SNCF Gares & Connexions AREP

Transport & the City

1 Group - 5 divisions

Turnover 2010: € 30.5 billion

SNCF Group workforce: 241,000

SNCF infra	SNCF VOYAGES	SNCF PROXIMITÉS	SNCF / GEODIS	Gares & Connexions
Engineering	**High speed train**	**Urban transportation**	**Freight & logistics**	**Station management & development**
€ 5.2 billion	*€ 7.2 billion*	*€ 10.8 billion*	*€ 8.9 billion*	*€ 1.1 billion*
30,000 km of lines maintained	**100 million** travelers a year	From Europe to Australia (Keolis)	Present in **120 countries**	**3,000** stations **1,500** shops (1 B€ turnover)




Gares & Connexions

Property

- 3,000 stations
- 800,000 sqm of buildings
- 185,000 sqm of retail space
- 1,500 shops in 400 stations

Station attendance

- 2 billion passengers per year
- 140,000 departing trains per day

Workforce

- 13,000 people

Economic data

- Revenues: € 1.1 billion
- Annual investments 2010: €368 million

AREP

Design company for architecture & urban planning

100% subsidiary of SNCF/G&C

50 M€ turnover

300 projects

400 architects, urban planners & engineers

12 nationalities

Paris, Beijing & Hà Nội

Station design: welcoming passengers

- Shanghai
- Avignon
- Paris

Intermodal connections: why is it important?

- Manila
- Metropolitan Network (Greater Paris reference)

Intermodal connections: how to design?

- Marseille
- Paris Nord
- Strasbourg
- Roissy Airport
- Le Mans

Intermodal connections: how to operate?

Stations & urban development

- Xi Zhi Men (Beijing)
- Mumbai CST

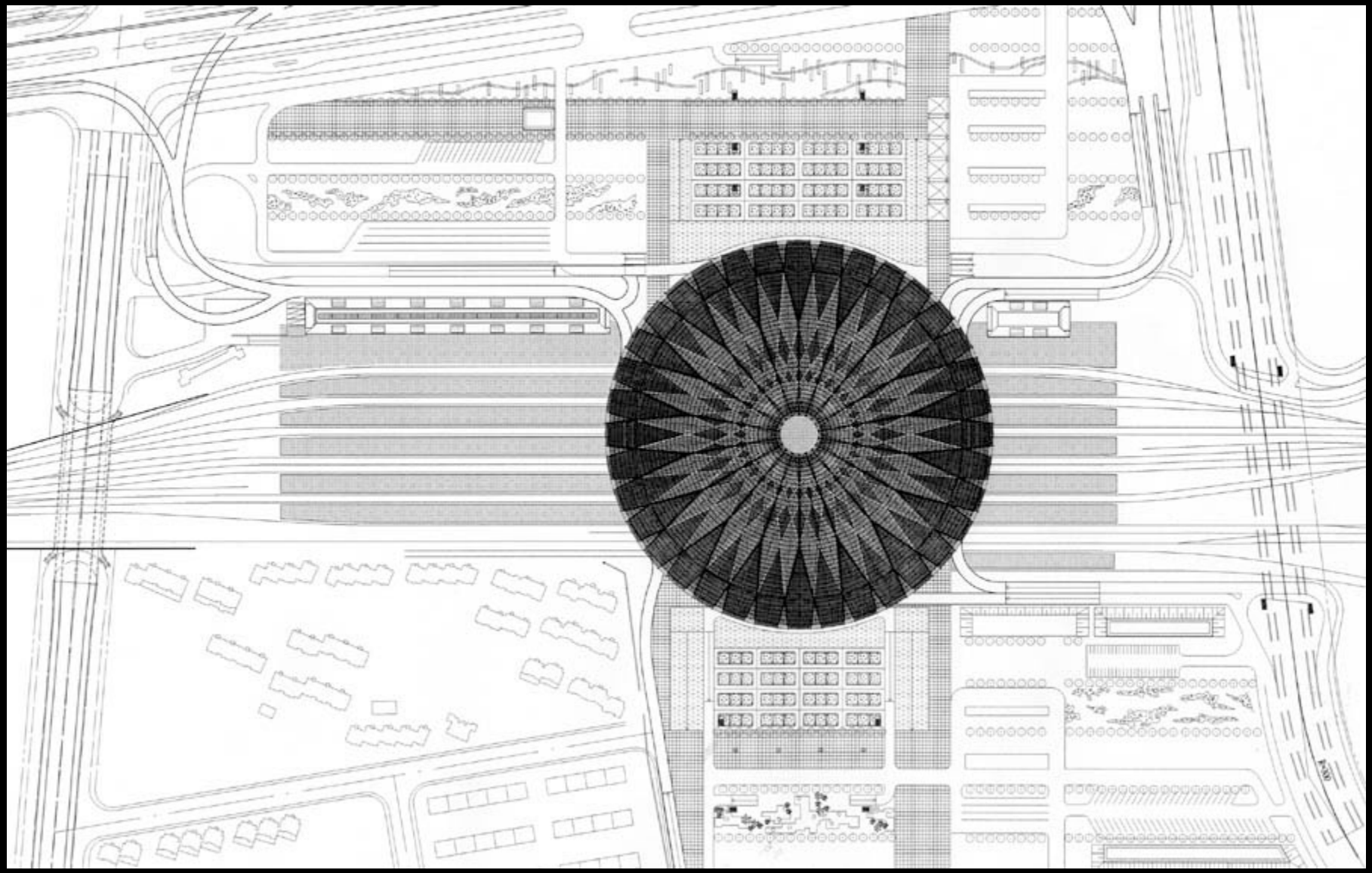
A complex partnership?

