

A stylized blue figure on the left side of the slide, composed of a circle for the head, a horizontal bar for the torso, and a curved shape for the legs, suggesting a person in motion.

Information Day for Operators

-
June 13, 2019



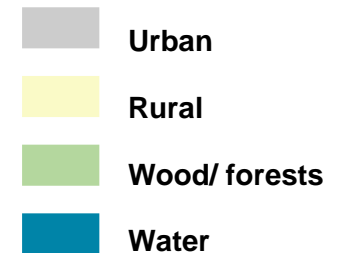
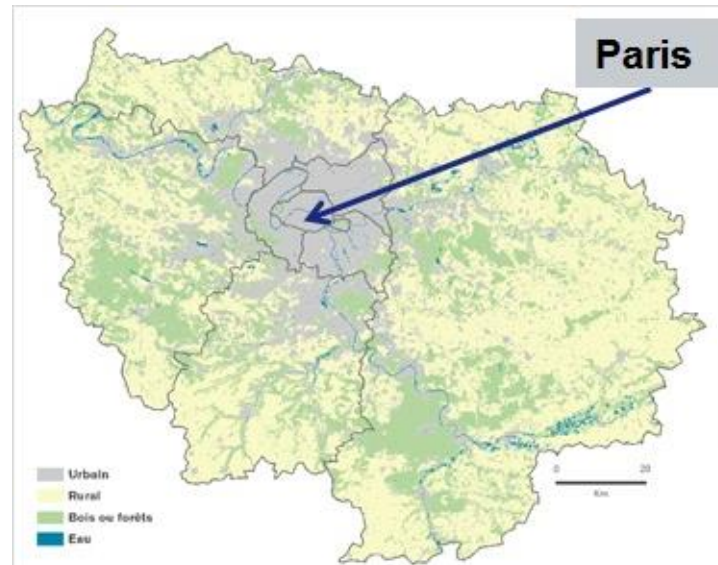
Public transport in Île-de-France

-

The Île-de-France Region

Key figures

- 12.1 million inhabitants (~20% of the French population)
- 6.2 million jobs
- 30% of the national GDP
- 12,000 km²
- 46 million tourists / year
- Europe's leading job pool
- 41 million travels / day (including 8.5 million by public transport)



A rich multimodal network

5 RER lines
9 transilien lines



1,441 M trips in 2017*

16 metro lines
10 tramway lines



1 833 M trips in 2017*

More than 1,500 bus lines



1 431 M trips in 2017*



Missions of Île-de-France Mobilités

Île-de-France Mobilités is an integrated public transport authority, for all modes of public transport (Bus, Tram, Metro, Suburban trains).

Its main missions are:

- Requirements regarding **the public transport services**, the **fare policy**, the networks “train-km” offer, **the service quality objectives**, the contractual assignments with the operators,
- Mobility **planning**,
- Studies and **investments policy** made on the network,
- Preparation and setting up of **new mobility**
...while ensuring a **sustainable financial balance**

A stable governance since 2005

Since its devolution in 2005

Île-de-France Mobilités is a local public authority

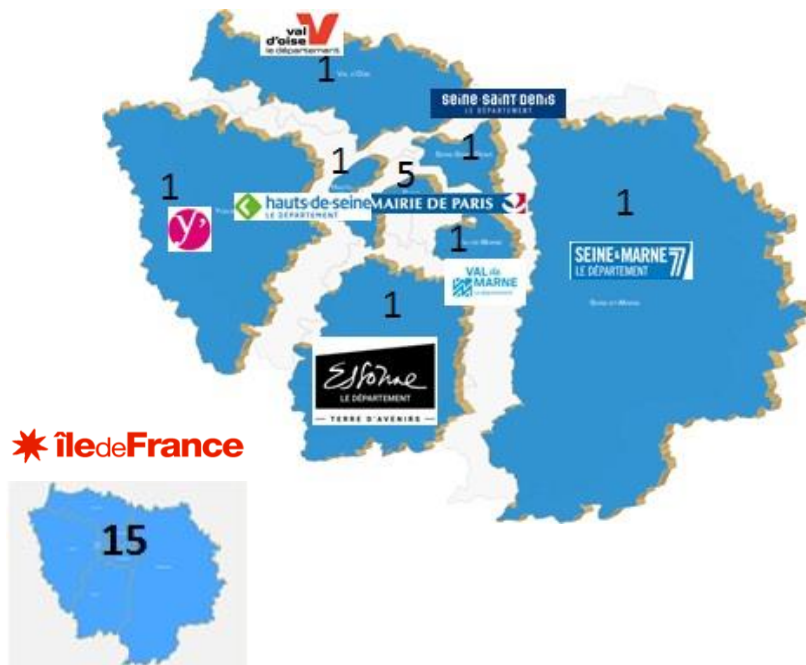
Governed by a 29-members Board, chaired by the President of the Île-de-France Region



Valérie Péresse
President of Île-de-France Mobilités



Laurent Probst
Chief Executive Officer of Île-de-France Mobilités



A stylized blue figure on the left side of the page, composed of a circle for the head, a curved line for the arm, and a curved line for the leg, suggesting a person in motion.

The Grand Paris Express

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A stronger service offer and a projected higher number of visitors



Modal shift allowed by the development of a new structuring offer



Demographic and economic growth



Significant increase in the daily number of trips by public transport:

