

MAIRIE DE PARIS



PARIS

Smart and
Sustainable

LOOKING AHEAD TO 2020
AND BEYOND



PARIS VILLE
INTELLIGENTE
ET DURABLE



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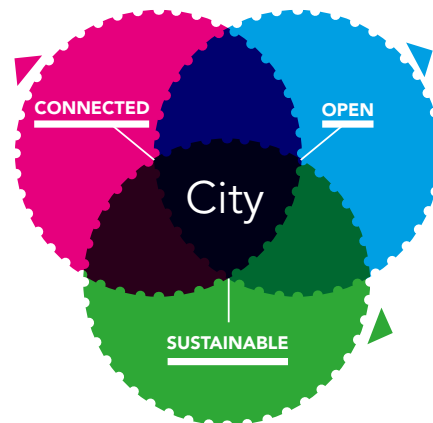
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Anne Hidalgo
Mayor of Paris

Cities did not wait for the 21st century to become smart. Their layouts, density and architecture have made them centers of urban ingenuity for centuries. If major cities must be smarter than ever, it is because they are facing difficulties on an unprecedented scale.

Urban growth across the globe has brought with it significant challenges in terms of urban organization, ecological impact, their relationship with rural spaces and quality of life. The most pressing issues are those related to energy, greening, water, supplies, mobility, logistics and waste.

Natural resources are becoming ever more scarce, compelling us to use them more wisely. This extreme pressure on natural resources must shake our collective conscience, leading us to improve and reduce resource use and limit our impact on our surrounding environment. At the same time, the spectacular development of digital technologies creates new opportunities for mobility, energy, production and consumption, the pooling of uses, access to public services and political participation. The sharing economy and collective intelligence is leading cities to shift the paradigm in response to urban demands.

We must address this major urban transformation head on, working with increasingly demanding and informed citizens. This is where smart cities, which must be more than just digital cities, come in: these are places where technology supports people and helps include them in city life, bridging the gap between new public services and policymaking. A smart and sustainable city that enables us to confidently face this century's global challenges is a resilient city that relies on coherent and judicious energy use where all inhabitants can play a part in building the future.

It is with this strong determination and unwavering faith in people and future-driven investments that we are working together to build the "future city" that Antonio Gramsci spoke of and which, to remain a place of progress, can be nothing short of the "intelligent work of citizens."





Jean-Louis Missika

Deputy Mayor of Paris in charge of urban planning, architecture, the Greater Paris projects, economic development and attractiveness

Paris has inspired cities around the world with its sewer system, Haussmannian buildings, electricity grid, metro and public spaces, not to mention its cafés, terraces and *art de vivre*. More recently, innovation such as its Vélib' bike sharing, Autolib' car sharing and Reinventing Paris initiatives have been recognized and lauded worldwide.

Like all major cities, Paris is constantly changing. It is complex, with its own metabolism, fueled by the interaction of its multiple systems. Today, it faces new challenges: climate change, ecological transition, changing lifestyles, and competition and cooperation between towns and cities.

Paris must adopt a visionary approach as it tackles these issues while still remaining agile and practical. A smart city is first and foremost about developing common services, applications and goods that meet the basic needs of its inhabitants and their quest for well-being. It is an innovative approach based on a medium- and long-term global and systemic vision of the city to improve its citizens' quality of life by leveraging three major catalysts to transform urban life: deepening social ties and creating value, rethinking urban infrastructures, and capitalizing on technological revolutions, especially digital technologies.

Given that urban intelligence comes first from Paris itself, its residents and a whole urban ecosystem the city has built and mobilized with imagination, energy and efficiency, Smart and Sustainable Paris has opted for open innovation in all its forms: urban, social, technological, organizational, economic and contractual. Paris has also assumed the role of a global city and is developing a strong vision and international actions through partnerships with other global cities.

These principles shape the strategy and actions Paris adopted for 2020 and beyond that encourage citizen participation, co-creation of projects, and support for the innovation ecosystem. Smart and Sustainable Paris is a city-as-platform that is open, resolutely future-driven and eager for experimentation, disruption and the development of new services that put technology, data, interoperability and interconnected networks front and center.





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CHALLENGES, OPPORTUNITIES AND AMBITIONS



An aerial photograph of Paris, France, showing a mix of urban development and green spaces. In the foreground, there's a large, flat, sandy area, possibly a construction site or a park under development, with some temporary structures and a green and white striped fence. In the middle ground, there are several modern buildings with glass facades and some older, more traditional Parisian architecture. In the background, the city extends to the horizon under a clear blue sky. A prominent white dome, likely the Sacré-Cœur, is visible on a hill in the distance. A large, semi-transparent blue rectangle is overlaid on the center of the image, containing white text.

Since we believe that each city has its own context and that there are no urban models, but rather sources of inspiration, Paris's urban intelligence is reflected in a unique approach. Paris is carving out its own path, at a time when the world is becoming massively urbanized, global cities are becoming increasingly influential and our lives are being transformed by digital technologies as well as major climate and energy imperatives. Like many other cities, Paris must strive to become more connected, sustainable, attractive, inclusive and resilient.



The challenges: Urbanization, resource scarcity and climate change

Paris, a vibrant city, is reinventing itself through its demographic energy and remarkable economic potential. The city must capitalize on this vitality to tackle the challenges it currently faces at the beginning of the 21st century. In today's rapidly urbanizing world, climate change is speeding up, biodiversity is deteriorating and natural resources are becoming scarce. This unprecedented pressure must shake our collective conscience, leading us to improve and reduce resource use and limit our impact on our surrounding environment.





**ON AUGUST 8, 2016,
THE MAYOR OF PARIS
WAS ELECTED CHAIR
OF THE C40,
A NETWORK OF
86 GLOBAL CITIES
REPRESENTING
650 MILLION
RESIDENTS AND
A QUARTER OF THE
GLOBAL ECONOMY,
WHICH HAVE JOINED
FORCES IN ORDER TO
FIGHT CLIMATE
CHANGE.**



Cities are on the frontline of the climate change battle. By 2030, three quarters of global greenhouse gas emissions will be produced by cities. Their commitment is essential in mobilizing all stakeholders and enforcing the Paris Agreement signed on December 12, 2015 following the COP21. They must lead proactive actions to curb climate change and fight air pollution.

Multiple environmental challenges are interlinked with social challenges. Air, water and soil quality and the role of nature are basic factors for human health and well-being. They are inextricably linked with various other key components such as lifestyle, exercise, diet and social relationships. People living in urban areas also face other difficulties, such as job insecurity and social exclusion. This social and regional inequality also generates environmental and health inequality and leads to growing vulnerabilities, which cities and their partners must address through more inclusive actions.

Natural catastrophes caused by climate change hit the most fragile populations even harder. As global cities become an inescapable trend in our globalized world, it is our duty to put forward interdisciplinary and innovative actions in our cities to meet the ever increasing demands of citizens regarding their local government, in order to re-establish social, cultural and economic ties. In light of this new context, we must turn our attention to urban social vulnerability. It has emerged as a major factor of resilience for vibrant, responsive, inclusive, innovative and people-focused cities supported by technological advances and digital technologies.

THE PARIS CLIMATE PLAN SETS A TARGET TO REDUCE GREENHOUSE GASES BY 25% BY 2020 (COMPARED TO 2004 LEVELS).

THE PARIS AGREEMENT SIGNED IN DECEMBER 2015 AT THE COP21 REQUIRES THAT WE ACHIEVE CARBON NEUTRALITY AS SOON AS POSSIBLE IN THE COMING DECADES.

DESPITE ITS CONSIDERABLE URBANIZATION, PARIS IS HOME TO NEARLY 2,000 WILD PLANT AND ANIMAL SPECIES. THE BIODIVERSITY PLAN, ADOPTED IN 2011, INITIATED SEVERAL ACTIONS TO PROTECT THEM, SUCH AS THE BLUE-GREEN CORRIDOR ROADMAP FOR PARIS. IT WILL BE UPDATED IN 2017.

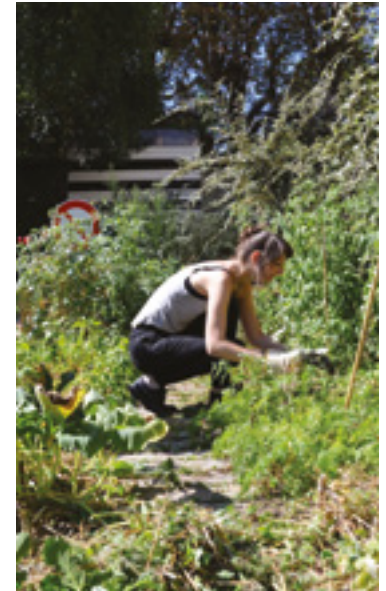
– Moving towards a post-carbon city

Today's world requires greater awareness about how widespread fossil fuel use affects the climate. The energy transition is no longer a luxury, but an obligation. In Paris, more than 98% of energy used is imported (fuel, gas, electricity). Of the remaining 2% that is produced locally, less than half is from renewables. Since 2007, Paris has had a climate plan that aims to reduce energy consumption in the Paris metropolitan area by 25% by 2020 compared to 2004 levels. Another of its goals is to bolster the share of renewables and waste energy by accelerating the implementation of profitable solutions and increasing demonstrations of new technologies.



– Water and its networks at the core of the urban challenge

Paris's motto, *Fluctuat nec mergitur*, which translates to "Tossed but not sunk," reflects the city's strong ties to water. The Seine and its banks, the canals of Saint-Martin, Saint-Denis and L'Ourcq, and its ponds and lakes give structure to the Parisian landscape. Paris is one of the only cities in the world to have a double network of both drinkable and non-drinkable water running below its streets. Pressure on water resources, polluted aquatic environments, flood risks and high expectations from residents regarding this common good are all challenges that must be tackled.



– Greening the city to adapt to climate change

Greening the city responds to a strong citizen demand to improve living conditions and well-being, develop social ties and help the city adapt to climate change. Substantial anthropogenic pressure on Paris's green spaces is a motivating factor in creating new green areas on rooftops or building walls, under trees and in public spaces as well as providing community access to green spaces in public or private lots.

THE PARIS AIR QUALITY PLAN SEEKS TO ADDRESS POLLUTION IN TWO WAYS: SUBSIDIZING SUSTAINABLE MOBILITY INITIATIVES AND IMPLEMENTING INCREASINGLY RESTRICTIVE TRAFFIC REGULATIONS.

– Sustainable multimodal mobility adapted to new uses



Since 2001, emissions from nitrogen oxide (NO_x) caused by motor traffic dropped by 30%, fine particles by 20% and ultrafine particles by 45%. However, residents of Paris and the surrounding metropolitan area are often exposed to very poor air quality. Clean transportation must be developed on a larger scale, such as mass transit, electric vehicles and non-motorized transportation (walking and biking). The city's aim is to eliminate diesel-powered cars by 2020 and reduce nitrogen oxides by 40%, fine particles by 25% and ultrafine particles by 40%. This goal will be achieved by gradually reducing traffic from highly polluting vehicles as part of Paris's pollution prevention plan and by offering innovative sustainable mobility services. In keeping with the Vélib' bike sharing and Autolib' car sharing programs and as part of a multimodal approach to transportation (mass transit, electric car-sharing, bicycles, self-driving shuttles and vehicles, transportation on request), these new services must improve traffic flows for everyone, with priority given to non-motorized transportation. The 2015-2020 Paris Bike Plan includes new routes for cyclists, and namely the express bike network with wide and comfortable two-way paths. The Paris Pedestrian Plan seeks to better integrate this mode of travel, already mainstream in Paris, by offering Parisians a more comfortable walking experience and increasing the quality of this economical, efficient and healthy activity, which is not only environmentally and business-friendly but helps improve social relationships and the region's appeal.

– Urban agriculture and the food supply

Food alone is responsible for 20% of our carbon footprint. Urban and peri-urban agriculture, the importance of which has been largely underestimated, is proving to be a necessary component to optimize the food supply for tomorrow's cities. Urban agriculture is already being practiced in Paris, which has more than 100 shared gardens, 280 educational vegetable gardens and 20 rooftop vegetable gardens. The city must be viewed as a place where food production is a natural part of urban life in order to develop a separate, multifaceted industry within the city. It would combine farms covering several thousand meters in newly developed buildings in addition to lightweight and inexpensive rooftop systems on existing buildings, production possibilities with high added value for Parisian gastronomy, and shared gardens or vegetable gardens and farms used for educational and employment support programs. The Paris markets are also a way to showcase producers, organic product sellers and local food supply chains.



THE 2015-2020 PARIS SUSTAINABLE FOOD PLAN ANTICIPATES A 50% INCREASE IN THE PROPORTION OF ORGANIC FOOD OFFERED IN MUNICIPAL CATERING FACILITIES WITHIN FIVE YEARS.



THE SUSTAINABLE URBAN LOGISTICS CHARTER, SIGNED IN 2013, IS A PUBLIC-PRIVATE PARTNERSHIP FRAMEWORK THAT REFLECTS A SHARED DESIRE TO OPTIMIZE AND MODERNIZE TRANSPORTATION AND MERCHANDISE DELIVERIES IN ORDER TO LIMIT NOISE AND OTHER POLLUTION.