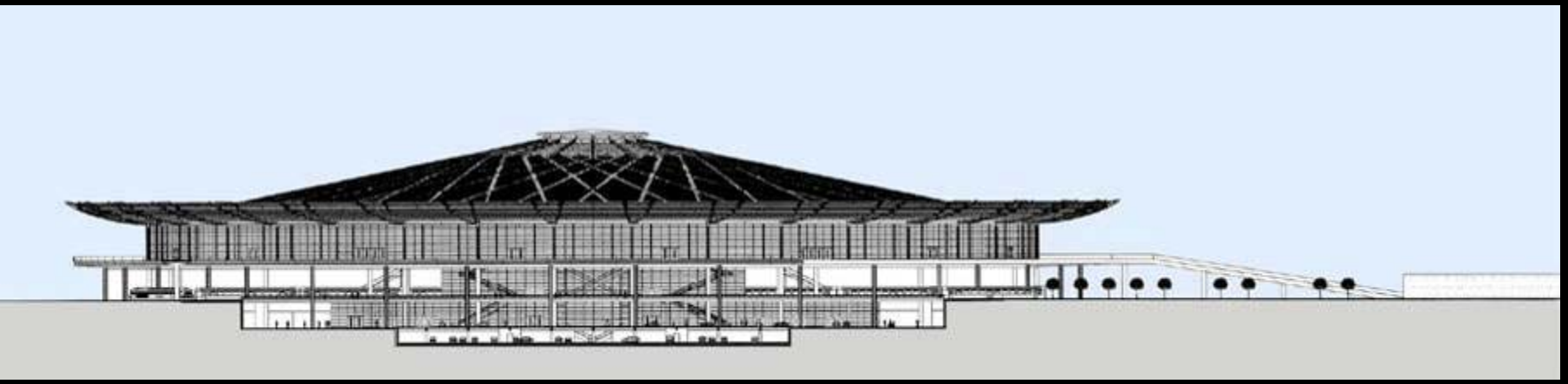
Station Design

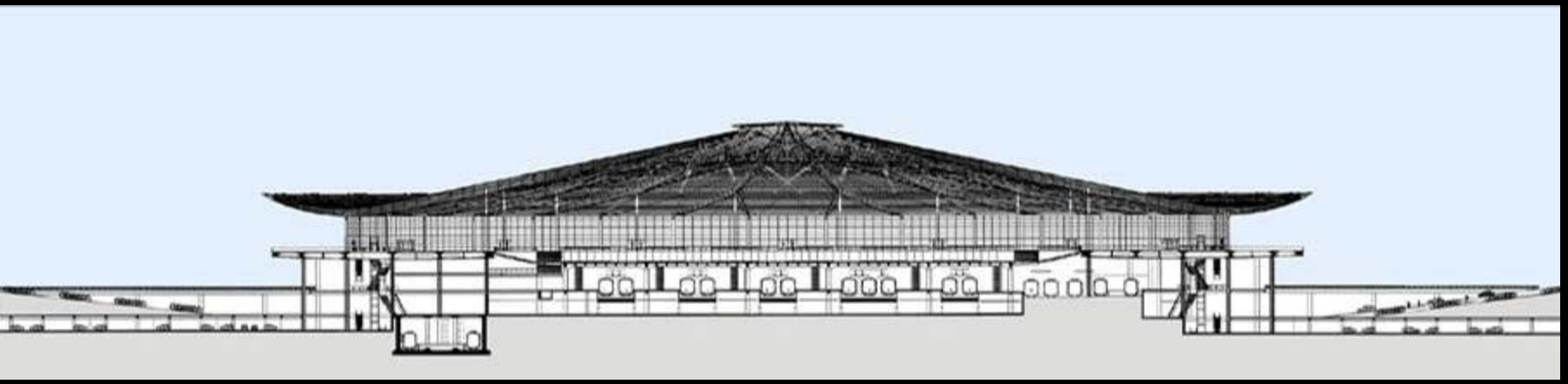
Welcoming passengers

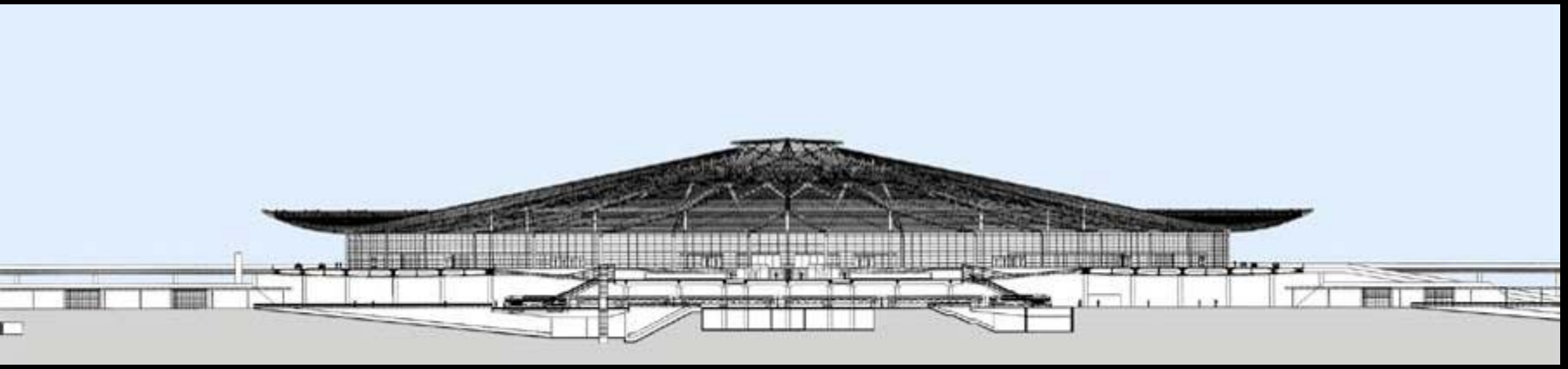
Shanghai South

Shanghai South Station, China









Shanghai South Station, China

Shanghai South Station, China

Shanghai South Station, China

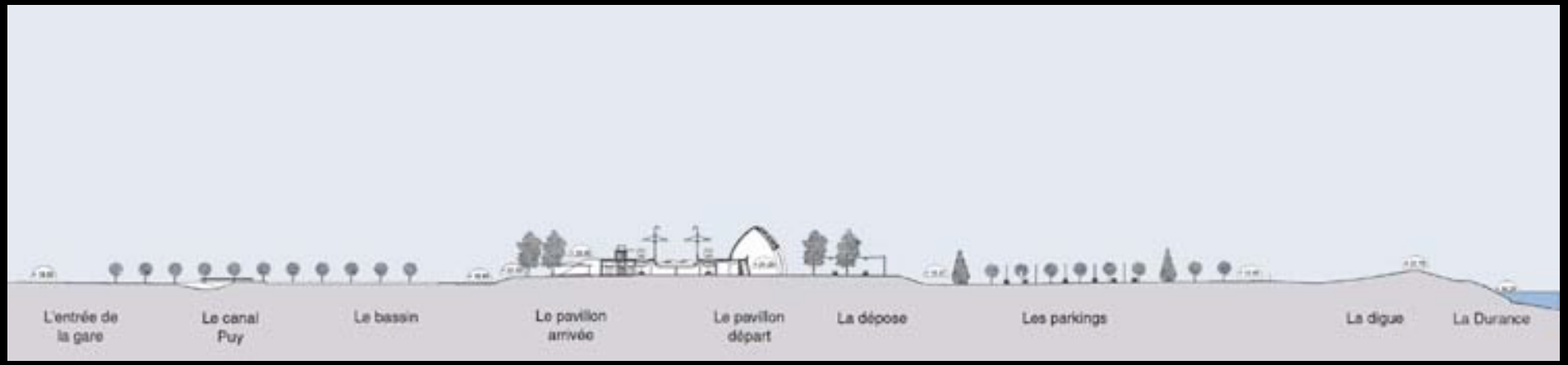
Shanghai South Station, China

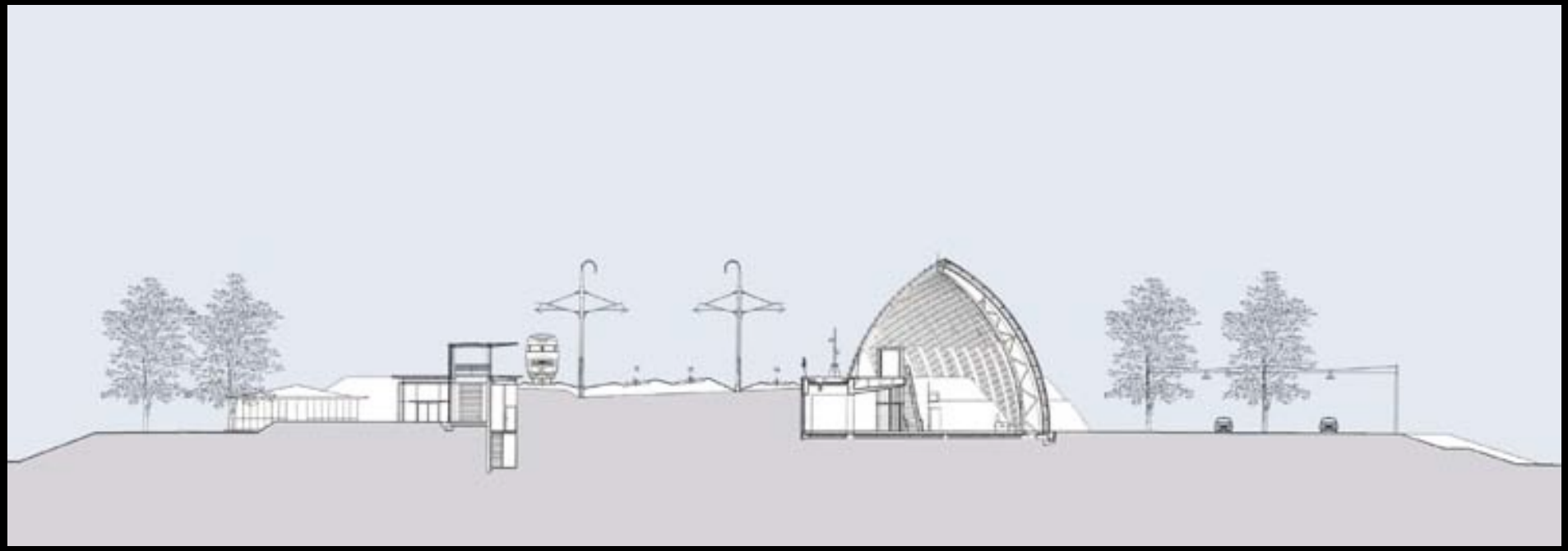

2

Avignon

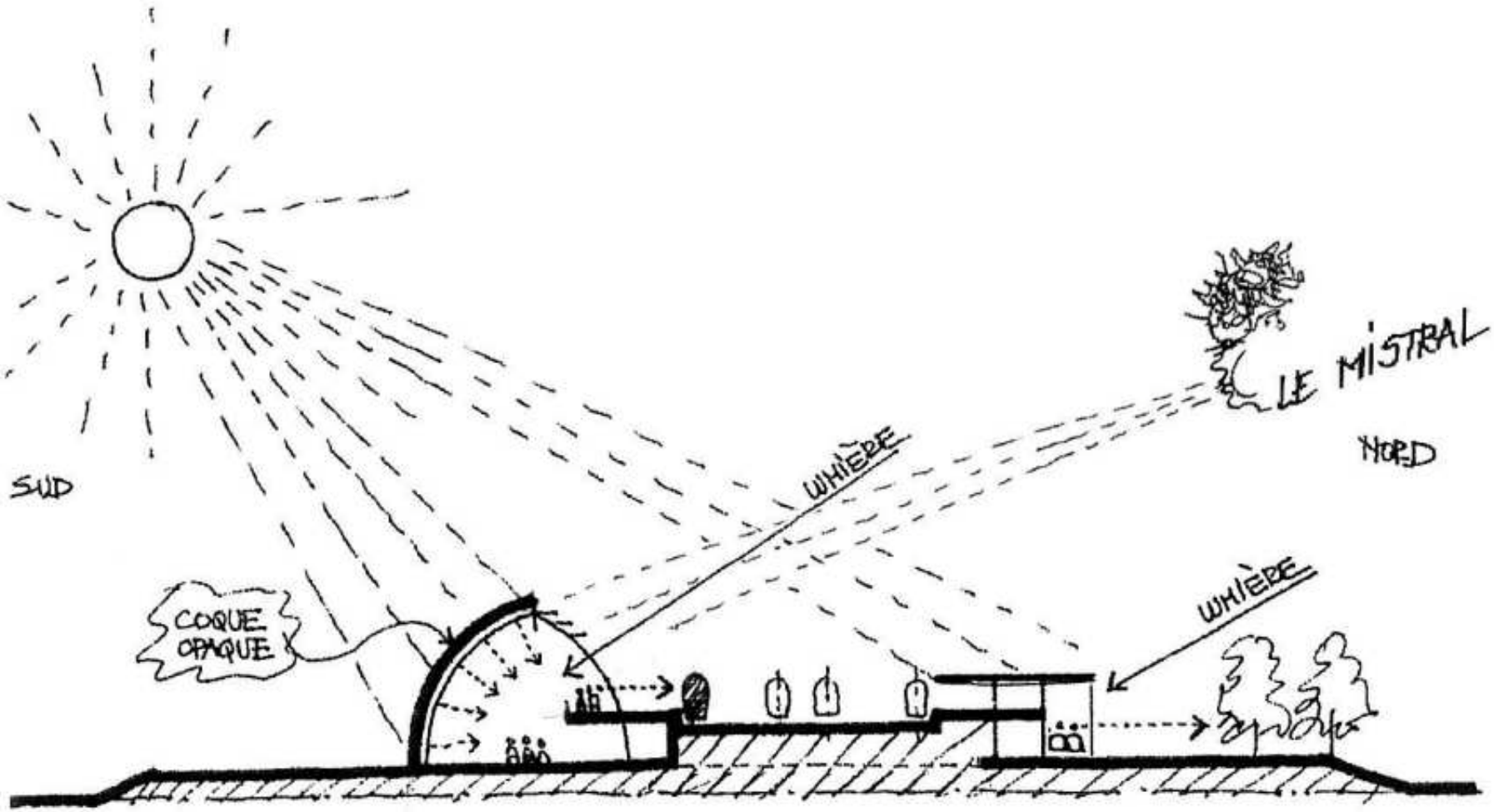
Avignon TGV station


Avignon HST, France





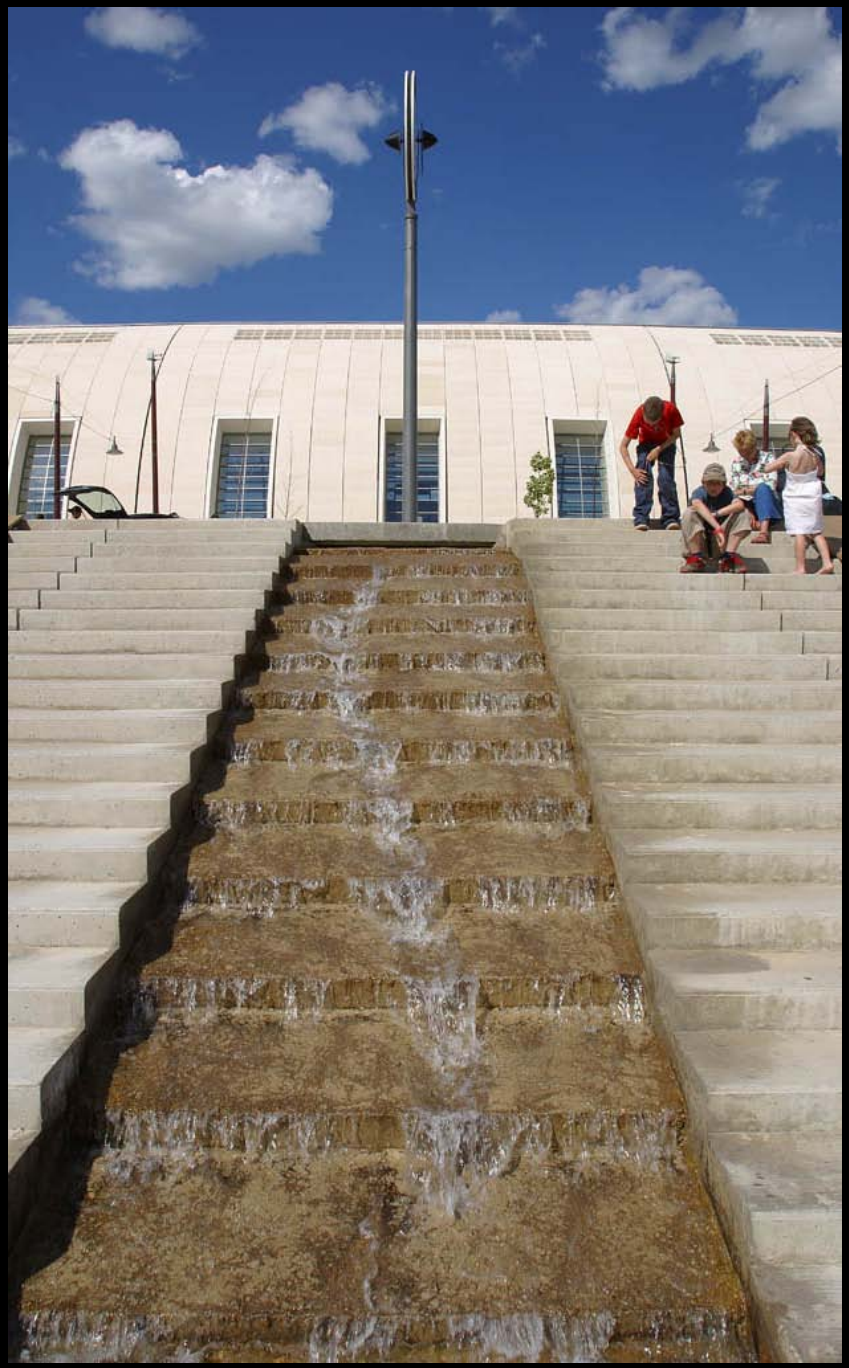
Avignon HST, France



Avignon TGV station

Avignon HST, France

Avignon TGV station



Avignon Courtine, France

Avignon TGV

Stade de France


Paris - St Denis RER B Grand Stade station

Paris - St Denis RER B Grand Stade station

Paris - St Denis RER B Grand Stade station

Paris - St Denis RER B Grand Stade station

Paris - St Denis RER B Grand Stade station

Paris - St Denis RER B Grand Stade station

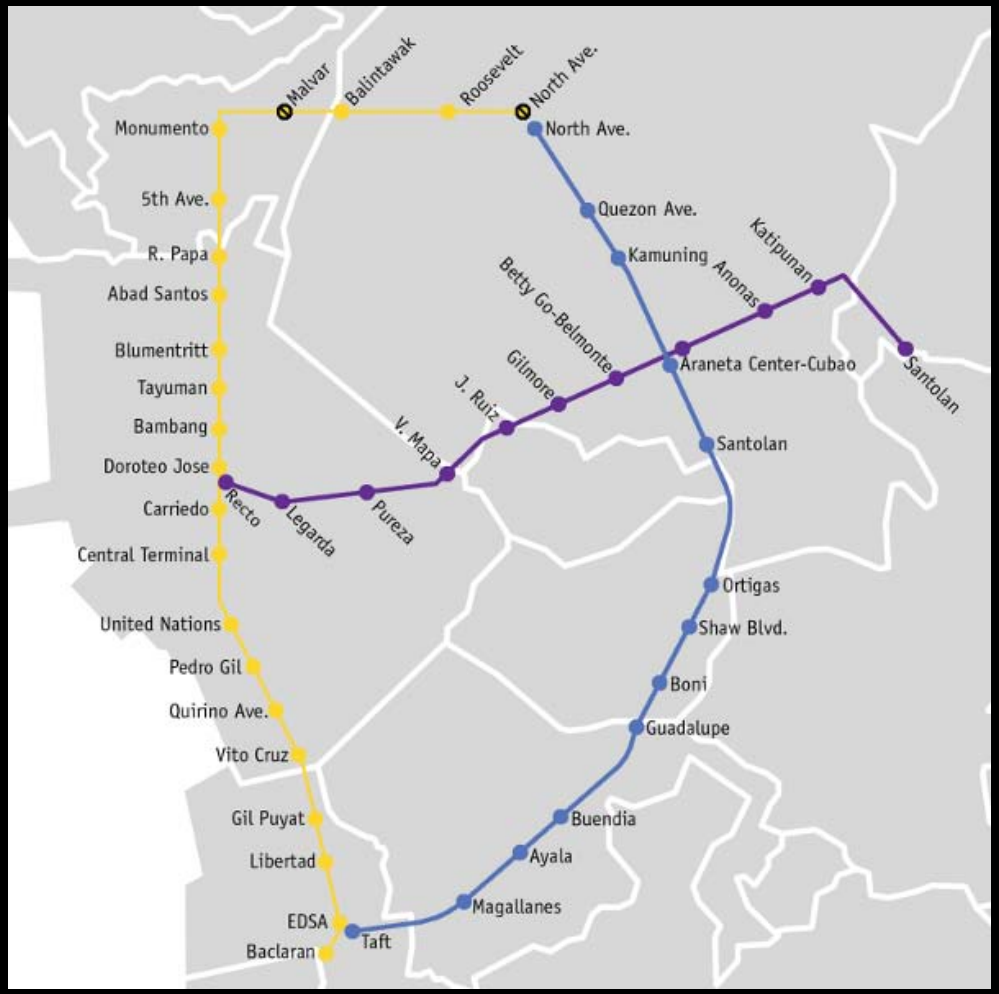
Station design

- →Stations are transports' shop window. They are the place were passengers feel welcome… or unwelcome.
- →Natural light
- →Understandable place "You would feel comfortable in a station, the moment you know how you'll get out of it"
- →Sustainability
- →Retail and facilities

Connexions

Why is it so important?

Metro trip in Manila



Access to the station

Nice train !

Nice trip (1)

First connection (1)

First connection (2)

First connection (3)

Queuing again (1)

Nice train ! (2)

Nice trip (2)

Second connection (1)

Second connection (2)

Second connection (3)

Second connection (4)

Second connection (5)

Second connection (6)

Queuing again (2)

Second connection (7)

This is were I was 15 minutes & 35 ° C ago !

Nice train (3)

The solution (1)

The solution (2)

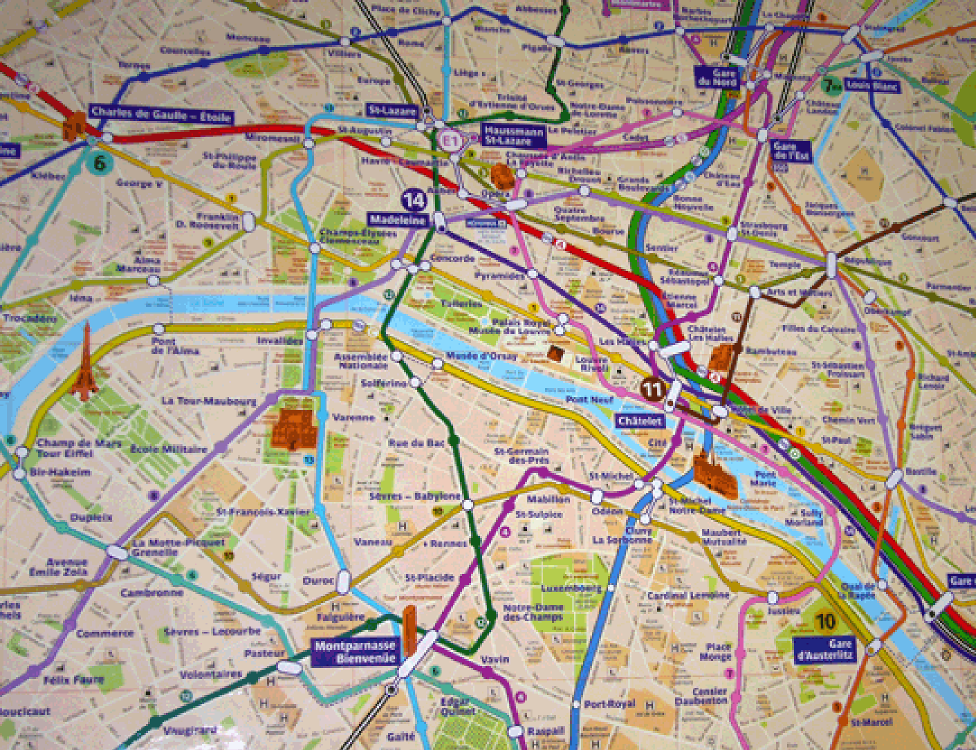
If it works…

GREATER PARIS

Improve international image

Sustainability

New economic attractiveness


Charles de Gaulle - Étoile
St-Lazare
Haussmann St-Lazare
Madeleine
Gare du Nord
Gare de l'Est
Louis Blanc
Concorde
Pyramides
Tuileries
Invalides
Châtelet
Cité
St-Michel
Odéon
Mabillon
St-Sulpice
Rennes
Vaneau
Duroc
Ségur
Cambronne
Commerce
Dupleix
Bir-Hakeim
La Tour-Maubourg
Varenne
Rue du Bac
Solférino
Assemblée Nationale
Musée d'Orsay
Pont Neuf
Luxembourg
Montparnasse Bienvenüe
Vavin
Raspail
Port-Royal
Gare d'Austerlitz
Jussieu
Cardinal Lemoine
Place Monge
Censier Daubenton
St-Marcel
République
Temple
Rambuteau
Bastille
St-Paul
Pont Marie
Sully Morland
Quai de la Rapée
Volontaires
Pasteur
Falguière
Vaugirard
Gaîté
Edgar Quinet
Iéna
Trocadéro
Alma Marceau
Franklin D. Roosevelt
George V
Kléber
Boissière
Sèvres - Babylone
Sèvres - Lecourbe
Félix Faure
Boucicaut
La Motte-Picquet Grenelle
Avenue Émile Zola
École Militaire
Champ de Mars Tour Eiffel

METROPOLITAIN


AFRADEM

CENTRAL PARIS

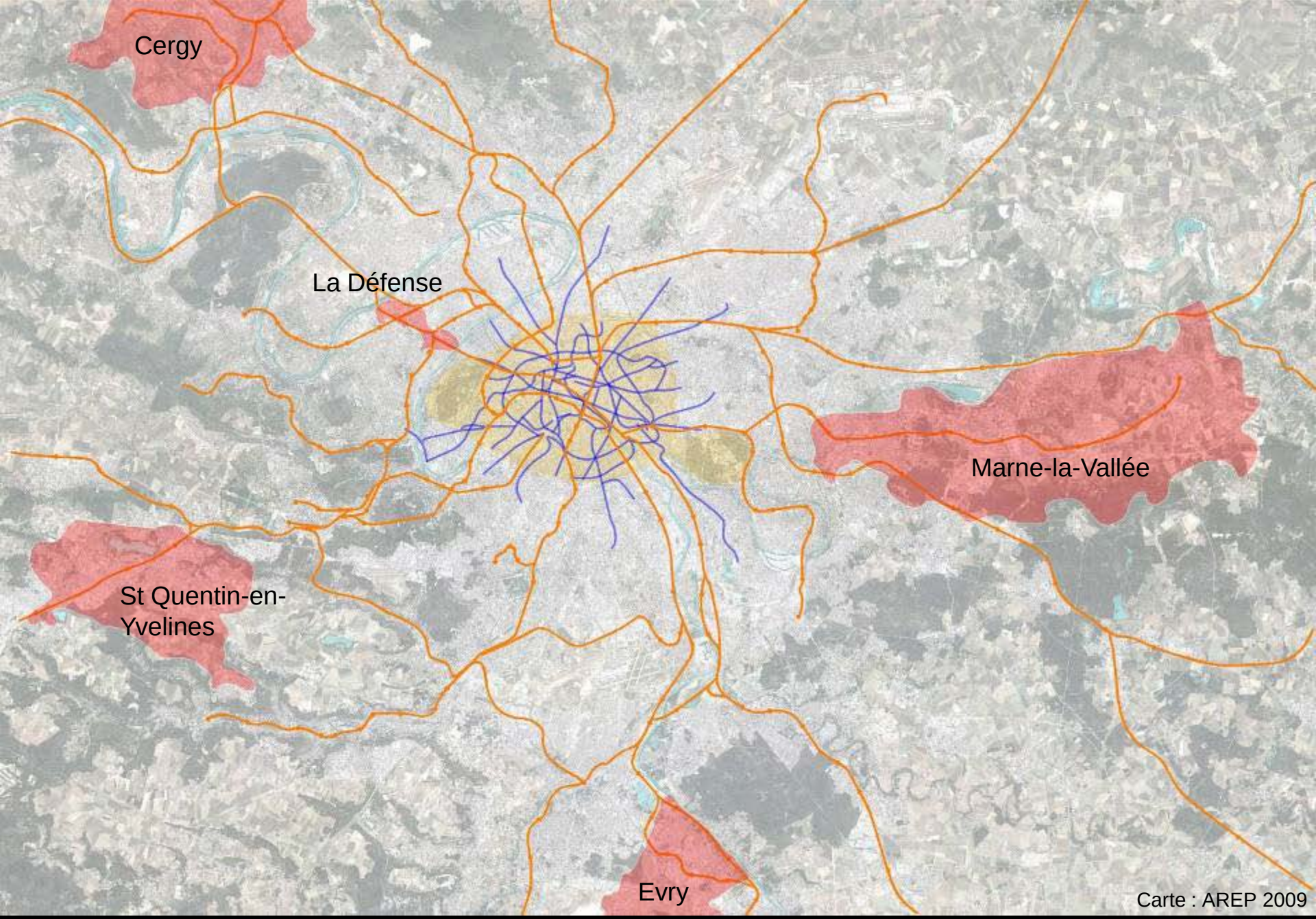
2 millions inhabitants - 100 km² - 20 000 hab./km²

