La Marine Eco-district

by Jean François Papot (Vizea) / 2019-06-13 12:39:57 / France / 8386 / FR

Address 1 - street : 92700 COLOMBES, France

Gross density : 78.57 logt/ha
Population : 1 375 hab
Number of jobs : 100 emplois
Starting year of the project : 2008
Delivery year of the project : 2022

7 ha

Proposed by :

ekopolis

Certifications :

ID CARD

Located in the North West of Paris in the department of Hauts de Seine and in the commune of Colombes, La Marine's eco-district is part of a wider urban development than its perimeter which includes the arrival of the extended T2 tramway between defense and Bezons, structuring axis of the project. The eco-district integrates the perimeter of the Petit Colombes / Grèves Urban Renewal Zone and covers a former industrial wasteland formerly occupied by the French Navy.

The goal was to reclaim an industrial wasteland for the construction of a new sustainable neighborhood of 6.7 hectares. The project was conceived at the scale of the Charles de Gaulle district to open up the site, to weave an urban and social link between the existing and the future.

Phase I of the project allowed the construction of about 400 dwellings was carried out between 2011 and 2016. Beside these dwellings, were to be built 12 000 m²

of offices, 1 200m ² of shops, 6 500 m ² of hotel residence of which one 500 m² restaurant. Finally, 8,500 m² were dedicated to RATP's Maintenance and Storage Site (SMR) for T2 and T1 trams.

To all this, we must add public facilities that brought a mix of practices and influence on the neighborhood: a new school group, a media library of 1,000 m²; a 4,000 m² square integrated into 7,000m² of public green spaces, not to mention shared gardens, and private gardens. A reception area for 26 campgrounds is also present and had been slightly expanded.

The goal of the municipality is to " *recreate a real piece of city* " by a structuring street frame and a project with multiple functions. In phase 1, the municipality has signed a sustainable development charter to mobilize all stakeholders involved in the operation. The territory is 68% occupied by social housing. Two innovative points contribute in particular to the quality of the project:

- a **biomass heat network** supplies all the buildings in the eco-district and the social housing stock in the South
- **the parking lots are shared** in order to reduce the construction of infrastructure and limit the impact of the car on the neighborhood,
- an **installation aiming at the zero discharge of rain water** both in public spaces and at the level of each plot.

Since 2017, phase 2 of the ZAC is launched. While the second part of this new neighborhood was to be largely office-based, the state of the office building market required a review of the mass plan to include nearly 300 new housing units and 27 social housing units. The space intended for the economic activity is reduced to 2500m ², on the edge of the boulevard Charles De Gaulle. The only one of the department, will take the place of the offices envisaged initially. Finally, underground parking, 250 to 300 places will be built under future housing.

image credits (maps): Arcane Group

Programme

- Housing
- Offices
- Businesses and services
- Public facilities and infrastructure
- Public spaces
- Green spaces
- Others

Project progress

- Delivery phase

Procedure type

- Urban développement permit

Key points

- Governance
- Quality of life
- Mobility
- Resources
- Biodiversity
- Energy /Climate

Approaches used

- Agenda 21
- Local charter

Certifications

- Autre

More info

https://www.leoffdd.fr/fichiersprojets/ecoquartierdelamarine-Ecoquartier%20Marine%202015.pdf.pdf

