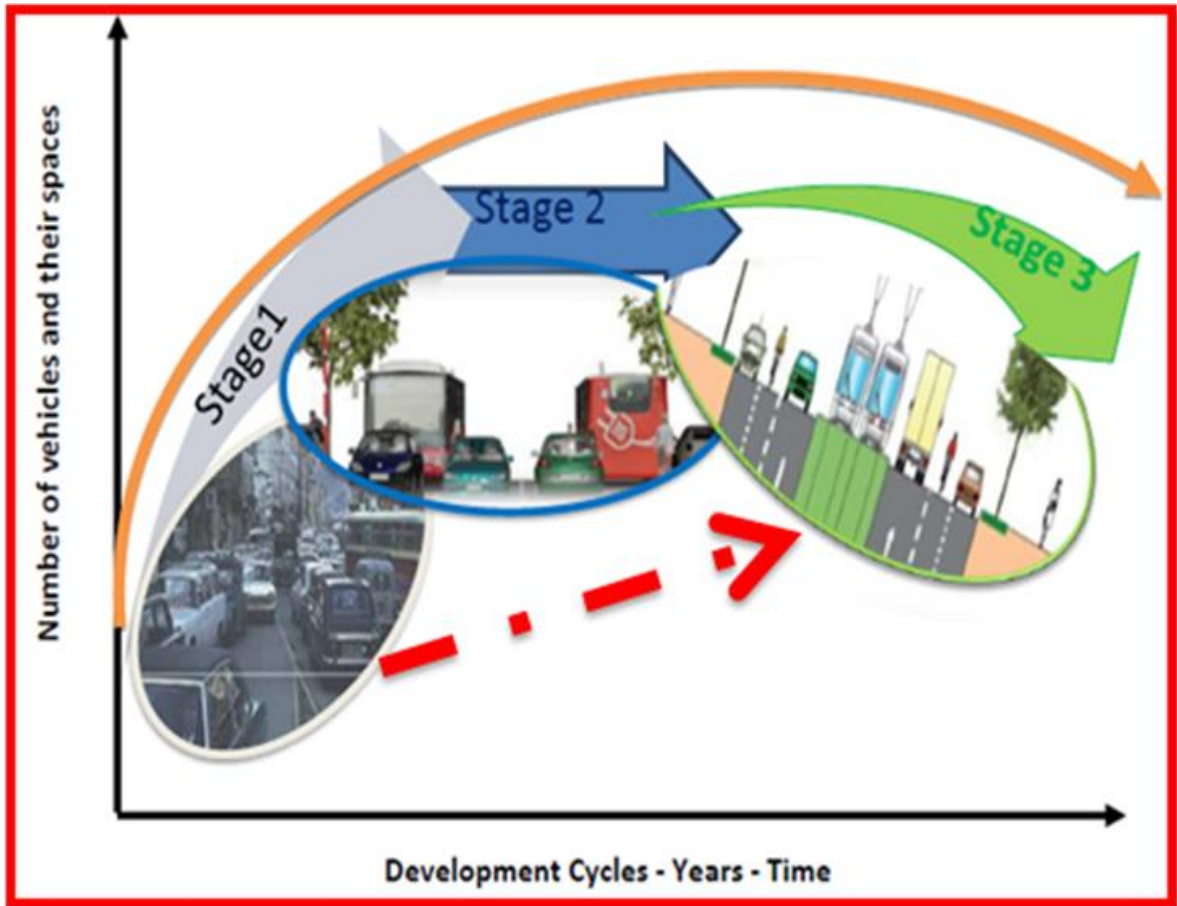


تطور التنظيم المؤسسي والتشريعي للنقل المدني في فرنسا  
دراسة نموذجية: مشروع باريس الكبرى

L'évolution de la régulation institutionnelle et législative des  
transports urbains en France  
Étude de cas : Grand Paris Express

The Institutional and Legislative Evolution of  
Urban Transport in France  
Case Study: Grand Paris Express



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**Bridging Transport Gap**  
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# The Organizational and Institutional Evolution of Urban Transport in France

## Case Study: Grand Paris Express

Mobility within cities is the lifeblood of the city as it fuels most of its social, economic and political lives, and mobility in general is a pillar of sustainable urban development.