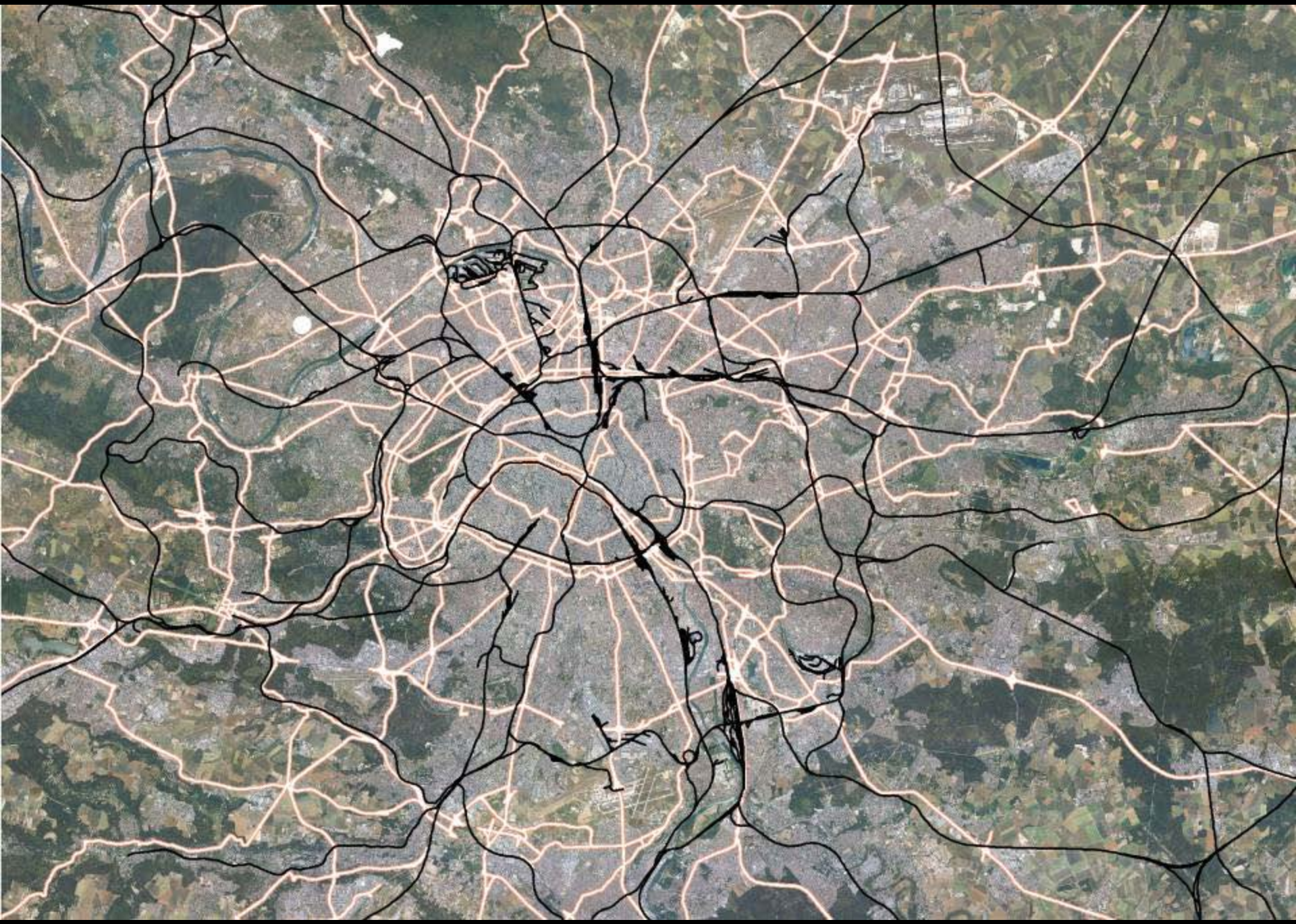
Mixed use, high efficiency and attractiveness

