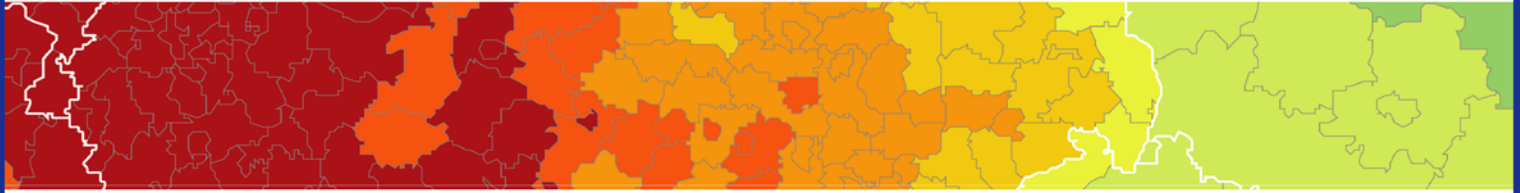


Inspire policy making by territorial evidence



SPIMA – Spatial dynamics and strategic planning in metropolitan areas

Targeted Analysis

**Annex 2 to Final Report
Profiles of the metropolitan areas**

Version 5 March 2018

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Abbreviations

EC	European Commission
ESPON	European Territorial Observatory Network
EU	European Union
FUA	Functional Urban Area
MUA	Morphological Urban Area
LAU	Local Administrative Unit
MDA	Metropolitan Development Area
LUZ	Large Urban Zone
MA	Metropolitan Area

1 Profile of the metropolitan area of Vienna

1.1 Characteristics of the metropolitan area

1.1.1 Geography and demographics

The core urban area of Vienna, the city of Vienna covers 415 km² and is located in the most eastern part of Austria, 50 km from the Slovakian and 60 km from the Hungarian border.

Vienna metropolitan area does not have a formal delineation. The most actual spatial concept describing the area is based on the Stadregion+, 2011 strategy. The territory of the metropolitan area is defined based on commuting and functional patterns, which represent the spatial dynamic of the urban development.

The metropolitan area includes Vienna, part of the surroundings of Lower Austria region and part of Burgenland, the region east to Lower Austria. The currently estimated size of the metropolitan area based on the Stadregion+ area is 7 552 km².

The Metropolitan area is characterized by diverse landscape, including a mix of plane and hilly parts. The area has a strategic importance in producing agricultural products in the country. The number of inhabitants in the metropolitan area according to the Stadregion+ concept was 2.75 million in 2015 and density of 365 inh/km². According to Stadregion+ a significant population increase is expected both in Vienna core urban area and in the surrounding regions.

Vienna's population decreased slightly in the 1970s and 1980s, at a time of mass suburbanization, while it has increased since then, reaching currently nearly 1.8 million.

Vienna has always been a multi-ethnic city. In 2012, nearly 40% of the population had a migrant background, mostly coming from ex-Yugoslavia, Turkey, Germany, Poland, Ukraine, Romania and Hungary. This ethnic composition may have changed slightly in recent years due to the high number of refugees from Syria, Afghanistan and Iraq who entered Austria but have not moved on to the north and west and have settled in the biggest city.

1.1.2 Socio-economic development

Vienna's per capita GDP is the highest in the country (172% of the European average in 2014), while the GDP of Lower Austria is significantly lower - with relevant spatial disparities inside the region - (115% of the European average in 2014), and Burgenland has the lowest in the country (97% of the European average in 2014). These numbers reflect high spatial tensions in economic development in the wider metropolitan area.

Vienna had a cautious approach to urban development for decades and this is reflected in its spatial and social structure: e.g. the spatial character of a compact city, with efficient and affordable public transportation, and a high share of public housing. This may have contributed to fact that Vienna has won several international prizes that assess the quality of life and the vibrancy of the economy. (e.g. Vienna turned out to be the best city to live in according to the 18th Mercer Quality of Life study in 2016.)

The metropolitan area of Vienna has a suburban character close to Vienna and a rather rural character further from it. The spatial differences are also reflected in the job market: the unemployment rate was 10.9% in December 2016 in Lower Austria, while it was 15% in Vienna. So, in spite of the city's strong economy, its population is more socially differentiated than in the surrounding region.

1.1.3 Strategic importance and history

Vienna has a rich history dated back to 500 BC (as a Celtic settlement), and Roman times (when it was a fortress). In 1145, Vienna became the seat of the Babenberg family and consequently the seat of the Duchy of Austria. In 1440, Vienna became the resident city of the Habsburg dynasty, which means that it became the capital of the Holy Roman Empire until 1806, and after that the capital of the Austrian Empire. In 1867 the Austro-Hungarian Empire

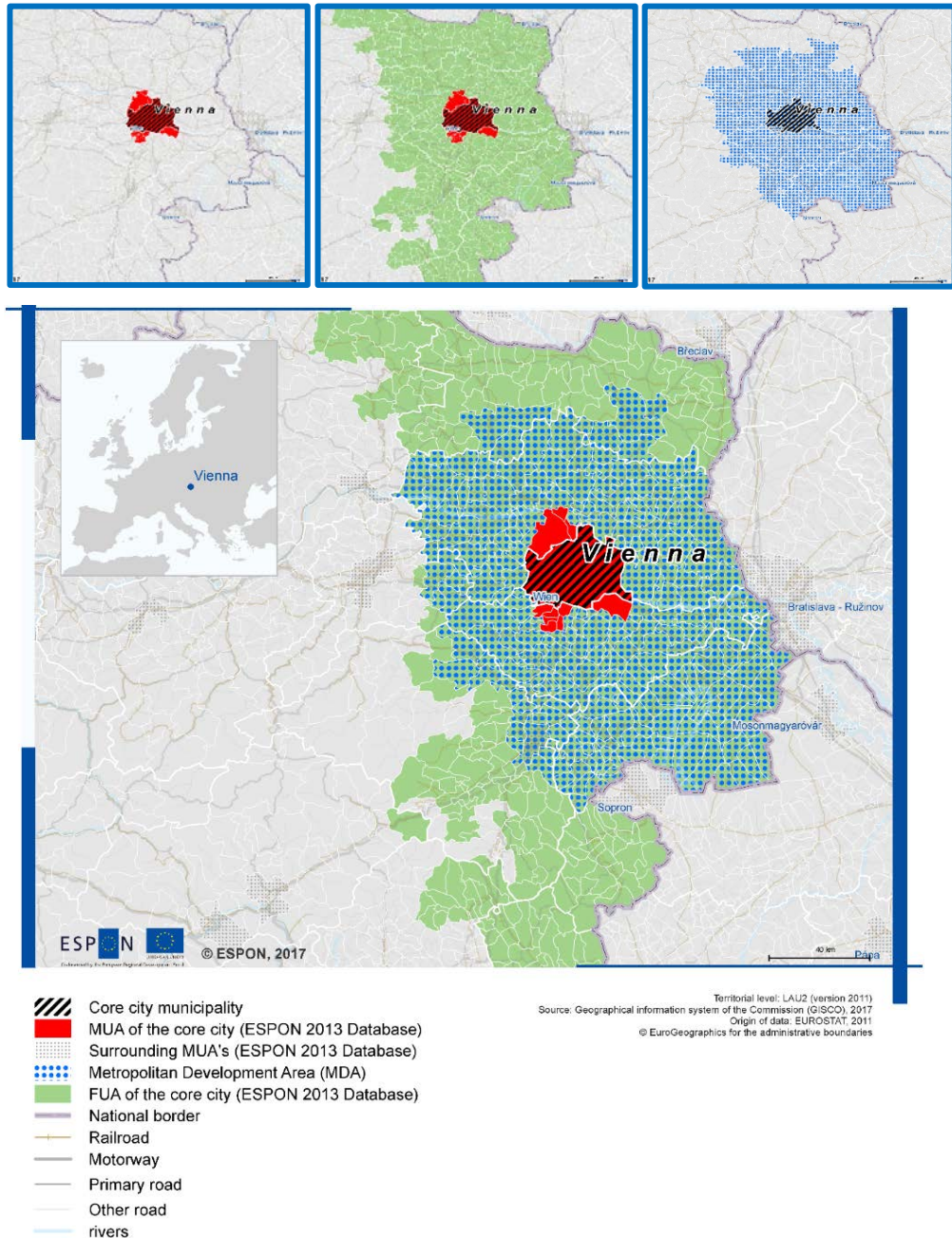
was formed with Vienna as its capital city. After the First World War, the empire collapsed and the first Republic of Austria was formed. As the constitution of the new republic was adopted, the City of Vienna was separated from the surrounding province of Lower Austria in 1920 and became a province of its own. Between 1938 (after the Anschluss) and the end of the Second World War, Vienna lost its status as a capital to Berlin as Austria ceased to exist and became part of Nazi Germany. During this period, the Nazis enlarged Vienna by merging it with the neighbouring 97 settlements, 80 of which were returned to surrounding Lower Austria in 1954. In 1955 Austria regained full sovereignty (after ten years of shared authority by the USA, Soviet Union, UK and France). Vienna had always been a cultural and industrial centre of Central Europe with musicians, artists and scientists residing there. Being the capital of Austria and a bridge between east and west, Vienna has also attracted innovative industrial entrepreneurs. This history of innovation is somewhat reflected in its present situation, as it still has a strong industry sector while it was also ranked sixth among the top ten start-up cities worldwide.