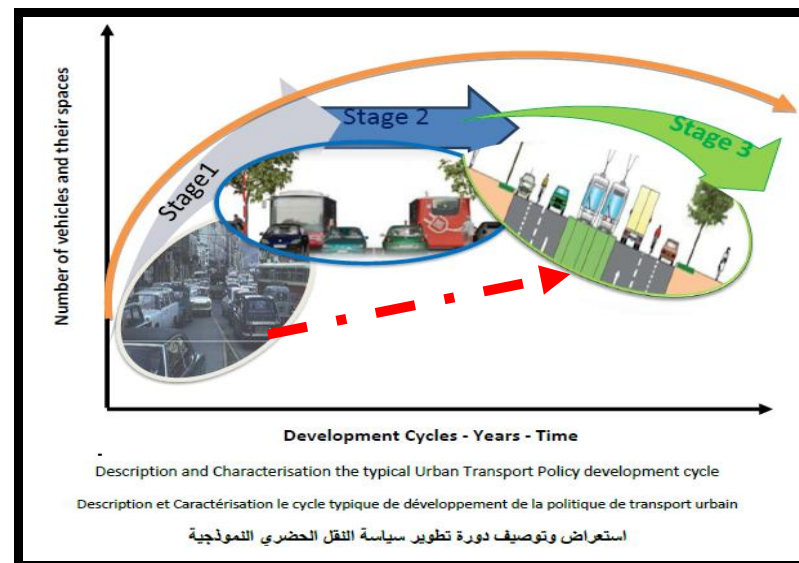
In France, as in most Western countries, three historical stages in the development of urban transport policy can be identified:

**Stage I:** is associated with a rapid growth in car ownership and use and the provision of high capacity urban roads and car parking.

**Stage II:** is improving high-capacity public transport systems, in response to concerns about negative environmental issues.

**Stage III:** is switching in emphasis on urban livability and quality of life improving, resulting in decreasing car use and space provision, and more use of sustainable transport modes more ecological friendly.

**The main objective of this study is to demonstrate how at least the "Stage I" cities can avoid investing in major road infrastructure in the central and inner regions of the city which would be the first victims of any thought of " Stage III". And, in principle, they could, start adopting 'Stage III' policies by Sustainable Urban Mobility Plans and for their implementation it is necessary to put in place appropriate legislative, funding and governance arrangements, which need time.**



Maybe cities of emergent countries could compress this development cycle speeding up the implementation of more sustainable transport policies, avoiding wasted investment in major roads-based infrastructure in core city areas, and preventing 'lock-in' to car dependent urban structures by taking advantage of feedback from the experience of France and on the whole Grand Paris Express (case study).

France has been developing programs for urban transport networks and systems since the 1970s, for large metropolitan areas.

At the time, the renewal of public transport in France was thanks to three main reasons:

- ❖ The creation of new metropolitan authorities with responsibility for the organization of urban public transport
- ❖ The availability of new financing dedicated to investments and the operation of urban public transport
- ❖ The idea that public transport is necessary and that a car-based system cannot meet the challenge of increasing mobility.

The first attempt to define an urban transport policy was debated at a congress on public transport organized in Tours in 1971. Since then, a specific policy in favor of investment in urban public transport has been promoted by all local authorities in France.

In the same year, a new transport tax was created in the Paris region and it was extended in 1973 to all cities with more than 20,000 inhabitants.

The economic justification for the tax is the important role that public transport plays in the employment market, especially because employers will have more possibilities if there is an efficient public transport network.

The mobility payment (VM: le Versement Mobilité) or formerly transport payment (VT: le Versement Transport) is a local contribution from employers.

Currently the mobility payment (VM) is a tax levied on companies with more than 11 employees. It represents nearly 45% of the resources available to finance provincial urban public transport. The commissioning of a TCSP (Transport Collectif en Site Propre) or (Public Transport on its Own Site) makes it possible to increase the rate of the VM to 1.6% or even 2.95% for urban communities, urban communities, and communities of municipalities or mixed syndicates.

The rate varies by geographic area. Indeed, it is the municipality or the group of municipalities (agglomeration) that sets it:

- In Île-de-France, it is between 1.6% and 2.95% of the payroll.
- Outside Île-de-France, it is between 0% and 2.5% of the payroll. Moreover, it varies according to the size of the agglomeration.

The VM represents a major part of the transport budget of the AOT: Transport Organizing Authority (7.5 billion per year, half in Ile de France and half for the other AOTs). But its ceiling is decided by parliament, which poses a problem.

For example, in 2017, the collection of the VM amounted to 8.5 billion Euros (4.25 billion in the Paris region and 4.3 million in the rest of the country, which represents approximately 42% of the financing of the operation – in the Paris region and around 47% of investment and operation in the rest of France). Faced with the need to find resources to finance urban transport and mobility, due to the constraints of public finances, in all countries but mainly in developing countries, some have considered creating a tax inspired by the VM.