– Sustainable urban logistics

With regards to urban logistics, roads remain the preferred option, with 90% of merchandise being transported by road. Some 20% of vehicles in Paris are transporting merchandise. The rise of e-commerce (20% to 30% growth every year) tends to significantly increase delivery routes and the number of vehicles, and the rate of missed deliveries is extremely high. Expanding river and rail transportation, encouraging bulk shipping and rethinking last-mile delivery are all key considerations. The Sustainable Urban Logistics Charter, signed in 2013, endorsed the target of having 50% of last-mile deliveries carried by non-diesel vehicles in 2017 and 100% by 2020.



Biowaste in particular should be utilized to ensure nitrogen and phosphorus is returned to soil or, where possible, to produce biogas. Repurposing materials should also become more widespread in the construction industry.



IN 2015, A TOTAL OF 22 LOCAL AUTHORITIES FROM THE GREATER PARIS REGION SIGNED THE CIRCULAR ECONOMY PACT TO CARRY OUT JOINT ACTIONS ON URBAN AND PERI-URBAN AGRICULTURE, GREEN BUILDING AND RECOVERED ENERGY AS WELL AS COMMIT TO ECO-FRIENDLY EVENTS.

– A zero-waste strategy

Everyday consumption in Paris produces more than 1.1 million tons of waste every year. After being collected, 79% of this waste is sent for incineration, 16% is recycled and the rest ends up in landfills. Paris's goal is to adopt a circular economy approach to limit incoming and outgoing flows. The city's zero-waste strategy consists in viewing all waste as a resource in order to eliminate the need for landfills or incineration for any waste that can be used for other purposes. Eco-design can help by taking this into account as of the production stage. Energy-saving and efficient designs that increase the collective sharing of a good should be promoted. Before recycling and incineration, certain types of waste are in fact unused resources that should be reused, repaired or redistributed (as will be the case at Paris markets) in order to repurpose them.



– Inclusion and resilience: The New Urban Agenda

Among the 17 Sustainable Development Goals (SDGs) set by the UN in May 2016, #11 reminds us of the need to “Make cities and human settlements inclusive, safe, resilient and sustainable.”

The New Urban Agenda adopted in October 2016 at the HABITAT III Conference in Quito gives priority to social inclusion and a vision of cities for all, and especially access to basic services and participatory democracy. Local authorities’ strong involvement shows that their international networks are particularly important. Cities are a central part of the solution and the backbone of transformative actions. With regards to resilience, it is clear that there must be a paradigm shift. For Paris, the issue of resilience, which is dealt with from the standpoint of major risks and catastrophes, is part of a broader vision that also includes the city’s vulnerability to changes in the urban fabric and its social and regional environment. To bolster Paris’s resilience, i.e., the ability of its residents to live together in a more equitable

city and to work together to handle internal and external crises, we believe that innovation in all its forms must be incorporated into actions for social inclusion and sustainable economic development.

The City of Paris, which has been a member of the 100 Resilient Cities (100RC) network since 2015, is developing an urban resilience strategy to shore up the ability of individuals, communities, institutions, businesses and systems within a city to survive, adapt and grow regardless of the chronic tensions and severe shocks they experience. The strategy seeks to prepare the entire metropolitan area, over the long term, to deal with crises, to adapt and rebuild a stronger foundation through a holistic and integrated approach as well as enhancing attributes such as flexibility, the ability to learn and inclusion.

The climate change adaptation strategy adopted by Paris in September 2015 sets out an operational plan for actions to protect Parisians against extreme events and to react when faced with resource scarcity (water, energy, food, etc.).



The opportunities: Digital transformation

The 21st-century convergence of a global shift towards an urbanized world where people and objects are always connected has completely changed the way we live in cities.

No aspect of urban life has escaped this transformation. Housing, the environment, education, culture, transportation, health care, safety, energy, water, waste, as well as governance and citizen life have all been affected by this dual revolution of uses and digital technologies.

A strong link has materialized between the multiplicity of smart devices, geolocation and connected citizens on the go. In this century of cities, our physical world has become a generator of real-time data. This production is ubiquitous, massive, decentralized and highly autonomous. It has profoundly changed models of uses and services as well as economic ones. New life experiences emerge through groundbreaking uses and services and the intensive use of platforms and data. Data is at the center of this phenomenon and has become a key resource because it is accessible to everyone. The spread of open data and coding for all also makes it possible for non-specialists to imagine new applications. An infinite world of urban services is now at our fingertips.





THE HUGE GLOBAL SUCCESS OF THE PLATFORM ECONOMY IS BASED ON ITS ABILITY TO TRANSFORM DATA SIMPLY AND ACCESSIBLY IN ORDER TO PRODUCE SERVICES THAT REVOLUTIONIZE OUR LIVES.

A MINDSET OF SHARING SERVICES HAS BECOME MORE PREVALENT THROUGH CO-MANAGED SPACES, SUCH AS BIKE AND STROLLER STORAGE, SHARED GARDENS, BUILDING LAUNDRY ROOMS, GUESTROOMS, RECEPTION HALLS AND SPORTS FACILITIES.

– Urban life and the digital economy

Urban life has been the catalyst of new paradigms in recent years: anticipating and understanding interactions between the systems that make up our cities with a view to cross-referencing data and exploiting this information when developing new applications to facilitate urbanites' lives. The importance of data resides in its ability to move beyond physical objects and systems, instead focusing on their interactions and interdependencies.

It is the emergence of new life experiences through unprecedented uses and services: multimodal mobility, decentralized energy, energy-efficient housing, personalized public health, massive online education, participatory democracy, open governance, collaborative information systems and even new sociability models through the sharing economy. The rise of a usage-driven approach rather than favoring ownership goes hand in hand with the power of digital technologies and mass data, thereby speeding up social and urban transformations. It is also the birth of new opportunities for value creation by innovative and disruptive start-ups and entrepreneurs, which we encourage and support.

The huge global success of the platform economy is based on its ability to transform data simply and accessibly, in order to produce services that revolutionize our lives. They are omnipresent in our urban lives and have their own social models, which has led us to create crucial regulations.

– New urban production modes and the pooling of uses

With the development of the mobile office, nomadic employees, new workers/entrepreneurs, tablets, mobile internet and cloud computing, the "workplace" can now be anywhere. This transformation is reflected in third spaces, co-working spaces, worker mobility and telecommuting.

This phenomenon has had considerable impact on the design and management of office spaces as well as urban development. Functional zoning has become obsolete while mixed-use buildings and neighborhoods are spreading. Furthermore, factories have also returned to the city.



3D printers have substantially transformed the manufacturing process of equipment and consumer goods. Companies have begun to share machines and tools, as reflected in fab labs. Major metropolises are beginning to see a sort of re-industrialization. Do-it-yourself (DIY) has brought new social practices to collaborative venues. Digital technologies have helped give hyper-proximity a larger role in homes, residential buildings and neighborhoods. A mindset of sharing services has become more prevalent through co-managed spaces, such as bike and stroller storage, shared gardens, building laundry rooms, guest rooms, reception halls and sports facilities. As housing, digital technologies and community life converge, the aim is no longer just about creating new services that make life easier, but about forging social ties with neighbors and through local activities, which lie at the heart of this approach. Digital technologies are also important in home automation, smart neighborhoods, positive energy buildings, and zero-waste and zero-carbon neighborhoods.



TO DEVELOP SUSTAINABLE AND PROFITABLE TOURISM, PARIS ADOPTED A TOURISM DEVELOPMENT PLAN FOR 2017-2022, WHICH ENGAGES THE INDUSTRY IN SUSTAINABLE, UNITED AND MORE EFFICIENT DEVELOPMENT ACTIONS (CLEAN MOBILITY, HOTEL AND CATERING INDUSTRY INITIATIVES) BY MOBILIZING THE PARIS INNOVATION ECOSYSTEM.

– Smart transportation and mobility

Mobility and transportation are two areas where the digital revolution is in full swing. GPS has transformed the way we travel. The lines between individual transportation and mass transit are being blurred through carpooling, car sharing and a plethora of multimodal options. New digital services help optimize travel through applications that offer real-time feedback on multimodal transportation. A profound shift in urban mobility will take shape over the next decade due to the emergence of transportation on demand, a veritable revolution in how we get around cities.

In the short term, with the arrival of connected vehicles, non-motorized transportation has helped roads become safer and allows for the better sharing of public spaces. Smart street furniture and new adapted services will contribute to a more inclusive mobility that takes into account users' various needs and disabilities.



– The forthcoming autonomous transportation revolution

With advances in the fields of mechatronics and artificial intelligence, self-driving cars are now a reality. The impacts of this mobility revolution will be felt in many industries, such as car making, energy, transportation services, logistics and insurance. The spread of self-driving cars will make aboveground parking lots and spaces obsolete, allowing these areas to be reclaimed for non-motorized traffic. By fostering the use of autonomous shuttles instead of individual cars, urban space will be optimized.

To ensure the entire greater Paris region benefits from these activities, stakeholders must join forces to conduct more pilot programs, advance regulations and massively invest to accelerate the transition towards clean, shared and connected mobility.

– Reducing our energy footprint

The installation of sensors and new data transfer systems within buildings will make it possible to detect malfunctions and encourage users to reduce waste, thereby achieving major energy savings at the city scale. Using digital technologies at the building and network level will allow energy performance commitments to be formalized through contracts and all stakeholders (real estate managers, network operators, users, etc.) to be mobilized to reduce our energy dependence. Its use also creates new solutions that pool energy use across several buildings and develops data storage and deletion capabilities, particularly in order to reduce spikes in consumption.

– Smart public services

Digital technologies aim to simplify user interactions with public services by facilitating use, saving time and personalizing the service provided. In the public sphere, digital technologies can offer new services to urbanites and tourists who are increasingly on the move. Free Wi-Fi, communicating information via smart street furniture or customized content on smartphones, and accessibility solutions for people with disabilities are just a few of the possibilities. Digital technologies can also stimulate a new local economy driven by neighborhood businesses.



They also provide incredibly effective leverage for public policies by allowing for a more detailed analysis of citizens' uses and expectations. Lastly, they can improve citizens' access to public (open) data, and more broadly, allow them to be involved in a process of open government through which the government and those who are governed can forge a new relationship. Instead of being confined to the classic decision-maker/opposition dichotomy, stakeholders can adopt an approach of co-creation and joint decision-making. The demand for direct participation in decisions has turned the city into a facilitator, requiring dedicated infrastructure and specific policies to manage risk and ensure inclusion.

– Putting urban data to use

New digital technologies considerably increase the data produced by the City's inhabitants through various sensors in the urban space (cameras, meters, motion detectors, etc.). Data is also generated through crowdsourcing, such as peer-to-peer platforms (e.g., carpooling), voluntary citizen feedback and passive data collection via smartphones, vehicles and other connected devices. Since 2010, the City of Paris has taken a pioneering stance in open data policy with its open data platform. Its aim is to make all structured data accessible by open license to promote their reuse and generate new applications. The city also supports big data analysis solutions, which is difficult to process with traditional tools, but which can be made more personalized or participatory, and even turned from reactive into proactive through predictive and preventative approaches given new data science methods and innovative solutions. Lastly, the city promotes open innovation with its partners through data exchanges that are kept secure and confidential in line with French Data Protection Authority (CNIL) recommendations. Data is at the core of numerous solutions currently being implemented or still under development, whether for energy and water management, mobility, using waste as a resource or new approaches such as data-driven urbanism. They can also be central to new urban services for education, employment access, new sports and cultural activities for all, and to ensure good health, well-being and a better quality of life.



– Digital inclusion

The basic issue of accessibility and digital inclusion also arises with the development of new technologies. This not only implies maintaining a multichannel offer of services with user-friendly interfaces, but also expanding access to digital uses. City employees must also be trained to ensure they can assist users in the use of digital services. The city must protect citizens against new risks linked to digital technologies – e.g., data security, privacy protection – by regulating, informing and preventing competition distortion and monopolizations.



The ambition:

Reinventing the city for all citizens

After the success of the Climate Summit for Local Leaders at COP21 in 2015, the City of Paris has been part of a strong international momentum to reinvent “the city for all citizens,” by combining efforts to reduce inequality, bolster urban resilience and support technological advances.



Les Halles
© Franck Badaire Photographie



THE GRANDS VOISINS PROJECT

“What if, instead of boarding up temporarily vacant buildings, we decided to use them for bold and generous endeavors? The *Grands Voisins* project demonstrates that, in the heart of Paris, it is possible to establish a multifunctional space for just a few years, whose main objective is the common good. From housing disadvantaged individuals to hosting associations and solidarity-based businesses, promoting the presence of artisans and designers, sharing tools and working spaces, creating an innovative public park with educational, cultural and athletic activities that are open to neighborhood and city residents and tourists alike, this is what *Grands Voisins* is all about! The venue is housed in the Saint-Vincent-de-Paul Hospital, which will soon be transformed into an open and connected neighborhood. Come and experience a new kind of city life for yourself.”



Les grands voisins - Saint-Vincent de Paul (14°)
© Elia Maerite - Yes We Camp

New solutions are needed across all urban policies: access to basic services, employment and professional training (especially for young people), regional development, population aging, children, intergenerational solidarity, social diversity, women’s rights, climate change adaptation, greening, biodiversity and nature, energy, housing, mobility, education, healthcare, sports, art and culture, pollution reduction, job creation, safety of people and property, refugee reception, governance and much more. Original economic models and innovations in all industries have given cities new opportunities to reduce inequality while promoting more harmonious, environmentally friendly and resilient development for future generations.

