

Urban design for multilevel planning

## **GRENOBLE-ALPES AND THE ECOLOGICAL TRANSITION: TERRITORIAL PLANNING IN MOTION**

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**Abstract:** In this article we make the following hypothesis: sustainable urban development and climate change adaptation policies have had significant effects on the reconfiguration of territorial planning systems, and we analyse this evolution in the context of a European territory. Since the early 2000s, the Grenoble metropolitan area has carried out a series of actions (tram and bicycle path network, adopting a “Plan climat”) and launched related projects (“Ecoquartiers”, “EcoCité”), which explains why it is often considered a pioneering territory in terms of sustainable development and adaptation to climate change. The revamping of public policies to better meet the challenges of ecological transition explains the overall transformation of the planning system that has been in effect until now. Moreover, for “Grenoble-Alpes Métropole”, the recent change of status is a moment of change for the territorial planning strategies. The establishment of the metropolis and the obligation it has to quickly have a “Plan local d’urbanisme intercommunal” now allow it to build a strategy based on a common vision of the urban area and its development. That’s why this strategy leads to the search for a kind of multilevel territorial planning that is flexible, proactive and in motion.

**Keywords:** Ecological transition; Multilevel planning in motion; Urban demonstration projects; Grenoble-Alpes Métropole.

### **Introduction**

Since the early 2000s, a series of actions have been launched in the Grenoble metropolitan area: developing a tram and bicycle path network, adopting a “Plan climat” and launched related projects: “Ecoquartiers, EcoCité”, which explains why “Grenoble-Alpes Métropole” is often considered a pioneering territory for sustainable development and adaptation to climate change. And more recently, in early 2019, Grenoble decided to take part in the competition rewarding Green Capitals.

The revamping of public policies (environment, mobility, urban planning) with the goal of better meeting the challenges of an ecological transition that lies ahead explains the comprehensive



transformation of the planning system that has been in effect until now. In a metropolitan context marked by institutional fragmentation, the planning process is incremental in nature, which shows why local actors favour specific projects over planning strategies. The change in status of the “Grenoble Alpes Métropole” in 2015 explains the emergence – on the scale of the metropolis and no longer of the municipalities – of new planning, based on the vision of a mountain metropolis organised in a polycentric manner. The establishment of the metropolis and the obligation it has to quickly have a “Plan local d’urbanisme intercommunal” now allow it to build a strategy based on a common vision of the urban area and its development. That’s why this strategy, which is developed in close collaboration with the municipalities, leads to the search for a kind of multilevel territorial planning that is flexible, proactive and in motion.

In this article we make the following hypothesis: sustainable urban development and climate change adaptation policies have had significant effects on the reconfiguration of territorial planning systems, and we analyse this evolution in the context of a European territory. First, after presenting our methodology, we will begin by analysing the consequences of ecological transition on territorial planning systems. Then, in second part, with the case of “Grenoble-Alpes Métropole”, we will present the context, the relationships between spatial planning and urban demonstration projects, the actors involved in the story of building a sustainable urban development strategy and, in third part, we will analyse the new modes of governance and Grenoble’s territorial planning in motion.

## **Part 1: Methodology and relations between ecological transition and territorial planning systems**

### **1.1 A qualitative research methodology**

This section draws on the results of research (POPSU<sup>1</sup>, 2011-2018; CFE<sup>2</sup>, 2016) conducted on strategies and projects implemented in Grenoble (France). In this research, we examined the issues of strategies, projects and governance. This work was done, on the one hand, by analysing documents on the national and regional energy policies and studying strategies of territorial planning and landmark urban projects at the local level and, on the other hand, by carrying out in situ investigations, conducting a series of interviews with elected officials, technicians, architects, urban planners, engineers, academics and residents and paying visits to architectural and urban operations. This approach enabled us to understand the drivers of urban ecosystem that foster the emergence of social and technological innovations in order to manage ecological transition at the local level.

The analysis of urban projects and strategies was conducted with a funnelling approach: from the current situation (political and administrative systems, energy policies and national players) to regional energy planning and policies to the specific context of territorial communities, local urban planning and landmark urban projects. The analysis may be close to what Yves Chalas calls a figurative analysis (Chalas, 2000), which is an approach that seeks to produce representations of an

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<sup>1</sup> POPSU : Plateforme d’Observation des Projets et Stratégies Urbaines : Etude du cas de Grenoble\_Alpes Métropole dans ce programme de recherche encadré en par le Ministère français de la Transition Ecologique et Solidaire.

<sup>2</sup> CFE : Conseil Français de l’Energie : programme de recherche sur l’Impact du développement de la Décentralisation des Energies sur le système Energétique

urban reality by giving equal weight to observation, description and analysis. The goal of this approach is to focus more on the relations than the oppositions that may exist between metropolitan planning strategies and the implementation of local urban projects.