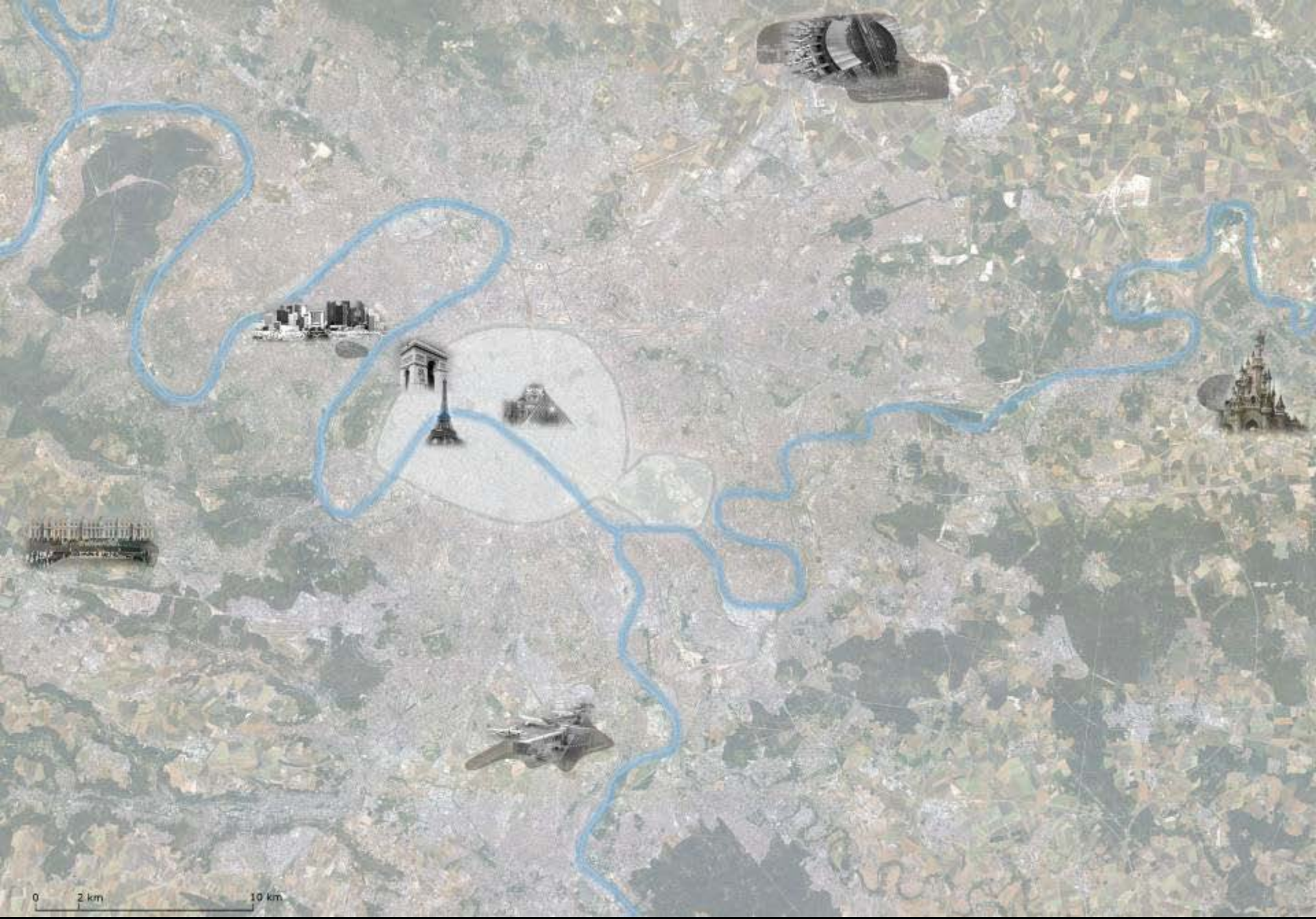
Metro: dense, efficient, underground

42% of households own a car

85% of employees of La Defense use public transport


Cergy
La Défense
Marne-la-Vallée
St Quentin-en-
Yvelines
Evry
Carte : AREP 2009





Grand Paris, Existing centers

GREATER PARIS

≈ 8-12 million inhabitants

Not very efficient public transport

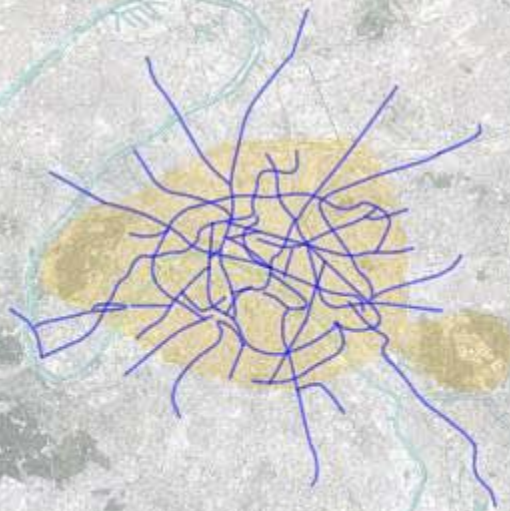
Mobility remains car oriented

Few places of metropolitan importance

Infrastructures cut the city into pieces

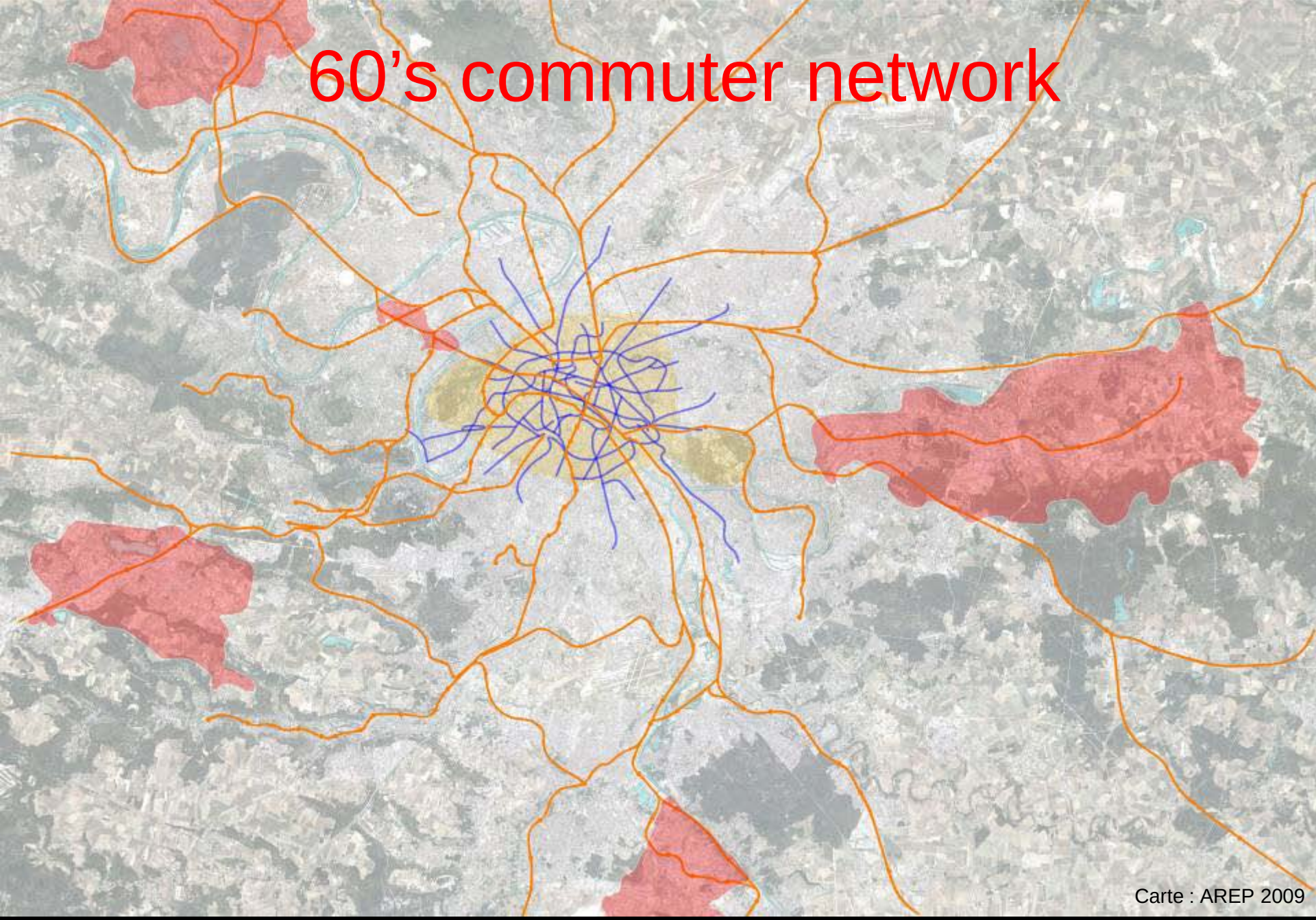
Low mixed use and social diversity

1900’s Paris’ dense Metro



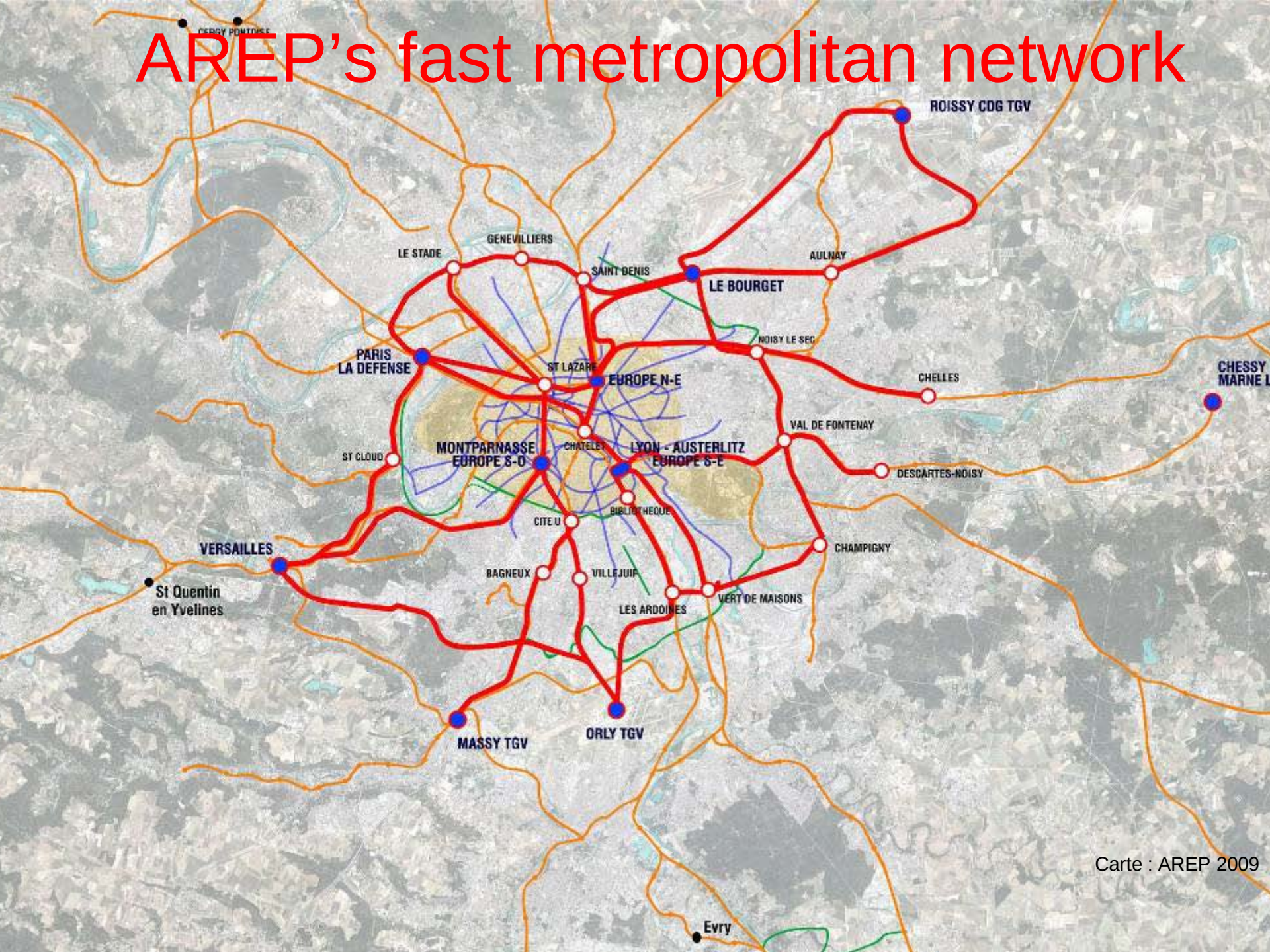
Carte : AREP 2009

60’s commuter network



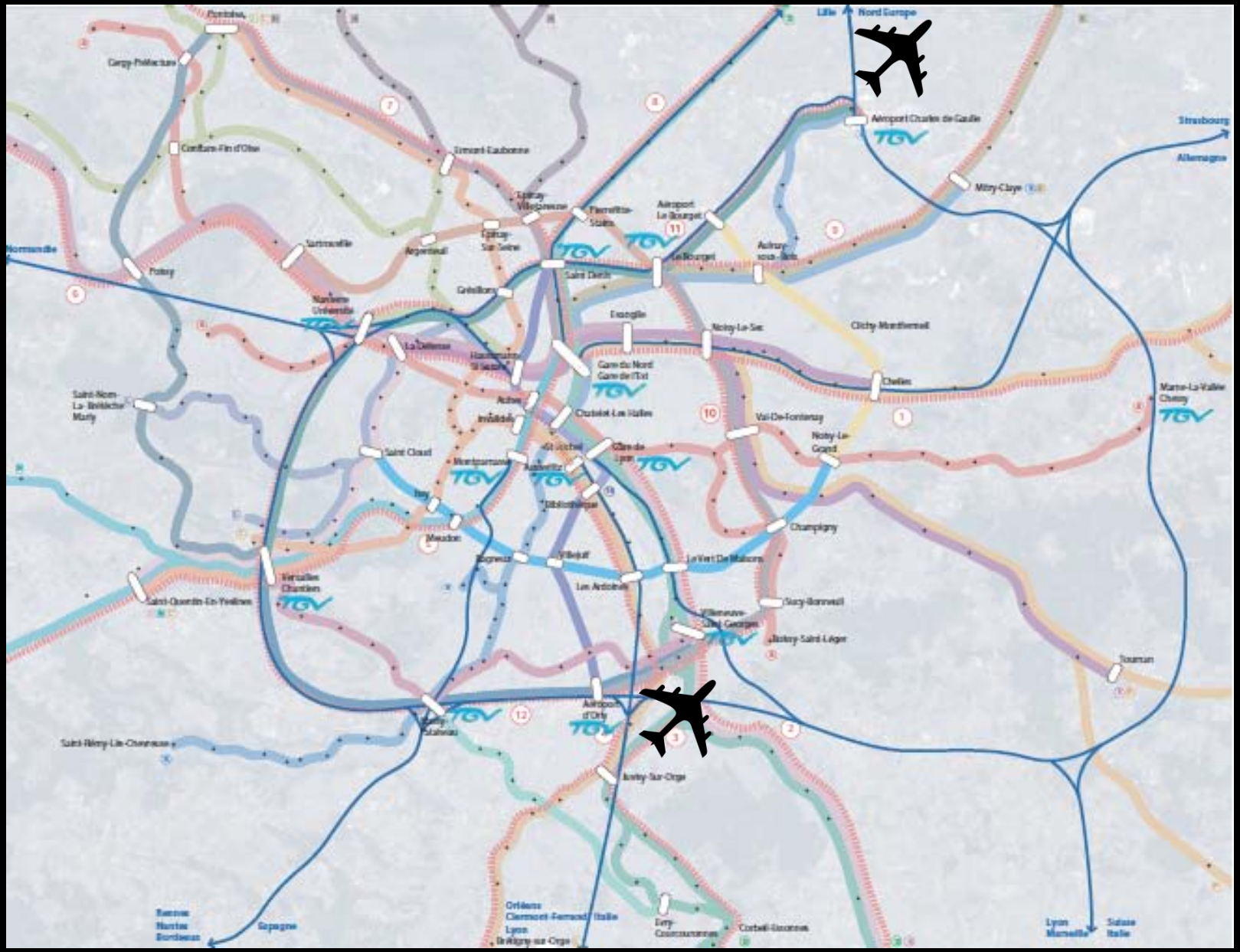
Carte : AREP 2009

AREP's fast metropolitan network



Carte : AREP 2009

Connected to high-speed train & airports



Hierarchy of speeds

Pedestrian : 6 km/h

Bike, bus : 12 km/h

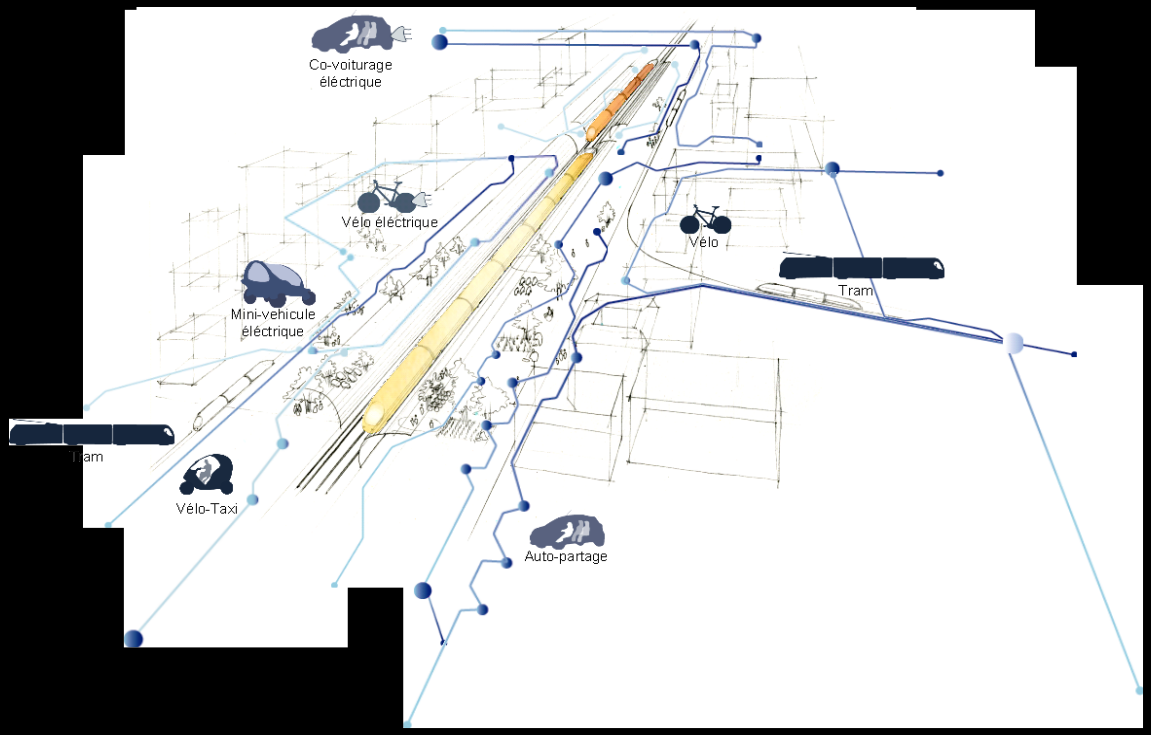
Metro, Tram, BRT : 25 km/h

Commuter : 50 km/h

Fast Metropolitan Network : 100 km/h

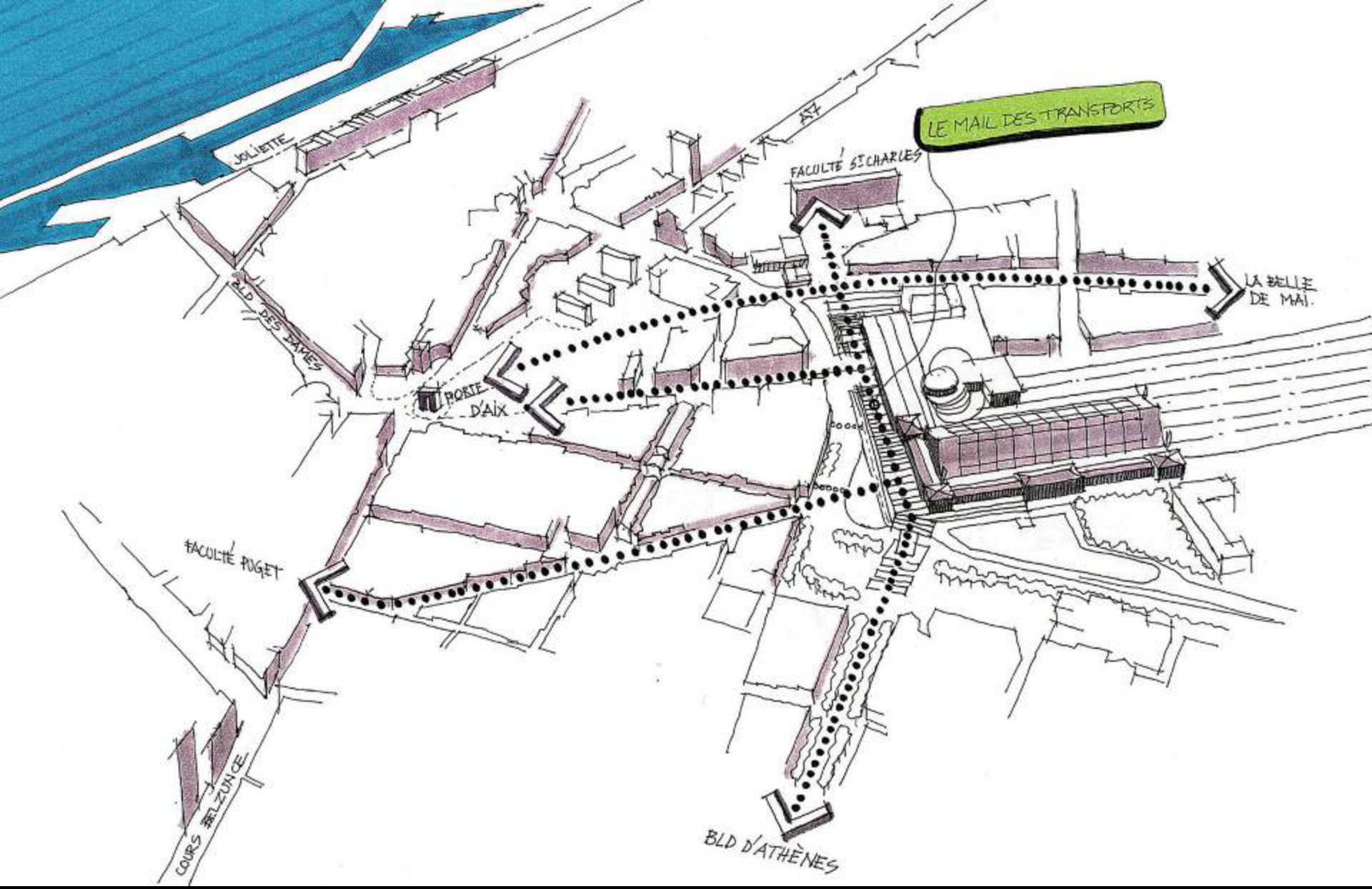
Connexions

How to make it work?