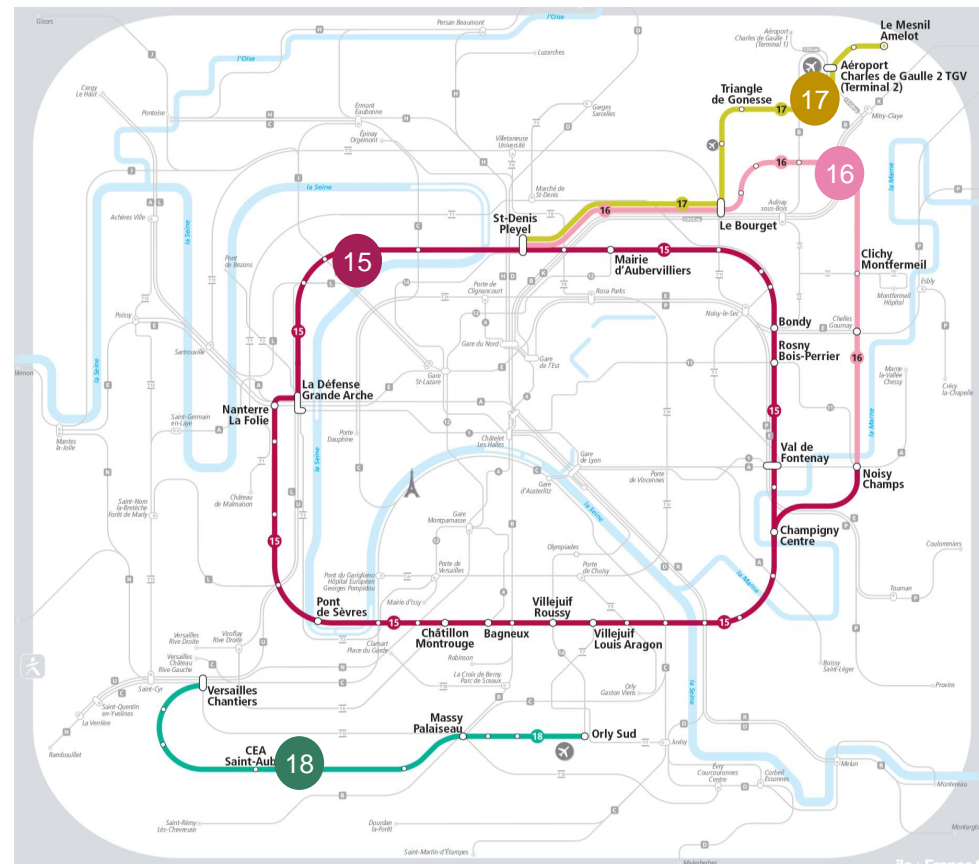
+13% between 2013 and 2025

+ 20% between 2013 and 2035

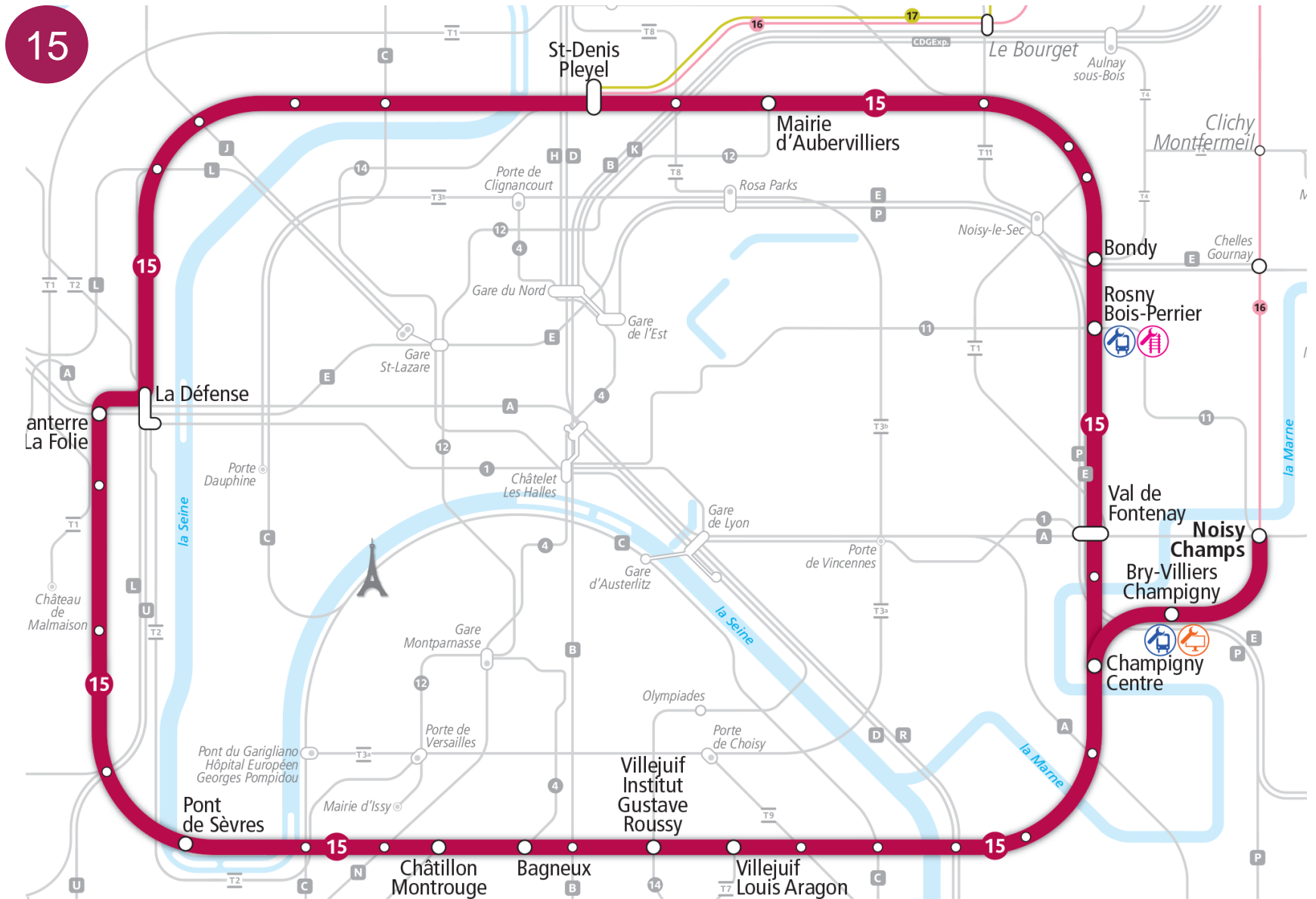
almost exclusively outside Paris

A strategic transport network for the Île-de-France Region

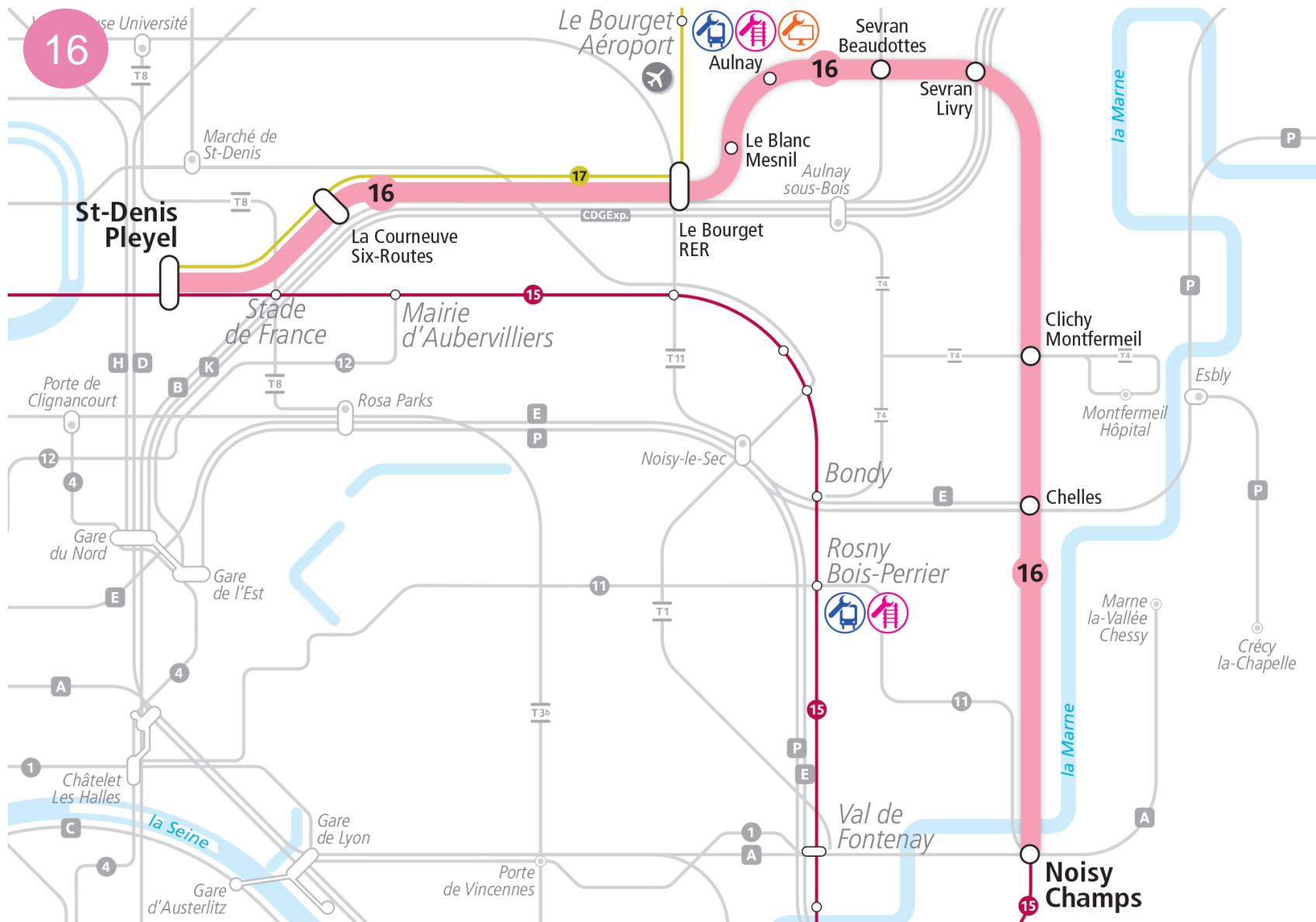
- 4 new high-performance automatic metro lines around Paris, heavily connected with existing rail networks (metro/RER/train)
- About 160 km of lines
- 60 new stations
- Suburban-suburban commuting purpose and decongestion on cross-city lines target
- Better connection of main areas (airports, universities) and improvement of poorly connected activities



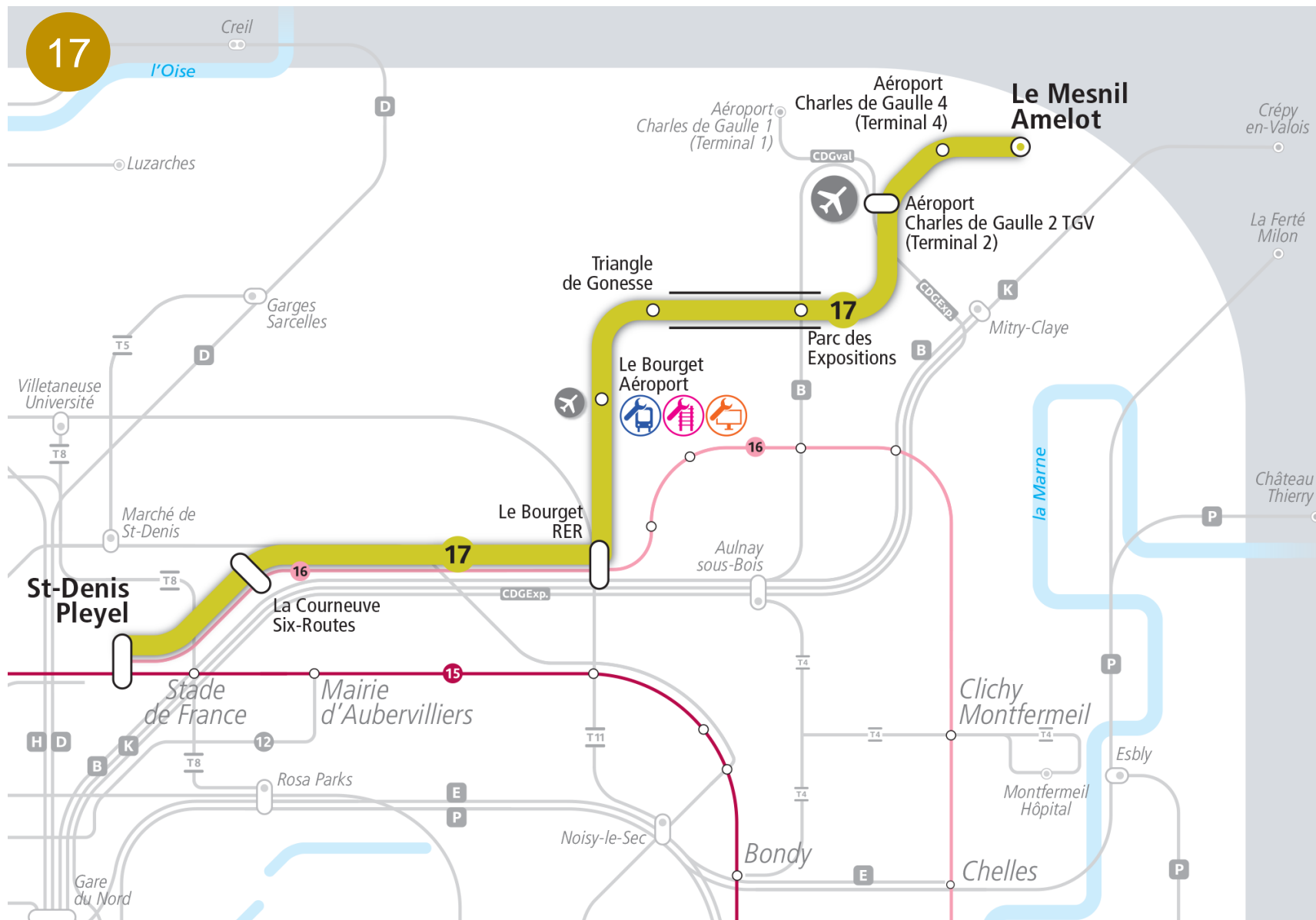
General description of lines 15, 16, 17 and 18



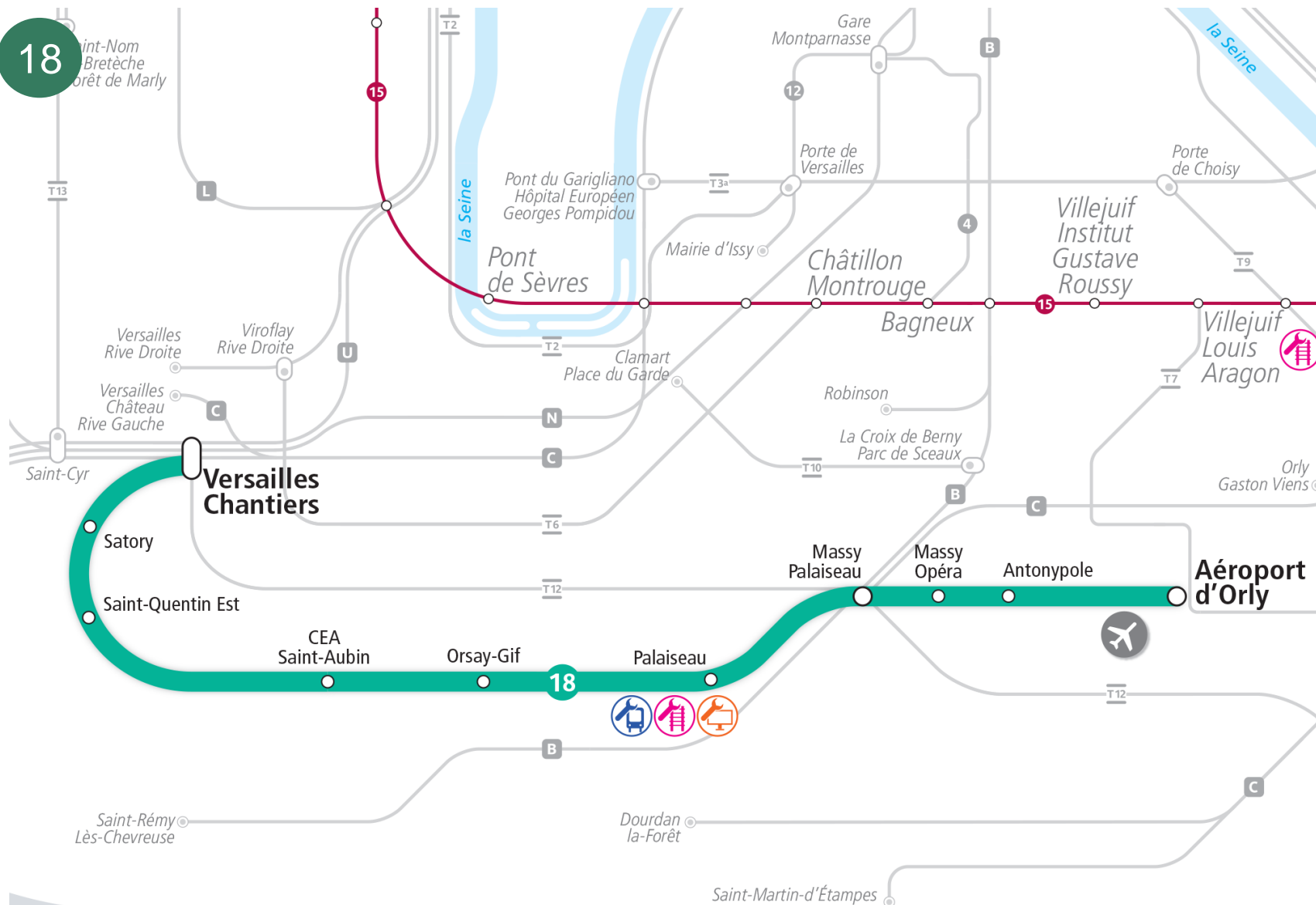
General description of lines 15, 16, 17 and 18



General description of lines 15, 16, 17 and 18



General description of lines 15, 16, 17 and 18



SUMMARY

1. The new lines 15, 16, 17 and 18 of the Grand Paris Express
 - A. Main data
 - B. Commissioning schedule
 - C. Actors

2. The bidding process for the operation of the service
 - A. Transport operators' missions
 - B. Coordination between operators / infrastructure manager
 - C. Geographical scope and duration of the contracts
 - D. Timetable for the bidding process

01.