In this way, we show how the proliferation of actors – and especially of the relationships that are cultivated – reveals a process of cooperation aimed at reducing technological uncertainty and increasing the stakeholders’ innovation skills. The aims of Grenoble are entirely in line with the desire among local authorities to develop links with private economic actors and research organisations in order to enable the development of urban demonstration projects.

### 1.2 Sustainable development and the transformation of territorial planning systems

Because they lead to a pursuit of greater coordination between actions related to urban planning, the environment, mobility and energy management, policies for sustainable urban development and adaptation to climate change have had significant effects on the reconfiguration of territorial planning systems at the metropolitan level. In a world that continues to look uncertain, strategic and spatial planning, like its predecessor, strategic planning, as seen in Figure n°1, is both an exploration of transformation possibilities and an experimentation with solutions through the launching of projects, which are no longer necessarily large projects.

Figure n° 1: The main stages of French territorial planning

	Main objective	Approach	Method of elaboration	Modalities of stakeholder involvement	Implementation
Planning of land use	Management of urbanization and extensions	Comprehensive approach	Procedure conducted by the public power exercising hierarchical power	Consultation of civil society actors, once the objectives have been defined	Application of a regulation
Strategic planning	Economic development	Elaboration leading to a selection of <i>key issues</i>	Process constituting a strategic cycle in which milestones (goal development, implementation, evaluation) are equally important	<i>Collaborative planning</i> with stakeholder involvement throughout the process. Process that can lead to a pact of mutual commitments	Major projects, supposed to have a ripple effect on the development of the rest of the agglomeration
Strategic and spatial planning	Sustainable urban development	Production of a vision ( <i>leitbild</i> ).	Process - leads to several territorial scales, - involving a plurality of public and private actors, - mobilizing a variety of tools (territorial plan, sectoral plans, projects, guidelines and regulations)	<i>Collaborative planning</i> using innovative methods of involving civil society actors (shared diagnosis, workshops, forums ...)	Definition of network projects (mobility networks, network of centrality, green and blue weave) having a structuring effect of urbanization.

Source: Gilles Novarina and Natacha Seigneuret, 2018.

Using the metaphor of navigation proposed by Jean Hillier (2011), we can affirm that strategic approaches, whether plans or projects, must both set a course, which corresponds to defining the elements of a medium-term vision, and identify the stages, which corresponds to the projects that make it possible to translate this vision into actions. This desire to associate a distant vision with immediate action assumes, on the one hand, the linking of systems such as thematic groups, forums, public facilitating the involvement of the actors and, on the other hand, the use of new communication techniques such as exhibitions, digital collaborative cartographic platforms to mobilise the public (Balducci, 2011).

Because it calls for the alignment of sectorial policies for economic development, urban development, mobility and the environment, sustainable urban development requires that territories' material and physical organisation be taken into account. Thus, the promotion of sustainable mobility is easier with an organisation of centralities in coordination with the structure of the public transport network (train, metro, tram), the preservation of biodiversity is facilitated by the networking of natural spaces, and energy cogeneration plants operate better in compact spaces in city centres than in the territories of the diffuse city (Novarina, Seigneuret, 2019). Sustainable development policies remind their stakeholders of the importance of the constraints and the path dependency arising from the territorial structures they are trying to act on.