An inclusive city is a city that gives all its citizens the same (good) living conditions and a (positive) future outlook, regardless of their geographical, ethnic, religious, social, cultural, educational or professional background and irrespective of their purchasing power, social status, age or disabilities. Solidarity, participation, democracy, engagement, citizen identity, as well as cultural and economic emancipation are pillars of an inclusive city.

Innovation, inclusion and resilience are powerful driving forces for the 21st-century city, which prioritizes its residents’ quality of life. New knowledge and technologies offer remarkable and powerful tools for social, economic, cultural and environmental progress to develop social cohesion, solidarity and harmonious coexistence. These values offer the best protection against any shock or crisis in an urban future, which remains uncertain, in a world in the midst of a complete transformation.



**PARIS HAS
PRIORITIZED ITS
WORKING-CLASS
NEIGHBORHOODS
WITH THE 2015-2020
CITY CONTRACT,
WHICH PUTS YOUTH,
EDUCATION,
EMPLOYMENT AND
TRAINING, AS WELL AS
CITIZEN
PARTICIPATION AT THE
FOREFRONT.**

**THE LOCAL CITY PLAN
(PLU), REVISED IN JULY
2016, ATTEMPTS TO
BETTER ADDRESS
FOUR PRIORITIES:
ENERGY TRANSITION,
IMPROVING AIR
QUALITY, THE ROLE OF
NATURE IN THE CITY
AND CREATING
AFFORDABLE
HOUSING FOR ALL.**

– The metropolitan emergency

To successfully deal with major economic shifts and, in particular, competition between other regions at both the national and international level, the metropolitan mindset must be strengthened. Despite the current “administrative divides,” the Metropolis of Greater Paris must be supported by an ambitious and altruistic vision in order to be built through creative projects that stimulate interregional cooperation. Through this approach, the metropolitan project is also about developing and drawing in talented individuals, whether they are students, researchers, artists, designers or start-ups, in order to support an open innovation ecosystem that connects citizens, companies and local businesses.

– New negotiated urban development

Local and regional government authorities partner with private stakeholders in a number of ways. Government contracts are often an overly restrictive framework for this type of dialogue. Partnership agreements have eased some of the constraints; however, they also limit the possibilities of involvement by other stakeholders. The City of Paris wants to open up these frameworks by paving the way for new types of partnerships that allow for greater consideration of users. It is this objective that prevails in the “Reinventing Paris” international call for projects, a landmark concept in the history of city planning which is ushering in a new way to “make the city.” By encouraging real estate developers to submit joint bids with associations and/or different types of final users and by making innovation central to the selection criteria, the call for projects fostered unique proposals (which will be formalized through contracts) with these stakeholders. This new type of public-private partnership, lauded for its originality at the international level, commits private stakeholders to implement their proposals, especially those that combine users. It also gives the city an important role in guaranteeing that these commitments are kept. Several projects will hand over management of the venues (shared gardens, community nurseries, etc.) to resident associations, and most will guarantee spaces open to the public and accessible to all. They are thus reinventing new forms of shared goods, whose operation is protected by the public-private partnership framework.



– The Arc de l’Innovation

Arc de l’Innovation is the name given to a group of partner towns located along an arc that stretches to the north (Porte Pouchet), east and south (Porte de Vanves) of Paris, from Saint-Ouen to Malakoff. It developed from a desire among the partner communities to strengthen cooperation between local towns and join forces to build the Metropolis of Greater Paris. The *Arc de l’Innovation* addresses a threefold challenge: economic development, urban transformation and job creation in working-class neighborhoods located on both sides of the ring road. The goal is to change how these neighborhoods are perceived and represented, promoting what they have to offer as areas with strong potential for social, economic and technological innovation so they can become polycentric hubs within the Greater Paris region.



TACTICAL URBANISM IS BASED ON THREE PRINCIPLES: SMALL-SCALE, SHORT-TERM AND LOW-COST ACTIONS.

REAL ESTATE PROJECTS AND DEVELOPMENT MUST BECOME THE OPPORTUNITY TO BUILD NEW URBAN SHARED RESOURCES.



– Tactical urbanism

Tactical urbanism is about combining small-scale urban transformation with an approach that uses fewer resources while trying to identify areas that can have a major impact when rolled out citywide. This concept is based on three principles: small-scale, short-term and low-cost actions. Contrary to large-scale urban development projects, these projects give neighborhood residents and users a voice, allowing them to be involved in making decisions about where they live and taking ownership of urban public spaces. They speed up the city's transformation processes since many ideas can be tested and feedback can be gathered more quickly, while still maintaining community support.

Data-driven urbanism supports this practice by using participatory data (from crowdsourcing) to prioritize choices and clarify decisions. The end goal is to promote greater flexibility, temporary installations and agile approaches. This approach has enormous potential by meeting the expectations of citizens who want to be more involved in urban programs and by improving the areas where they live through the use of powerful digital tools. Because tactical urbanism makes use of temporary installations, it is a solution that is implemented between major urban projects. This practice gets local residents involved during a period of urban transition, takes new uses into consideration and generates groundbreaking ideas. Rather than being a simple stopgap before a definitive project sees the light of day, these activities can become advantageous mediums for action and reflection in order to experience new ways of making the city.

– Promoting shared resources

"Shared resources," i.e., resources that are not governed by the public sector or market players, are set up by groups of people who define a collective set of guidelines in order to protect a resource. The concept of shared resources makes it possible to free economic action from an approach vacillating between "more state" and "more private." This resource-focused practice creates an economy built on collective management and protecting resources rather than on competition for their exploitation. Shared resources transfer power and autonomy back to citizens and take into account the interdependency of all stakeholders and the resource in question. No specific business model is imposed on shared resources; instead, principles guide their governance and the value created from resource use. Real estate projects and development must become the opportunity to establish new urban shared resources. The aim is to create dialogue with residents and users and involve them in the co-creation process to give them a sense of ownership through all project phases, from design to construction and throughout the project's lifetime. For this approach to work, stakeholders must cultivate trust and treat each other with respect. It also relies on collaborative methods and user-friendly digital tools accessible to all.



WORKING AT THE BLOCK AND NEIGHBORHOOD SCALE IS ESSENTIAL IN ORDER TO MEET THE DIFFERENT NEEDS OF A SUSTAINABLE, RESILIENT AND INCLUSIVE CITY.

– The 15-minute city: Putting the “neighbor” back in neighborhood



Various neighborhood caretaking concepts have emerged within the framework of eco-districts as well as in existing neighborhoods. The goal is to combine various traditional caretaking services with new services such as repairs, package delivery and neighborhood management. While certain models are completely profit driven, others seek to encourage solidarity and develop services that are available to all.

Reconciling the demands of a sustainable city as well as its new rhythms with other ways of living, working and having fun begins by transforming the urban environment, which remains highly monofunctional, with its city center and different specializations, towards a polycentric city, driven by four major factors: proximity, social diversity, density and ubiquity.

In short, it is the notion of a 15-minute city, where everything is available to everyone at all times, and where, in less than 15 minutes, residents can access all their basic needs. Hyper-proximity, where local life meets new uses and services provided by new and digital technologies, is key to revitalizing urban centers. Working at the block and neighborhood scale is essential in order to meet the different needs of a sustainable, resilient and inclusive city. It reflects the desire of citizens/consumers to become stakeholders in the local economy, which is built on local supply chains, services shared between neighbors, support for local businesses, activities within every neighborhood and actions to protect those who are most vulnerable from isolation. It involves bringing citizens’ expectations in line with proposed offers and ensuring functional diversity by developing social, economic and cultural interactions.

VARIOUS NEIGHBORHOOD CARETAKING CONCEPTS HAVE EMERGED WITHIN THE FRAMEWORK OF ECO-DISTRICTS AS WELL AS IN EXISTING NEIGHBORHOODS.



THE CITY'S PRIORITY IS TO SUPPORT AWARENESS CAMPAIGNS REGARDING ITS VARIOUS ENVIRONMENTAL AND HEALTH POLICIES.

– Encouraging innovative initiatives

To achieve the targets Paris has set for itself, especially environmental and health goals, everyone must do their part. The zero-waste objective cannot be met if citizens do not adopt environmentally friendly habits such as recycling and fighting waste. Similarly, fighting climate change requires numerous changes at home, at work, in terms of food and mobility. Other policies, such as obesity prevention, must also be based on encouraging positive behaviors such as having an active lifestyle. The city's priority is to support awareness campaigns regarding its various environmental and health policies by underpinning them with tools that facilitate the adoption of better behaviors.

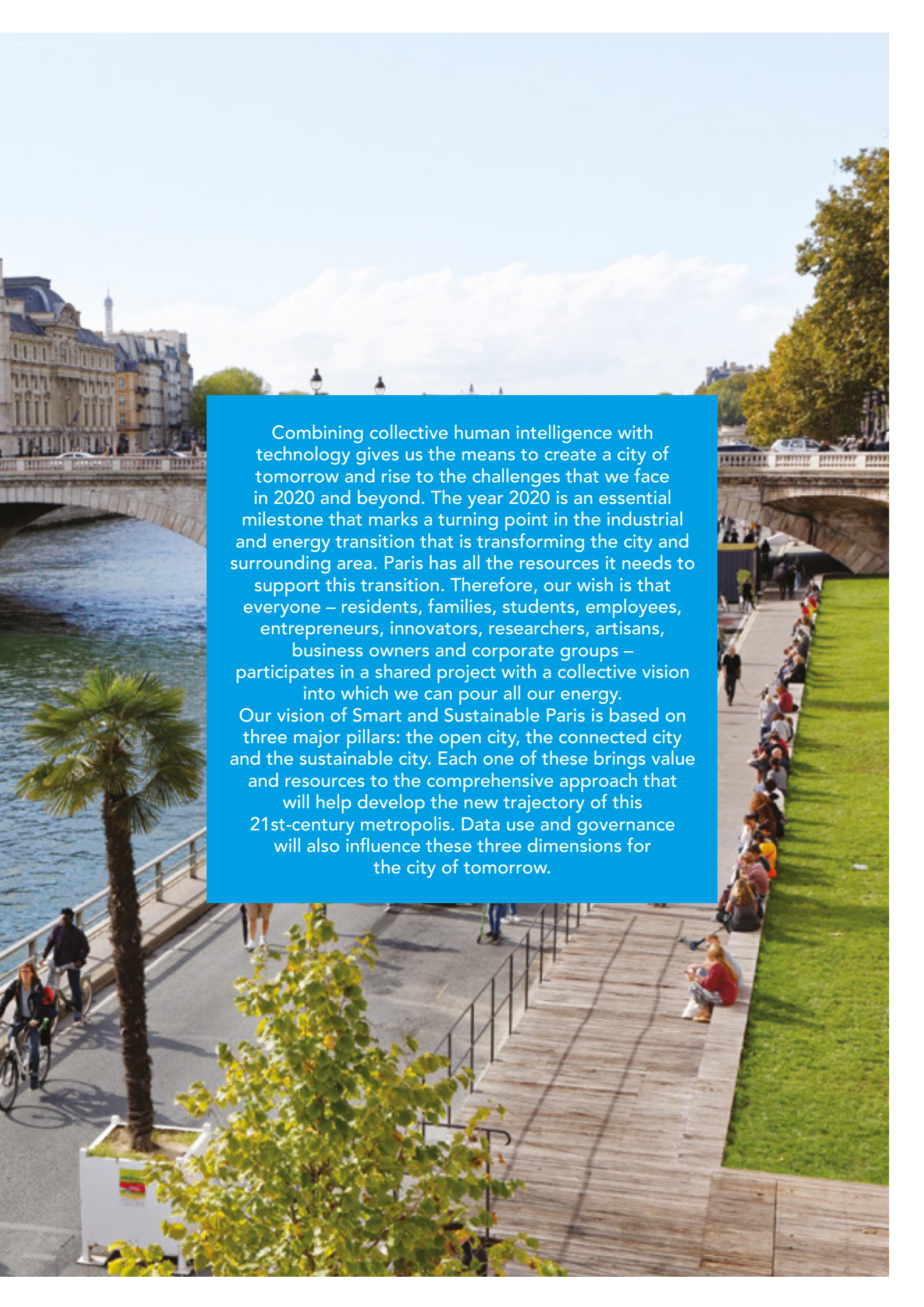


Possibilities include games and contests (gamification) such as challenges between buildings or neighborhoods and various types of awards that are part of a virtuous environment. Digital technologies make sharing these practices easier and help in mobilizing the masses quickly and effectively. These behavioral changes also need to be part of a comprehensive and long-term civic- and citizen-driven process.



