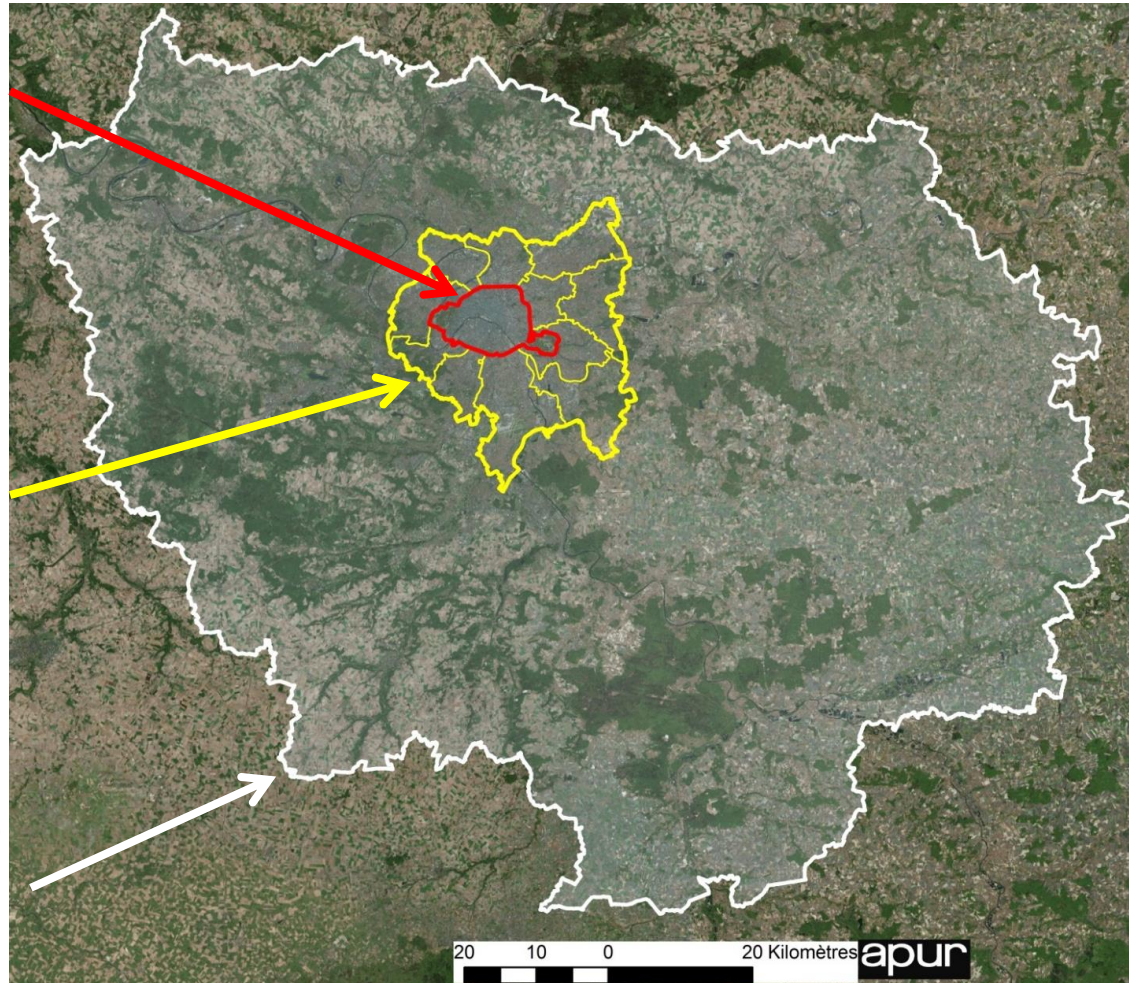
105 km<sup>2</sup> (40,5 sqm)  
2,175,601 inhabitants (2018)

## Greater-Paris Metropolis

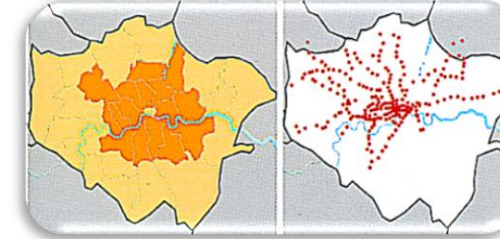
814 km<sup>2</sup> (314,3 sqm)  
7,075,028 inhabitants (2018)  
12 territories  
131 municipalities

## Région Ile-de-France

12,012 km<sup>2</sup> (4,638 sqm)  
12,213,447 inhabitants (2018)  
1 276 municipalities



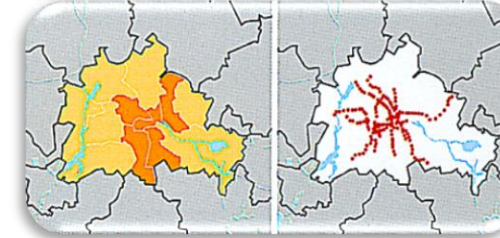
Paris : 105 km<sup>2</sup>  
Greater Paris : 814 km<sup>2</sup>



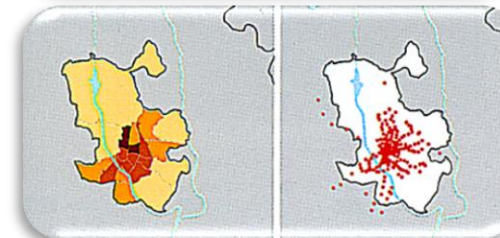
Inner London : 318 km<sup>2</sup>  
Greater London : 1 569 km<sup>2</sup>