1.2 Spatial structure of Vienna metropolitan area

1.2.1 Configuration of European FUAs and MUAs related to the MDA

Figure 1. Delineation of the metropolitan area of Vienna

Delineation of MUA, FUA & MDA



Source: authors (based on ESPON data, 2013)

Map 1.1 shows the Metropolitan Development Area (MDA) of Vienna, which is based on the 'Stadtregion+' spatial development concept. The MDA is smaller and fully embedded in the much larger Functional Urban Area, delineated by the EC studies and datasets on commuting patterns (ESPON, 2013). The presented here delineation of the MDA shows that although both the MDA and the FUA, represent key commuting patterns between Vienna and the surrounding municipalities, the perception between the EU and the locally defined spatial concept of the metropolitan area differs greatly.

Both the MDA and the FUA can be classified as being monocentric areas consisting of two smaller MUAs. The areas borders Hungary in the southeast and Slovakia in the east, showing the importance of the cross-border character of the MDA. While the urbanization patterns are more intense within the MDA area the parts of the FUA that do not overlap with the MDA show much lower numbers of urbanized land use and lower population density (see also Annex III to Final report).

1.2.2 The formation of the MA

There is no official definition of the metropolitan area of Vienna that would be covered by a specific institutional framework or a formal arrangement on metropolitan development. There are few spatial concepts currently applied to address key metropolitan development challenges.

- Wiener-Umland area is one of the spatial metropolitan perspectives consisting of 183 municipalities. It was defined back in the 1970s. The area is under the supervision of the Lower Austrian regional government which controls the increase in build-up areas according to the land-use plan. Development pressure is still not high outside the borders of the 183 municipalities. All the settlements belong to Lower Austria, and do not cross the regional borders into Burgenland.
- The Stadtregion+ area is another metropolitan concept which was defined in 2011 as agglomeration of settlements based on functional linkages between Vienna and its suburban areas (e.g. commuting connections, recreational connections, use of public services). This metropolitan concept covers 268 municipalities and Vienna, and formulates a basis for strategic plan of the Stadtregion +. The area extends into the region of Burgenland, besides Lower Austria and has about 2.6 million inhabitants.
- The functional linkages that are reflected in the transportation connections between the three regions (Vienna, Lower Austria and Burgenland) form the spatial concept of the *Verkehrsbund Ostregion* (VOR). Established since 1984, VOR is an integrated transportation system, which is the oldest and largest supra-regional transportation system in Austria. It covers Vienna (which has its own inner public transportation system, *Wiener Linien*), Lower Austria and Burgenland, reaching about 3.7 million inhabitants in a 50km radius around Vienna.

VOR acts as the client for most transport companies in Lower Austria and Burgenland as well as an 'accounting body' for the distribution of revenues between the transport companies in the network. There is a coordinated ticketing system under the VOR umbrella. However, the public transportation inside Vienna is much cheaper than in the region. In spite the integrated system transportation outside Vienna is expensive. Local municipalities negotiate with VOR if they want extra services for their residents, and naturally they have to contribute to the costs. The Integrated System, the bus lines in Vienna stop at the city border, as Wiener Linien has exclusive rights for service provision only inside Vienna (in-house procurement rules), and resists being a part of any service competitions outside the city.

- Another important element of the spatial structure of Vienna is its proximity to Bratislava. The urban linkages of the territory across the border characterises it as a metropolitan area with a cross-border perspective.

1.3 Governance of spatial planning

1.3.1 Institutional framework of metropolitan planning

The planning system

The administrative system of Austria is based on three levels (Figure 1.1):

- The federal state, which had delegated most of its powers to the regions, but has since taken most of them back step by step. Most administrative, legislative and judicial authority - including taxation, welfare and policing - is granted to the central government.
- The regions (*Länder*): There are nine NUTS2 regions in Austria. Each of them has a directly elected Assembly, a government and a governor elected by the Assembly. The capital of Lower Austria (the region around Vienna) is Sankt Pölten. The delegated power of the regions covers the following topics: municipal structure, planning and zoning codes, nature protection, hunting, fishing, farming, youth protection, certain aspects of public health and welfare and the right to levy certain taxes. Regions share some of the responsibilities with local municipalities (e.g. local municipalities operate primary schools and kindergarten but regions pay the teachers), thus indirectly regions can influence the development path of localities. Regions also deal with special funds that they can distribute among the settlements in order to encourage development, like funds for subsidizing housing development. In addition, regions are the entities that execute federal legislation in their territory.
- Local municipalities, 2,300 of which exist in Austria (their number is always changing because of mergers and separations). The local municipalities that are seats of districts provide state administration services to smaller settlements (like forestry, water resources, and passports). Local municipalities in general are responsible for the basic infrastructure (education, health infrastructure, public utilities, local roads) and also for detailed land-use planning. Besides local municipalities there are 14 cities in Austria that belong strictly to the legislation of regions and not the district seats (Vienna is one of them). Vienna is in a special position as it is both a region and a municipality.

In addition, Vienna has 23 city districts with different powers (some of the districts provide services to others, thus Vienna has 19 district offices). The members of the district councils are directly elected. The winning party nominates the leader of the district and one of the deputy leaders while the other deputy leader is nominated by the second strongest party.

The spatial planning system is somewhat reflected in the governance structure with the difference that the federal level does not have land-use planning competencies.

Strategic planning

At the federal level the Austrian Spatial Development Concept, ÖREK 2011, was formulated. This is a non-binding conceptual document which is issued regularly, every ten years, by the ÖROK (Österreichische Raumordnungskonferenz), the members of which are the Austrian chancellor, the leaders of the Austrian Länder (regions), the presidents of the Austrian municipal and city associations and the representatives of stakeholders. The Concept lays down the fundamentals of spatial development (e.g. compact settlement structure, polycentricism, development alongside the axes, participatory planning). The Concept does not have a direct spatial dimension; it rather defines an action plan with 14 actions and 36 tasks to be completed by different stakeholders. The Concept calls for further research and thematic strategies to be elaborated and harmonised on national and regional level.

The region of Lower Austria is divided into five sub-parts (main regions): Waldviertel, Mostviertel, Weinviertel, Industrieviertel, NÖ Mitte (Vienna is located in between the last three of these sub-regions). The strategic plan of Lower Austria is based on the concepts from these five sub-regional areas, which provide information on the spatial structures to be targeted, on the primary functions of locations and sub-areas, as well as on large-scale infrastructure expansion. Consequently, these development concepts have quite a strong spatial character that provides guidance on the future spatial development of the Vienna metropolitan area:

The spatial goals of Weinviertel (where population growth of 12% was expected between 2001 and 2012 according to the ÖROK prognosis) are:

- to maintain compact settlements and avoid sprawl
- to activate local cores and use existing building fabric
- to limit new building land predominantly to the central locations and to the catchment area of axes of public transport
- Housing construction subsidy (WBF) should be limited to dense building forms along the axes and feed areas of public transport

While the expressed spatial objectives of Industrieviertel (where further population growth is also expected) are:

- to keep green spaces near Vienna, to strengthen and densify centres
- to avoid development of settlements along the Wiener outer ring motorway (S1)
- to keep the relatively compact settlement structure in the eastern Viennese Basin and Arbesthaller Hügelland
- to avoid population development in the Viennese forest, to avoid sprawl

The strategic plan of Vienna (STEP 2025) determines the vision on development in the period to 2025. One of the eight main chapters deals with the metropolitan region. In this chapter, ideas and wishes for regional cooperation are formulated, as Vienna has no legal power beyond its administrative border. These ideas concentrate on four topics: further development of cooperation structures, determination of joint development aims for territorial areas with high development potential, development of mobility partnerships for the jointly defined most important transport corridors, further development of Centrope mobility management (for the public transport companies in the Centrope area – the wider potential cooperation area that extends into the Czech Republic, Slovakia and Hungary).

The city of Vienna raises the need to define, together with the Land of Lower Austria and with a wide range of different interests, regional cooperation areas with high development potential and of importance for the metropolitan region.