This tax allowed the operation of the Public Transport program on Transport Collective en Site Propre: TCSP - Public Transport on a Specific Site (TCSP) and designates the use of public transport in a separate lane or a space reserved for it - such as a BHLS, BRT and tramway...

At the same time, organizing authorities (AOTs) were created by the local boroughs (local councils), and they have responsibility for urban public transport in their cities. The deed establishing these bodies was issued in 1981, and the AOTs were ratified by legislation, and receive the transport tax (VT=VM) revenue and spend it based on the following responsibilities axes:

- Regulation of transport services (volume, fares)

- Organization of public transport in cities

- Creation and management of transport infrastructures

- Development of information systems

The number of public transport Organizing Authorities' AOTs in France is about 338 authorities in total as at 1/1/2019 (Cerma), including about 250 by legal obligation (urban areas and agglomerations), and they have important funding at their disposal in many cities. They have boosted & strengthened the development of many public transport networks in those cities.

## **1- Successive urban transport policies and legislation**

### **1-1. LOTI Law (Inland Transport Guidance Law, 1982)**

The fundamental text which defined the decentralized transport policy is the Law of Orientation of Internal Transport (LOTI) of December 31, 1982, now codified in the transport code. Its objective was to define a comprehensive legislative framework for the organization of transport, covering all modes, all spatial scales, both for goods and for travelers. The LOTI indeed provides that any user has the right to move and choose the means of mobility. It also calls for the coordinated use of all modes of transport and the promotion of the least polluting modes and the least energy consuming. The law also announced that the internal transport system must meet the needs of users under the most advantageous conditions for communities, in economic, social and environmental terms and provides for the implementation of Urban Displacement Plans (PDU) in the region. idea of sharing the public road space.

This law clarifies the institutional organization of public transport and distributes to each territorial level the competence of the organizing authority over a given public transport network, leaving the State primarily a role of guidance and regulation. The LOTI law also establishes the separation of the functions of organizers and service operators, entrusting the organizing authorities of urban transport with the task of defining, financing (via the transport payment in particular) and organizing regular public transport for people to the city inside urban transport perimeters. The French system therefore always balances between the search for coherence of networks and the strict preservation of the free administration of communities.

In addition, note that Paris is a special case in its national context

### **1-2. LAURE Law (Law on Air and Rational Use of Energy), 1996**

The Law on Air and Rational Use of Energy enshrined environmental concern in the transport sector into law.

Its relevant provisions are now codified in the Transport Code. The law establishes a link between the living environment and transport policy.

It largely reinforces existing mechanisms to promote urban and rail public transport modes. LAURE defines an objective of reducing automobile traffic and developing less polluting and less energy consuming modes of transport. This implies the development of public transport modes and soft modes. Its article 14 imposes on agglomerations of more than 100,000 inhabitants the establishment of an Urban Travel Plan for the coordinated use of all modes of transport and an appropriate allocation of the road system. The law introduces the obligation to provide a circulation system for two wheels for each new section of road in urban areas, excluding highways.

### **1-3. SRU Law (Solidarity and Urban Renewal Law, 2000)**

The Solidarity and Urban Renewal Act (SRU) extends the decentralization process by providing elements in the field of social development, local democracy and urban transport. The SRU modifies the planning tools in order to organize in a coherent way, on a territory, the various sectoral policies of housing, town planning and transport. It also aims to clarify the fields of competence of the transport organizing authorities resulting from decentralization. In the area of housing, the law introduces social mix thresholds at the level of the municipalities. The law provides that the use of cars must be controlled and surface parking reduced, while walking and cycling must be encouraged. The provisions of the SRU law relating to transport are codified in the transport code.

## 1-4. Disability Law (2005)

The Disability Law or Law for Equal Rights and Opportunities, Participation and Citizenship of People with Disabilities was promulgated on February 11, 2005. It is a benchmark law to better meet the needs of people. With disabilities and their rights since the 1975 Orientation Law in favor of the disabled. It is recalled in Article 2 of the Disability Law a definition of disability: "Constitutes a handicap, within the meaning of this law, any limitation of activity or restriction of participation in life in society suffered in his environment by a person due to a substantial, lasting or definitive alteration of one or more functions physical, sensory, mental, cognitive or psychic, of a multiple handicap or of a disabling health disorder. " The main axes of this law are: simplified administrative procedures, the obligation for employers of more than 20 people, public or private, to employ at least 6% of disabled people, the right to compensation regardless of age , the way of life, the origin and nature of the impairment, continuous school integration and the strengthening of accessibility to public spaces, transport systems and housing. Existing establishments open to the public and public transport have 10 years to comply with this new law.