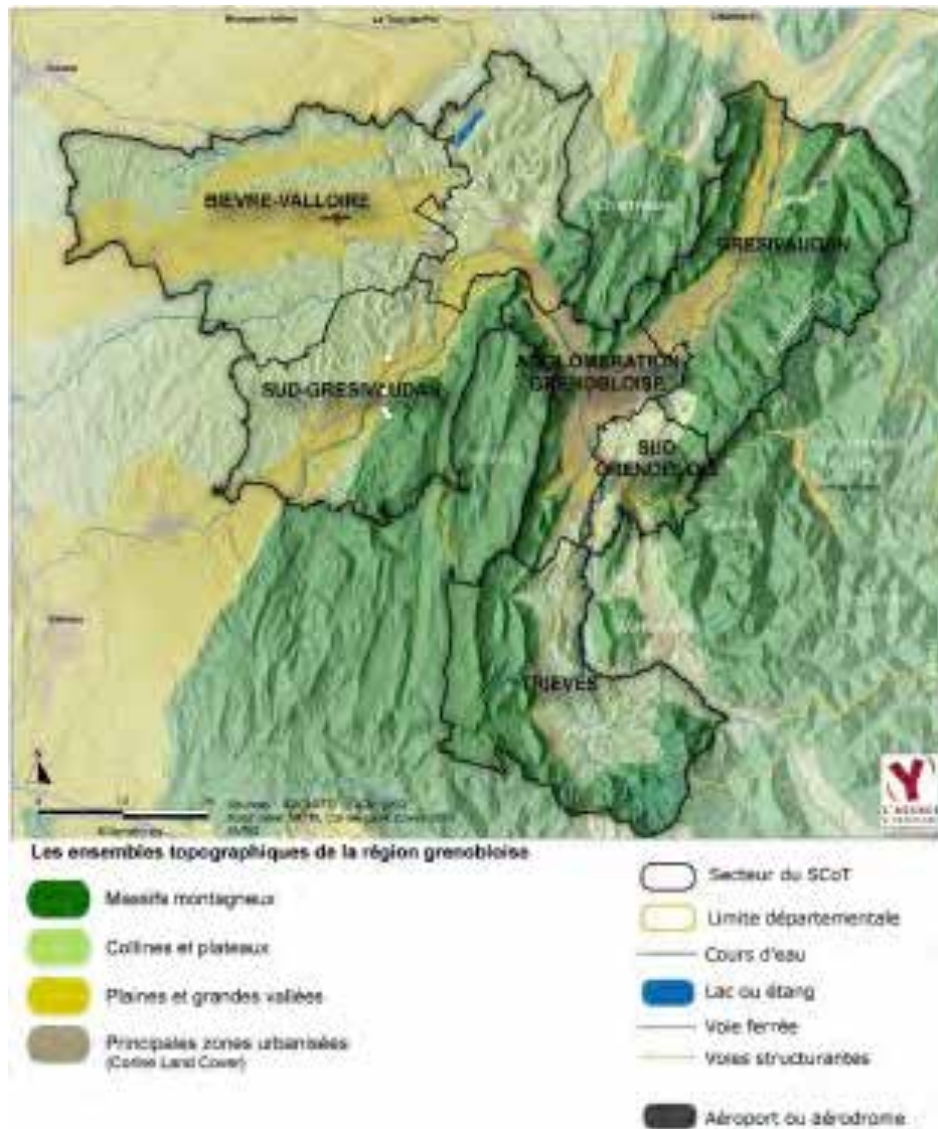
The “Loi de Modernisation de l’Action Publique Territoriale et d’Affirmation des Métropoles” MAPTAM law of 27 January 2014 has enabled urban all urban agglomerations with more than 400,000 inhabitants to have broad powers in terms of sustainable planning, economic development, housing and the management of mobility and local public services. Looking at Grenoble’s experience, guidance regarding the ways in which the territory is organised finds expression in the “Schéma de cohérence territoriale” and is the subject of various regulations, as part of the “Plan local d’urbanisme intercommunal”.

## **Part 2: Grenoble-Alpes Métropole, context and history of the construction of a sustainable urban development strategy**

### **2.1 “Grenoble-Alpes Métropole au cœur des Alpes »**

“Grenoble Alpes Métropole” has 445,000 inhabitants and is situated away from France’s major highways and rail routes. This isolation has been viewed as a limitation, one that the local actors have had to overcome in order to grow their businesses (Blanchard, 1935). The valley floor, at the confluence of the River Isère and the River Drac, is surrounded by three mountain massifs, the Vercors, the Chartreuse and the Belledonne, and has produced an urban site that is both complex and limited, as seen in Figure n°2. The lack of space explains the need to intensify urbanisation, which leads to both the compactness (3,673 inhabitants per km<sup>2</sup>) and especially density indices (8,500 inhabitants per km<sup>2</sup>) being rather high. The agglomeration is characterised by a juxtaposition of urban fabrics (historical centre, condominiums, single-family houses, large complexes, activity zones) that produce a composite landscape.

Figure n°2: Grenoble Urban Region and its territories



Source: Agence d'Urbanisme de la Région Urbaine de Grenoble, 2005.

Grenoble has been an industrial city since the mid-19th century. The city's tradition of scientific and technological innovation, based on an innovation ecosystem that links the university, research centres and industrial enterprises, has yielded a dynamic of technopolitan activities. Today, Grenoble specialises in software design and nanotechnology, and its economy is boosted by the presence of a dynamic university, large scientific facilities (Synchrotron) and international companies. However, its technological dynamism does not guarantee an urban dynamic since, between 2007 and 2011, the number of private salaried jobs fell 2.7%. (Novarina, Seigneuret, 2015).

