A satellite night view of the world, showing the continents and oceans with city lights glowing. The image is used as a background for the report cover.

The Grand Paris Survey 2016

Moving faster, going further,
working together

July 2016


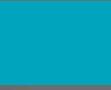
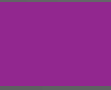



**Urban Land
Institute**



Building a better
working world

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EDITORIAL



Sigrid Duhamel
President, ULI France



Jean-Roch Varon
Partner, EY

The Paris urban area, Ile-de-France, the Capital Region, the Métropole du *Grand Paris* (Greater Paris metropolitan area), the list goes on. We have decided to

look beyond all the names, labels and administrative bodies and focus on the region as perceived by its inhabitants, visitors, businesses and investors, the place where they live, work, play, innovate and plan their futures.

Grand Paris (Greater Paris) was originally defined to carry out the far-reaching mission of increasing housing supply, furthering urban development, protecting the environment and living conditions as well as promoting economic growth. *Grand Paris* was a public-sector initiative also meant to leverage the private sector to help transition the region into a major city of the 21st century, involving radical changes in industry and the service sectors, scientific and entrepreneurial progress, the digital and energy revolutions, and social and societal reforms.

A new approach to developing the Capital Region

The key symbols of the region are the *Grand Paris Express* transport system, world-class scientific and academic hubs, and the *Grand Paris* metropolitan area, but it is also a candidate for the 2024 Olympics and the 2025 World Fair. These major projects are actually only the tip of the iceberg of a bigger movement that began in the early 2000s, that should involve many players with joint aims. This is all the more important since the Capital Region is France's driving force and a crucial vehicle to increase its competitiveness and attractiveness.

Grand Paris also represents a novel approach to the region and its development that reaches beyond mere geographical and administrative boundaries. It is a question of seeing the city of Paris and its surrounding region as a coherent, discernible, well-balanced whole. For example, urban development projects are being designed to boost economic attractiveness with a growth model based on clearly identifiable opposing poles (Paris-Saclay, Paris-La

"Moving faster, going further, working together"

Défense, Paris-Pleyel, Paris-Roissy, Paris-Marne-la-Vallée, etc.) that are complementary and offer businesses and workers visibility, critical mass and efficiencies.

The urban and economic plan can

only work if investors believe in it and if it generates its own growth cycle. It will only be sustainable if it serves as a model, in every respect, of social and environmental responsibility, yet to be defined.

This growth model brings together the urban area's myriad specialties, one of its most unique advantages over its global competitors. This multifaceted attractiveness was what inspired us to create this first edition of the *Grand Paris Survey*, to gauge the area's progress, and to outline its prospects, in light of the major urban development initiatives that can be observed in every country: economic attractiveness, financial competitiveness, infrastructure design, and social and environmental cohesion.

A survey we can use to move faster, go further, become stronger... working together.

ULI, an association of professionals and observers in urban land use and economic development, and EY, a global audit and advisory firm, decided to join forces to publish the first edition of the *Grand Paris Survey*. As independent observers, ULI and EY set themselves the goal to produce an unbiased assessment of a pivotal project for the economy in the Capital Region and in France. Firstly, by and for businesses, but also for those who assist them in their day-to-day operations and growth.

The goal is to measure the progress *Grand Paris* has achieved in the nearly 10 years since the French government launched the international consultation process, to determine the drivers behind the "moving faster, going further, working together" movement. The *Grand Paris* project is an outstanding opportunity for the future of France. This conviction is even stronger in the wake of Brexit. Making a success of the "*Grand Paris*" project has now become an imperative.

ACKNOWLEDGEMENTS

We would like to extend our sincere thanks to all those who kindly shared their analyses and opinions. Our teams used this input while protecting the contributors' anonymity and freedom of expression.

- AG Real Estate, Brigitte Gouder de Beauregard, Managing Director
- Altarea Cogedim, Maxime Lanquetuit, Director of Innovation and Sustainable Development
- ANRU (National Agency for Urban Renewal), Thierry Asselin, Director of Operations
- Astech, Sébastien Courrech, Managing Director
- AXA Real Estate, Nathalie Charles, Director of Asset Management
- Bouygues Immobilier, Philippe De Lassus, Director of Investment
- Bouygues Immobilier, Lise Garnier, Director of *Grand Paris* and Urban Planning
- Bouygues Immobilier, Franck Helary, Managing Director of Ile-de-France Housing
- Caisse des Dépôts, Ludovic Valadier, Departmental Director of Innovation and Development
- Cap Digital, Patrick Cocquet, General Delegate
- CDC International Capital, Philippe Pronost, Assistant Managing Director
- Covage, Nathalie Dirand, Director of Development
- EDF, Livier Vennin, *Grand Paris* Delegate
- EPADESA (Public Development Agency of La Défense Seine Arche), Hugues Parant, Managing Director
- Fabrique de la Cité, Guillaume Malochet, Manager of Research and Partnerships
- Fabrique de la Cité, Nathalie Martin-Sorvillo, Director
- Gecina, Bernard Michel, Managing Director
- Generali, Sébastien Pezet, Director of Investments
- IAU-IDF (Institute of Urban Development and Planning), Vincent Gollain, Director of Local Development and the Economy
- Métropole du *Grand Paris*, Thomas Degos, *Préfet* (Prefect), Managing Director of Services
- Nexity, Bénédicte Crozon, Assistant Managing Director
- Nexity, Evelyne Flacher, Director of the *Grand Paris* Agency
- Paris & Co, Karine Bidart, Co-Managing Director
- Paris Ile-de-France Capitale Economique, Chiara Corazza, Managing Director
- Région Ile-de-France et Paris, Jean-François Carencu, *Préfet* (Prefect)
- Région Ile-de-France, Jérôme Chartier, Vice-President
- SNCF, Jean Faussurier, Director of System Access Ile-de-France
- *Société du Grand Paris*, Philippe Yvin, Chairman of the Board
- Systematic Paris-Région, François Cuny, General Delegate
- Université de Paris Dauphine, Laurent Batsch, President
- Ville de Paris, Jean-Louis Missika, Assistant to the Mayor of Paris in charge of urban development, architecture, economic development and attractiveness

WHERE DOES PARIS STAND?

Erik Orsenna, Writer,
member of the Académie Française

We've all heard the old line: "Paris is the country's glutton; Paris turned France into a wasteland." But what if the exact opposite were true?

What if, compared to other major cities, Paris were too feeble, its aspirations too timid, its growth too slow?

More often than not, when someone proclaims to be "grand" or "greater", they are trying to appear bigger than they really are.

What if *Grand Paris* were too small?

I have learned two things while travelling the globe seeking to understand the phenomenon they call "globalization." First, geography is a question of choice rather than a matter of fact. Second, competition is fierce between the regions. Capital, talent and energy will take root wherever they see fit.

It's up to us to attract them.

Granted, a country is not limited to its capital city. Granted, a sprawling capital megacity throws a country off balance and drains it.

But an outdated Paris is an unmistakable warning sign. A sign that France is falling behind. That it lacks opportunities. That it's still basking in its by-gone glory. That because it hasn't looked to the future, it has opted to become a museum.

Our national sickness is self-satisfaction, as we know, often with a small dose of denial: Out of fear of seeing ourselves for who we are, we vehemently shun scrutiny.

That is why this survey is particularly timely.

Ten years after the initial consultations, what has *Grand Paris* really achieved?

Ten years is a long time. In other parts of the world, a lot is done in ten years.

What have we accomplished in that time?

This survey lays out the facts.

Some will find this unpleasant, unfair or incomplete.

That's their loss.

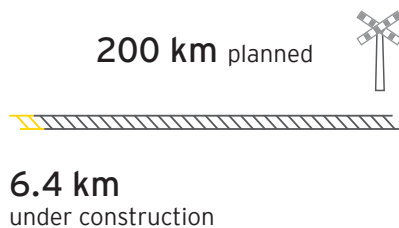
The advantage of the truth is you can build upon it. And quicken the pace, if need be.

And as things stand today, that's exactly what we need.

SUMMARY

Driver 01 | Driver of infrastructure development

Rate of project completion (in km of the Grand Paris Express system, 2016)



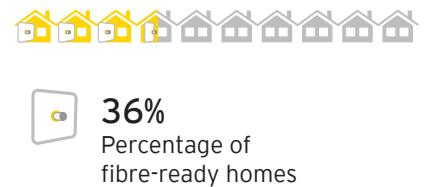
Source: Société du Grand Paris, January 2016

Construction costs for the motorway section in millions of € (2015)



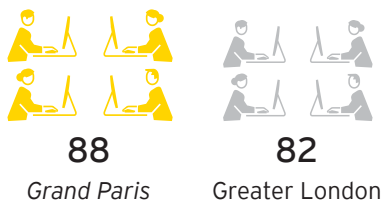
Source: French Ministry of Housing and Sustainable Homes

Readiness and connection to fibre in the Ile-de-France region (2014-2015)



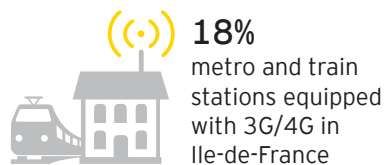
Source: Ceser

Number of shared work spaces not in train stations (early 2016)



Source: La Fonderie

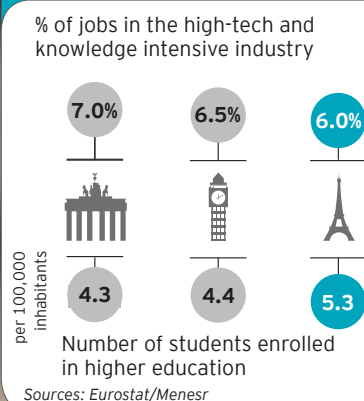
Rate of coverage for railways in the Ile-de-France region (2016)



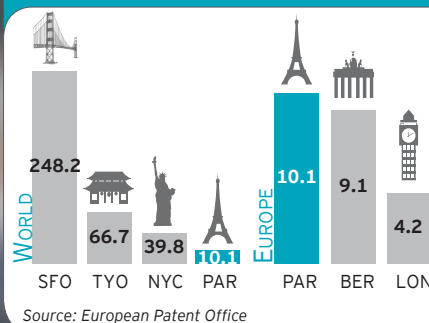
Source: France 3 Paris Île-de-France

Driver 02 | Driver of economic development

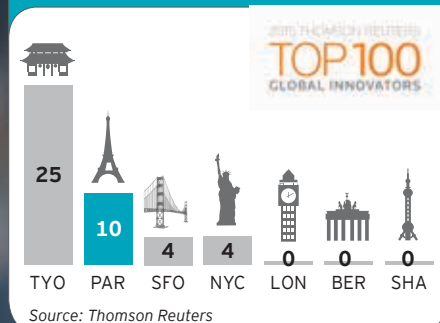
Skill and talent pool for large cities (2014)



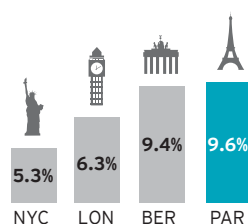
Number of patents filed per 10,000 inhabitants (2014)



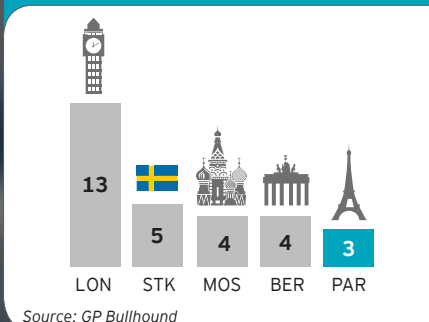
Number of Thomson Reuters Top 100 companies (2015)



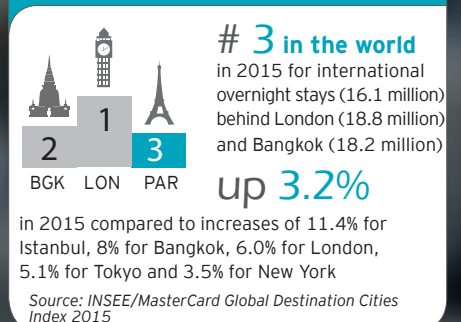
Unemployment rate (2015)



Number of unicorn head offices in Europe (2015)

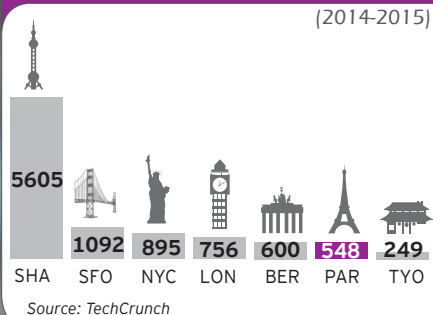


An increasingly competitive top tourist destination

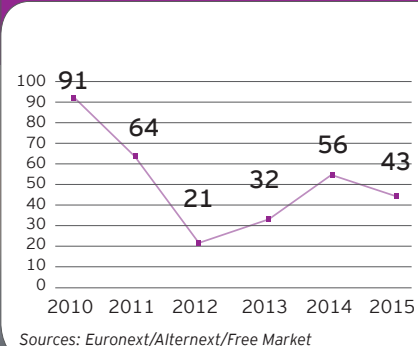


Driver 03 | Driver of funding and investment

Top 7 cities where the 20 largest funding rounds took place



Number of IPOs in Paris (2010-2015)



