

# Taking a fresh look at major infrastructure elements in urban environments: crossing Cergy-Pontoise Preparatory document





### Introduction

#### The motorway in doubt

Elements of the major transport infrastructure built since the 1960s are now being rejected by urban residential districts.

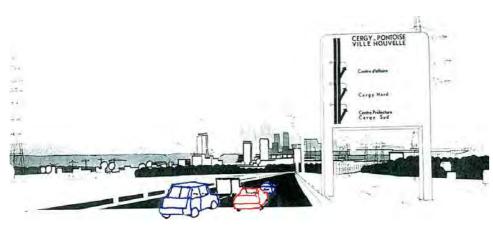
What were once their original qualities of «speed, fluidity and efficiency» have become synonymous with «divided cities, pollution and noise nuisance» as well as with «traffic saturation, space consumption and urban sprawl».

The entire notion of travel is under review across Europe. The Urban Project Management Workshops propose to take a fresh look at the design and role of major infrastructure (motorways, high-voltage power lines and expressways) through a study of how these elements cross the town of Cergy-Pontoise. It involves thinking about how they could be transformed in order to adapt to new travel needs and reviewing their relationship with the regions they cross whilst fulfilling sustainable development objectives.

#### Three scales

The issue of major infrastructure needs to be tackled in terms of the connections between three levels of service:

- **the metropolitan level**, which identifies regions on the basis of their economic specialisation. Their degree of coherence is measured by estimating the costs engendered by the concentration of employment for the community in terms of expenditure, and time spent travelling.
- the social infrastructure level, i.e. the level at which there is a degree of synergy between several regions united by a labour pool and one or more central point(s) to be organised.
- **the local level**, defined by the degree of compactness of an urban district, which makes access to amenities on foot more or less easy and reduces the need for mobility.



Source: Bertrand Warnier, «Cergy-Pontoise, du Projet à la réalité» Atlas Commenté, Mardaga, 2004

Taking a fresh look at major infrastructure elements in urban environments Michel Jaouën, *Urban Planner Architect, session manager* 

Are there any places that could be more alien from each other than the motorway and the city?

The motorway conjures up an image of the traffic network of an extended territory, wide open spaces, long distances and the connection between distant regions. It has its own imaginative world and places designed and invented to serve it: rest areas, play areas, toll booths, motorway restaurants and service stations. This very specific world leads to the development of social and commercial amenities, designed for brief visits, where people taking short holidays, coaches taking pensioners on excursions and businessmen and -women rub shoulders with each other, even if it is a «peculiar place to meet» (1). One might even attempt a voyage of discovery or invent a cruise, where the rest areas are the stopovers (2).

The motorway also evokes the idea of crossing broad landscapes which, thanks to the talent of engineers and landscape designers who determine its lines and design its majestic civil engineering structures, may also be enhanced.

There is a second kind of motorway outside of this culture: those that cross through cities.

It one of the mysteries of language that this kind has no name of its own. There is just the one: MOTORWAY. One senses a degree of egoism and self-satisfaction, a desire to exist simply for its own sake, as if it had no deference towards the areas it passes through and as if it were not subject to the idea of scale.

Public spaces in towns and cities, for their part, are described using a whole range of nouns to categorise their form, extent, breadth and primary function – although urban planners often find, even so, that there are still not enough words in the entire French language.

As no-one has been able to come up with a specific name – perhaps it is too like the previous one – for a motorway that crosses a town, an adjective has been added: «urban», but there is little to choose between them in terms of form: narrower lanes, noise-resistant walls and shorter distances between entries and exits, in fact everything required, most of the time, to hide or push away the very features that characterise it. It could have been called an «urbanostrade» or «cityway» or another similar name of the type invented by advertising agencies, which would conjure up a mental image of a place with its own rules. To be fair, sometimes it has been given one: «ringroad», to emphasise the fact that it is not part of the city.

There is every reason why the motorway and the town should not get along and yet most of the time there are also good reasons why they should be side by side.

In Cergy-Pontoise it is not very clear whether the motorway skirts round the town or crosses it. It was not designed to be «urban» but, because of the site and the development of the town, it has become so. Yet there is no «culture» and no trade generated by it, there are no motorway rest areas where the special characteristics of Cergy-Pontoise could be showcased: it is simply functional, concerned only with traffic moving backwards and forwards.

When the workshops suggest «revisiting major infrastructure» it is about treating it as though it were a diplomatic assignment: first going to meet the town, listening to what it expects from links and connections, then receiving the major infrastructure, asking it, perhaps, to express regret for having once had the arrogance to pass through the town whilst ignoring it and the brutality to have cut it in two, thus separating areas designed for communal living. And finally to propose the terms of a reconciliation on both sides.

Clearly it is about design, landscape, visual and sound qualities, environmental improvement and exploring the new uses for infrastructure that are expected.

We are - even more today than two years ago, when we selected the topic for this workshop - at an in-between era that placed the topic as a burning issue: how to make less poluting and more economic transports?

«No territory is a desperate case» (3): we have to work for inventive solutions to get a positive relation between city and major infrastructures.

<sup>(1)</sup> Strange Place for an Encounter - movie by François Dupeyron taking place at a highway rest stop — 1988.

<sup>(2)</sup> Les autonautes de la cosmoroute - Story of a month-long trip on the highway linking Paris to Marseille by Carol Dunlop and Julio Cortazar. (The two travellers have ridden through this highway, camping out in rest stops) Editions Gallimard – 1983.

<sup>(3)</sup> Yves Lion.



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a student at ESSEC and a participant in the 2007 session



Aerial view of Cergy-Préfecture and the A15 Source: EPA

#### Cergy-Pontoise - Key facts

#### Geography: an independent town within the Paris network

Cergy-Pontoise is a new town in greater north-west Paris (30 kilometres from the city). It covers an area of approximately 8,000 hectares – the same area as Paris, although it only represents 10% of its population.

The conurbation is located close to the River Oise (in one of its "loops"), a tributary of the Seine, which gives the area of the conurbation its particular character and led those who built it to want to make it a "landscape city". Indeed, the conurbation is ringed with numerous parks.

Two railway lines, two RER lines, the A15 and the A86 are the main links between the conurbation and Paris. The Francilienne, the outermost of the three Paris ring roads, already links Cergy-Pontoise to Charles de Gaulle airport; the challenge today is the extension of the Francilienne to the south, the plans for which have just been agreed.

#### History: Cergy-Pontoise won't be built in a day!

The town of Pontoise was founded in Roman times and was a royal city in the Middle Ages. In the 19th century, the city benefited from the development of the railway, with the Pontoise to Meulan line.

The New Town of Cergy-Pontoise was inaugurated in 1965 and was then granted the status of "conurbation" ("agglomération") in 2002. Until 1969, Cergy had been a rural village of some 2,000 inhabitants.

The conurbation combines 12 municipalities. The centre is made up of Cergy Préfecture and its extensions towards Saint Ouen, L'Aumône and Pontoise.

#### Population: a residential basin.

The people who live in the conurbation are known as "Cergy-Pontains". Its population has exploded since the creation of the new town. It now has 185,000 inhabitants (compared with the planners' predictions of 300,000 in the 1970s), or 2,360 inhabitants/km2, 36% of whom are under the age of 25.

The dynamism of the town is reflected in the fact that it is home to 90,000 jobs and 22,000 students (ENSEA, ESSEC, Ecole Nationale d'Art Paris-Cergy, Institut Polytechnique Saint Louis, and the university, created in 1991).

#### Economy: a labour pool.

The conurbation's economy is largely driven by the service sector and industry.

The "Les Trois Fontaines" shopping centre (1972) is one of the largest in the Val d'Oise department. There are some 3,800 companies in the area. most of them SMEs. The conurbation is, however, home to a small number of international companies (notably 3M, Siemens, Thalès and Sagem) and is positioning itself as a new centre for entrepreneurship and innovation.

#### Culture.

The town of Pontoise has a remarkable historic and architectural heritage. Cergy-Pontoise is also home to the "Axe Majeur", an urban artwork created in 1980 by Dani Karavan, which opens out onto Paris and La Défense and continues the line that runs from the Arc de Triomphe to the Louvre.



## Planning and development areas

The table below shows the hierarchy of territories in France, their level of responsibility in terms of regional planning and development and a number of figures. Responsibility for planning and development in France is mostly shared, which complicates decision-making.

Area	Number of inhabitants	Surface area	Density	Budget (approx.)	Responsibility for planning and development
Ministries and satellites: Ministry of the Interior, Overseas Territories and the Regions; Ministry of Sustainable Development	64.4 million	675,417 km2	93.59 inhabitants/km2	17 billion euros	Planning at a national level (e.g. construction / maintenance / operation of certain motorways (A15), building of new towns, etc.), standards development (building permits, etc.), State-Regional Project Contracts, Grenelle de l'Environnement [the multi-party debate on the environment], definition of competitiveness clusters, etc.
Ile-de-France region	11.5 million	12,011 km2	964 inhabitants/km2	4 billion, of which 35 million for urban policy, regional planning and development and the environment	
Val d'Oise department	1.1 million	1,246 km2	887 inhabitants/km2	815 million	Assistance with housing, space and amenities planning (departmental road network, watercourses, etc.), heritage
Conurbation of Cergy- Pontoise	183,430	78 km2	2,360 inhabitants/km2	166 million	Produces a local housing programme including social housing and student accommodation

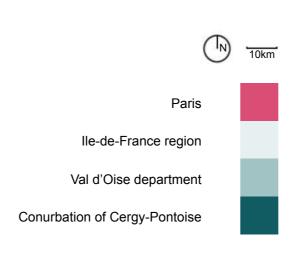
The Ile-de-France in Europe







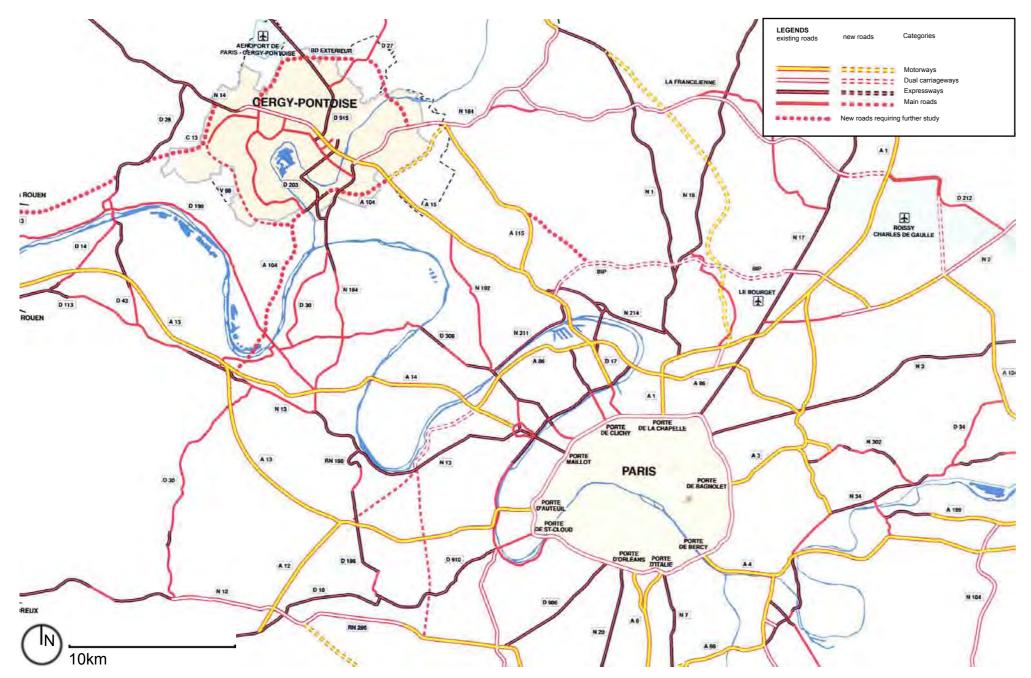
The conurbation of Cergy-Pontoise in the Ile-de-France