The new lines 15, 16, 17 and 18 of the Grand Paris Express

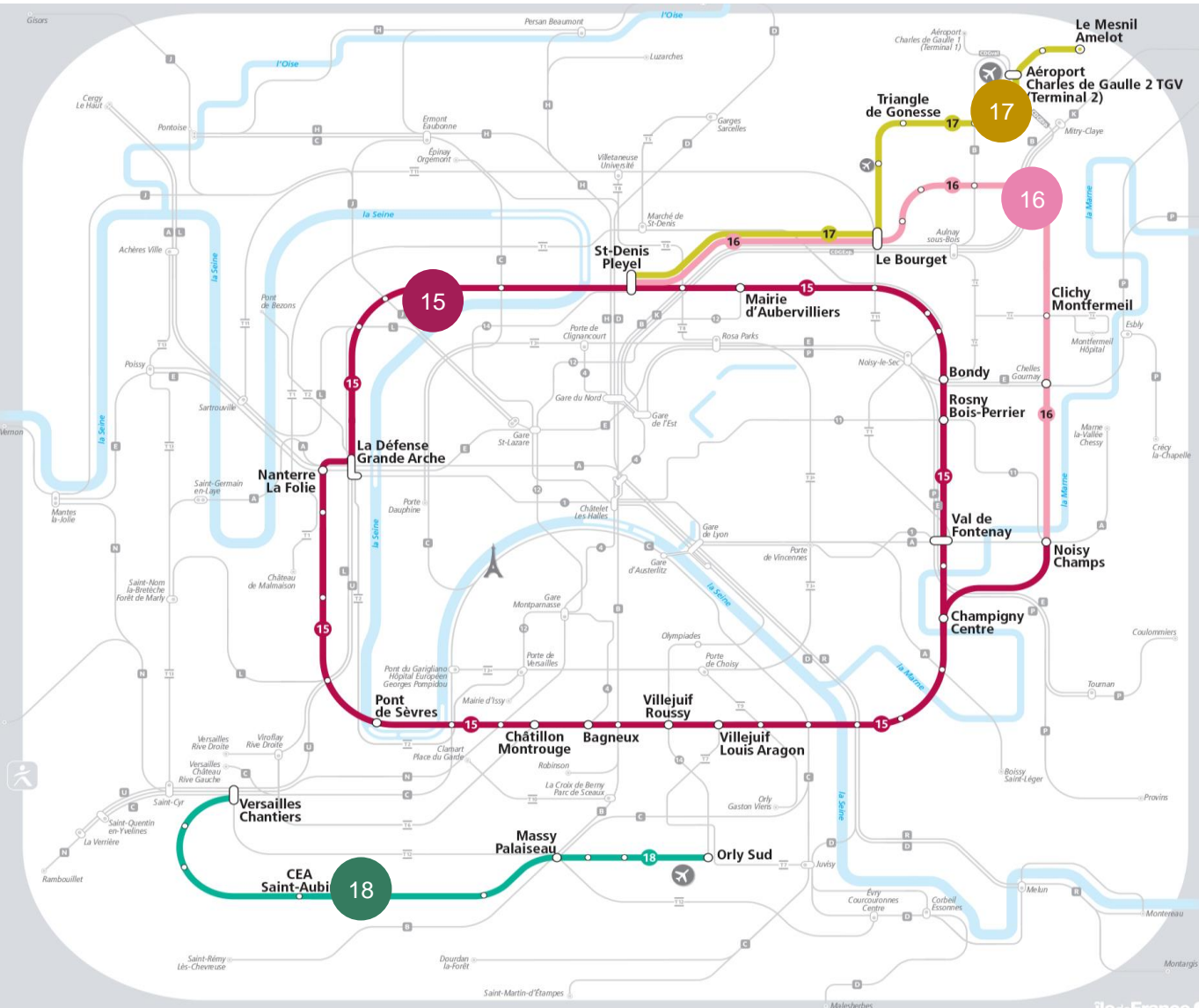
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A. Main data



1.A. The new lines 15, 16, 17, 18 of the Grand Paris Express

General description of lines 15, 16, 17, 18



- A common section 16/17
- A railway connection:
 - ✓ Between 15 and 16/17 in St-Denis-Pleyel station (1 track),
 - ✓ Between 15 and 16 in Noisy-Champs, station (1 track)
 - ✓ Between 15 and the National Rail Network in Rosny-Bois-Perrier station

Lines general parameters

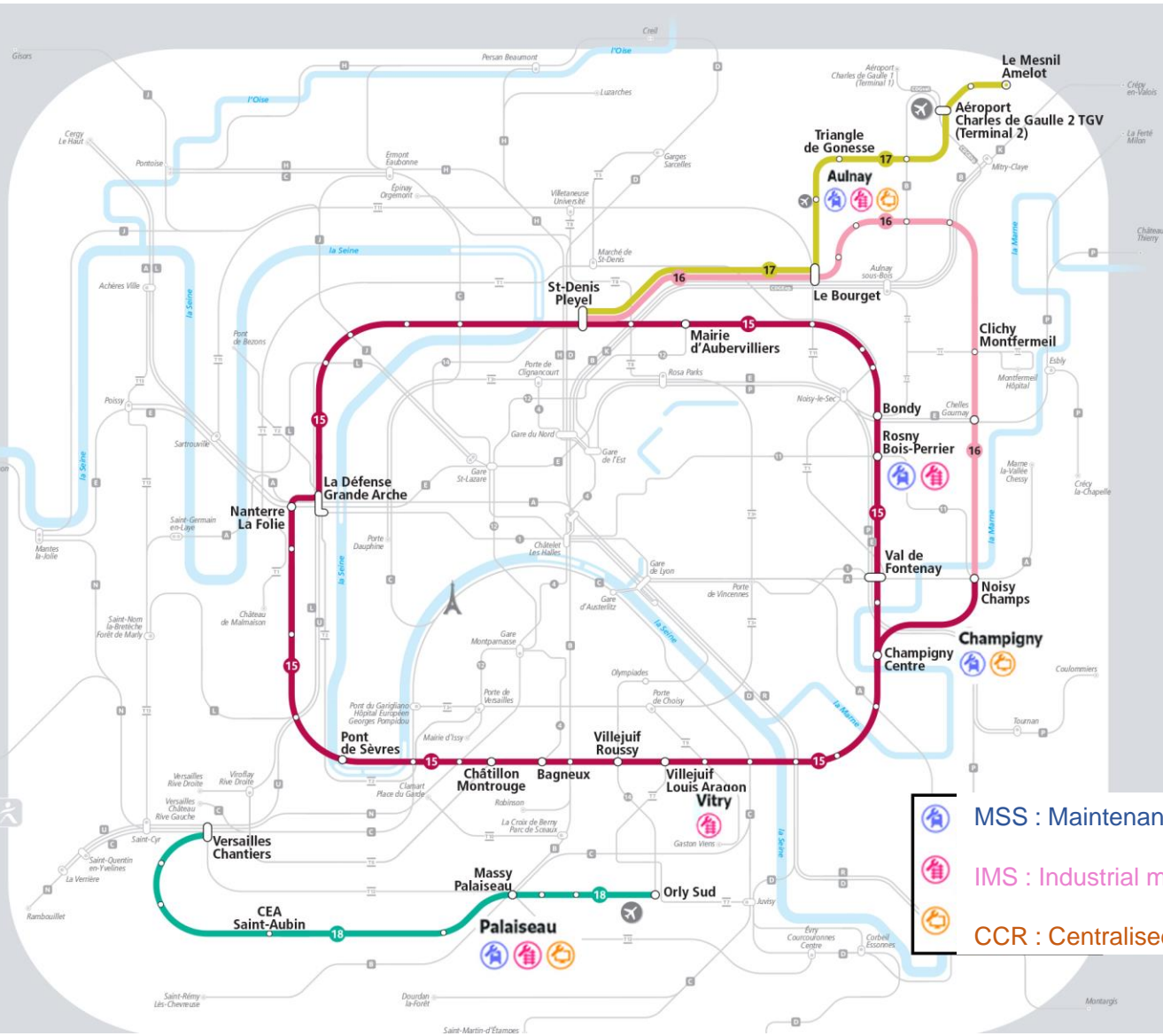
| | Line 15 | Line 16 | Line 17 | Line 18 |
|--------------------------|---------|---|--|----------|
| Number of stations | 36 | 10 | 9 | 10 |
| Linear | 76 km | 27,5 km <i>Of which 6km of common section with line 17</i> | 26,8 km <i>Of which 6km of common section with line 16</i> <i>Of which 5,5km of aërian section</i> | 35 km |
| Line depth (average) | 25-30 m | 25 m | 20 m | 0-10 m |
| Inter-stations (average) | ~ 2 km | 2,9 km | 3,3 km | ~ 3,7 km |

Lines general parameters


All lines are fully automatic driverless (GOA4)

| | Line 15 | Ligne 16 | Lines 16/17 | Line 18 |
|---|------------------------------|----------------------------|----------------------------|----------------------------|
| Type of bearing | Iron | Iron | Iron | Iron |
| Forecast commercial speed on main track | ~ 50km/h | ~ 70km/h | ~ 70km/h | Btw. 60km/h and 70 km/h |
| Maximum speed | 110km/h | 110km/h | 110km/h | 100km/h |
| Forecast capacity of rolling stock | 970 passengers | 485 passengers | 485 passengers | 350 passengers |
| Rolling stock length | 108m (6 carriages) | 54m (3 carriages) | 54m (3 carriages) | 45m (3 carriages) |
| Minimum projected interval MPH* by 2030 | 112s | 86s (on common section) | | 170s |
| Forecast traffic MPH by 2030 | 100 000-130 000 passengers/h | 20 000-30 000 passengers/h | 20 000-30 000 passengers/h | 10 000-15 000 passengers/h |

General description of lines 15, 16, 17, 18 – Operation centers



- A common lines' 16/17 MSS/CCP in Aulnay
- 2 main IMS in Aulnay and Vitry for the lines 15/16/17 + 1 storage IMS in Rosny
- 1 backup CCR for the lines 15, 16 et 17 in Noisy-Champs

-  MSS : Maintenance and storage site
-  IMS : Industrial maintenance site
-  CCR : Centralised control room

General description of lines 15, 16, 17, 18

- To follow the progress of the construction of the lines,
- For more detailed information on stations and systems:

<https://www.societedugrandparis.fr/>

01.