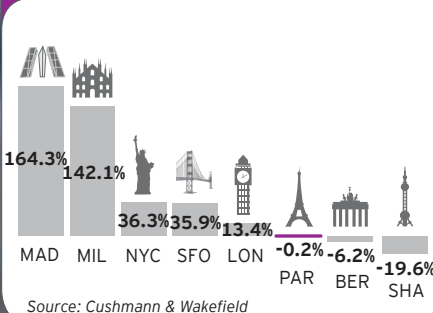
Cities that generated the biggest property investments

(in \$, 2014-2015)

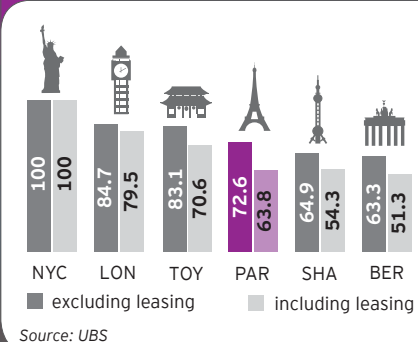
METRO	Q3 2014 - Q2 2015 (millions of US\$)
1 New York	74,800
2 London	55,207
3 Tokyo	37,971
4 Los Angeles	37,457
5 San Francisco	32,355
6 Paris	22,955
7 Chicago	20,036
8 Washington, D.C.	18,516
9 Dallas	16,297
10 Atlanta	16,022

Source: Cushman & Wakefield

Growth of property investment (Q3 2014-2015)

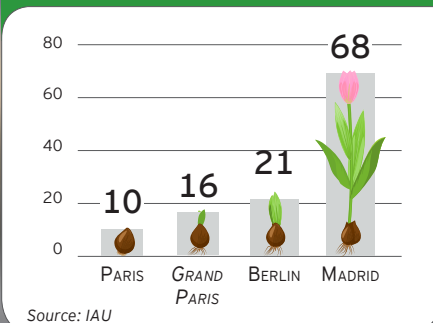


Price to cost of living ratio (2015)

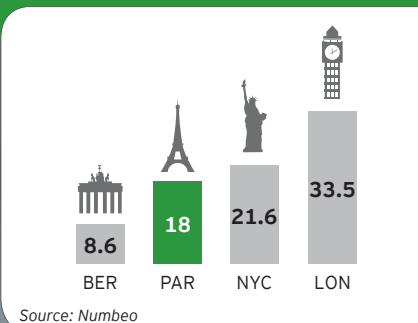


Driver 04 | Driver of sustainable development

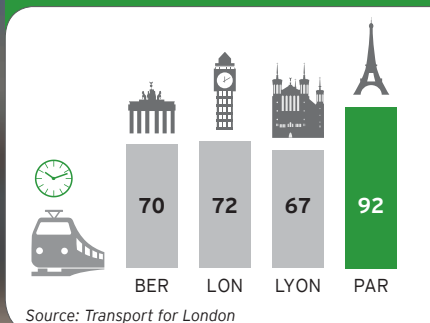
Density of green spaces in m² per inhabitant



Ratio of housing cost to average annual salary (2016)



Time spent in transport in minutes (2014)



Soot Free Cities ranking for 23 European cities based on their air quality policies (2015)





SUMMARY

TRANSPORT AND DEVELOPMENT

Transport, as the most visible part of the *Grand Paris* project, has become the focal point for the hopes and expectations of people living in the Ile-de-France region. Although the transport network capacity is currently limited, it is expected to expand in the near future. Indeed, the planning period is over and construction has now begun (6.4 km of the planned 200 km of the *Grand Paris Express* is currently underway). With the funding secured, the biggest challenge now seems to be compliance with the initial timeline, most especially since current financing is almost exclusively from public sector sources.

The findings of our survey show that the main digital technology projects have been launched. But the digital technology facet of *Grand Paris* is still a patchwork of projects lacking cohesion; the city's digital revolution will require the coordination and interaction of physical and digital flows.

On the development front, the survey confirms that housing must remain a priority. Although urban development appears primed to be a vehicle for economic growth, *Grand Paris* has still not become a reality for its residents. An approach for development and regional expansion should be deployed based on newly defined polarities.

ECONOMIC DEVELOPMENT AND ATTRACTIVENESS

Grand Paris is a response to the major challenge facing the country, that of the stimulation and development of growth. Yet, the project still has a blind spot when it comes to employment. Widening regional disparities in skills, access to jobs and standard of living have made Ile-de-France one of France's most unequal areas.

On the other hand, *Grand Paris* is really a force to be reckoned with when it comes to higher education, research and business enterprise. While the groundwork has been laid to turn *Grand Paris* into a global hub of innovation, there seems to be considerable room for improvement as a start-up friendly environment, attracting talent, promoting research and funding innovation.

Sitting at the centre of international trade flows, *Grand Paris* is a member of the elite circle of global cities. France is buoyed by its lure for tourists, the leverage of its sizable industrial and technological sectors, and its national and European position of influence. But the Capital Region is losing its lead and may soon be overtaken. In the last decade, there has been a steady decline in the number of global corporate headquarters. New investors from emerging countries are turning to Greater London and cities in Germany rather than our capital city. Brexit is an opportunity to reshuffle the cards and win a hand for *Grand Paris*.

INVESTMENT AND FINANCING

Despite taking a clear leap forward in 2015, the conditions for growth are not up to par with other large cities. After IPOs took a tumble in Europe between 2010 and 2012, they are once again picking up speed. And the amount of funding raised from venture capital firms has nearly doubled from €525.5 million in 2013 to €1.1 billion in 2015. These outcomes need to be encouraged even more given that venture capital is the fuel that powers innovative growth. They need to become a priority for *Grand Paris*.

In addition, now more than ever Paris is still a sure bet for property investment, even in a fragile economic climate. 2015 is a prime example when, on the one hand, corporate property transactions hit new record highs, a sign that investors are hungry for this market, and, on the other hand, the leasing market has fallen on hard times, an indication that users are keeping a tight watch on their property costs.

However, positioning of investors is open to question. Issues often cited as a consideration or as a cause for concern are the lack of visibility on the project's timeline, the impacts of population flows and

company location, or the trend which is replacing asset valuation models with value-in-use models in an age when flexible working is emerging in every sector of the economy.

Grand Paris has to do everything in its power to hold on to its relative competitive edge in terms of cost of living and housing for families, students, researchers and the creative class, who are also driving its vitality. Without a doubt, access to ownership, property investment and rent as a percentage of household budgets in Ile-de-France are partly to blame for why more families are now leaving the region than moving there.

SUSTAINABLE AND SOCIAL DEVELOPMENT

Improving the quality of life in *Grand Paris* is key. Longer transport times in Ile-de-France compared to London and Berlin are essentially eroding this quality in spite of a higher purchasing power than in London, Tokyo or Hong Kong. Plus there are fewer green spaces than in other European capitals.

Although the human development index is higher in Ile-de-France than in other areas of France, there are still stark regional divides. The level of excellence in education, healthcare and culture cannot obscure the huge social gaps or the housing shortage.

Progress made in the energy transition remains uncertain, regardless of the goals reaffirmed at COP 21. Energy gains achieved due to improved building performance do not appear to be sufficient to make up for energy consumption generated by extending the transport grid and the digitalization of capital.



METHODS

The *Grand Paris* Survey is based on an analysis of nearly **80 quantitative indicators** that track the project's rate of progress between 2010 and 2015. These indicators were selected for their ability to provide information for the entire duration of the project. Each of the themes results in one or more comparisons with other world cities (London, Berlin, New York, Shanghai, Tokyo, San Francisco Bay Area) in order to shed light on the advantages and areas of improvement for *Grand Paris*.

Alongside the quantitative analysis, EY conducted around **30 interviews** with public figures, investors and users of *Grand Paris* in order to gather their analyses, recommendations and prospective views. Quotes were taken from these interviews to illustrate each driver in the study.

FOREWORD



Marc Lhermitte,
Partner, EY
Global Lead Attractiveness & Competitiveness

Assessing the progress and possibilities of a global-scale project in motion from different angles in a region with remarkable diversity by cross-referencing objective indicators with forward-looking analyses. That was our teams' challenge when they launched this first *Grand Paris Survey*, the first and therefore probably perfectible step in a long-term look at investments in *Grand Paris* and their ramifications for life in the Capital Region. The study has taken a number of strict premises as a basis for the methods used:

- ▶ **An analytical yet real-life approach** that brings the set of facts and figures into focus by combining the data collected with the views of experts and spectators who have contributed to our study;
- ▶ **A comparative look on several levels** in terms of both time - during the "first phase" of *Grand Paris* from 2010 to 2015 and then looking forward to 2020-2025, its phase of maturity - and the competition between the major cities with the highest potential and greatest challenges;
- ▶ **A perimeter extending more widely than the institutional limits**, covering the Ile-de-France region, because this is the scale at which companies grow, investments are decided, people travel and where life is built for the residents and populations comprising the complex infrastructure of *Grand Paris*;
- ▶ **Grand Paris is a region, a project and a vehicle for growth at the same time** that guides the life of the city and everyone in it (residents, tourists, entrepreneurs, researchers, employees, merchants,

"The key points of the Survey"

manufacturers and students) through these changes with the goal of making Paris more competitive in the race between world cities;

- ▶ **A clear and constructive voice** that shows the project's current and future accomplishments while taking care to highlight areas of improvement that could benefit the project.

An attempt has therefore been made to simplify the assessment by basing the analysis on four pillars, as follows:

1. **The founding pillar of infrastructure** for transport, digital services and equipment for an "extended" *Grand Paris*, and three further cornerstones reflecting its direct or indirect impacts;
2. **The economy that** expresses the value created for attractiveness, innovation and employment in all its economic and sector-based models;
3. **Investment**, equally for players in finance and real estate and for households and individuals;
4. **The environment** as seen from a broad view of the quality of life of both present and future residents as well as of the region's economic players.

This has been a fascinating yet highly complex undertaking in that we aimed not to restrict or dilute the analysis while providing practical guidelines that will hopefully help the public and private developers of *Grand Paris* and especially businesses and residents who will reap the medium- and long-term benefits.

Driver 01 | *Grand Paris:* A driver of infrastructure development

Infrastructure development is the fundamental vehicle for increasing the city's attractiveness. It lays the groundwork for growth that is both balanced and tenable:

- 1. Transport:** What role does the transport system play in improving access to the areas of *Grand Paris* and in facilitating travel in the region?
- 2. Digital technology:** How is *Grand Paris* helping usher in the virtual era for its users (businesses, inhabitants, visitors)?
- 3. Development:** To what extent is *Grand Paris* creating the conditions to overcome the housing crisis and providing solutions that suit the needs of the region's current and future users?



Transport: The foundation of *Grand Paris*

A key to improving competitiveness and reducing regional imbalances, the expansion of the transport system is one of the biggest challenges of *Grand Paris* and one of the most tangible features of the project for its residents.

The limitations on the current system's capacity are real while the number of daily users is constantly growing. In an effort to increase the current capacity of the system and improve travel conditions for users, over the last few years government agencies have defined two additional projects:

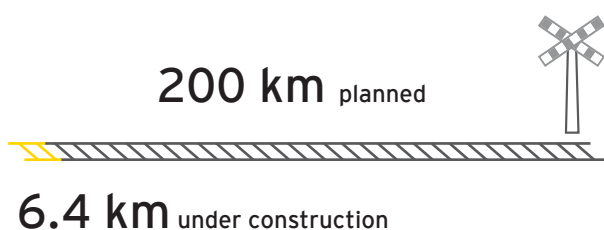
The *Grand Paris Express* (GPE) which involves building 200 km of new automated metro lines around Paris and the *Plan de mobilisation pour les transports* (transport stimulus plan) a €7 billion programme to modernise and improve the current transport system.

The largest project ever of its kind, *Grand Paris Express* entered its operational phase in 2016 when civil engineering work started on a number of lines. Projects to continue modernising the motorway network are also underway.