2

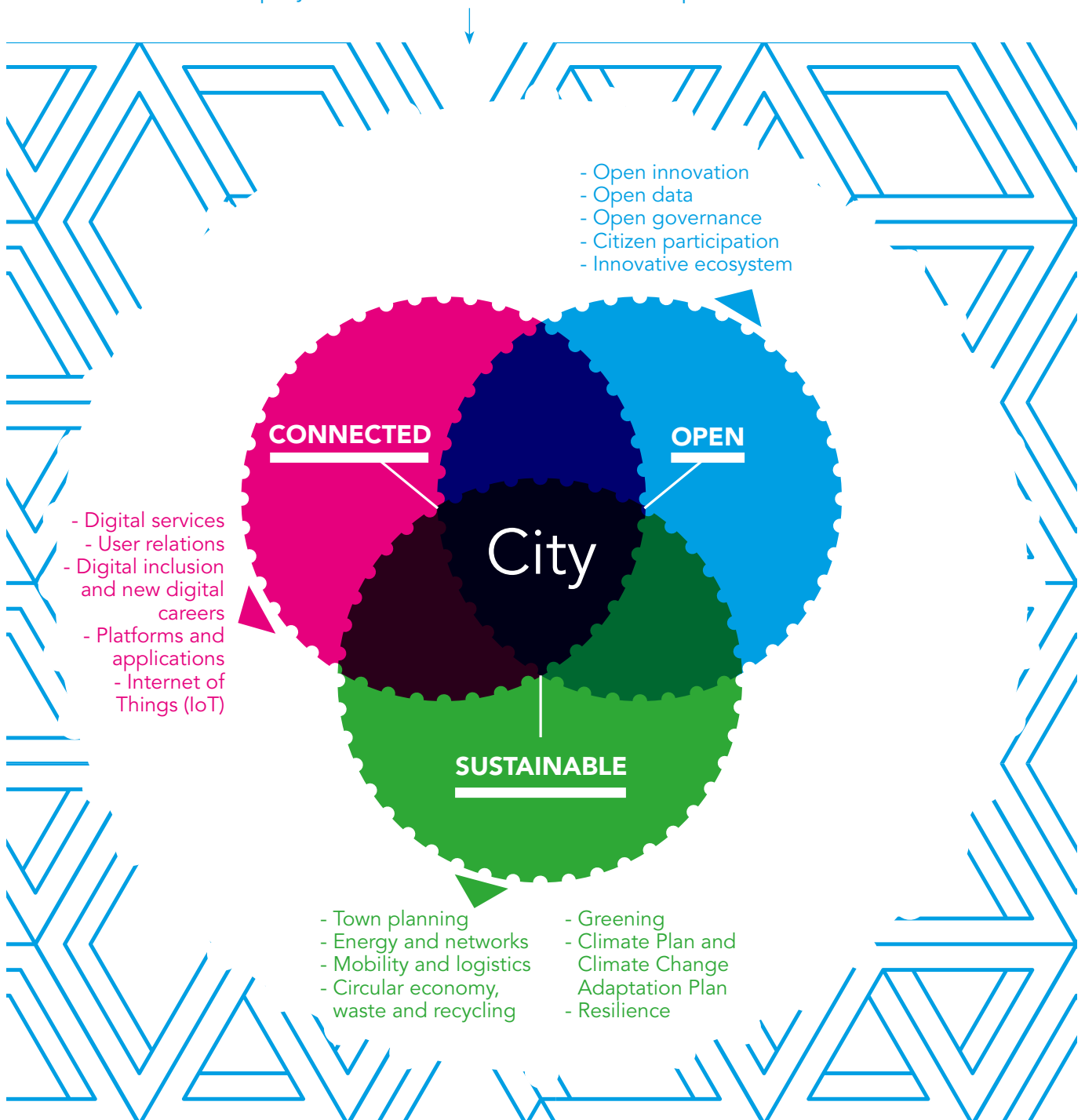
MAJOR OBJECTIVES, PROJECTS AND TANGIBLE ACTIONS



Combining collective human intelligence with technology gives us the means to create a city of tomorrow and rise to the challenges that we face in 2020 and beyond. The year 2020 is an essential milestone that marks a turning point in the industrial and energy transition that is transforming the city and surrounding area. Paris has all the resources it needs to support this transition. Therefore, our wish is that everyone – residents, families, students, employees, entrepreneurs, innovators, researchers, artisans, business owners and corporate groups – participates in a shared project with a collective vision into which we can pour all our energy. Our vision of Smart and Sustainable Paris is based on three major pillars: the open city, the connected city and the sustainable city. Each one of these brings value and resources to the comprehensive approach that will help develop the new trajectory of this 21st-century metropolis. Data use and governance will also influence these three dimensions for the city of tomorrow.

One city, three pillars, one goal

A new urban world has emerged at the crossroads of societal needs, urbanism and ambient intelligence, with technological revolutions already in full swing. A smart and sustainable Paris embodies social, ecological, cultural, economic and technological convergences with the citizen at its center. It works and is interconnected with projects in other cities in France, Europe and the world.

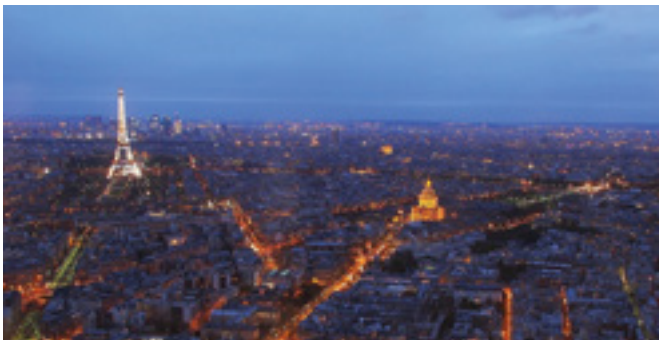


– A method: The Open City



Paris's intelligence comes first and foremost from Parisians' intelligence, and it is the city's method of open innovation that sets it apart from other global metropolises. This principle shapes the strategy and actions Paris adopted for 2020 and beyond that encourage citizen participation, open data and project co-creation. Open innovation is based on the belief that the solutions of tomorrow will emerge through collective intelligence and the collaboration between public stakeholders, businesses, researchers and citizens. It places people at the core of the system by giving them the means to understand and take ownership of the material and data flows that traverse the city.

– Tools: The Connected City



Digital technologies have become a source of inspiration for many uses within a reality that will be changed by these technologies. In the connected city, networks, hyper-connectivity and the Internet of Things form a network through which information becomes instantly accessible and citizen initiatives are able to emerge, which alter their relationships with the city and its governance.

The Connected City relies on modernization and extends the reach of the municipal administration to accommodate new uses by both residents and visitors. New digital services and platforms will enable interoperability and information exchange. It draws its strength from adaptable infrastructures designed to meet current needs.

– The goal: The Sustainable City



The Sustainable City is a place where technology serves people, improving their inclusion in city life by allowing them to be involved in creating public services and policy decision-making processes. It is a place where different networks work together towards one goal: making everyone's lives better every day. The sustainable city meets economic, social, cultural and environmental imperatives: it is a post-carbon city, a value creator, and a benevolent and inclusive force.

It rethinks how its networks, development and urban flows operate to optimize and save resources. It proposes innovative practices with regards to urban renewal and development, consumption (circular economy, energies, production flows, etc.), and network and mobility interconnectedness by using the methods of the Open City and the tools of the Connected City.

These interdependent objectives are reflected in a number of major actions and projects. A few key examples are described below and will be further developed by 2020 and beyond.



The Open City

An approach that places people at the center of our process. It is founded on collaborative methods and relies on the collective intelligence of its residents, users, municipal officials and socioeconomic stakeholders. It ensures information sharing and implements constant interaction in order to maintain a collaborative process:



—
**STIMULATING CITIZEN PARTICIPATION
AND COLLABORATIVE PROJECTS**

**EXCHANGING, SHARING AND CO-CREATING WITH FRENCH AND
INTERNATIONAL RESEARCHERS, SCIENTISTS AND ACADEMICS**

STRENGTHENING THE PARISIAN INNOVATION ECOSYSTEM

PROMOTING PUBLIC INNOVATION
—





500

MILLION
EUROS
INVESTED

by 2020 in projects
chosen by Parisians
through the Participatory
Budgeting program



➤ **Creation of the Citizen Card.** This card, available for all residents 7 years old and up, is a tool to encourage the inclusive development of citizen identity in our city. It offers a wide range of civic, cultural and community benefits. ●

— Stimulating citizen participation and collaborative projects

Involving Parisians in designing and implementing public policies in urban projects is a key priority. Smart and Sustainable Paris considers systematic and thorough cooperation with residents on all projects to be one of its core values. It achieves this through measures that encourage strong citizen participation and collaboration. In its approach as an open, participative, vibrant and creative city, Paris strives to promote citizen initiatives and the expression of city life in all its forms. The co-creation of urban projects also depends on the development of dynamic ecosystems. By ensuring their long-term success, we will be able to see the transformative potential of everyone's contributions so that the city and all urban spaces become an open-air platform for transformation.



CITIZEN PARTICIPATION

- Participatory budgeting: launched in 2015 (5% of the City of Paris's investment budget). 158,000 participants in 2016. In 2016, participatory budgeting was also launched in schools. ●
- Digital platforms for citizen participation in decision-making and city life:
 - Formulating ideas and developing proposals:
 - idee.paris, an open platform for proposals and ideas. ●
 - imaginons.paris. ●
 - Development of the e-petition system. ▲
 - Engaging and participating in citizen life:
 - jemengage.paris, the platform for citizen volunteering. ●
 - Participating on paris.fr: make suggestions, discuss different topics, act and follow the citizen's agenda. ●
 - Crowdfunding to create leveraging for structures supported by the city. ■
 - Improving urban life: revamping the DansMaRue ("On my street") application to report problems in public spaces (or provide suggestions: 3,000 reports per month). ▲
- Staying involved with the Paris City Council and its proceedings:
 - Watch Paris City Council proceedings live. ●
 - Improved archiving of proceedings. ●
 - Live computer graphics during the deliberations at Paris City Council proceedings. ●

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



CO-CREATION WITH INNOVATION STAKEHOLDERS

- Partners Committee: launched in 2015, this group brings together more than 400 representatives from economic stakeholders (corporate groups, intermediate-sized enterprises, SMBs, startups, associations, architects, city planners, etc.) who participated in working groups on issues such as energy, mobility, waste management, recycling and innovative urbanism. ●
- Organization of collaborative and cooperative workshops open to economic stakeholders, associations and Paris residents (Hackathon and Meetup) on themes related to city-led projects: mobility, mobile services, press kiosks, touchscreen contests, the new local economy, circular economy mapping, employment, greening, participatory budgeting and the Vélib' bike sharing program. ●





370

INSTITUTIONS
of higher education,
including 8 universities

338,000

STUDENTS IN PARIS

(including 50,000 foreign
students)

RESEARCH FUNDING

via the municipal
EMERGENCES program:
a grant budget of

€2,648,000

awarded to between
10 and 15 recipients
per year

— Exchanging, sharing and co-creating with French and international researchers, scientists and academics

Paris’s academic renown, its research excellence, the city’s constant openness to the national and international scientific community at every level, and its active presence in high-level international networks are points of pride for our city.

Paris welcomes students, academics and scientists from around the world. It is simply part of its DNA. Paris’s intelligence is also forged by looking beyond its borders to attract the best and brightest, which is essential in order to continue to enhance creativity, ingenuity and the ability of each of us to continually be better.



A CONSTANT DRIVE FOR SCIENCE, RESEARCH AND INNOVATION

- The City of Paris Scientific Advisory Board: This body issues opinions on dossiers and questions it receives for consideration and submits proposals and recommendations to City Hall. ●
- CIFRE (Industrial Agreements for Training through Research) partnership grants. Through this program, the City of Paris hires between 10 and 20 young doctoral candidates every year to not only provide them with recognized professional experience, but also benefit from their expertise and research. ●
- Expertise from schools in Paris (EIVP engineering school, ESPCI Paris science and engineering school, and *École du Breuil* horticulture school). ●

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



➤ **A circular economy commitment charter for student life and academic stakeholders**, with efforts that include research on the quality of compost from municipal and neighborhood composters and the commitment of student associations to move towards creating zero-waste campuses and a sharing economy. ▲



➤ **The City of Paris won the bid for the ERDF “Urban Innovative Actions”** call for proposals to develop an innovative approach to energy governance in the Clichy Batignolles eco-district. The winning project, called Co-Responsibility in District Energy Efficiency & Sustainability (CoRDEES), is being managed by the city and was designed in cooperation with companies, a research laboratory and the local neighborhood city planner. ▲ <http://www.uia-initiative.eu>



STRENGTHENED NATIONAL AND INTERNATIONAL PARTNERSHIPS BETWEEN THE CITY AND THE SCIENTIFIC AND ACADEMIC WORLD

- Co-creator of a “Labor Chair” led by the Paris School of Economics, a multi-year academic research program on labor whose objective is to contribute to social debate and policy decisions. ▲
- Partner of the “Philosophy in Hospitals” Chair created in early 2016 at the *Hôtel-Dieu* Hospital, dedicated to disseminating knowledge about public health and health care issues, led by the *Assistance Publique-Hôpitaux de Paris* (AP-HP), *École Normale Supérieure* (ENS) and Paris Descartes University. ▲
- Paris Institute for Advanced Studies (IAS): The IAS was founded by the *Fondation Maison des Sciences de l’Homme* (FMSH), *École des Hautes Études en Sciences Sociales* (EHESS), and *École Normale Supérieure* (ENS) and is supported by the City of Paris. This research center in the field of human and social sciences as well as related disciplines, offers world-renowned academics and scientists opportunities to live in Paris for five to nine months for their research. ●



ENCOURAGING RESEARCH PROJECTS, INNOVATION AND DISSEMINATING SCIENTIFIC CULTURE

- As part of national and European co-funding programs (PIA, ERDF, H2020, URBACT, LIFE+, ANR and FUI, among others), development of partnerships with research laboratories, companies and other French and European cities. ▲
- A call for proposals to promote the dissemination and sharing of scientific culture to as many people as possible through projects around Paris. It is aimed at associations, cooperatives, foundations, public agencies, research organizations and universities. ▲
- Support for citizen science initiatives. ●



ESPCI
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● Completed during current term ▲ Underway ■ Forthcoming (during current term)

NEARLY

60

INCUBATORS
IN PARIS

and 16

under development in 2016



23

DIGITAL

MANUFACTURING

STUDIOS

85

COWORKING SPACES

and 27 under
development

100,000

ADDITIONAL M²

of innovation spaces
between 2014 and 2020

30%

FOREIGN COMPANIES

in Parisian incubators
by 2020

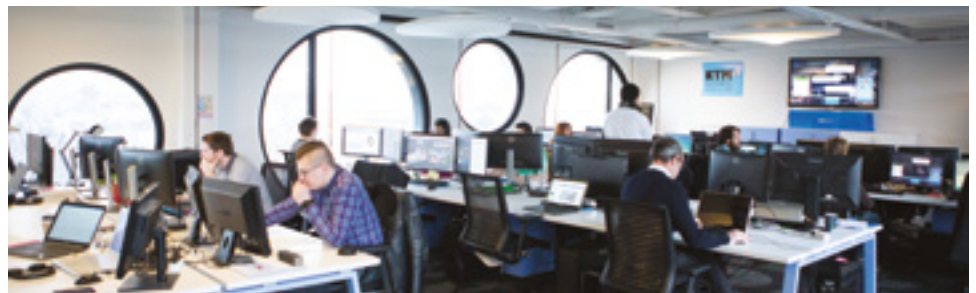
— Strengthening the Parisian innovation ecosystem

The Paris innovation ecosystem is the cornerstone of the Smart and Sustainable City project. It aims to achieve excellence and become more international in order to be important in and influence the international competition.