## 1-5. The Grenelle Environment Forum and the Grenelle 1 and Grenelle 2 laws

The Grenelle de l'Environnement process began in summer 2007. Six working groups gathered together representing local authorities, non-governmental organizations, professionals, unions, the State and Non-Governmental Organizations (NGOs).

The six working groups had to make proposals to respond to the following challenges:

- Group 1: "Combating climate change and controlling energy demand";
- Group 2: "Preserving biodiversity and natural resources";
- Group 3: "Establish an environment that respects health";
- Group 4: "Adopting sustainable production and consumption methods: agriculture, fishing, agrifood, distribution, forestry and sustainable land uses";
- Group 5: "Building an ecological democracy: institutions and governance";
- Group 6: "Promoting ecological development methods favorable to competitiveness and employment"

## 2- New Public Transport Networks in France

Only Paris had a metro network consisting of 13 lines in 1971, knowing the first opened in 1900, and the first section of the first regional (RER: Réseau Express Régional ) line. In this year no other French city had a metro; only three tram lines remained in Lille, Marseille and Saint Etienne; all other public transport networks used buses or, in some cases, trolleybuses.

But nowadays this situation is significantly changed both for metro and light rail networks. Six areas are served by a metro: Paris, Marseille, Lyon, Lille, Toulouse, and Rennes. Many cities have developed LRT (Light Rail Transit) or tramway transport systems, including: Nantes, Grenoble, Paris, Lille, Rouen, Strasbourg, Orleans, Montpellier and Mulhouse.... In these two cities: Caen and Clermont-Ferrand, a rail system equipped with rubber wheels (Lohr). Tramways are currently located in more than 28 French cities.

### 2-1. Regular and Automatic Metro Systems:

Paris Metro line No. 14 was inaugurated in the Paris region in September 1998 to extending the Parisian metro network towards its suburbs. This line is fully automated and without any driver. Meanwhile, four lines of the RER suburban train have been completed, connecting central Paris to five of the new surrounding suburban big cities.

Three lines and half of the fourth line, are operated by SNCF (National Company of French Railroads), and the half of the fourth and the fifth line are operated by Paris transport authority RATP (Régie Autonome des Transports Parisiens).

- Marseille city has two lines of the traditional metro system (a total length of 22.7 km and 29 stations).
- Lyon city is served by four metro lines A- B- C- D (two traditional lines, a cogwheel railway and the fourth line fully automated and without a driver, with a total length of 32.05 km and a number of 40 stations) and this network is the largest metro network after the Paris network. The movement is driven on the fully automatic (D) line.
- The city of Lille has two metro lines with a VAL: Véhicul Automatic Léger system (light automatic vehicles) with a total length of 43.5 km and 60 stations. These two lines are the first implementation of the fully automated and driverless guided route called VAL.
- The city of Toulouse has two metro lines with a VAL system, with a length of 28.2 km and a number of 37 stations. The Transport Regulatory Authority in this city has recently taken the establishment of a third line.

In the city of Rennes, there is a metro line with the VAL system, with a total length of 9.4 km and 15 stations.

Knowing that the rail transport system with the rubber tire is a specific French innovation already used in Paris metro conventional and the VAL metro, because it causes a reduction in vibration and noise, which is resulting increased passenger comfort and lower infrastructure costs.



## 2-2. New LRT (Light Rail Transit) and Tramway Transport Systems:

As mentioned above, the tramway is currently deployed in more than 28 French cities. The most important beginnings of the adoption of the new LRT and Tramway systems in France are as follows:

- Nantes was the first city to adopt a new LRT system with two lines (18 km, with 53 stations) serving the metropolitan area.
- In the Paris region IDF, since 2000 two suburban LRT lines (Saint-Denis, Issy/La Défense) are operated by RATP (21 km, with 33 stations). Many projects are being studied and constructed, especially a suburban loop.
- In Nancy city since 2000, Which decided to choose a new type of tramway (15 km long) and used in this type of vehicles with rubber wheels called TVR or rubber wheel.

### Longueur des lignes [\[ modifier \]](#) [\[ modifier le code \]](#)

Addition des longueurs de ligne (en km) par catégorie de tramway en France au 28 août 2018.