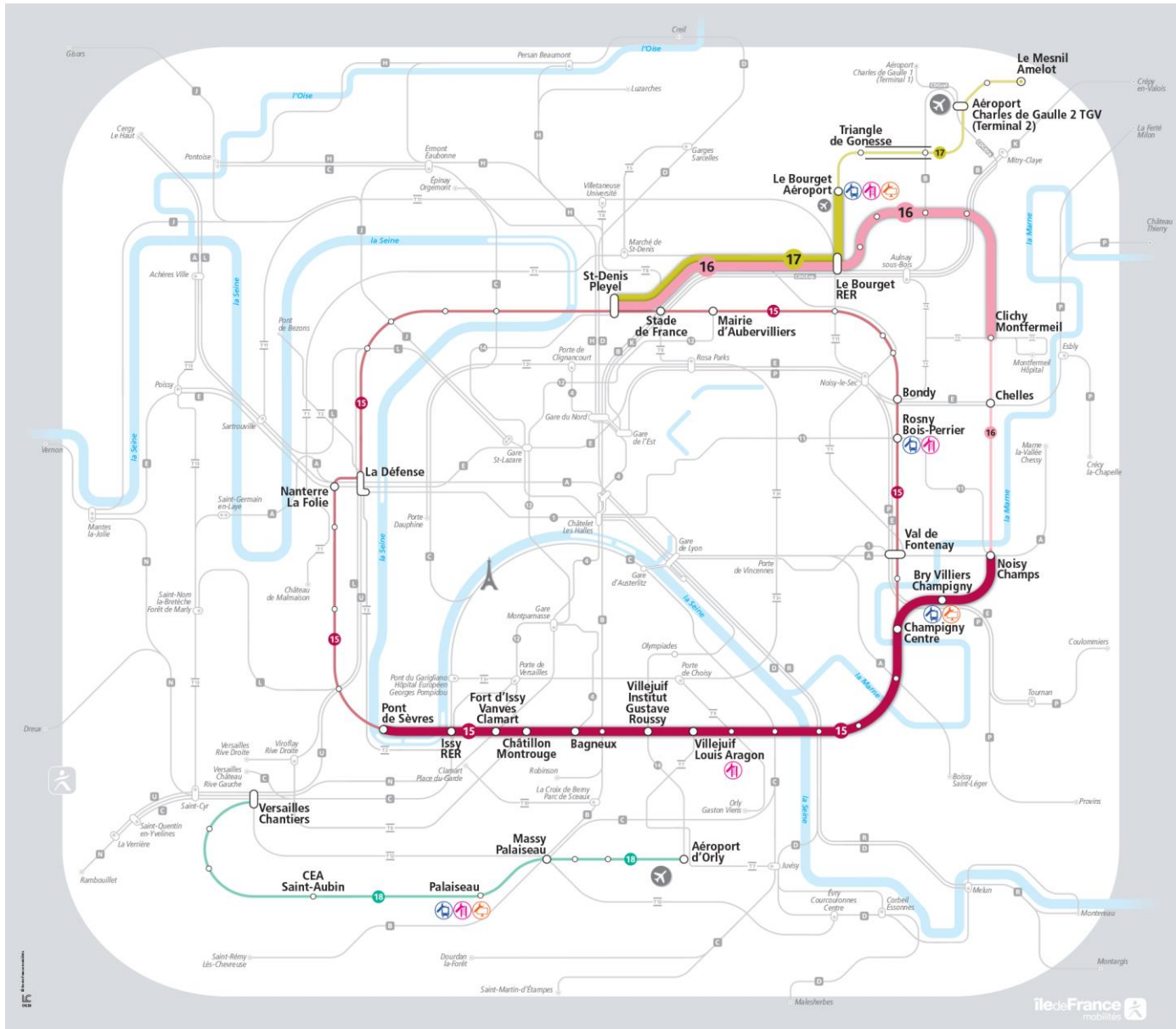
The new lines 15, 16, 17, 18 of the Grand Paris Express

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B. Commissioning schedule

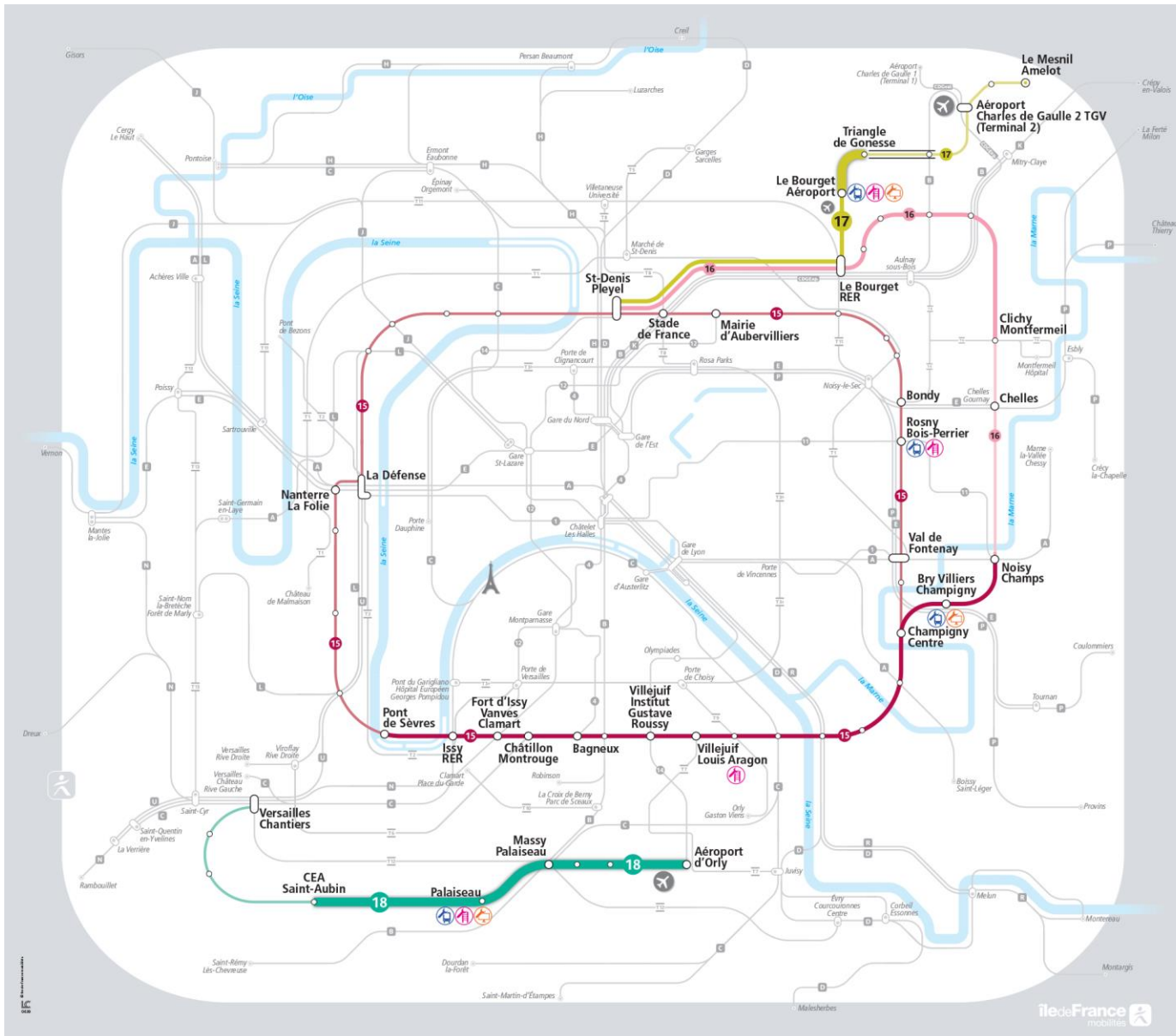


Present timetable - Commissioning in 2024-2025

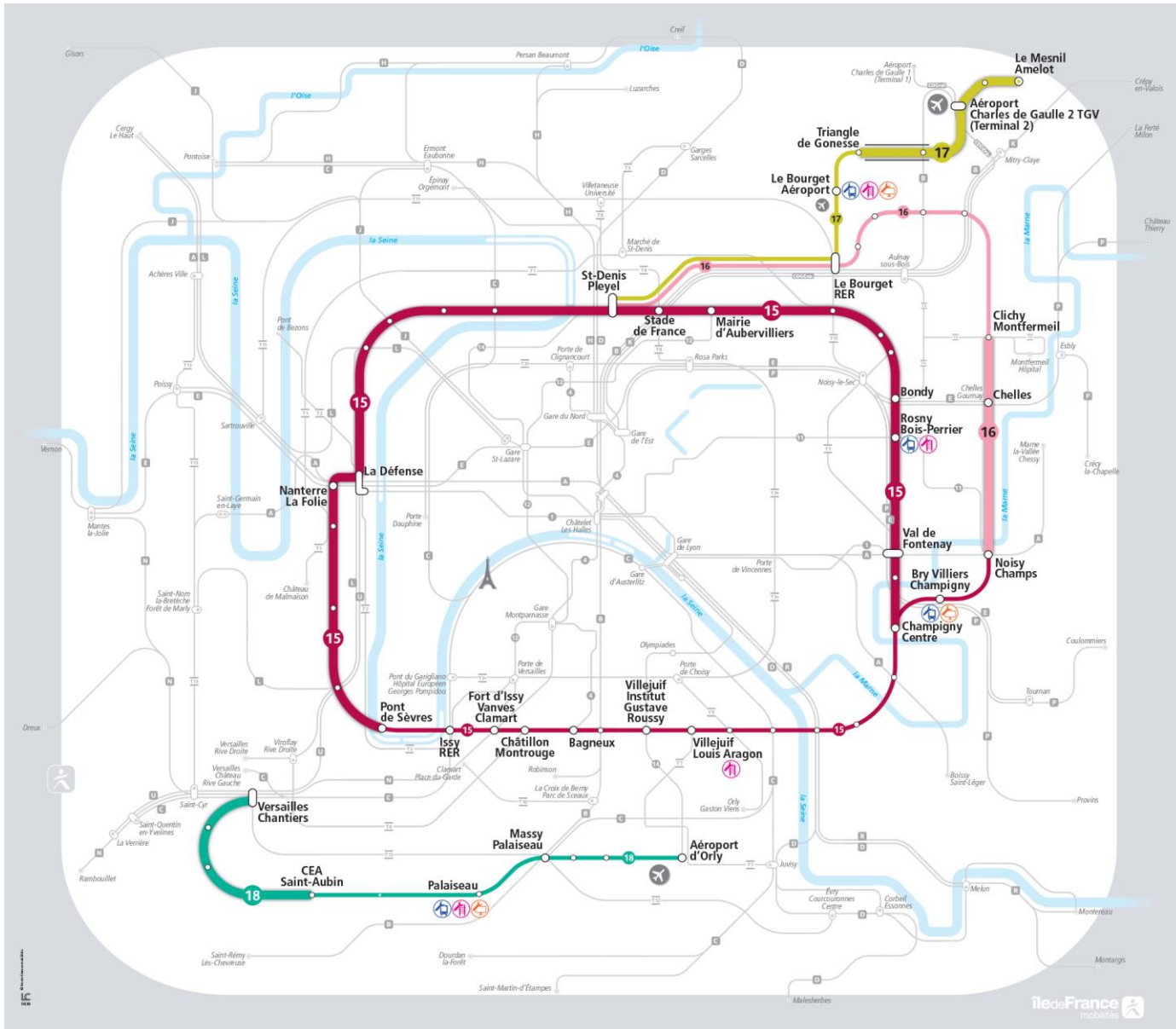


1.B. The timetable for the commissioning of lines 15, 16, 17 and 18

Present timetable – Commissioning in 2026-2027



Present timetable – Commissioning in 2030



01.