Barcelona : 102 km<sup>2</sup>  
BCN Metropolitan area : 600 km<sup>2</sup>



Berlin : 891 km<sup>2</sup>



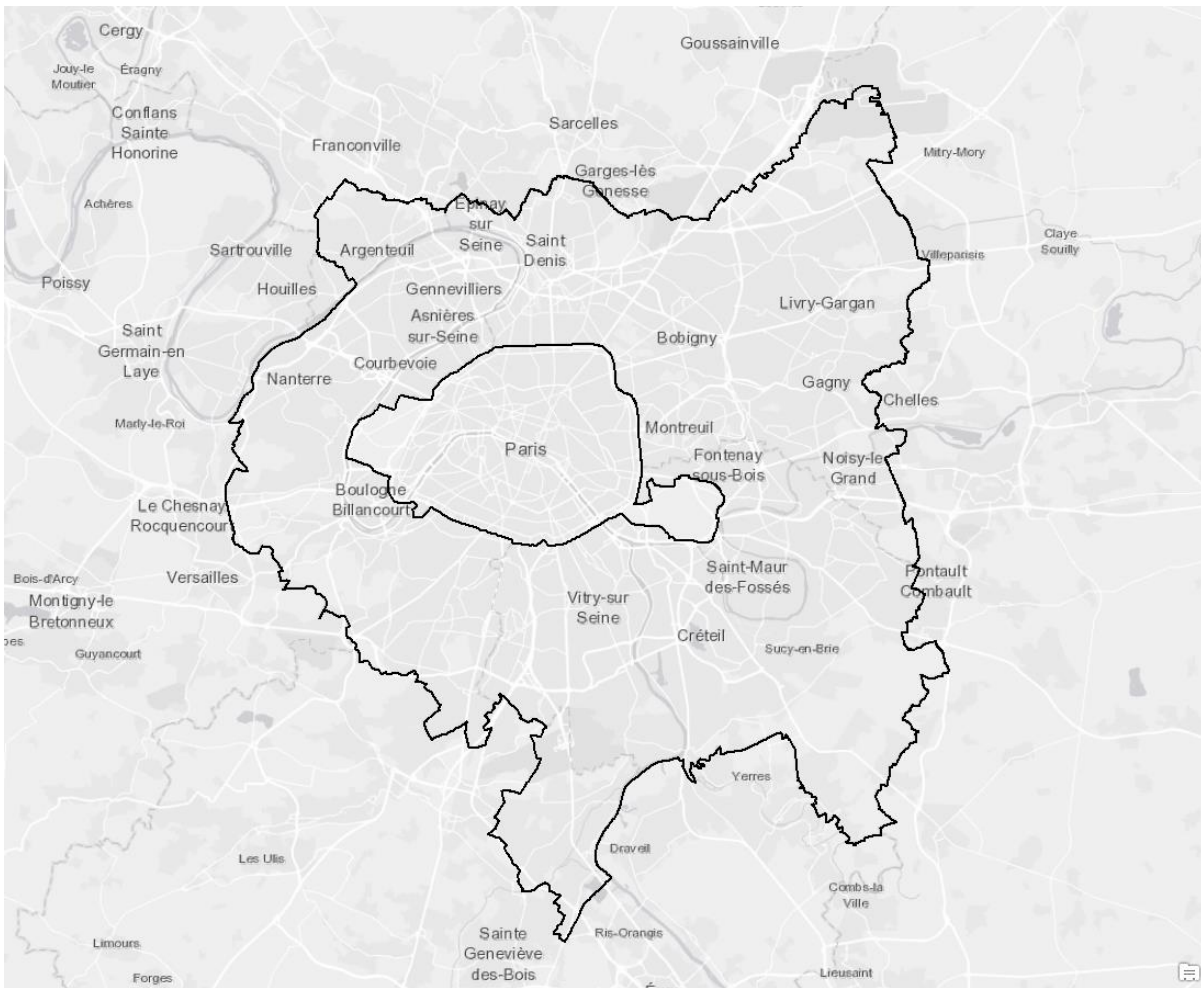
Madrid : 604 km<sup>2</sup>



**Paris : 105 km<sup>2</sup>**

2,2 million inhabitants / density : 20 641 p/km<sup>2</sup>

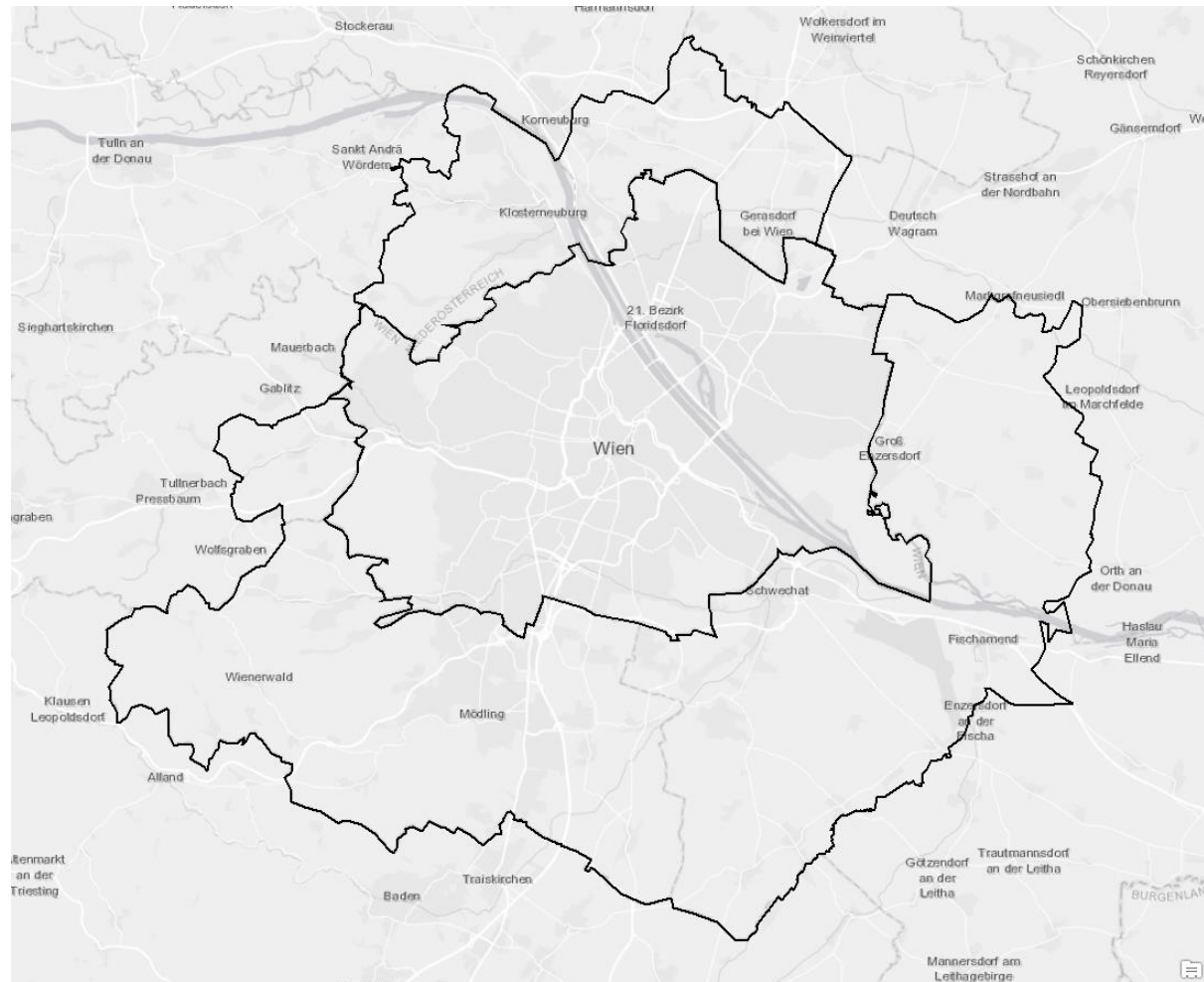
**Greater Paris : 814 km<sup>2</sup>**



**Vienna : 414 km<sup>2</sup>**

1,8 million inhabitants / density : 4 260 p/km<sup>2</sup>

**Greater Vienna : 1 216 km<sup>2</sup>**

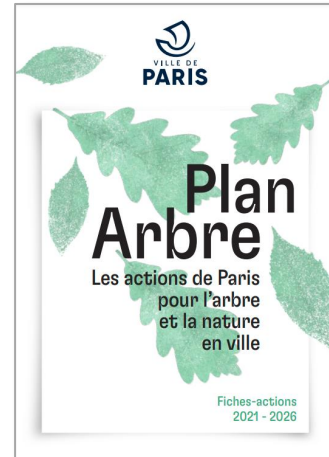
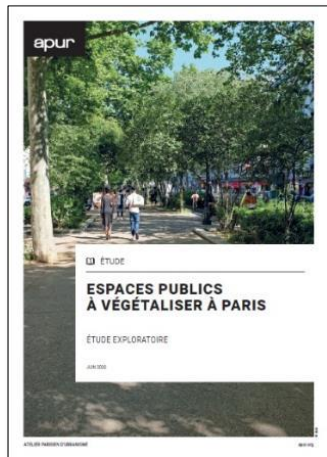




# A master plan for planting trees in Paris



The parisian public space :  
an inheritance and the evolutions of its uses



From the study of potential for planting the streets  
to a public plan for Trees

<https://www.apur.org/fr/nos-travaux/espaces-publics-vegetaliser-paris>

<https://www.apur.org/fr/nos-travaux/orientations-espaces-publics-vegetalises-paris>

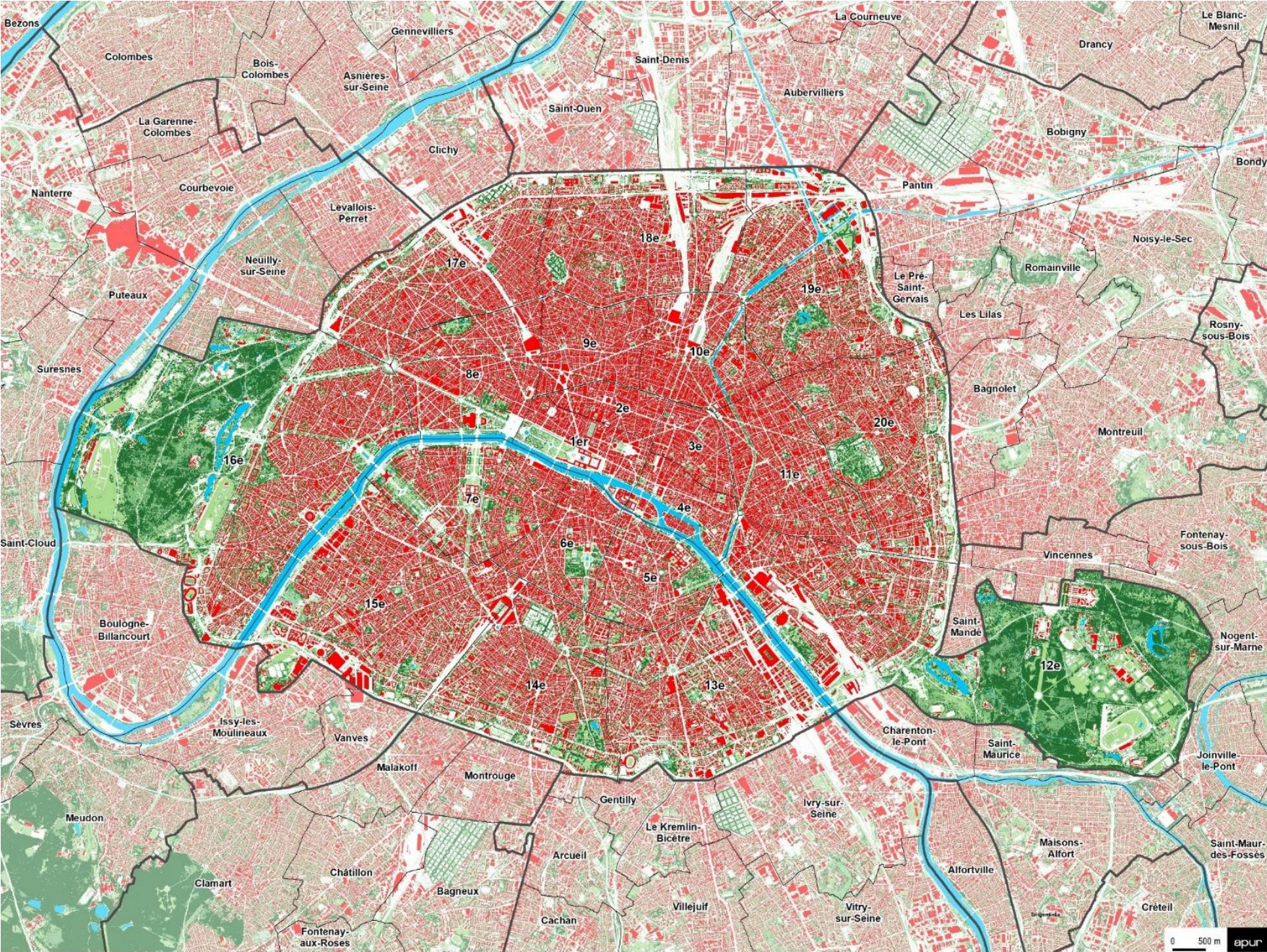




**LEGACY IS BOTH THE PAST  
AND THE FUTURE OF PARIS**



# Public spaces, highly coveted, very « demanding »



**44 % of Paris is made of public space :**

**27 % of streets  
17 % of gardens, parks and woods ( Boulogne and Vincennes)**

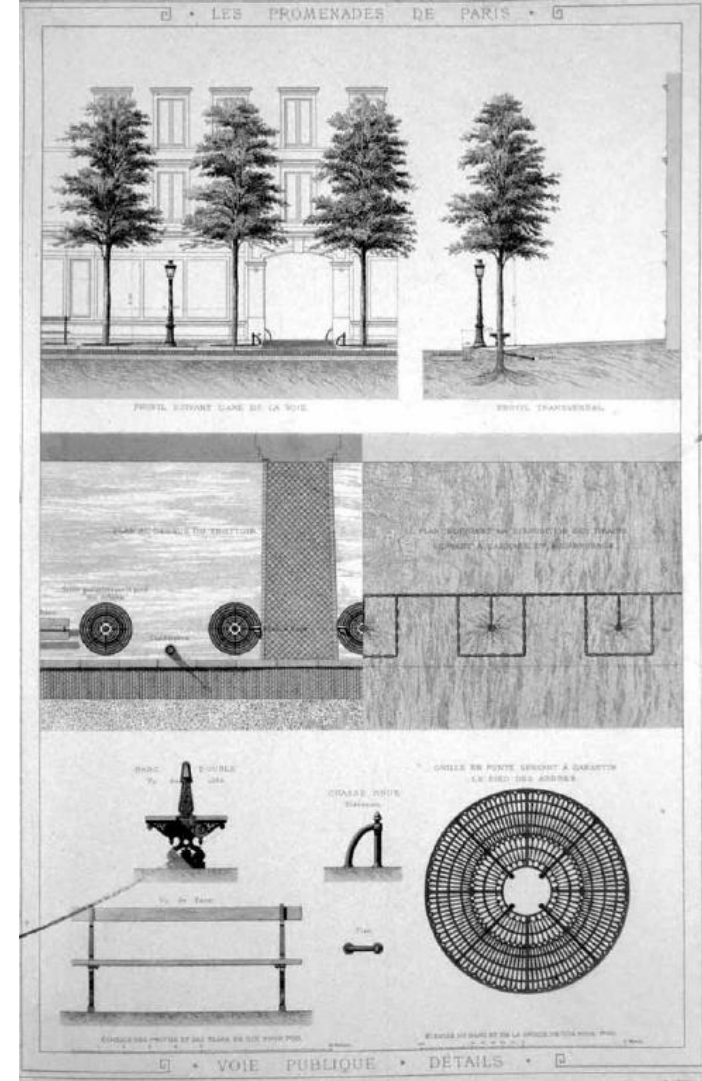
**110 000 trees are planted along the streets**