## Transport networks in the conurbation Radial links out from Paris



Map of the regional road network in 2000 Source: EPA

As far as rivers are concerned, the fact that the Oise crosses the conurbation is important from an economic point of view. The river has long played an important role in the development of the region. A major project is currently underway to develop freight traffic from Le Havre to Dunkirk and the Benelux countries, which primarily involves increasing the size of vessels. The Seine can currently accommodate vessels of between 3,000 and 5,000 tonnes. The Oise flows directly into the Seine and is currently undergoing modernisation (at the moment it can accommodate vessels of between 1,500 and 3,000 tonnes). The Seine North canal will increase the potential of the river.

The road network and public transport systems in the Ile-de-France are primarily organised as radial links out from Paris.

As far as roads are concerned, there are two main types of major routes:

- the radial links that go out from Paris to the periphery and become part of the national network as they extend further out (for example, the A15, which links Cergy to the capital and goes out to Le Havre)
- the link roads that connect the municipalities on the periphery to each other.

The Paris ring road was opened in the 1970s and follows the line of the city's ancient ramparts. It surrounds the capital completely and carries over 1.2 million vehicles a day. Two link roads have still to be completed: on the one hand, the A86, located between five and seven km out from Paris, and the Francilienne (or A104) which runs around Paris some 20 km out from the city.

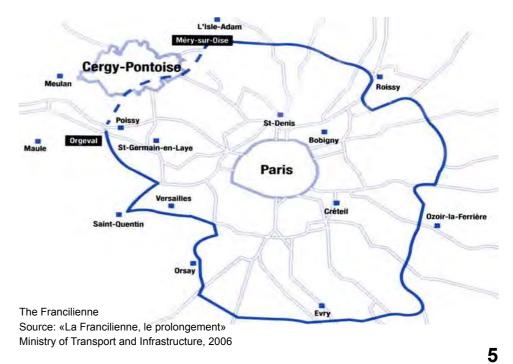
**The road network** around Paris is frequently saturated. Three projects are underway around the study area to tackle the development of new link roads:

- The BIP Boulevard Intercommunal du Parisis to the north of Paris
- The western loop of the Francilienne between Méry-sur-Oise and Orgeval, which will run through part of the area covered by Cergy-Pontoise.
- The link between the A13, which links Paris to Rouen and is almost saturated, and the A15, to improve traffic flows between the capital and the towns of northern France.

At a regional level, Cergy-Pontoise is therefore mainly linked via the A15, which carries some 140,000 vehicles a day, and the Francilienne.

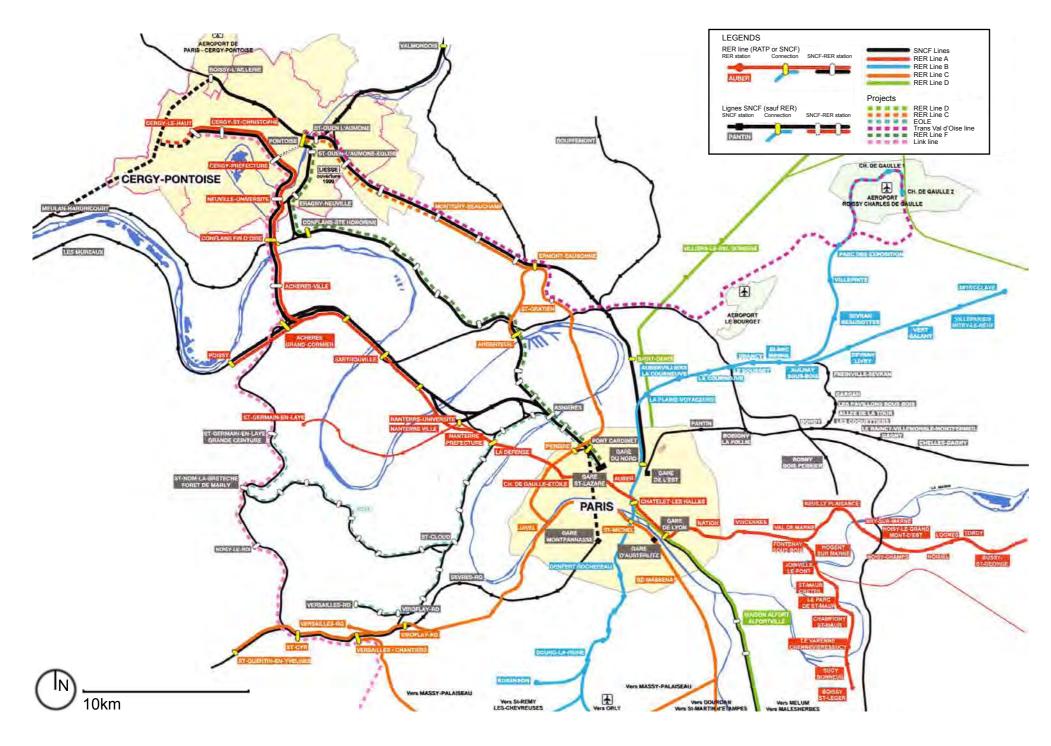
#### The A104: the missing link road

The Francilienne or A104 has been missing a final stretch between Poissy-Orgeval and Cergy-Pontoise for the last 30 years. It is scheduled to be built starting in 2011 and should come into service in 2015. It will run just outside the Cergy conurbation and has been designed as a typical motorway. The aim of the extension is to support local mobility and improve service to the region's major economic centres (in particular the link with the Roissy Charles-de-Gaulle airport area and Saint-Quentin-en-Yvelines).





## Transport networks in the conurbation Radial links out from Paris



As far as regional public transport networks are concerned, there are two distinct networks, both railways:

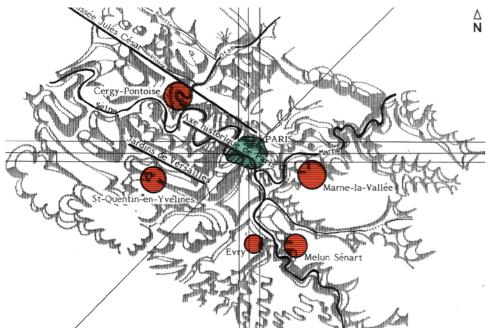
- the RER (Réseau Express Régional). Inaugurated in 1977, the network follows the route of some former railways, going underground to cross the capital. The network joins up with the Paris metro at many stations. The RER consists of five lines: A, B, C, D and E (a line F is under consideration); the lines serving the Cergy-Pontoise conurbation are A (1969) at Cergy-Préfecture and C (1979) at Pontoise. The original aim of this "regional metro" was to link the main stations to each other in order to avoid having to change from one type of transport to another and make it easier to travel between the main centres of employment in a growing region. The main weakness of the network, as with the road network, is its radial organisation, which limits travel between one suburban area and another. Another weakness is the saturation of the network: line A carries up to 55,000 passengers per hour in each direction.
- the "Transiliens". These link the Paris mainline stations to the suburbs. The network is more extensive and less saturated than the RER, but more limited because it does not cross the capital. The main station serving the Cergy-Pontoise conurbation is Gare Saint-Lazare (1979).

Both networks use the same lines and are in fact closely interlinked. The two networks, particularly the RER, have been of prime importance in the urbanisation of the Paris region and are an important factor in its economic efficiency (which is evident in the event of stoppages: one-off but relatively regular strikes involving SNCF and RATP staff or technical problems).

Map of the public transport network in 2000 Source: EPA



# Cergy-Pontoise, New Town The planned city



Relief map of the Paris region and position of new towns around Paris Illustration: G. Haning, source: Bertrand Warnier, «Cergy-Pontoise, du projet à la réalité», Atlas Commenté, Mardaga, 2004

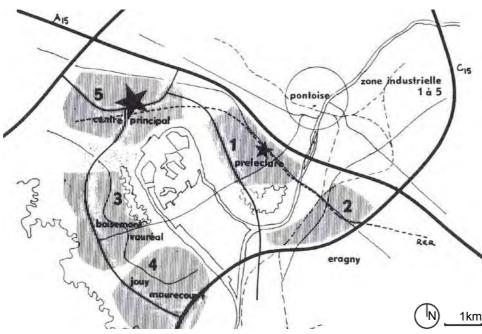
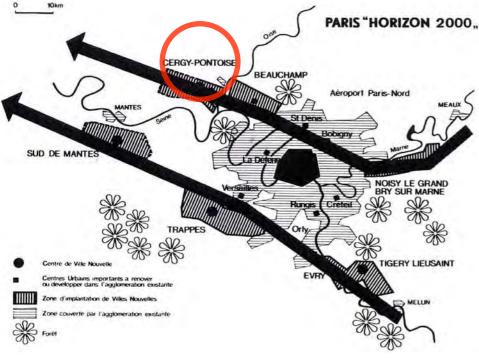


Diagram showing the growth of the new town of Cergy-Pontoise Source: Bernard Hirsch, «Oublier Cergy, l'Invention d'une Ville Nouvelle», Presse de l'ENPC, 2000.



Linear urban development plan in the valley Source: master plan for the Paris region, 1965





#### Cergy-Pontoise, a New Town to ease congestion in Paris.

Urban development in Paris grew at an exponential rate in the 1950s and 1960s as a result of the increase in the population (the post-war "baby boom") and the rural exodus. This development was not at all well managed, leading to poor living conditions for the new arrivals (in particular with the development of shanty towns), urban poverty (the housing estate phenomenon) and traffic problems. The capital was "suffocating".

The government of General De Gaulle decided to respond by putting forward a development plan for the Paris region. It was completed in 1965 and proposed an urban development plan designed to ease congestion in Paris including five new towns, which would be able to accommodate 500,000 inhabitants by the year 2000:

- Marne-la-Vallée;
- Sénart;
- Evry;
- Saint-Quentin-en-Yvelines;
- Cergy-Pontoise.

The prevailing idea when the town was built was that it should be an autonomous or even an independent entity: unlike the "dormitory towns", it was to encompass a wide range of activities.