■ Facts and Figures

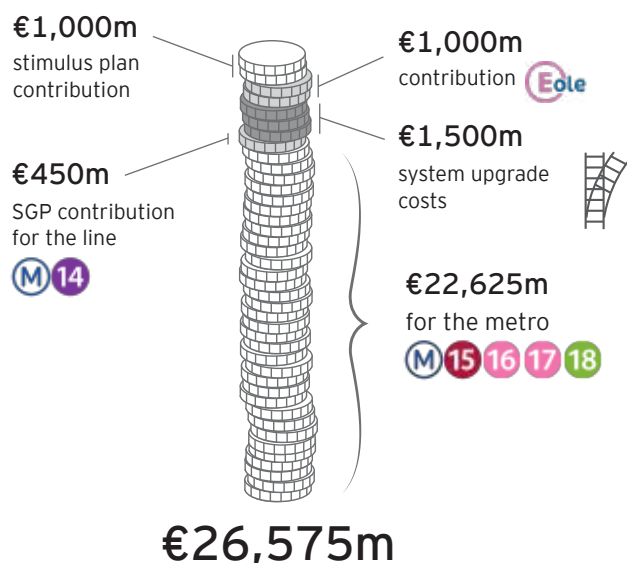
Rate of progress: A large-scale transport project still in its early stages

Rate of project completion (in km of the *Grand Paris Express* system, January 2016)



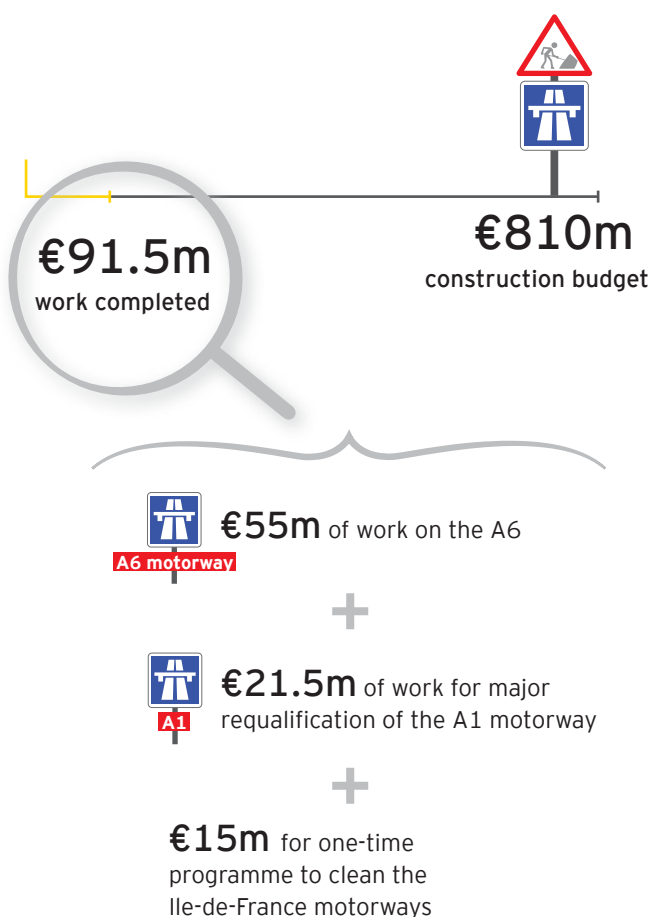
Source: Société du Grand Paris

Funding plan for the *Société du Grand Paris* project (2016-2030 in millions of €)



Source: Société du Grand Paris

Construction costs for the motorway section (2015 in millions of €)



There are many financing sources, and so far all are publicly funded

Source: French Ministry of Housing and Sustainable Homes

■ After the planning phase, now is the time to break ground

Over the last few months, the *Grand Paris Express* project has made undeniable progress as seen with the start of the project to extend metro lines 14 and 15 Sud as well as completion of public surveys prior to construction on lines 14 Sud, 15, 16, 17 and 18.

Over €800 million have been committed for project management contracts and €3 billion is expected to be allocated by late 2016 for civil engineering contracts.

Yet this progress should be compared with the original objectives. The extension of line 14 to the north actually only represents an additional 6.4 km and four new stations. *Grand Paris Express* is ultimately to provide for over 200 more kilometres: much still remains to be done. Expectations are high in terms of the considerable economic payback that *Société du Grand Paris* is looking for. It has been announced that by 2030, *Grand Paris Express* should generate over €4 billion more annually in GDP and 115,000 jobs per year for 20 years: a challenge commensurate with the scale of the project itself.

Furthermore, the *Plan de mobilisation pour les transports* (transport stimulus plan) is entering the implementation phase. First the project to extend line E (Eole) is underway with the opening of the new Rosa Parks station in 2015. Very real and promising progress has been made with the current metro and RER networks, notably since the line 4 project has broken ground and the preliminary work is complete for two new stations on line 12 to begin construction.

At the same time, the pledges to extend and build new tram lines have been fulfilled, the T6 is in service and the civil engineering and diversion work is underway for the T3 and T4. The Charles de Gaulle Express project is still in the early stages. The government study which has raised many expectations should be completed sometime this year.



■ Now that funding is secured, the main challenge is keeping to the fixed timeline.

Up until 2015, the work done for *Grand Paris* only concerned public transport. It is therefore to be expected that budgets allocated to other modes of transport such as the motorways will be increased. Accordingly, €91.5 million have been committed for a range of cleaning projects and works to upgrade the A1 and develop the A6 motorways. The motorway network is undergoing real improvement and modernization, with a focus on certain strategic areas such as airport access.

A press release was issued about the funding plan for both projects at the Interministerial Committee meeting in October 2015 announcing a total cost of €32.575 billion. The vast majority of funds allocated to transport projects is provided by fiscal revenues and tax (67%) with the remainder being provided by the State, the Ile-de-France Region and the local authorities. It is noteworthy that all the funding is publicly sourced.

By comparison, private sources are a major component of infrastructure funding in London where they contribute 39% of allocated funds. This is something the *Grand Paris* project directors should probably consider in the future.

Now the real challenge is to keep to the initial timeframe. According to the *Grand Paris* progress report as at 31 December 2015, published by the Ile-de-France prefecture, the original goal of complete commissioning in 2030 is being maintained.



As of 2016, the *Grand Paris* transport project is already a success because...

- ... the momentum is there and the timeline is on track;
- ... there are concrete plans to expand the public transport system, with many projects to extend existing and create new lines;
- ... *Grand Paris* is already considering a new transport network map that is clear, easy to understand and, above all, polycentric.



By 2030, the *Grand Paris* transport project will have been a success if...

- ... the areas comprising *Grand Paris* all have the same advantages in terms of access to the transport system thus eliminating any notion of "stranded areas";
- ... intermodality has become a reality both between and around the transport system's new hubs;
- ... the transport system is a real driving force for the region's attractiveness.

"Grand Paris is one of the most ambitious development projects in the world. Even more so than the CrossRail project in London which does not have multiple hubs. It aims to connect all the major hubs so as to promote them more effectively."

"The French approach to regional development is very unique: the State wants to stay in command, with the idea that infrastructure is the responsibility of State and should be funded by taxpayers. That said, public authorities are starting to realize the limitations of the State's debt capacity, hence the need for recourse to the private sector."

Digital Technology: Achieving the digital transition

Digital technology is at the heart of the challenges to improve the quality of services offered to regional users and is inherently linked to the transport system development projects. The Act of 3 June 2010 pertaining to the *Grand Paris* project stipulates that, "the *Grand Paris* network infrastructures should include systems intended to enable the deployment of an ultra-high-speed electronic communications network".

Being able to ease access to an ultra-high-speed network or facilitate data circulation is becoming a **major challenge in regional development**. It is in the Capital Region's interest to adopt this strategy particularly as innovative investors view this point as a key driver in making the Paris region a centre for innovation in the global economy.

The findings of our review show that the dynamics of the main projects have been set in motion.

There are many digital technology projects and they contain all the ingredients to ensure the region's attractiveness in this area. **The *Grand Paris* digital technology project is closely linked to the other project components and progress in the former depends on advances made in the latter.**

Thus, the goal of making *Grand Paris* "Europe's most connected region" has yet to be achieved.

■ Facts and Figures

In spite of making real progress, universal access to ultra-high-speed broadband is still far from being a reality.

Readiness and connection to fibre in Ile-de-France



36%
of homes are fibre-ready in 2015



23%
of homes are connected in 2014



38%
increase in fibre ready homes from 2014 to 2015

Source: Ceser

There is still not enough 3G/4G coverage in the transport system to make *Grand Paris Express* a connected metro.

Rate of coverage for railways in Ile-de-France (2016)



18%
of bus and train stations are equipped with 3G/4G in Ile-de-France

Number of living labs set up in Ile-de-France (2015)

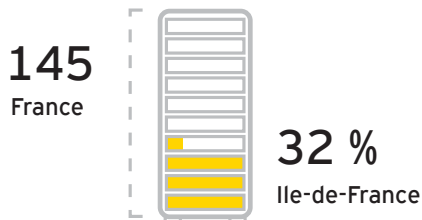
20
living labs in Ile-de-France



Sources: France 3 Paris Île-de-France/Open Living Labs

The *Grand Paris* third place network has vast digital capacities, but they will not be world-class unless they grow faster.

Number of data centres set up (France 2015)



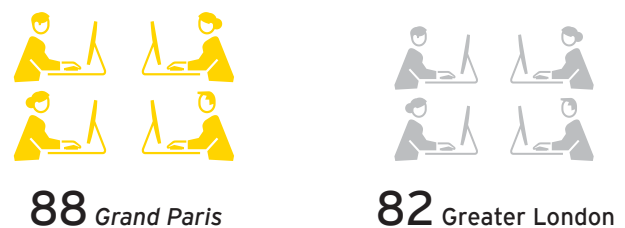
Number of data centres (2015)



Number of shared work spaces in *Grand Paris* train stations (2015)



Number of shared work spaces not in train stations (2015)



Sources: Usine Digitale/Data Center Map/SNCF/La Fonderie

■ Digital technology: A patchwork of projects still looking for a common direction.

While *Grand Paris* is highly attractive due to its economic diversity, it must establish its position by making the digital transition a reality. To this end, **fibre optics is currently being deployed**. A recent index shows the city's potential: According to a report by CESER on high-speed broadband, 4 million homes in the Ile-de-France region are fibre-ready.

Even though the city has an increasing number of digital technology projects, is the transformation real? Many initiatives have already contributed to easier data circulation within *Grand Paris*. The *Société du Grand Paris* has a project to encourage new *living labs*. Living labs bring public and private actors together to conduct large-scale experiments with new tools, services and uses. The European site that tracks these units claims that no fewer than **20 living labs have been set up in Ile-de-France**, i.e. over one third of this type of establishment in France, clearly the leader in the field. This project is to be extended to the 68 *Grand Paris Express* train stations.

In addition, initiatives to build digital data centres have proliferated. There are currently **over 45 data centres in Ile-de-France**, i.e. nearly one third of the data centres in France, ranked fifth worldwide for such centres, behind the United States, the United Kingdom, Germany and Canada.

■ The *Grand Paris* digital revolution will involve combined physical and digital flows.

Another noteworthy event is that the plan to roll out 3G/4G in transport across Paris has entered the implementation phase, unlike London. Passengers of the RER A and RER B commuter trains and line 1 of the metro can now connect to the Internet during their journey. However, only 66 out of 369 train stations to date are equipped with Wi-fi. Given the progress on the rollout plan, we can foresee the metro/RER system having total coverage by the end of 2017.

Train and bus stations on the transport system remain spaces whose potential has not been exploited to the full. New train stations should provide ultra high-speed Wi-fi access and be equipped with shared work spaces. In October 2015 the SNCF accordingly published a report on the *Gare Partagée* (Shared Train Station) project stating that calls for tenders were issued for 18 stations in Ile-de-France. The spaces are expected to be installed throughout 2016.

This remarkable momentum should not detract from **the structural challenges facing those working on the digital revolution**. While €43 million has just been invested in the "Arc of Innovation", the project is still in its early stages and cannot really grow until new partnerships are formed between local authorities, which could delay matters significantly.



As of 2016, the *Grand Paris* digital technology project is already a success because...

- ... it is laying the groundwork for ultra high-speed broadband in the region both in homes and public infrastructure and in development hubs;
- ... it offers clearly visible benefits for a pool of innovative businesses already operating in the region;
- ... it fosters collaboration among companies by creating healthy competition in innovation and digital technology.



By 2030, the *Grand Paris* digital technology project will have been a success if...

- ... it serves as a driving force for digital projects leaders, leveraging on all of the hospitality and training facilities in the city;
- ... it becomes the most connected region in Europe, an area where data circulation is real and efficient for everyone.



"One of the true strengths of Grand Paris is having a pool of diverse start-ups both in technology and for users where mutual enrichment is the real added value"

"The momentum generated by Grand Paris fosters innovation in mobility overall. The new connected metro system will be a testing platform for new technologies. It will be an actual testing ground for start-ups to export business throughout the world of disruptive innovations."

Experts' perspective

Development: The housing crisis

At a time when the population continues to grow in Ile-de-France, development is still a major challenge for *Grand Paris*. In 2014, the government revived this part of the plan by introducing the Plan de mobilisation pour l'aménagement et le logement (Stimulus Plan for Development and Housing in Ile-de-France).

The public authorities wagered they could beat the housing crisis by committing to many new housing development projects, while also issuing calls to tender for improvements in existing housing.

As such, 2015 was a record year that saw a boom in projects giving new business opportunities to companies in Ile-de-France and encouraging foreign companies to move here. Some very large development projects are notably nearing completion both at points where Paris touches the

outskirts of the city and within the inner and outer suburban areas. Like the Clichy-Batignolles joint development zone (ZAC), the future home to the Paris Large Claims Court in 2017, the Triangle de Gonesse in the northeast, and the Paris-Saclay cluster in the southwest.

There is also an ambitious effort to convert 200 hectares in the northeast sector of Paris straddling the towns of Saint-Denis and Aubervilliers.

The *Grand Paris* urban development project seems to be experiencing **real momentum thanks to achievements in the transport component of the project**. The new *Grand Paris Express* train stations are generating development projects mainly focused on creating interaction with their surrounding environment. Intermodality is thus now at work around these new hubs.

■ Facts and Figures

Grand Paris is a true driving force for urban development projects.

Number of development zones started in *Grand Paris* (2016)



19

Business districts



20

Mixed-use



21

Housing units

Source: Grand Paris Aménagement

Many urban areas are poised for a new local economy.

Planned construction of structures for services, retail and public spaces (2016)

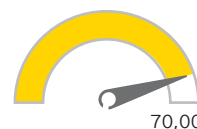


2,166 ha

Source: Grand Paris Aménagement

A strained housing market, but the number of residential units authorised indicates that *Grand Paris* has moved past the planning stage.