**600 000 trees in gardens, parks and woods**

**100 000 trees in privates lots**



# The inheritance of Haussmann and Alphand







1900



1960/70





# Place du Palais Royal (1960/70)





# Paris is reclaiming it's public space since the 80's

The Champs-Élysées avenue in the 80's



and today





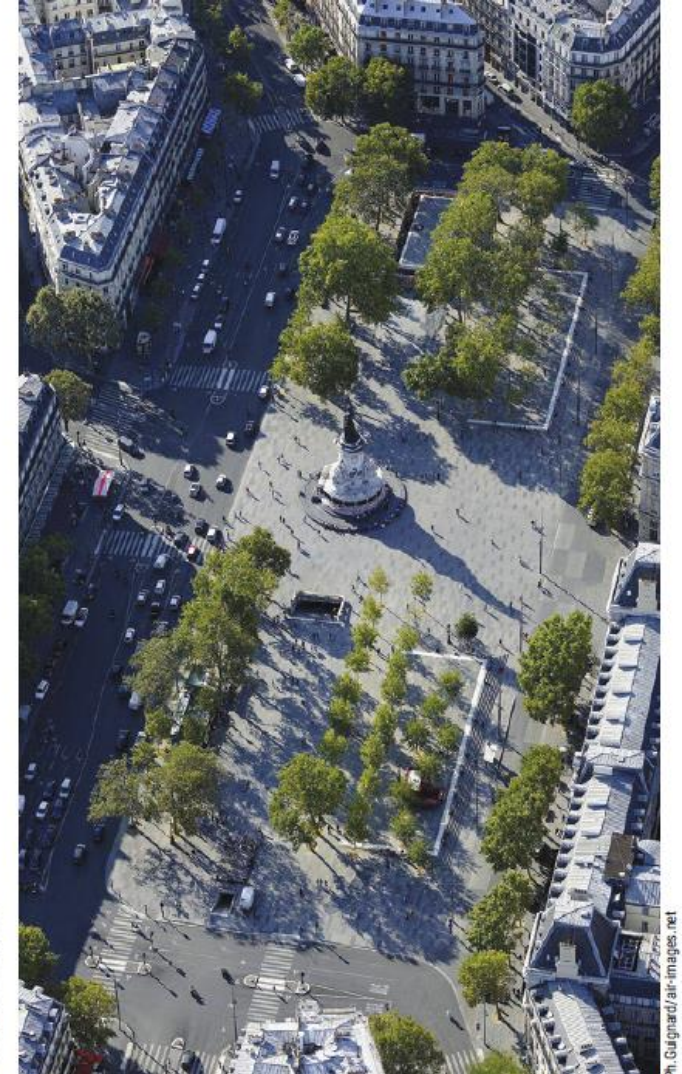
# Paris is reclaiming it's public space since the 80's

Tramway T3 – 2006 – 2012 – 2018



Place de la République – 2010-2013

Avant / après : la place de la République en 2011, réaménagée en 2013 //  
Avant / après : l'avenue des Champs-Élysées en 1991, réaménagée entre 1992 et 1994, vue des contre-allées





# The 2000 decade considers public spaces as « swiss knife », with multifunctional uses, appraisal of the public

## Amplifying life along the river

During the week  
*(till summer 2016)*



On Sunday (Paris Respire)  
*(1995-2016)*



In August (Paris Plage)  
*(since 2002)*



And now, forever dedicated to pedestrians (since september 2016)



# And now we have the attractive Left Bank of the Seine since 2014

© Apur – Philippe Mathieu





Paris City Hall square



40 years ago



Today



In 2050



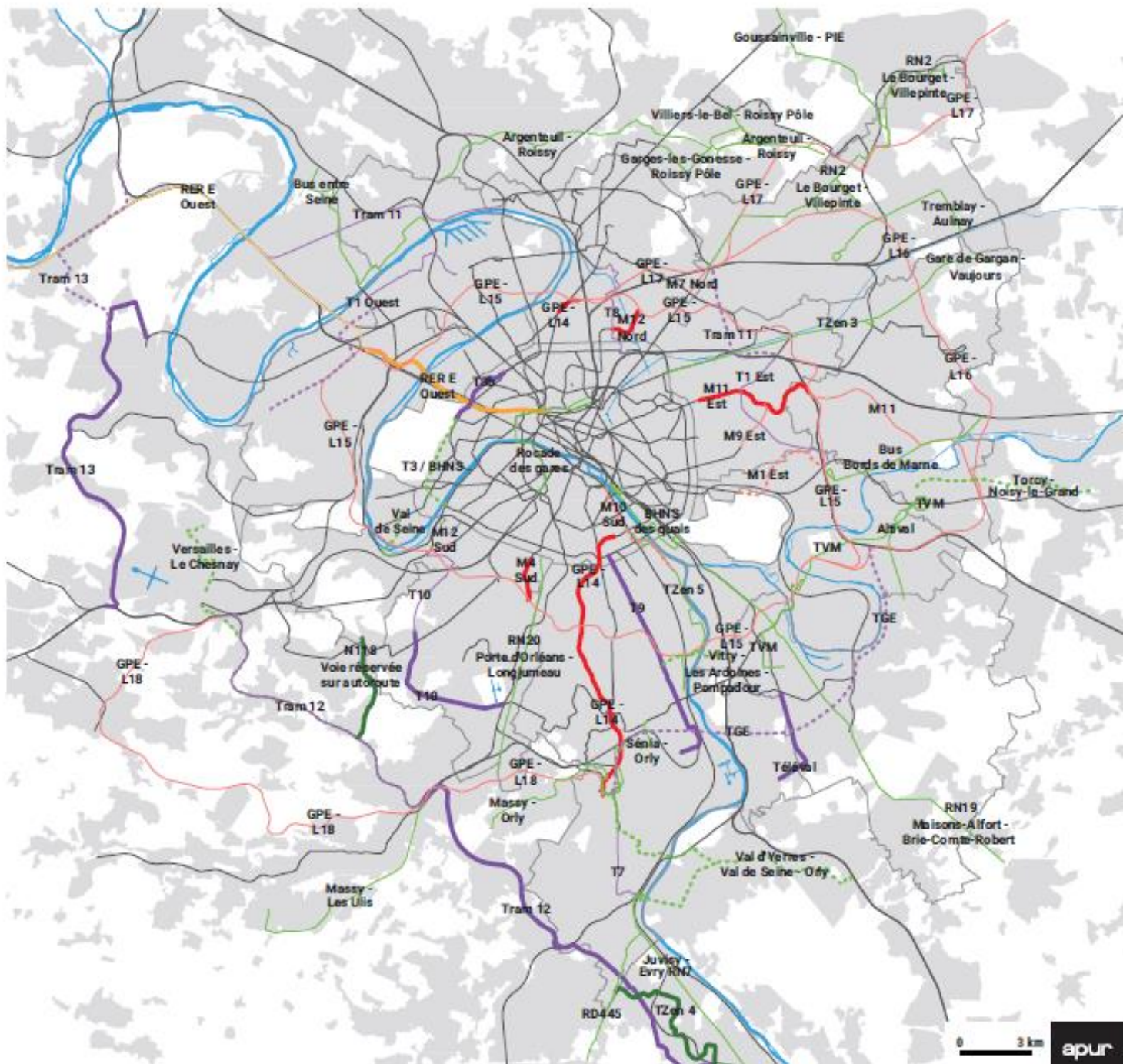
# The revolution of public transport and mobility

new metro and bus lines, new tramways, new bicycle lanes, new services

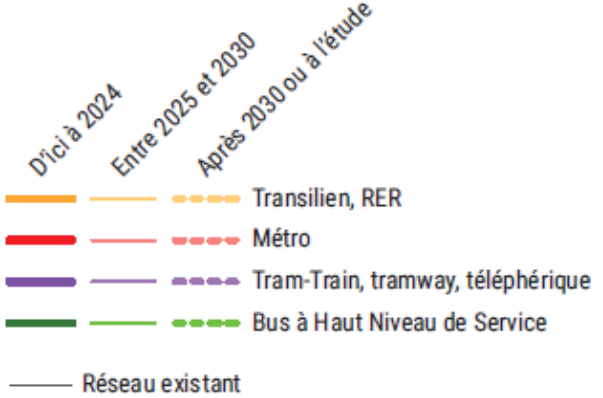
More than **95%** of the inhabitants of the Greater Paris will live within 2 km of a railway station

169 new stations for 2030

- 70 metro stations
- 90 tramway stations
- 5 cable car stations
- 4 RER/Transilien stations (express train)



Horizon de mise en service



Sources : SGP, Ile-de-France Mobilités, IPR, Apur



# To consider cities without « private cars », we prepare space for all alternatives

- In 2018, Velib' métropolitain: 39 municipalities in the metropolis, 30% of VAE
- New services
- Networks of charging stations (CNG, electric, hydrogen)
- Car sharing, Cityscoot... clean vehicles for sharing or free access



Cityscoot



Freefloating



Airparif launched Itinér'air



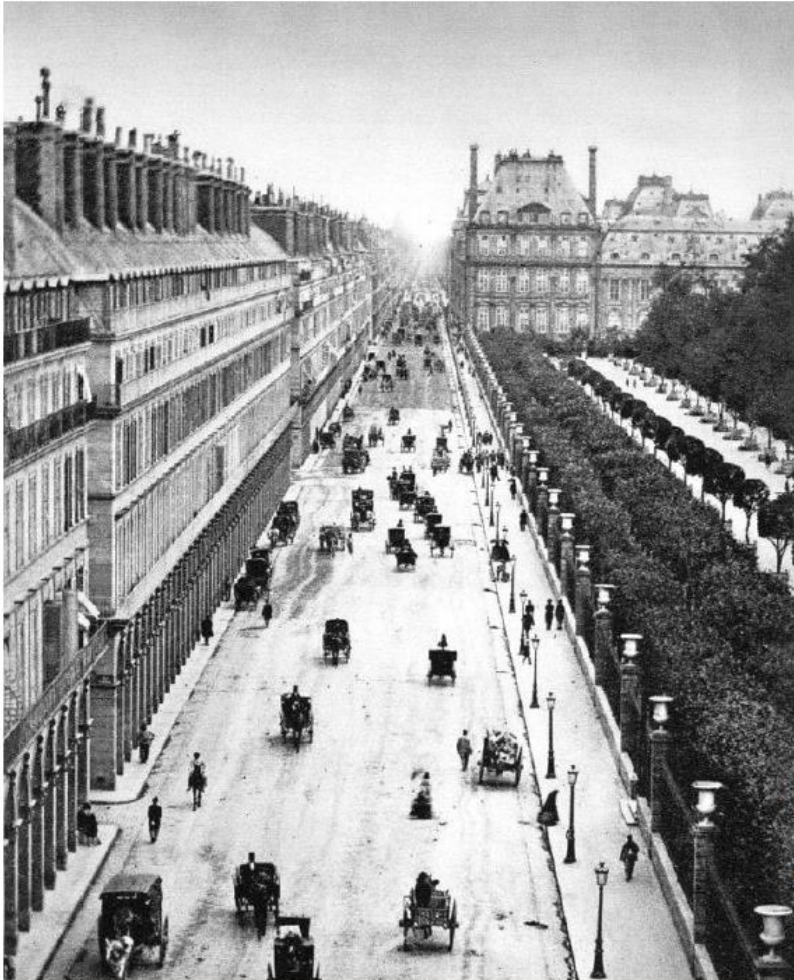
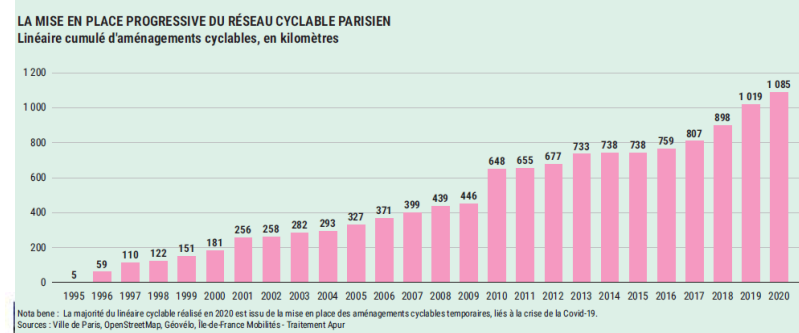
Care sharing