## 2.2 Grenoble, a pilot city of the ecological transition

Because it lies in a basin, the city's urban area is facing acute environmental problems (pollution, global warming, an increased range of temperatures and other hazards) that compel it, perhaps more than others, to implement sustainable development strategies voluntarily. Grenoble has been involved

in a series of sustainable development initiatives since the beginning of the 2000s, for which it has received recognition at national and international levels. In 2001, the refurbishment of former military barracks in the Bonne district, in the immediate surroundings of the historical centre, combined the restoration of old buildings with new building projects. It was based on the use of renewable energies and the “Haute Qualité Environnementale” standard. This project enabled Grenoble to receive funding from the European Union as part of the Concerto programme, as well as the “Grand Prix EcoQuartier”, which is handed out by the Ministry of Ecology. At the same time, the municipality chose to include a guide to the environmental quality “Guide de la Qualité Environnementale de l’Architecture et de l’Urbanisme” in its “Plan Local d’Urbanisme”. Around a decade later, with the goal of creating a post-carbon metropolis, the agglomeration community obtained support from the Ministry of Ecology and the “Caisse des Dépôts et Consignations” (a public finance institution) for its “EcoCité” project, whose goal is to repurpose the technopolitan site of the Scientific Peninsula and facilitate greater social and urban diversity.

Up until 2015, the Grenoble urban district (the city centre and the inner-ring suburbs) had been organised as a “Communauté d’Agglomération” with limited powers regarding economic development and territorial planning. Its powers were limited to mobility, housing and the management of local public services. Competing interests between municipalities explain the local reluctance with regard to large-scale planning. Local actors long expressed a preference for a concatenation of experiences and specific projects that allow their communal singularities to be affirmed. As a result, territorial planning in Grenoble has been done by stratification and juxtaposition of projects.

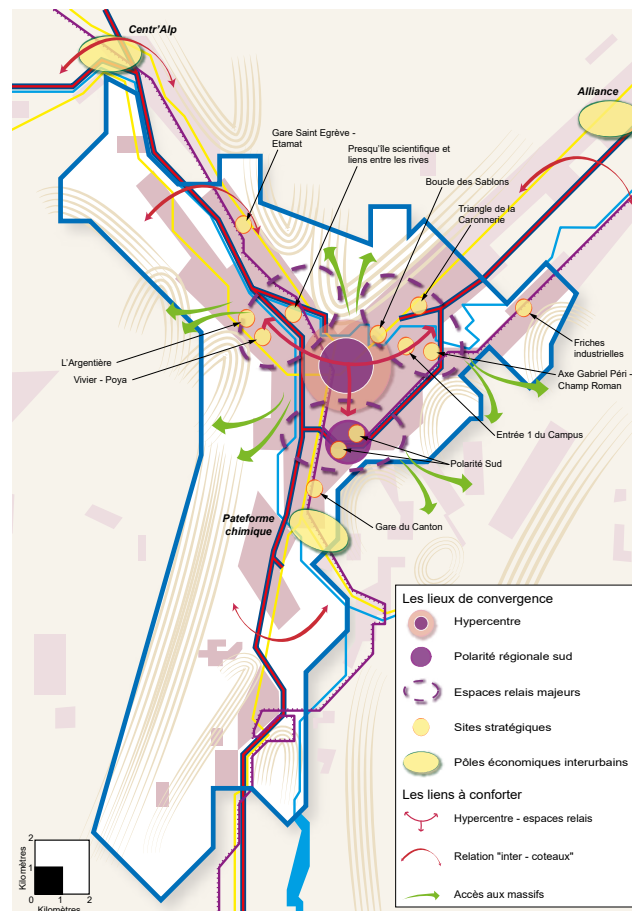
### **2.3 The “Projet d’Agglomération”: towards a polycentric territorial organisation**

In order to grow and to guarantee that it will be a sustainable and innovative city, Grenoble took a positive path on which it is possible to point to cities that were trailblazers in this regard – ones that historically benefitted by finding investment and external financing that helped them get their projects off the ground. This yearning to increase the appeal can be noted in the many documents that make up the main stages of Grenoble’s territorial planning process on , whether it is the “Schéma de cohérence territoriale” (SCoT), the “Plan de déplacements urbains” (PDU), the “Projet d’Agglomération” (Acts I and II) or, more recently, the “Ecocité” (1 and 2) and the “Plan Local d’Urbanisme intercommunal” (PLUI) processes.

Over the course of sectoral inter-communal processes, such as the successive “Plans de déplacements urbains” (2000, 2007 and 2012) and the “Plan Climat-Energie Territorial”, professionals and subsequently elected officials gradually forged a common approach to sustainable urban development, an approach that may be described as pragmatic because it is built more in terms of the local context than on theoretical or doctrinal principles laid down at the outset. Also, while these documents were being drawn up, first the information, then the consultation, increased: Elected officials, technicians, inhabitants, associations and economic actors took part in discussions at negotiating tables (Forum 21, public meetings). Inter-communal mobility policies, related to those regarding housing and energy, have contributed to the building of a strategy of sustainable urban development that is shared between numerous actors across the Grenoble urban district. But there is no question that it was the “Projet d’Agglomération” that first offered a vision of the urban area and its development.