Number of housing units authorised compared to the original aim of 70,000 per year (2015)

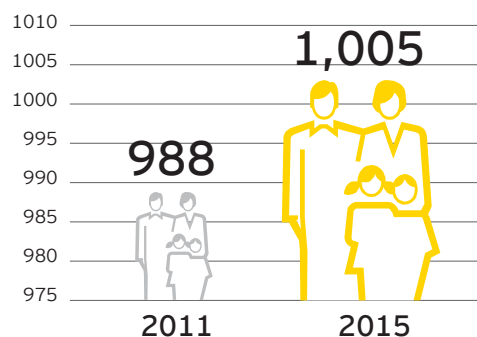


65,740

authorised housing units

70,000/year

Trend of population density in Ile-de-France (inhabitants/km²)



Sources: DREIA/INSEE

■ *Grand Paris* for housing

In 2015, INSEE reported an average density of 1,005 inhabitants/km² in Ile-de-France compared to 980 inhabitants/km² in 2010 and an estimated total population of 12.1 million inhabitants at the end of 2015.

According to the original objectives set for *Grand Paris*, this growth requires **the construction of 70,000 new housing units per year**. The development community has admittedly understood the urgency as 65,740 new homes were authorised in 2015. Similar initiatives to build housing are on the rise in major world cities. New York has launched an ambitious construction plan to resolve the shortage with 140,000 new housing units in 2013.

■ Urban development supporting economic growth

Creating the *Grand Paris Aménagement* development agency has streamlined the creation of new business districts. At the time of this report, there are 60 projects across Ile-de-France that are currently either under review, subject to land development concession, being launched or are already under construction.

The wide variety of projects is extremely promising and provides solutions adapted to the region's needs. Of these 60 projects, 21 are for housing only, 19 are for business districts and 20 are mixed-use projects.

They represent **2,166 ha of new space being built for retail, business and public areas**. The planned development of space for retail and business will boost the attractiveness of declining areas and revitalize local job markets.



Despite urgent initiatives also needed to improve substandard housing, 19 regions were selected for agreements on targeted actions between the State, the regional health agency and local authorities. Sixteen have already been implemented. This should be seen as a promising sign both for the revival of the hardest hit areas and the achievement of objectives set for 2030.



As of 2016, the *Grand Paris* urban development project is already a success because...

- ... it is ushering in many development projects that can restore the local economy's vitality to certain declining areas;
- ... it combines a land and infrastructure development strategy that will heighten and boost the impact on the region;
- ... it has made a priority of finding solutions for the housing crisis and substandard housing.



By 2030, the *Grand Paris* urban development project will have been successful if...

- ... it has ended the housing crisis in the face of constant population growth;
- ... it has revived the local job market and local businesses;
- ... the various projects have attracted foreign companies which have been able to establish easily thanks to the *Grand Paris* local authorities and agencies;
- ... it has succeeded in resolving regional fragmentation issues within the Paris urban area.

"Grand Paris is currently a goal but not yet a reality. It will be seen as a success if it manages to implement a sensible plan with train stations at the heart of urban and regional development."

"Success of the Grand Paris project depends on completion of the transport system. And keeping to schedule is paramount. Secondly close attention should be paid to resolving regional fragmentation issues : building bridges and underground routes are essential for a clear and consistent urban development plan."

Lastly, Grand Paris needs to enable more diversity so it doesn't worsen regional inequalities with council housing in attractive areas and upmarket residential units in districts undergoing urban renewal."

Experts' perspective



Driver 02 | *Grand Paris:* A driver of economic growth

The future metropolitan area must provide attractiveness and economic growth for the region, which will be the benchmarks of success or failure for the project. Three aspects are most probably the best indicators of progress and ultimately the economic success of *Grand Paris*:

- 1. Jobs and skills:** How does the region train, attract and retain jobs and skills now and in the future?
- 2. Innovation and entrepreneurship:** How does *Grand Paris* remain constantly dynamic and stand out from large cities competing for business enterprise and scientific excellence?
- 3. Attractiveness:** How can *Grand Paris* attract investments and investors, to renew with growth and maintain it for future generations?

Jobs and skills: The challenges of national competitiveness

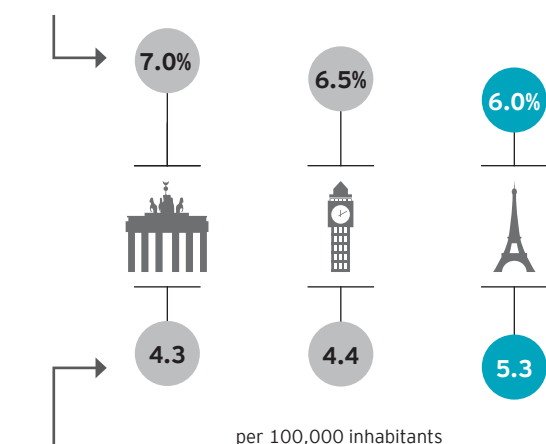
Will the current boom of public and private projects in *Grand Paris* be enough to generate inclusive, widespread growth? Like all world cities, *Grand Paris* is the focal point both for models of excellence and major social problems. The Ile-de-France region, the uncontested driver of the French economy, is home to 35% of the country's high-level knowledge executives and professions, but also to some of its starkest regional inequalities (five-point unemployment gap between Mantes-la-Jolie and the Saclay plateau, a commute 68 minutes apart (18 minutes longer than the national average)).

It is clear from this analysis that for the time being, jobs and particularly skills are still being ignored in the project. It is thus worth questioning whether *Grand Paris* is able to improve its assets in terms of the economy and skills to maintain its global position while providing new opportunities for Ile-de-France residents. *Grand Paris* is an attempted response to a major challenge for the country: to boost job creation.

Facts and Figures

A pool of skills and talent similar to other major world cities

On par with London and Berlin for jobs in the high-tech industry and advanced knowledge services

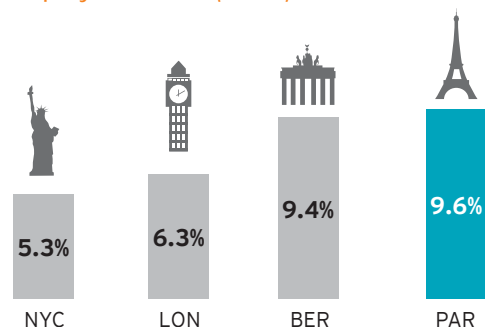


More students enrolled in higher education than London or Berlin

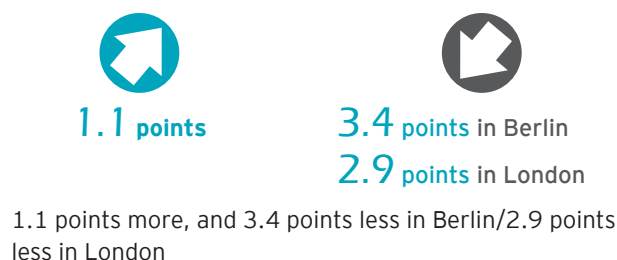
Sources: Eurostat/Menesr/INSEE

...but a unemployment rate and dynamic

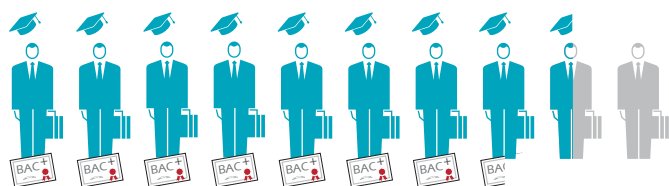
Unemployment rate (2015)



Unemployment trend (2010-2015)



Significant regional employment



86% of employed Ile-de-France residents hold a degree

76% of employed Ile-de-France residents have a higher education qualification

Source: Eurostat/INSEE

1 to 5

Ratio of standard of living for the 10% highest income households and for the lowest income 10%...

as opposed to 1 to 3.5 in the Rhône-Alpes region

■ *Grand Paris* is a response to a major challenge for the country: to boost growth.

The city can pride itself on some unique attributes in terms of jobs and skills, notably a diversified economy that was able to weather the 2008 financial crisis, a convergence of industrial and service-level skills inherently linked to the value chain, and a high level of productivity and professional training.

The numerous projects currently underway are also **an unprecedented opportunity to match jobs and skills** by creating new investment areas that increase the number of openings for business enterprise. In addition, reduced travel times help expand the job market. These reforms will give Ile-de-France residents access to a greater variety of job opportunities and businesses can tap into a wider pool of skills and business associations.

In a more immediate sense, **extending and upgrading the transport systems should create about 15,000 jobs per year** according to estimates from *Société du Grand Paris*, or 150,000 total net jobs by 2025. The plan requires a wide range of training and skills, which is an opportunity for long-term job-seekers resident in the Ile-de-France region.

■ But jobs and skills are still being ignored in the projects underway.

The region is grappling with two basic shifts that the *Grand Paris* projects alone will not be able to resolve:

- A lacklustre job market and a **high unemployment rate** that exceeds levels in many other world cities; on this point *Grand Paris* is also clearly lagging in growth and thus in net job creation;
- **Growing regional gaps** in training, access to jobs and standard of living have made Ile-de-France one of France's most unequal areas.

And **serious doubts** are also hampering **the real impact** of the *Grand Paris* project momentum in increasing the employability of the people living in Ile-de-France. The ultimate goal can only be met if there are at the same time additional national and regional efforts on the competitiveness/cost ratio, a more fluid job market and attempts to reduce the isolation of the most disadvantaged areas:

- In many respects, **the country's structural tax and employment competitiveness** problem mainly affects the Capital Region. It will only be able to recover if reforms are introduced to address issues with the job market, social security charges and general corporate taxation.
- Keeping **production activities**, which generate many jobs in urban areas should be a more consistent consideration for development projects. For the moment, it is the more profitable service or residential projects which benefit most, often pushing out small and medium-sized businesses. Further, ORIE¹ showed that there is a considerable risk of "over-programming the service industry" (according to models, between 170,000 and 550,000 m² of unusable space for the market by 2030).
- The urban development projects targeting future train stations should be designed to help open up **underprivileged areas** and increase the employability of their residents.
- The job market could be made more fluid through **additional initiatives to create more flexible work models and prepare the residents of Ile-de-France for the jobs of the future**. This could be Corporate Social Responsibility programmes that encourage telecommuting, remote work or staggered working hours and support for new third places. It may also include a standard social inclusion clause in government contracts, procurement policies that favour local SMEs, measures that identify and take advantage of "hidden" skills in the Ile-de-France population (entrepreneurial potential, language skills, creative industries, etc.).





As of 2016, the *Grand Paris* jobs and skills project is already a success because...

- ... it has created a boom in projects and many new initiatives that create jobs for both skilled and unskilled workers;
- ... it is reconsidering the new map of economic activities and the role of production activities;
- ... it is based on a broad attractiveness strategy that includes talent and capital.



By 2030, the *Grand Paris* jobs and skills project will have been a success if...

- ... it has assisted in transitioning the economy and the skills of people living in Ile-de- France;
- ... it has generated more inclusive growth that rewards areas benefiting from the city's policy;
- ... it has helped to change working methods.

"The new infrastructures of Grand Paris are a powerful means to increase mobility in the job market thus making it easier for workers to get to their jobs and expanding the recruitment pool for companies so they can improve productivity."

"The Grand Paris growth strategy must include a training policy. For example, the project momentum should encourage current long-term jobseekers in Ile-de- France to get back into the working world and acquire new skills."

"Economic development is not possible without social cohesion. This is the main challenge of Grand Paris. Social cohesion will be the key criteria of future urban areas. There is no reason to pit economic development against social cohesion."

Experts' perspective

Innovation and entrepreneurship: Becoming a major city of the future

Originally, *Grand Paris* was called the “*Grand Paris* of Innovation” well before it was institutional or became known as a series of transport infrastructure projects. Ranging from the seven themed clusters conceived by Christian Blanc (Le Bourget, Evry-Villejuif, Saint-Denis-Pleyel, Paris-La Défense, Grand Roissy, Cité Descartes and Paris-Saclay) to competitiveness hubs, the creation of clusters and orderly networks of players gave rise to clearly defined centres of excellence.

Nonetheless, innovation must not be limited to its technological component, and must remain multifaceted in the future *Grand Paris*. Innovation must become part of the financial, services and user sectors, and even in working methods, as shown by the sharing economy.

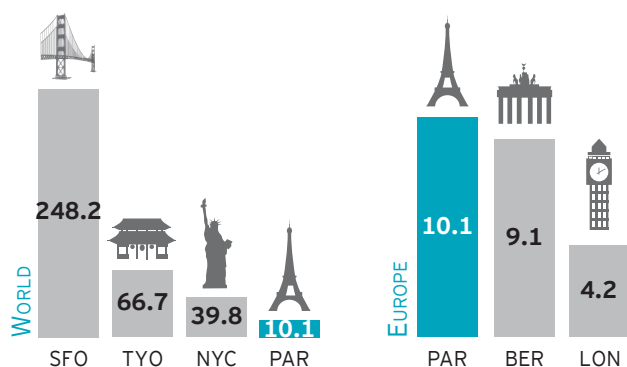
Facts and Figures



Research: A European leader struggling to compete with other major world cities

Europe's biggest region for public and private R&D spending: €18.664 billion in 2013

Number of patents filed per 10,000 inhabitants (2014)



Sources: European Patent Office



One of the best start-up ecosystems but far from ranking at the top

11th in the world

in a ranking dominated by Silicon Valley, New York and Los Angeles

3rd in Europe

behind London and Berlin

Rank determined based on performance, financing, market access, talent, and quality of the "start-up experience"

Source: Compass (2015)



Excellent results for innovative companies...