Besides regional and local planning activities, there have been attempts in the past two decades to elaborate strategic planning efforts at the metropolitan level:

- In 1994, a metropolitan-level spatial concept was created based on a polycentric development proposal for the area. It was contracted by PGO (East Austri- an Planning Association). Not only was a spatial concept proposed but also the possible tools to encourage the desired interventions. However, the proposal was not promoted widely as its creation did not involve a sufficiently large number of actors.
- In STEP 2005 (the Development Concept of Vienna), a map of the spatial concept of the metropolitan area was inserted that identified a bigger MA than in 1994. This map was never taken as a basis for further political discussions, as Vienna municipality does not have authority outside of the city borders.
- Stadregion+ (2011) is an analysis and discussion paper on the metropolitan area which redefined the scale of the area, involving a wide range of stakeholders in the discussion process (as opposed to the spatial planning process of 1994). In addition to the spatial delineation, the paper analyses three scenarios: continuation of current trends in development (business as usual), the wishes of the mayors of the settlements, and the 'intervention scenario', directing development to those settlements where it can be handled in a sustainable way according to the economic and environmental aspects of the metropolitan area, without further sprawl of building land. The document also discusses the tools (funds, subsidies, policies) by means of which development processes can be brought in line with the spatial concept. The vision in Stadregion+ is of a "structured urban region" in which living, working, service and leisure areas are in space and resource saving way in areas that are easily accessible by public transport. Stadregion+ is also to be understood as a process based on the existing plans and platforms of the *Länder* (regions), sub-regions, cities and communities, and stimulating their further development.

- The establishment of the "Regional Guiding Plan" for local settlement development has been an important proposition. This proposition suggests identification of future regional development focal points and target areas (e.g. urban poles). This foresees making a strong link between the planning levels of the Landers and the municipalities by establishing a regional partnership. Such partnership more effectively coordinate strategic spatial development objectives and the division of competencies between the different planning levels. The reciprocal coordination of communal interests could also take place in such a planning process.
- Although the Stadregion+ concept is undertaken by the presidents of the three regions, the political commitment for its implementation has been weak. During the six years since the approval of the Stadregion+ concept, little progress has been achieved in specific planning actions at metropolitan scale.

Statutory planning

In Austria the federal government has no competence in land-use planning, while the other two levels (region and municipalities) do.

The regional land-use plan of Lower Austria is divided into seven parts, and consequently includes seven legal documents with the associated maps. The regional land-use plan identifies land uses in major infrastructure, the boundaries of the built-up areas of the settlements and the nature protection areas.

In 1989 the spatial plan of Lower Austria has defined limits for the maximum size of the build-up areas in parts of the region, among them for the metropolitan area (Wiener-Umland). Since then, each municipality was obliged to submit to the regional authorities the intended amendments in their zoning plans. This obligation was meant to ensure compliance of the local plans with the regional level master plan and therefore safeguard the introduced limitations for maximum growth. Municipalities are allowed to extend these limitations, but this must be first agreed with the regional government.

Vienna also creates its own land-use plan inside its boundaries (such as all the municipalities in the metropolitan area). As a region, Vienna adopts its own legislation regarding spatial planning and building regulations (Wiener Bauordnung).

Generally, there is a heretical relation between the mandatory land use plans at regional and local level.

Collaborative planning

Vienna and the municipalities of Lower Austria do not have a common planning body. Some of the impediments to this are related to political contains, economic competition between the city and the suburban area. Cooperation between the core city of Vienna and the municipalities of Lower Austria is mainly based on single project initiatives rather than on a systematic planning approach and coordination between different municipalities. In 2006 the Stadt-Umland Management association was founded by Lower Austria, with the aim to support communication and coordination process among the various institutions in the urban fringe.

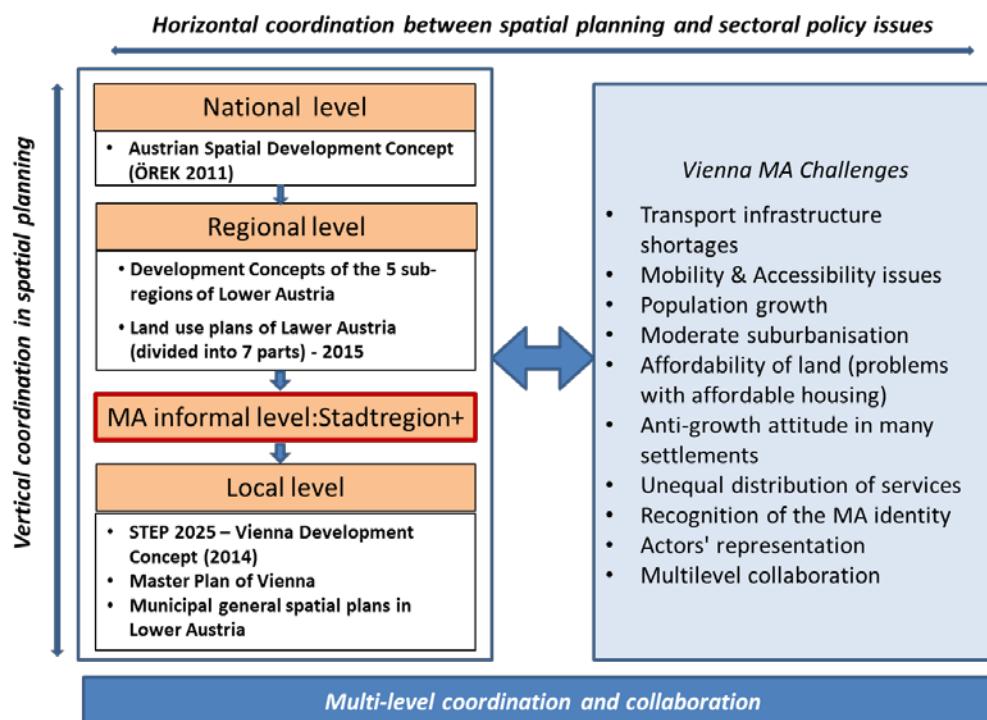
At the same time, Intra-regional collaborative planning was initiated by the state decades ago in order to strengthen the position of the eastern regions next to the eastern borders. That is why Planungsgemeinschaft Ost (PGO) was established in 1978 in order to give an extra impetus to development in the most eastern part of Austria, which was quite before the fall of the Iron Curtain. It covers the regions of Vienna, Lower Austria and Burgenland and thus has a much wider territory than the metropolitan area. That is why PGO must also balance between the interests of the outer parts of the planning area and the metropolitan area of Vienna, consequently cannot concentrate on the later properly.

The main goal of the organization is to coordinate planning activities across the three regions. It has an office with a small number of employees (four to five people, some of them part-time). PGO has some budget to contract out supra-regional research and planning activities and provides a platform for political and expert communication, with the participation of the leaders of the three regions. In the last three to five years, new attempts were made by PGO regarding 1) elaborating a strategic plan for the metropolitan area in 2011 (Stadregion+); and 2) establishing new platforms for mobility planning, coordinating developments in energy and environmental issues.

PGO is a platform for planning activities, for planning experts and decision makers. However, it does not deal with project management, implementation and day-to-day communication. That is why Stadt-Umland Management (SUM) was established in 2006 for the 11 outer districts of Vienna and 70 neighbouring municipalities as a platform for dialogue between the partners based mainly on the implementation of common projects. The organization has two employees (one for the northern part and one for the southern part) who organize events and keep in constant communication with the main partners. The aim of SUM is to encourage a better understanding of cross-boundary interests but it also aims to create common projects that influence both Vienna and the neighbouring municipalities.

In recent years, local spatial development concepts were initiated based on the joint wishes of groups of municipalities (e.g. the spatial concept for Mödling district, municipalities north-east to Vienna). These concepts are an attempt to coordinate spatial development and mostly address areas of cooperation where win-win outcomes can be achieved for the municipalities. In some cases, financial mechanisms are also established, or planned, that aim to redistribute business taxes in order to compensate those municipalities where development should be limited. Municipalities are as well allowed to set up single-purpose associations to address different functional developments.

Figure 1.1 Interaction between governmental levels and challenges for MA development



Source: authors

1.4 Key spatial development challenges and incentives

The general regional trends in Vienna metropolitan area show future increasing population and a positive development in the employment market. This will require emergent actions at a larger scale of planning oriented towards new development opportunities and towards safeguarding urban sustainability.