**The new lines 15, 16, 17, 18 of the
Grand Paris Express**

-

C. Actors



A multi-actors Project

The Grand Paris law (law n° 2010-597 of 3 June 2010) distinguishes several actors

- Île-de-France Mobilités, the Public Transport Authority (PTA)
 - Local public authority
 - Financing the public transport service
 - Fixing the public transport service fare system
 - Appointing the transport operators
 - Owner of the rolling stock (after purchase by SGP)
- Transport Operators (TO)
 - Designated by the PTA through a competitive bidding process
 - Operating the Grand Paris Express network
 - Technical managers (maintenance) of rolling stocks, systems and secondary structures of stations

A multi-actors Project

The Grand Paris law (law n° 2010-597 of 3 June 2010) introduces several key actors in the Project

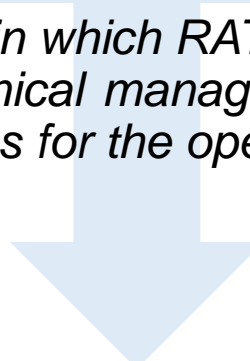
- The Société du Grand Paris (SGP)
 - National public authority (State)
 - Responsible body for the design and construction of the network
 - Owner of the infrastructure and stations until its dissolution
 - Purchaser of the rolling stock, on behalf of Île-de-France Mobilités
- RATP Infrastructures - The Infrastructure Manager (IM)
 - Technical manager (maintenance) of lines, works and installations - i.e. all the infrastructure and parts of the stations (according to a decree and a ministerial order of 8 February 2019)

A multi-actors Project

The future lines 15, 16, 17 and 18 of the GPE have the particularity of being organized around several actors. As a result, there is:

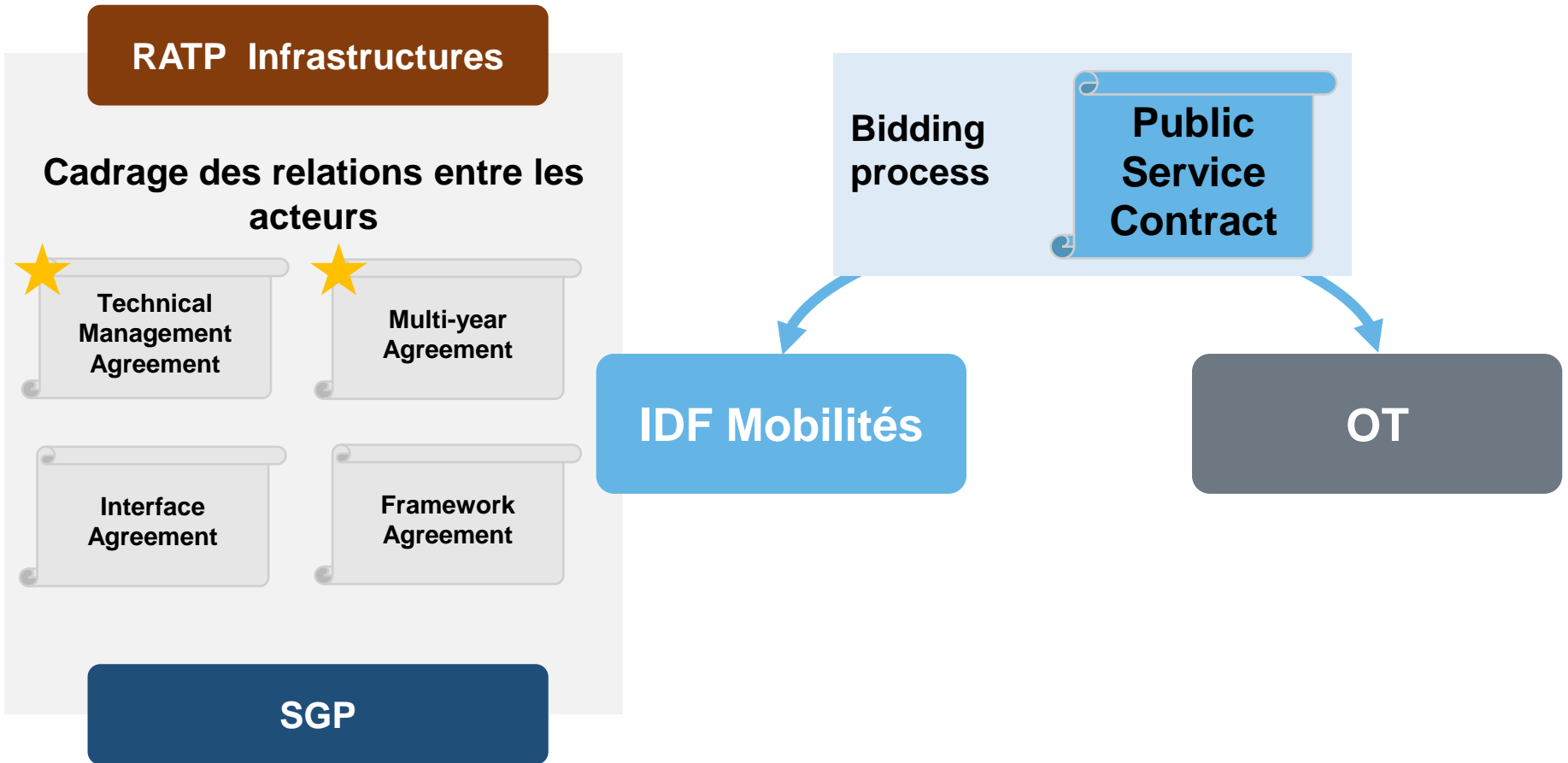
- A splitting of responsibilities between the network owner during construction and the technical managers (maintenance) during operation
- A sharing of technical management missions (maintenance) between RATP-Infrastructures and Transport Operators

Unlike the Paris Region metro, in which RATP is the owner of the network together with the operator and the technical manager (maintenance). This organization is usual for main international cities for the operation of metros



Therefore, a **dedicated contractual scheme between the various GPE actors** is necessary, in which the public service contracts to be concluded with Transport Operators, will be included

The contractual scheme



★ *Mandatory Agreement by the Loi Grand Paris*

02.

Bidding process for the operation of the service

-

- A. Transport Operators' missions



Missions

Operator's missions are not fully finalized and are likely to change. It will be specified in the tender documentation

1. **Operation** of the transport service
2. **Commercialization** of transport tickets
3. Storage, **maintenance and upkeep** of rolling stock and station equipment necessary for the performance of the service
4. **Reception, information and safety of passengers** in stations and rolling stock
5. **Traffic management** from the CCR
6. **Anti-fraud measures**
7. **Maintenance and storage** site management
8. **Business in stations (stores/advertising)** – *subject to a possible legislative amendment*

Missions

Missions carried out under a public service contract will be paid on the basis of:

- A **fixed payment**
- A **variable payment** based on **passengers traffic** - Île-de-France Mobilités will collect the revenue from the sale of transport tickets
- **Variable payment** based on the achievement of **performance objectives** set for both train traffic and service quality (based on Key Performance Indicators)

No first establishment investments to be provided

02.

Bidding process for the operation of the service

-

B. Cooperation between operators / infrastructure manager



Missions of the infrastructure manager

RATP Infrastructures is responsible for the technical management of the network on the following infrastructures ([ministerial order of 8 February 2019](#)):

- Lines, structures and installations (excluding stations)
- Infrastructure maintenance sites
- Maintenance and storage sites and centralized control centers:
 - Civil works
 - Electrical power supply equipment
 - Tracks, turnouts and point machines
 - Centralized control centers including IT architecture and software
 - Communication networks (including infrastructure)
- Automatic train operation and centralized controls:
 - Ground equipment
 - Software and data transmission system
- Stations (*subject under discussion*)

Operators / infrastructure manager interfaces

A clear partition of IM and TO maintenance responsibilities will be described in Interfaces Agreement and will be made available for the TO candidates in the tender package.

The IM and the OT will detail the modalities of their cooperation in [Operational Protocols](#), to be finalized and concluded during the pre-operation phase, the main principles of which will be described in the Interfaces Agreement

- Some examples:
 - Cooperation and management in the event of operational incidents and disrupted situations;
 - Procedures for managing alerts from TO to IM and from IM to TO;
 - Interface management methods: rolling stock / infrastructure interfaces; system interfaces, including automatic train operation and platform doors...

02.

Bidding process for the operation of the service

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C. Geographical scope and duration of the contracts



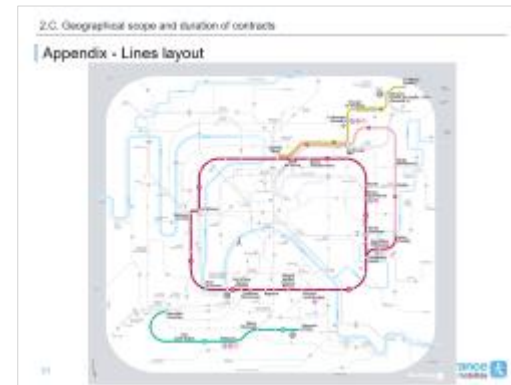
Public service contracts

3 contracts

Line 15

Lines 16 and 17

Line 18



Why this scheme?

Common section 16/17, control center design

Attractiveness of the call for competition

Estimated duration

For the **1st public service contract**:

Pre-operating

2 years



Operating

6 years



Duration of
the contract

8 years

02.

Bidding process for the operation of the service

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D. Timetable for the bidding process