Vélib'



# 5 km bicycles lanes in 1995, 1 000 km in 2020



1855

Photographie : Adolphe Braun / © CC0



2013

CC by : Captainm - SA - 3.0



2021

Rue de Rivoli

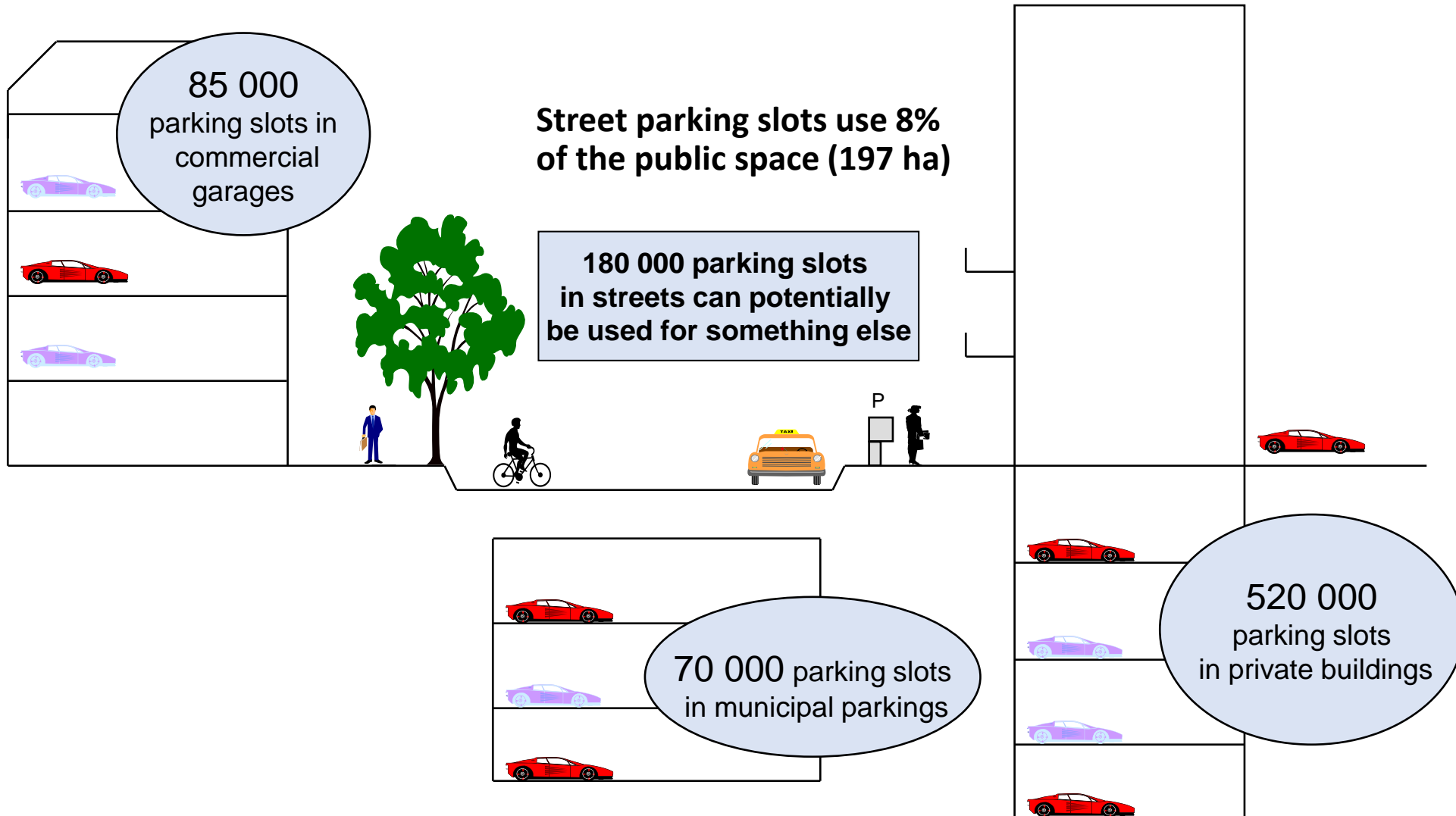
ATELIER PARISIEN D'URBANISME

© Apur - Vincent Nouailhat



# Optimizing car park in Paris

## For less parking slots in streets in the future and more use of the parking lots





An architectural rendering of a public square. In the background is a large, ornate, classical-style building with a prominent pediment and many windows. The square in the foreground is filled with lush greenery, including several large trees with vibrant pink and white blossoms. People are shown walking, sitting on benches, and interacting in the space. A white car is visible on the left side of the square. The overall atmosphere is bright and sunny, suggesting a pleasant urban environment.

# GREENING : A PRIORITY FOR PUBLIC SPACES



# A héritage of 110 000 trees in the public space



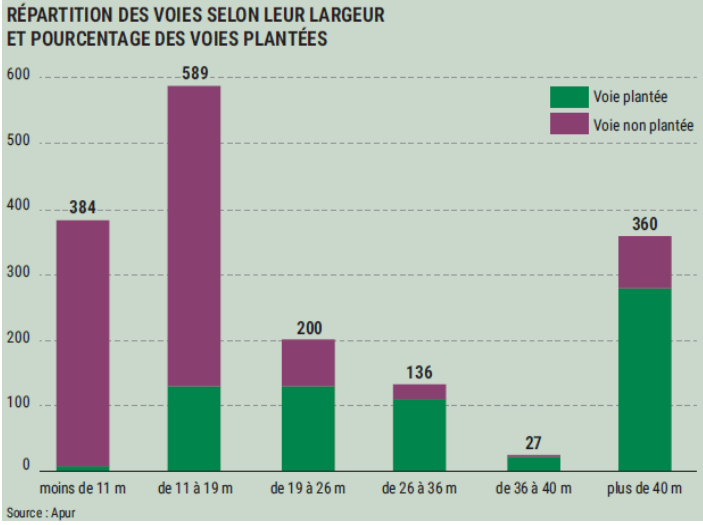
Alignement bilatéral de platanes sur le boulevard Voltaire (Paris 11<sup>e</sup>), largeur 30 m

89% of trees are planted on streets over 19 m wide



Rue Boutebrie (Paris 5<sup>e</sup>) largeur moyenne 12,5 m, en 2019

9.5% of trees are planted on streets between 11 and 19 m wide

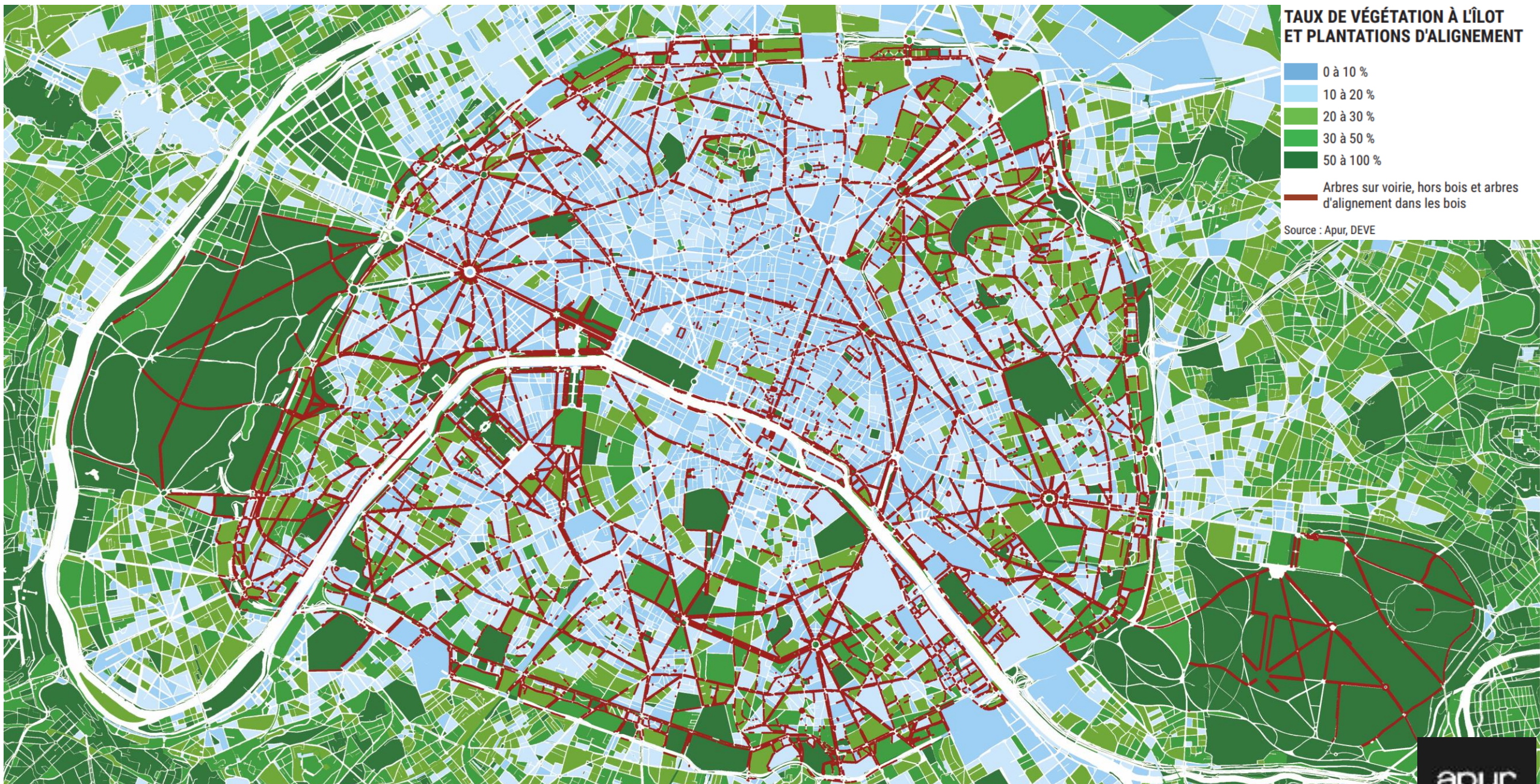


Nearly 2,000 trees are planted on streets under 11 m wide





# Paris végétation cover a high level of deprivation





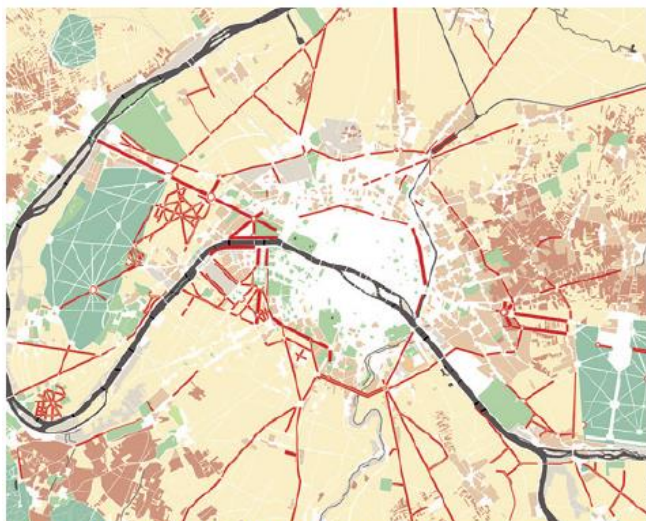
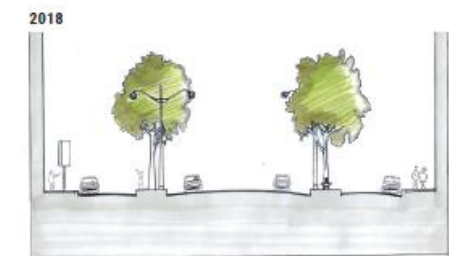
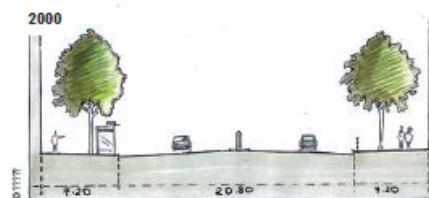
# A heritage issue, linked to the legacy of the Paris promenades