A high-level, dynamic and competitive Paris innovation ecosystem will ensure the emergence of smart and sustainable solutions that can be tried on a pilot basis in Paris before being rolled out in other cities around the world.

Paris&Co, the economic and innovation development agency for Paris, provides essential support to the ecosystem by developing incubation, new innovations and open innovation with major players.

Through its strategic vision, its actions and the implementation of a powerful initiative, Paris has set a groundbreaking goal for 2020 in terms of support for entrepreneurs as well as small and midsize companies, start-up development aid, corporate partnerships, and internationalization and development agreements with other cities and ecosystems. These actions all embrace a broad range of multidisciplinary and industry approaches.



A STRONGER SUPPORT POLICY FOR INCUBATORS AND START-UPS

- Supporting the creation of flagship venues for the Parisian economy:
 - Station F: the largest incubator in the world. ■
 - *Le Cargo*: 15,000 m² dedicated to digital technologies and creative industries. ●
 - *Paris Santé Cochin*: biotechnologies incubator. ■
 - Chappelle International: urban logistics. ●
- Creating thematic innovation platforms that combine start-up incubation, major players, monitoring, training and open ecosystems:
 - *Paris Région Innovation Nord Express (PRINE)*: sustainable city. ●
 - Smart Food Paris: food. ●
 - *Le Tremplin*: sports. ●
 - Welcome City Lab: tourism. ●
 - Circular economy. ■
- Expanding the region with the *Arc de l'Innovation*: ▲
 - The City of Paris and its partners are investing on both sides of the ring road, from the Porte Pouchet to the Porte de Vanves, in order to create 100,000 m² of additional innovation spaces.
 - The *Arc de l'Innovation* is also the backbone of a community of innovators that has come together to bolster its development and encourage projects across the area within the arc.

● Completed during current term ▲ Underway ■ Forthcoming (during current term)

➤ **The Paris Innovation Grand Prix and International Innovation Awards** recognize Parisian and international start-ups every year and support the winners with financial backing and an incubation program. ●



➤ **Development of a new digital region.** Stakeholders who invest in the region can enjoy the new .paris domain name, which showcases the reputation, energy and drawing power of Paris. ●



PARIS: A URBAN LIVING LAB

- This approach is supported by the five specialties of Paris&Co's Urban Lab: qualification, facilitation, management, evaluation and development:
 - Since 2010, Urban Lab has launched around a hundred pilot projects in the areas of greening, urban metabolism, energy efficiency and urban logistics. ●
 - In 2017, new testing of innovative solutions will focus on four major climate change adaptation themes: urban renewal, water efficiency, social ties and modular spaces and lifestyles. ▲



THE INNOVATION ECOSYSTEM: ANIMATION, ATTRACTIVENESS AND INTERNATIONALIZATION

- The "Hacking de l'Hôtel de Ville" event: mobilizing and connecting the Parisian and international entrepreneur community. ●
 - This event, which was launched in 2015 by the city and Paris&Co, brings together 1,500 start-ups and major industry players, elected officials and city departments, and showcases innovation for international investors and media. ●
- Internationalization of the Paris innovation ecosystem: ●
 - Paris French Tech Ticket, Paris Landing Pack, *Guichet Unique* "one-stop shop" for companies.
 - Paris is also investing at the European level by allowing cooperation between cities and European companies (responsible group purchasing organizations, European Commission consortia, start-up exchange programs).
- Innovation by all and for all: Paris is committed to a proactive policy of being open to innovation to ensure collaboration and competition that benefits everyone: ●
 - Option Startup: For this two-day event, the City of Paris and Paris&Co invite 4,000 middle and high school students to meet with entrepreneurs and employees from innovative companies in more than 60 innovation spaces across Paris and the *Arc de l'Innovation*.
 - Student/entrepreneur coworking spaces: 15 venues in Paris for students and start-ups.



PARIS: A CITY OF MAKERS

As part of the continuation of the "*Fabriquer à Paris*" information and evaluation commission, the "Makers plan" aims to stimulate the emergence of a collaborative mode of production and on-demand consumption. ▲

- Its goals are to:
 - Ensure the long-term success of Parisian fab labs by 2020.
 - Encourage short production and consumption chains, promote repairs and repurposing, and combat planned obsolescence.
- By rejoining the global Fab City network, Paris (which will be hosting the FabSummit 14 in 2018) is working to reopen prototyping and pilot project zones. ■

PARIS

1st

FRENCH CITY
to join
the Open Government
Partnership

OPEN BUDGET

230,205
pieces of budget data
available online



➤ **CIVIC HALL.** A venue where civic tech, public and citizen innovation stakeholders can come together to exchange ideas, which will also be for Paris, its elected officials and city employees, a laboratory where new urban and democratic practices can be identified and tested. ■

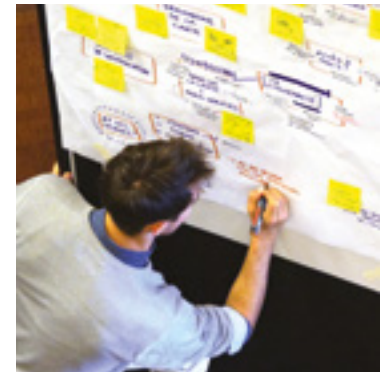
— Promoting public innovation

Paris is resolutely committed to transforming its administration. Transformation includes simplifying processes and reorganizing departments to improve public services as well as bringing in and testing new methods. In Paris, city employees – the first users of public services – play a pivotal role in reinventing the administration with their ideas and practices.



OPEN GOVERNMENT

- Paris is one of the 15 pioneers of the **Open Government Partnership (OGP)**, an international initiative that seeks to promote transparency and open government, fight corruption and use new and digital technologies to strengthen citizen participation. ●



CO-CREATING A CITY OF PARIS INNOVATION LABORATORY

- *La Transfo*, launched in September 2016, aims to test and co-create a public innovation laboratory with city officials. A group of 20 testers from all city departments will work for 18 months with designers, researchers and users to provide a new perspective on the recurrent issues faced by City Hall. ▲



"CITY START-UP"

- Support for city employees with innovative projects for the city and its residents. City employees who would like to become "*intrapreneurs*" can work on developing their own innovative project that could be implemented by the City of Paris following successful testing. ■



The Connected City

Innovative tools put digital technologies at the service of the open, citizen-oriented, smart and sustainable city. New services, mainly provided through digital platforms, will enable interoperability and information exchange. They also extend the reach of city services to accommodate new uses of both residents and visitors.

The connected city is based on constantly changing infrastructures such as communication networks, connected devices and sensors, which must continually integrate technological advances. We must offer high-quality, public-interest services within a very large ecosystem and guarantee that as many citizens as possible have convenient access to them.

—
DEVELOPING SUPPORT INFRASTRUCTURE FOR DIGITAL SERVICES
OFFERING NEW PUBLIC-INTEREST SERVICES
USING DATA TO OPTIMIZE PUBLIC ACTION
ENSURING LARGE-SCALE ACCESS TO DIGITAL SERVICES
AND DEVELOPING AND PROMOTING ITS USES
—





➤ With regards to public infrastructure, the City of Paris has made considerable efforts to equip schools with digital tools:

- Giving schools optic fiber coverage.
- Provision of 9,000 computers for schools as well as equipment approved through the 2016 participatory budget: 3,000 tablets, 650 video projectors and 950 coding robots.
- Rollout of digital workspaces in schools and experimentation spaces for students ages 9-11.

THE ROLLOUT OF

4G

COVERAGE HAS BEGUN ACROSS MOST of the Metro network

WI-FI IS AVAILABLE AT MORE THAN

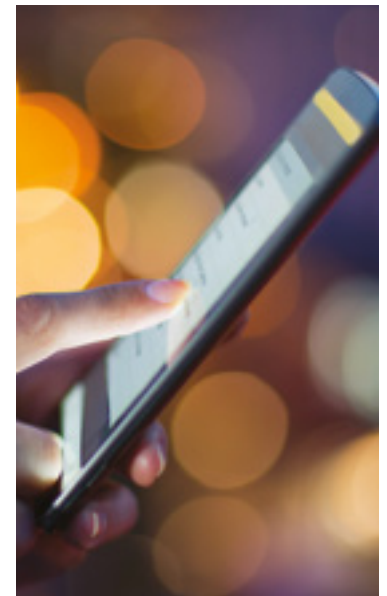
400 municipal hotspots

— Developing support infrastructure for digital services

Digital infrastructure is the foundation of the connected city.

High-speed communication networks, mobile services, connected devices, sensors, software infrastructure and data centers are all essential components that quickly change as technology advances.

At a time when a growing number of collective and citizen uses are made possible by opening up access to services, we must plan for their interoperability, i.e., the possibility to trade proprietary vertical approaches for cross-cutting processes so that services can be aggregated citywide.



PARIS BENEFITS FROM ESSENTIAL ASSETS IN TERMS OF INFRASTRUCTURE

- The Haussmannian layout of the sewer galleries open to visitors allowed fiber optic cabling to be quickly deployed, making Paris a world leader in terms of both dense coverage and competitiveness. ●
- The City of Paris has a very high-speed fiber network for its own uses that covers all of its sites. ●
- With regard to wireless networks, the 3G/4G networks cover the entire urban space while remaining strictly regulated by emission thresholds (mobile telecommunications charter). The rollout of 4G coverage has also begun across most of the Metro network. ▲
- Since 2007, free Wi-Fi is available at more than 400 municipal hotspots in libraries, city halls and parks. ●

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



➤ **The Place de la Nation test has created a sensor infrastructure** in order to understand how outdoor public spaces are used and how future developments may impact the area. The data is published on Paris Data. ▲



THE EMERGENCE OF THE INTERNET OF THINGS

The recent emergence of the Internet of Things (IoT) has set in motion the development of new infrastructure:

- Several operators have begun rolling out wide area and energy-efficient networks to accommodate the needs of collecting data from connected devices. ▲
- These technologies are also widely used for the municipal thermal power stations because the equipment's probes and sensors can be linked. ▲
- A large-scale beacon technology pilot program will be set up to create a broad network covering the entire metropolitan area to test uses for touristic, cultural and athletic applications as well as to offer accessibility solutions. ▲



INFRASTRUCTURE FOR DATA STORAGE, POOLING AND PROCESSING

With the Internet of Things, the extraordinary volume of data generated by connected devices underscores the need to plan infrastructure to store, pool and process all of this information:

- As it shifts away from a vertical approach, Paris is working to put into place a regional data platform to gather all sources into a single data pool and analyze this data using data science methods and techniques. ▲
- The city's information system and its physical data center will be located at a single site, Chapelle International. It will be managed so as to optimize energy consumption and recycle the energy generated by the data centers in a local hot water network that will serve the neighborhood. ■

180

MILLION EUROS INVESTED

in services through the Digital City 2015-2020 Master Plan, which puts the focus on creating a comprehensive offer of digital services for users and city employees, increasing quality and productivity, and pursuing an open innovation approach

— Offering new public-interest services



DEVELOPING AN OFFER OF HIGH-QUALITY DIGITAL PUBLIC SERVICES

- Creation of a unique user account: standardized and simplified access to all municipal services. ●
- A new version of the “DansMaRue” app: this system, which gives Paris residents a way to report problems in public spaces to city officials, was quite successful during its beta testing period (3,000 monthly reports). In 2017, we will offer Parisians a completely revamped tool that will allow them to report not only problems, but also make a positive contribution to their city, by suggesting new locations for a development, street furniture or services. ▲



- Supporting the creation and development of new non-municipal public-interest services by publishing open data, helping stakeholders structure their business models through the city’s open innovation programs (“DataCity”) or co-creation workshops (Meetups and Hackathons), and facilitating the promotion of its services (“Paris Apps”). ▲



- Digitization of administrative procedures and the creation of around 50 new digital services since 2014: residential parking card, digital library, apartment rental ads and social housing. ●

DATA CITY
IN 2015:

9
CHALLENGES

5
PARTNERS

190
APPLICANTS

5
FAST-TRACKED
PROJECTS

— Using data to optimize public action

We are currently witnessing the convergence of open data, digital mapping, geolocation and the co-creation of new services. Public service has become an exceptional catalyst for these new services, use models and economic models that create value, jobs and prosperity in our city.