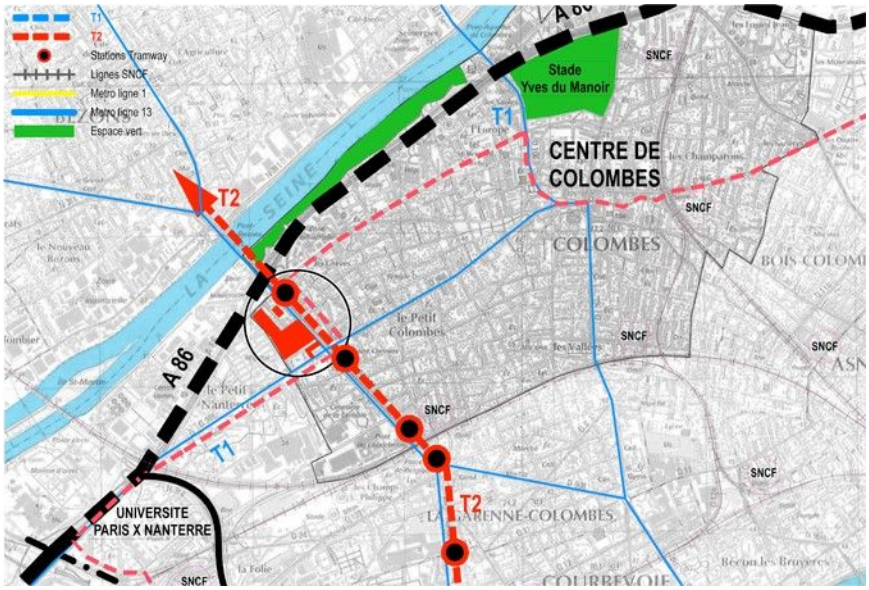
Data reliability

Self-declared

TERRITORY

Type of territory

Located north-west of Paris in the department of Hauts-de-Seine, the ZAC La Marine is located west of the Colombes territory south of the bridge of Bezons, between the eastern limit of Nanterre and the D 992, *(Boulevard Charles de Gaulle*) . It extends north to the outlet of the A86 by rue de Sartrouville and south to the D986 *(rue Gabriel Péri).*



ARCANE group

La Marine, which integrates the perimeter of the Urban Renewal Zone Petit-Colombes / Grèves, is the result of the urban redevelopment project of a former industrial wasteland formerly occupied by the Navy. This perimeter was then enlarged to the north and south by complementary spaces. It covers an area of 6.7 hectares embedded in the east and south with two major social housing projects:

- To the south: Canibouts North, 357 dwellings, Hachette: 82 dwellings.
- Northeast: Petit Colombes West, 220 dwellings.

To ensure the reconversion of this industrial wasteland by recreating a real "piece of city", the city of Colombes wanted to include the development of the district in a sustainable development approach.

This project was also named laureate of the second session (2010) of the call for projects NQU: New Urban Areas.

Climate zone

[Cfb] Marine Mild Winter, warm summer, no dry season.

KEY FIGURES

Public spaces area

Public spaces area : 10 000 m²

Office floor area

Office floor area : 1 500 m²

Commercial floor area

Commercial floor area : 2 000 m²

Public facilities floor area

Public facilities floor area : 7 000 m²

Housing floor area

Housing floor area : 40 000 m²

Number of residential units

Number of residential units : 550

Number of social housing units

Number of social housing units : 110

Public spaces/inhabitant

7.27

GOVERNANCE

Project holder

Name : CODEVAM

Type : Para-public owner)

General description :

Development Company (SEM) of the city of Colombes

Project management

Description :

Developed by the Codevam (Colombes Development and Development) and piloted by the municipality of Colombe on former Navy grounds, the ZAC Marine is a project initiated in the early 2000s of 6.7 hectares.

The urban studies carried out in 2008 for phase 1 envisaged the development of 40,000 m 2 of housing (approximately 500), 12,000 m 2 of offices, 1,500 m 2 of retail space, a hotel (6,500 m 2), public facilities ... taking advantage of the arrival in 2012 of the T2 tram (La Défense / Bezons bridge) and by 2020 the extended T1 of Asnières-Gennevilliers to Nanterre.

In 2017, phase 2 was launched but limiting offices to favor 300 housing units and 27 social housing units. The space intended for economic activity has been reduced to 2500m², on the edge of Charles De Gaulle Boulevard. The area of reception of the trip, the only one of the department, will take the place of the offices envisaged initially.

In the second phase, an underground car park of 250 to 300 places will be built under future housing.

Project stakeholders

Vizea, brand of LesEn

Function : Environmental consultancy agency

Referent Sustainable Development within the MOEU

François Xavier MONACO (contact (a) vizea.fr)

Construction21 company page :

LesEnR

http://www.vizea.fr/references-projets/urbanisme-durable/item/733-colombes-92-amenagement-zac-marine.html

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ARCANE Group

Function : Urbanism agency

Chief Urbanist Architect

Guy SAINT-MACARY

Construction21 company page :

http://groupearcanearchitectes.fr/notre-groupe/

The Landscape Company

Function : Other

landscapers

Jean-Frédéric GAY (agence (a) compagniedupaysage.fr)

Construction21 company page :

https://www.pinterest.fr/pin/430164201902272591/du paysage

SOLUTIONS

Company :

Company :

Company :

QUALITY OF LIFE

Quality of life / density

The development of the district is primarily a **desire to diversify the functions present** along the structural axis that constitutes the Boulevard Charles de Gaulle. In fact, in 2010, recent developments in the vicinity focused on the construction of commercial buildings, taking advantage of the proximity of the La Défense business district. The eco-district of La Marine has rebalanced the functions present in the district of Charles de Gaulle by developing a predominantly residential area, in this sector to accessibility enhanced by the arrival of the tram.