Number of Thomson Reuters Top 100 Most Innovative Companies (2015)

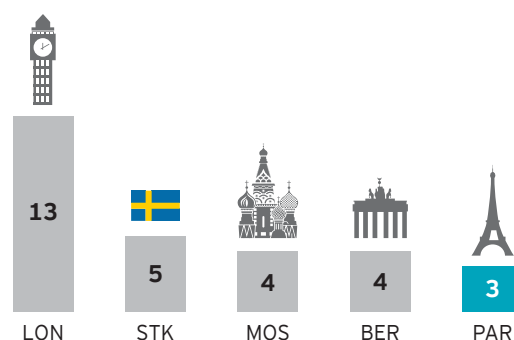


Sources: Thomson Reuters/GP Bullhound

...but still struggling to produce unicorns*



5th among top 40 locations for European unicorns (2015)



*companies valued at over \$1 billion

■ *Grand Paris* is a force to be reckoned with when it comes to higher education, research and business enterprise.

The "*Grand Paris* of Innovation" is above all else a critical mass **of skills, knowledge and talent**. The region is home to 17 universities, 560 CNRS-affiliated research labs, a pool of 21,000 PhD students, over 600,000 students in higher education institutions, and 37 of France's largest private R&D centres – for a total of nearly 47,000 jobs. This academic and scientific powerhouse is part of a start-up ecosystem with 12,000 budding companies in the Paris urban area in 2015.

The *Grand Paris* of Innovation also creates **positive momentum** with joint public-private sector initiatives, a recent example of which is French Tech and the competitiveness clusters, notably:

- **the current initiative to concentrate academic forces** at major hubs like *Université de Paris* Saclay, Condorcet and Paris Sciences et Lettres, giving global visibility to the Ile-de-France region;
- **the forthcoming network of public and private spaces for creation and innovation**, including the two largest in Europe: Halle Freyssinet and Le Cargo that will each be able to accommodate 1,000 start-ups by late 2016;
- **a proliferation of innovative projects**, as shown by the number of accredited projects, competitiveness clusters and patent filings;
- **and the presence of corporate head offices for some of the world's most innovative companies**.

Innovation is the best way to put the country back on track and intensify the competitiveness of Paris and its region on a global scale. This is borne out by the common belief that urban innovation should drive the *Grand Paris* projects with demonstration spaces and testing grounds that give companies a large platform to develop and pilot solutions that will shape their future markets.

■ But *Grand Paris* is still not quite in the world-class league.

While *Grand Paris* is primed to become a global innovation hub, **not all the project achievements are up to par** and there are signs of major room for improvement:

- **Even though the** ecosystem for welcoming start-ups is ramping up, it falls far short of Silicon Valley, and is also in competition with New York and London as well as other cities in Europe and Asia where regions are closer together and the fields of excellence are more easily identifiable;
- *Grand Paris* **looks less attractive to talent** than its rivals, especially in terms of recruiting skills from abroad (e.g. French start-ups only have 22% foreign talent compared to over 50% at their London counterparts);
- While Ile-de-France is ranked number one in Europe for R&D spending, patent filings and scientific publications, there is **still progress to be made in promoting research** (also considered a nationwide challenge);
- Amongst the 40 unicorns registered in Europe – those big-name innovation companies worth over \$1 billion – only three chose to locate their head offices in *Grand Paris* (Vente-privee.com, Criteo, BlaBlaCar).

The problem lies mainly in **financial sustenance, a structural issue of our innovation economy**. Although France is undergoing a real venture capital boom and ranks among the top three in Europe, it still lags behind in terms of the amount of capital raised (a mere 13% of funds raised in Europe for 21% of transactions).



As of 2016, the *Grand Paris* innovation and entrepreneurship project is already a success because...

- ... there is more global visibility for the *Grand Paris* innovation hubs;
- ... the construction of urban development projects have created opportunities to experiment and test innovative solutions (logistics, tele-commuting, data sharing, etc.);
- ... Paris has become one of the world's largest cities for technological entrepreneurship



By 2030, the *Grand Paris* innovation and entrepreneurship project will have been a success if it has become...

- ... an interconnected region for people, goods and data. The physical and virtual networks of *Grand Paris* will form the infrastructure basis for all innovative projects;
- ... an attractive region that entices technical talent and skills as well as investors to co-fund projects;
- ... a place of experimentation, an opportunity for companies looking to innovate and test new solutions.

"Ultimately, isn't what we expect from Grand Paris also what we expect from France? To gain momentum, modernise, enhance public and private innovation."

"We have to demonstrate that Grand Paris, Ile-de-France, the Capital Region – whatever its name – is strong, can unite, build a structure, and not stay within boundaries that are too rigid."

"The higher education clusters that have begun forming over the last few years are a revolution for a world not used to change. These groupings can enhance a cross-disciplinary philosophy, boosting international visibility and global rankings."

Experts' perspective

Attractiveness: Staying in the world-class league demands constant attention

In an increasingly globalised competitive economy, major cities all over the world are competing to attract investments, talent and tourists – formidable drivers of economic growth.

Investments themselves are a source of wealth creation, jobs and tax revenues. They are critical in their impact on the entire economy, on subcontracting, business partnerships, etc.

Considering the new phenomenon of extreme mobility, attracting **talent** – students, researchers, business leaders

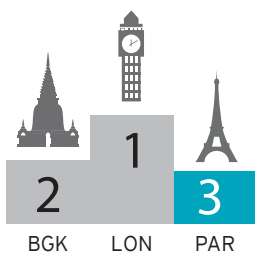
and entrepreneurs – is an even bigger challenge now that production is increasingly based on a virtual economy.

Lastly, the race to attract **visitors** – business tourists, vacationers, *city breakers* – is officially declared open as we can see by the contest between cities to host major events. Whether it be events for the general public (Olympics, World Cup, World Fair, etc.) or for the business world (research conferences, trade shows), all are catalysts for economic growth, drivers of regional development, and marketing that help boost their visibility and shape their image.

Facts and Figures



An increasingly competitive top tourist destination...



3rd in the world in 2015 for international overnight stays (16.1 m) behind London (18.8 m) and Bangkok (18.2 m)

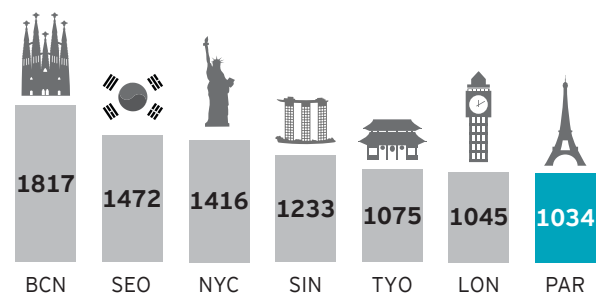
3.2%

increase in 2015 for international overnight stays as opposed to an increase of 11.4% for Istanbul, 8% for Bangkok, 6% for London, 5.1% for Tokyo and 3.5% for New York

Source: INSEE/MasterCard Global Destination Cities Index 2015

...with a limited economic impact

Average expenditure per international overnight stay in euros (2015)



An image still intact...

1st in the world (2015)

on the City Brand Index that measures the city's global image and popularity (#2 London, #3 New York)

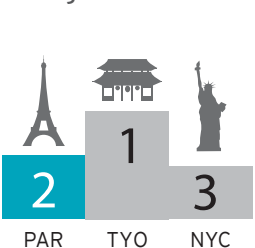
Sources: GfK/Facebook

...but under threat by the new social media order

4th in the world (2016)

on Facebook (7.02 m Likes) behind New York (13.44 m), Dubai (12.31 m) and London (7.23 m)

A powerful city whose influence is steadily falling behind



2nd in the world

in 2015 for the number of Fortune Global 500 head offices (29) behind Tokyo (38) and ahead of New York (24)



Source: Fortune

One of the most attractive destinations in the world for foreign investors

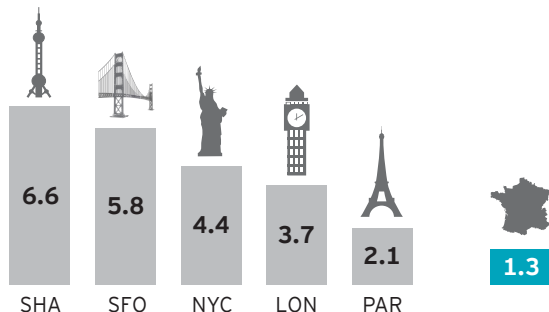


3rd in the world in 2014, 170 FDI (greenfield foreign direct investments)

Source: fDi Markets

The undeniable engine powering the national economy, *Grand Paris* needs more fuel to compete with rapidly growing cities

Average GDP growth in % (2011-2013)



Source: INSEE

■ Right at the centre of global trade flows, *Grand Paris* belongs to the exclusive circle of world cities.

As regards its economic influence, *Grand Paris* is the **uncontested driver of France's growth**: Ile-de-France makes up 30% of GDP with only 19% of the country's population and has higher structural growth than the rest of France.

It is also a destination, a centre of power and influence, and even an internationally reputed brand, all of which are the trademarks of a world city:

- *Grand Paris* is an **international political and economic command centre**. It is home to numerous international organisations like UNESCO and the OECD, many international bank headquarters, start-ups and companies;
- Ile-de-France is among **the most attractive regions** in the world for foreign direct investments, primarily for so-called strategic functions. In 2014, Paris had 107 new investments, ranking it third in the world for hosting head offices and headquarters, R&D centres, and sales offices;
- as the main gateway into the **world's top tourist destination** (84 million tourists visited France in 2014), the comprehensive offering and prestige of *Grand Paris* (museums, monuments, fashion, luxury goods, gastronomy and shopping) makes it the powerhouse and showcase of France as a destination.

■ The Capital Region is now starting to lose ground...and could fall behind in the future.

While only four metropolitan areas have historically belonged to the exclusive world city club - London, New York, Paris and Tokyo - the **competition is increasingly widening**: Cities in Asia (Shanghai, Singapore, Hong Kong, Seoul, Bangkok), Europe (Amsterdam, Brussels, Dublin, Barcelona, Madrid, Milan, Berlin) not to mention Sao Paulo, Dubai and Sydney, Chicago, Los Angeles, etc. can also claim to belong to the club of attractive cities given what they have to offer: opportunities for wealth creation, economic and/or political hubs, involvement in goods, capital and information flows, brand image and reputation, especially on social networks.

Given the current situation, ***Grand Paris* is losing influence on a number of fronts**. For example, there has been a steady decline in international corporate headquarters over the last 10 years (*Grand Paris* received 29 Fortune Global 500 headquarters in 2015 compared to 37 in 2009, i.e. a 28% decrease in seven years). According to *Artprice*, in 2015 Paris also lagged far behind the art markets in New York and London as well as Beijing and Hong Kong. Paris is still considered a fashion capital alongside cities like New York, London and Milan, but other cities such as Los Angeles, Tokyo and Dubai are growing in influence. Lastly, when it comes to nightlife, Berlin, Barcelona and London have been on the top of Europe's list for the last few decades.

Generally speaking, ***Grand Paris* does not do enough to promote all it has to offer or fulfill its potential**: the world mostly receives a very Paris-centric message while the other regions in *Grand Paris* are pitted against each other and cannot pull together when trying to attract investments. It was a ground-breaking event at MIPIM 2016 when all the Ile-de-France exhibitors came together under one roof called "*Grand Paris*" with a common visual identity, a sign that there is a collective awareness of this issue. In the coming months and years, more will need to be done to collectively promote all the region's assets in a united message.



As of 2016, the *Grand Paris* growth and attractiveness project is already a success because...

- ... the project momentum (current transport upgrades, new housing development, stronger identities for so-called specialised areas, the Reinvent Paris calls for tenders, and the *Grand Paris* hubs) is sending out a signal of economic vitality and has already generated healthy competition;
- ... *Grand Paris* is a unifying concept, a collective momentum and a genuine brand name in which all the region's advantages and possibilities can unite;
- ... despite France's competitiveness issue, Ile-de-France is still globally attractive.



By 2030, the *Grand Paris* growth and attractiveness project will have been a success if...

- ... it has become a regional offering with distinct areas and a consistent, harmonized communication message which is visible and clearly understood internationally;
- ... the areas and stakeholders of *Grand Paris* manage to work as a group and speak as one in the international attractiveness competition;
- ... *Grand Paris* has considerably improved France's attractiveness.

"The benefit of Grand Paris is twofold. The whole project has the advantage of bolstering and enhancing Grand Paris's assets compared to its international competitors with the projects such as the Grand Paris hubs and transport infrastructure. But in addition to the project itself, the very idea of a Grand Paris is game-changing in that it opens up the region's existing strengths and its future potential. Grand Paris actually already exists; the concept just gives it a name."

"The Grand Paris projects are contributing directly to national growth because the growth of economies today depends mainly on the growth of their cities, which itself is related to the standard of their transport and housing."

"It is a widely-agreed fact today that Paris has left any type of leadership role in Europe to cities like London, Barcelona, Prague and Berlin. More and more French artists and professionals are relocating to these cities every day, not to mention the Ile-de-France residents themselves who no longer think twice about leaving for the weekend to go where the party is really happening."