Present calendar

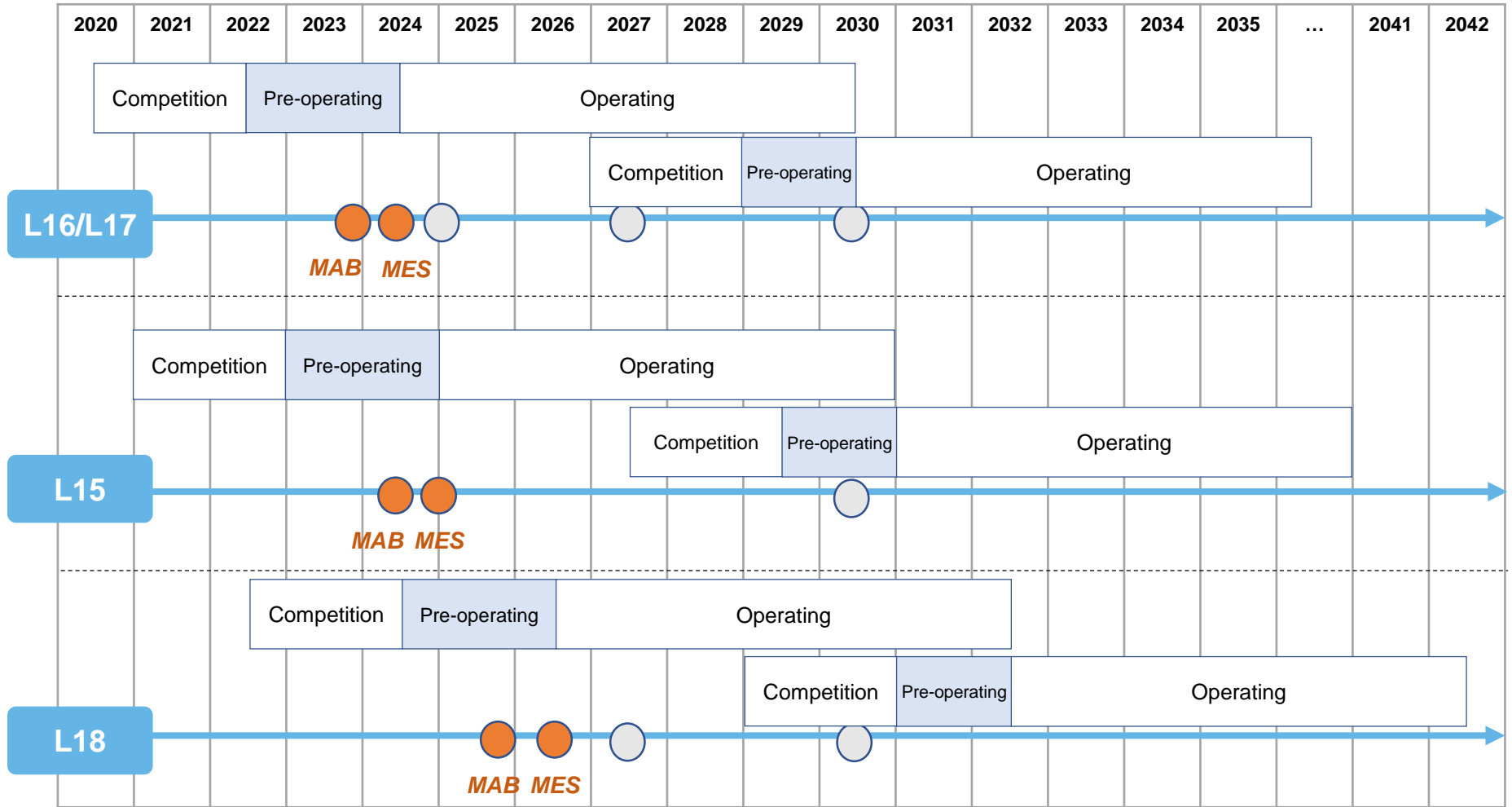
2 years of procedure for the 1st wave of contracts:

**Pre-
qualification
of candidates
to submit an
offer**

**Written
comments on
the tender
package
by prequalified
candidates**

Negotiations

Present calendar for the successive bidding processes



MAB = Operation Tests Phase of the 1st section

MES = Commissioning of the 1st section

○ Commissioning of the extension

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Thank you

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For any question:

juliette.vinck@Îledefrance-mobilites.fr

03.

Appendices

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Morning Peak Hour forecast

| Headway (s) | L15 | L16/17 | L18 |
|-------------|-----|-----------------------------------|--------------------------------|
| 2024 / 2025 | 190 | 120 <i>(on common section)</i> | - |
| 2026 / 2027 | - | 120 <i>(on common section)</i> | <i>(horizon being defined)</i> |
| 2030 | 112 | 86 <i>(on common section)</i> | 170 |

Rolling Stock increase

| RS size | L15 | L16/17 | L18 |
|-------------|-----|--------|-----|
| 2024 / 2025 | 30 | 25 | - |
| 2026 / 2027 | - | 26 | 15 |
| 2030 | 101 | 43 | 29 |

| The contractual scheme

Interface Agreement: Île-de-France Mobilités / RATP-Infrastructures / Société du Grand Paris

- Management of the SGP/IDFM-TO/RATP-I interfaces relating to works, infrastructure availability and commercial commissioning
- The Master Timetable by operation units until the release of guarantees
- Allocation of maintenance perimeters between main maintainer, associated maintainer and system maintainer
- Operational principles for future cooperation between transport operators and RATP-Infrastructure
- Network data management over time

Technical Management Agreement: RATP-Infrastructures / Société du Grand Paris / *Île-de-France Mobilités (under discussion)*

- The transfer of infrastructure to RATP for technical management

The contractual scheme

Framework Agreement: Île-de-France Mobilités / Société du Grand Paris

- The technical management of stations and interfaces in stations
- The commitments for cooperation during bidding process

Multi-year Agreement: Île-de-France Mobilités / RATP-Infrastructures

- Missions of the infrastructure manager
- Objectives and performance indicators for infrastructure management

Appendix - The tasks of the infrastructure manager

- Lines, structures and installations (excluding stations)
 - Civil engineering
 - Platform and track equipment
 - Tunnel safety equipment
 - Energy transformation and distribution infrastructures
 - Telecommunications infrastructure
 - Secondary works and equipment

- Infrastructure Maintenance Sites (IMS):
 - Shell, enclosed and covered
 - Secondary work, industrial equipment or fixed maintenance means structurally linked to buildings, external installations, access roads
 - Platforms, tracks and equipment from the beam to the IMS
 - Electrical power supply equipment
 - Telecommunications infrastructure
 - Industrial IT equipment (technical alarm management, fire detection and safety, site protection, video protection, chronometry, sound system)
 - Electromechanical equipment (service elevators, ventilation, air conditioning, heating, exhaustion, compression and automatic closing smoke extraction equipment)
 - Infrastructure Maintenance Vehicles (IMVs)

Appendix - The tasks of the infrastructure manager

- Maintenance and storage sites and centralized control centers:
 - Shell, enclosed and covered
 - Electrical power supply equipment
 - Platforms, tracks and equipment of the storage cluster
 - Centralized control including IT architecture and software
 - Communication networks (infrastructure)

- Automatic train operation and centralized controls:
 - Ground equipment
 - Software and data transmission system
 - Interface safety equipment between control systems and platform facades

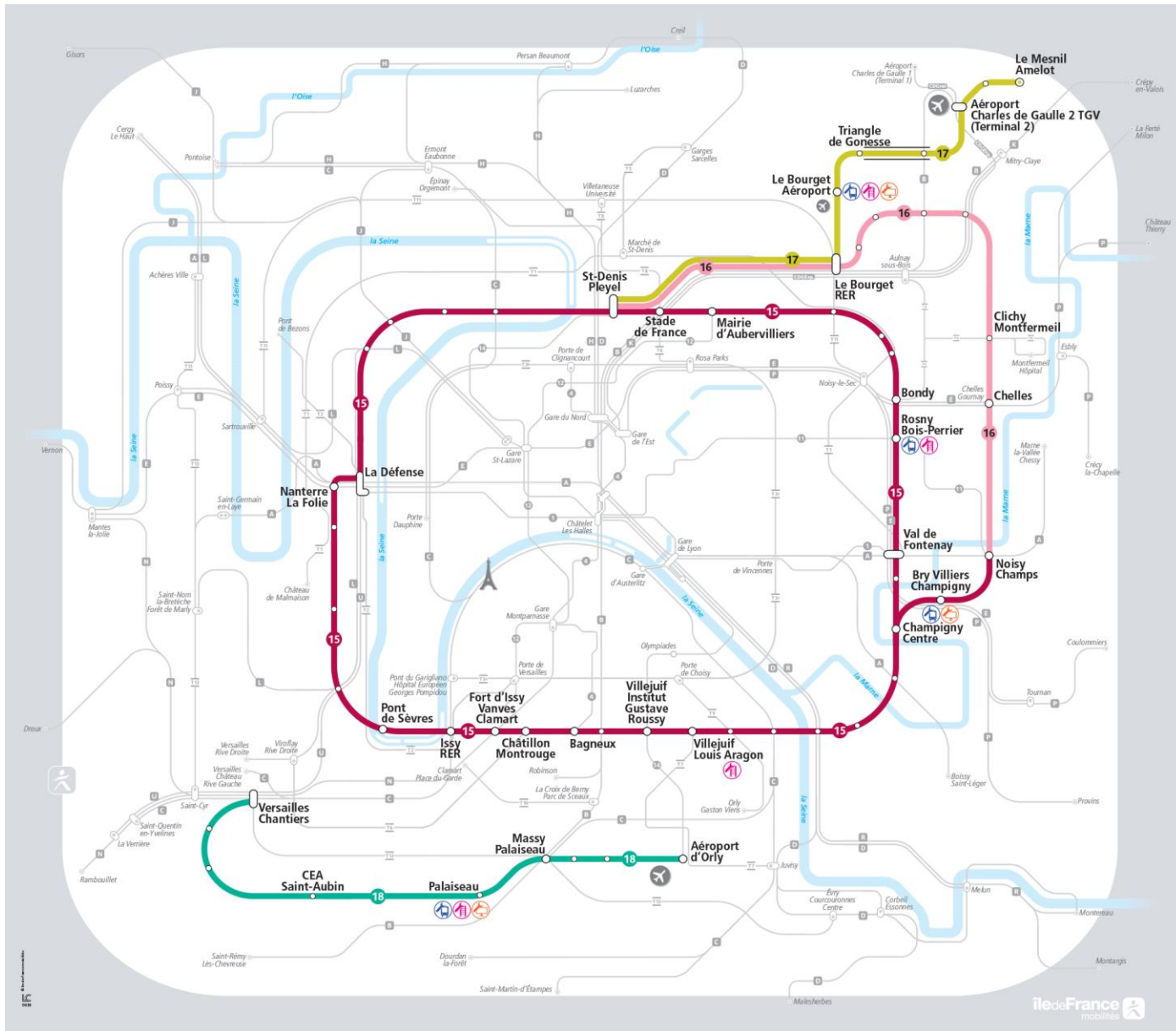
Appendix - The tasks of the infrastructure manager

- Stations:
 - Structural work on equipment whose degradation or lack of maintenance will have an impact on safety and availability (structural elements supporting the invert and the docks, inverts, docks, cast walls)
 - Flood safety equipment
 - Technical rooms for equipment and systems managed by the IM
 - Multi-service network infrastructure (MSN), timing and radio infrastructure, intercom and telephony
 - Energy transformation and distribution infrastructures
- Platform doors are excluded from the IM perimeter (if technically isolated from the rest of the systems for which the IM is responsible – their operation and maintenance has no impact on the remaining part of the systems and their maintenance does not require the use of IM logistics support)