The second phase of this new neighborhood integrates nearly 300 housing units and 27 social housing units while the space for economic activity is reduced to 2500m ², along the Boulevard Charles De Gaulle. The area of reception of gypsys, the only one of the department, will take the place of the offices envisaged initially. Finally, an underground carpark, of 250 to 300 places will be built under future housing.

The constraints of the site, led to strongly differentiate the development of the northern part and the southern part of the site. In the northern part, two factors have led to a low density: The presence of the area of the gyspsys that is desirable to integrate without discrimination while avoiding exposing to the views plunging and other On the other hand, the desire to preserve and reinforce the suburban fabric of Champy Street, the only attraction of the new district with the history of its first urbanization. The density of the southern part of the available land, on the other hand, is particularly high: 220 dwellings per hectare, with the exception of the land occupied by the RATP's low-density buildings.

The implementation of the buildings was guided both by the desire to include it in the urban fabric of the City of Colombes and that of optimizing the sunshine of the facades to respect the energy performance assigned to buildings. The prospects between the vast majority of buildings are therefore important: 26m. This frame distance and rhythm all the tracks and implementations. It induces the insertion of residential green spaces and public green space. **The search for good sunlight is legible on highly differentiated façades** according to their orientation. It is present in the pathways like the diagonal alley that crosses the residential complexes and indicates the south towards the triangular place that faces the school group.

Net density

-0.06

Culture and heritage

The new media library of the Navy was inaugurated in 2015. It replaced the media library Aragon and is added to two other municipal structures: Jacques Prévert and Michelet.

The 1,100 m2 space has 25,000 books, 21 multimedia stations and digital resources.

Social diversity

The district site is located on the territory known as Le Petit Colombes occupied on both sides of the Boulevard Charles de Gaulle, nearly 80% by social housing. The programming of phase 1 (80% of non - social housing), meets the objective of **initiating a virtuous process of social mixing** . This objective was accompanied by an adapted location of the equipment and amenities of the spaces leading to a mix of flows and promoting meetings. This is why the perimeter of the school's school map to be implemented in the distrcit integrates the Petit Colombes Ouest, Canibouts Nord and Hachette.

The location of the entrance of the school leads to a **frequentation of the new district by all the children and parents of this extended perimeter.** The respective positions of the hotel complex and its restaurant, the media library and the shops lead to a **reinforcement of the existing centrality pole** around Place Aragon. The 4000m2 square, which structures the urban fabric generated by the project, is open on the boulevard. It is thus made visible since the place Aragon. It frequented by all in the day since the wide sidewalk lined with shops that will become between two tram stations a space of wandering frequented by all the inhabitants of the district. The 20% of social housing created will be scattered throughout the habitat by full staircases.

Phase 2 of the ZAC, launched in 2017 integrates 350 new housing including 20 social.

Ambient air quality and health

100% of buildings meet the requirements of high environmental quality (HQE, H & E) and the specification book for residential buildings included many requirements on acoustic comfort, thermal comfort, visual comfort, air quality, the building sites weak nuisances.

The strong presence of trams and the creation of the network of public green spaces contribute to the improvement of air quality.

ECONOMIC DEVELOPMENT

Functional diversity

The mix of functions has been taken into consideration on a perimeter that extends well beyond the land to be urbanized in the La Marine in the dynamism of the axis that constitutes the Boulevard Charles de Gaulle towards the Charleroi bridge and La Défense. Several projects, including tertiary, completed, committed or future, will develop and support this dynamism. The new district capitalizes for itself on this dynamic to initiate a boost of social mix in the district of Petit Colombes, formerly composed of more than 80% of social housing.

Localization of diversified program elements on the site: Housing with diverse statuses, hotel residences, school groups, activities, media library, public square, shared gardens, shops, constitute a heterogeneous nucleus that opens up to the district. The ground floor of the Place Louis ARAGON are lined with shops and give access to several public facilities that develop on two levels. The Place faces a very important shopping center integrating a Leclerc hypermarket. It is close to a covered market hall and has a public parking today condemned and will be returned to service. Place Louis ARAGON was requalified as part of the operation ANRU du Petit Colombes. But all these assets to develop and enhance are really "boosted" by the implementation of the right of the Place a tram station at four halts of the district of La Défense.