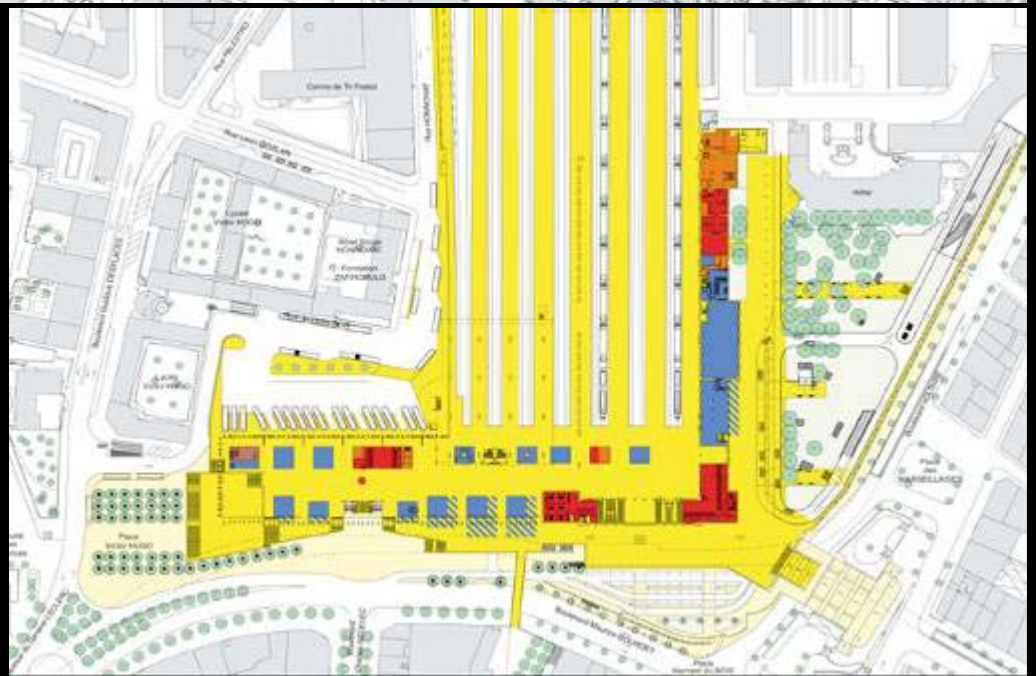


Marseille St-Charles Station

Marseille Saint Charles station



Marseille-St Charles station



Marseille St-Charles station

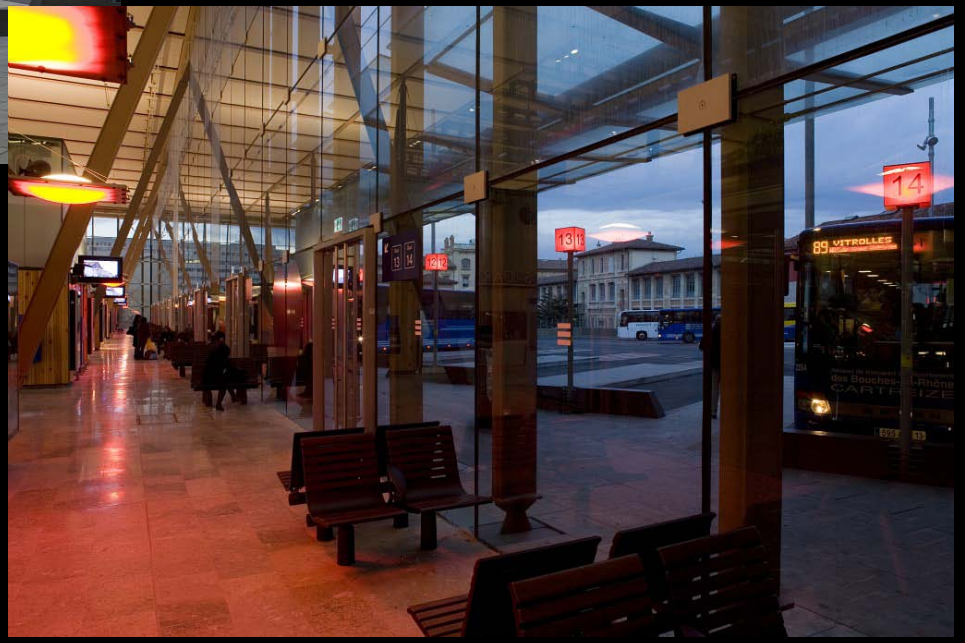
Marseille St-Charles station

Intermodal system in Marseille St-Charles Station

Intermodal system in Marseille St-Charles Station

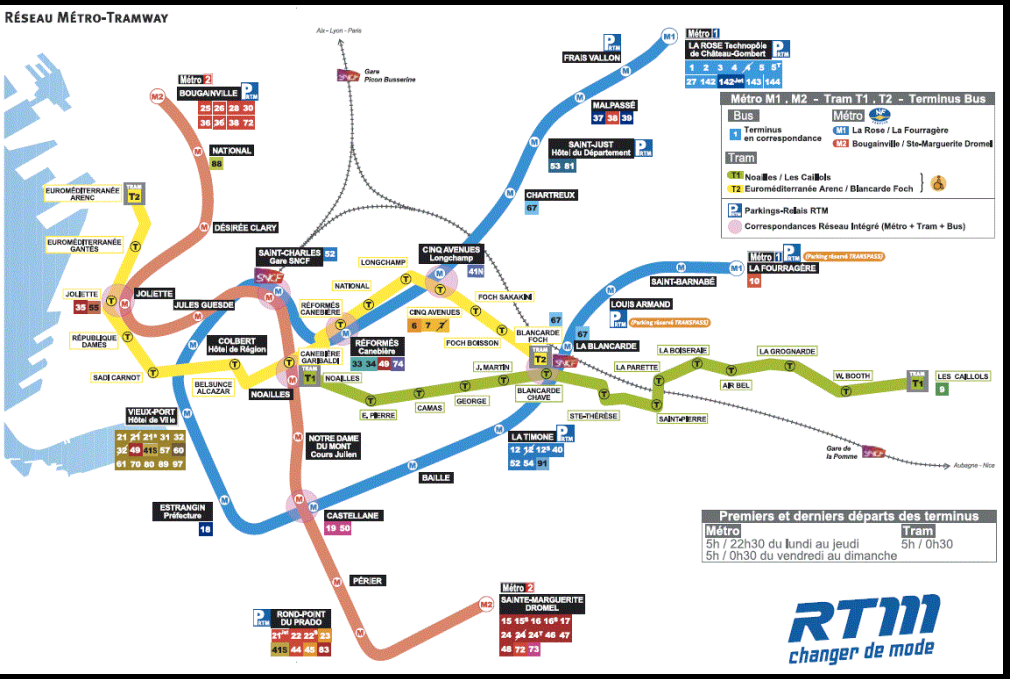
Marseille St-Charles station

TRAINS



BUSES

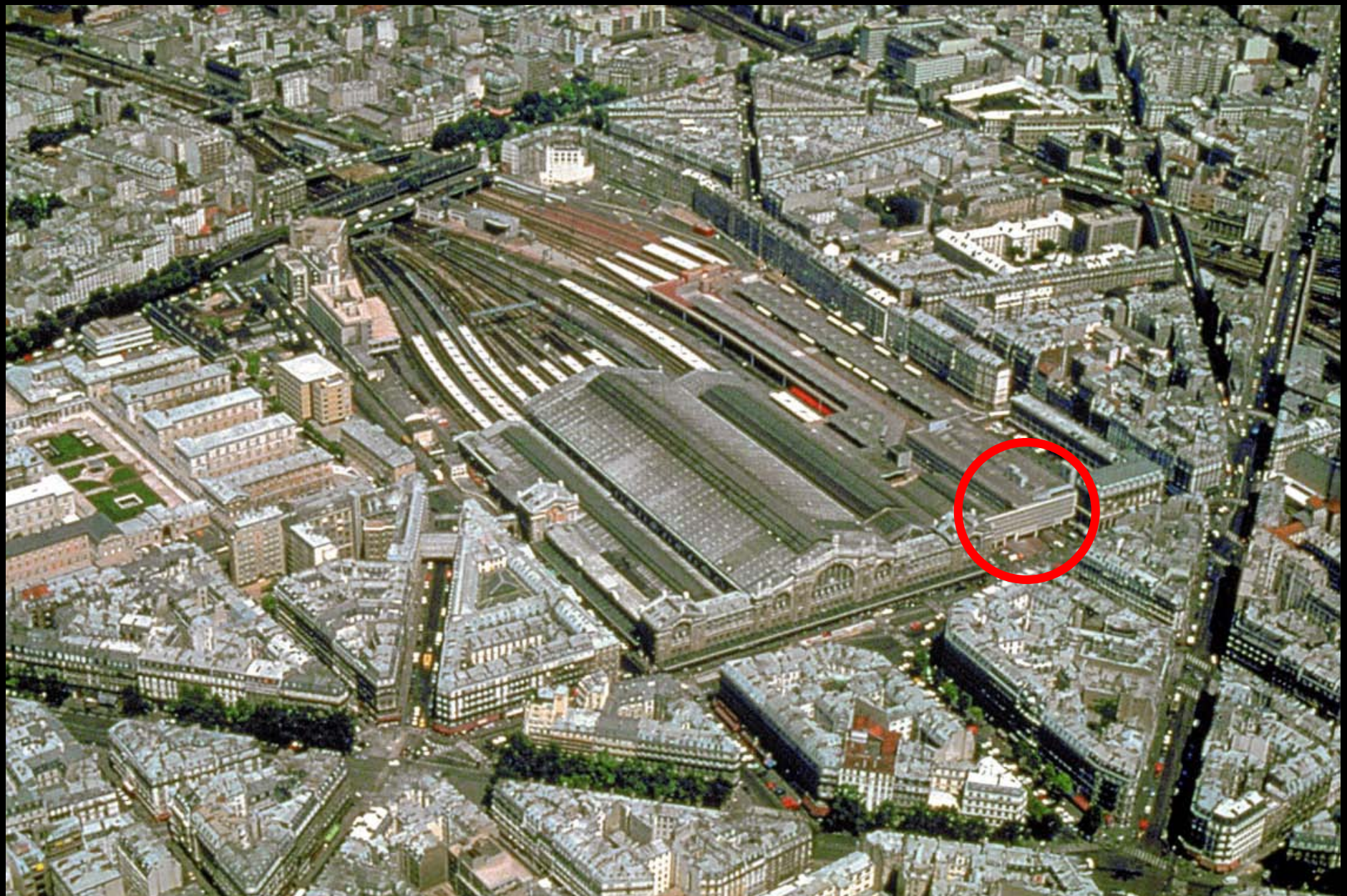
CARS


RÉSEAU MÉTRO-TRAMWAY
Métro 1
LA ROSE Technopôle de Château-Gombert
Métro M1 . M2 - Tram T1 . T2 - Terminus Bus
Bus
Terminus en correspondance
Métro
La Rose / La Fourragère
Bougainville / Ste-Marguerite Dromel
Tram
Noailles / Les Caillols
Euroméditerranée Arenc / Blancarde Foch
Parkings-Relais RTM
Correspondances Réseau Intégré (Métro + Tram + Bus)
FRAIS VALLON
MALPASSÉ
SAINT-JUST Hôtel du Département
CHARTREUX
CINQ AVENUES Longchamp
SAINT-CHARLES Gare SNCF
LONGCHAMP
NATIONAL
FOCH SAKAKINI
FOCH BOISSON
BLANCARDE FOCH
LOUIS ARMAND
SAINT-BARNABÉ
LA FOURRAGÈRE
LA BLANCARDE
LA BOISERAIE
LA GROGNARDE
LA PARETTE
AIX BEL
W. BOOTH
LES CAILLOLS
SAINTE-THÉRÈSE
BLANCARDE CHAVE
CAMAS
GEORGE
E. PIERRE
J. MARTIN
CANEBIÈRE GARIBALDI
RÉFORMÉS Canebière
RÉFORMÉS CANEBIÈRE
NOAILLES
BELSUNCE ALCAZAR
SADI CARNOT
RÉPUBLIQUE DAMES
COLBERT Hôtel de Région
JULES GUESDE
JOLIETTE
EUROMÉDITERRANÉE GANTES
EUROMÉDITERRANÉE ARENC
DÉSIRÉE CLARY
BOUGAINVILLE
NATIONAL
VIEUX-PORT Hôtel de Vil le
NOTRE DAME DU MONT Cours Julien
BAILLE
LA TIMONE
CASTELLANE
ESTRANGIN Préfecture
PÉRIER
ROND-POINT DU PRADO
SAINTE-MARGUERITE DROMEL
Gare de la Pomme
Aubagne - Nice
Aix - Lyon - Paris
Gare Pôle Busserine
Premiers et derniers départs des terminus
Métro
5h / 22h30 du lundi au jeudi
5h / 0h30 du vendredi au dimanche
Tram
5h / 0h30
RTM
changer de mode