The data produced by the administration and Parisians through the use of urban services must be made available to all creative minds, starting with innovators and researchers.



➤ **An open data clause is systematically included in City of Paris government contracts;** extending this clause to the City's partners is under consideration. ●



ACT II OF THE OPEN DATA POLICY AND DATA GOVERNANCE

- Mass release of financial, social, urban planning, environmental and transportation data (201 datasets online). ●
- Implementation of a quarterly consultation meeting (in person or virtual) with end-users so they can share their priorities about the data they need. The City of Paris is committed to releasing data every six months. ▲

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



SIG 3D

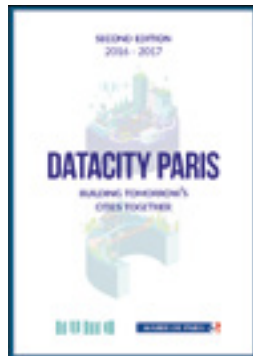
3D

MODELING OF THE CITY,
in partnership with EIVP engineering school, to create a technical instrument for analysis, decision support and sharing information for development projects

➤ **Creation of a Chief Data Officer position** and implementation of an interdisciplinary project on data science and its uses for Paris.

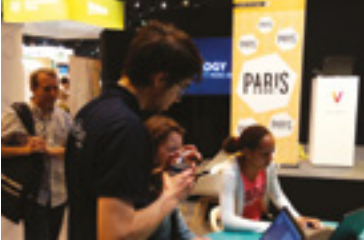


BIG DATA, DATA ANALYSIS AND NEW URBAN USES



- **DATACITY:** a data science study accelerator program co-designed and co-developed with the NUMA Paris innovation center. It aims to identify urban challenges with major private partners from the region to suggest possible start-up candidates and accelerate and develop solutions.
 - The first year of the program (2015-2016) focused on improving energy performance in buildings, developing transportation on demand in one of Paris's arrondissements, optimizing energy systems across multiple buildings and creating a comfort index for the Place de la Nation redevelopment program. ●
 - DataCity is now an ongoing program in Paris and is being extended internationally in partnership with other major cities and large companies to push the use of urban data science and the collaborative development of new uses even further. ▲

- Data science studies will be carried out to optimize municipal public policies by working in conjunction with an external market to mobilize experienced data scientists. These studies on various issues (headlight use, energy, etc.), social policies and internal practices (e.g., human resources) will help the city's many departments gain new understanding on these data science techniques and methods. ▲
- **SIG 3D:** 3D modeling of the city, in partnership with EIVP engineering school, to create a technical instrument for analysis, decision support and sharing information for development projects. ▲
- Signed, with the city of New York, the smart city charter for responsible data to reaffirm the city's commitment to several key principles: ▲
 - Transparency on technology end use.
 - Personal data privacy and protection.
 - All data exploitation must be for the purposes of general interest.
 - All solutions must be optimized to be sustainable and secure.
 - All solutions must take into account public safety and resilience.
 - Data exploitation must be used to optimize public action.

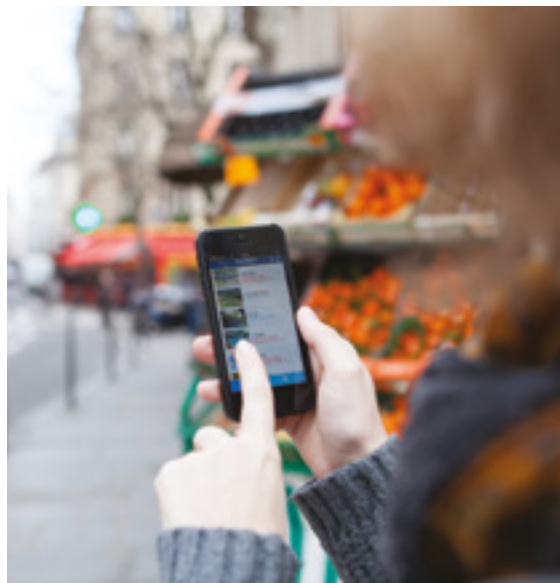


PARIS CODE:

1,300
 ADDITIONAL
 TRAINING SPOTS
 for new digital careers as
 of 2017 and a goal of
2,000
 ADDITIONAL
 DEVELOPERS/CODERS
 every year in Paris

— Ensuring large-scale access to digital services and developing and promoting its uses

Digital inclusion is a major priority for any smart and sustainable city. Rolling out digital technologies must be supported by measures that provide access to new uses for vulnerable populations as well as make it possible for them to access digital career opportunities.



FACILITATING ACCESS AND DEVELOPING NEW USES

- Digital facilitation: training city employees so they can help Parisians use digital public services at district city halls. ▲
- Creation of new connected street furniture, launched in transportation shelters with 32-inch touchscreens, to provide a new perspective on digital services for public spaces and installations. ▲
- Development of digital-based extracurricular activities for Parisian schoolchildren. In line with its vision of using digital technologies to create rather than consume, Paris offers more than 300 extracurricular workshops, with entertaining activities ranging from multimedia technology to learning to code. The city also has a more connected school that includes lessons on the news media and developing critical thinking skills to assess information available online as well as responsible use of social media and digital services. ▲

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



- Promoting access to employment in digital fields, including for vulnerable populations:
 - With the Paris Code program, the City of Paris is committed to supporting training and employment access for 2,000 developers/coders every year by 2020. The goal is to give young school dropouts, older workers learning a new career, women and residents in working-class neighborhoods access to these training programs with innovative educational approaches tailored to digital working methods. One million euros were allocated to this action plan in 2016 and 14 innovative training programs were supported. ▲



© Nicolas Léser

➤ The “*Testeur de commerce*” (business tester), created by SEMAEST, gives innovative entrepreneurs a way to try out their concept before committing to a long-term lease.



- Supporting local businesses:
 - The CoSto (Connected Stores) operation to raise awareness among Parisian business owners about digital uses and put them in contact with start-ups to try out innovative solutions. ●
 - Support and assistance for other organizations (associations, collectives, etc.) that bring together cultural businesses and want to showcase business areas by inventing new services and living spaces, especially using digital solutions (*Paris Librairies* association, *LibrEst* network, etc.). ●

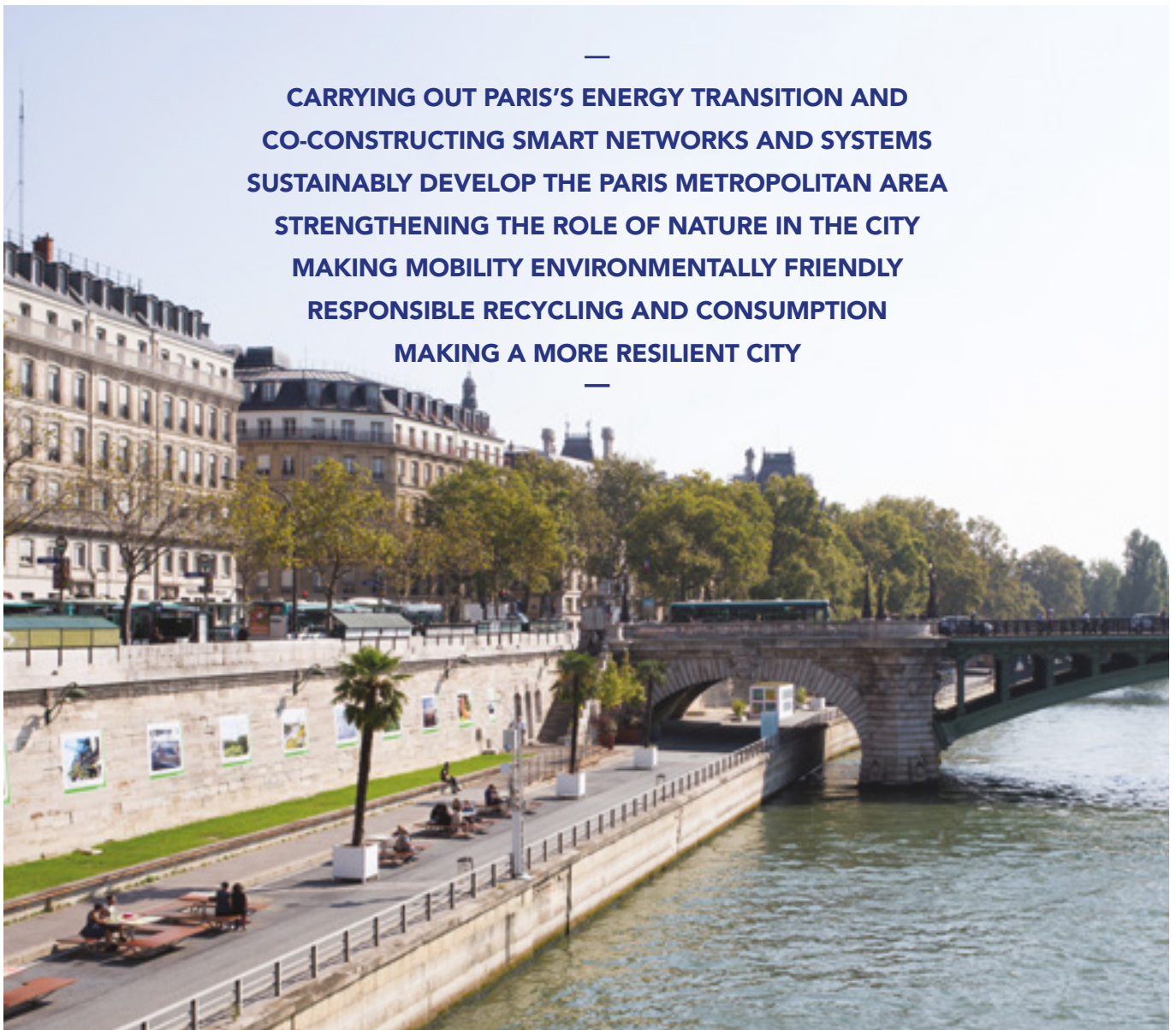
● Completed during current term ▲ Underway ■ Forthcoming (during current term)



The Sustainable City

This represents the fundamental purpose of a city, which is to transform to meet economic, social, cultural, environmental and resilience-related imperatives. A Sustainable City rethinks how its networks, development and urban flows operate to optimize and save resources. It offers innovative practices in urban renewal and development, consumption (circular economy, energies, flows, etc.), and grid and mobility networks by using the methods of the Open City and the tools of the Connected City.

—
**CARRYING OUT PARIS'S ENERGY TRANSITION AND
CO-CONSTRUCTING SMART NETWORKS AND SYSTEMS
SUSTAINABLY DEVELOP THE PARIS METROPOLITAN AREA
STRENGTHENING THE ROLE OF NATURE IN THE CITY
MAKING MOBILITY ENVIRONMENTALLY FRIENDLY
RESPONSIBLE RECYCLING AND CONSUMPTION
MAKING A MORE RESILIENT CITY**
—



25%

RENEWABLE
AND RECOVERY
ENERGIES

by 2020 used in energy
consumption in the Paris
metropolitan area:

50,000 M²
OF SOLAR PANELS

INSTALLED

15,000

RESIDENTIAL BUILDINGS

across an area of one
million square meters
heated by geothermal
power, ultimately
producing 52 kW/h,
the equivalent of
20 million tons of oil saved

OBJECTIVES

1,000

joint-ownership
properties supported in
their energy renovations
over 5 years

1,200

municipal thermal power
stations refurbished and
supervision of all
municipal thermal power
stations, enabling energy
reduction of

25

GWh per year upon
project completion

— Carrying out Paris's energy transition and co-constructing smart networks and systems

At a time of strong commitments under the COP21 Paris Agreement and the mobilization of mayors from the global C40 network, Paris is spearheading the battle to protect the planet, fight for the climate and develop a strategic project in order to become a post-carbon city.

Pursuing the ambitious goals of the Paris Climate Plan involves controlling energy use and looking for new energy resources in the city by generating renewable and recovered energy. Developing smart systems and networks for water, energy, transportation and waste requires pooling each network's data and unlocking synergies between them. Beyond technological performance, Paris leads the way in the struggle to change the energy paradigm, which goes hand in hand with shifts in lifestyle, consumption and travel habits, which are essential in overcoming this vital challenge for our urban lives.

New technologies and anticipating new disruptions will provide more food for thought, along with the entire ecosystem, in order to design, test and then deploy new solutions.