Currently and future strength is reinforced by the commercial ground floors of buildings built nearby; and the square of 4000m2, an important element of the urban composition of the new district, opened on the boulevard during the day and visible from this angle as an invitation to attend for the inhabitants of Le Petit Colombes.

% of public spaces

14

% of office area

2

% of commercial area

3

TRANSPORT

Mobility strategy

A neighborhood without car and zero parking, supported by its inhabitants

The eco-district of La Marine benefits from a context very favorable to the creation of a car-free neighborhood, from its service by T2 and T1 trams on the Charles de Gaulle boulevard along the ZAC, and its location near the downtown Colombes and the business and commercial center of La Défense.

>> The lack of parking on the neighborhood was supported during the public meeting organized in 2009.

The subject of mobility, because of an ambitious goal of pedestrian area, could be difficult to accept by the inhabitants.

The public meeting actually went well, even beyond the expectations of the team: not only did the inhabitants not question the absence of a car on the site, but deepened the subject, refusing parking silos initially proposed.

Following this exchange, the team changed the project towards even more ambitious choices: the reuse of pre-existing and underused underground car parks nearby, instead of the construction of new car parks.

Parking is thus shared between the inhabitants of the new district and those of existing social housing (respectively 500 and 500 dwellings).

>> Also the theme of mobility is particularly ambitious on the project and integrates two major actions:

On the one hand, the eco-district is essentially pedestrian, 80% of the internal roads of the eco-neighborhood being reserved for soft traffic, and the place of the car reduced to the strict minimum.

This urban choice strongly enhances the quality of life in the neighborhood and limits GHG emissions.

It is also part of the green continuum crossing the eco-district from North to South, support of soft flows and responding to biodiversity issues.

A special place is reserved for bicycles, with two places imposed by housing, indoor and secure.

On the other hand, very few car parks are built on the neighborhood, and these are shared with the car parks of the surrounding housing area: existing and largely under-occupied car parks located under the neighboring social housing have been bought by the MOA then renovated, part of which is allocated to the inhabitants of La Marine.

RESOURCES

Water management

10,000 m² of public green spaces are set up in the La Marine district, including a 4,000 m² square, creating a green continuum throughout the neighborhood. Its use is shared with the inhabitants of neighboring districts.

The facility also optimizes water management, targeting zero-scale stormwater discharge throughout the CAZ.

All rainwater is infiltrated or recovered on site and reused for watering green spaces. The island core developments are part of the philosophy of the principles established on the eco-district of la Marine. The open spaces are disbursed about 35 cm compared to pedestrian traffic to both meet the objective of zero discharge of rainwater on the public domain and also perpetuate the planted spaces. The vegetable strategy is inspired by the natural environmental context. The vegetal palette, ensures to use only native or naturalized species, vegetation more adapted to the seasons of our temperate climate.

The central garden is expected to be flooded, and may contain rains up to the vicennial occurrence without overflow, with a 10 cm contrast.

Waste management

In order to optimize waste management and facilitate sorting procedures, provision has been made in buildings for the sorting and intermediate storage of waste, close to the production sites (identifiable floor space, provision of equipment sorting, ...). Consideration was also given to access to buildings to facilitate access to the voluntary waste collection terminals (location of entrances, pathways, ...).

BIODIVERSITY

Biodiversity and natural areas

The links created to irrigate the new district are all soft links, accessible only to pedestrians, cyclists, service and safety vehicles. The main link is part of a green continuum whose principle is part of a biodiversity objective. The alternative management of rainwater in the La Marine is a strong element of the eco-neighborhood project. The spaces disbursed by the implementation of the valleys are conducive to the installation of a natural vegetation largely from indigenous plant species present on the banks of the Seine (willow, alder, dogwood, ...).

The vegetal continuum oriented north south parallel to the amenities of the Boulevard Charles de Gaulle, is placed transversely in connection with the boulevard mall via the street of Côtes d'Auty and the Urban Park.