The “Projet d’Agglomération” does not have any binding effect. It came in response to a simple desire to supervise operational projects in communities and because of a search for coherence. At the time, there was still a gap between the guidelines as defined by the “Schéma de Cohérence Territoriale”, which had been developed for a vast urban region, and the operational projects that the municipalities were undertaking. The “Projet d’Agglomération” appears to be the preferred way of moving to an “Intercommunalité de projets” and to be in a better position to take advantage of funding opportunities. Based on the involvement of public and private actors, it presents itself as a framework for synthesising sectorial programmes (economy, transportation, sanitation and waste management, housing and urban social development, sports equipment), a partnership mechanism with the municipalities and the private actors, as well as a means of positioning the urban area in relation to others in France and around Europe. Thanks to a two-step process, the “Projet d’Agglomération” made it possible to organise an original stakeholder participation experience in building a common vision of the future of their territory. The process consisted of the adoption of Act I in 2003 and of Act II in 2007. While emphasising the importance of networks of natural spaces in the identity of the urban area and the need to intensify urbanisation in public transport corridors, the “Projet d’agglomération” was in favour of a polycentric organisation as seen in Figure n°3. Around Grenoble’s reinforced city centre (heart of the city and the urban area), there are three secondary polarities. Each of these polarities provides property opportunities for an equal number of sites of urban renewal to be developed within the framework of polarity conventions.

Figure n°3: The “Projet d’Agglomération”: a polycentric organisation



Source: Projet d’agglomération, Grenoble-Alpes Métropole, 2007.

## 2.4 From strategy to urban demonstration projects

The Ministry of Ecology and Sustainable Development's "EcoCités1" call for tenders in 2009 provided an excellent opportunity for Metropolitan Grenoble-Alpes to turn the goals of the "Projet d'Agglomération" into concrete actions and achievements. The desire of the ministry, and of the City of Grenoble, to favour projects that, on the one hand, could be built quickly and, on the other hand, would attract local economic actors resulted in only one test site being built: the Scientific Peninsula, located on territory that belongs to the city centre.

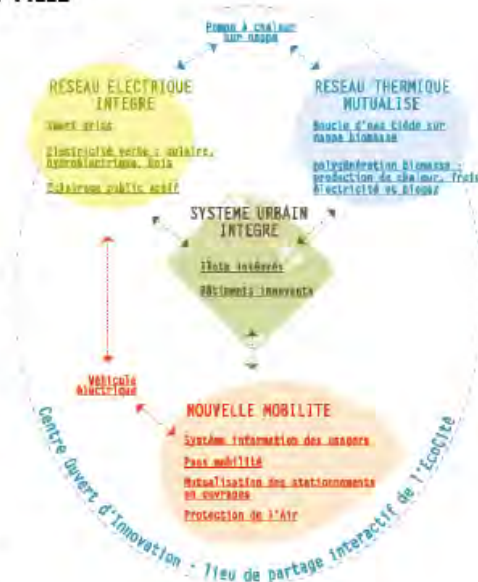
Driven by the City of Grenoble on the one hand and the local scientific and technical community on the other hand, Grenoble's "Eco-Cité1", even though it has met the criteria set by the French government to access funding, has taken a technical track. The Peninsula project is indeed an opportunity to develop technological innovations in favour of a sober and peaceful city, with a cooperative management of energy, the building of smart-grids and the implementation of the "Pass-mobilité" system, the "Ilot Urbain Intégré" as seen in Figure n°4. And actions in support of a "ville-intégratrice" and a "ville-nature" have been planned to bolster these innovations. However, the constant quest for innovation has led to technical solutions being sought to solve social and urban problems. In an effort to achieve immediate and exemplary results, it has led to a sectorial operational project being favoured at the expense of a metropolitan strategy and the importance of public debate being minimised when it comes to drawing up strategies and constructing projects.

Figure n°4: "Ilot Urbain Intégré"

### Ilot Urbain Intégré maîtrise des consommations énergétiques et utilisation d'énergies renouvelables pour UNE VILLE SOBRE

**l'Ilot Urbain Intégré, est privilégié :**

- pour penser toutes les thématiques du projet (énergie, usages, mobilités, formes urbaines,...)
- pour rechercher une diversité des énergies à utiliser, une autonomie et une gestion collective de l'énergie sur une grille de partage intelligente, la smart grid.



Source: Grenoble-Alpes Métropole 2011.