Experts' perspective



Driver 03 | *Grand Paris:* A driver of funding and investment

Investment, the fuel that powers growth, is both an expected outcome of the *Grand Paris* project and a key issue in creating a city capable of competing with the world's biggest megacities:

- 1. Funding and venture capital:** How can *Grand Paris* become a vector to accelerate the funding of Ile-de-France companies so they in turn can support its development?
- 2. Real estate investment:** How is the attractiveness of the real estate market in *Grand Paris* being increased? What drivers should the city make use of to realize the *Grand Paris* project's promising potential in terms of real estate?
- 3. Consumer economy:** What conditions will the *Grand Paris* project have to bring together to create a consumer dynamic that benefits the city's economic ecosystem?

Funding and Venture Capital: A priority for growth

As the main springboard for launching and developing new companies and technologies, **venture capital and stock market funding** are ways to gauge the vitality of investment and the ability of businesses to shape a region by basing their projects there. It is also a relevant indicator of a city's capacity to reinvent itself and adopt new economic cycles that will ultimately raise its profile, an *essential* condition for continued investment.

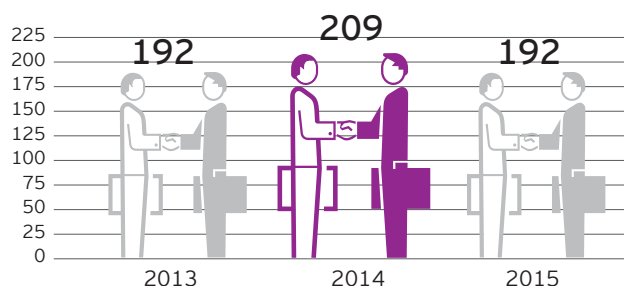
Grand Paris currently drives venture capital in France, but it is still only at the threshold of much wider opportunities. The catalyst for these could be the new centres of competitiveness and excellence being built to guide investors in the right direction. With these bright prospects ahead, it is nonetheless important to ensure that the project maintains the agile approach that gives the entrepreneurial ecosystem its current momentum.

■ Facts and Figures

Venture capital: Overall, the volume of transactions remains steady, but the average amount has doubled.

Trend in the number of transactions and their average amount in Ile-de-France (2013-2015)

Number of transactions



Volume of transactions (in millions of €)

525.5

600

1111

Average amount (in millions of €)

2.7

2.9

5.8

Source: Baromètre du capital-risque EY

Grand Paris drives venture capital in France.

In 2015, Ile-de-France accounted for:

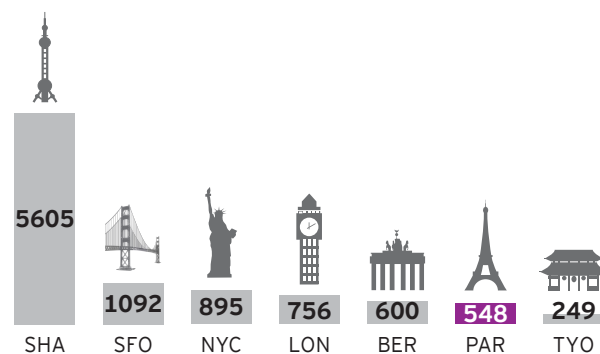
40%
of transactions

61%
of money invested

Source: Baromètre du capital-risque EY

Despite a net improvement, the conditions for business development funding are insufficient to compete with other major cities.

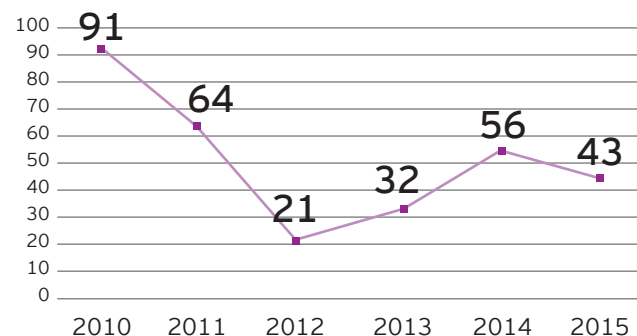
Top 7 cities where the 20 largest funding rounds took place (2012-2015)



Source: TechCrunch

After plummeting between 2010 and 2012, IPOs are once again picking up speed

Number of IPOs in Paris (2010-2015)



Sources: Euronext/Alternext/Free Market

■ 2015 was a record year for investments in *Grand Paris*.

In *Grand Paris*, funds raised from venture capital firms nearly doubled between 2013 and 2015, increasing from €525.5 million to €1.1 billion, whereas the volume of transactions generally remained steady. This indicates an increase in the average investment amount and renewed investor confidence. Thus, *Grand Paris* alone accounts for 40% of the country's transactions and almost 60% of the money invested, which makes the city **the main centre of venture capital in France**. The number of start-ups in the *Grand Paris* area, which has been a sign of this unprecedented boom since the 2000s, totalled nearly 12,000 with only 4,000 of them located in Paris proper.

At the same time, Paris has been experiencing an upturn in the **number of IPOs** in the last few years, following a drop between 2010 and 2012. However, this indicator has not returned to the same level as in 2010. While the conditions are ripe for creating and developing businesses, it should be noted that, among the measures decided at regional level, the Ile-de-France regional policy in partnership with BPI France is helping create these favourable conditions by easing credit and financial backing. Two regional funds (guarantee and innovation) are being supplemented by development loan programmes and a partnership with eight regional investment funds. Since 2011, these programmes have helped 25,000 companies, some of which are located in economically disadvantaged areas of *Grand Paris* that lack private investment opportunities.

■ The "*Grand Paris* effect" is not yet in full swing.

Paris aims to be the start-up capital and is looking for ways to build a world-class venture funding ecosystem. To this end, Paris hosted one of the world's largest start-up conferences in July 2016. However, investors still choose particular districts, rather than being attracted by the Paris brand itself. London, on the other hand, is chosen as a location before any specific district. **The brand image and unity of *Grand Paris* are tools for the development of this funding ecosystem that are not being sufficiently exploited by the city.**

This issue is made more urgent by the fact that Paris lags far behind San Francisco, New York, London, Shanghai and Berlin in the ranking of the top 20 cities for funding rounds from 2012 to 2014. 2015 was a historic year for venture capital in Paris, **but fierce competition from other world megacities shows the need for *Grand Paris* to create the conditions to ensure the continuation of this momentum** and to strengthen synergies between regions so that start-ups can mature. Then they in turn will stimulate the regions when they have reached the status of unicorn or industry leader.





As of 2016, the *Grand Paris* funding project is already a success because...

- ... the vitality of venture capital is a sign of resilience in sectors and regions that are forming synergies across *Grand Paris*;
- ... the development of a world-class venture funding ecosystem is making *Grand Paris* a new centre of gravity for investors.



By 2030, the *Grand Paris* arm funding project will have been a success if...

- ... international investors see the city as one of the centres of the new economy and a key investment location;
- ... the innovative companies across Europe choose the Paris stock market as their listing location.

"It is important to ensure that the economic aspect of the project becomes its governing principle, so that the project picks up speed."

"There have been many more opportunities in Ile-de-France in the last five or ten years. The momentum is good, as can be seen from the creation of new businesses."

"The growth of Grand Paris needs to be supported by entrepreneurs of start-ups and medium-sized companies."

Experts' perspective

Real Estate Investment: Promises against the clock

Commonly cited as a major contributor to *Grand Paris*, the real estate sector lies at the heart of the project's aspirations and challenges. Beyond the transport, infrastructure and construction aspects, *Grand Paris* is about the changing urban landscape.

The real estate sector has broadened its scope of activity and the various players (developers, investors and funders) in all areas (residential, services, commercial, etc.) now play an active role in creating, vitalising and changing the living and

working environments of their fellow citizens. Thus the real estate sector contributes to how the city evolves and is part of the societal shifts we are experiencing.

These observations naturally beg the question of how real estate is positioned in and contributes to the project, in particular its funding.

Facts and Figures

Paris is a safe choice for property investment...

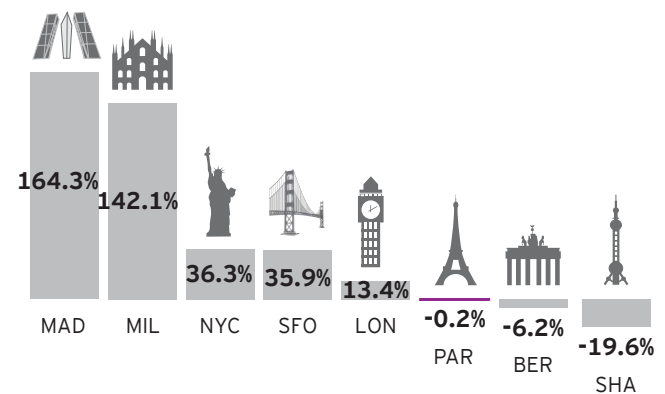
Top 10 cities that have generated the largest volumes of real estate investment (in millions of USD, 2014-2015)

CITY	Q3 2014 - Q2 2015 (millions of USD)
1 New York	74,800
2 London	55,207
3 Tokyo	37,971
4 Los Angeles	37,457
5 San Francisco	32,355
6 Paris	22,955
7 Chicago	20,036
8 Washington, D.C.	18,516
9 Dallas	16,297
10 Atlanta	16,022

Source: Cushman & Wakefield

...but the climate is not conducive compared to the vitality of other cities.

Growth of property investment (Q3 2014-Q2 2015)



3rd place

for international property investment behind London and New York but ahead of Tokyo, Los Angeles and San Francisco

A position relying above all on the attractiveness of Paris in the office and hotel markets



5th in the world

for office real estate behind London, New York, Tokyo and San Francisco



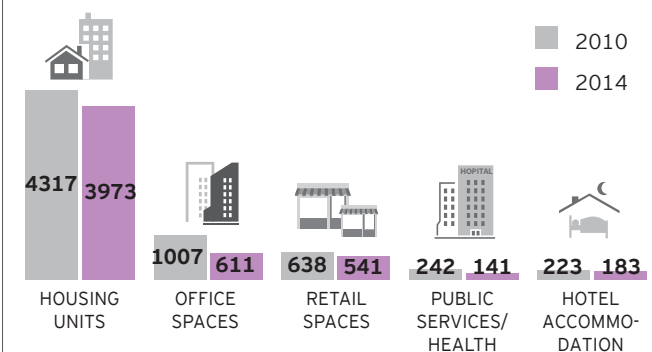
4th in the world

for hotel real estate

Source: Cushman & Wakefield (2015-2016)

In line with the unfavourable economic climate, there has been a major drop in construction starts since 2012, all products combined.

Change in the number of authorised m² in 1,000s of spaces (in 1,000s, 2010-2014)



Source: Ministère de l'environnement, de l'énergie et de la mer

■ **Grand Paris offers some promising growth opportunities for the real estate market.**

After the initial study stage, *Grand Paris* now seems to have started a new stage of its development supported by strong project dynamics. This means that it is possible to offer investors seeking dependable time references a more accurate picture of available opportunities.

These include a number of flagship projects that show that **Grand Paris is already under construction and is resulting in a wide range of ambitious property development projects.** The revival of Paris-La Défense, Europe's leading office district for the services sector, is happening through a far-reaching programme for the renovation of obsolete buildings and the construction of 300,000 m² of new office space, primarily in the Seine-Arche sector. The Paris-Saclay cluster is slowly becoming a reality, mainly around the Ecole Polytechnique and Moulon districts, in over 1.7 million m² of mixed-use space (higher education and research, economic development, housing, retail shops and services). In the northeast section, the development of the Triangle de Gonesse will add more than 1.8 million m² for economic and recreational activities (offices, shops, services, sport and cultural facilities, etc.).

The current context of Brexit and reduced profitability across the Channel could make the Grand Paris projects look attractive to foreign investors by offering better returns for mature assets.

So investors are now seeing diversification to continental Europe in a positive light, insofar as construction meets deadlines and the trains arrive at the stations on time to deliver those assets. The beginning of this shift can be seen in China Investment Corporation's commitment of Chinese sovereign funds and its desire to partner with Caisse des Dépôts et Consignations (French Deposit and Consignment Office) to invest €1 billion in *Grand Paris*.

These prospects thus mitigate the drop in the number of authorised m² between 2010 and 2014, the consequence of an economic slump and the fact that the *Grand Paris* project had not yet reached the operational phase. Yet this was a turning point and from 2014 to 2015 the number of authorised m² rose again with the authorisation of more than 600,000 m² of additional residential space and 100,000 m² of retail space.

■ **There remains some uncertainty given the lack of visibility on the project's timeline and changes in uses.**

Although the development of the districts around the 68 new train stations also seems to offer bright investment prospects, the delivery schedule for the *Grand Paris Express* project and the possible appeals against building permit applications are a source of uncertainty for investors, most of whom plan to wait until they are sure the construction timelines are met before investing.

Given this situation, foreign investors still remain very attached to traditionally favoured districts such as the Triangle d'Or or La Défense. The *Grand Paris* project thus has to be able to show proof of the changes under way, by turning the most ambitious architectural achievements into iconic sites, much like Australia's Sydney Opera House and Singapore's Gardens by the Bay. **French investors are expressing some reservations and expect more from public-private partnerships** as well as consistent political backing, citing the example of the construction of La Défense in the 1960s when investors were brought into the project in the very early stages.