#### **Building the New Town.**

From the outset the new town was characterised by the "era of integrated amenities", i.e. the construction of major combined public and administrative facilities prior to the arrival of residents.

The first building constructed in the new town was therefore the Prefecture (the headquarters of the department), the primary symbol of central government in the regions.

#### Access to the new town.

The 1950s and 1960s were the great years of regional planning and development in France. The country was opened up by the construction of road networks, particularly motorways. The construction of the A15 can be seen against this background; this quotation from Georges Pompidou reflects the state of mind prevailing at the time and is a far cry from our current view of the environment:

"The motorway network needs to be like our own circulatory system, with traffic flowing without interruption to avoid the development of bottlenecks which would destroy the essence of our economic vitality. Our motorways must be connected to other countries. The motorway is not only a working tool but also an instrument of liberation. It gives people the possibility of escaping from the constraints of public transport so that they can travel when, to and where they want. It has allowed us to rediscover the geography and history of our country."

Georges Pompidou at the inauguration of the Lille-Paris-Lyon-Marseille motorway in 1970.



### **Cergy-Pontoise, New Town**

#### The legacy of theories and experiments in urban development

1965 was a year of reflection: the planners and architects of the new town visited developments that were much talked about at the time.

#### Radburn, USA.

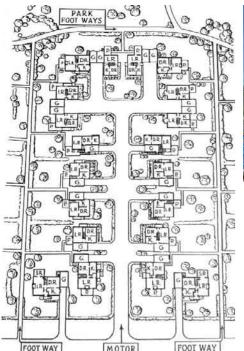
This new town influenced the construction of Cergy in its use of networks of residential units organised on the basis of a simple premise: a child should be able to walk to school without crossing a road (which therefore implies separating vehicle and pedestrian traffic). As a result Cergy-Pontoise was organised on the basis of "units" with a school at the centre of each (see Les Touleuses in particular).

#### Tapiola, Finland.

It was in Tapiola, in the suburbs of Helsinki in Finland, that the planners found the most accomplished form of what they were looking for. A town integrated into a remarkable landscape, with a varied palette of urban forms and architecture.

#### Sarcelles, France. A lesson in what not to do.

The policy of building high-density housing complexes was applied in France in the post-war period in order to deal with the housing crisis brought about by the rural exodus and the growth of the population. These complexes were generally blocks of flats built on the outskirts of the major conurbations in an industrial style; the urgency of the demand prompted the use of poorer quality materials and a lack of care in terms of planning, especially in relation to access and amenities. This negative experience was a lesson in the necessity of not creating a uniform town and of focussing on practical issues such as quality of life and ease of access.







Left: plan for separation of highways in Radburn Source: www.pedshed.net, 2008.

Top right: view of the centre of Tapiola, source: www.fr.wikipedia.org, article on Cergy Préfecture, 2008.

Bottom right: view of Sarcelles, source: www.cpod.com, 2008

#### Urban planning principles in practice.

According to Bernard Hirsch, who was in charge of building the town, the objectives agreed on for the development of the new town of Cergy-Pontoise were as follows:

- a town with personality and a commitment to avoiding uniformity, hence the decision to limit each development to 600 dwellings;
- combining housing and work, and therefore bringing businesses, homes and shops together in a single district (in particular the idea of setting up a shopping centre before the residents moved in Les Trois Fontaines):
- a town equipped with the transport systems of the future (in particular public transport) and on the lookout for innovation; (the idea of separating schools into units that are as small as possible or of paths reserved for cyclists):
- taking into account the desires of the public, particularly in terms of not creating overly dense shared living areas;
- creating favourable conditions for car traffic and separating vehicle lanes from pedestrians and cyclists;
  - finally, keeping building costs to a reasonable level.

Axonometric view of the ground slab of the Prefecture, Cergy-Pontoise Source: www.fr.wikipedia.org, article on Cergy Préfecture, 2008

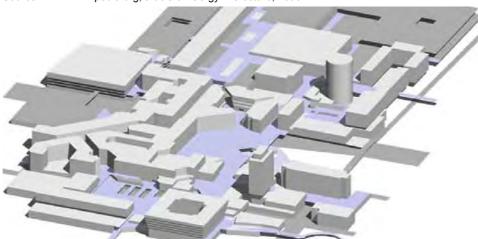
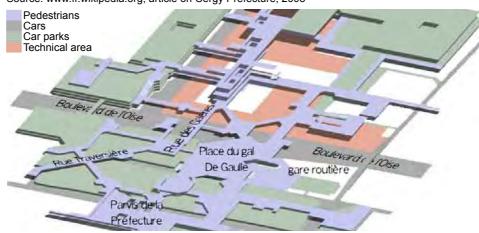


Diagram of traffic movements on the ground slab of the Prefecture, Cergy-Pontoise Source: www.fr.wikipedia.org, article on Cergy Préfecture, 2008



### Theories of urban planning put into practice: the example of the town centre.

The construction of the town centre and the management of traffic flows represented a total break with the old style of town, symbolised by Pontoise

#### Establishing a hierarchy of roads and separating traffic flows.

An approach based on superimposition (as opposed to juxtaposition) was adopted in order to ensure that vehicle traffic could flow freely.

A distinction can be drawn in Cergy between:

- the A15 motorway and RN 184, which are designed to take traffic between urban centres and from which the town is barely visible (apart from the commercial signage);
- the main boulevards through the conurbation, which serve the towns and districts. These are wide boulevards, with crossroads every 400 metres:
  - the secondary road network, within the districts;
- finally, the pedestrian network, which allows inhabitants to access their homes and is linked to the centre via footbridges.

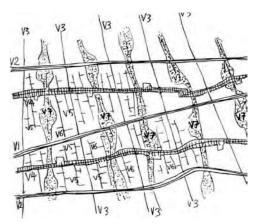
There are three kinds of weakness in this organisation:

- the highways, in particular the boulevards, are often on a "non-urban" scale and impracticable for pedestrians;
- some "internal roads" reserved for pedestrians have fostered the development of feelings of insecurity;
- separating vehicle and pedestrian traffic prevents a mix of functions and makes it necessary to build large car parks in the city centre. Seen in plan, the town is difficult to read: its outlines are unclear to the pedestrian and signage, although abundant, is not very explicit.

#### Roadway.

The position of the roadway is related to the hierarchical organisation of the highways. Being built six metres above ground level makes it possible to separate pedestrian traffic from vehicle traffic and the public transport serving the town. In addition, the impression of a division between the town and the roadway is strengthened by the way the transition between the two main levels (pedestrian and vehicle) is treated; it is difficult to move from one level to the other (narrow stairs, passageways beneath the approaches, etc.)





**Left:** the A15, the ground slab of the shopping centre, and the village of Cergy in the background Source: Bernard Hirsch, «Oublier Cergy, l'Invention d'une Ville Nouvelle», Presse de l'ENPC, 2000. **Right:** 7V diagram – Le Corbusier

Source: «La Ville Franchisée», David Mangin, Editions de la Villette, 2004



# Cergy-Pontoise, New Town The landscape town

Nature conservation and bringing the natural world into play are some of the fundamental principles of the town.

#### The choice of an exceptional site

Cergy-Pontoise sits at the point where two plateaux, the Oise and the Vexin, meet. The Oise, a tributary of the Seine, has carved out a "loop" that gives the new town its "horseshoe" shape: an urban development in the shape of an amphitheatre, surrounded by the villages that will be the future districts of the new town. There is a change in level of around 100 m between the Oise and the top of the plateau.

From the "top" of the loop the landscape opens out onto the Paris basin on the horizon: the fort at Mont Valérien, the towers of La Défense, Sacré-Cœur, the Eiffel Tower, and so on.

The town is one of the entrances to the Le Vexin natural park. As much of the forest as possible has been preserved, in particular the Hautil forest, which borders the conurbation to the west. Finally, the Regional Development Plan has placed the Paris "green belt" to the south of the conurbation (Plaine de Pierrelaye).





### The Axe Majeur

The Axe Majeur [«major axis»] is a monument that bears witness to the link between the town, geography and history. The axis is «drawn» in the direction of Paris and crosses the line made by the Arche de la Défense, the Arc de Triomphe and the Arc du Carroussel of the Louvre. It is about putting the town in perspective. The axis and the 12 columns that frame it were created by the sculptor Dani Karavan.

Its route links public spaces and gardens punctuated by a number of structural elements. The monument has echoes of formal French-style gardens in which geometry, the relationship to the surrounding area and the wider world and theatricality all have a part to play.





Top: loop of the Oise, 1960s, source: EPA Bottom: loop of the Oise today, source: EPA

#### High-speed motorways and power lines: the «forgotten» major axes?

The A15 and its high-voltage power lines create a highly visible. «physical» boundary in the urban landscape. However, once you are on the motorway, the view of the town is reduced to its taller buildings (the EDF tower, the Tour des jeunes mariés and the 3M tower) and to the commercial signage alongside them. From the town side, for reasons of safety and comfort, residents have limited access to them, even on a visual level (lack of porosity in the urban space).

Can these infrastructure elements be seen as «positive» features of the urban landscape or do they need to be treated in a particular way in order to be integrated into it?





Quand un étudiant sortira diplomé de Cergy-Pontoise, il risquera fort de vous battre aussi au tennis.



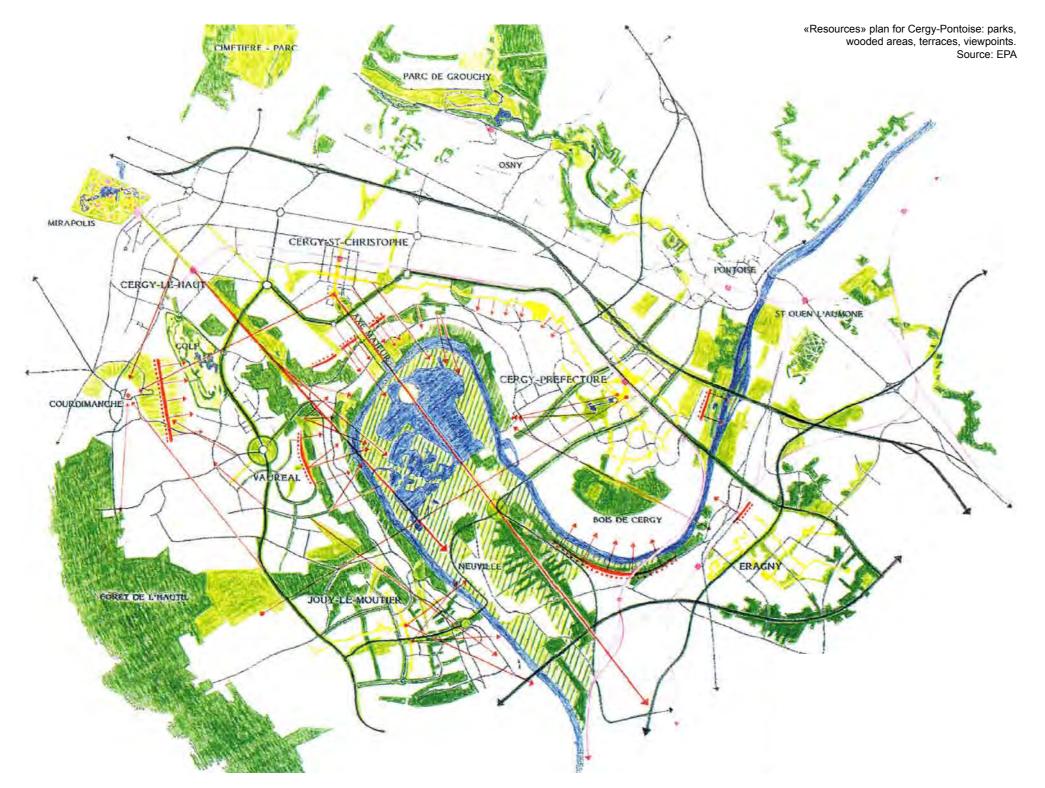
CERGY-PONTOISI



Top: golf complex in Courdimanche, source: EPA Bottom left: publicity material from the conurbation, source: EPA Bottom right: view of an «internal road», green alley, source: EPA



# Cergy-Pontoise, New Town The landscape town



#### The green town

The ambition of the planners of the New Town was to offer its residents a better quality of life (able to compete with the attractiveness of the capital): a natural environment, leisure activities, etc.