The establishment of a polycentric spatial structure is considered as an important perspective for the allocation of functions in the future metropolitan region. Such structure needs to ensure a more coherent approach in terms of spatial functions and interlinkages between the plans of vast number of municipalities (local administrative units). The key challenges include:

- The most obvious consequences of the urban sprawl are experienced in the field of transportation mostly related to regular traffic congestions problems. Transportation issues are particularly important to meet the commuting needs of the younger generation that settled in the suburbs. One of the key needs will be to strengthen the public traffic system in Lower Austria to ensure accessibility and mobility between the adjunct settlements. However, yet new investments are needed in the service provision and infrastructure development and such investments need first to prove their cost-effectiveness to the local authorities.
- According to the population trends, significant growth is expected in the coming 10-20 years within the metropolitan area of Vienna. About 170,000 to 200,000 additional inhabitants may settle in Vienna and its metropolitan agglomeration. According to land-use plans there is sufficient land for accommodating this growth. The challenge, however, is in ensuring affordable housing and services in a sustainable and cost-effective way, while dealing with escalating prices of land and housing. Furthermore, there are rising issues of potential social segregation due to international migrants coming to Vienna urban area, while population with a better welfare is moving to the suburbs to search better quality of life.
- There is a general reluctance towards growth from the municipalities (based on pressure from local residents). Urban growth is often seen by smaller municipalities as the cause of intensive suburbanization that may reduce existing specific local benefits in quality of life. Even bigger municipalities with good train connections to Vienna (such as most of the administrative centres of the seven districts around Vienna) show such resistance. While dealing with this opposition to urban growth, the challenge is in envisioning the common benefits of a coordinated metropolitan development such as: more efficient spatial structure and functions, effective governance and new opportunities for better quality of life. If managed in a sustainable way urban growth towards suburban settlements may have positive effect and bring new social-economic opportunities for the region.
- The Lower Austria region has controlling functions in regulating extensive development of the settlements (based on the limitation set in 1989 and the regional land-use plan). On the other hand, it has limited power in enforcing new developments within individual municipalities. There are no top-down legal tools that can regulate spatial development activities of the municipalities within the metropolitan area. There is a need in elaborating comprehensive plans for allocation of new developments and functions within potential growth poles which can be implemented by the different municipalities.
- Lack of cooperation in many cases leads to competition which is most evident in the business sector. The incentive for many municipalities is to attract more businesses on their territory, mainly those that employ people with high incomes (as municipalities have the right to levy 3% of the payroll as a local tax). This leads to competition between the core city and the suburban areas, regarding the allocation of businesses. Moreover, the decision-making process in the suburban areas with smaller municipalities is faster due to shorter administrative procedures comparing to Vienna municipality. This brings advantages for the smaller municipalities in attracting businesses.
- Stadregion+ has a spatial vision for the metropolitan area. However, this vision needs to be upgraded in order to reflect the most recent developments and future trends in the region (e.g. new railway developments will create new growth pole opportunities). A large

number of stakeholders were involved in drawing up Stadregion+ strategy which has brought challenges in achieving full consensus in addressing diverse interests.

- In some cases, large scale spatial developments are taking place within smaller settlements of the metropolitan area (e.g. as a result of a national infrastructure development projects). These settlements often lack the administrative capacity to tackle consequences that such large developments may bring to the local area development. These often relate to the use and maintenance of such infrastructure, dealing with its impact on the spatial development of the settlements and the surroundings and to the ability of small municipal administrations to accommodate new urban growth in their planning and decision-making processes. The challenge in this is to establish an adequate collaboration process between the smaller municipalities and the planning authorities at higher level of government. Such collaboration is needed to plan the policy interventions and the share of responsibilities for spatial developments that cover larger areas and have an impact on smaller settlements planning processes.

Meanwhile, in the last decade some positive results have already been achieved in addressing metropolitan spatial developments. Among these are the establishment of some collaborative organizational structures and the development of more comprehensive spatial plans focusing on compact, nature-friendly and resource-efficient development. Some of the key incentives for achieving these results, include:

- The establishment of the VOR (Integrated Transport System) and PGO by the federal state back in the 1970s and 1980s aiming to strengthen the eastern regions of the country adjoining the Iron Curtain has been an incentive for promoting the idea of metropolitan governance.
- The financial support provided by the federal state to establish the SUM (Stadt-Umland). In the first few years, the state provided 60-70% of its operational budget.
- The influential role of the Lower Austria region in enhancing strategic planning process at a district level (a group of municipalities that develop a strategic plan) by setting up top-down requirements for limiting district borders. Such top-down measure may accelerate bottom-up initiatives (e.g. in the case of the Mödling district) and be an incentive for activating district-level cooperation in sharing common interests in response to plans of regional authorities.

The key impediments which need to be addressed in achieving an effective metropolitan spatial planning approach, include:

- Currently there is a general lack of impetus among local authorities in establishing collaboration at metropolitan scale. One of the reason for this is that the long-term benefits for such collaboration are not yet evident to all actors. Currently the socio-economic development of Vienna municipality and Lower Austria seem to be prosperous, showing generally positive GDP growth, employment rates and sufficient services provision etc. Meanwhile there are new challenges emerging at metropolitan scale such as population growth, which is not yet fully addressed in the planning agenda and is not translated into long term planning interventions by the municipalities. The fast growth is expected to rise both social and economic tensions related to population growth (incl. migrants coming to Vienna), increase the needs for public services, transportation, affordable housing, etc. In addition, environmental issues will as well become evident including intensification of land use, waste management and energy production etc. The challenge is in coordinating spatial development plans at a metropolitan scale, including both strategic and statutory plans. This is essential process for addressing long term developments and opportunities in establishing smarter and sustainable urban growth.
- Municipalities have a strong authority and jurisdictions in planning, granted by the Constitution. The number of municipalities that are established on a certain territory may be a decision of the regional governments. There are many political constraints related to the power relations and jurisdictions of municipalities that play a role in metropolitan spatial planning. While the regional authorities may see political advantage in having certain number of municipalities for them to decrease the number of municipalities) but their

authority cannot be reduced. And land-use planning on a detailed level is a local competence.

- There is a need for an effective coordination and communication process between the large number of smaller municipalities, Vienna municipality and Lower Austria region.
- Local decision-makers are predominately focused on local interest at settlement level. Meeting local interests is impetus for being re-elected by the local community. However, the externalities deriving from uncontrolled urban growth or the lack of growth, or large-scale investments in certain settlements have an impact at a larger territory. Currently there are limited mechanisms for sharing common interests between more than one municipal administrations about the impact of such developments. Some of those include tax sharing, public funds for compensation, and public funds for investments.
- There are number of differences between the Lower Austria and Vienna that can lead to different perceptions or conflicting interests about the future development of the metropolitan area. Most prominent differences are expressed in the spatial structure and the political orientations. The spatial structure of Lower Austria is mostly rural areas, with a small number of large or medium sized cities. The region had a right-wing political orientation while Vienna has always been influenced by left-wing politicians.

Figure 1.2 summarizes the key priorities and emergent problems of the metropolitan area.

*Figure 1.2: The SOEI Matrix for Vienna
(Strategic objectives, opportunities, emergent problems and incentives)*



Source: authors

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2 Profile of the metropolitan area of Zurich

2.1 Characteristics of the metropolitan area

2.1.1 Geography and demographics

The Zurich metropolitan area, with its 6072 km², is an urbanized area which, together with the Lucerne agglomeration (which does not belong to the statistically defined metropolitan area), consists of 3.03 million inhabitants and 563 municipalities spread across eight cantons (Zurich, Schaffhausen, Lucerne, Zug, Schwyz, Saint Gallen, Thurgau and Aargau). Around 1.3 million people and 60% of the jobs in the area are situated in the core agglomeration of Zurich (2013). The Zurich metropolitan area is often referred to as the 'European motor' in many aspects such as economic performance, innovation, international traffic and the financing sector of banks and insurances.

The canton of Zurich has a leading role in the area, with the city of Zurich. There are about 415,000 people living in the city of Zurich (2016), making it Switzerland's largest city. The canton's population grew by over 200,000 between 2005 and 2015. At the same time, the average age of the population is increasing, and lifestyles and communal living structures are becoming more flexible and diverse. Mobility requirements are also growing due to greater distances between home and work, and the weakening links people have with their places of residence.

2.1.2 Socio-economic development

The metropolitan area of Zurich has an impressive economic potential. By far the most important sector in the economy of Zurich is the service industry, which employs nearly four-fifths of workers. Other important industries include light industry, machine and textile industries and tourism.

The city of Zurich is a leading global city and among the world's largest financial centres, despite having a relatively small population. The city is home to many financial institutions. The big Swiss banks and insurances have their headquarters in Zurich and there are numerous foreign banks in the metropolitan area of Zurich. Located in Zurich, the Swiss Stock Exchange was established in 1877 and is nowadays the fourth most prominent stock exchange in the world. In addition, Zurich is the world's largest gold trading centre. Most of Switzerland's research and development centres are concentrated in Zurich. Ten of the country's 50 largest companies have their head offices in Zurich.

The metropolitan area of Zurich benefits from the high level of investment in education that is typical for Switzerland in general and provides skilled labour at all levels. The city is home to two major universities, namely the University of Zurich and the Swiss Federal Institute of Technology Zurich, thus enabling access to graduates and high-tech research. Professional training incorporates a mix of practical work experience and academic study while, in general, emphasis is placed on obtaining a good level of general education and language ability. As a result, the city is home to many multilingual people, and employees generally demonstrate a high degree of motivation and a low level of absenteeism. Such characteristics are reflected in the high level of productivity the region enjoys and account for the opening of offices and research centres in the city by large corporations.

Public transport is popular in Zurich, and its inhabitants use public transport in large numbers. About 70% of the visitors to the city use the tram or bus, and about half of the journeys within the municipality take place on public transport. Within Zurich and throughout the canton of Zurich, the network of public transport has traffic density ratings among the highest worldwide.