Changes in uses and the valuation of real estate assets are also causes for uncertainty. While the *Grand Paris* project plans to include a digital component to provide Wi-fi in the metro and train stations, changes in lifestyle and work habits may render a large number of newly constructed districts obsolete. At present, no one can say whether the improved fluidity of transport in *Grand Paris* will help bring people to the major employment areas, or if objective-based management coupled with teleworking centres at train stations will replace in-office management, or whether it is just wrong to put physical mobility and technological mobility at opposite ends of the spectrum. Clearly, the real estate community must expect the value of real estate assets to depend increasingly on the value in use, as is the case in other sectors.



As of 2016, the *Grand Paris* real estate investment project is already a success because...

- ... foreign real estate investors are watching the project's progress, especially as the Paris brand is considered a safe choice around the world;
- ... the public sector's attitude to public relations has changed, as seen by the coordinated attendance of government representatives at MIPIM 2016.



By 2030, the *Grand Paris* real estate investment project will have been a success if...

- ... the current timeline for completing the various sections of *Grand Paris Express* is met;
- ... Paris has improved its attractiveness in the global real estate market;
- ... the major architectural projects become symbols of regional and national attractiveness.

"Having started as an essentially transport-oriented project, Grand Paris has been given a boost with the definition of metropolitan attractiveness hubs and the start of construction. But there is still a lot to do to strengthen the ties between public and private investment. Although the schedule is ambitious and well managed, investors are waiting to see how urban developments are woven into the local fabric before they invest."

"Today's buildings are more obsolete in terms of use than from a technical standpoint. This is an opportunity to design structures with a built-in ability to change and adapt to the uses of tomorrow. In the future, this ability will be factored into the value of real estate assets."

Experts' perspective

The Consumer Economy: Maintaining a competitive edge

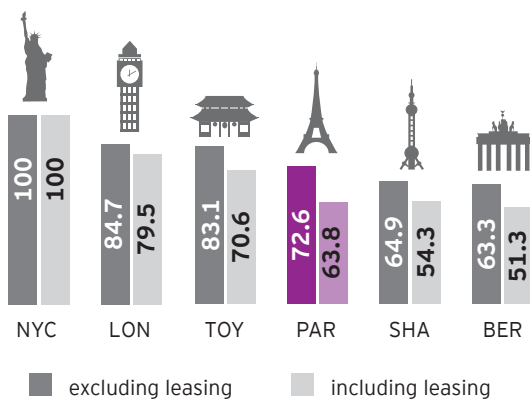
Household consumption represents nearly half of French GDP and accounts for 30% of its quarterly variation. It is a crucial contributor to and a central indicator of a region's economic and financial vitality. Analysing its makeup can also shed light on major shifts in lifestyles and uses in a city under construction. We do not consume the same

goods and services now as we did in the past, but the Capital Region also distinguishes itself from the rest of France in the same way as other world capitals. Household consumption is an indicator of good economic health, and equally of the advancement of the *Grand Paris* project.

Facts and Figures

Grand Paris is one of the world's most expensive cities...

Price level (2015)

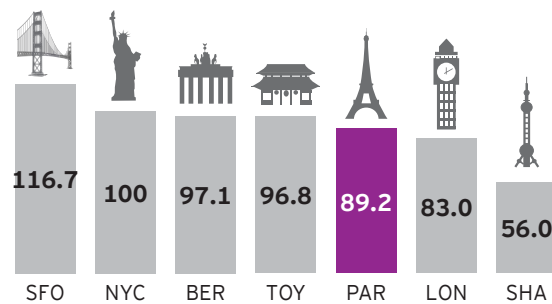


Method: The price level is calculated based on a standard basket of 122 goods and services that represent what a European family of three needs to live for one month. The price level is then indexed to New York (base value of 100 for the ranking).

Sources: UBS and Numbeo

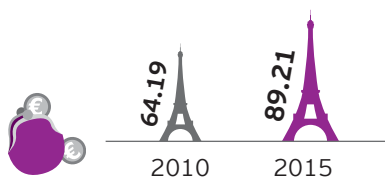
...but the buying power of its residents falls within the average of other world cities.

Buying power (2015)

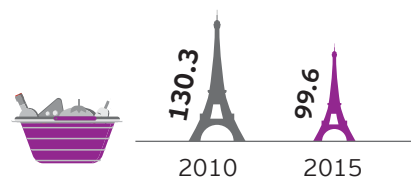


Buying power in Paris has risen sharply but this is not perceived by residents.

Trend in the buying power index in Paris (2010-2015)



Trend in the cost of living index in Paris (2010-2015)



Two-way migration of families between Ile-de-France and the rest of France (2015)



Sources: Numbeo and IAU

■ **In order to succeed, the *Grand Paris* project must take the household economy into account.**

Although the *Grand Paris* project must sustain private investment to meet its original goal, household consumption and access to savings – which remain the weak point for France's growth – are factors of this success in their own right.

It is important that, as a result of focusing on the strong leverage effects developed by the project, Paris should not become a city where the middle classes, budding entrepreneurs, students, researchers and the artistic communities can no longer afford to live, invest and innovate.

In London, despite the economic boost represented by the Olympics for the development of the eastern and northeastern parts of the city, the exponential rise in the cost of living is a significant damper on development. The inflationary effect on rents and the overall cost of living – the Achilles heel of rapidly expanding cities – may ultimately result in the eviction of populations that contribute to a region's vitality through their consumption, creativity and risk-taking.

The Capital Region's competitiveness for families has remained at a reasonable level, undoubtedly partly due to the recent drop in interest rates. However, the tides are turning toward other cities such as Berlin and San Francisco, seen as an El Dorado for creators and entrepreneurs.

In this respect, it is interesting to note that these urban areas are introducing more or less effective measures to **maintain this competitive edge**. For example, Berlin is trying to keep property available and costs steady by regulating rentals through Airbnb. The measure is expected to provide Berliners with nearly 12,000 housing units.

■ **The middles classes should not be abandoned**

Without a doubt, difficulties of access to ownership, dwindling property investment profits and the share of rents in household budgets in Ile-de-France are all factors that partly explain why more families are leaving the region than moving there (30% out versus 14% in).

Particular attention should be paid to this reality, considering that it is estimated that a 30-something couple in Ile-de-France now needs 27 years to break even after buying a 50 m² two-room flat in Paris.

From a property investment perspective, rents have not increased in pace with the price of real estate over the last decade, which means a rental investment is increasingly less profitable for households.

Finally, rental expenses in Paris are nearly 50% higher than for accommodation outside the capital and, after factoring in upkeep and energy costs (gas, electricity, and other fuels), rents represent 14.1% of the city's household budgets.





As of 2016, the *Grand Paris* consumer project is already a success because...

- ... on average, the cost of living has risen more slowly than in competing large Western cities;
- ... differences in prices and costs of living suggest there are dynamic polarities outside the centre of Paris.



By 2030, the *Grand Paris* consumer project will have been a success if...

- ... the transport system has reduced differences in the cost and standard of living between the different areas in Ile-de-France;
- ... a portion of personal savings have been invested in *Grand Paris* projects.

"Compared to other cities like London or San Francisco, the Capital Region offers a wide variety of scenarios. It is one of the key intentions of the Grand Paris project to reduce disparities and centrifugal forces."

Experts' perspective

Grand Paris: A driver of sustainable development

As the major challenge of this century, and an issue for cities that want to maintain their influence and the quality of life of their residents, sustainable development is a powerful driver of urban transformation. While the future outline of *Grand Paris* has already begun to take shape, there are three aspects of sustainable growth likely to give the capital a new look:

- 1. Ecological performance and quality of life:** Will *Grand Paris* be able to adapt to its population's new needs and uses and still overcome environmental challenges?
- 2. Social performance:** To what extent does the project in its current form reconcile requirements of economic attractiveness and the social needs of its population?
- 3. Energy performance:** How can urban renewal help the region's energy transition?



Ecological Performance and Quality of Life: Protecting a high standard of living

Paris may be the most admired city in the world, but it does not rank among those that offer the best quality of life.

Thus, this is an opportunity for the *Grand Paris* project to turn this rating around. Quality of life is a vital issue in a world where mobility encourages talent and resources to look elsewhere. It is composite notion partly derived from personal

perceptions of a range of criteria. Yet the future cities of the world will really have to scrutinise this changing landscape if they hope to maintain their full potential. All the players involved in the *Grand Paris* project must therefore be attentive to the needs of its residents in order to succeed and to turn the City of Light into one that is known for its quality of life.

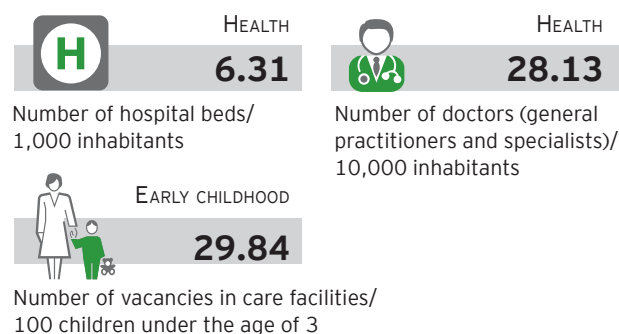
Facts and Figures

Grand Paris offers its residents undeniable advantages...

European Regional Human Development indicator

Ile-de-France	0.64-0.68
London	0.74
Stockholm	0.75

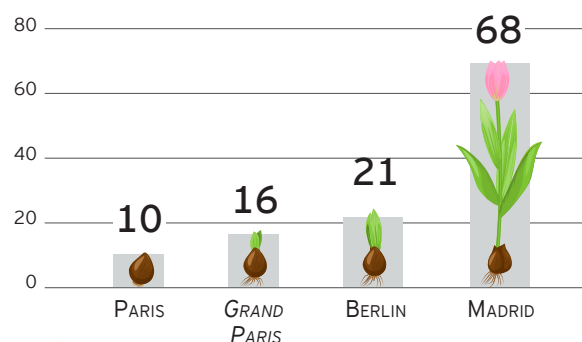
Access to services and facilities for residents



Sources: IAU/Ministère de l'aménagement du territoire, de la ruralité et des collectivités territoriales

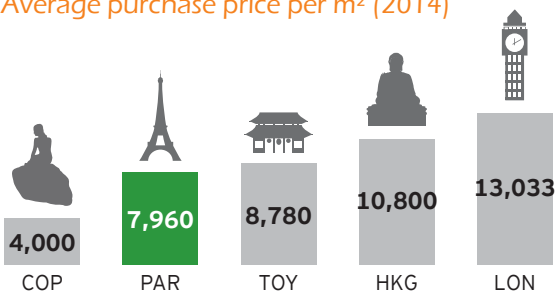
...but *Grand Paris* has fewer green spaces than other European capitals.

Density of green spaces in m² per inhabitant

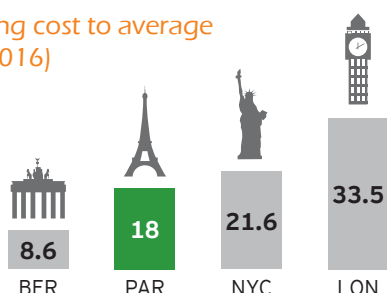


The residents of Ile-de-France have more buying power to purchase a home than people in London, Tokyo and Hong Kong...

Average purchase price per m² (2014)



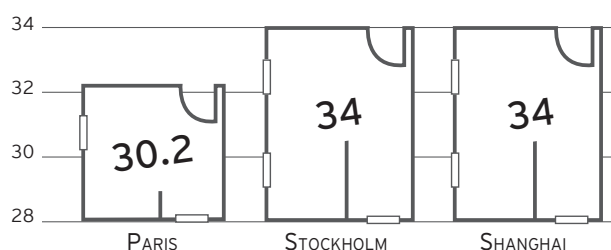
Ratio of housing cost to average annual salary (2016)



Sources: INSEE/SCB/The Economist

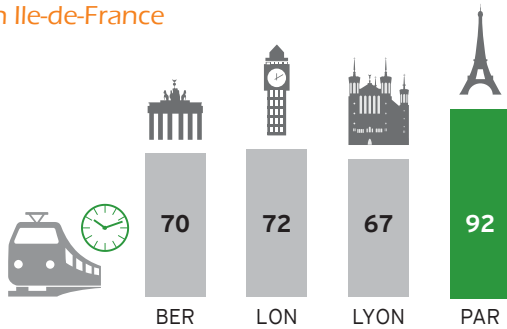
...but they live in smaller housing units than the residents of other European and Asian cities.

Average surface area of housing unit per inhabitant (m² per inhabitant, 2013)



Transport commute times are longest in *Grand Paris*, ahead of London

Time spent in transport in minutes in Ile-de-France



Note: The higher number recorded in Ile-de-France than in London and Berlin is also due to the higher number of daily journeys (3.6 journeys for Ile-de-France compared to 3 in Berlin and 2.5 in London)

Average commute time



Sources: Transport for London

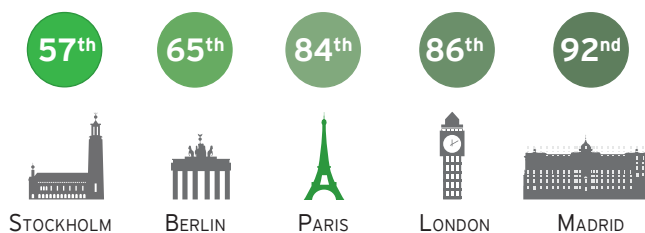
Like other large European cities, Paris is working to improve its air quality.