#### **Parks**

There are a large number of urban parks and many of them were built before the houses, including the d'Eragny, de la préfecture, des Linandes, des Larris, du Pas-Saint-Christophe and du Chat-Perché parks. The city's districts are punctuated with planted avenues. The advertisements appealing to people to come and live in the new town refer to them: 10 trees for every resident, 100 times more than in Paris.

#### Water

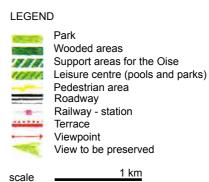
Working the sand quarries has made it possible to create pools in the centre of the loop to create a leisure activities centre. A marina, Port Cergy, was created as an extension of the water sports centre in the early 1990s; its major advantage is that it creates a direct link between the town and the river.

#### Golf

Golf is the symbol of the association between urban development and green spaces used for leisure activities. The objective of building the golf course in the municipality of Courdimanche was both to create a sporting facility and to take advantage of its upmarket image to market executive homes – and thus to change the overly "social" image of the new town.

#### Agricultural areas

These are the relics of Cergy's past as a country town. Indeed, when the town was built the farmers fought to keep the market gardening areas, given that the land was extremely well suited to cultivation. These areas reserved for agriculture are mainly found to the south of the Cergy-Préfecture district.





## The conurbation today Land Use - source IAURIF



Transport Individual housing Motorways Shared housing National roads Other housing /// Railways Secondary activities (industry) Departmental roads Tertiary activities (businesses, services) Road network Sport (indoor) **Detailed Land Use Educational facilities** Arable crops Health facilities Other crops + + - Cemetery Other local facilities, administration Other rural areas Major amenities Parks and gardens Transport Sport (open-air areas) Building sites and miscellaneous

The conurbation of Cergy-Pontoise has responded to its mission as a new town by accommodating a sizeable population and offering a balance between employment and housing. In overall terms the housing stock is diverse and of good quality, even though it was primarily driven by the need for social housing.

Similarly, in general terms, there are plenty of public spaces, which leaves open the possibility of a certain level of densification.

The A15 has a strong influence on the urban fabric: the new town has largely developed to the south of the Cergy-Eragny axis, whilst the main older centres are to the north (Pontoise).

## Housing: an uneven distribution of shared and individual housing across the region.

Shared housing is mainly found in the municipalities of Cergy, Eragny, Saint Ouen l'Aumône and Pontoise: in these areas, shared housing represents more than half of the stock. In addition, the level of rented social housing in Cergy and Saint Ouen is above 40%.

In the other municipalities, on the other hand, individual housing is in the majority, which is an expression of the generally higher income levels of their residents.

In general terms, mid-market properties have struggled to get a foothold. Looking at the conurbation as a whole, social housing represents 33% of the stock, or 20,000 homes.

#### Economic activities: the influence of the transport system.

Large numbers of retail outlets and the main business parks – which are of low urban quality and require redevelopment – have grown up around the A15 and RN 184, such as the Les Bellevues business park in Eragny, the Les Béthunes business park in Saint Ouen l'Aumône, and the Les Beaux Soleil business park in Osny. Transport infrastructure is in fact a formidable tool for the economic efficiency of an area; companies with premises close to it have greater visibility. Infrastructure makes it easier for companies to access their partners (employees, customers and suppliers).

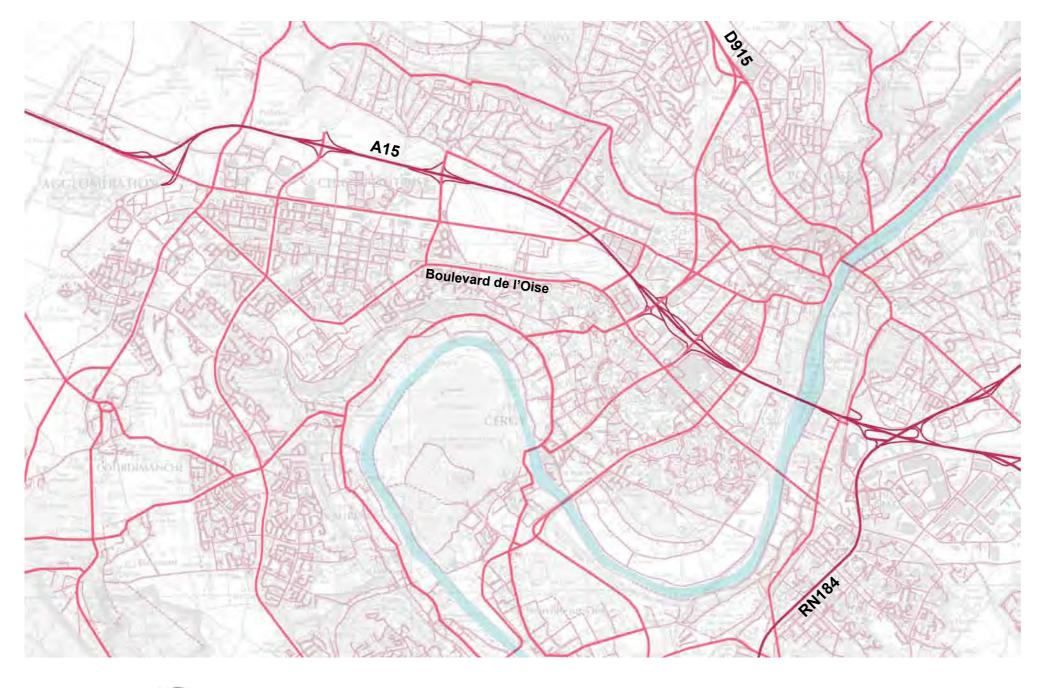
Cergy-Pontoise, however, is proving less attractive than in the past: no new head offices have been set up here for some years, and it is mostly logistics and storage functions that are moving into the area.

The La Chaussée business park seems likely to buck the trend. In addition, the conurbation benefits from the geographical proximity of the La Défense business district.

1km



## The conurbation today Hierarchy of roads







Primary roads

Secondary roads

Tertiary roads

**Personal travel:** the car. It remains the most commonly used type of transport and represents 59% of journeys. Almost 70% of car journeys are to and from the neighbouring departments and cover a distance of a few kilometres.

**Transport of goods**: road freight. This represents 7.5% of total freight in the IIe-de-France region. Road freight is still the most commonly used method of transporting goods. It causes traffic problems in the conurbation, on the A15.

NB: a plan to build a multi-modal platform has been scheduled in Achères, a municipality close to Cergy. The imminent completion of the Seine North canal increases the interest for the Paris Port Authority to create a multi-modal platform that will be capable of taking goods from the whole of northern Europe in the next 10 to 15 years.

#### The A15: the historical access route to Cergy-Pontoise.

The A15 motorway was built in the 1970s by the French government and was originally designed to divert traffic away from the town of Pontoise. A second section was built by the public development corporation in the 1990s. The motorway is very congested at rush hour between the A86 (the second «ring road» around Paris) and Cergy Préfecture. It is a major axis for commuter traffic serving the west of the Val d'Oise. The motorway separates the two urban centres that the New Town was supposed to unite: Cergy Préfecture and Pontoise. The A15 carries 142,000 cars every day. The speed limit on the motorway is 110 km/h and its land take is around 200 metres.

A dead end? The A15 runs over a 10 km stretch of the conurbation and has eight exits. Today, oddly, the A15 goes no further than Cergy-Pontoise; given that it stops there it is not fully fulfilling its role as a link road on a national scale. It connects with the two departmental roads (the RN 14 and RN 195) that serve the Vexin area. The RN 14 has been widened along a stretch that acts as an extension of the motorway but remains a departmental road. In the town itself, moreover, it is a real dividing line, which is difficult to get across, and «sucks in» traffic. The few crossing points are inadequate in terms of ensuring efficient movement between urban districts. On the motorway itself, the signage is a visual obstacle to the view of the town.

#### The RN 184: a second fracture.

This is a main (national) road that crosses the areas of Saint Ouen l'Aumône and Eragny. It carries large numbers of heavy goods vehicles, given that it serves the area's business parks. The residential areas of Saint Ouen are to the west of it, however the town of Eragny is completely cut in half by the road, which has an insufficient number of crossing points.

#### The A104 or Francilienne: the missing link road.

The need for a motorway link-road 25 km out from Paris has been acknowledged.

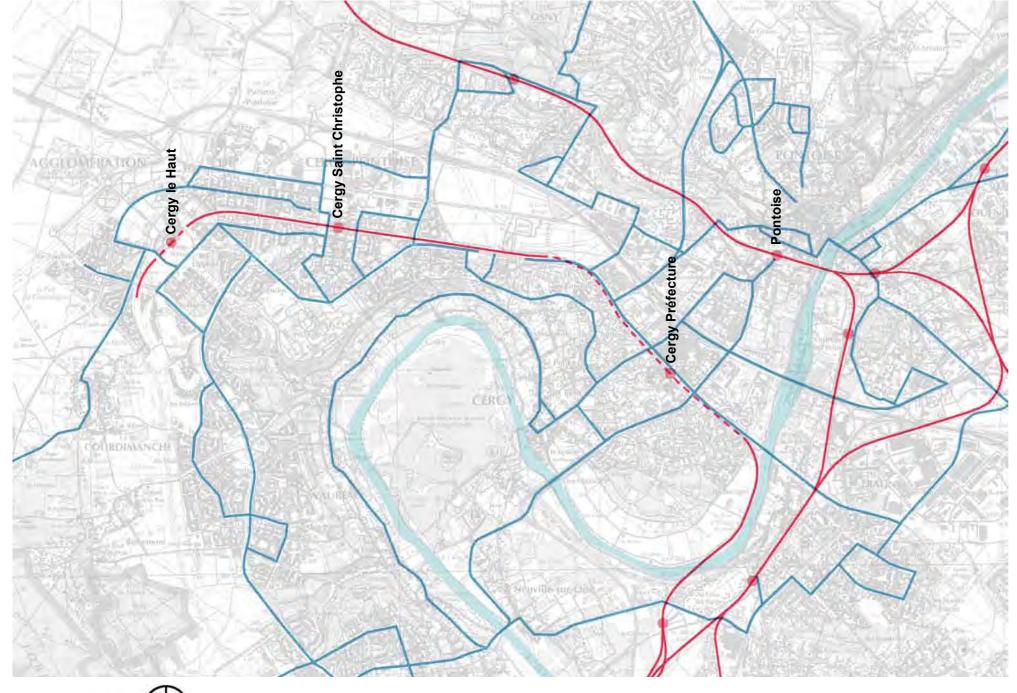
The main aim of the A104 will be to take traffic from the RN 184, which also carries a large number of vehicles every day, in fact almost as many as the A15. The future of the RN 184 needs to be re-examined. Easing congestion on adjacent roads will help to make more room for more environmentally friendly modes of transport, in particular bicycles.