Appendix - Interface Agreement: Themes of the IM/TO Operational Protocols

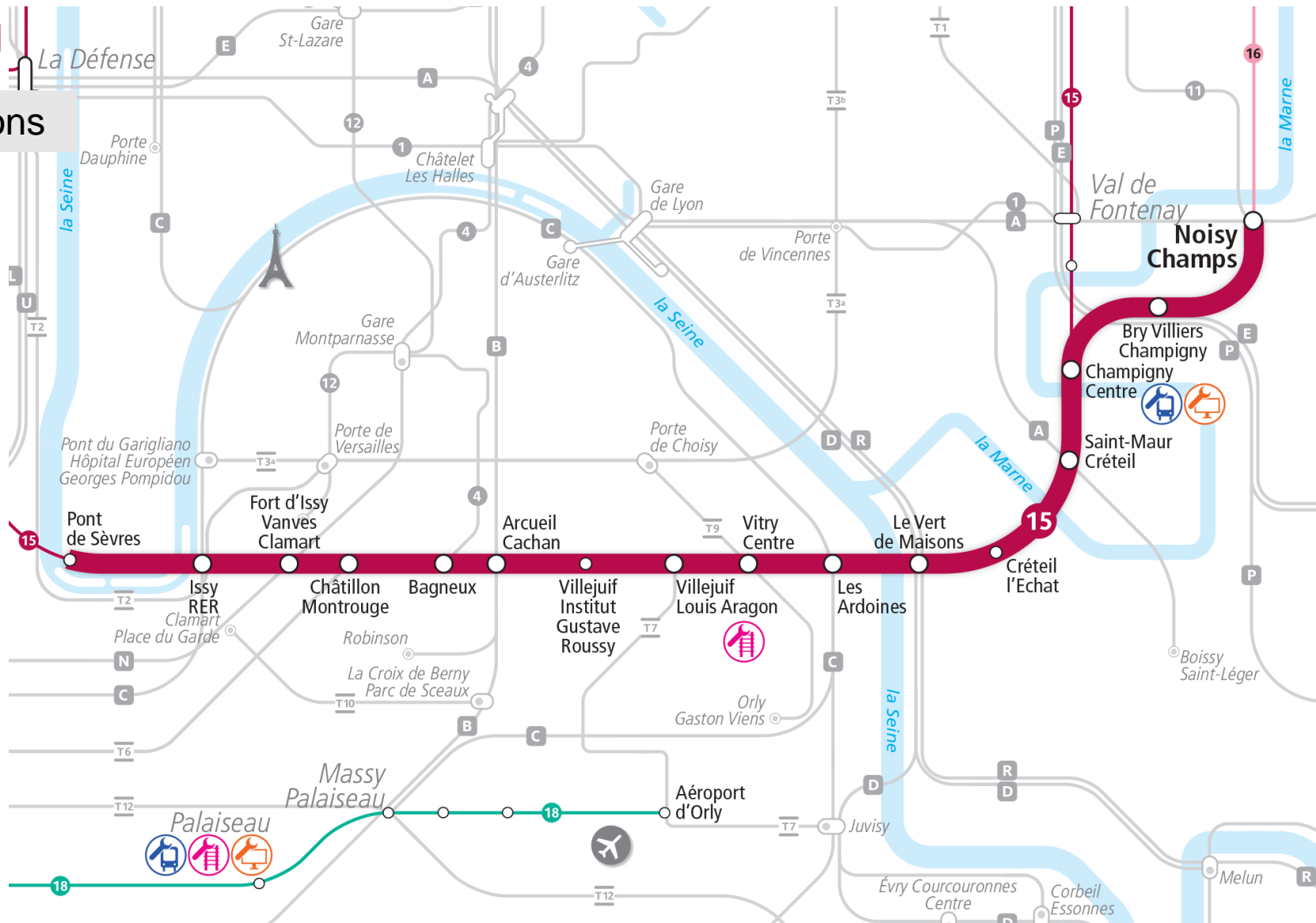
- Cooperation and management in the event of operational incidents and disrupted situations
- Procedures for managing alerts from TO to IM and from IM to TO;
- Interface management methods: rolling stock/infrastructure interfaces; system interfaces, including automatic train operation and platform façades; Infrastructure Maintenance Site / Maintenance and Storage Center interfaces (shared equipment, e. g. water distribution); civil engineering infrastructure/TO local infrastructure interfaces; GI/TO information systems interfaces;
- Management of urgent corrective action by the IM during operating hours;
- Management methods for night work sites;
- Routing and operating procedures for IM and TO agents in the stations, in the Centralized Control Center and in the Maintenance/Storage Center;
- Rules for sharing the financial operating costs within the buildings used by the IM and TO (e.g. water and power supply in stations, Centralized Control Center and the Maintenance and Storage Center)