	En service	En construction	Total
Tramway à voie normale	661,3	129,2	790,4
Tramway à voie métrique	33,4	4,3	37,7
Tramway sur pneus (translohr + TVR)	47,4 (36,3+11,1)	0	47,4 (36,3+11,1)
Tram-train	187,3	38,8	226,1
<b>Total</b>	<b>929,6</b>	<b>172,3</b>	<b>1101,9</b>



**Figure 1:** Metro, tram, trolleybus networks in France mid-2020 and tram lengths in August 2018. (Source CERMA)



### **3- Scale of a Parisian project: The Grand Paris project**

The Greater Paris project was born on April 29, 2009 during a speech by President Nicolas SARKOZY. This project is unprecedented ambition since the 19th century. Greater Paris aims to change the face of the capital region (nearly 11.5 million inhabitants) towards a new, innovative, sustainable, united, intense, welcoming and aesthetic world-city. The challenge is to maintain Paris' place among the largest international economic cities by building a sustainable, attractive city with a high quality of life. To this end, this project envisages a geographical, urban, social and economic overhaul of the Paris basin in order to enhance the isolated neighborhoods and further integrate the suburbs. Thus the reorganization of the Île-de-France region aims to overcome the East/West and centre/suburb divides by creating new, upgraded and attractive strategic hubs.

Greater Paris promotes a green city where economic attractiveness and quality of life are combined with the creation of 7 new economic poles, 70,000 new housing units per year, the creation of approximately 1 million jobs and the attractiveness of 1.5 million more inhabitants expected by 2030. In order to structure this new spatial organization, the project envisages the creation of 4 new automatic metro lines over nearly 200 km, the establishment of approximately 68 new stations to open up the East and West of the Paris region and plans to make nearly 2 million trips per day from the start of service to tend towards 3 million trips thereafter. The commissioning of all the new Grand Paris infrastructures will take place between 2022 and 2026 and represents an investment of more than 32 billion Euros over the period 2010-2025. In addition, the State and the region will continue to support the development of public transport in Île-de-France within the framework of the State-Region project contract for approximately 12 billion Euros. From an institutional point of view, the Greater Paris project has seen the return of the State to transport planning, after a period of decentralization which left an increased role for the Ile de France Regional Council. The current metro network project comes from a negotiation between the government project and the pre-existing regional project. The Society du Grand Paris, a new public institution created by the State, is responsible for setting up the automatic metro network. This network will be partly financed by the capture of land and real estate capital gains through Territorial Development Contracts.

Currently, suburb-to-suburb trips represent 70% of motorized trips, 10% of metro users have to go through the center of Paris to get from one suburb to another and 64% of trips in the center of Paris travel by public transport for only 23% in the inner suburbs and 10% in the outer suburbs.