## **Part 3: Grenoble-Alpes Métropole, territorial planning in motion**

### **3.1 The “Plan local d’urbanisme intercommunal”**

Following the change in the governing coalition in 2014 in the city centre,<sup>3</sup> a new majority governing Grenoble-Alpes Métropole<sup>4</sup> is making changes to the strategies and projects undertaken. The need to reinforce the urban area’s economic attractiveness is now being looked at more closely, and the public and private investments in a small number of big projects are receiving criticism. Thus, in addition to seeking efficiency and energy sobriety, the Grenoble actors’ strategy at the time they applied with “EcoCité 2” in 2015 is to open the game to the actors, help the consumers to better control their energy costs and push them towards becoming producers. At the same time, the change in status of Metropolitan Grenoble-Alpes on January 2015, when the urban community became a metropolis, led to a considerable expansion of powers and an obligation to draw up a “Plan local d’urbanisme intercommunal” (PLUi), which will replace the 49 communal/municipal plans on December 2019.

This “Plan Local d’Urbanisme intercommunal” seems to provide an opportunity to revise territorial planning.

- It defines new ways in which citizens can participate and proposes a new division of decisions between the inter-communal and the communal levels;
- It considers the diversity of spatial configurations at the metropolitan scale in order to develop a vision that makes the quality of life a condition for economic attractiveness;
- It takes new temporal constraints into account by taking up the challenge of producing a complex plan in a short amount of time (three years);
- It takes into account the challenges facing the metropolis: fighting climate change, initiating an energy transition, strengthening economic dynamism and reinforcing social cohesion in the territory.

### **3.2 New methods of participating at the level of the large territory**

While for many years there has been consultation in Grenoble regarding operational projects that have an immediate impact on the inhabitants’ living conditions, planning on the scale of the large territory concerned the elected representatives as a matter of priority. The development of the “Plan local d’urbanisme intercommunal” is an opportunity for “Grenoble-Alpes Métropole” to replicate and amplify experiments in this area, conducted as part of the “Plans de déplacements urbains” and the “Projet d’Agglomération”. Thus, “Grenoble-Alpes Métropole” has renewed communication and consultation in a way that can be described as traditional. It has mobilised the usual means of information: articles in newspapers, displays and registers in town halls. It has also organised workshops according to the major geographical sectors and mobilised a Citizens Panel. In addition, the Development Council, which brings together citizens, representatives of employers organisations,

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<sup>3</sup> In Grenoble, the new majority comprises the Greens, the extreme left and representatives from NGOs.

<sup>4</sup> While the president is still a Socialist, his party is in the minority in the new majority that also includes the extreme left, the Greens and the Communists.

trade unions and associations and represents, to some extent, the economic and social world, was invited to issue an opinion on the main guidelines of the “Plan local d’urbanisme intercommunal”.

However, fully aware of the limits of these traditional modes of doing things, the professionals in charge of the “Plan local d’urbanisme intercommunal” have resorted to more innovative means of communication. The consultation was organised particularly for inhabitants thanks to the creation of a digital collaborative cartographic platform. “Carticipe” became the “Plan local d’urbanisme intercommunal’s central consultation tool: It allows all of the city’s residents to geo-locate themselves and file an opinion, which the other inhabitants are called to vote on and speak out about, as seen in Figure 5. “Carticipe” made it possible to collect more than 2,012 contributions and to broaden the consultation approach to a large number of people in an effort to have a collective exchange and a production of syntheses. The result of the work, within the framework of the Territorial Workshops on the one hand and the Citizen Panel on the other hand, was also addressed in filings on this digital platform.