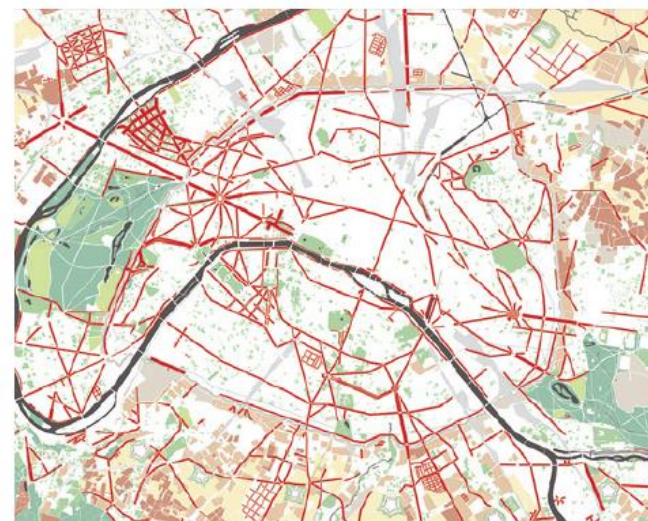
Avenue d'Italie vers 1900



Boulevard Arago vers 1900



Voies plantées vers 1830 (extrait de la recherche Naturpradi)



Voies plantées vers 1900 (extrait de la recherche Naturpradi)



Exemple de l'évolution du profil de l'avenue de Wagram (Paris 17<sup>e</sup>), largeur moyenne de 35 m



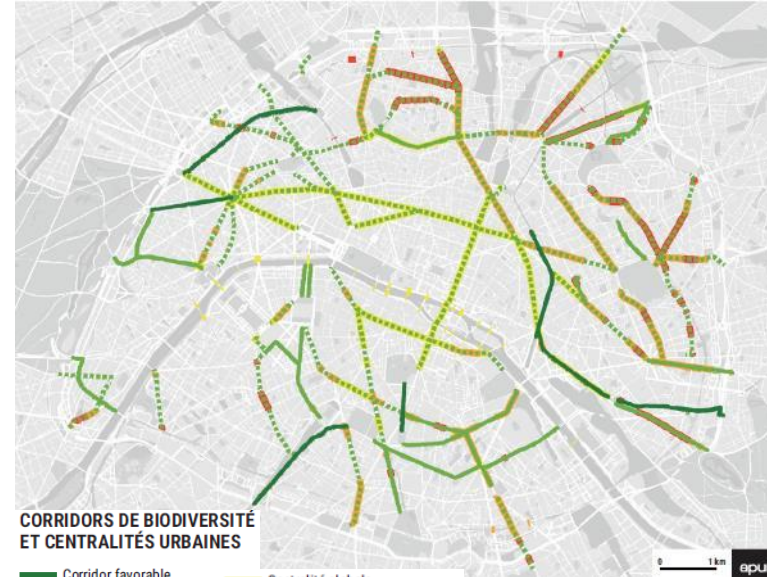
Exemple de l'évolution du profil de l'avenue Hoche (Paris 17<sup>e</sup>), largeur moyenne de 36 m



# The challenge of strengthening the functionality of biodiversity corridors



Extrait des Chemins de la Nature, carte annexée au Plan Biodiversité validé en mars 2019



CORRIDORS DE BIODIVERSITÉ ET CENTRALITÉS URBAINES

- Corridor favorable
- Corridor intermédiaire
- Corridor à renforcer
- Centralité globale
- Centralité mixte
- Centralité locale



Boulevard de Belleville (Paris 19<sup>e</sup>), corridor qualifié de « potentiel » dans une centralité, dont la qualité écologique est renforcée par des aménagements récents



Boulevard de Ménilmontant (Paris 19<sup>e</sup>), corridor qualifié de « potentiel » dans une centralité, dont la qualité écologique est à renforcer

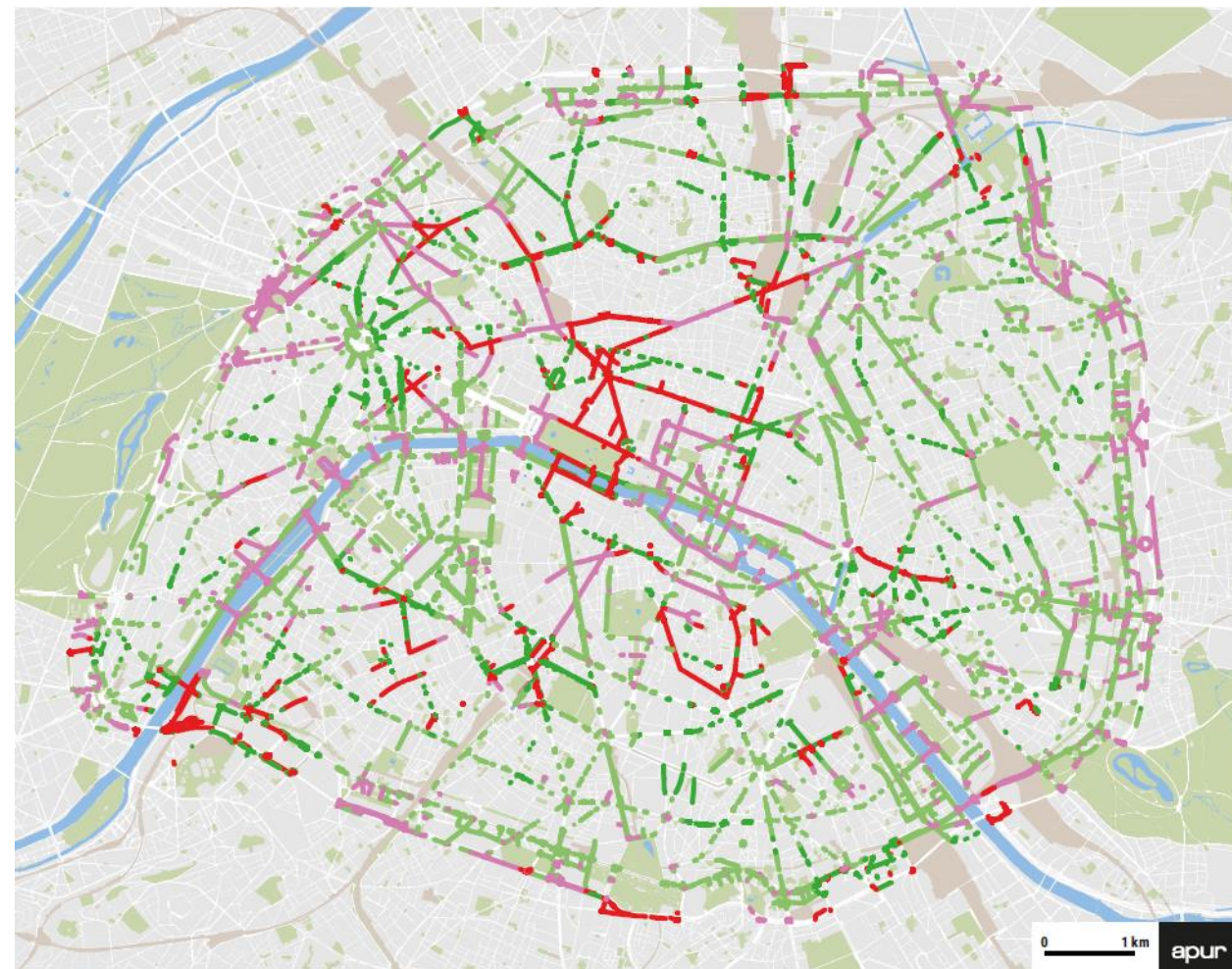
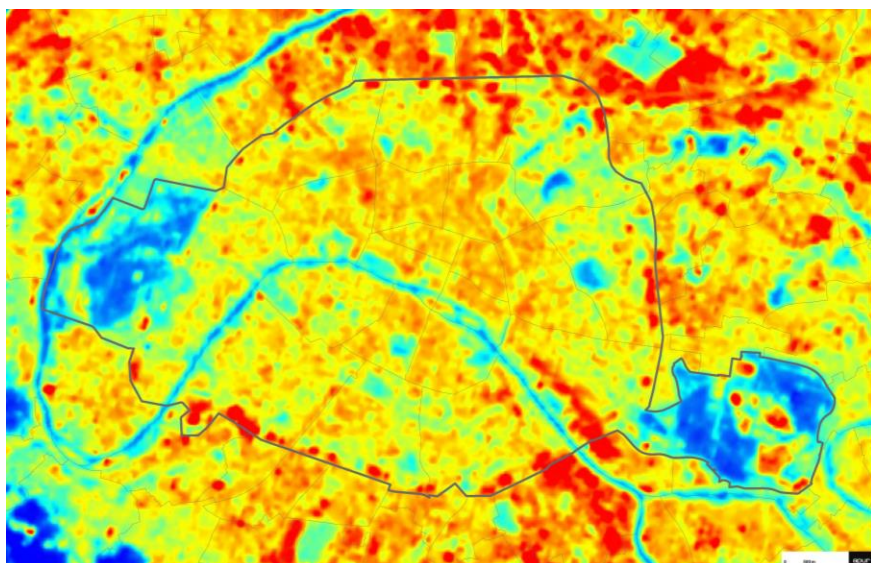
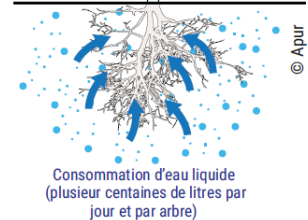
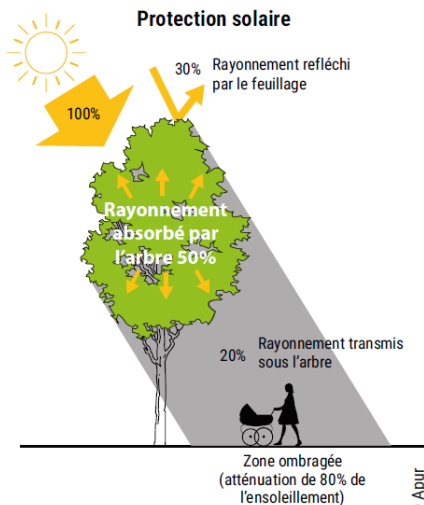
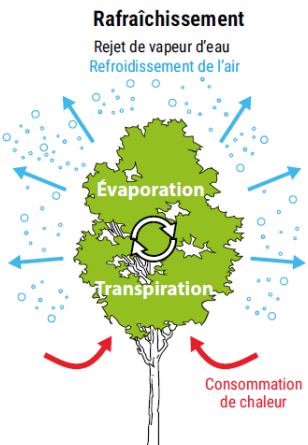