METRO

PEDESTRIANS

Paris Nord

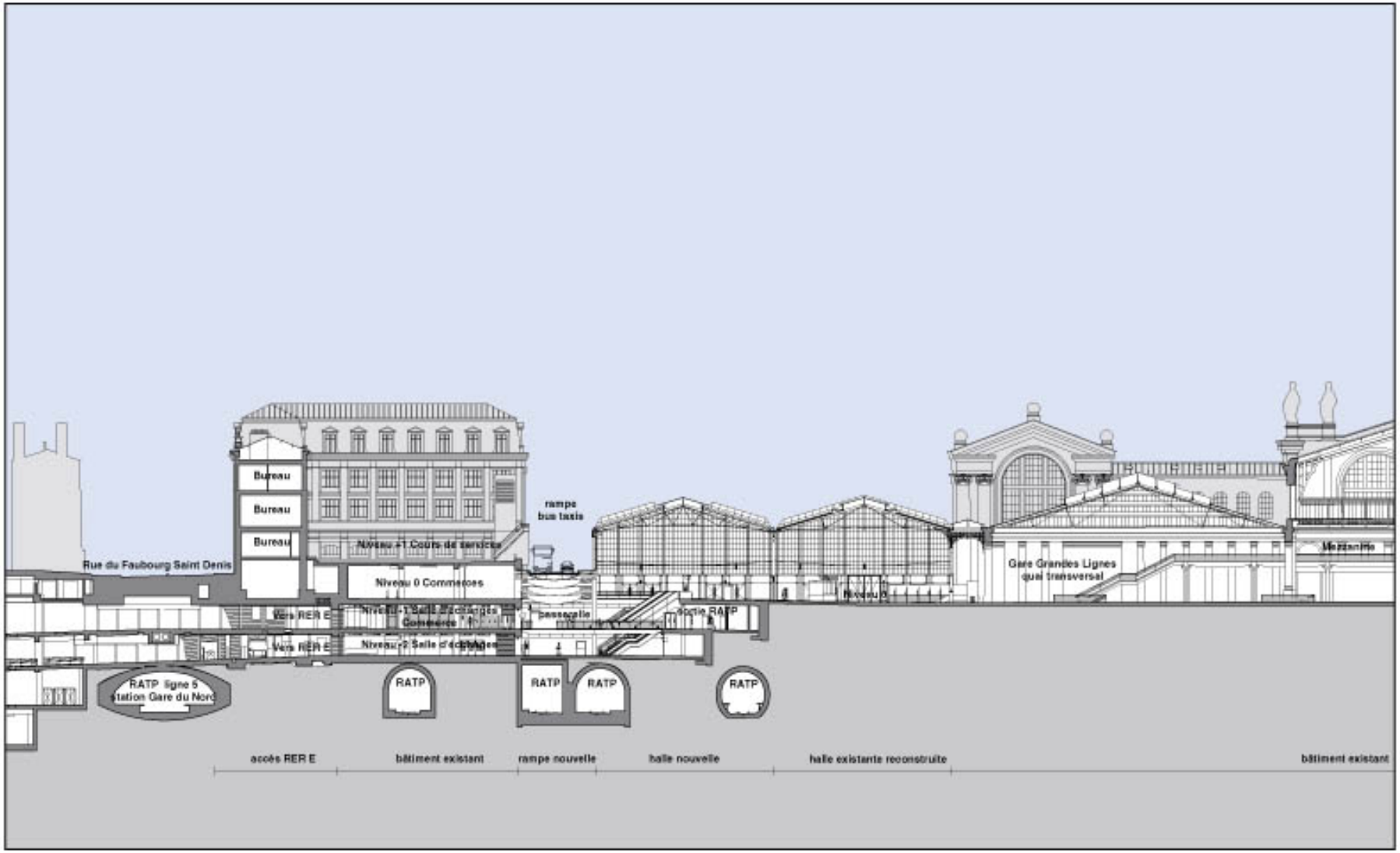


Paris-Nord station
Suburban interchange

Paris North Train Station, France

Paris North Train Station, France

Paris North Train Station, France



0 10 20 50 100

Coupe est-ouest
Paris Gare du Nord - Pôle d'échanges

Paris North Train Station, France

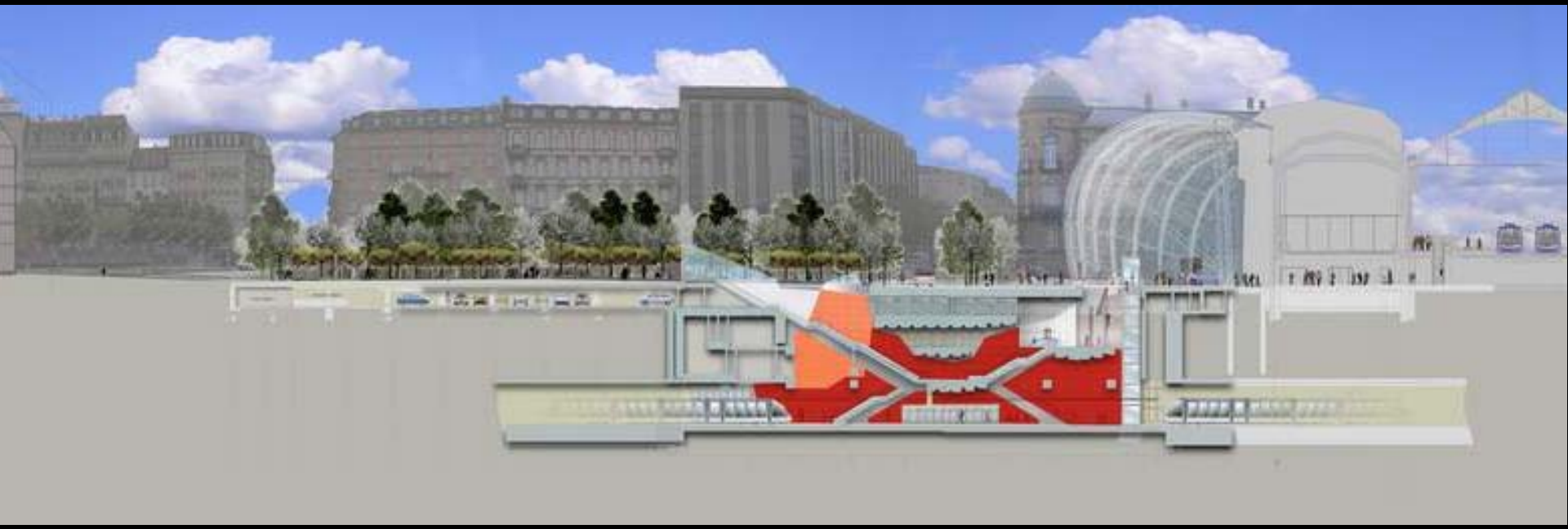
Paris North Train Station, France

Paris-Haussmann Saint Lazare RER E station

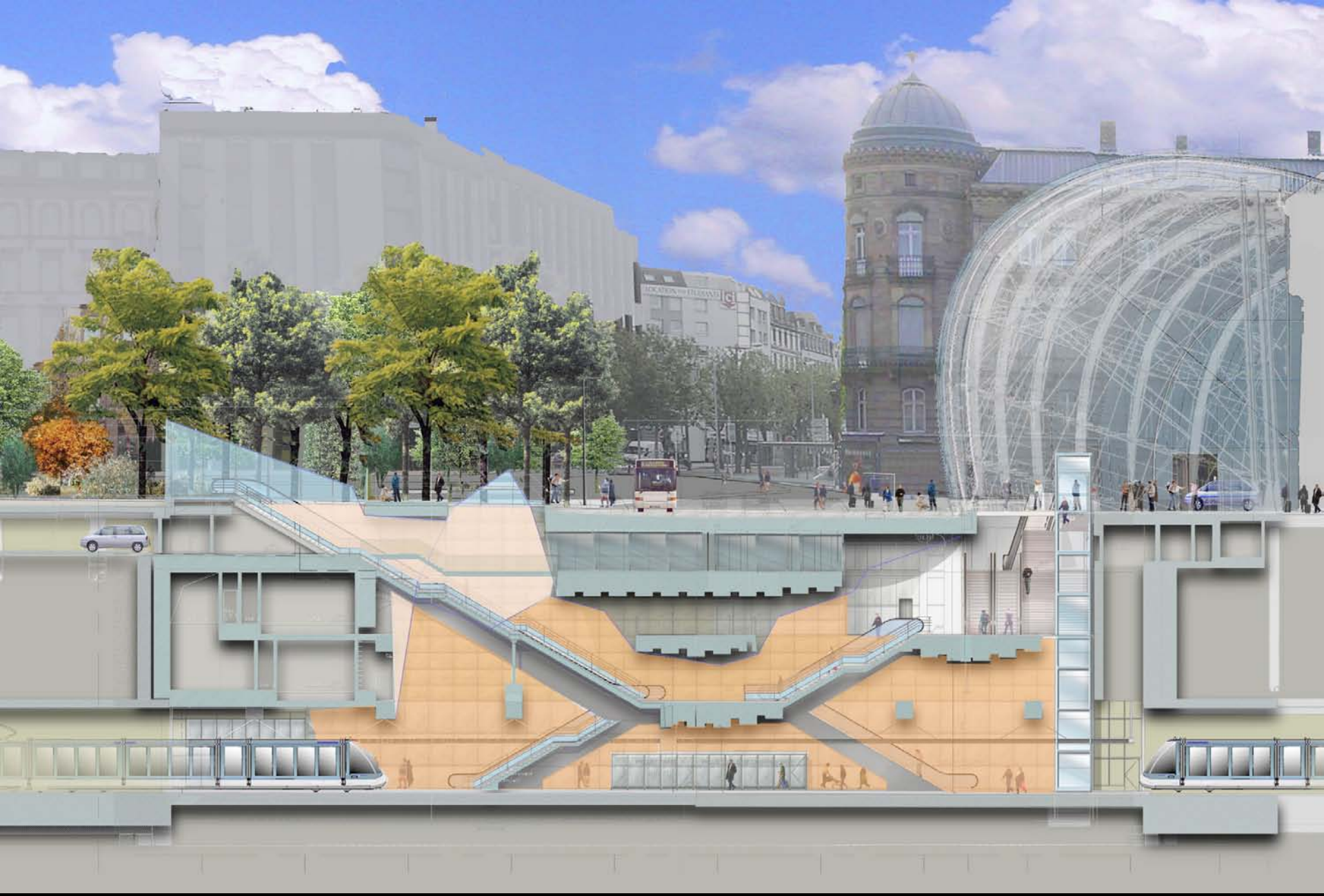
Paris Magenta Station, France

STRASBOURG

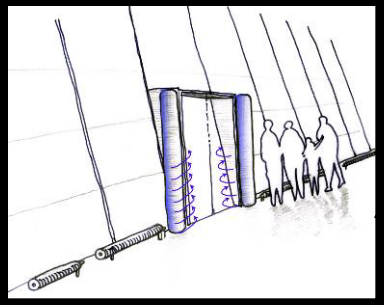
Strasbourg TGV, France

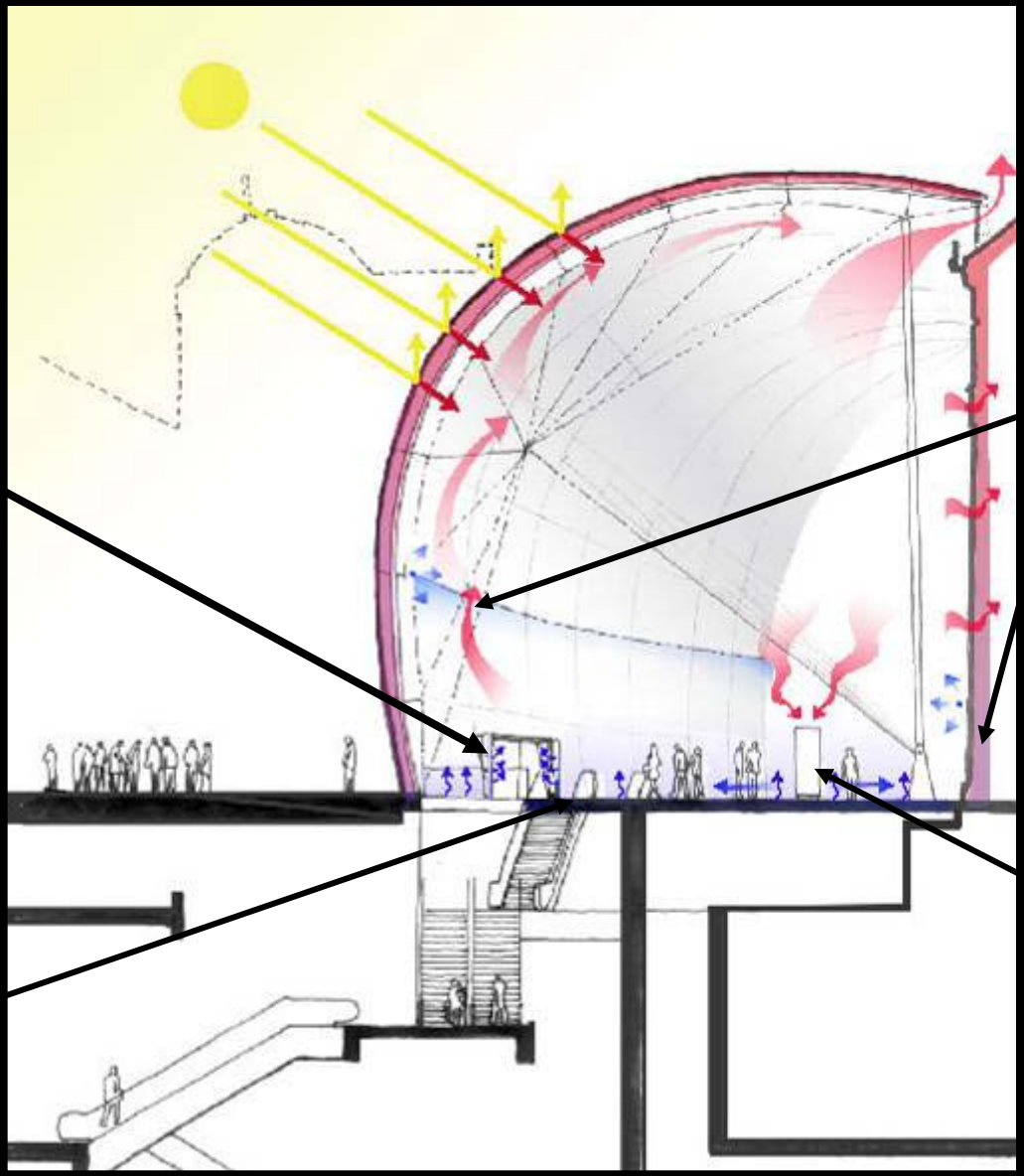


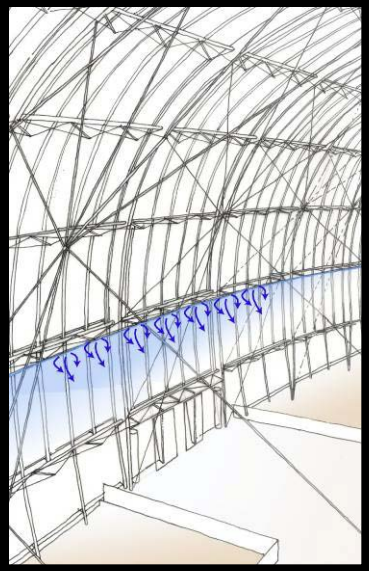
Strasbourg TGV, France

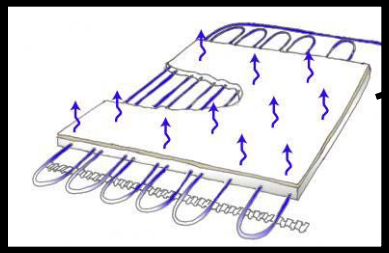


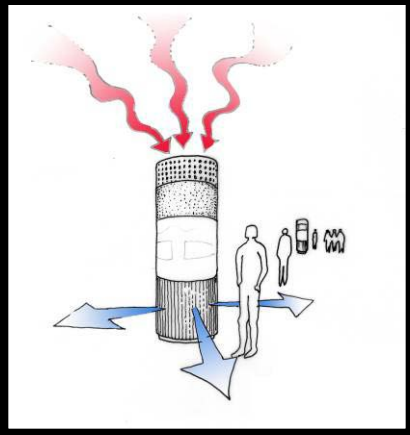
Strasbourg station











Strasbourg TGV, France

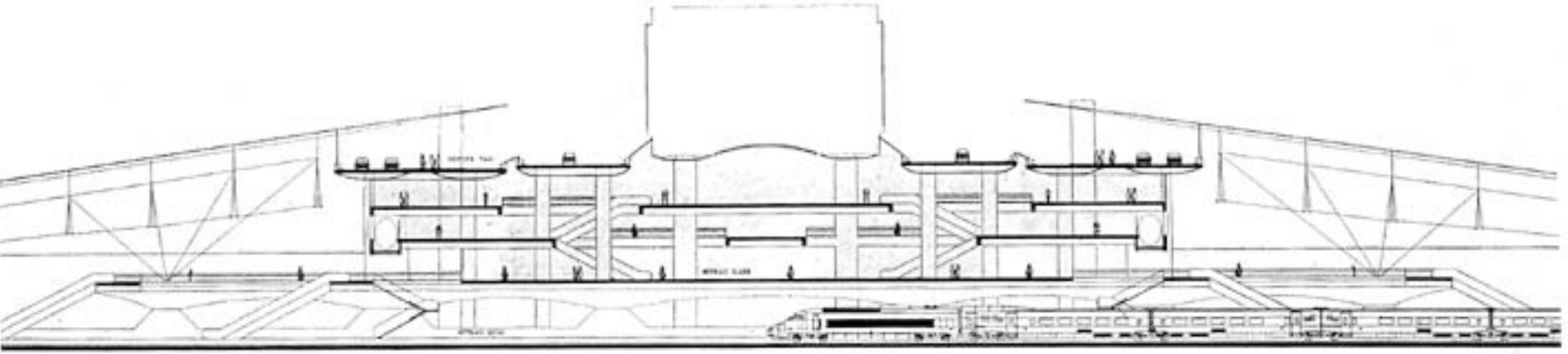
Strasbourg station

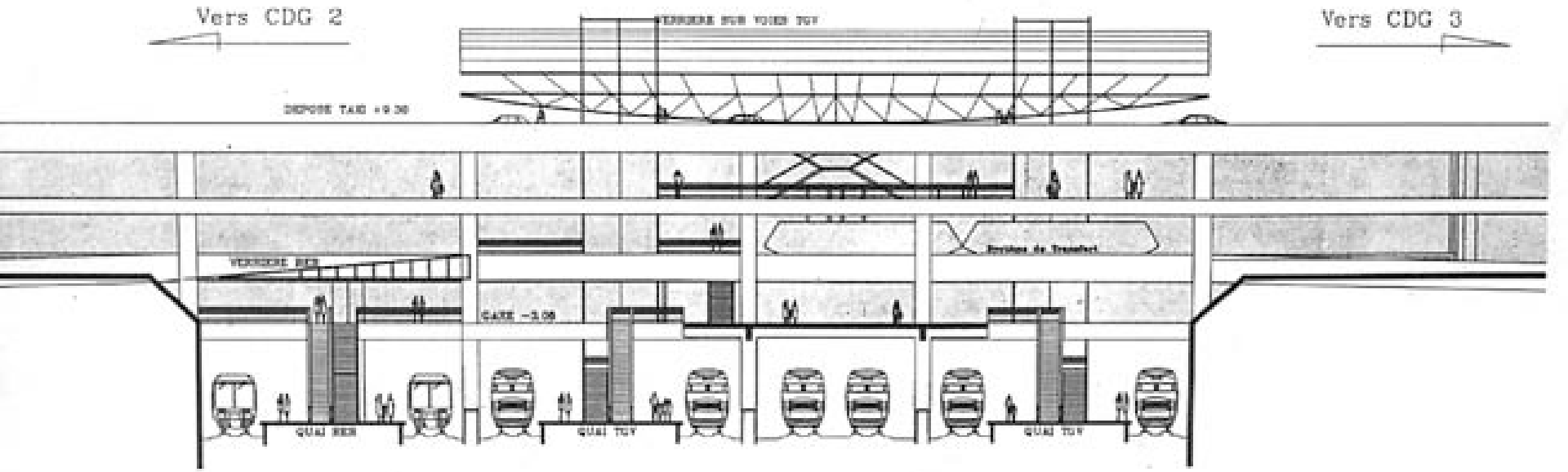

Strasbourg TGV, France

Strasbourg station

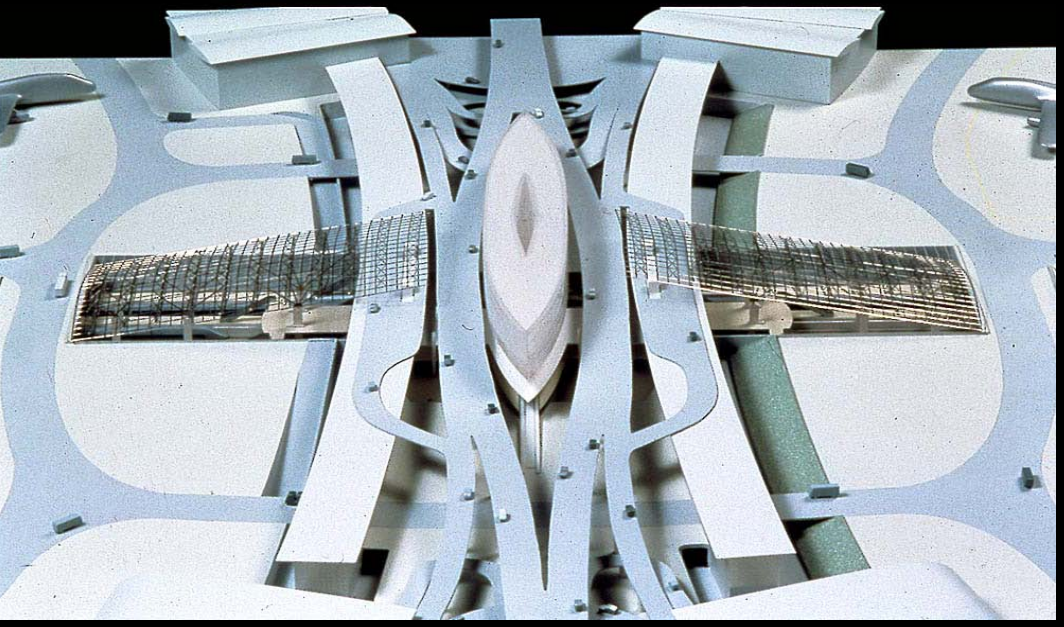
Roissy Charles de Gaulle

Paris Charles-de-Gaulle airport station





Paris Charles-de-Gaulle airport station



Paris Charles-de-Gaulle airport station

Paris Charles-de-Gaulle airport station

Le Mans

AREP Groupe


AREP Groupe
LA FLECHE


AREP Groupe

AREP Groupe

Operating stations

Efficient connections

Pedestrians first

Bicycle not farther than 100 meters

Public transports: 5 minutes from the platform

Taxi made easy

2-wheeled vehicles area

Easy drop-off

Car-park availability 24/7

Public transports

- Short distance
- Coordination of schedules & rhythms (cadencement)
- Information (signposting & real time)
- Tariff integration
- Ticketing

Taxis & personal vehicles

- Dedicated drop-off areas
- Development of services in car parks (Valet service Drop & Go, …)
- Renewal of the taxi offer, of car rentals, and offering Moto-taxi and Bike-taxi services

Welcoming non-motorized modes

- Think tanks with city authorities in order to ensure pedestrian flows
- Pedestrian-only forecourt in order to ensure their security
- Development of bicycle use

STATIC INFORMATION

Unified ticket & information desk for railway and local public transportation

3 information materials:

– paper sheets,

– touch-sensitive information screens,

– internet monitors

REAL-TIME INFORMATION

In the station

Interchange information display screens in the station

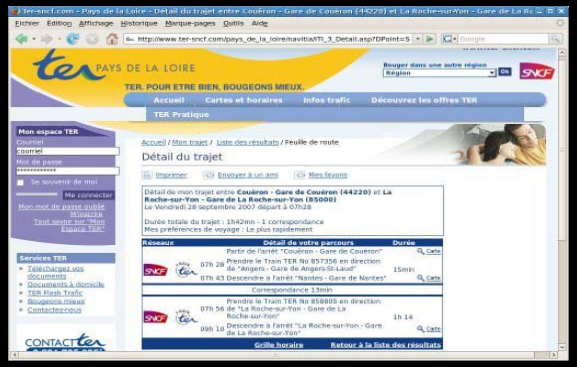
In the transport modes

More and more often, there are screens within public transport vehicles, enabling passengers to anticipate on their connection

MOBILE INFORMATION

Appli SNCF Direct

www.gares-connexions.com
www.infolignes.com
www.ter-sncf.com



www.sncfmobi.com

Coordinated tariffs & ticketing

Interchange and multimodal fare coordination is made easier thanks to new technologies : contactless ticketing

Coordinated tariffs & ticketing

NFC (Near Field Communication) technologies

Mobile phone

Contactless chip card

Mobile phone with NFC technology

Transit Oriented Development

Stations as part of the city

1/ Flows of people are opportunities for shopping malls in stations.

Paris-Est station

Paris-Est station

Paris-Est station

Paris-Est station

Paris-Est station

Paris-Est station

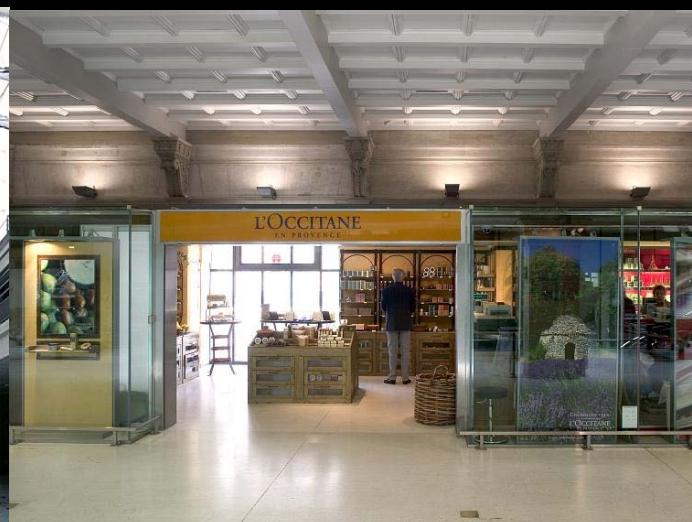
1/ Flows of people, are opportunities for shopping malls in station

2/ A part of this money should pay for the station.

Who pays for the station ?

- Transport companies
  - Station management, information,…
  - Regulated price by train (variable part depending on the size of the train)
- Concessionary companies
  - More than 50% in Gare du Nord





1/ Flows of people, are opportunities for shopping malls in stations.

2/ A part of this money should pay for the station.