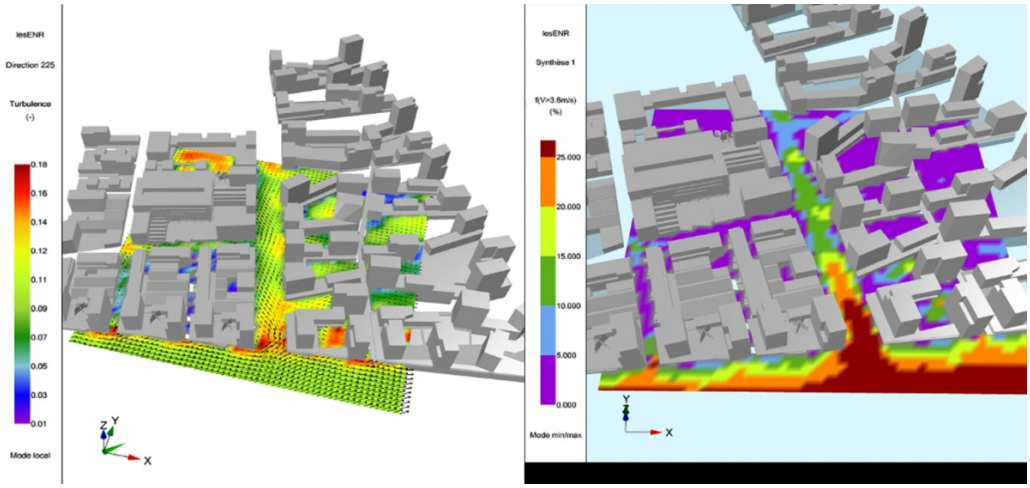
This ecological continuum conducive to biodiversity extends to the Lagravère Park and the left shore of the Seine. It promotes the movement of insects and birds in their search for food, or shelter for their broods .... It plays a particularly important role for species that have reduced mobility by helping to break the isolation of habitats.

ENERGY/CLIMATE

Climate adaptation, resources conservation, GHG emissions

The objective defined in the district a environmental profile was to achieve the BBC label for housing and BEPOS for the school group. It also consisted of promoting renewable energies in a wider area to neighboring dwellings when they are heated by the ground by a heat network using biomass: *(Boiler room).*

But first and foremost, the goal was to use the free energy of the sun by setting up buildings that limit solar masks as much as possible. To meet this need, after calculation, the main differences between buildings are 26m.



Energy sobriety

The requirements for energy management are particularly exemplary, with a target of reducing GHG emissions by 80% compared to conventional development.

Thus all the buildings built on the eco-district have a minimal energy performance level BBC (Low Consumption Building).

Energy mix

Constrained by a dense programming on the perimeter of the district as well as by the installation of the site of maintenance and storage of the RATP on this site, the feasibility study carried out required wide reflections on the capacities of implantation of a For example, the steering committee of 9 July 2009 validated the wood boiler solution under DSP on the neglected as the most optimal solution to meet the energy performance target of the distrcit. It has thus been implemented:

- The installation of a 3 MW wood boiler on the A86 highway,
- The connection to the domain of the OPH on the same network to provide extra gas and benefit the OPH of this project,
- The connection of the different buildings of the ZAC

This technical solution allowed to:

- maintain the 80% GHG reduction target with a coverage rate of approximately 75% of the heat network by biomass,
- enlarge the environmental impact of the district by allowing the supply of the buildings of the OPH of Colombes,
- reduce the cost of heat thanks to the 5.5% VAT,
- reduce the impact of the increase of fossil fuels on the inhabitants of the district and thus better control their purchasing power (economic objective of the project),
- to value a neglected person in the context of the densification of urban spaces.

She supposed to:

- proceed with the acquisition of the abandoned highway,
- set up a convention with the city of Colombes,
- carry out a risk study for the DIRIF,
- negotiate the DIRIF agreement,
- proceed with the purchase of the land from France Domaines.
- to make a DSP call for tenders won by DALKIA,
- to control the air quality of the district through technical requirements concerning the filtering of fumes.

The boiler room was commissioned on November 1, 2014.

The implementation of a biomass heat network on the eco-district has made it possible to cover with renewable energies the majority of the heating and DHW needs of the 500 dwellings in the district, but also the 500 social housing units on the southern edge, associated with boiler rooms. existing gases.

The school group, exemplary public equipment of the eco-district of La Marine, is a building with positive energy (BEPOS).

Delivered in 2014, it combines an energy sobriety thanks to a powerful envelope and a bioclimatic architecture; to a renewable energy production by the implementation of 680 m² of photovoltaic roof covering all energy consumption of the building. Connected to the biomass heat network, its heating consumption is less than 8.95 kwhEP / m².year.