Appendix - Lines layout



Appendix - Lines layout

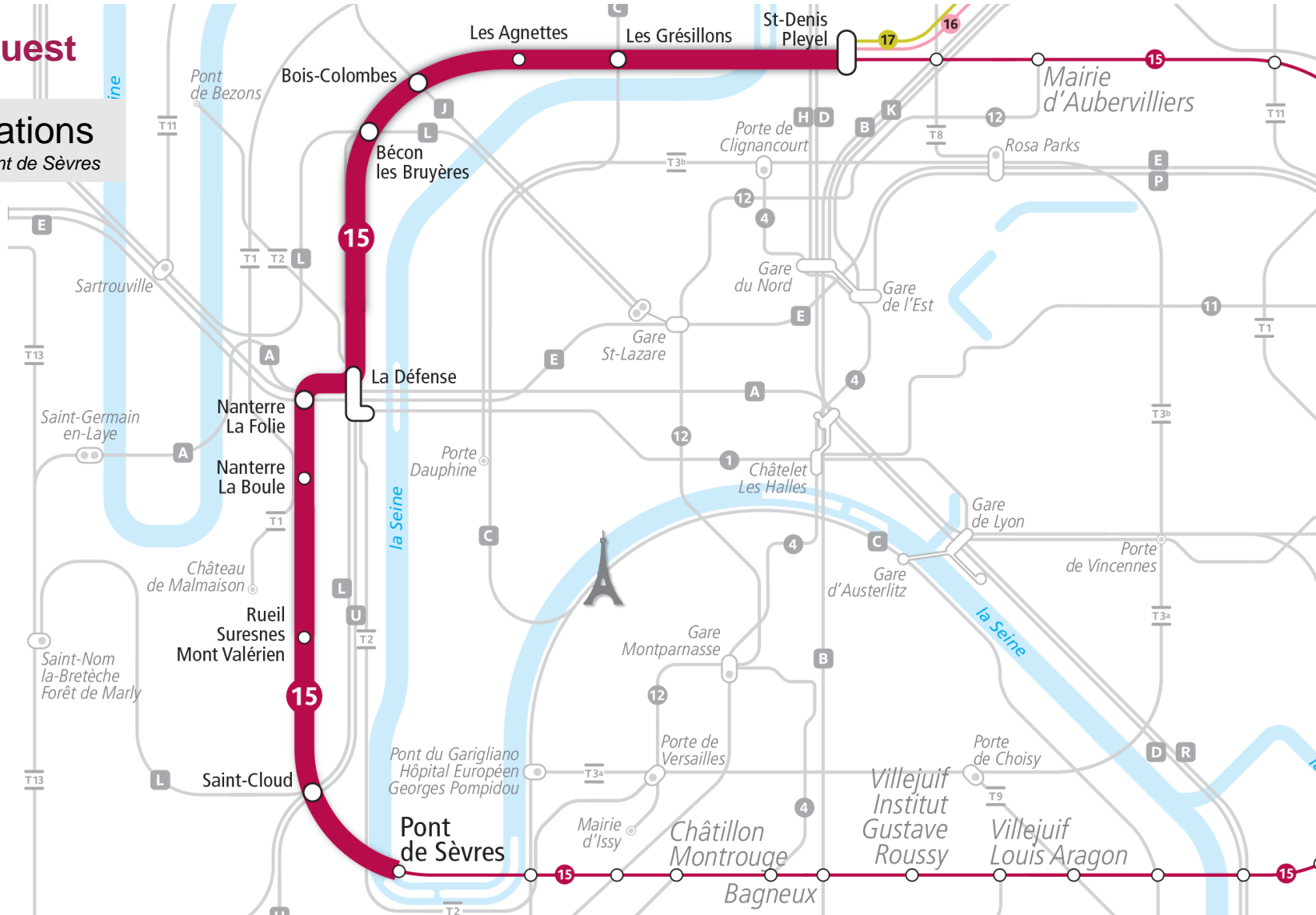
15 Sud
16 stations



Appendix - Lines layout

15 Ouest

10 stations
without Pont de Sèvres

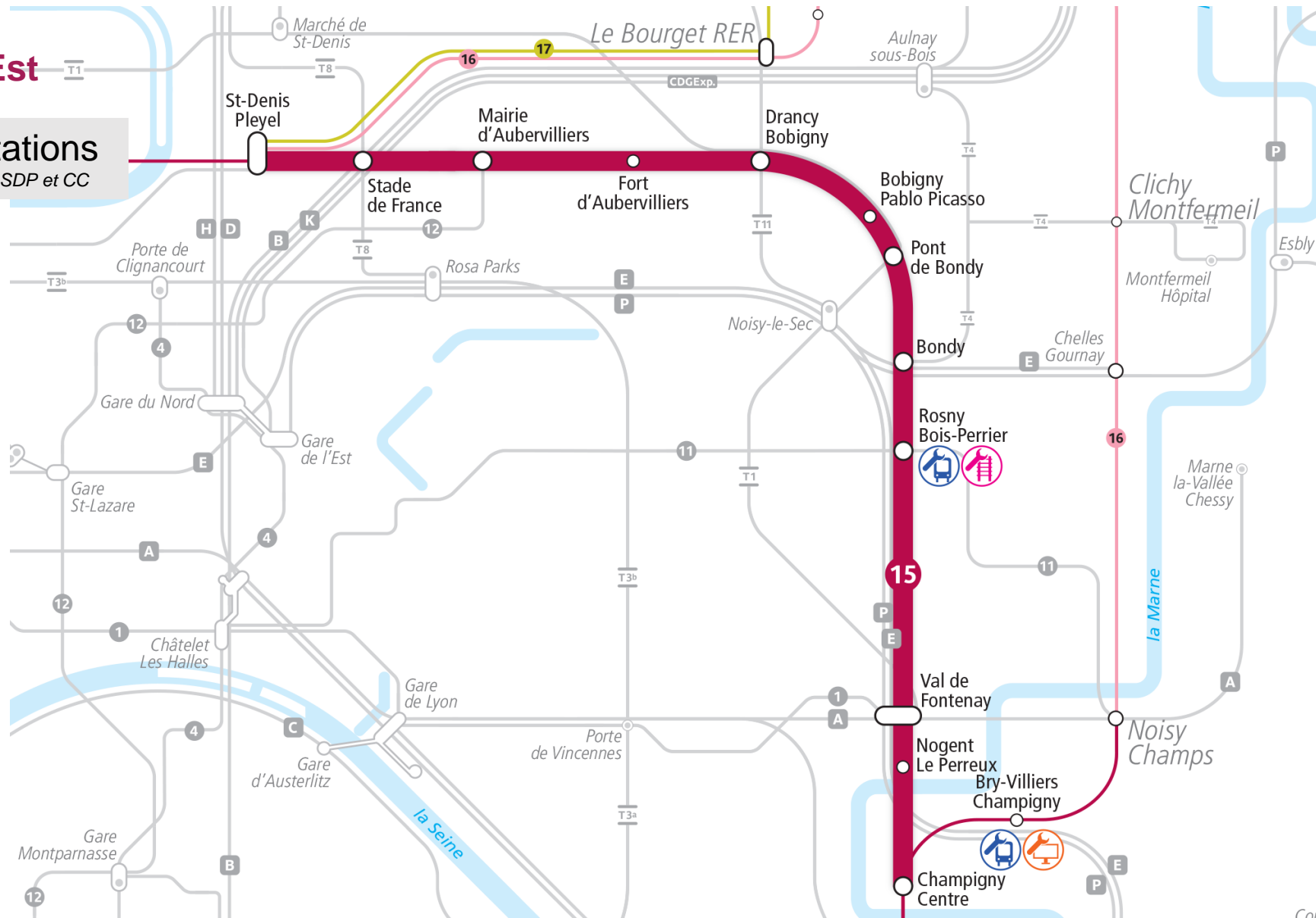


Appendix - Lines layout

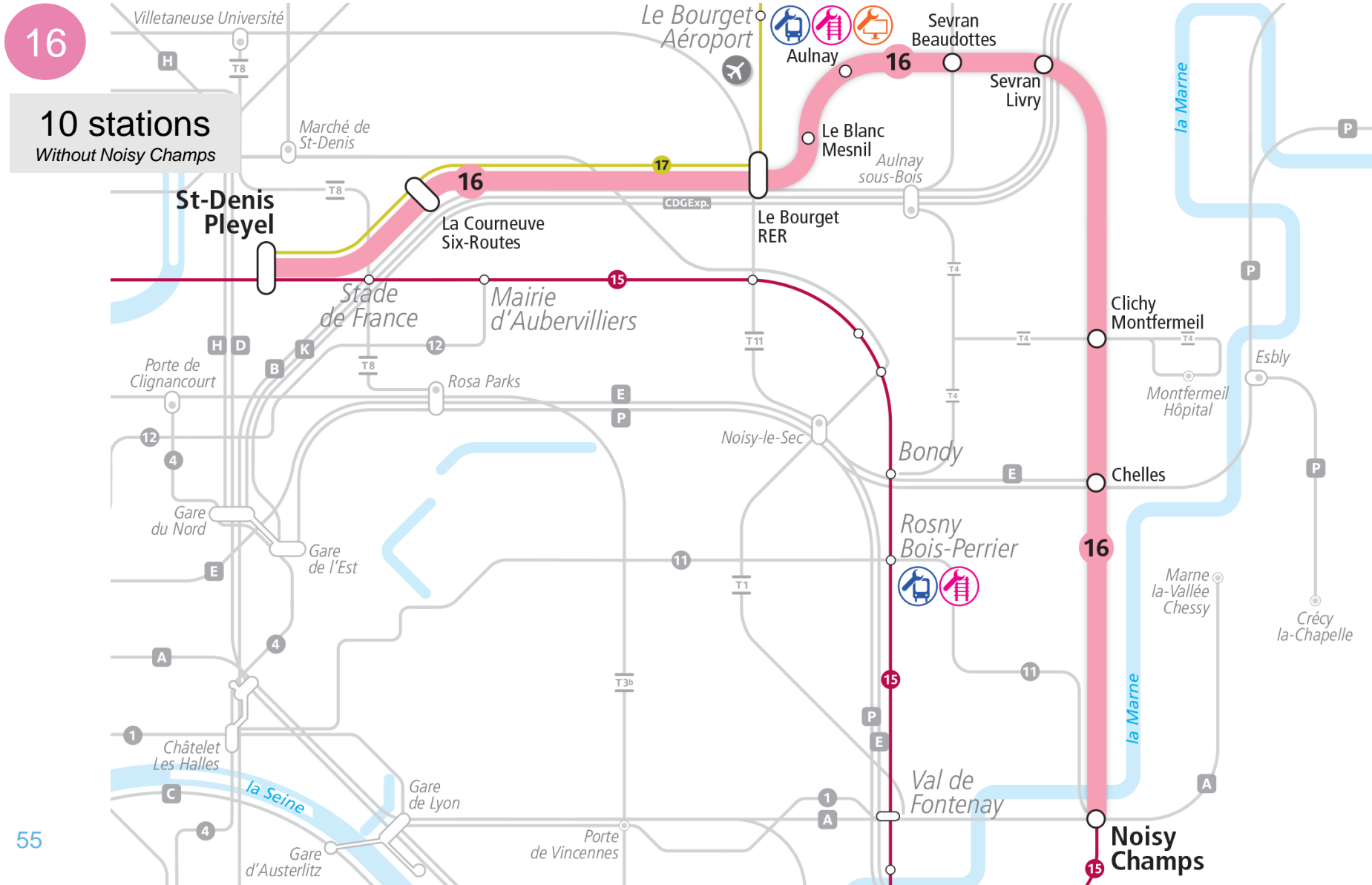
15 Est

10 stations

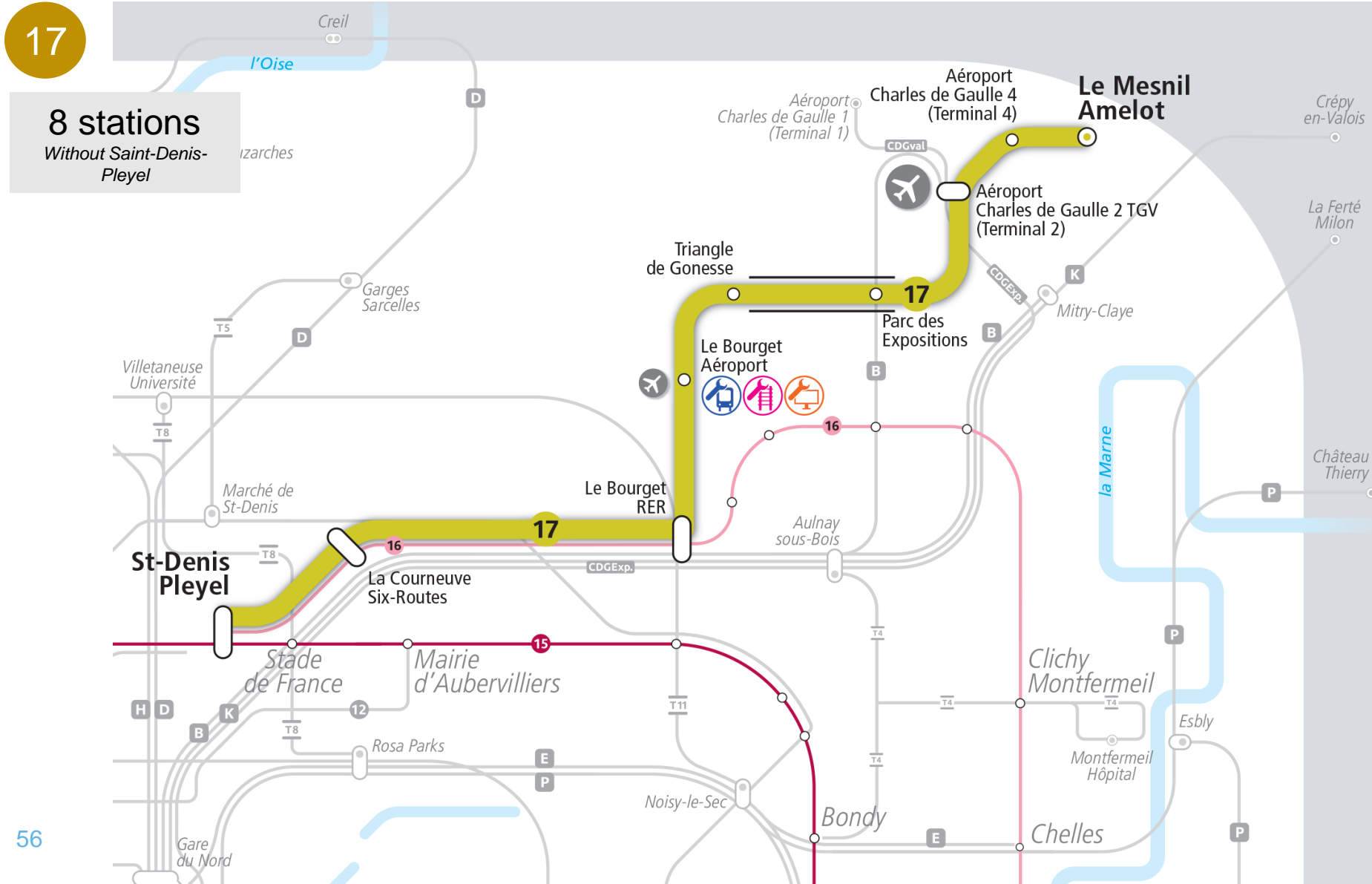
Without SDP et CC



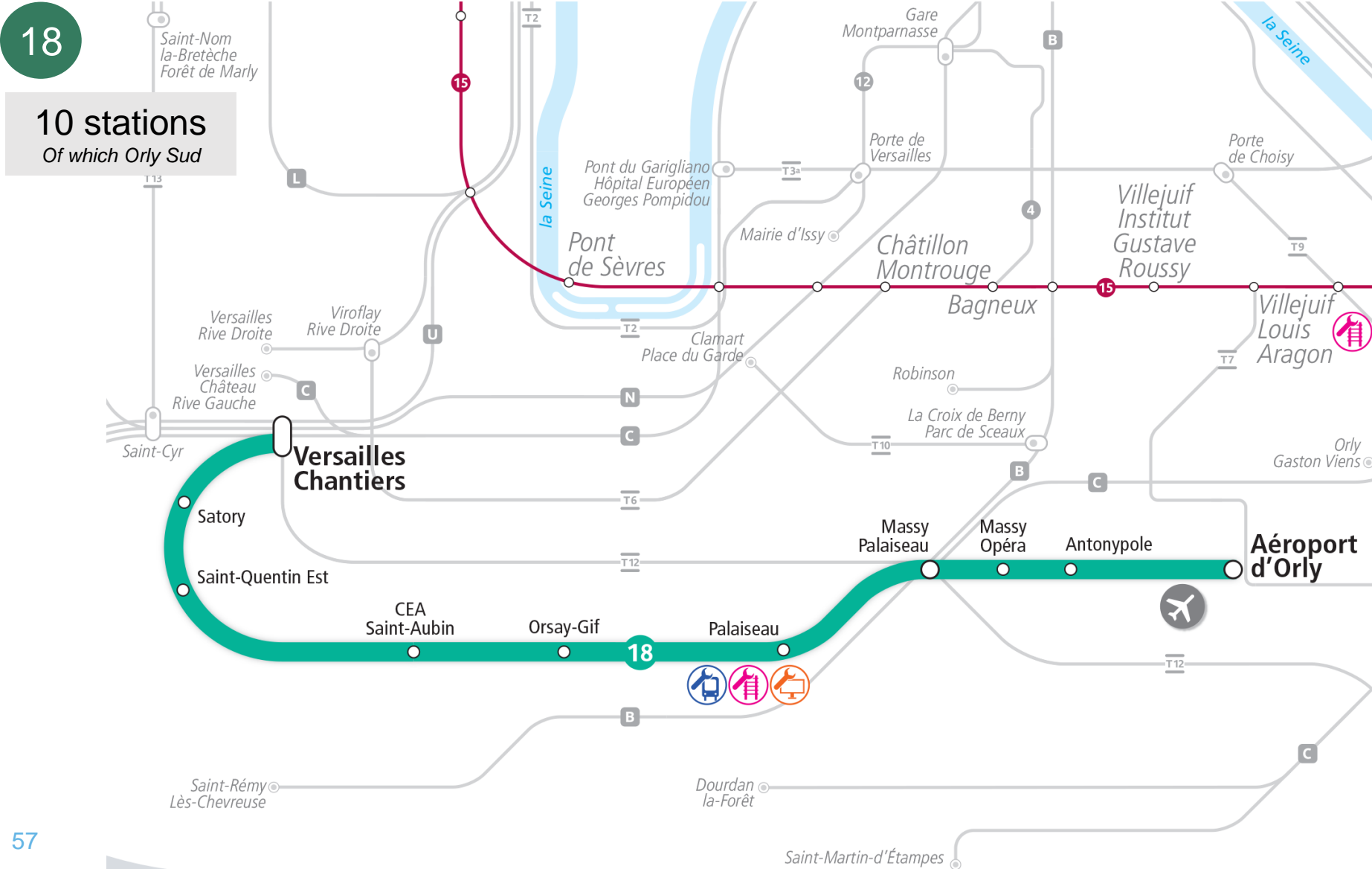
Appendix - Lines layout



Appendix - Lines layout



Appendix - Lines layout



Annex :

- The metro lines will be operated :
 - 7 days a week ;
 - 365 days per year.

- Provided the maintenance can be organised accordingly, a 24h/24 operation over 2 days could be implemented if needed.

Annex

- Line diagram, track common section 16/17