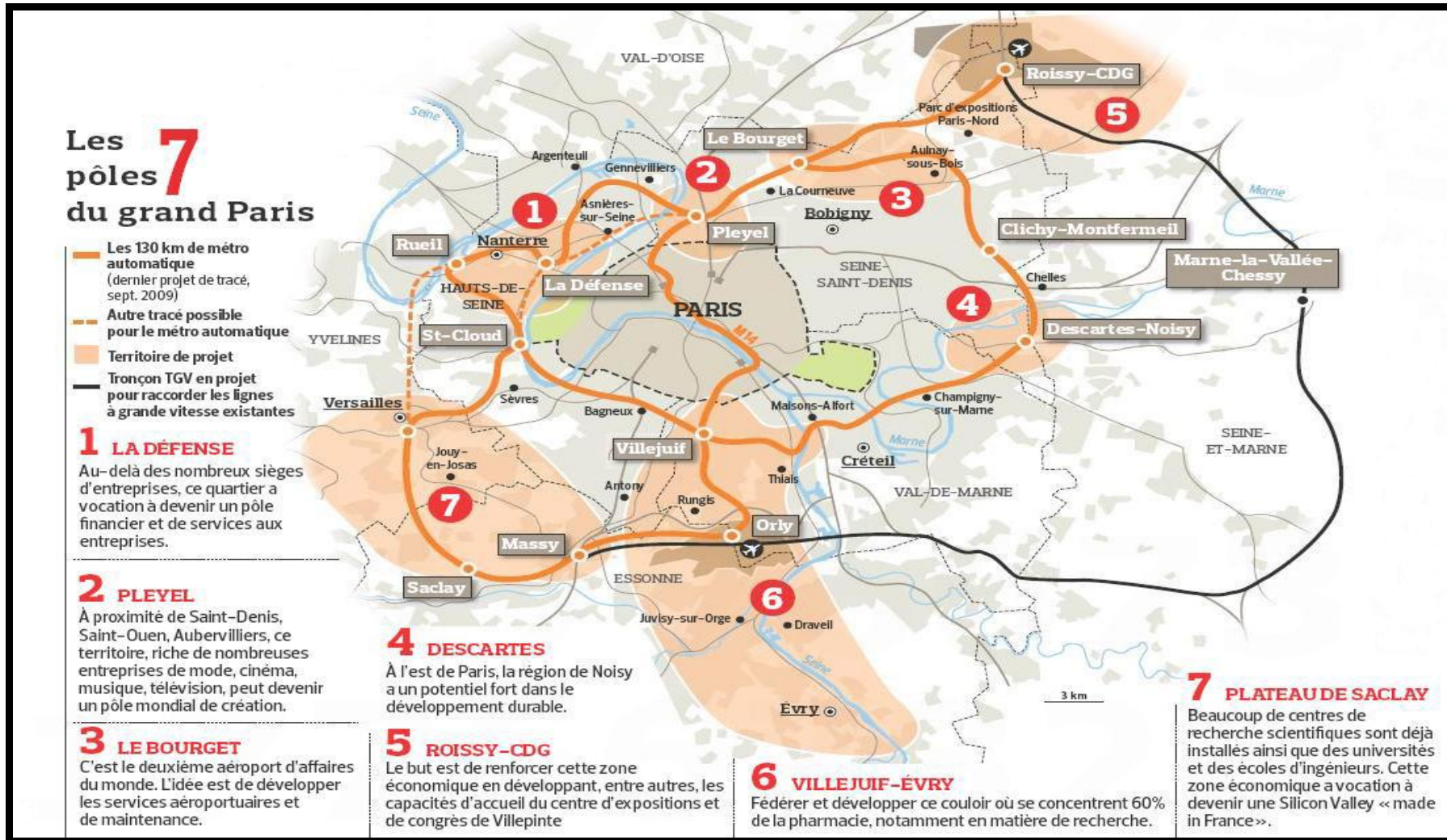


Figure 2: Greater Paris grid with the seven proposed development zones in 2020

To enhance the attractiveness of industrial, university, economic, cultural and environmental areas, the Grand Paris project has selected seven major urban development hubs:

- 1- **Paris la Défense:** The business district.
- 2- **PLEYEL - Saint-Denis:** Creation and digital arts.
- 3- **Paris - Le Bourget:** Aviation and business tourism.
- 4- **East Paris - Cité Descartes:** The sustainable city and eco-construction.
- 5- **Roissy CDG - Villepinte:** International exchanges, congresses, industrial and logistics development.
- 6- **From the South of Paris to Evry:** The development of a quality urban center.
- 7- **Paris - Saclay:** Scientific and technological development, biotechnologies and research in life sciences.

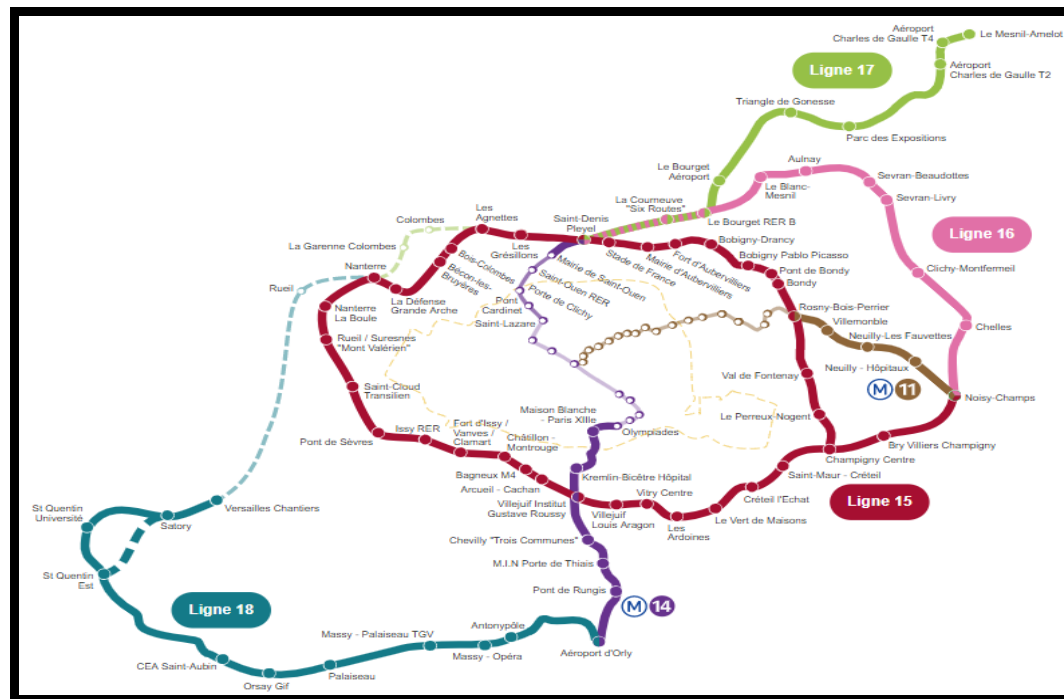


Figure 3: Network map after March 2013 / redesign

Indeed, the new network will make it possible to serve the suburbs more quickly without having to go through the center of Paris, travel times between suburbs will thus be reduced by 10 to 20 minutes depending on the route with a drop of 10 to 15% on average. On the load of connecting metro lines. Indeed, it must promote direct and rapid travel from one suburb to another.