16 in 2015

Number of days when the air pollution limit was exceeded

We Demail ranking of the 100 largest European cities for the number of days over the limit



Soot Free Cities ranking for 23 European cities based on their air quality policies



Sources: Airparif/We Demail/Soot Free Cities

■ *Grand Paris* is an advanced human development region

The region undeniably offers its residents attractive assets. **Ile-de-France's Human Development Index, as calculated by the European Union (EU-HDI), is the highest of all French regions (the only region in the top European quintile).** This is the result of a higher level of income, education and life expectancy than the national average. Ile-de-France also gives its residents access to top-class services. Examples of areas of excellence include:

- healthcare services: hospitals offering the most technologically advanced equipment;
- cultural institutions: world-renowned monuments and museums that give Paris its reputation;
- sports facilities: equipped to host international events such as the French Tennis Open and Euro 2016.

All these benefits add to the city's attractiveness for its residents.

In addition, the population of Ile-de-France is young and active. The very high rate of natural increase is combined with a migration profile that slows the ageing of the population. In 2030, Ile-de-France will be the only region in France with more people under the age of 20 than over the age of 60.

Finally, the quality of air is a public health issue for all the world's big cities. It is also a growing concern for people in Ile-de-France. Air quality is improving in the region: between 2005 and 2015, concentrations of regulated pollutants decreased (fine particulates, nitrogen oxides, lead, benzene, sulphur, etc.) or stabilised (ozone). The city falls within the average of other European cities (London, Berlin, Madrid, Stockholm, etc.), but is improving at a slower rate.

■ The good life is in jeopardy.

However, there are still serious concerns, with housing at the top of the list. Ile-de-France is experiencing a shortage: the *Institut d'aménagement et d'urbanisme* (Institute of Land and Urban Development) estimates the number of people with inadequate housing to be 1,194,000, or 10% of the 12 million residents of Ile-de-France. **The shortage is putting mounting pressure on real estate, which residents of Ile-de-France mainly feel in the housing affordability ratio.**

The high costs are pushing disadvantaged populations out to the outskirts and forcing them to constantly move further away, thereby resulting in urban sprawl. Longer distances coupled with less dependable transport services in the outer areas mean that people spend more time travelling. In 2010, Ile-de-France residents spent an average of 92 minutes per day on transport (all modes included), an 11% increase since 2001. Increasingly longer transport times are therefore threatening the quality of life in the Paris region and inducing fatigue and stress for the population.



As of 2016, the *Grand Paris* quality of life project is already a success because...

- ... *Grand Paris* offers its inhabitants a high standard of living;
- ... the city possesses the main world-class infrastructures: airports, stadiums, hospitals and higher education centres;
- ... the air quality has improved in the last decade.



By 2030, the *Grand Paris* quality of life project will have been a success if...

- ... the housing construction objectives have been achieved;
- ... housing represents a smaller portion of household budgets in Ile-de-France;
- ... urban sprawl has slowed;
- ... transport times are under control.

"Today people work in one district and relax in another. Today's commuting times indicate we are living in a city that has not kept up with changing uses and the quality of life is not optimal. So the Grand Paris project is an opportunity to design a slightly different city that makes room for a new mix of offices and retail outlets both pleasant to live in and ecologically efficient."

"Amid this fast-paced urbanisation, we need spaces that maintain our health and quality of life. In 10 to 15 years, this could be a factor that sets Paris apart from other world cities."

Experts' perspective

Social performance: Preventing fragmentation

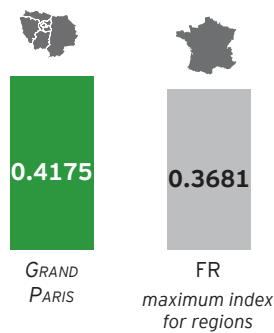
The residents of *Grand Paris* will only support the project if it fosters social progress. It must work to eradicate inequalities, promote social inclusion and strengthen the cohesion of the city

The latter must be designed to enable mobility - not only in space and time, but also social mobility. These three drivers of growth could give *Grand Paris* world-class status. But there is still much work to be done.

Facts and Figures

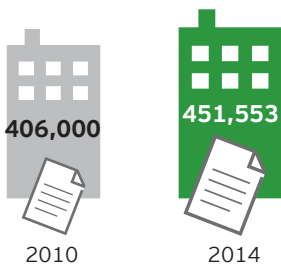
Grand Paris has to contend with severe regional inequalities...

GINI index for mainland France (2010)

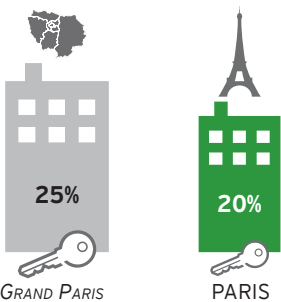


The GINI coefficient is a statistical measure of a population's social distribution. 0 corresponds to complete equality between inhabitants and 1 corresponds to complete inequality.

Stock of active social housing applications, excluding transfers for Ile-de-France



Percentage of main residences that are social housing units (2014)



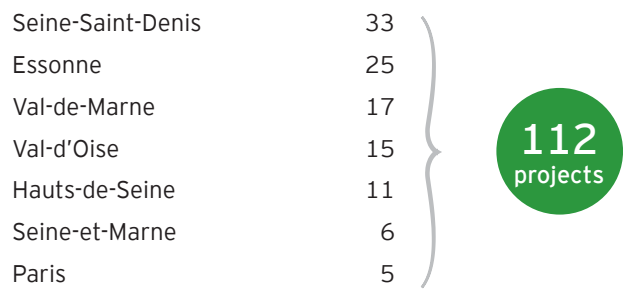
14 municipalities

are in breach of the SRU law on the social housing rate in the inner suburbs, while 10 municipalities have a social housing rate above 50%.

Sources: INSEE/DRIHL

...but urban development plans are underway.

Number of projects led by the Ile-de-France Agence nationale de rénovation urbaine (National Urban Renewal Agency) (2016)



Source: Agence nationale de rénovation urbaine en Île-de-France

■ Strong regional divides

All the wealth indicators rank Ile-de-France as the richest region in France. Yet despite a high standard of living, inequalities are also common. According to INSEE statistics, in 2009 Ile-de-France was the region where inequalities in income distribution were the most significant. **This leads to strong regional divides and major imbalances.**

There are still considerable gaps between Paris proper and the inner suburbs, with the ring road creating a separation. But other boundaries exist within *Grand Paris*, like that between Hauts-de-Seine and Seine-Saint-Denis which delineates two very different areas. There are also regional imbalances between the location of employment areas (mainly in the west of Paris) and where people live (mainly in the east of Paris). Based on average income, Paris and eight towns west of Paris are among the 10 richest large cities in France. Conversely, Sarcelles, Saint-Denis and Aubervilliers are among the 10 poorest cities.

■ But some fine initiatives have generated positive momentum.

An increasing number of measures are being taken to overcome these imbalances and develop disadvantaged areas. The recent developments in the public transport system aim to improve service to the suburbs (tramways, extended metro lines) pending the start of operation of the *Grand Paris Express*. The project is also designed to open up isolated areas. All this reflects a desire to link the suburbs together to boost their attractiveness.

Similarly, the *Grand Paris* centres of excellence are evenly spread out across the region and thereby provide services to most of the region's areas. This will revitalise some districts, thanks to projects like that of the Tour Médicis in Clichy-Montfermeil. The urban renewal of the La Plaine-Saint Denis district has also enabled the rehabilitation of the area in recent years. Other initiatives are of greater symbolic significance, such as one of the projects selected in the "Reinvent Paris" call for tenders. In this project, a building bridges the ring road, to close the divide and help connect the areas on either side.

Thus, this is a unique opportunity to open up various districts and improve the attractiveness of disadvantaged areas in the outskirts, so as to eliminate regional disparities.



As of 2016, the *Grand Paris* social performance project is already a success because...

- ... all the current infrastructure projects are designed with the entire urban area in mind;
- ... the centres of excellence are relatively evenly distributed throughout the whole region.



By 2030, the *Grand Paris* social performance project will have been a success if...

- ... the major regional imbalances have been eliminated, particularly by bringing populations closer to jobs;
- ... the new areas in the vicinity of train stations are attractive and well connected to the stations and surrounding neighbourhoods. Transport times are under control.

"An area cannot develop unless flows are enabled: flows of people, products, money, etc."

"An area is only attractive if all the infrastructures work together."

Experts' perspective

Energy Performance: The regional implications of the Paris Agreement

In the wake of COP 21 held in December 2015 at Le Bourget, the issue of setting up the energy transition is more topical than ever and will play out in the major cities. In fact, according to the United Nations, cities produce almost 70% of greenhouse gas emissions – which also equals their energy consumption worldwide. With its costly, unstable energy supply and its existing grids, the entire city

needs to be rethought to meet the energy challenge. Like funding, energy is a condition of economic development. *Grand Paris* must therefore integrate this aspect fully into its development plan. Although government programmes such as the Climate-Energy Plans are being implemented at departmental and regional levels, it is essential that the energy transition be addressed in terms of the city.

Facts and Figures

Most of the energy consumed in *Grand Paris* is electric.



66,457 GWh
of electricity consumed in Ile-de-France
in 2014

Source: Réseau Transport Electricité Île-de-France

Some progress still needs to be made to increase the share of renewable energy in the electricity produced for *Grand Paris*.

Share of renewable energy in Paris (2014)



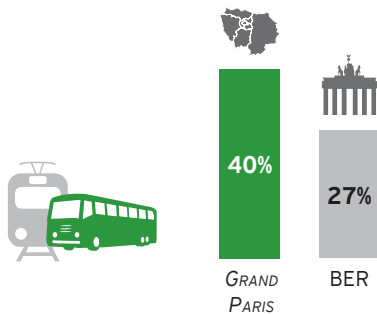
37%
of electricity production

1.9%
of electricity consumption

Source: Réseau Transport Electricité Île-de-France

Grand Paris has a dense public transport network.

Modal share of public transport (2014)



Source: Transport for London

Construction waste recycling is now part of the *Grand Paris* project.

Construction waste recycling target set by *Société du Grand Paris* (2016)



70%
of construction waste
recycled

Source: Société du Grand Paris

■ Urban renewal projects must change the region's energy profile.

The *Grand Paris* region has been the stage for ground-breaking energy transition initiatives. IssyGrid, one of the first district smart grids, and the renovation of the Saint-Ouen docks are just two examples of many such projects.

Eco-districts have also seen exponential growth in the last few years. Between 2013 and 2015, the number of people in Ile-de-France living in eco-districts tripled. This trend reflects the vitality of the new urban development projects and the desire of residents to live in neighbourhoods that are responsible and ethical. These districts will ultimately form a framework upon which the city can build in order to develop a region that is exemplary in its approach to energy consumption. The effect will be emphasised by the fact that the rate of renewal of housing stock is set to increase as the transport infrastructure improves. Numerous urban renewal projects are planned, in particular with the new districts around the *Grand Paris Express* train stations. As heating regulations and building industry practices are changing quickly, urban renewal will contribute to the shift of the energy profile of the housing stock.

Lastly, because construction sites generate large quantities of materials and waste, they are also a key challenge in terms of the energy transition.

The *Société du Grand Paris* has already identified this issue and set ambitious goals for waste recycling (70%) as part of the major works being planned, in line with national and European objectives. Achievement of these goals will make it exemplary in this field.

■ The energy-carbon question has not yet been identified as an issue for *Grand Paris*.

Although Paris was centre stage for the COP 21 negotiations, the energy-carbon question is not one of the city's main concerns. The City of Paris decided to draw up a strategy to be carbon neutral by 2050, but as yet no structured approach exists at city or regional level. In fact, many aspects of the issues, such as mobility, the energy system and waste management, extend beyond the boundaries of the capital itself. It is therefore essential to coordinate municipal initiatives at city level in order to conduct a coherent, effective energy-carbon policy.

Furthermore, the constantly growing population and increased use of digital technology raise the question of energy performance. Over the last few years, per capita energy consumption has decreased, but RTE (The French electricity transport grid) forecasts a 20% rise in the city's electricity needs by 2030. The region is already a major consumer of energy, but it produces very little (90% of the electricity it consumes is currently imported) and has limited potential for local production. It therefore remains dependent on the rest of France for the production of renewable energy.





As of 2016, the *Grand Paris* energy performance project is already a success because...

- ... innovative initiatives are serving as a showcase for the widespread adoption of best practices for buildings and eco-districts;
- ... urban renewal programmes are already planned and will foster the adoption of the new building heating standards;
- ... ambitious objectives have been set, in particular for the recycling of construction waste.



By 2030, the *Grand Paris* energy performance project will have been a success if...

- ... the region's energy-carbon path is consistent with the commitments made at COP 21;
- ... the energy policy is consistent at the various levels (municipalities, *Grand Paris*, the region, etc.);
- ... the development of renewable and recycled energy has been actively pursued.

"Network infrastructures, particularly for energy, are often overlooked in development decisions because they are hidden from view. Yet they are the foundation for technologies that can revolutionise the city as we know it today."

"In the age of climate change with its complex implications for the economy, energy performance is without a doubt one of the key indicators of success for the major cities of the future."

Experts' perspective

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SCORE France No. 2016-033
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