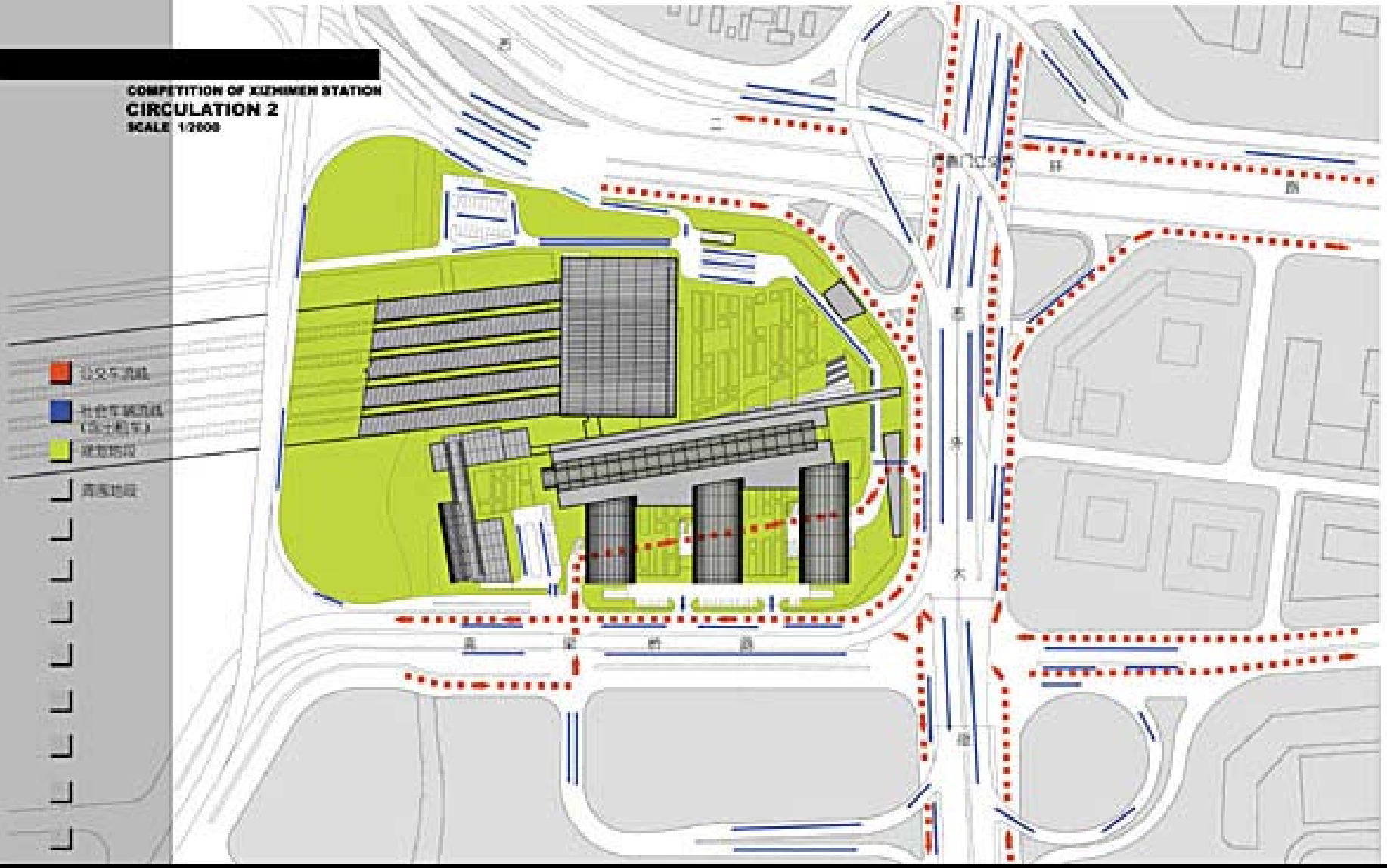
3/ Around (or above) stations, there are opportunities for urban development.

Xi Zhi Men Transport hub, business and commercial Center – Beijing, China

COMPETITION OF XIZHIMEN STATION

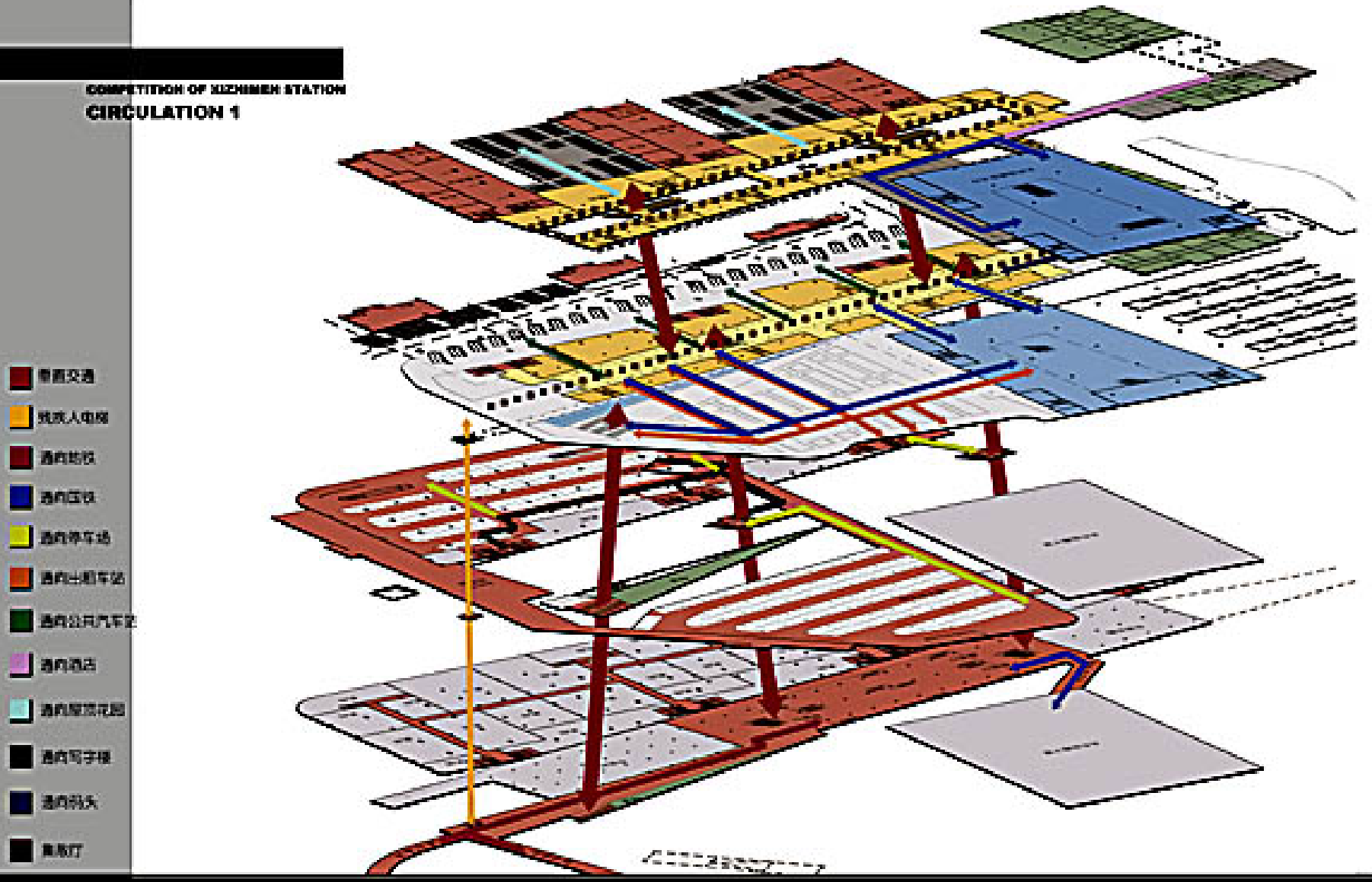
CIRCULATION 2

SCALE 1/2000



COMPETITION OF XICHIMEN STATION

CIRCULATION 1



Xi Zhi Men Transport hub, business and commercial Center – Beijing, China

Xi Zhi Men Transport hub, business and commercial Center – Beijing, China

Lille Europe - TGV, France

Lille Europe - TGV, France

1/ Flows of people, are opportunities for shopping malls in stations.

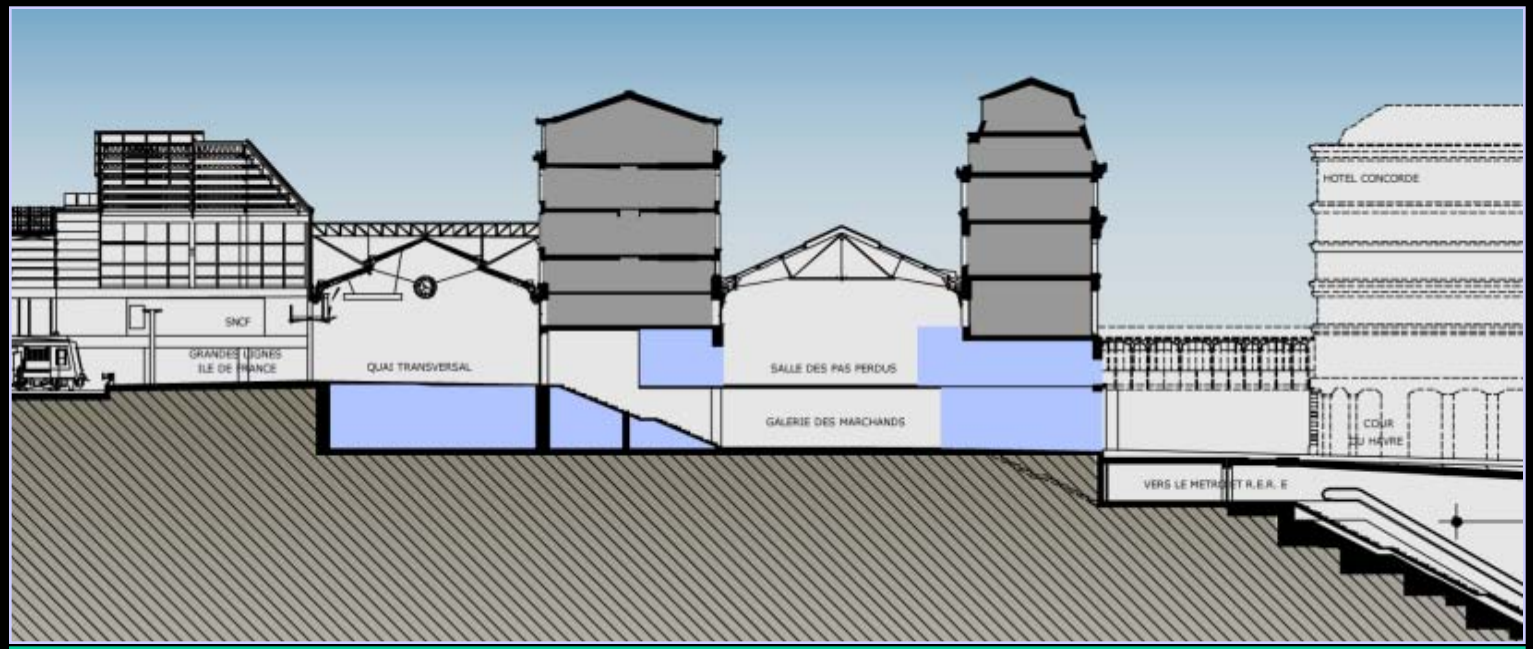
2/ A part of this money should pay for the station.

3/ Around (or above) stations, there are opportunities for urban development.

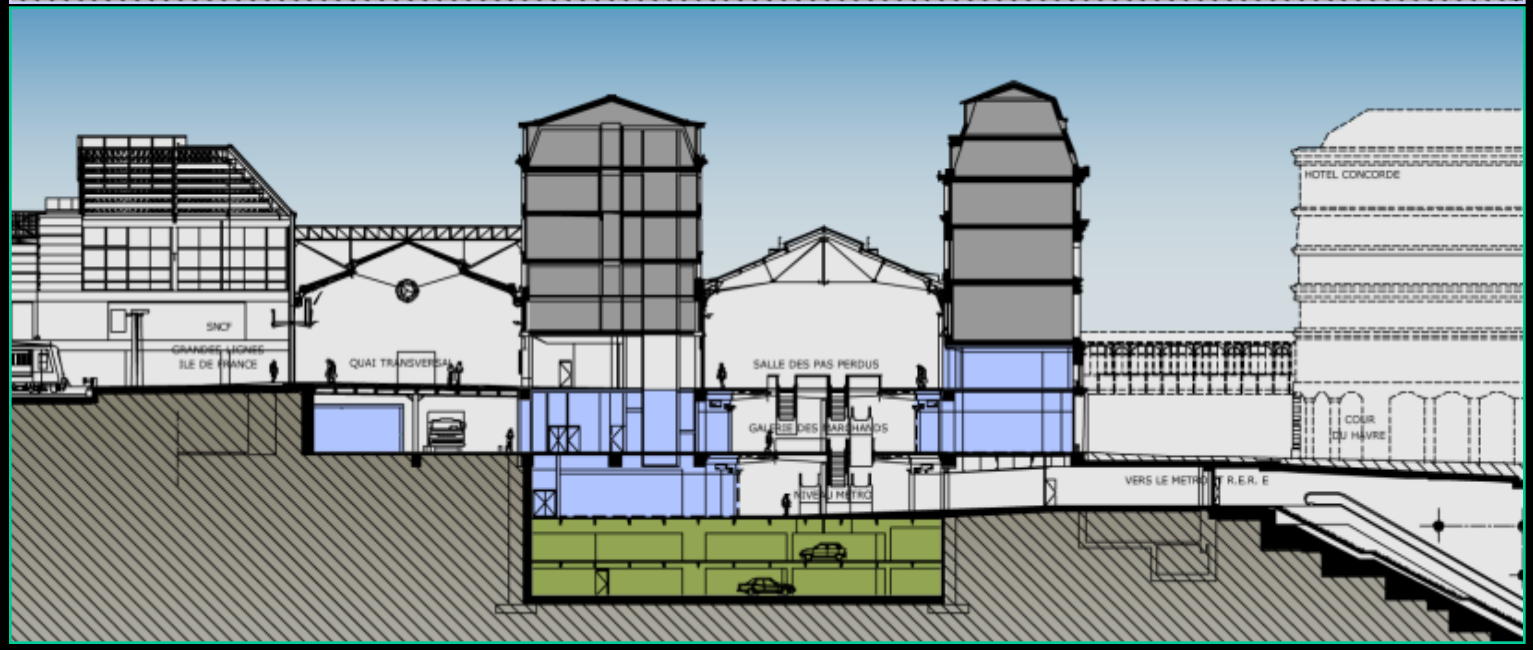
4/ This makes public private partnerships possible.

Paris-Saint Lazare station – Commercial development

EXISTING



PROJECT



Gare Saint Lazare – restructuration : étude

PPP contractual arrangement

PROJECT CONSTRUCTION COST

→ 25% paid by SNCF

→ 75% paid by PRIVATE DEVELOPPER

For 35 years, the private developer will pay

→ a fixed limited rent to SNCF

→ a fixed % of retails revenue to SNCF

The project will be returned to SNCF after 35 years

MUMBAI – Victoria Terminus

View 1 - Existing and proposed remain unchanged


MULTI MODAL HUB
CITY ON FOOT
SUBURBAN TRAIN ACCESS
LONG DISTANCE TRAINS
TAXI
TAXI


MULTI MODAL HUB
CITY ON FOOT
BUS
METRO
TAXI
SUBURBAN TRAIN ACCESS
LONG DISTANCE TRAINS
SUBURBAN TRAIN ACCESS
PLATEFORM MULTI DIRECTIONAL ACCESS TO THE CITY
MAIN LINE STATION
TAXI
BUS
TAXI


BUS
CITY ON FOOT
MULTI MODAL HUB
SUBURBAN TRAIN ACCESS
LONG DISTANCE TRAINS
TAXI
SUBURBAN TRAIN ACCESS
PLATEFORM MULTI DIRECTIONAL ACCESS TO THE CITY
MAIN LINE STATION
STREET LINK
TAXI
BUS
TAXI

MUMBAI CST STATION

32 hectares of which

8 hectares are empty land to be used for :

- →Improving the STATION : new Long distance train station
- →New URBAN DEVELOPMENT

24 hectares existing site, on which :

- →Renovation of the HERITAGE building
- →Improving INTERMODALITY
- →New passenger’s facilities and RETAILS
- →Improving OPERATIONS (depot,…)

SIMPLIFIED FEASIBILITY (1)

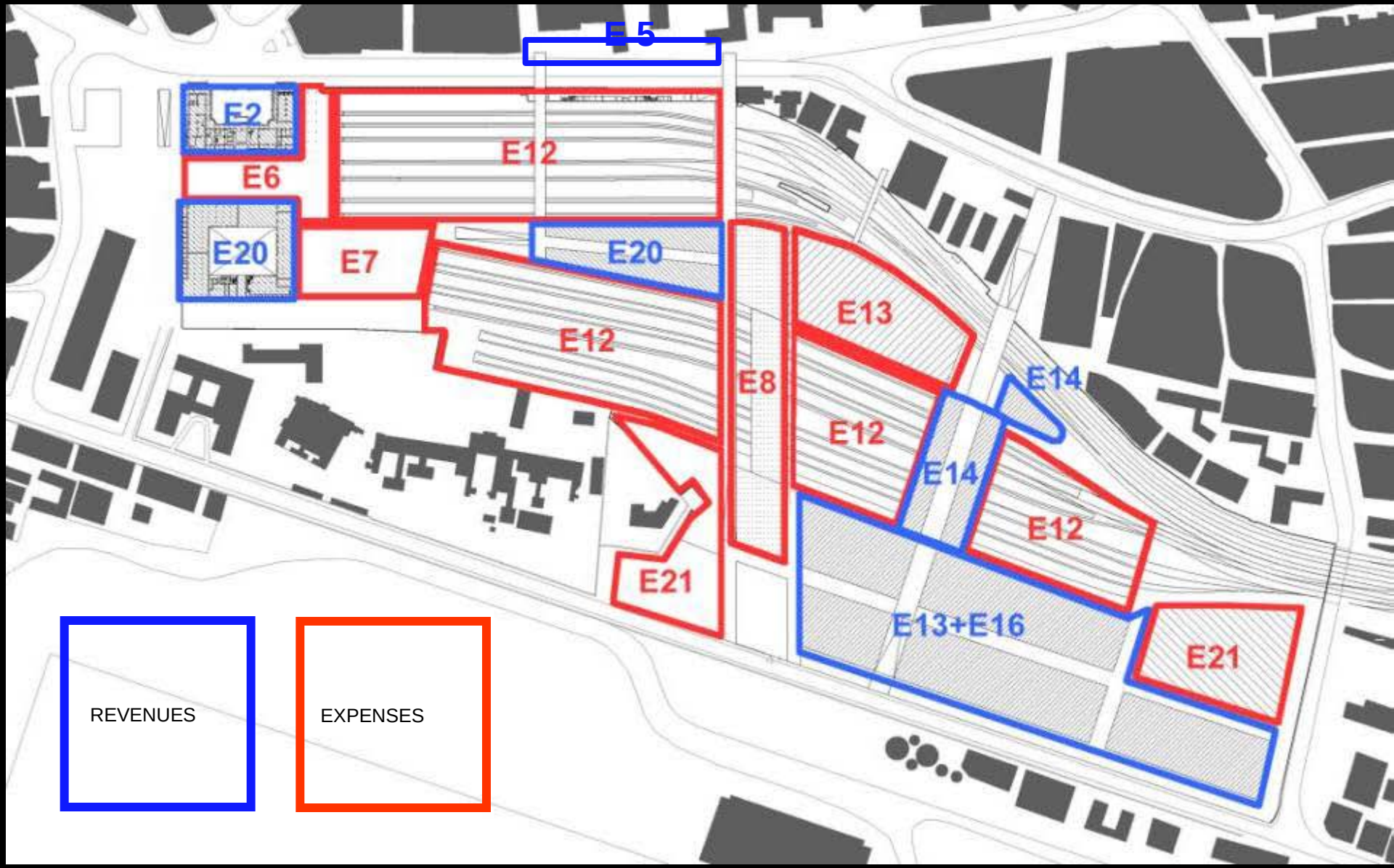
Data collection

- → land owner
- → plans
- → regulations

Land Value = Cost of station renovation

- → evaluation of the possible project
- → use the land ratio given by expert

SIMPLIFIED FEASIBILITY (1)