It is also expected that it will reduce the load on existing lines (metro, RER, Transilien), in particular lines 6, 7 and 13 of the metro as well as RER A and B which should benefit from a reduction in charged. It should also facilitate travel in the outer suburbs on the RER C, D and E, as well as on the Transilien lines.

The new transport network proposed by the Grand Paris project, at the heart of a sustainable development strategy for the Île-de-France capital region, will make it possible to resolve these difficulties.

The Grand Paris Express aims to limit the use of the car in favor of public transport, to support economic development, to facilitate exchanges and to allow better access to employment as well as to areas of activity or residence. It must open up territories that are currently socially fragile by equipping them with a mass mode of public transport.

Greater Paris is likely to considerably reduce travel times for many Ile-de-France residents and improve service to major business hubs.

The Grand Paris Express will consist of four new lines, and two line extensions, one of which will result from the extensions to the north and south of line 14

Line 15: circular line; and it is an automatic metro line project It will be a rail and underground metro with a capacity greater than that of the Paris metro. It will constitute a new structuring line in the ring road. It will thus ensure efficient suburb-to-suburb travel, without having to pass through the center of Paris, thus avoiding load breaks. This line should take number 15 in the RATP metropolitan network.

Lines 16 and 17: associated lines they will be two complementary lines which would have a common trunk.

Line 18: small-gauge metro line is a small-gauge automatic metro line project of the Grand Paris Express.