The high quality of life there is an outstanding location factor and is strongly influenced by the wide variety of nearby environments. Zurich was for 7 years ranked as the city with the highest quality of life (Mercer-Ranking), now since about 5 years second after Vienna. The city of Zurich has extensive 'green lungs', including large forest areas (Adlisberg, Zürichberg, Käferberg, Höggerberg and Üetliberg) and major parks along the lakeshore (Zürichhorn and Enge), while

smaller parks dot the city. Larger contiguous agricultural lands are located near Zürich-Affoltern and Seebach.

The green areas and good public transport are factors that help explain the good living conditions in the area. The high quality of life has also been cited as a reason for economic growth in Zurich. The economic growth is expected to continue. According to the current demographic forecasts produced by the canton of Zurich statistics service, it is expected that the canton will have a population of 1.8 million by the year 2040. This corresponds to an increase of at least 300,000 inhabitants. For the City of Zurich, the expectation for 2030 is between 470'000 and 520'000 inhabitants (middle scenario: about 500'000 persons). If it is assumed that the number of employees will increase in tandem with the number of inhabitants, this will mean that the region will have approximately 120,000 additional employees in 2040 (Baudirektion Kanton Zürich 2016).

2.1.3 Strategic importance and history

The metropolitan area of Zurich is of critical significance to the Swiss national economy, The City of Zurich has been an important city in many historical periods, and was briefly the Federal capital (1839–40). The high immigration from the country districts to the town from the 1830s onwards created an industrial class which, though 'settled' in the town, did not possess the privileges of burghership, and consequently had no share in the municipal government. In 1860 the town schools, hitherto open to 'settlers' only on payment of high fees, were made accessible to all. Next, in 1875, ten years' residence conferred the right of burghership ipso facto. In 1893, the 12 outlying districts were incorporated into Zurich, including Aussersihl, the working class quarter on the left bank of the Sihl, and additional land was reclaimed from Lake Zürich. In 1934, the following districts were added; Witikon, Schwamendingen, Oerlikon (the richest and most industrialised of all the incorporated), Seebach, Affoltern-Zürich, Höngg, Altstetten and Albisrieden. Today, the city is divided into 12 districts (known as Kreis in German), numbered 1 to 12 each consisting of one to four neighbourhoods.

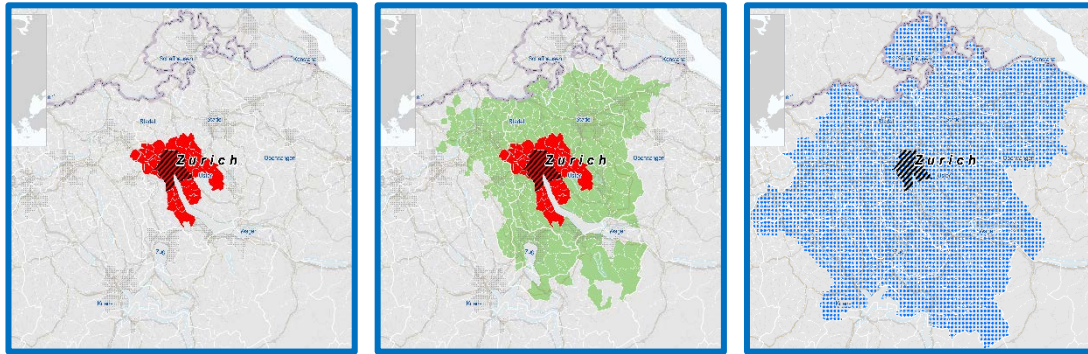
2.2 Spatial structure of the Zurich metropolitan area

2.2.1 Configuration of European FUAs & MUAs related to the MDA

The dimensions of the MDA and the FUA of Zurich are very different. The FUA of Zurich is a sub-selection of the Zurich MDA, which extends in all directions, overlapping with multiple other FUAs and MUAs defined at the European level. It crosses several cantonal borders as well. The city of Lucerne in the south-eastern part of the MDA, located at 50 km distant, is considered a (smaller) MUA on its own, and has also a separate FUA. The MDA spatial configuration is larger than the European defined FUA, which makes it possible to study the area in relation to different spatial issues in both scales FUA and MDA and to assess the relation between different urban trends. It can be classified as a classical polycentric urban area.

Map 2.1: Relation between FUAs, MUAs and the Metropolitan Development Area of Zurich

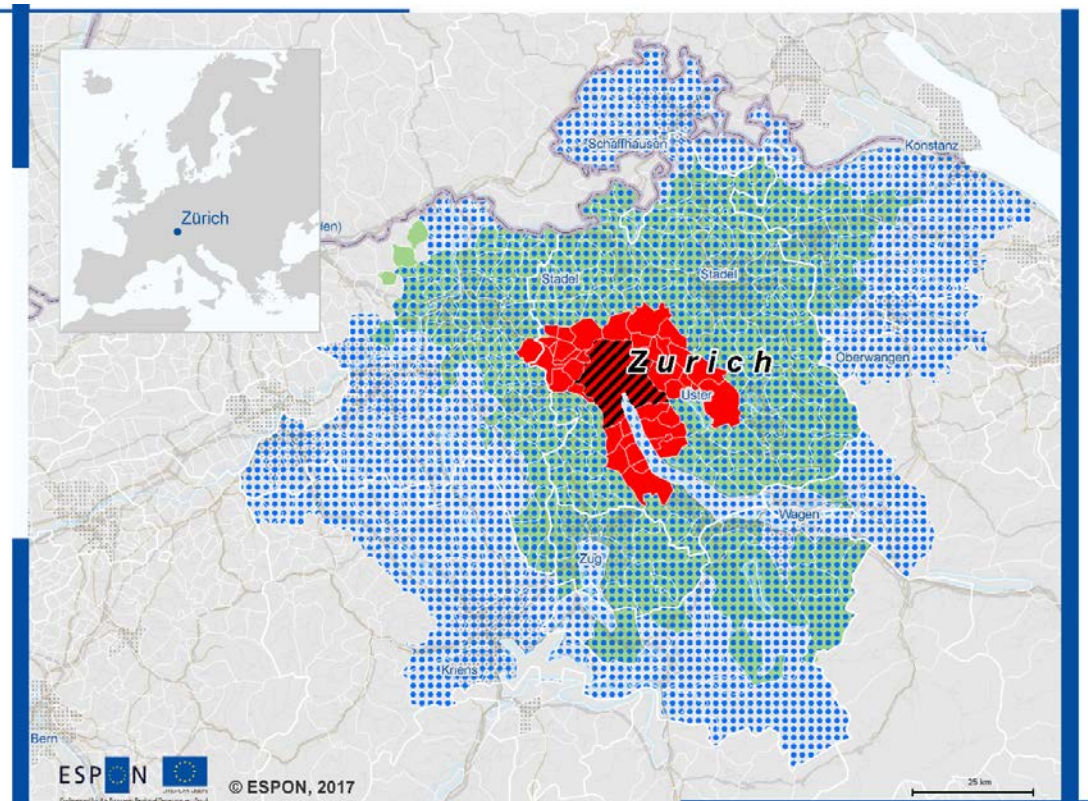
Delineation of MUA, FUA & MDA














A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



-  Core city municipality
-  MUA of the core city (ESPON 2013 Database)
-  Surrounding MUA's (ESPON 2013 Database)
-  Metropolitan Development Area (MDA)
-  FUA of the core city (ESPON 2013 Database)
-  National border
-  Railroad
-  Motorway
-  Primary road
-  Other road
-  rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

2.2.2 The formation of the MA

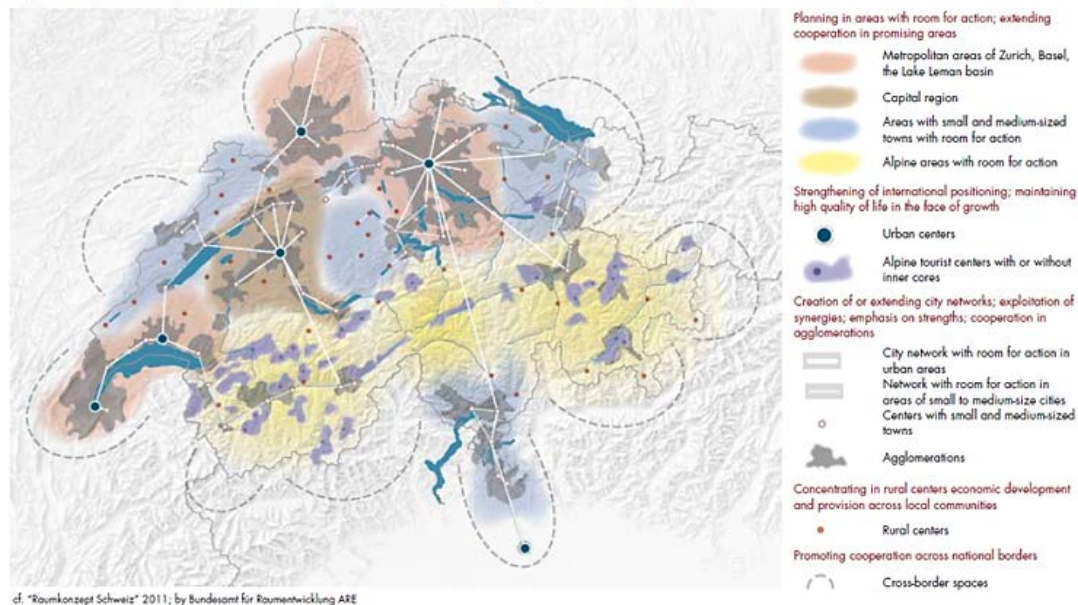
The idea of the metropolitan areas in Switzerland has emerged only during the last years. In the Swiss Spatial concept ("Raumkonzept Schweiz", 2011), three main metropolitan areas are identified, in addition to the "Capital region" of Bern (not big enough to fulfil the specifications of an MA). The metropolitan areas (MAs) are statistically defined, primarily based on commuting patterns and economic coherence. The metropolitan areas are illustrated in the map 2.2).