**115 km**

de corridors urbains  
de biodiversité  
sur voirie



# The challenge of strengthening the functionality of cooling the public space



**53 % DES VOIES DE PLUS DE 19 M DE LARGE ONT UN TROTTOIR CHAUD**

- Non plantée, dans une zone de carence en îlot frais nocturne
- Plantée, dans une zone de carence en îlot frais nocturne
- Non plantée, à moins de 7 mn d'un îlot frais nocturne
- Plantée, à moins de 7 mn d'un îlot frais nocturne

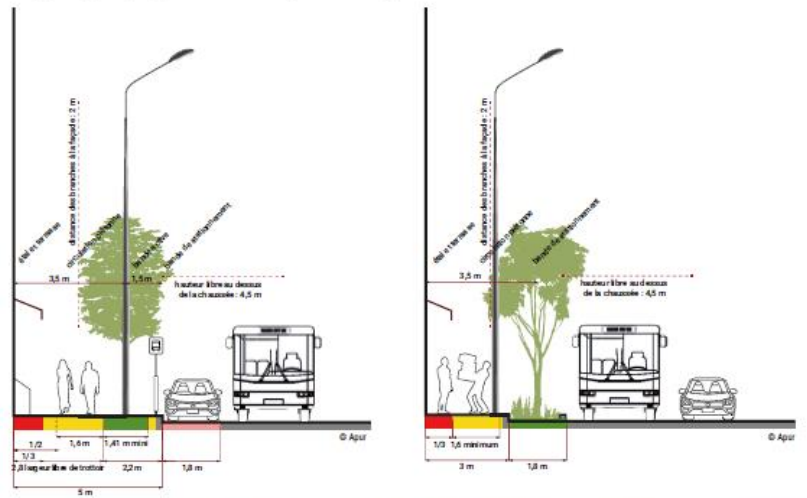
Source : Apur, DEVE

<https://www.apur.org/fr/nos-travaux/ilots-chaleur-urbains-paris-cahier-1>



# Parisian planting rules in regard to buildings and uses of public space

Coupe de principe pour un arbre de petit développement de 5 à 10 m de hauteur

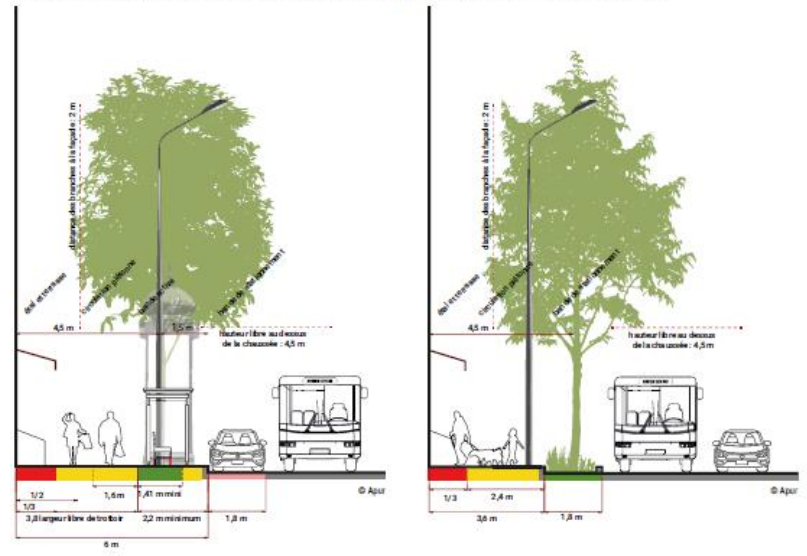


Rue de la Butte-aux-Cailles (Paris 13e)



Rue du Chemin Vert (Paris 11e)

Coupe de principe pour un arbre de moyen développement, de 10 à 15 m de hauteur

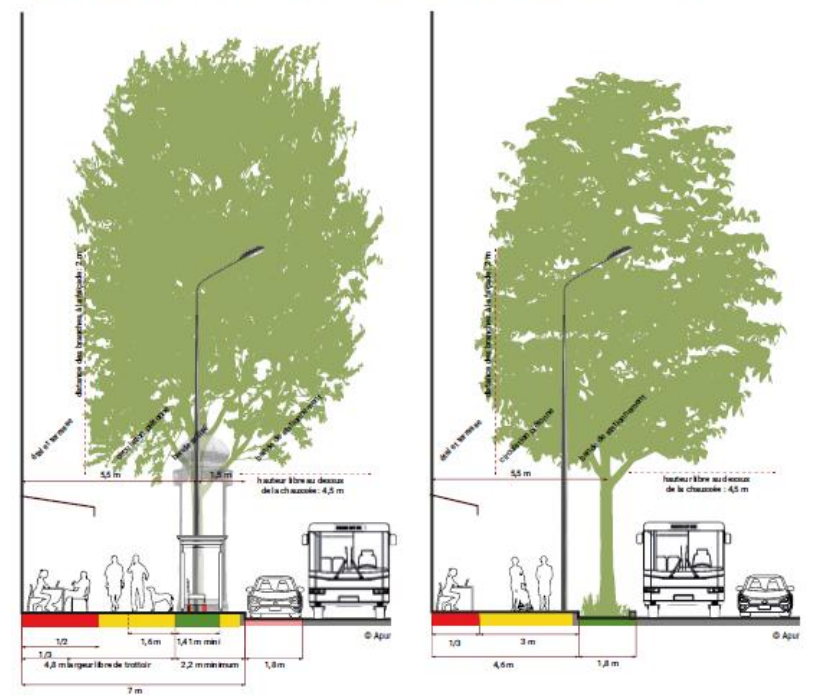


Rue Debille (Paris 11e) largeur de la voie 12 m, largeur du trottoir 5 m



Rue Ernest Roch (Paris 17e)

Coupe de principe pour un arbre de grand développement, de plus de 15 m de hauteur



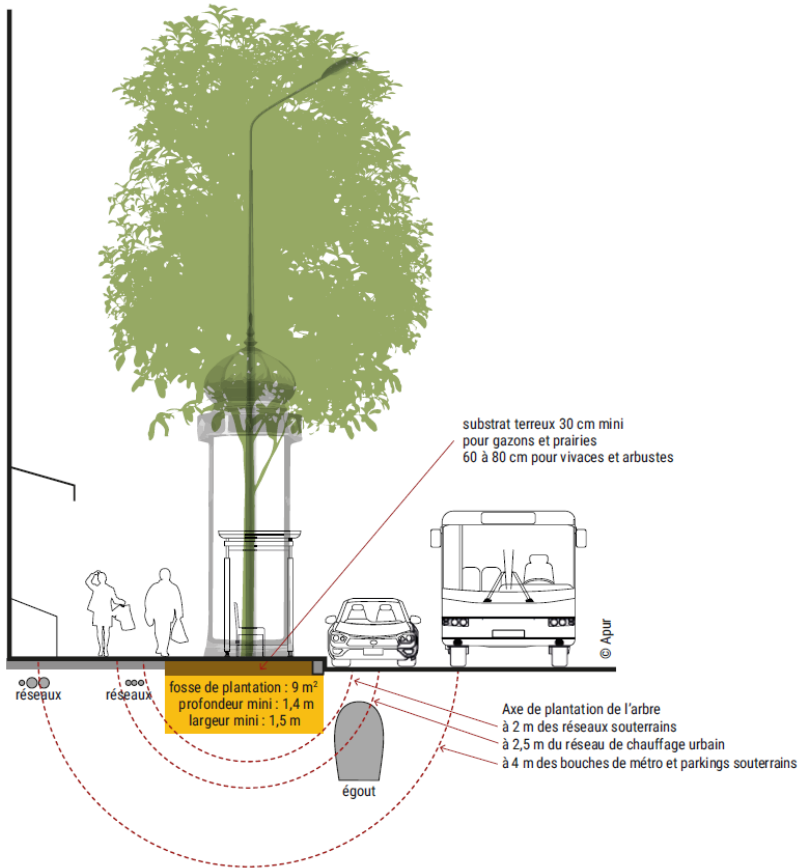
Avenue de la République (Paris 11e)



Rue Gervey (Paris 17e)



# Parisian planting rules in regard to underground networks (subway, water, gaz, electricity...)



## ESPACE PUBLIC POTENTIELLEMENT LIBRE DE RÉSEAUX STRUCTURANT

	Trottoir à plus de 3,5 m		Stationnement à plus de 3,5 m		Chaussée à plus de 3,5 m
	Trottoir à plus de 5,5 m		Stationnement à plus de 5,5 m		Chaussée à plus de 5,5 m

Sources : Apur, DEVE, DVD



# Axis 1: Strengthening the network of tree-lined streets in Paris

- 1 / Recover the promenade quality under the existing double lines of trees.
- 2 / Reconstitute the disappeared historic double lines of trees
- 3 / Improve the landscape quality of planted sidewalks over 6 m wide
- 4 / Plant streets over 19 m wide that are not planted
- 5 / Plant unplanted "faubourg" streets

On these axes, the planting potential has been estimated at :

- 12,300 trees
- 107.5 ha of plantable area



- |  |                                       |  |
|--|---------------------------------------|--|
| Double line of trees (existing or to be reconstituted) | Streets over 19 m wide with potential | « faubourg » streets with potential    |
| Planted sidewalks over 6 m wide and other trees        | Streets over 19 m without potential   | « faubourg » streets without potential |