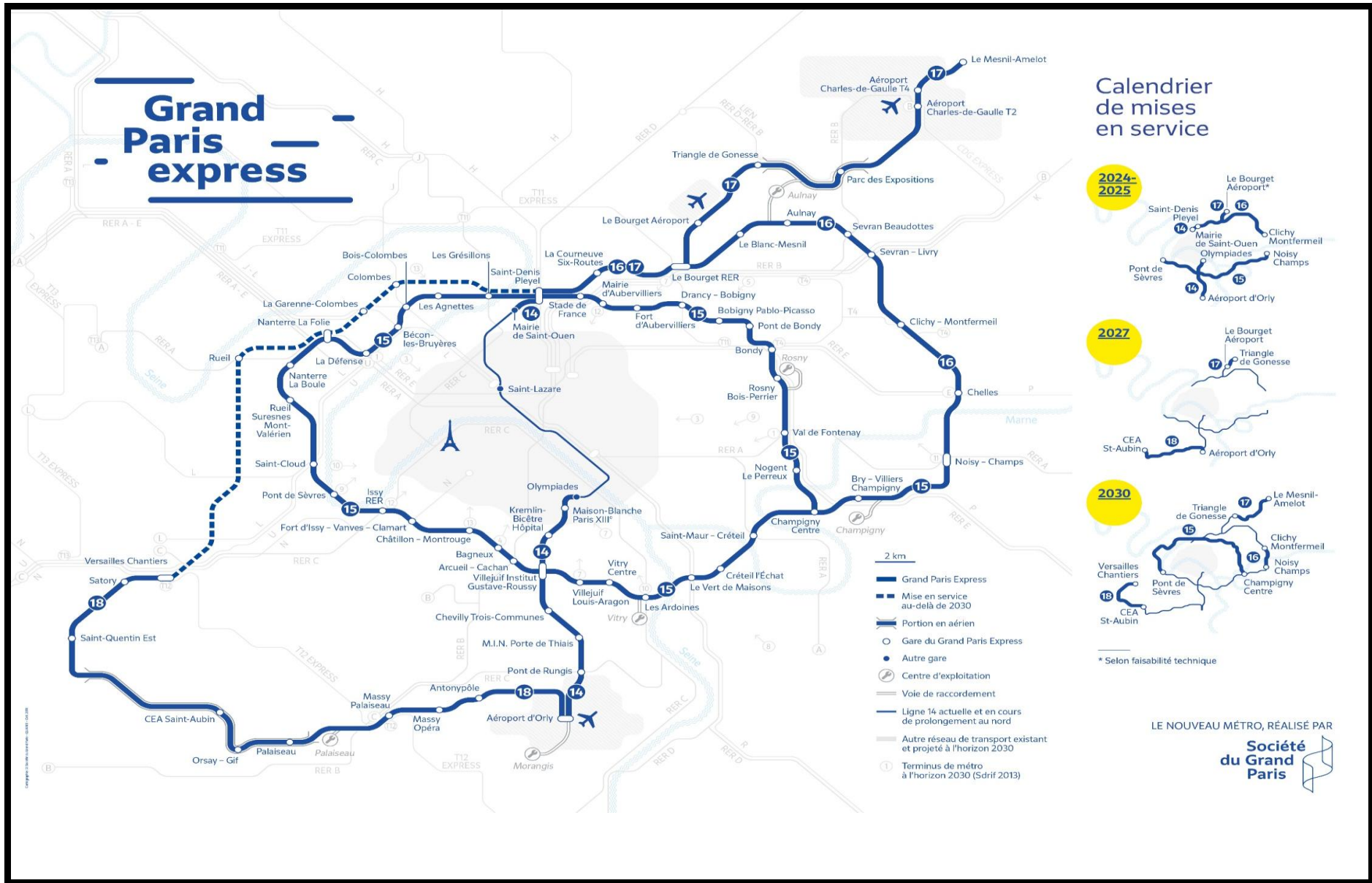


Figure 4: Grand Paris Express Network map with commissioning schedule

#### 4- The Ten Commandments for Mass-Transit Success in Any City:

- 1- **The need for national mobility planning:** The sustainable mobility policy within cities is conducted through a long-term national vision, in order to advance transport projects as well as consistent with the needs of the population, the possibility of financing and scalability according to the current and the future reality of cities.
- 2- **Legal legislation for public transport and regulatory of Authority:** It is the duty of the law to establish a legislative framework for the regulation of transport and for the local planning of mobility: after having drawn up an appropriate diagnosis of the situation, the responsibilities of the authority are the planning and management urban mobility, but all objectives of the public transport authority should be determined.
- 3- **National and regional planning for multimodal transport:** define the main transport hubs and the workplace of interchange stations. With a proposal on how to adopting multimodal transport and a mechanism for introduction high-capacity transport systems (trams, buses with a high level of service).
- 4- **Rehabilitation of executives and the national workforce:** The most important objectives of a mobility policy within cities are to rely on national expertise, the qualification of executives and the exchange of experiences.
- 5- **Determine the necessary financing methods:** It is necessary to adopt a national financing policy for transport projects in order to find the necessary donors and financiers. i.e. determining e the cost of developing public transport, how to finance and to implement it, and priority can be given to the financing a single project to preserve resources Sustainable Financing of Mobility systems with I activation of participatory systems.
- 6- **Integration with land use planning:** A strong relationship must be ensured with land use planning in the medium and long term, so that transport is one of the important components for employment of performance mobility in and between cities. With the use of existing projects to create approaches planning and set construction deadlines.
- 7- **Activate soft and flexible Motilities with the study of separate protected lanes in the middle of busy city centers:** In addition to its environmental advantages, it reduces travel distances, and it favors bio-active methods (pedestrians - electric and cyclists - electric scooters).
- 8- **General policy objectives for safe mobility:** Work towards the development of general policy objectives for safe circulation and mobility in cities without considering qualitative sector solutions and avoiding the development of variable and contradictory scenarios.

- 9- **Strengthen the link between transport and the environment:** Transport planning is an environmental, economic and social issue and a strong relationship must be ensured between transport planning and the city's environmental planning.
- 10- **Adopt a sustainable approach to land use planning:** identify land within cities for more efficiency of the most sustainable modes of transport according to the mobility matrix (upstream and downstream) for the movement of people and goods, while avoiding the mode of taking all financing the capacity involved to the detriment of other more efficient investments and sometimes to the detriment of the performance of the Transport systems,

## 5- Conclusion and recommendations important to benefit from the French experience

In France and around the world, the choice will be made between different urban transport systems, depending on the urban environment; integration, transport policies and with the most sustainable, most ecological and most environmentally friendly solutions.

The French public transport industry is developing with remarkable success thanks to a variety of urban transport systems in line with the needs of mobility demand and according to the requirements of the life of the population. These different systems, which are well installed in French cities, have the following three main characteristics:

1. Provides better services to residents, including ease of movement, entry and exit for them and their vehicles, more space and a higher level of comfort, and less noise.
2. They are better integrated into the urban environment and the needs of the population and their requirements.
3. Expenses for construction and operation of the infrastructure of these systems are at the minimum and justified with high capacity and best security during the life of the system and its life cycle.

The internal transport system contributes to national unity and solidarity, to the defense of the country, to economic and social development, to a balanced development and to the expansion of international trade".