MOBILIZATION OF STAKEHOLDERS IN ENERGY TRANSITION

- Reform of the Paris Climate-Air-Energy Action Plan in 2017 to move towards a carbon-neutral city by 2050. ▲
- *Eco-rénovons* Paris Program and mobilization of joint-ownership buildings through the CoachCopro® platform. ▲
- Coordinated renovation of housing blocks and/or the neighborhood: identify energy efficiency solutions that can be installed across several buildings and draft a renovation request to facilitate the industrialization of low carbon insulation solutions. ■
- Mobilization of economic actors in the Climate Action Plan through a dedicated services hub. ▲
- A "*carnet de l'administration*" (administration handbook), which sets out 30% energy reduction and 30% renewable energy targets. Examples of actions taken:
 - Energy efficiency contract for schools, with 200 schools to be refurbished by 2018. In 2014, schools alone accounted for 38% of energy consumption among Paris's public buildings. ▲
 - A future energy efficiency contract for six swimming pools will incorporate new, innovative energy recovery solutions to reach the 30% energy reduction target. ■



● Completed during current term ▲ Underway ■ Forthcoming (during current term)

POWER SUPPLY

100%
RENEWABLE
ENERGY
in public facilities
since January 1, 2016

BY 2018,
removal of the 10
remaining fuel oil boilers
in the city



➤ **Utilization of the Hôtel de Ville's hidden energy sources to cover 30% of winter heating needs** using the building's greywater network, the CPCU and Climespace condensate return networks. In summer, the non-potable water network is used and increases the air conditioning network's efficiency by 45% through heat dissipation. ●



RENEWABLE AND RECOVERY ENERGIES IN URBAN DEVELOPMENT PROJECTS

➤ 50,000 m² of solar panels deployed across all districts over an area of 100,000 m² of potential solar panel surfaces identified, enabling Parisian buildings to produce hot water and electricity through an average yearly irradiance of 975 kWh per square meter.



➤ Geothermal power:

- A systematic study of the geothermal potential prior to every project conducted by the City of Paris; 100 potential geothermal sites have been identified, representing up to 150 GWh with a designated priority for urban use. ●
This study is in keeping with the successful development of 15,000 residential properties in northern Paris (*Paris Nord*), with long-term heating capacity of 52 GWh enabled by urban geothermal energy, which saves the equivalent of 20 million tons of oil.

➤ The rise of new technologies makes it possible to capitalize on the value of heat produced by systems (e.g., data centers and ventilation) and material flows (e.g., waste and water treatment networks) across the city:

- Recovery of data center waste heat:

- Installation of the Paris Data Center at Chapelle International: The heat produced will be used to heat urban greenhouses installed nearby and fuel the Paris Urban Heating Company (CPCU) district heating network. ■

- The waste heat produced by a data center is enough to heat the main Butte aux Cailles swimming pool. ▲

- Around a hundred Paris Housing Authority (RIVP) social housing properties (Paris 15th arrondissement) heated via radiators connected to the Internet and using microprocessors as a heat source. ●

- A data center partially covers domestic hot water and the heating needs for a housing block developed by Paris Habitat (150 homes, a daycare center and a store). ●

- Energy potential of "hidden" resources (sewers, greywater, etc.): Heat recovery from Paris wastewater, 25 sites preselected for energy potential studies ●, feasibility studies conducted on a dozen sites ▲, initial projects conducted at the Wattignies school ● and the Aspirant Dunant swimming pool. ●

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



EQUIPPING BUILDINGS TO RETRIEVE DATA AND ANALYZE USAGE BEHAVIORS

- Monitoring municipal thermal power stations:
 - Installation of sensors in all thermal power stations, enabling real-time information on energy consumption and building temperatures to be collected. ▲
 - Use flow data to accelerate behavior changes and reduce the environmental footprint. ■
- Pilot program (12th arrondissement) operating in City of Paris facilities and Paris Habitat housing to monitor their energy efficiency, with particular attention paid to comfort. ▲



IMPLEMENTATION OF GUIDELINES

- Joint drafting with developers and promoters of a “Smart Grid Ready” reference document, which details new decentralized energy management models. ●
- The Local City Plan (PLU), revised in 2016, introduced new recommendations in order to encourage the installation of systems designed to reduce energy consumption, the use of bio-based materials, the production of renewable energy and natural irradiance. ●
- French *NF Haute Qualité Environnementale* certification for athletic facilities and swimming pools. ●



GOVERNANCE

- New energy governance involving multiple stakeholders, supported by an interoperable and multi-user energy consumption monitoring platform, under the Co-Responsibility in District Energy Efficiency & Sustainability (CoRDEES) project financed by the European Union, in the Clichy Batignolles eco-district. ▲
- Creation of an energy map for the Paris metropolitan area, linked to the Climate-Air-Energy Action Plan objectives, with all public and private stakeholders. ▲

REINVENTING PARIS



22
SITES

OVER A TOTAL SURFACE
AREA OF 150,000 M²

across 9 districts in Paris's
historic center,
in working-class
neighborhoods,
on the city's edge,
and more

815
EXPRESSIONS
OF INTEREST

372
INITIAL BIDS

75
FINAL BIDS



LEARN MORE AT
WWW.REINVENTER.PARIS/EN

— Sustainably develop the Paris metropolitan area

To meet 21st-century challenges, the city must rethink its perception of space, layout and the structure of its urban choices. Cities are more than just places where people live; they have always been major centers of economic activity. Today, in an economic context where the crisis has made employment a greater concern than ever before, reflecting on how we work goes together with lifestyle and the quality of space management as well. It is essential that we redefine our shared vision so that lifestyle issues, as well as socio-economic and development matters, are addressed with the same urban intelligence and sustainability rationale, with quality of life taking priority.

Workspace management, distribution and provision, optimization and overall improvement of quality of life at work, the way in which housing, multiple-dwelling or single-dwelling buildings and home life are approached, the relationship to public spaces that changes with personal fulfillment and leisure activities, should all be addressed with symbiosis in mind. For these multiple and simultaneous uses, a new vision of urbanism is required in order to reimagine places, urban landscapes, public spaces and the transformation of private spaces.

The City of Paris has opted for thorough innovation, breaking away from the traditional urban development models and choosing new approaches to revitalize all aspects of the urban space. From creating a digital city model to redeveloping vast urban areas, adopting tactical urbanism practices, installing temporary urbanization zones and co-transforming its landmark public spaces, Paris is making its mark and forging a new path in the development of global cities.



Paris Rive Gauche, îlot Fulton, Austerlitz nord (13^e)
© Bertrand Guigou/Patrice Quillet/SEMAPA

● Completed during current term ▲ Underway ■ Forthcoming (during current term)

reinventer.paris

22 sites proposés à tous les professionnels pour qu'ils puissent exprimer leur talent et développer des projets d'exception.

➤ With Reinventing Paris, the City of Paris launched a new challenge to creators around the world for 22 Parisian sites.



REINVENTING PARIS

- "Reinventing Paris" is the City of Paris's new challenge to creators from around the world to reinvent 22 Parisian sites and turn them into models for tomorrow's city in terms of architecture, new uses, environmental innovation and co-creation. By placing innovation at the top of the jury's criteria, the aim is clear: imagine how to build the Paris of tomorrow by innovating and thinking outside the box. In all, these 22 projects cover 1,341 residential properties (including 675 in social housing complexes), more than 26,000 m² of planted surfaces with 17,100 m² of raised beds and more than 4,000 m² of in-ground beds, and 565 million euros in revenue. ●
- The success of the initiative resulted in several categories being created, such as:
 - "Reinventing the River Seine," a joint initiative between Paris, Rouen and Le Havre with 40 sites around the Seine's ecosystem. ●
 - "Inventing the Grand Paris Metropolis" launched for 59 plots of land transferred by municipalities and territories in the Greater Paris region. ▲
 - The global C40 network, which, at the City of Paris's suggestion, decided to launch an international initiative among the members of its network, entitled "Reinventing Cities." ■



➤ "Reinventing the River Seine," a joint initiative between Paris, Rouen and Le Havre with 40 sites around the Seine's ecosystem.



Mille arbres (17)
© DR

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



➤ **The Clichy Batignolles joint development zone's ambitious sustainable development policy earned its Eco-District certification in December 2016:**

- Heat consumption of <15 kWh per m² per year
- **40,000 m²** of photovoltaic panels.
- **50%** rainwater harvesting.
- **40%** irrigation by rainwater.
- **42%** reduction in greenhouse gas emissions from waste management via a vacuum waste collection system.
- Development of biodiversity in the Martin Luther King Park, along roadways, within housing blocks and on green roofs.



TEMPORARY URBANISM

- "Paris, terrain de jeux" ("Paris is a playground") gave athletic stakeholders (sports federations, clubs, athletic operators, investors, architects and designers, etc.) the opportunity to take seven unused plots of land and create temporary experiences, experiment with new concepts, import innovative athletic practices or provide an exceptional showcase for a project or discipline. For several months or up to five years, they can occupy sites awaiting development, such as abandoned land, vacant buildings, wasteland, parking lots or sites in the midst of transformation. ▲
- Les *Grands Voisins*: An interim occupation of the Saint-Vincent-de-Paul Hospital site awaiting its transformation into a multi-purpose eco-district. ▲
- Premise-sharing for stakeholders involved in the circular economy and the social economy. ■



ECODISTRICTS

- Expansion of the sustainable neighborhood approach (Eco-District certification) to all urban projects in Paris to better assess their performance from the design phase to delivery and beyond. ▲
- Eco-District certification of urban projects: Examples are the Fréquel-Fontarabie sector in the 20th arrondissement and the Claude Bernard and Boucicaut mixed-use developments in the 19th and 15th arrondissements, respectively. ▲



DIGITALIZATION AND DEVELOPMENT

- Supporting the nationwide move towards digital logbooks for buildings: Draft agreement with the *Centre Scientifique et Technique du Bâtiment* (CSTB) currently underway on building information modeling (BIM). ▲
- Tactical city planning support: Utilization of data collected from sensors installed on the Place de la Nation to assist in redeveloping the square. ▲



HEALTH AND DEVELOPMENT

- Promoting urban development that respects public health:
 - Example: Studies on the awareness of health issues in the urban renewal of the Place d'Italie and the Place de la Bastille. ●

IN 2020,
PARIS WILL HAVE

↓
100

HECTARES OF
GREEN ROOFS,

WALLS AND FAÇADES,
one third of which will be
urban agriculture

20,000

MORE TREES

30

ADDITIONAL HECTARES
OF GREEN SPACES

open to Parisians

— Strengthening the role of nature in the city

Paris is one of the most densely populated, built-up cities in the world. To improve the quality of life for its citizens and to make the city more resilient, nature no longer can be restricted to parks and gardens, but rather extend throughout the city. This means creating a convergence between buildings, building skins, interiors and exteriors, green spaces, living areas and social ties within housing and the city.



BIODIVERSITY PLAN

➤ Towards a new Biodiversity Plan for Paris: Five years after adopting its first Biodiversity Plan and in view of the City of Paris's objective to strengthen the role of nature in the city, a widespread open consultation with all Parisians was launched to define the new Biodiversity Plan for Paris. After an initial consultation phase, dedicated to reviewing the first Biodiversity Plan, everyone was invited to suggest actions for the new plan during workshops in the district town halls or on the "*Madame la Maire, j'ai une idée*" ("Madam Mayor, I Have an Idea") platform. ▲



PARISCULTEURS

➤ A world debut, this call for proposals is part of the co-creation approach for greening and urban agriculture. The proposals shortlisted in November 2016 were tasked with creating a place for nature across 5.5 hectares in the city. The inventive and diverse submissions showed Paris's appeal to greening and urban agriculture stakeholders and revealed a budding economic hub for urban agriculture. ▲

- 33 initial signatures for the "*Objectifs 100 Hectares*" charter.
- 47 proposed sites: rooftop terraces, non-potable water reservoirs, parking lots and unusual locations.
- Parisculteurs 2 will launch in 2017.

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



➤ **The launch of the collaborative digital platform, "Végétalisons. paris."** It was created for Parisian residents (individuals, associations, businesses, financial backers, etc.) who want to develop new green spaces and agricultural spaces in the city. It is designed as a collaborative space where everyone can find the resources needed to create their own project and further develop their approach. ▲



GREENING BY PARISIAN RESIDENTS AND THE CITY

- The "*Du vert près de chez moi*" ("green near me") operation: A crowdsourcing initiative in order to inventory hundreds of sites suitable for greening in public spaces. ●
- Greening on several walls in Paris, initiated by the city. ▲
- Creation of the greening permit: This allows Parisian residents to acquire a site of their choice in the public space, which they can use for gardening. ●
- Reclaiming the *Berges de Seine* (banks of the Seine): *Parc des rives de Seine* (Seine riverbank park). ▲
- Reclaiming the *Petite Ceinture* (old railroad):
 - A promenade from the Charles Trenet Garden to the Moulin-de-la-Pointe garden opened in summer 2015. ●
 - Current projects underway to reclaim nine new strips of land from the 12th to the 20th arrondissements. ▲
- Identification of available locations in public spaces, schoolyards, gardens and more to plant 20,000 more trees. ▲
- The "*Un arbre dans mon jardin*" ("a tree in my garden") initiative set up and the creation of a dedicated application that enables joint-ownership properties to identify plots where the city can plant trees with the aim of creating green oases.
- Creation of a green street in every arrondissement. ▲
- Planting orchards ▲ and vegetable gardens ● in schools.