#### The urban boulevards: a good local service

The boulevards were built on a generous scale and act as landmarks within the conurbation. There are difficulties with pedestrian traffic and getting across them, although a number of footbridges have been built.



# The conurbation today Public transport network



**The railway network** (RER and SNCF). The network is dense and largely used for access into or out of the conurbation. It is used for 12% of the motorised journeys taken by the residents of the conurbation.

**The bus network** is used for 12% of journeys within the conurbation (mostly school and college students). The network is judged to be satisfactory at rush hour; connections are more difficult in the evening and at weekends.

The time taken to travel across the conurbation can be long for some destinations. East-west and north-south connections often mean changing and therefore involve waiting time.

For example: it takes an average of an hour to travel from Hautil to the conurbation's hospital in Pontoise. In addition, on some main roads bus traffic uses certain stretches of road that are already saturated.

1km





Réseau bus

RER network, Transilien

Station, stop



400kV lines

Cergy-Pontoise Urban Project Management Workshops August – September 2008

# The conurbation today Power network

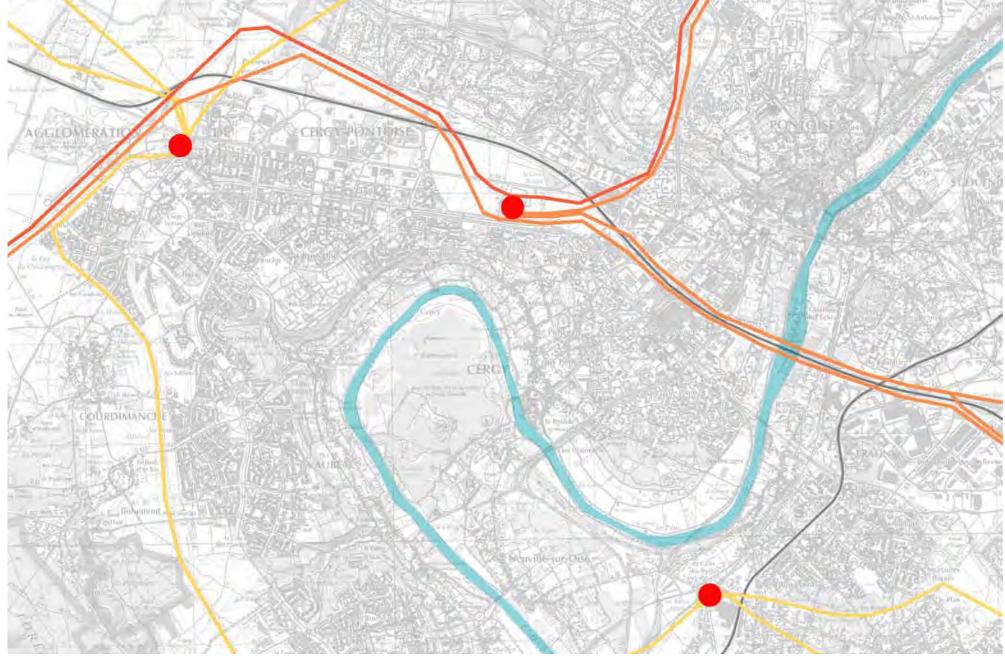






Photo by Louis Pagès, Plaine des Linandes, 2002

The Cergy electrical sub-station is one of the points that feeds the whole of the Paris region.

The conurbation has a number of high-voltage power lines, which have been in place since it was first built. The electricity pylons are imposing in terms of size (35 to 40 metres high on average) and:

- are visible from the surrounding countryside (for example in Port Cergy)
- run all the way along the motorway in the conurbation.

There are «easements» on the land where the lines run, i.e. limitations on urban development and building conditions. The limitations imposed by these easements increase in line with voltage.

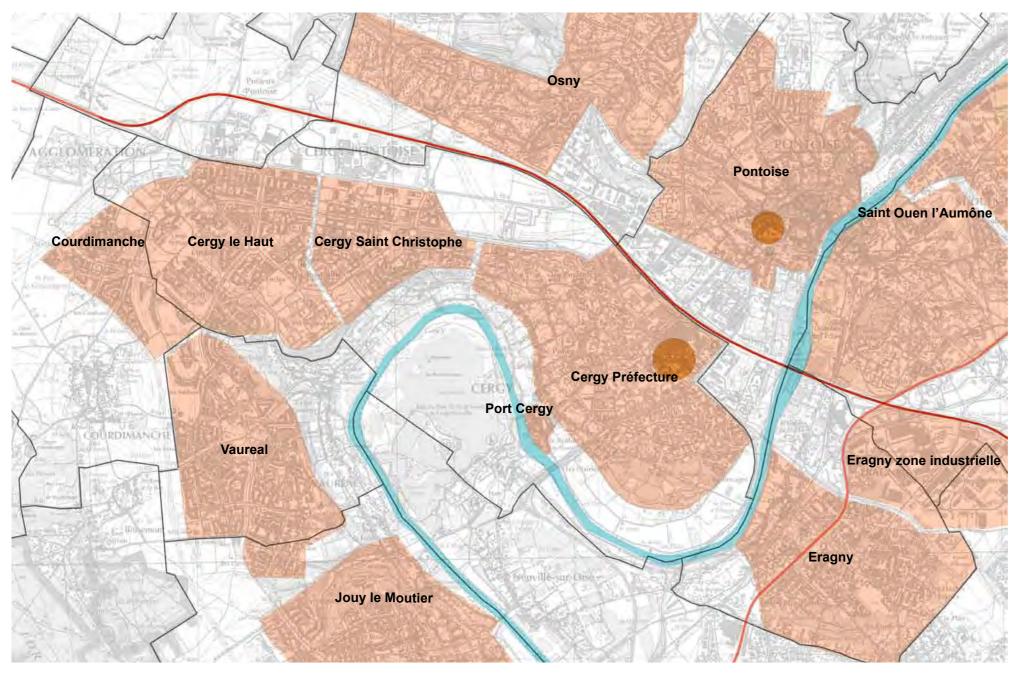
The power network is not just about large pylons in the landscape but also electrical sub-stations, which are structural elements that are difficult to move.

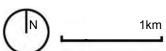


In the city centre, power lines run along the A15 and represent a structural element in the landscape



## The conurbation today Main districts in the conurbation





The districts of Cergy-Pontoise bear witness to theories of urban development that have evolved over time. The more recent districts mark a return to more traditional urban development, where the urban space has been organised around avenues, streets and squares. The majority of the New Town was based on the towns of Cergy, Eragny, Vauréal, Jouy Le Moutier and Courdimanche.

#### Port Cergy

Port Cergy, built in the 1990s, has often been seen as a pastiche, with its half-timbered turrets, pediments and mock bell-towers. It is quite a lively district, with a number of cafés and restaurants.

#### Cergy Préfecture

This was the first district of the new town: the first residents arrived in 1972, in the îlot des Plants. Vertical separation of vehicle and pedestrian traffic, «podium-city» development. Today it is at the heart of the conurbation and a focal point for a wide range of activities: schools, shops (Les Trois Fontaines), administrative offices, cultural facilities and housing, which consists mainly of shared residential buildings.

#### Cergy Saint Christophe

This is a largely residential district, built in the 1980s. It is different from Cergy Préfecture in so far as it marked a return to traditional urban forms, with a mixture of individual and shared housing.

#### Cergy Le Haut

This is one of the last districts to be built in the New Town and is in fact still under construction. It features a kind of urban development close to that of older towns (so-called neo-Hausmannian): mixed roadways that can accommodate pedestrians, bicycles and cars, moving traffic and parking, with shops at ground level.

#### Pontoise – 27,000 inhabitants

The only old town in the conurbation, it is home to the conurbation's hospital, a court complex and an old town centre with mediaeval-style pedestrianised streets.

#### Eragny – 16,000 inhabitants

Urban development here dates from the 1970s; traffic flows are separate but on a single level. Its supply of commercial property is a major hub in the local network.

#### Saint Ouen l'Aumône – 21,000 inhabitants

The town has developed along the RN 14 through industrial activities. The town centre saw a major redevelopment operation in the 1970s, with jointly owned residential tower blocks built on a slab, large complexes and more modest social housing developments.

#### Osny – 15,000 inhabitants

This rural community has been urbanised haphazardly with the construction of individual houses.

#### Jouy Le Moutier – 18,000 inhabitants

The district is symbolised by the town house, with the aim of preserving the quality of the landscape. This gave rise to small islands with a variety of architectural forms based on a coherent urban design concept. The area has fairly poor links to the rest of the conurbation, particularly the centre.

#### <u>Vauréal</u> – 16,000 inhabitants

This district is characterised by detached housing, which first began to be built in the early 1980s, continuing what had been produced in Jouy. The notion of separating vehicle and pedestrian traffic has been abandoned completely. As in Jouy, connections to the centre and other districts are poor.