Figure n°5: Carticipe tool: interactive map

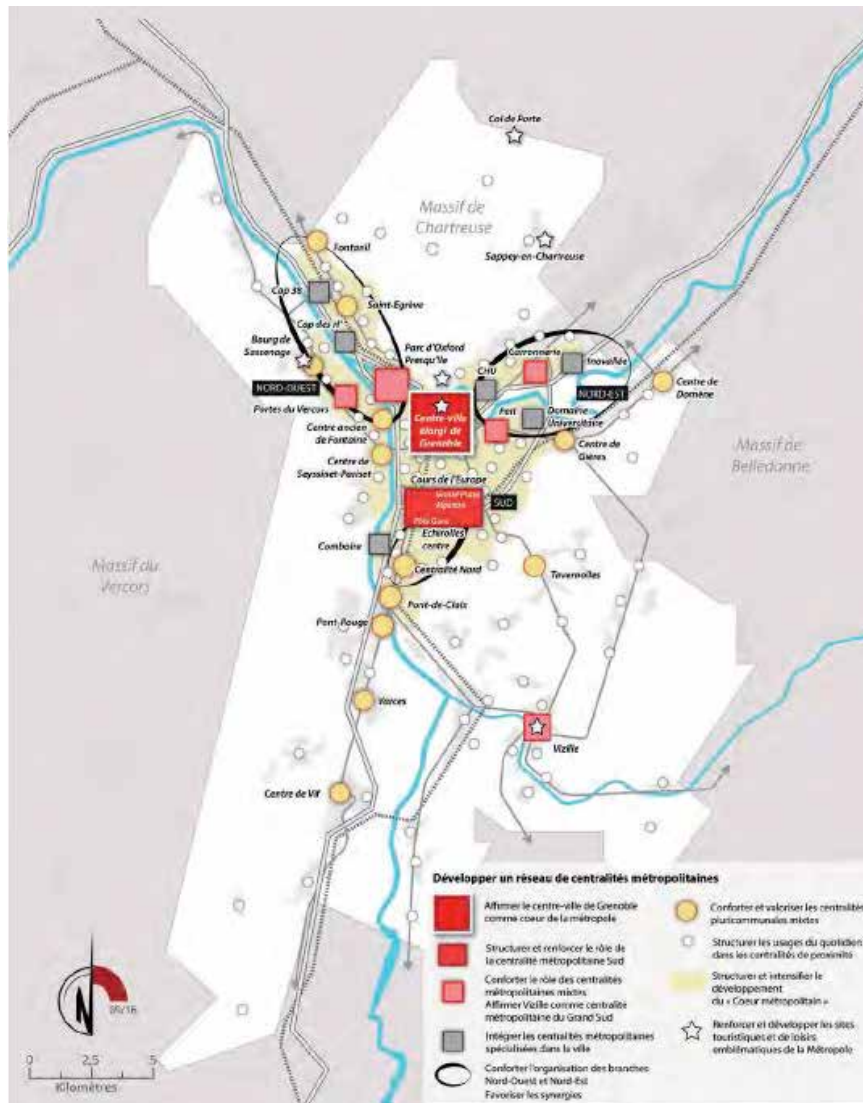


Source: Grenoble-Alpes Métropole 2018.

If the role of scientific and technological innovation in local development is brought out, the focus is on quality of life as a condition for attractiveness. “Grenoble-Alpes Métropole” is presented as a “mountain metropolis” that has to seek a way of better highlighting the diversity of its landscapes,

namely its urban core, as well as its valleys and surrounding mountain balconies. The fight against urban sprawl involves the creation of a polycentric metropolis by identifying three levels of centrality (proximity, inter-communal and metropolitan). The structure adopted by the “Projet d’Agglomération” is the subject of a new presentation aiming to take into account the complexity of a territory that was enlarged in 2015 when the community was made a metropolis, as seen in Figure 6.