The metropolitan area of Zurich is statistically defined in the Swiss Spatial concept (2011). The formal status of the Metropolitan Area (established 2009) coincides with the later defined national development strategy (Swiss Spatial concept, Raumkonzept Schweiz of 2011). However, the idea emerged over decades, partly as an effect of the building of the S-bahn – connecting the City of Zurich to the surrounding agglomerations and Cantons. This also includes more rural areas between the different agglomerations. In less than 30 minutes of commuting from the core-metropolitan Area of the City of Zurich, there are about 1,9-2 mill inhabitants. This is now the most common understanding of the Metropolitan area of Zurich.

Map 2.2 MA Zurich as defined in the Swiss Spatial Concept

Switzerland's spatial concept (urban and rural planning)

Polycentric spatial development helps retain competitiveness while promoting cooperation and partnership.



Source: Bürg Nägeli Rechtsanwälte (2011)

The main objective of the spatial concept is to obtain for the first time a common concept of the future spatial development of Switzerland. A central concern is to promote thinking and planning in supra-regional action areas. The spatial concept also focuses on the polycentric network of metropolitan areas, cities, rural areas and tourist centres in order to further strengthen the competitiveness of Switzerland and to enhance the high quality of life.

The formal status of the Swiss Spatial Concept (2011) is primarily strategic. The spatial concept of Switzerland is designed as a guide and decision-making aid for all actors involved in spatial development from municipal to federal authorities. However, the Swiss Spatial Concept (2011) defines twelve areas for planning and action in supranational action areas: four large metropolitan areas (Zurich, Basel, Basin Lémanique and the Capital region), five small and medium-sized towns (Lucerne, Città Ticino, Jurabogen, Aareland, Nordostschweiz), and three alpine areas (Gotthard, southwest Switzerland and southeast Switzerland). The spatial concept of Switzerland outlines the twelve areas and their challenges and provides specific, strategic directions for spatial development. Today, there is also a debate about amending the Swiss Spatial Planning Act to introduce mandatory planning in 'functional areas' in line with the Swiss Spatial Concept.

2.3 Governance of spatial planning

2.3.1 Institutional framework of metropolitan planning

Switzerland is a conglomeration of states - small states. The federal level is not as strong as in other national states, but there are many federal instruments ensuring a certain – but relatively weak - level of standardisation in planning. The new article on spatial planning incorporated in the federal constitution in 1969 transferred responsibility for framework legislation on spatial planning to the federation (Muggli, 2012). The Spatial Planning Act (Raumplanungsgesetz) frames planning.

The planning system

The spatial planning process is embedded in a system of federal, cantonal and local (commune) levels, regulated by the federal constitution. It is a highly decentralized system of subsidiarity, where the cantons are the main planning authorities, making legally binding land-use plans. Spatial planning is also affected by other so-called functional spatial planning laws, such as the Law on Motorways, the Law on Railways, the Law on Nature and Habitat Conservation, and the Law on Environmental Protection (Muggli, 2012). The federation coordinates the spatial planning of the cantons through the above mentioned framework legislation and through the approval of cantonal structure plans. This ensures that cantonal spatial planning does not unlawfully hinder the federation from fulfilling its duties. The rule is that the federation sets framework of conditions and the cantonal realisation of spatial planning cannot contradict the federal frame. The planning tasks are divided as follows:

- The federal level: In 2012, the Federal Assembly passed a partial revision of the Spatial Planning Act (Raumplanungsgesetz, RPG; SR 700). The partial revision of the act was strongly approved in a national referendum on 3 March 2013: In the canton of Zurich the draft legislation was supported by over 71% of the electorate and 170 of the canton's 171 communes. It imposes strict requirements in relation to the designation of development zones and assigns a key role in this process to the cantonal structure plan. The federal level does not develop plans itself, but can develop principal guidelines. Among the available instruments is the Swiss Spatial Concept (Raumkonzept), which highlights the important role of the metropolitan areas.

- The cantonal level: The cantonal structure plan (Richtplan) is the main control instrument in the area of spatial planning at the cantonal level in Switzerland. It is the instrument at the cantonal level that is binding on the authorities for controlling long-term spatial development and guaranteeing the coordination of spatial activities across all policy and other areas (c.f. Art. 6 RPG; Baudirektion Kanton Zürich, 2016). The cantonal structure plan is intended to establish and ensure the spatial prerequisites for human development and the conservation of natural resources (Planning and Building Law, PBG). It is the canton's strategic management instrument for the coordination and control of long-term spatial development. The cantonal structure plan covers the whole area of the canton. The cantons have considerable autonomy, even if they are bound by the aims and principles and instruments of the federal law, when enacting their spatial planning regulations. Through authorisation by the federal authorities, the provisions of the cantonal structure plan are also binding on the neighbouring cantons and federal authorities. In other words: the cantonal structure plan ensures coordination with both federal sectoral plans and the structure plans of the neighbouring cantons. Due to the extended autonomy of the cantons, the spatial planning and building regulations of the cantons differ markedly from each other in the extent of regulation and how many tasks they have delegated to the communes (Muggli, 2012). Large cantons characterised by urban development have more extensive and complex legislation than small, rural cantons. The cantonal structure plan consists of a map, a text and an explanatory report. It is subdivided into the areas "spatial planning strategy", "built-up areas", "landscape", "transport", "supply", "disposal" and "public buildings and facilities" and forms a coherent entity. The text of the structure plan contains objectives (guiding provisions), map entries (directives relating to specific properties and structures, overviews, priorities) and measures (instructions for the canton, regions and communes). However, even if the structure plan is binding on the authorities, the map is first and foremost a process plan for coordinating and steering the following stages of spatial development (Nutzungsplan) (Muggli, 2012).

- The cantonal structure plans are constantly revised in line with developments, and must be revised at least every 10th year. The Canton of Zurich starts now another governance mode by installing a rolling revision of the structure plan, starting every second year a partly revision. Reality showed that only a full revision after 10 years is not to be handled any more. The transport systems at the national and cantonal levels have a decisive effect on land-use planning practice. Therefore, cantonal structure plans also have the more or less compulsory requirement that building zones be oriented towards the nodal points of national or regional transport networks.

In the land-use plans (Nutzungsplan) the cantons lay down binding provisions on how land may be used in practice. Many of the cantons delegate these tasks to the communes (the local level) because they have the required local knowledge for plot-related land-use planning. Landowners are usually involved in the financing of building land infrastructure provisions with contributions (causal taxes).

Another important task of the cantons is to issue building permits, which determines whether a project complies with the provisions of public law (especially spatial planning law).