#### <u>Courdimanche</u> – 6,000 inhabitants

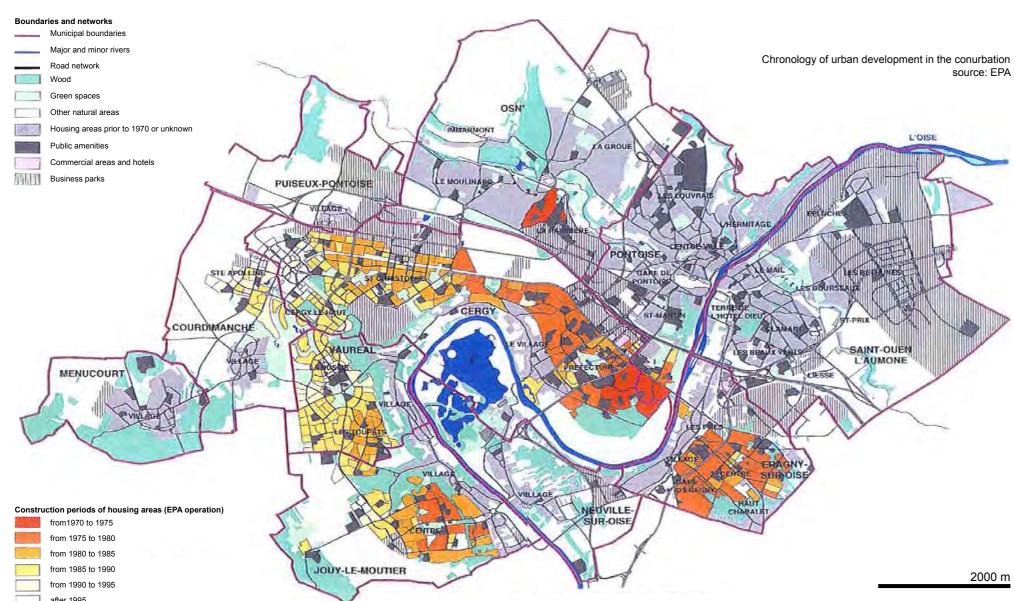
This is an old village located on a hill, which is also the site of the golf course and the new homes it has helped to sell.

Main districts or municipal centres in the conurbation

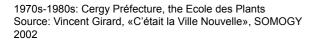
Central points



# The conurbation today Chronology of urban development and architectural forms









1980s-1990s: Cergy St Christophe, town buildings Source: Vincent Girard, «C'était la Ville Nouvelle», SOMOGY



Source: Vincent Girard, «C'était la Ville Nouvelle», SOMOGY 2002

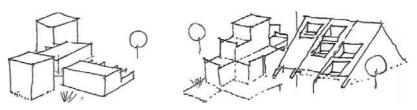
Based on Bertrand Warnier, "Cergy-Pontoise du projet à la réalité – Atlas commenté", Ateliers Internationaux de Maîtrise d'œuvre Urbaine, Editions Mardaga, 2004

#### 1970s to 1980

Cubist forms dictated by function. Breakdown of the block: terraces and gardens. Colours dominate.

Forms lean in, roofs reappear.

Town houses: traditional forms, new modernism.



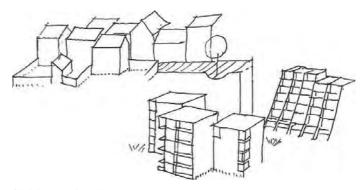
#### 1980s to 1990

Urban buildings, closed islands in line with the road. Search for signs of identity: columns, mouldings, balustrades.

Ordinary architecture for individual houses isolated on small plots expression (real or false) of "well-being".

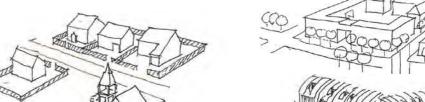
Urban buildings "in the style of" large villas.

Structural or technological expressions.



#### 1990s to 2000

Regionalist architecture, continuation of the village, emphasis on water. "Familiar" urban architecture. Technology subservient to architectural aesthetic: Parisian or garden-city references.



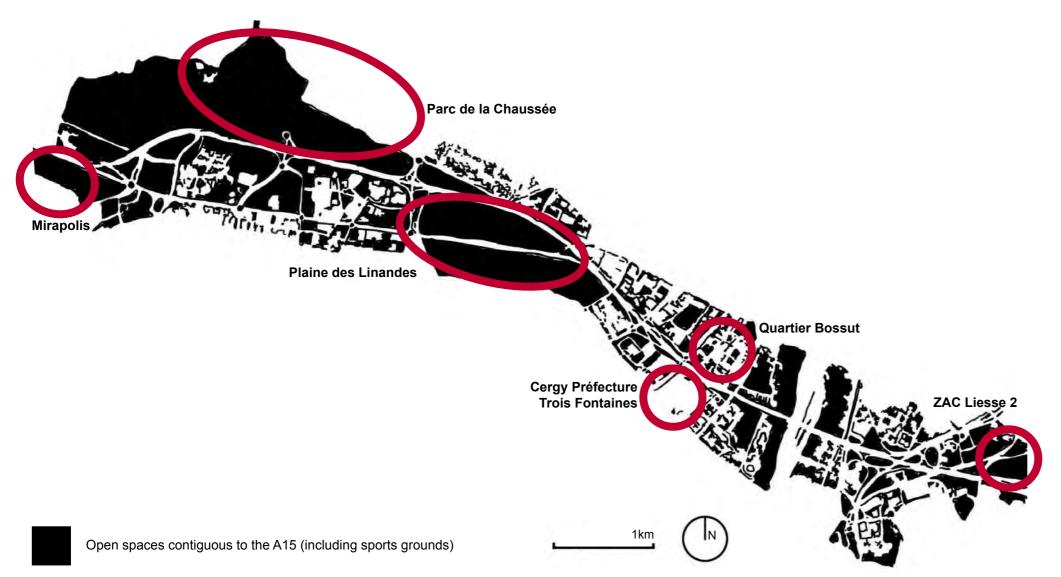


**Since 2000** 

Architecture of transparency. Focus on technology, in particular "green" technology. Simplified forms.



## The conurbation today The A15 development area



Major infrastructure elements generate empty spaces around them as a result of regulations (buildings have to be set back from the road) but also because they generate nuisances that are undesirable for certain urban functions (in particular housing). With the change of scale in traffic and the town, the existing interdependence between built elements and empty space – which previously filled a service function – has changed.

In theory, traffic areas and "empty space" are clearly separated from the conurbation. In reality, however, things are different: companies and shopping centres have moved next to the motorway and are thus providing essential urban functions.

The A15 motorway has thus become a development area for the Cergy conurbation.

The details of the following projects have been taken from the working document «The A15 development area» (Conurbation of Cergy-Pontoise):

- **The Liesse 2 ZAC\***: this 35 ha site will be used to build housing (around the departmental road RD 14) and businesses (around the A15, which serves it).
- **The Les Trois Fontaines** shopping centre: the aim is to bring the town closer to the A15, in particular to enable direct access to the shopping centre from the motorway, and to increase the capacity of the shopping centre.

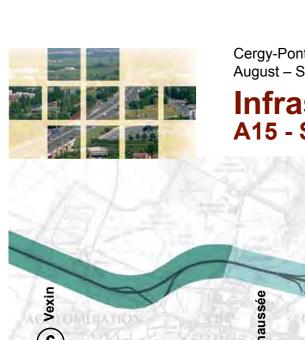
- The Bossut district: a 24 ha site, located in the "theoretical" heart

- of the conurbation between Pontoise and Cergy-Préfecture, but separated from the latter by the motorway; plans for a footbridge crossing the A15, 2,000 homes, convention centre, shops, businesses and amenities. Limitations on carrying out the project: high-voltage power lines, distance between exits, topography, front pier of the Verdun bridge, traffic load. This
- La Plaine des Linandes: 80 ha site highly constrained by highvoltage power lines and the EDF sub-station. Development of a sports centre, housing (800-1,000 homes), sports-related shops, etc.

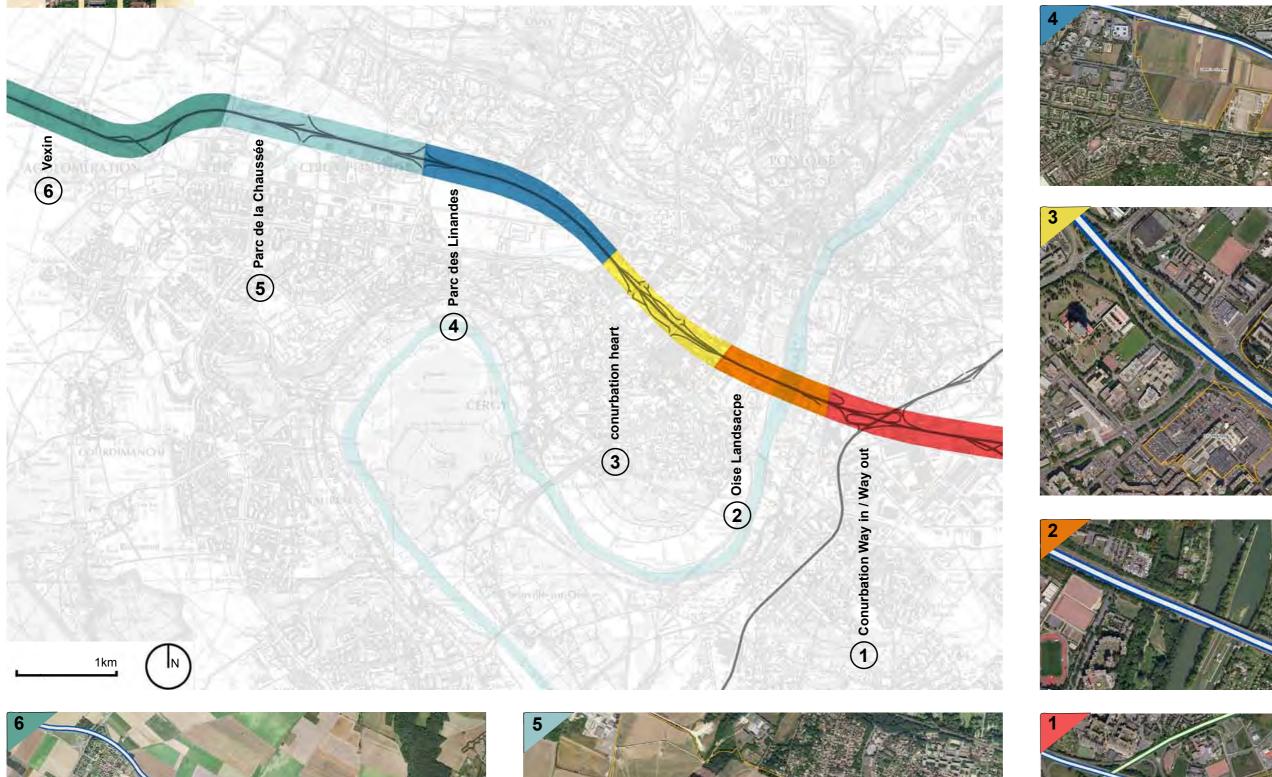
is a highly strategic site.

- Le Parc de la Chaussée: 110 ha site of which 50 ha can be developed, development of high-quality businesses linked to "competitiveness clusters" (health, automobile industry, software and complex systems, networks and multimedia content, aeronautics and space), public transport service, pedestrian walkways. Particular attention will be paid to the landscape, and especially to its connection with the motorway. Note: there is a "showcase" effect given its location at the entrance to the town. Strategic area: one of the largest areas of land under a single tenant in the lle-de-France.
- **Mirapolis**: a 90 ha area, located at the point where the A15 crosses the RN 14. This is a former theme park, created in 1987, which never took off and has not been in operation since 1991.

\*The ZAC (designated development area) is a very common procedure for producing urban developments that rely on bringing together representatives from the public authorities and different categories of stakeholders (owners, builders and users).