## Actions 1, 2 and 3 / Reinforce the green character of Paris' promenades



**Action 1 / Restore the promenade character under the 176 km of existing double tree alignments**



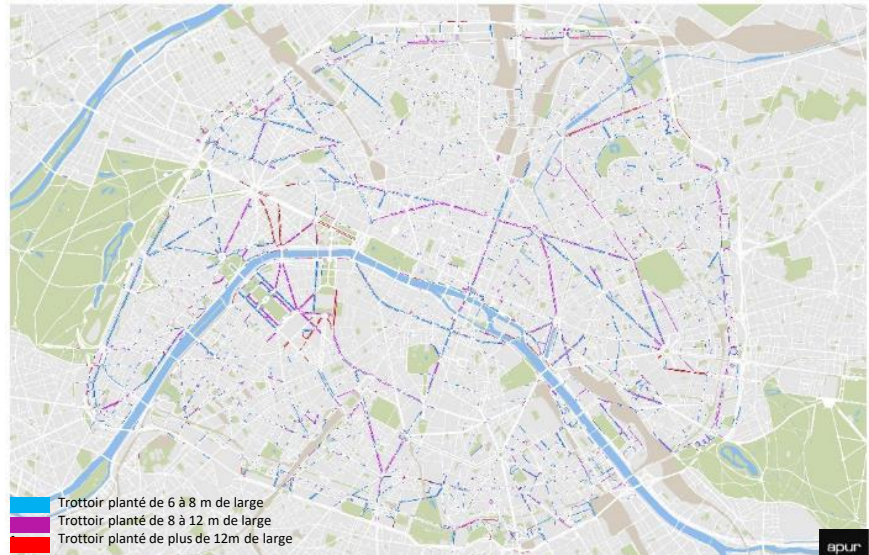
Boulevard Saint-Jacques, 14<sup>e</sup>



Avenue du Président Wilson, 16<sup>e</sup>



**Action 2 / Reconstruct the 14 km of lost historical double tree alignments**



**Action 3 / Improve the landscape quality of the 640 km of planted sidewalks over 6 m wide**



Boulevard des Italiens, 9<sup>e</sup>



Boulevard de Courcelles, 17<sup>e</sup>



Boulevard de Clichy (18<sup>e</sup>)



### Action 1 / Restore the promenade character under the 176 km of existing double tree alignments

Boulevard Saint-Jacques, Paris 14e



Esquisse de principe



Le boulevard Saint-Jacques aujourd'hui

### Action 2 / Reconstruct the 14 km of lost historical double tree alignments

Avenue d'Iéna, Paris 16e



Esquisse de principe



L'avenue d'Iéna aujourd'hui

### Action 3 / Improve the landscape quality of the 640 km of planted sidewalks over 6 m wide

Boulevard Beaumarchais, Paris 3e



Esquisse de principe



Le boulevard Beaumarchais aujourd'hui





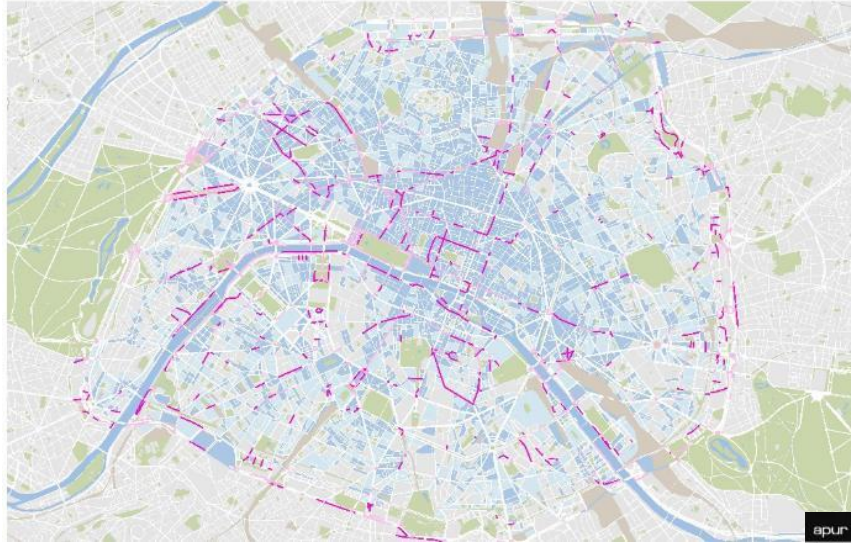
*Boulevard Pasteur (14<sup>th</sup> district) BEFORE*



*Boulevard Pasteur (14<sup>th</sup> district) AFTER*



# Action 4 / Plant the 69 km of unplanted streets over 19 m wide, with tree planting potential



■ Voie de plus de 19 m avec potentiel de plantation d'arbre  
■ Voie de plus de 19 m sans potentiel de plantation d'arbre

■ Taux de végétation inférieur à 10%  
■ Taux de végétation compris entre 10% et 20%



Avenue de France, 13<sup>e</sup>



Rue Etienne Marcel, 2<sup>e</sup>



Rue Nationale, 13<sup>e</sup>





# Action 5 / Plant the 46 km of unplanted "faubourg" streets, between 11 and 19 m wide, with tree planting potential



■ Voie de faubourg avec potentiel de plantation d'arbre  
 ■ Voie de faubourg sans potentiel de plantation d'arbre

■ Taux de végétation inférieur à 10%  
 ■ Taux de végétation compris entre 10% et 20%



Rue des Martyrs, 9<sup>e</sup>



Rue Ménilmontant, 20<sup>e</sup>



Rue de la Glacière, 14<sup>e</sup>







Rue des Martyrs (9<sup>th</sup> district)

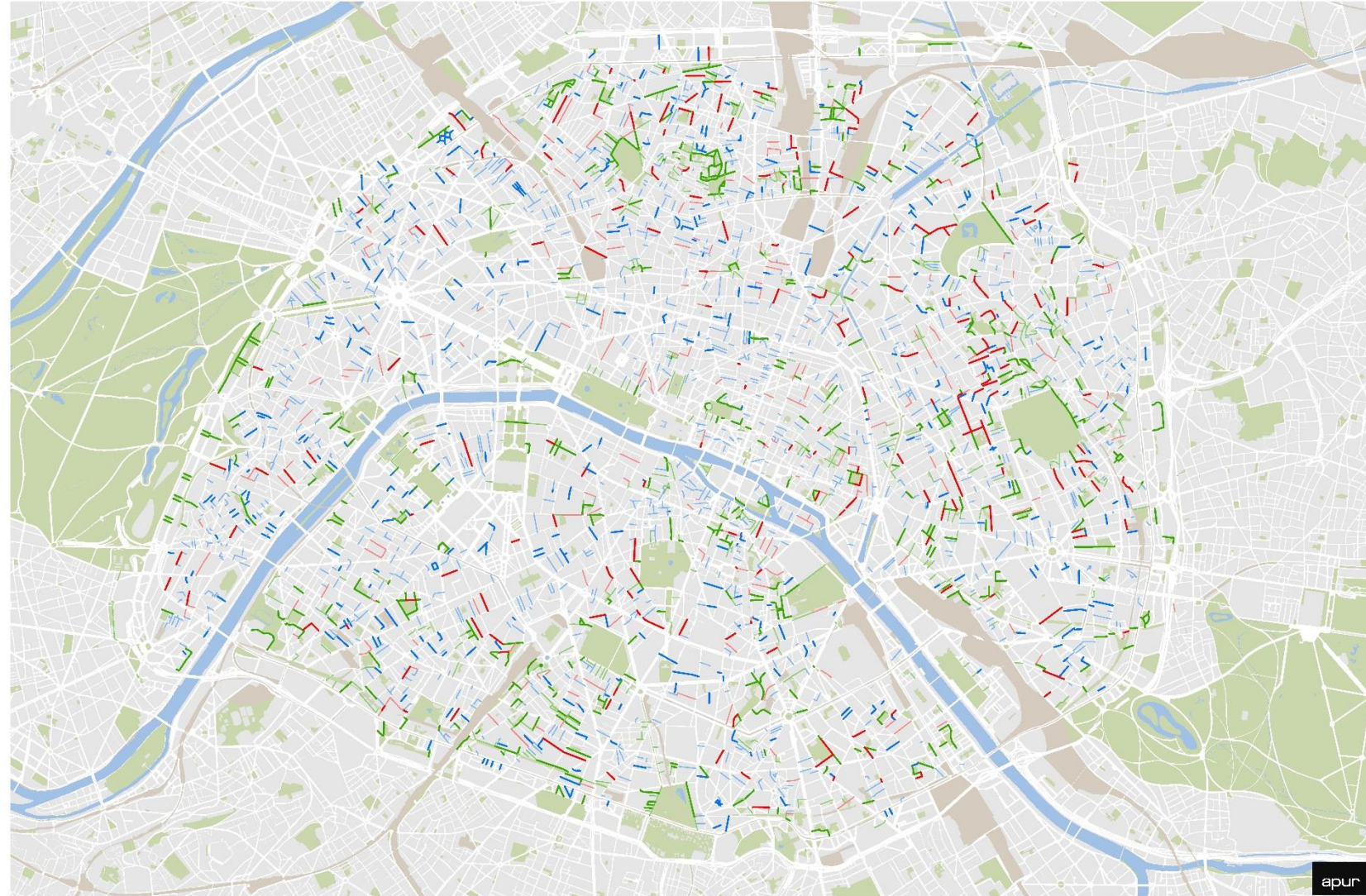


# Axis 2 : Creating local garden streets

- 6/ Planting near schools
- 7/ Greening streets bordering parks, gardens, cemeteries and outdoor sports fields
- 8/ Vegetating short and residential roads

On these garden streets, the planting potential has been estimated at :

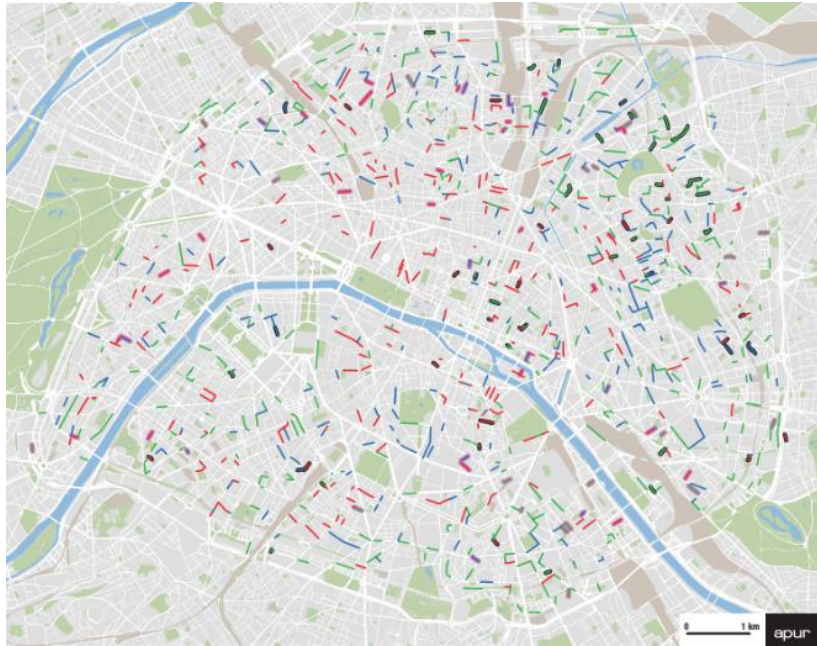
- 7,550 trees
- 38 ha of potential vegetation area



- |                              |                               |  |
|------------------------------|-------------------------------|--|
| School street with potential | Park street with potential    | Short residential street with potential    |
| School street without pot.   | Park street without potential | Short residential street without potential |