TRAINING AND COOPERATION

- Lecture series organized on urban agriculture and permaculture and international meetings on greening buildings in densely built-up cities. ▲
- Creation of a Parisian school for permaculture. ■
- Partnership agreement with AgroParisTech, specifically focusing on Parisian agriculture. ●
- Partnership agreement with the National Museum of Natural History on biodiversity and nature in the city. ●
- Partnership agreement with the Republican Guard on greening and urban agriculture. ●
- Active cooperation with Montreal on innovative solutions for greening and urban agriculture. ▲

REDUCE
TRAFFIC-RELATED
GREENHOUSE GASES BY

60%

in relation to 2007
between now and 2020
and improve air quality:

50%
OF LAST-MILE DELIVERIES
are by non-diesel vehicles,
100% in 2020

90
BELIB' STATIONS,
or 270 electric charging
stations in 2017,
in addition to
the 800 existing stations

DOUBLE
THE BIKE PATH NETWORK
from 700 km to 1,400 km
and triple the number of
bike journeys by 2020

PARIS AT 30 KM/H
(excluding major roads)

➤ **Actions to support
multimodal transit with a
universal "mobility pass":**

- Make Autolib' data available as open data. ▲
- Work together with Île-de-France Mobilités to make public transportation real time data available as open data. ■
- Negotiations with our partners to create a universal mobility pass to centralize several transportation subscriptions and introduce discounted subscription rates. ■

— Making mobility environmentally friendly

Mobility, by its cross-functional, systemic and structuring nature, is one of the cornerstones of modern life and how we are going to live in the decades to come in our urban spaces. Social and economic developments related to city living imply new ways of travel. A smart, sustainable city is a city where transportation is less motorized and traffic flows are eased.

However, our city is asphyxiated in every sense of the word, by the damaging effects of traffic that exacerbate the problems of urban pollution. This requires breaking away from our old travel habits.



ENCOURAGE SUSTAINABLE MOBILITY AND FACILITATE THE USE OF MULTIPLE TRANSPORTATION MODES

- Plan to combat pollution caused by road transportation:
 - Restrict the circulation of highly polluting vehicles inside Paris.
 - Encourage people to stop using individual vehicles that pollute and instead use cleaner modes of transportation (bicycles, car sharing, carpooling, cleaner public transportation) and environmentally friendly alternatives.
- Development of electric vehicles with the expansion of Belib charging stations. ▲
- Bike plan: Double the bike path network from 700 km to 1,400 km by 2020. ▲
- Paris Pedestrian Plan:
 - Pilot project on the Place d'Italie involving regulating traffic lights to include pedestrian flows. ▲
 - Installation of innovative signage. ■
- RATP trial run of an autonomous shuttle between Gare de Lyon and Gare d'Austerlitz train stations. ▲

● Completed during current term ▲ Underway ■ Forthcoming (during current term)



➤ **Installation of GPS chips on refuse collection trucks in 2017**, so that real time data collected can be shared with:

- Itinerary calculators so that drivers can adapt their itinerary. ■
- Building managers, so that bins can be brought out at the optimal time to coincide with refuse collection trucks, freeing up the sidewalks. ■



PARKING AND TRAFFIC OPTIMIZATION

- Provide open data on parking lot and on-street parking to enable the development of parking assistance applications. ●
- Deployment of motion detectors to facilitate coach parking using a coach pass, or to facilitate deliveries. ●
- Modernization of parking tools, such as payment by cell phone, paperless tickets, technology for ticket inspection, etc. ▲
- Install traffic monitoring in Paris by using new tools and data sources, such as GPS or cell operator traffic information, private fleet traffic data, etc. ▲



FOSTERING SUSTAINABLE URBAN LOGISTICS INITIATIVES

- Urban logistics charter: Around a hundred partners and 16 initiatives such as banning highly polluting cars in September 2015, a working group on reverse logistics, innovative tools for deliveries in public spaces, the development of cleaner and more accessible delivery systems for individuals, the creation of urban logistics spaces (ELU), etc. ●
- Establishing logistics sites in Paris:
 - Creation of a rail and road logistics hub in northeastern Paris at Chapelle International. ▲
 - "Reinventing Logistics" call for projects with five suggested sites in the July 2016 competition. ▲
 - Local City Plan (PLU) revised in July 2016, resulting in the creation of around 60 ELUs. ●
- Support and promote logistics innovation:
 - Call for sustainable Urban Logistics pilot projects with Paris&Co (issued in 2015). ▲
 - Launch in 2015 of a sustainable logistics and urban mobility innovation platform by Paris&Co, with 13 partners and 14 start-ups in the first year. ●
 - Trial project for shared electric utility vehicles in the 2nd arrondissement. ▲

➤ **Circular economy incubator.** After supporting 13 innovative pilot projects as part of the call for “urban metabolism” proposals, Paris&Co launched a new innovation platform to foster the emergence of start-ups and facilitate their networking with large companies.

50%
SUSTAINABLE FOOD
by 2020 in the municipal cafeterias and catering facilities (33% in 2015)



➤ **Implementation of the Paris Sustainable Food Plan in municipal cafeterias and catering facilities:** creation of tools for administrators (best practices manuals, communication kits), data exchange interface for agri-food supply and demand, optimization study for logistics. ○

— Responsible recycling and consumption

New economic models are emerging in urban life, with the aim of better management, a more sustainable economy and alternative ways of handling the buildup of barely-used goods.

Moving from “waste” refuse to “resource” refuse, with three watchwords – simplicity, proximity and visibility – is becoming an urban imperative. Smart, sustainable cities must produce without plundering, consume without wasting and recycle without destroying. This requires collaborative consumption, production and use.

A sharing economy prioritizes collaborative consumption that frees users from the 20th-century consumption-driven approach. It also transforms the vision of those who produce goods and services, because in a sharing economy, the ownership of technical objects is questioned and it is their purpose that is valued, which creates new economic models.



NETWORKING AMONG CIRCULAR ECONOMY STAKEHOLDERS

➤ Networks created among stakeholders of the circular economy as a result of the General Assembly on the Circular Economy and the publishing of a White Paper on the Circular Economy. ●

SUSTAINABLE DEVELOPMENT AND COMBATTING AGAINST FOOD WASTE

➤ Adoption of a regional food strategy that meets the criteria of the Milan Urban Food Policy Pact signed by the City of Paris in October 2015 (sustainability, inclusiveness, justice, resilience, equity, respecting the environment and biodiversity, adapting to climate change, etc.). ●

➤ Extending food collection and redistribution to Paris city markets, following the pilot program conducted with the association “Moisson Solidaire” to redistribute unsold produce. ▲

➤ Drafting of a plan to combat food waste. ●



➤ **Creation of a city-run professional clothing and personal protective equipment collection program in Paris; creation of alteration centers.** ▲

SORT AND COLLECT

100%
BIOWASTE
in major municipal facilities, launch the collection of household biowaste and implement sorting in public spaces to increase recycled waste to 50% by 2020

ACCELERATE THE REDUCTION

of household waste tonnage by 10% between 2010 and 2020 (-7% between 2009 and 2015)



DEFINITION AND IMPLEMENTATION OF A ZERO-WASTE APPROACH THAT WILL EXPAND ACTIONS IN FAVOR OF REDUCING, REUSING AND RECYCLING WASTE

- Renewed stimulus to household waste sorting:
 - New local waste collection systems: deployment of 40 TRILIB sorting systems, with a long-term view to extend this system to all districts to meet proximity and visibility objectives. ▲
 - Assistance in maximizing waste recycling across existing sorting options by boosting capacity (more bins and more communication) and aiming for simplification (most plastics recyclable starting in late 2017). ▲
- Biowaste program established with the development of composting and methanization:
 - First pilot door-to-door household biowaste collection in the 2nd and 12th arrondissements. ■
 - Deployment of neighborhood composters in buildings and neighborhoods. ▲
 - Widespread use of biodegradable plastic bags that can be reused to collect biowaste:
 - Change to food market internal regulations, which require three types of bags: paper, biodegradable plastic and cotton. ▲
 - Negotiations with retailers to use biodegradable bags for the fresh produce aisles in supermarkets. ■
- Encourage reuse and repair:
 - Development of Parisian repurposing and recycling centers with a reuse center hub and the creation of a "re-produce in Paris" cluster. ▲
 - Support object repair through a variety of complementary initiatives that heighten the visibility of existing stakeholders and promote the use of their services by the general public. ▲



CIRCULAR ECONOMY IN CONSTRUCTION AND URBAN DEVELOPMENT

- Construction materials:
 - Develop regional organization for the reuse and recovery of materials by listing and mapping available spaces that could be used as packaging and storage platforms. ■
- Construction sites:
 - Identify, sort and recover construction site resources through a number of trial projects on sites representing the diversity of building methods and Parisian buildings. ▲
- Sustainable and circular economy construction:
 - Creation of a central, municipal workshop that reuses materials. ■
 - Developing regional synergies between economic stakeholders (industrial and regional ecology): Run a methodology experiment in the pilot districts on both sides of the Seine. ■

The estimated
DIRECT COST

of a 100-year flood
in Paris could reach

€30 billion

6,600

DEATHS IN PARIS

caused by pollution
each year

22%

DROP

IN HOTEL OCCUPANCY
BY FOREIGN GUESTS

in December 2015
compared to 2014
following the terrorist
attacks in November 2015

100

CITIES IN NETWORK

exchange solutions
and best practices

— Making a more resilient city

In our highly urbanized world, confronted with immeasurable criticality conditions, being able to keep services running during a crisis is more than a challenge – it is an absolute necessity.

Resilience is a way to immerse ourselves in the world we live in, identify our living conditions and be aware of our history, our past, the context, and the developments and transformations that took place in our city so that we can look to the future and imagine how it will be. Resilience is not about forecasting. Instead, it means analyzing and studying scenarios and assessing the dynamics of their possible developments, to then make decisions in the here and now that will commit us all to the future, which is by definition uncertain.

Urban resilience therefore becomes the ability of a region, including its institutions, businesses, residents, systems and infrastructures, to anticipate, survive and grow despite shocks caused by terrorism, floods, heat waves, etc. and chronic crises such as employment, housing and pollution, that it must tackle.





➤ **Publication in 2015 of a climate change adaptation strategy**, linked to the Paris Climate Action Plan.



➤ **Today, air pollution is a major stress on health**, both worldwide and in cities.



LAUNCH OF A REGIONAL RESILIENCE ASSESSMENT

The City of Paris takes part in the global 100 Resilient Cities (100RC) program supported by the Rockefeller Foundation. It appointed a Chief Resilience Officer to draft an overall strategy and coordinate its implementation. The first resilience workshops in Paris were held at the Hôtel de Ville (city hall) in the spring of 2016. They marked the launch of an assessment of the region's resilience, with consultations with over 400 internal and external City of Paris stakeholders. The **key risks** identified by this evaluation are the following:

- **The climate challenge.** Mitigation and adaptation of climate disruptions are essential in building the Greater Paris of tomorrow.
- **Inequality and social exclusion.** Violations to social cohesion, or its disintegration, at a time when inequality is growing, alongside the migrant crisis and terrorist attacks.
- **Flooding and heat waves.** The potentially major shock of a 100-year flood, and in the long term, the forecasted water scarcity for the region.
- **Air pollution.** This is now a major stress on health, both citywide and worldwide.
- **Terrorist attacks.** Ensuring the region's security.
- **Governance of the Paris metropolitan area.** The complexity of regional governance has an impact on its resilience capacity.



PARIS RESILIENCE COMMISSION

The Resilience Commission was created in the summer of 2016 and offers advice and information to elected representatives and directorates tasked with this role and leads occasional actions (post-crisis feedback, organization of specific events, etc.). In fall 2016, it entered a second work phase that went further in studying the issue and identifying strategic guidelines, conducting further surveys, pilot projects and workshops. The aim is to offer tangible, operational answers to the following questions:

- How can the resilience of natural and technical infrastructures be strengthened?
- How can the population's resilience be strengthened?
- How can improving regional governance be used to strengthen resilience?
- Review of two specific case studies on air quality and issues related to the river.



CONCLUSION

Smart and Sustainable Paris is a commitment that stems from a powerful vision of the future. For both Parisians and visitors, of today and tomorrow, for the generations to come, we are building, today and every day, the Paris of tomorrow: a city that is open, connected and sustainable.



IN THE NEXT DECADE, PARIS WILL GO EVEN FURTHER, BECAUSE WE HAVE ALREADY ANTICIPATED THAT THE FUTURE IS THE COMBINATION OF URBAN INTELLIGENCE WITH THE LIVING CITY, SOCIAL INCLUSION, TECHNOLOGICAL INNOVATION AND NEW URBAN BEHAVIORS...



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In this document, we have laid out our strategic vision for 2020 with innovative and tangible actions that will aid this urban transformation, entirely aimed at benefiting our citizens. Our approach also involves anticipating new transformations to come. Lifestyle and technology changes and the power of a globalized and interdependent urban world will continue to impact city living and Paris in the coming decade. The convergence between disruptions to social practices, ubiquitous technology and new economic models will result in new life experiences.

In the next decade, Paris will go further, because we have already anticipated that the future is the combination of urban intelligence with the living city, social inclusion, technological innovation, and new urban behaviors, resulting in a collaborative city, the "sharing city."

The City of Paris is and will always be a pioneering city in the world, because we know that in a changing world, the challenge of urban life is to constantly forge living social

relationships to give new meaning to city life every day. Paris is guided by the deep belief that in this century of cities, building a better way to live together depends on the role the city plays in our lives, their appeal and good governance decisions.

We are proud to provide Parisians in France and around the world with our contribution, so that global cities demonstrate, through their creative imprint, a better future for our citizens. This is the deeper meaning behind our commitment for today, tomorrow and the years to come.



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