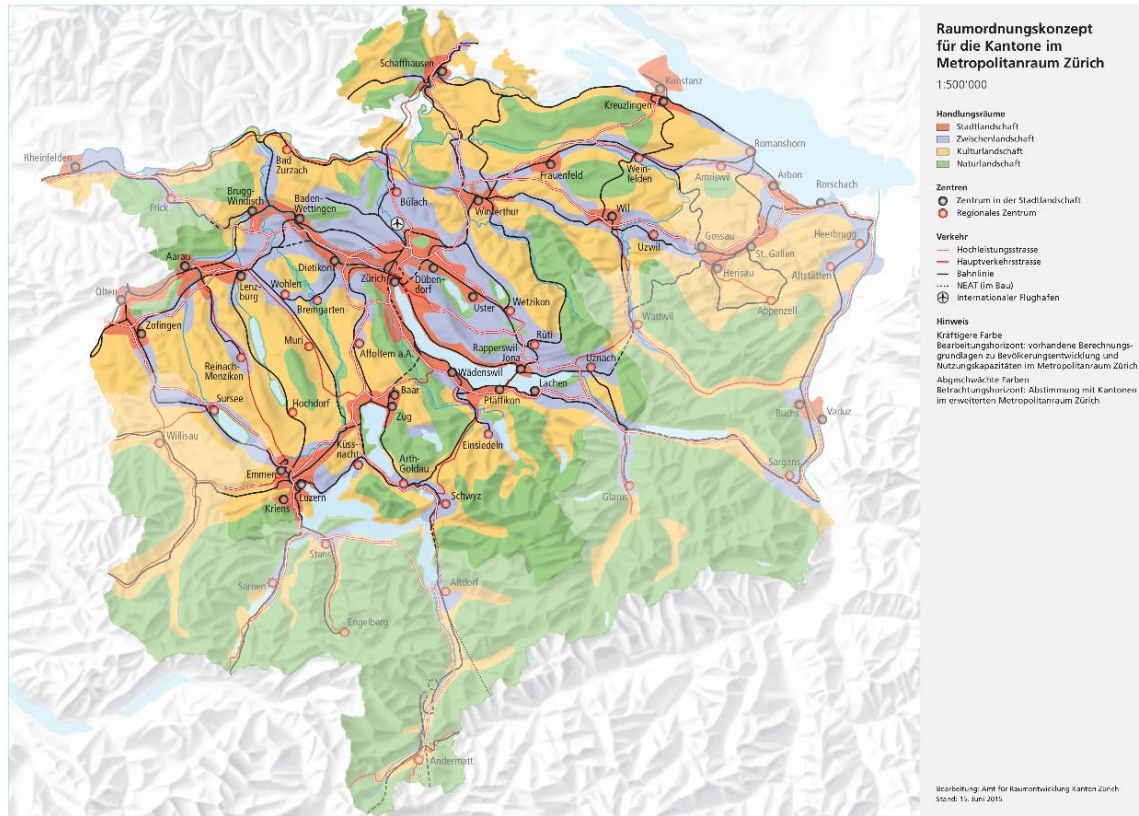
- The local level (communes): Most cantons have handed land-use planning binding on landowners over to the communes (Muggli, 2012). Since communes have considerable decision-making scope, they draw up overall concepts and structure plans for their area as the basis for land use planning and coordination. The federal law planning instruments are therefore accessible to all territorial authorities below the federation.

Strategic planning

The planning authorities of the member-cantons developed a joint strategic plan: "Raumordnungskonzept für die Kantone im Metropolitanraum Zürich (2015)" (METRO-ROK-ZH). The plan serves as the key document that guides the MA development.

METRO-ROK-ZH was inspired by the Metrobild-project of the Zurich Metropolitan Area Association. It is a strategic plan for all eight Cantons and all communes within it. Individual sub-areas in the Zurich metropolitan area form the core of the spatial planning strategy (*Raumordnungskonzept*, METRO-ROK-ZH). The strategic plan differentiates between four action spaces, which all present specific qualities and challenges, illustrated in this map:

Map 2.3 METRO-ROK



Source: Amt für Raumentwicklung Kanton Zürich (2015)

The four action spaces, indicated by different colours in the map, are the urban landscape, the transitional landscape, the cultural landscape and the natural landscape. As a principle, 80 percent of the future growth is to be attributed to the urban landscape as well as to the regional centres in the transitional landscape and the cultural landscape. The transitional and cultural landscape will account for the remaining 20 percent. These numbers, however, are target values. The different starting situations and potentials of the eight cantons must be considered. As a result, the distribution in the rural cantons can also be in the direction of 70/30 percent and in the urban cantons in the direction of 90/10 percent. However, the target values to be met for the metropolitan area are to be kept in mind. In the natural landscape, no quantitative growth is accepted.

The delineation of action spaces is largely based on the future appearance of the areas, i.e. the ratio of built-up area to open space. The selected areas represent key challenges and serve as basis for the debate about the future spatial development of the region.

The METRO-ROK-ZH is a strategic plan. Its aim is that it will be integrated in each of the cantonal structure plans in the eight cantons (see below). It is expected that the strategies and measures, particularly in the spheres of built-up area, landscape and transport, should be consistently oriented on the basis of this overall spatial perspective of the METRO-ROK-ZH.

Statutory planning

Planning within the canton of Zurich is regulated by the planning and building laws for the canton of Zurich (*Planungs- und Baugesetz Kanton Zürich*). Relevant background information is that, in 2012, the electorate of the canton of Zurich approved the cultural-land initiative by a majority of 54.5%. This popular initiative demands that agriculturally and ecologically valuable areas be afforded effective protection by the canton and be conserved in terms of their extent and quality. Through the outcome of the referendum, the Zurich electorate confirmed the view that the landscape must be protected against further urban sprawl.

However, there was a long political wrangling on the implementation of the vote. Finally, there was in November 2016 a very clear “No” (59 % No, yes lost 13.5 % from 54.5% in 2012 to 41%) against the implementation of the (already reduced) content of the initiative. The argument, that the initiative goes too far and gives no more possibilities for any changes, especially in the rural regions, was maybe deciding. But the Canton considered the key commonly shared points of the initiative, into the revision of the cantonal structure plan (Richtplan). This means the initiative is not fully, but at least partly implemented.

Based upon the joint metropolitan plan between the eight cantons (METRO-ROK-ZH), the canton of Zurich was the first to implement the main principles in its own cantonal structure plan, “The Cantonal Structure Plan in Zurich”, which was decided upon in December 2014 (in parallel with the work on the metropolitan plan).

- The Cantonal Structure Plan of Zurich (December 2014). The recent plebiscites on spatial development issues at the national and cantonal level clearly confirm the view that the expansion of built-up areas must be limited and infrastructure used efficiently, and these principles should be followed in the cantonal Structure Plan of Zurich. This means that the additional area required for living and working can mainly be generated through “inward settlement development”– and only in exceptional cases through the creation of new development zones (*Baudirektion Kanton Zürich*, 2016). The plan is to promote compact built-up areas. This will necessitate the greater consideration of suitable locations for densification and quality assurance measures in the future.

For the canton of Zurich, this is the third generation of structure plans. Key questions regarding future spatial development were discussed in the context of the general review of the cantonal structure plan over the period 2007 to 2014. The canton aims to achieve further improvements in the quality of life offered by settlement structures. The necessary inward development of built-up areas is based on this objective. Spatially differentiated density development is targeted with a view to facilitating the management of the forecast population growth. Not all areas are equally suited to densification. For each location, consideration must be given to the characteristics to be conserved and the places where new qualities should be created through higher density (*Baudirektion Kanton Zürich*, 2016):

- Strong increase in density: Areas with good access within the existing settlement structure play an important role in inward development. Inward settlement development has already started in the urban action spaces in particular. The focus of growth and hence also of densification is on these areas. Land-use density will be increased considerably in suitable locations within built-up areas, in particular in areas subject to conversion and in the case of larger replacement buildings (20% on average). Greater acceptance of densification may also be expected in these areas. Care should be taken here to ensure high-quality increase in land-use density with simultaneous growth in residential quality and the quality of life. Open spaces that contribute to a better local climate should also be developed on an equal footing and the transport services should be adapted to the new structures.
- Moderate increase in density: Certain areas that are mostly developed are suited to a moderate increase in land-use density (average 10–20%). In these areas, building development is based on existing settlement structures and must be carried out in a way that takes transport access and existing open spaces into account.
- Conservation of existing low density: Not all areas are suited to densification. Certain locations and neighbourhoods are characterised by high quality buildings which would be put at risk through densification. Land-use density should be conserved or slightly increased in these areas (0–10% on average) including through the use of internal reserves. Urban renewal conserves existing qualities and develops responses to new land-use requirements of residents and workers.

The City of Zurich, as well as all other cities and municipalities, is working with a land-use plan to operationalise the Cantonal structure plan. There will be in future partial revisions of the cantonal structure plan (Richtplan), what means that there will be a continuous and ongoing revision of the communal land-use plans. This change of the planning process is as well a fundamental change in the planning: from static 10-year revisions process to smaller scale regularly ongoing partial revisions of plans.

Collaborative planning

In the metropolitan area of Zurich, there is a long tradition of cooperation across cantonal borders. For 25 years they have cooperated in a "public transport association Zürcher Verkehrsverbund (ZVV) for the S-bahn (railway). They have the same system, the same tickets and the neighbouring cantons are contributing financially. Many of the actors interviewed point to this long tradition to explain the difference between the success of metropolitan cooperation in Zurich, and the experience of the metropolitan regions of Basel, Geneva and Lausanne, which are struggling to achieve metropolitan cooperation.

In order to strengthen the cooperation within the economic region of Zurich, the Metropolitan Conferences were introduced in 2007. Based on the initiative of the city and the canton of Zurich, the city of Winterthur and the Association of Mayors of the canton of Zurich, the objective of these conferences has grown to become closer cooperation between the cantons, cities and municipalities in the Zurich metropolitan area. On the occasion of the 5th Zurich Metropolitan Conference on 3 July 2009, the "Zurich Metropolitan Area Association" was founded. The founding members were the eight participating cantons as well as 65 cities and municipalities (communes) in these cantons. Today, around 120 cities and municipalities are part of the Association. The city of Zurich is represented in all important committees of the Association.