# Infrastructures in the city A15 - Sequences











# Infrastructure in the city Constraints, speed and pollution

Safety and building and traffic standards: the motorway – a restricted environment.

#### **Building**

The process of building a motorway is particularly long and burdensome because of the cost and the scale of the work involved. It falls under the authority of central government administration, which is clearly marked by a culture of engineers trained at the Ecole des Ponts et Chaussées. The administrative authorities involved in this area have very wide-ranging powers, dictated by the "public utility" argument (with expropriation as its «armed wing»), although these powers have diminished over the last few years with the rise of citizen power and decentralisation.

#### Access

The government has denied residents access to major highways since the 1930s, and this mechanism was strengthened in the 1950s when it decided to prohibit the development of conurbations alongside detours with the aim of supporting «general traffic». "Motorways are roads without crossings, which can only be accessed in areas designed for this purpose and reserved for mechanically propelled vehicles."

The attitude changed in the 1990s, when people began to become aware of the positive "showcase" effect for the conurbations the motorways pass through. As a result, infrastructure access points have become strategic, despite the awareness that increasing the number of access points is harmful to the "primary" objective: speed.

#### **Driving rules**

Under normal conditions, the minimum speed in the left-hand lane is set at 80 km/h. Driving and parking on the hard shoulder or the central reservation are forbidden, except when this is necessary (for example in the event of a breakdown or to avoid an accident). Doing a U-turn or driving in reverse gear are also – obviously – prohibited.

Road users are obliged to behave in accordance with the Highway Code. Signs and the colours used on them are used to indicate that the Highway Code applies. Tests on the Highway Code and the driving test ensure a minimum level of shared knowledge.

Users' behaviour is tending to become more and more standardised or "civic-minded" as, faced with the fresh upsurge in the number of accidents, the authorities have decided to control them more, in particular using automatic, radar-based systems. "Zero tolerance" is the order of the day.

#### Motorway design: solutions based on the user's point of view.

The principle has been put into practice by the Departmental Directorate for the Loire (Olivier Frerot): their work focused on reclassifying the old motorway infrastructure in the Loire department. These highways had deteriorated from the point of view of services, comfort and safety.

Design has a particular meaning here: it is not solely about the production of isolated objects, but is above all about developing a particular relationship between the builder and the user. This project made it possible to mobilise the energies of stakeholders around infrastructure and unite them around a number of proposals, including noise-resistant screens and variable-content message boards.

#### Pollution and the environment on the motorway.

In general terms, the environmental nuisances caused by the motorway are:

- consumption and sterilisation of land
- run-off from liquid pollutants (including salt used for gritting roads and pesticides washed away by water);
  - fragmentation of the landscape, "visual pollution";
- greenhouse gas emissions: from an emissions point of view, research shows that these are related to speed, and that emissions (mainly CO2 and other local pollutants such as CO, NOx, HC and particles) are minimised at speeds around 40 to 90 km/h.
  - noise.

Cergy-Pontoise is not an extreme case from this point of view: its motorway-style expressways are not at the same level of saturation as the Paris road network; in addition, urban development is a long way back from the highway and the conurbation is not recording worrying levels of air pollution. Nonetheless, the conurbation is still young; there is still room for the networks to grow and for urban development to increase.

Residents today are hypersensitive to the problems of motorways, partly through fear of a decrease in land values, but also as a result of the increased awareness of environmental issues. Any change to the line of the motorway or an extension of it is a headache for the planners, who are faced with almost systematic opposition: hence the necessity of finding alternative or more conciliatory solutions.

#### AFSA's proposals at the Grenelle de l'Environnement, 2007

After the presidential election of 2007, and as a consequence of the importance of environmental issues in the debates, the presidential majority convened a major national debate during winter 2007 with a focus on transport infrastructure. The proposals from the AFSA (Association Professionnelle des autoroutes et ouvrages routiers) for the Grenelle de l'Environnement (2007) were as follows (source: AFSA website):

- Optimise the motorway network and create a "high environmental quality" network: complete the small number of missing links to avoid breaks in the network, which create congestion and insecurity, shorten journey times and transfer local traffic to the motorway; widen sections that are close to saturation where there is no realistic alternative; bypass major conurbations in order to encourage the transfer of traffic from local networks and access to the motorway network and ease congestion in peri-urban areas.
- Develop complementarity between modes of transport in order to ease congestion on radial roads at rush hour; support policies to develop relay car parks on the periphery of conurbations; support and develop the creation of regular public transport lines on motorways under private management. Combine these measures, if appropriate, with the creation of urban tolls.

- Make flexible tolls more widespread on the access roads to conurbations
- Regulate traffic to improve flow: regulate speeds during high-traffic periods in congested areas; use flexible tolls to align with traffic periods.
- Eliminate stoppage points: make more widespread use of tolls that do not require vehicles to stop by introducing appropriate legislation in order to reduce emissions due to the "stop and go" effect at the toll barriers
- Develop intelligent roads (which provide the driver with information) and responsible behaviour.
  - Encourage the use of high-performance vehicles and fuels
- Allocate resources from usage charges: implement usage charges based on European pollution classifications on publicly managed networks and allocate revenues to improving transport infrastructure and encouraging the use of clean vehicles.
- Contribute to environmental protection: use toll concessions, a fair sustainable development tool, as the preferred mechanism for financing and operating transport infrastructure.

#### Speed, traffic and single functionality: is the motorway anti-urban?

The question of speed is fundamental, because this is what motivated the construction of the motorways: today, speeds are limited to 130 km/h and even 110 or 90 km/h in urban areas (a limit that is still one of the highest in Europe), adherence to which has been more strictly sanctioned since the introduction of automatic radars. Both safety reasons and congestion have driven these developments, which in some sense call into question the motorways' raison d'être.

Safety also lies behind the single functionality of the motorway: the presence of several speeds side-by-side is problematic. It should, however, be noted that experiments in multi-modality are underway.

Motorways are a tool for managing traffic flows but they are also urban objects and are an integral part of the area. These two aspects are difficult to reconcile and generate opposition between residents and users, who do not experience them on the same scale.

#### The "calm" motorway.

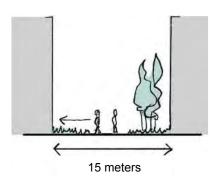
The calm motorway (Guichard, Pfleiger) is currently the subject of a trial in Grenoble: the objective is to regulate urban traffic by taking action on speed. In this specific case, speeds have been limited to 70 km/h on the expressways. The improvement in fluidity reduces emissions. In addition, in theory, as people spend more time travelling urban sprawl slows down, because the cost becomes too high in terms of time.

The project also incorporates landscape elements as well as the use of the hard shoulder by buses, which makes collective transport more efficient.



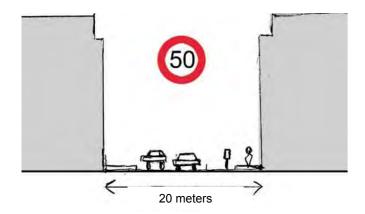
## Infrastructure in the city Constraints, speed and pollution

#### Types of roadway in the new town: conflicts of scale in urban areas



#### Internal roads, alleyways and paths

Approx. 15 metres
Variable width, winding
Préfecture district
Direct entrance to buildings
Pedestrian traffic
Residential function



#### "Traditional" roads

20 metres

Cergy Le Haut district, e.g. Rue des Astres Beiges

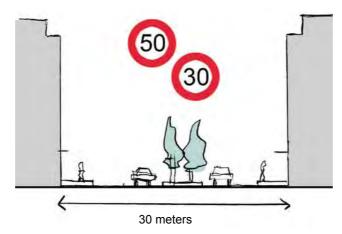
Mixed traffic

Primarily residential, businesses

Parking on one side of the road, parallel with the pavement

One- or two-way traffic

Speed limited to 50 km/h, self-regulated



#### "Traditional" boulevard

30 metres

Cergy Le Haut district, e.g. Boulevard des Merveilles

Central reservation

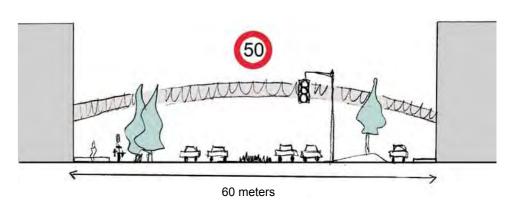
Shops at street level with a few offices and in particular residential use above

Mixed traffic

Two-way traffic, one lane each way

Parking on both sides of the road, at an angle

Speed limited to 50 km/h, and increasingly to 30 km/h, in order to ease traffic flow for everyone; self-regulated



#### The "New Town" boulevard

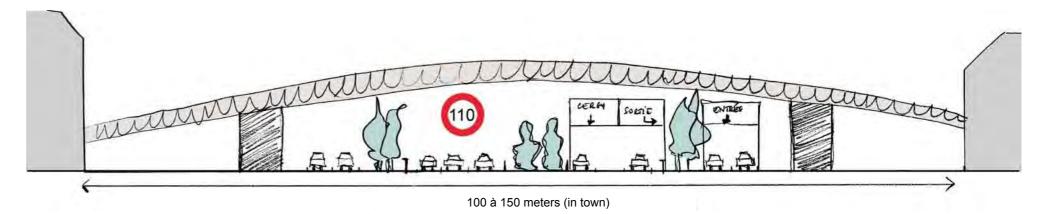
50 - 60 metres

Cergy Préfecture district, e.g. Boulevard de l'Oise or Boulevard de l'Hautil Originally, buildings a long way back, access to residential or company buildings and public amenities via service roads (sometimes protected by embankments), car traffic only

Pedestrian access across the motorway via footbridges

Two lanes in two directions with larger central reservation and crossroads every 400 metres

Over time, use of space between road and buildings to provide pedestrian and cycle access and parking.



#### Motorways

100 to 150 metres in town

Buildings set a long way back

Three lanes in two directions, hard shoulder, acceleration and deceleration lanes for entrance and exit, noise-resistant walls

Single function: cars only (or almost – some buses on a limited stretch)

Some connections in places depending on need

Speeds limited to 110 km/h or 90 km/h

Note on names of roads: in France, streets, boulevards, avenues etc. often bear the names of famous personalities. In Cergy-Pontoise, initially, the decision was taken not to give roads the names of people, marking a break with the traditional town. Today, certain streets and boulevards have been renamed in order to give the town a more "urban" feel (e.g. avenue Bernard Hirsch).

In the Préfecture district, roads generally bear the name of the island combined with a colour. In Cergy Le Haut, roads have been given names invented in some cases by younger secondary school students, which has produced some very poetic names, inspired by Jules Verne. Note that neither the motorway nor national roads are named (A... or RN...).