DETAILED FEASIBILITY (2)

Detailed analysis of

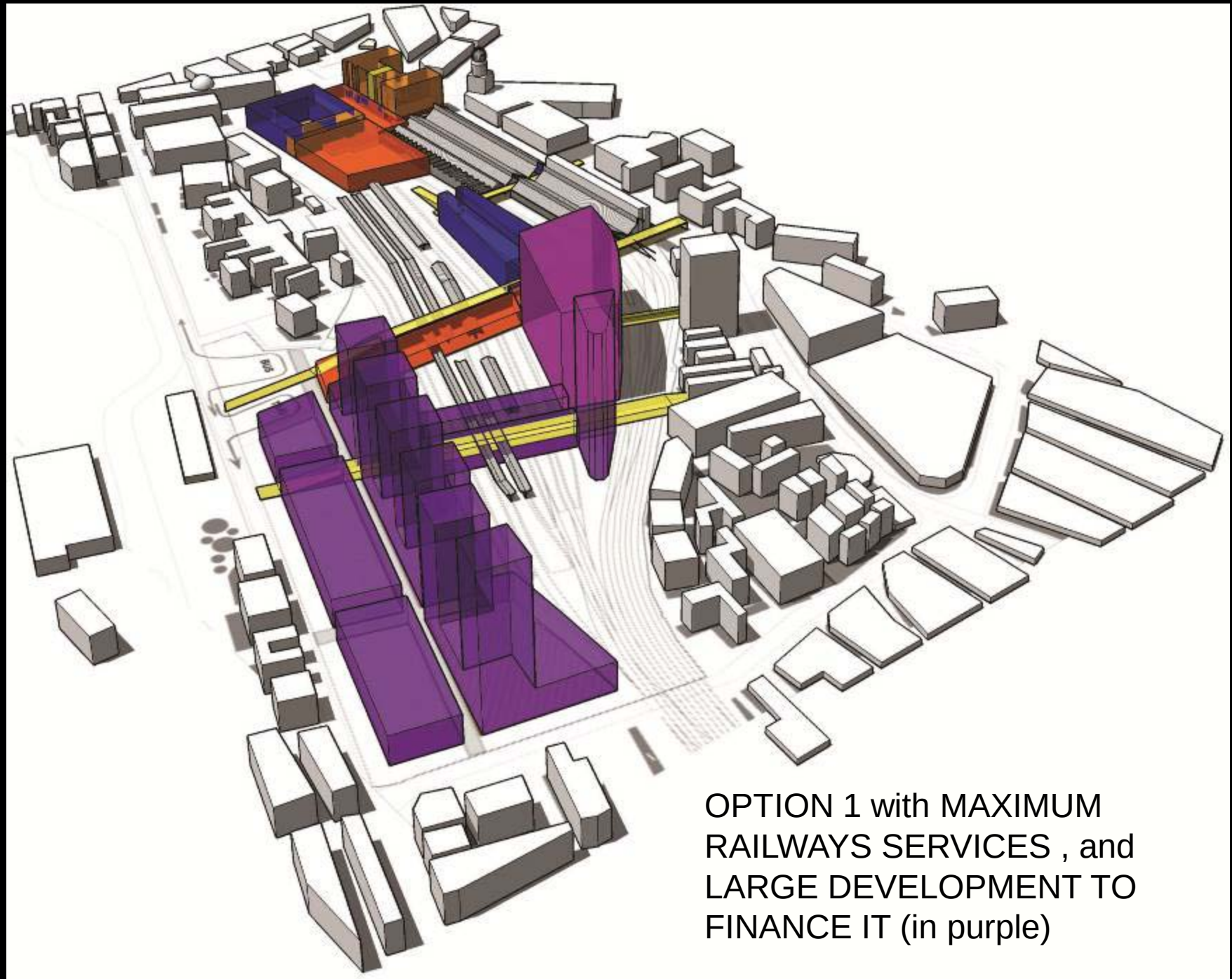
- →Retail,
- →Urban Development,
- →Station Renovation

Main opportunities and risks : Floor ratio, Heritage rules,…

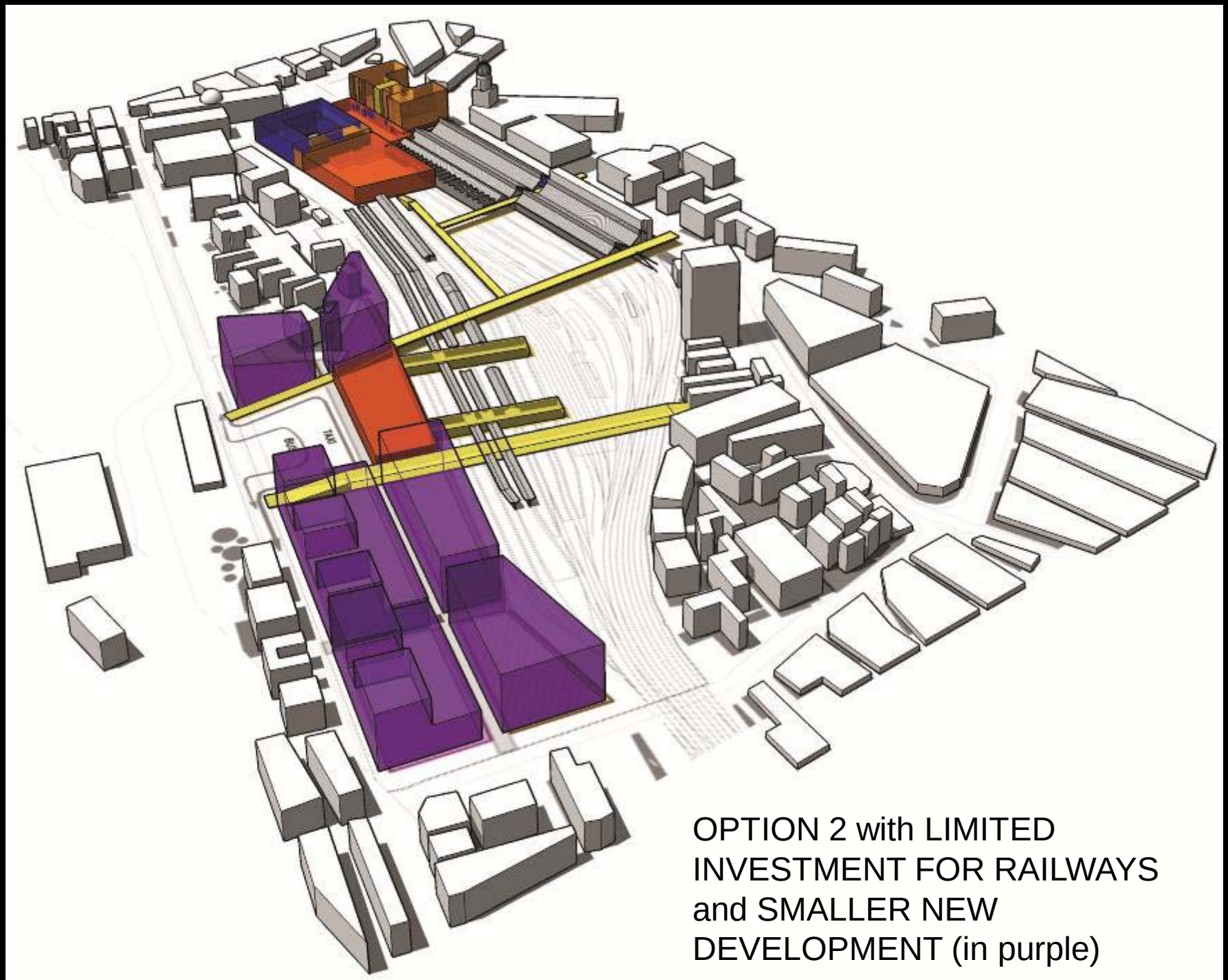
Stakeholders, Decision makers,…

Scenarios

Raw calculation of R.O.I.



OPTION 1 with MAXIMUM RAILWAYS SERVICES , and LARGE DEVELOPMENT TO FINANCE IT (in purple)



OPTION 2 with LIMITED INVESTMENT FOR RAILWAYS and SMALLER NEW DEVELOPMENT (in purple)

BUSINESS PLAN (3)

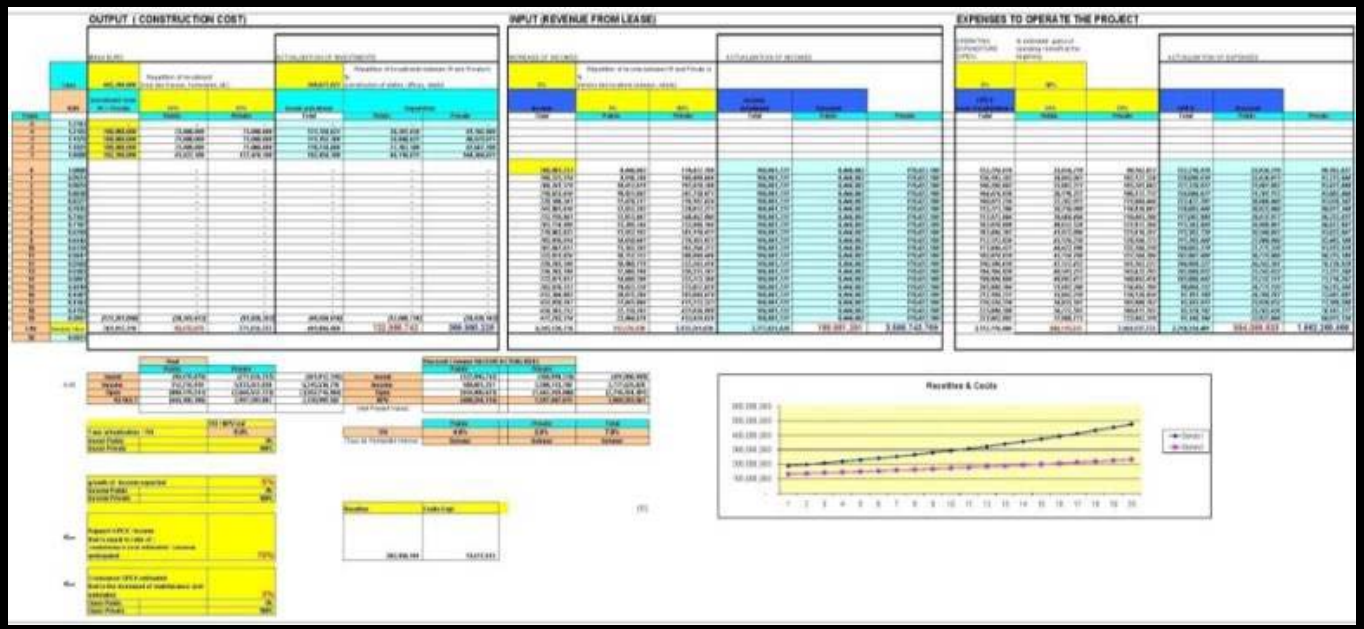
Inputs

→Construction cost with schedule

→Leasing revenue

→Expenses

Business Plan



SELECTION & NEGOTIATION (4)

Main issues for contract

→Investment repartition between Railways and Private

- Technical costs for tracks, depots,…
- Cost for new construction

→Revenue & Expenses repartition

- Maintenance, operating

→Duration

→Risk

Looking for the best project

→Optimal level of design

→Mobilize Private when there is

- a real incentive for optimization
- a real skill

Financing urban development

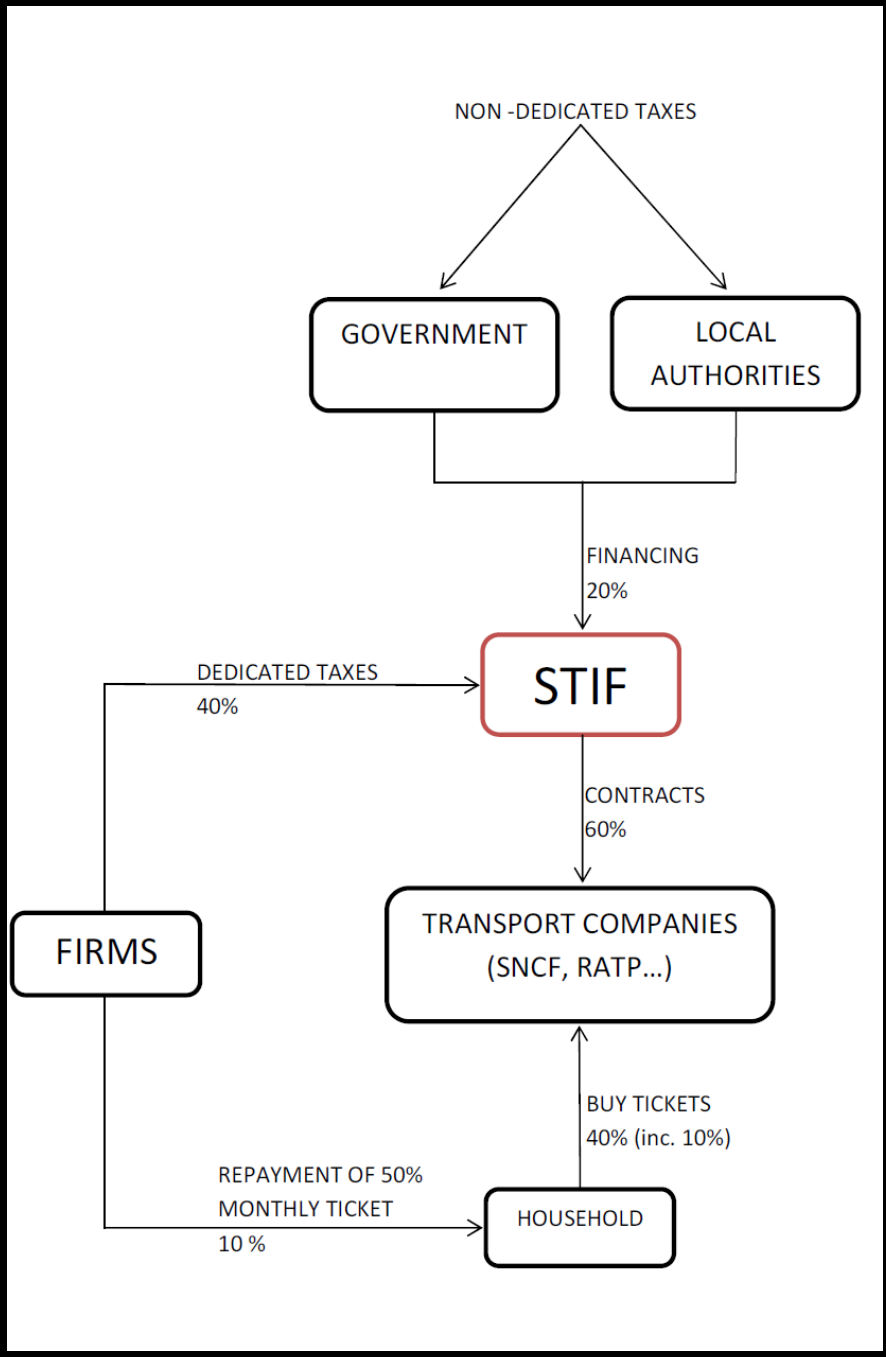
Limited size

- Slow growth
- No large developers
- Strong public control

EXPENSES	REVENUE
Secondary infrastructure (limited to the plot)	Authorization to build (/m^2)
Land acquisition	Public subsidies
Engineering	

Financing transport

- Tax system
- Mix Investment and Operation
- Limited link to urban developement



A complex partnership

« You know, in Malaysia, it is very complex »

« You know, in Viet Nam, it is very complex »

« You know, in India, it is very complex »

« You know, in France, it is very complex »


European Union
Railway companies
Tenants
ARAF
Contracts for basic services and optional services
Lease (sale spaces, travellers' lounges, offices, ….)
RFF
Maintenance of the amenities, platform management
G&C
Concessionary contracts (advertisement, retail, …)
Concessionary firms (car rentals,…)
Operation of interchange hubs
Project management
Provision of parking lots, buildings or related services
Government
Local authorities
Competition authority
Parking / Urban transport
An organization at the heart of a complex environment, for the clients' benefit

THANK YOU