SOLUTIONS

Network and biomass boiler

- Renewable energies

http://www.gsm-archi.net/site/?p=380

http://www.vizea.fr/references-projets/energie/item/769-colombes-92-zac-de-la-marine.html

Company :

Company :

BUILDINGS

Buildings

The Phase 1 "Eco-Neighborhood" initiative and the implementation of the Sustainable Development Charter make it possible to target environmental quality and maximum performance on 3 specific targets:

- "Energy" target: the school group was built according to the BEPOS (positive energy building) standards, a heat network powered mainly by biomass is put in place. The buildings will be oriented so as to favor the sunshine and the natural contributions of heat, the lodgings will be realized in buildings low consumption.
- "Water management" target: infiltration of surface water on site where possible, with minimal rejection in public collectors, and optimization of drinking water consumption (target -20%).
- Target "travel / transport": the access of the operation is limited for cars, 80% of the ways developed are soft traffic, immediate proximity to public transport (tramway, bus, RER ...).

Contest

Reasons for participating in the competition(s)

- A soft mobility district: The parking lot is based on pooling the supply of existing car parks. Only 235 additional places are built in the basement. 80% of the internal channels in the projects are dedicated to soft traffic. The existing and future public transport offer allows this very small space for cars. This ambition was particularly supported by the inhabitants allowing a mutualisation of parking spaces between inhabitants of the new district and those of existing social housing.
- A biomass heat network: The biomass heat network implemented in the district, combined with existing gas boiler plants, covers the heating and DHW needs of the 500 dwellings in the eco-district and the 500 social housing units on the southern edge. The very dense sector, constrained in particular by the RATP maintenance site, pushed the designers to set up the boiler room on a neglected highway north of the eco-district.
- Biodiversity and zero-discharge of rainwater: 10,000 m2 of landscaped public green spaces including a square of 4,000 m2 create a green continuum from north to south over nearly 800 m long. These spaces allow the zero discharge of rainwater throughout the distrct: the whole is infiltrated or recovered to be reused for watering green spaces. The passages between the public spaces, the residential spaces and the entrances are materialized by valley.
- A BEPOS school: Delivered in 2014, the school group Simone Veil achieves energy sobriety thanks to a high-performance envelope and a bioclimatic architecture, renewable energy production with the implementation of 680 m2 of photovoltaic roof covering almost all energy consumption of the building. Connected to the biomass heat network, its heating consumption is less than 8.95 kwEP / m2.year.

Building candidate in the category

Green Solutions AWARDS
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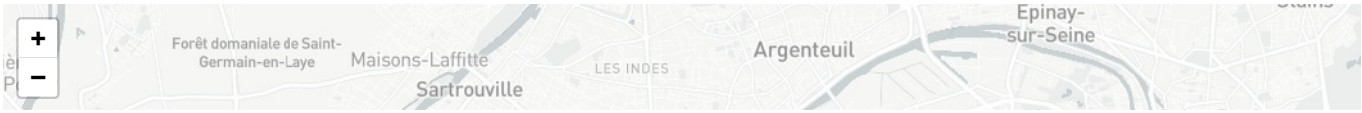
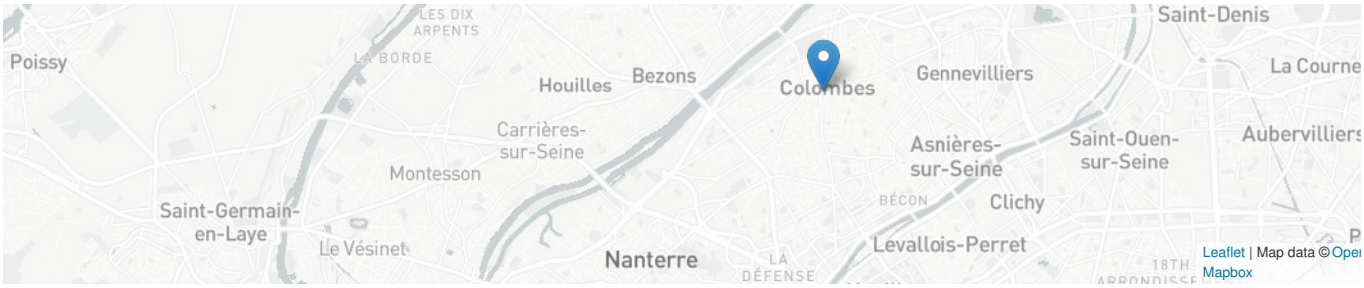
Grand Prix Ville Durable

Prix du public





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