## Action 6 / Greening of streets near nurseries, elementary and secondary schools,



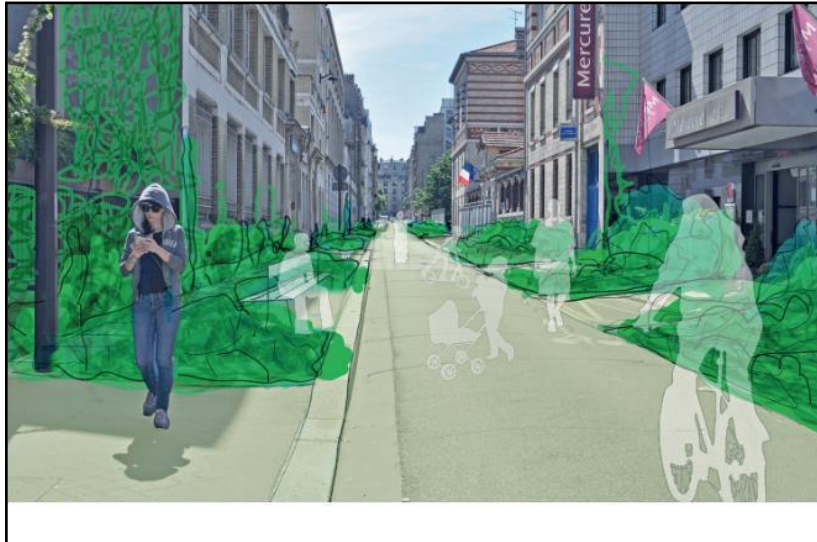
- Rue école plantée
  - Rue école non plantée avec potentiel de plantation d'arbres
  - Rue école non plantée sans potentiel de plantation d'arbres
  - Rue école piétonne
  - Rue école fermées et aires piétonnes créées à la rentrée 2020
- Source : Apur, DEVE



Rue de Bruxelles, 9<sup>e</sup>



Passage des Récollets, 10<sup>e</sup>



Rue Saint-Lambert, 15<sup>e</sup>







*Rue de la Providence (13<sup>TH</sup> district) BEFORE*



*Rue de la Providence (13<sup>th</sup> district ) AFTER*

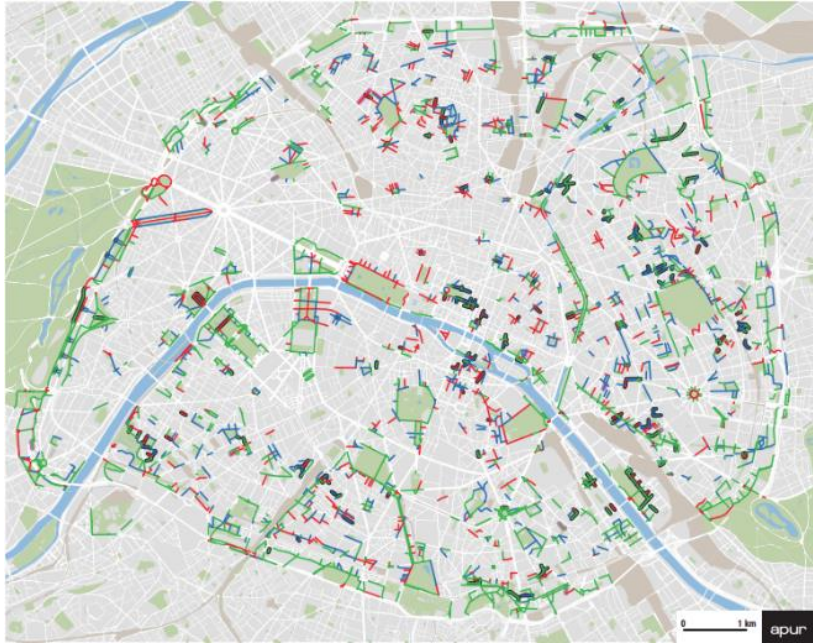


## School streets – october 2021-waiting for trees and greenery





## Action 7/ Greening of streets bordering parks, gardens, cemeteries and open-air sports grounds



- Rue plantée à proximité d'un parc
  - Rue non plantée sans potentiel à proximité d'un parc
  - Rue non plantée avec potentiel à proximité d'un parc
  - Rue piétonne à proximité d'un parc
  - Rue école fermées et aires piétonnes créées à la rentrée 2020
- Source : Apur, DEVE



Place Adolphe Max, 9e



Rue du Général Blaise 11<sup>e</sup> (square Gardette)

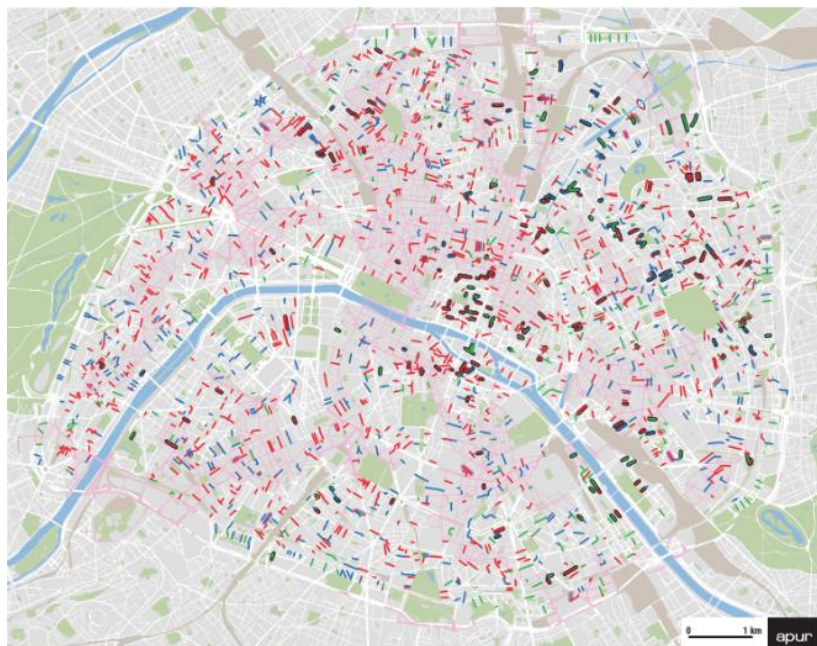


Rue Charles Moureu 13<sup>e</sup> (Parc de Choisy)





## Action 8 / Greening of short and residential streets



- Rue courte plantée
- Rue courte non plantée sans potentiel de plantation d'arbres
- Rue courte non plantée avec potentiel de plantation d'arbres
- Rue courte piétonne
- Rue courte fermées et aires piétonnes créées à la rentrée 2020
- Secteurs à plus de 7 minutes d'un îlot de fraîcheur nocturne

Source : Apur, DEVE



Rue Prévoist Paradol 14<sup>e</sup>



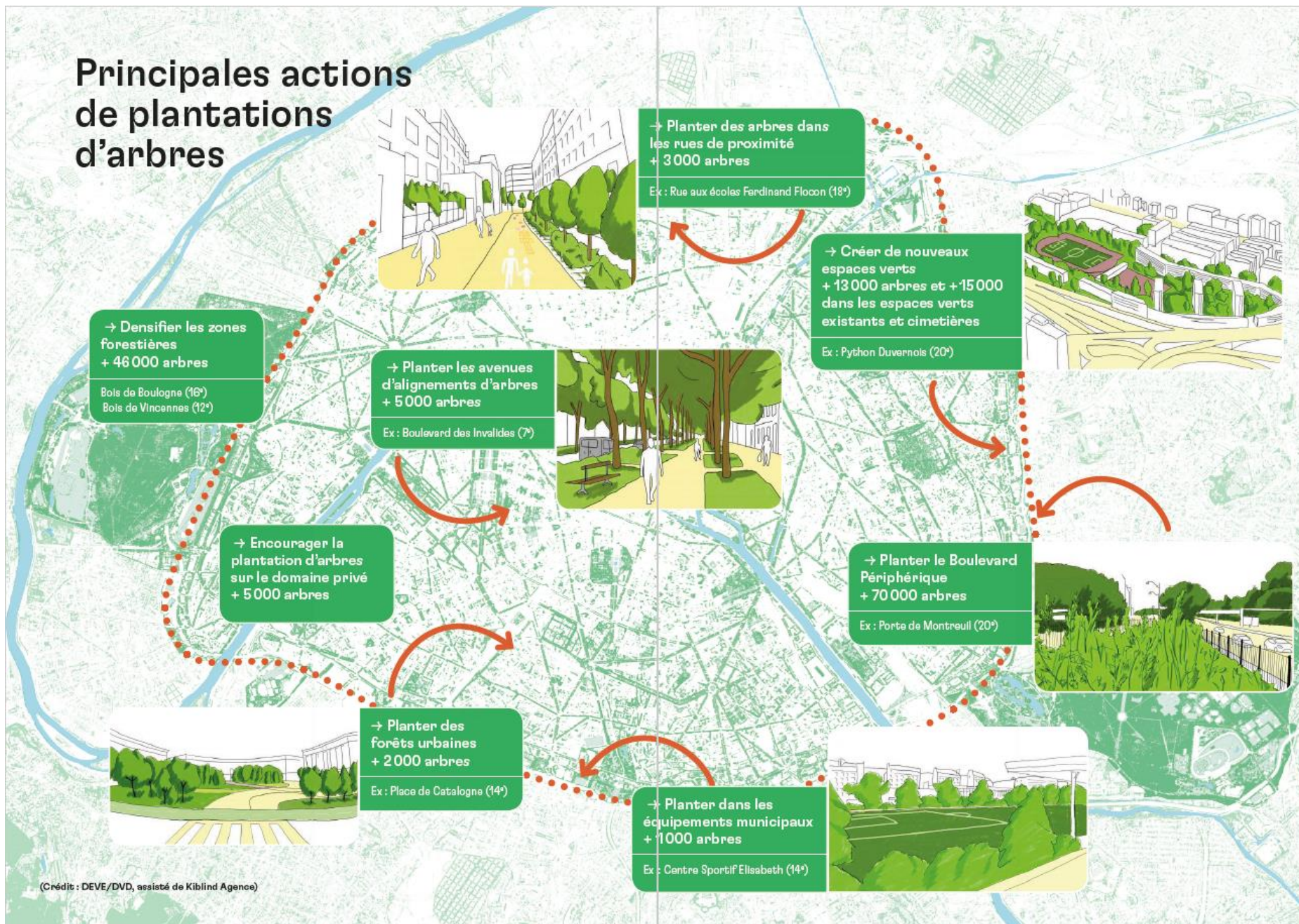
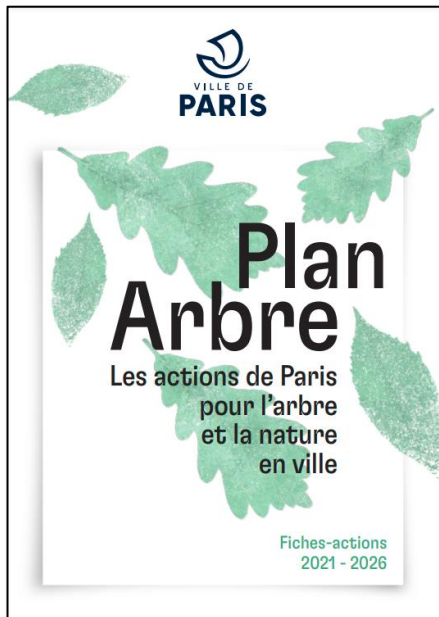
Passage de Melun, Paris 9<sup>e</sup>



Rue Serret 15<sup>e</sup>











**THANK YOU**



Ilot Bagnolet