### Infrastructure in the city Views - l'A15 and boulevard de l'Oise



Seen from the A15 just before it joins RN14, the town is invisible



Seen from the A15 close to Cergy-Préfecture, the embankments and signage interrupt the view. The town is reduced to its most visible monuments. Source: EPA



View from the A15 motorway, looking towards the Bossut barracks, from the Les Trois Fontaines car park. The tangle of roads and the division the motorway makes between neighbouring districts can be clearly seen



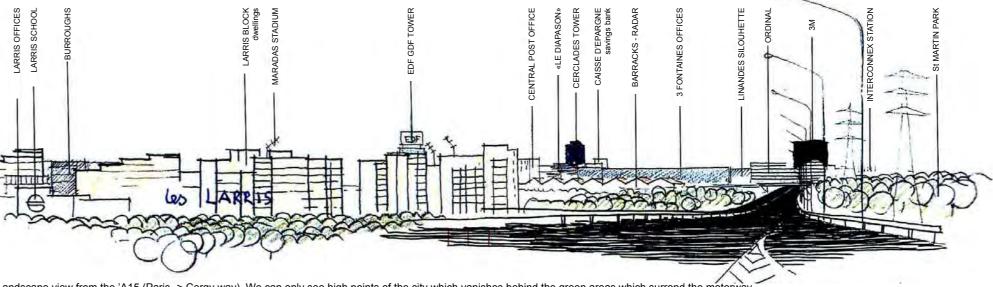
View over the boulevard de l'Oise, showing the width of its crossroads, the landscaped embankments and pedestrian walkways above. Source: EPA



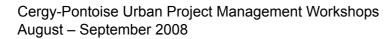
Panoramic view of the boulevard de l'Oise: passage close to the University of Cergy



Panoramic view of the boulevard de l'Oise: at the exit from the ground slab beneath Cergy-Préfecture

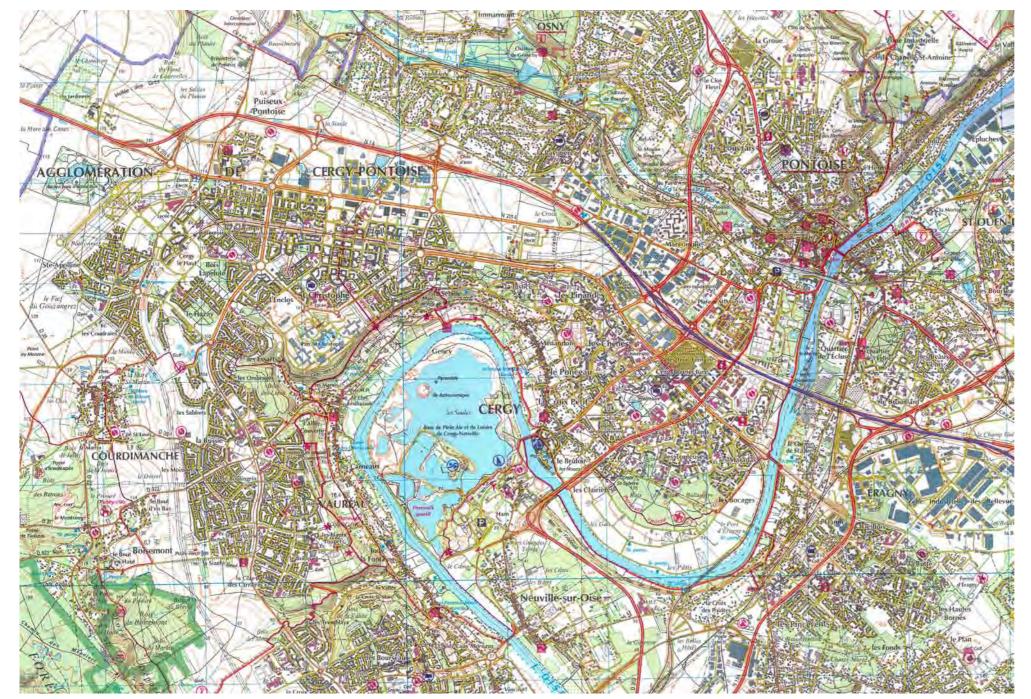


Landscape view from the 'A15 (Paris -> Cergy way). We can only see high points of the city which vanishes behind the green areas which surrond the motorway. Source: Bertrand Warnier, « Cergy-Pontoise, du projet à la réalité », Atlas commenté, Mardaga, 2004.





### The workshop



1km



During the session, participants will be asked to select a particular sector (around the A15, the RN 184, the imminent Francilienne) which will enable them to offer a pertinent and creative response to the topic "Taking a fresh look at major infrastructure elements in urban environments".

The following issues will need to be tackled:

- what are the new concepts for dealing with the traffic flows of tomorrow?
- how can we take a fresh look at dated infrastructure?
   To what extent can its environmental impact be reduced?
- should we pursue the technically-focussed approach, at the risk of worsening the phenomena of fragmentation and saturation?
- should traffic be routed around urban centres by adopting a strategy based on bypasses and tunnels, at the risk of consuming large amounts of space and further urban sprawl?
- can traffic be made to flow more smoothly by reducing speeds to optimise fluidity through controlled access, service roads and a new split between different modes of transport, at the risk of lower efficiency?
- how can divisions be dealt with following examples of rejection of the urban fabric? Based on what vision, and to meet what needs and what lifestyles?
- what kind of image can the town of Cergy-Pontoise project on the motorway and its expressways? For whom? Is the beauty of the traffic area simply hidden?
- how can the Cergy-Pontoise region be defragmented and what kind of cooperation can be created with the surrounding region, the Mantois, around existing or planned infrastructure: A15, C13, TGV, A104, RER, Port d'Achères?
- what does the future hold and what projects could be planned around the power lines?



[...]

#### «Proposal 59

Traffic circulation is a vital function, the present state of which needs to be expressed in graphical terms. The determining factors and effects of its varying levels of intensity will then be clearly apparent and it will be easier to identify critical points. A clear view of the situation is the only thing that will enable progress in two essential areas: giving each traffic area a clear intended use, i.e. to take either pedestrians, cars, heavy goods vehicles or transit vehicles; and then giving each area, depending on the role it has been designed for, specific dimensions and characteristics: the type of roadway, its width and the location and type of crossings and connections.

Proposal 60

Traffic areas should be classified by type and constructed according to the vehicles they carry and their speed. The single highway we have inherited from the past used to carry pedestrians and horse riders all mixed in together, and it was only at the end of the 18th century that the widespread use of carriages led to the creation of pavements. In the 20th century came the cataclysmic arrival of a mass of mechanical vehicles – bicycles, motorbikes, lorries and trams – with their unexpected speed. The sudden growth of some cities, New York for example, led to an unimaginable influx of vehicles in certain defined areas. It is high time that we take appropriate measures to remedy a situation that is becoming disastrous. The first useful step would be to create a radical separation, on certain congested main roads, between the treatment of pedestrians and that of mechanical vehicles. The second would be to give heavy goods vehicles their own traffic area, i.e. roadways that are separate from the normal roads desgned for day-to-day traffic.

[...]

Proposal 64

Major traffic areas should, in principle, be separated by green space. Major through routes or high-traffic areas would be clearly differentiated from local roads and would have no reason to run near to public or private structures. It would be good for them to be bordered by dense green spaces.

[...]

Proposal 80

The speeds achieved by today's mechanical vehicles have overturned the urban environment, introducing a permanent sense of danger, generating traffic jams, paralysing communications and compromising health.»

«There is an effective method for destroying the soul of a city, and there is no shortage of support for it: the construction of a highway, which, with its multiple lanes, will penetrate deep into the heart of the city, – and when the roadway is raised, the damage is all the greater; yet we have only just begun demolishing the overhead sections of the subway, which were felt to be real scourges of the urban environment. It is in Los Angeles that highway building has taken place on the most impressive scale; but Boston has even greater justification to complain because it had more to lose: it was proud of its historic centre, which had a full range of amenities within walking distance; moreover, the city had had a model urban transport network since the end of the 19th century. But the urban planners of Boston, like the partisans of a strategy based on the power of nuclear extermination, seem able only to modify their plans by making things worse. The results are predictable, as we can see from the example of Greensboro (North Carolina). The town has been nicknamed «parking lot city», but all our cities are well on the way to deserving such a description, - Amsterdam and Paris themselves, where all free space is reserved for cars, whilst other functions essential to the normal role of a city are sacrificed as a result. The bombs that devastated London during the Blitz did no more damage than is being caused every day by the craze for highways and parking lots, supported by various national programmes, - in line with the consequences of the myth of personal transport which is meant to allow every individual to drive door-to-door. An entirely secondary function of the city is becoming its raison d'être – or rather the triumphant excuse for its non-existence. Like skyscrapers, these highways are designed and built perfectly in technical terms, but with the most remarkable incompetence in terms of their social aspects and a distressing ignorance of all cultural imperatives.»

«My family began at the dawn of the 20th century, and it is getting better as it ages. Every week, our masters work for six or seven hours to cover the costs of adopting, feeding and looking after us, and they spend about the same amount of time taking us out and about. During the week, my master and I are alone together most of the time, but the whole family comes along at weekends and during the holidays. My sisters and I are now part of a very large family: if you were to spend an hour walking along one of the main boulevards you would pass at least a thousand of my sisters.

I am a car, that remarkable machine without which cities, their image and their pollution, holidays and the rediscovery of nature, little boys' dreams and the status symbol of executives of all kinds would not be what they are. I have long been at the heart of all kinds of fantasies; I have learned to make people love me, and I have learned how to win them over: sometimes they have ended or begun a war to ensure I have the fuel I need, they have transformed their cities to allow me to reign over them, some have died young for having loved me so much and others have unintentionally killed the carefree passers-by who have crossed our path. Many of the four billion men and women in the developing world still dream of me, but many of the just one billion of those who live in developed countries have nothing but criticism for me these days: I am meant to symbolise congestion, the disintegration of space and warm human relationships, and harmful and polluting attacks on people who suffer as a result, on the forests and lakes that are wasting away and on the atmosphere that I am supposed to be heating up. As a result, some people want to change my diet, put me through tests once I am five years old and take points away from my masters; others would like to eliminate me from cities, make me pay to enter them, control me when I am forced to stand still to wait for my master, send me underground and replace me in people's hearts with public transport, even the bicycle, which gave men the taste for getting around independently before I came on the scene. No doubt it is all very complicated: because I congest the big cities where it's all so cramped, why not make me move. along with my master, to less densely populated areas? Don't people say that they could (should?) find a new way of growing, made possible by that other new family, born from the marriage of IT and telecommunications, that they call teleworking?

Control me, regulate me, why not? It is men's responsibility to imagine my future. In doing so, they will also plan the future of their industries and lifestyles. They will also need to understand how various players incorporate me into their strategies.

By using me to rethink their relationship to time and space, they will explore the day-to-day spaces that I currently play so big a role in shaping. Perhaps then they will write a coherent history of space and moving machines.»

Le Corbusier La Charte d'Athènes 1933 Editions du Seuil 1971 Lewis Mumford La cité à travers l'histoire (The city in history) 1961 Editions du Seuil 1964 Jean Pierre Orfeuil Je suis l'automobile Editions de l'Aube 1994