Figure n°6: Network of the centralities on the metropolitan level

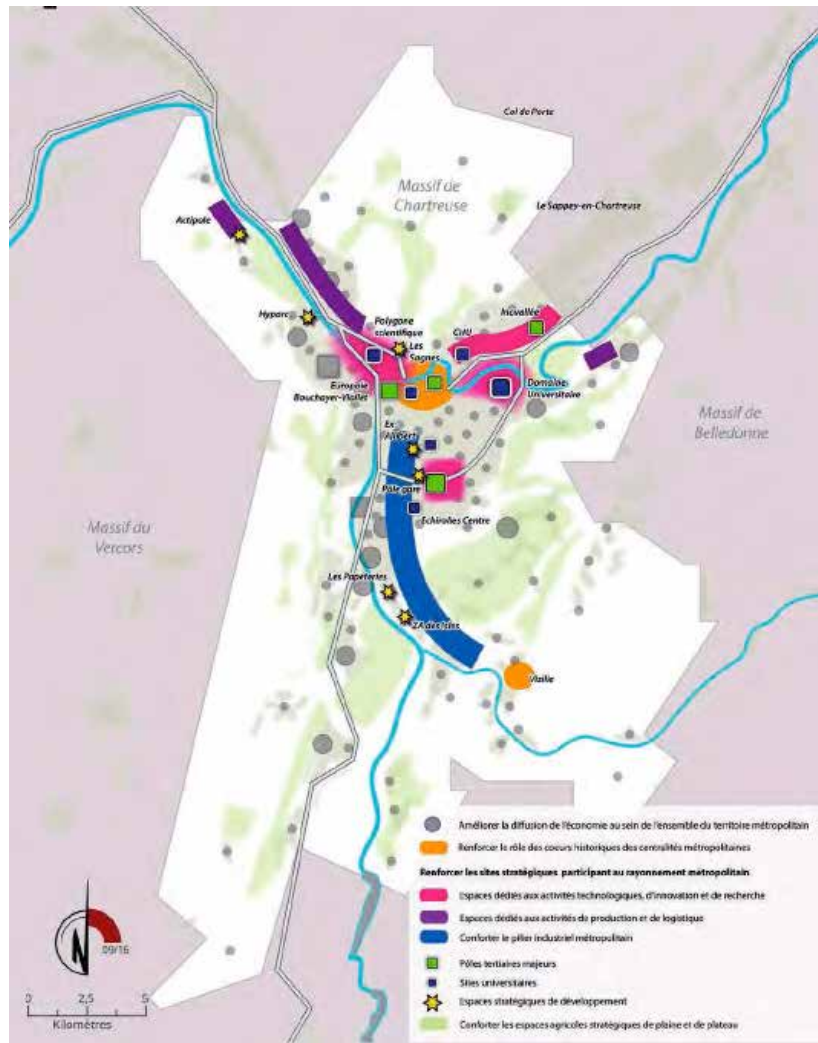


Source: Grenoble-Alpes Métropole 2016.

Economic development sites are no longer confined to the technopolitan spaces to the east (computers and software) and to the west (nuclear and nanotechnology) of the city centre but tackle the need to strengthen the metropolitan role of Grenoble’s historical centre, to take into account the industrial

pillar located in the south and to reinforce the presence of agriculture. The goal is, therefore, to utilise a variety of economic development pillars as seen in Figure n°7.

Figure n°7: Strategic sites on the metropolitan level



Source: Grenoble-Alpes Métropole 2016.

### 3.3 New temporality and finding flexibility

The obligation to draw up an urban planning document in a very short amount of time and on the scale of a vast territory comprising 49 municipalities initially seemed to be a constraint that professionals would find difficult to overcome but was ultimately revealed to be a real asset. It forces the planners to drop an approach that tries to be exhaustive because it seeks to treat the same level of precision all the themes that a “Plan local d’urbanisme” has to tackle.

Today, the idea is to consider the “Plan local d’urbanisme intercommunal” as the first step in a planning process that will have to take reversals of circumstances into account as much as possible. Thus, plans are made for regular changes in order to respond to municipalities’ requests and to incorporate mature projects. Additional studies may be undertaken at strategic sites as soon as

the “Plan local d’urbanisme intercommunal” is approved. The goal is to find flexibility in the different planning documents.

Discussions have also started regarding the implementation of the “Plan local d’urbanisme intercommunal”. Since the passage of the “loi Solidarité et Renouvellement Urbain” (SRU law) in 2000, there has been a possibility to put in place “Orientations d’Aménagement et de Programmation” (OAP). Unlike rules that have to be strictly adhered to when they are applied, these guidelines are less precise. They can be interpreted in various ways and negotiated when they are applied. The guidelines can be sectorial and can outline a project for a strategic site identified in the “Plan local d’urbanisme intercommunal”. They can be thematic and provide indications of public policy in a particular area. In “Grenoble-Alpes Métropole”, three thematic guidelines are in development: The first concerns the quality of the landscapes, the second takes risks into account in the context of a resilient approach to urban planning, and the third relates to recommendations that have to be kept in mind to limit the effects of air pollution in homes.

Stressing the need for flexible planning and emphasising its procedural nature is a paradigm shift for professionals who, until now, have been accustomed to taking the time necessary to draw up documents that are as comprehensive as possible. There is a desire to set the planning in motion and to make it a privileged means to drive actions and projects.

## **Conclusion**

In a metropolitan context characterised by the fragmentation of institutions, “Grenoble-Alpes Métropole” had been forced to rely on sectorial actions and projects to produce a “Projet d’agglomération” at the intersection between a “Schéma de cohérence territoriale”, developed for the metropolitan area, and town planning projects by the municipalities. Following Parliament’s passage of the MAPTAM law, the “Grenoble-Alpes Métropole” changed status in 2015 (from “Communauté d’agglomération” to “Métropole”) and acquired broader powers than municipalities.

The drafting of the “Plan local d’urbanisme intercommunal”, which accompanied a growing openness by metropolitan and municipal elected representatives towards an ecological transition, corresponds to a moment of change for the territorial planning strategies concerning the urban area:

- The use of new tools favouring an opening of the participation process with Carticipe;
- the adoption of a new vision: a mountain metropolis rich in diversity;
- the construction of a new polycentric organisation;
- and the will to put the guidance above the rules;

demonstrate a willingness by the Metropolis to seek close cooperation with the municipalities and with private actors and the desire to promote a type of planning in motion that would be both proactive and flexible.

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## Acronyms

MAPTAM: “Loi de Modernisation de l'Action Publique Territoriale et d’Affirmation des Métropoles”.

OAP: “Orientations d'Aménagement et de Programmation”

PDU: “Plan de déplacements urbains”

PLUi: “Plan Local d'Urbanisme intercommunal”

SCoT: “Schéma de cohérence territoriale”

SRU: “Loi Solidarité et Renouvellement Urbain”

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Figure n°7: Strategic sites on the metropolitan level