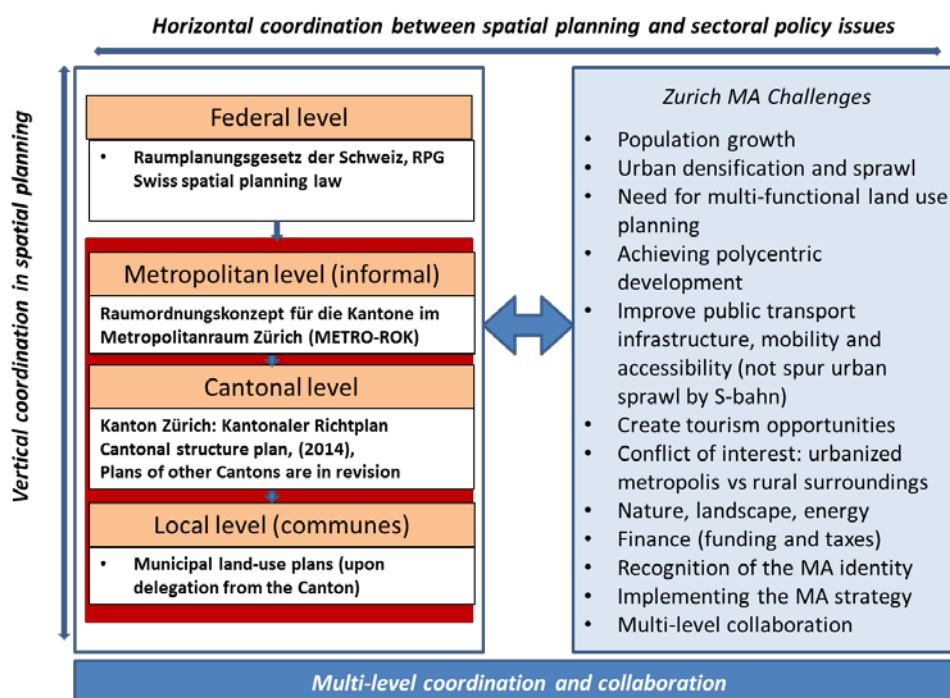
The planning authorities of the canton of Zurich have had the leading role in the collaborative processes in the Metropolitan Conferences. The reason for this leading role is explained by the canton having as the largest city (the metropolitan city of Zurich), and the most significant planning workforce (in terms of manpower and competence). The canton of Zurich took the responsibility for producing the documents and for funding the conferences.

The Zurich Metropolitan Area Association is organized in the following way:

- The most important element is the inclusion of the political leadership from the cantons and the cities/communes, in the "Kantonskammer" and "Städte-/Gemeindekammer" respectively. This makes it easier to ensure political commitment for important decisions.
- In the process of developing the METRO-ROK-ZH, the heads of planning of the cantons did most of the work, but twice during the process they organized a Metropolitan Conference to inform the politicians (once after one year, the second time when the product was finished, but before it was sent to the parliaments of the member Cantons).

Figure 2.1 synthesises the administrative levels of planning and the challenges for the metropolitan area of Zurich.

Figure 2.1 Interaction between governmental levels and challenges of MA development



Source: authors

2.4 Key spatial development challenges and incentives

In general, the metropolitan area of Zurich is experiencing considerable challenges posed by sustained population growth, demographic development and social change, the rising demand for convenience, the need for the upgrading of built-up areas and the guaranteeing of high quality of the built-up areas (Baudirektion Kanton Zürich, 2016). Compliance with the requirements of the spatial planning strategy, according to which 80% of the population growth should take place within urban action spaces, would mean a total increase of around 420,000 new inhabitants in the “urban landscape” and “transitional landscape” (in their centres) action spaces by 2040. An increase of around 60,000 inhabitants is expected outside these areas. In view of this expected growth, the question arises as to whether the action spaces can accommodate such growth without further measures (Baudirektion Kanton Zürich, 2016).

In addition, an intact landscape is becoming the key location factor. Not only larger connected landscape areas with a high value in terms of nature and the experience they offer, but also traditional agricultural landscapes are particularly attractive. Landscapes and open spaces in built-up areas and their environments are also gaining in significance. Thus, protecting larger connected landscape areas is challenging given the sustained population growth. The abovementioned challenges have spurred collaboration in a joint metropolitan strategic plan (METRO-ROK-ZH).

In the process of making the metropolitan strategic plan (METRO-ROK-ZH), another challenge was to convince the planners and political leaders in all cantons that improving public transport – for example out to small communes - also leads to urban sprawl. Then the aim of “inward development” can be harder to achieve. This represented a change in attitudes and perceptions that “more public transport is good”. Every little village, every little town, was connected by bus to the S-bahn system which led to growth of smaller villages. The strategic debates had to convince all relevant actors that the S-bahn was also a driver of suburbanization, and that it should not be extended to new areas. This process took several years until an agreement has been reached for the future investment in public transport that is more sustainable.

With the development of the METRO-ROK-ZH, another challenge is to ‘integrate’ the principles of the strategic plan into the cantonal structure (spatial) plans in all the eight cantons, as METRO-ROK-ZH is an informal strategic plan. The plan has no obligatory instruments for the spatial planning of the different authorities. In this process of operationalising the principles of METRO-ROK-ZH in cantonal structure plans, the challenge is to implement the objectives and the principles in concrete planning actions. The planning processes are usually taking long time, but changes to the partly revision-system (instead of comprehensive total revisions) seem to be able to shorten the process. Furthermore the planning is highly influenced by the local political fora, while there are only few control mechanisms and sanctions.

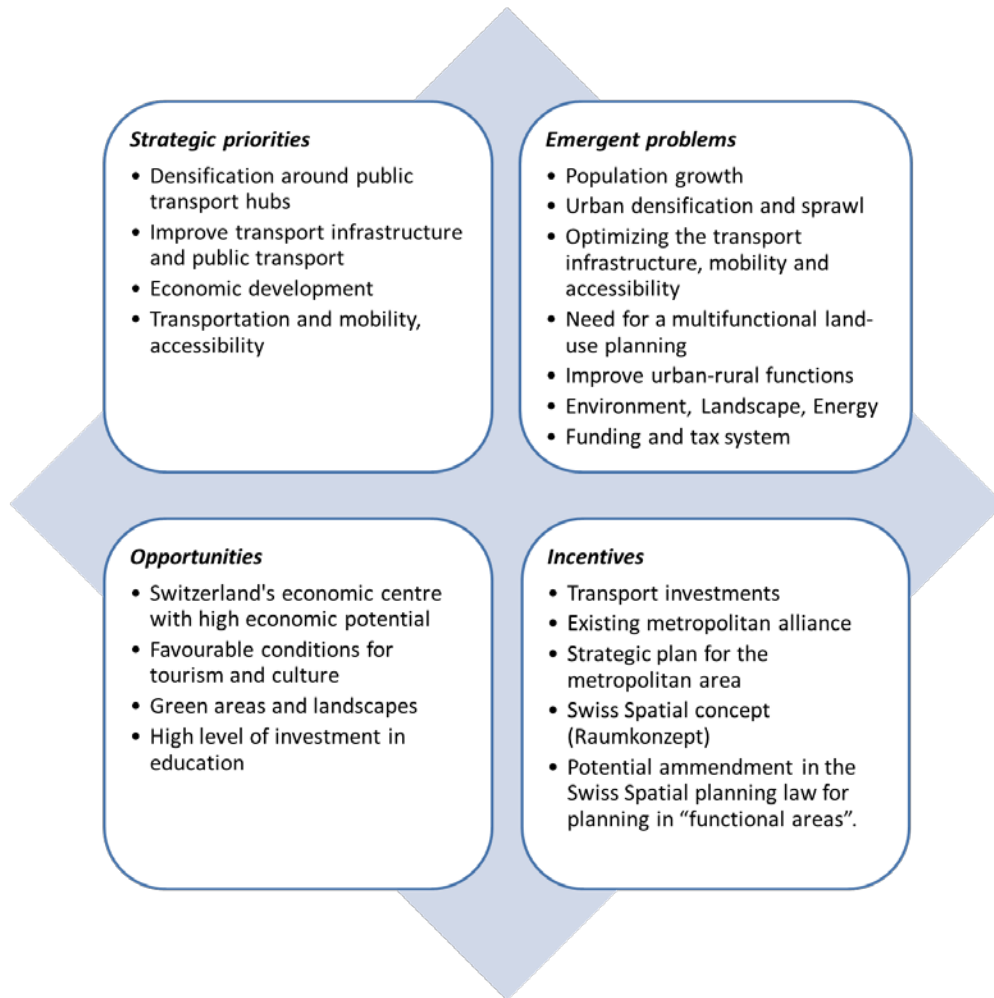
During the eight years after the establishment of the Zurich Metropolitan Area Association, the challenge is to maintain the strategic debates on the development of the metropolitan area, and on the integration of the METRO-ROK-ZH into cantonal structure plans.

Meanwhile, the tax system plays as well a crucial role for the metropolitan spatial development. The highly decentralized tax system is one of the main drivers of spatial development. The communes can set their own taxes to stimulate the businesses and inward investments. These are not always in accordance with the land-use and transport plans and planning strategies.

At the federal level, the second phase of the revision of the Spatial Planning Law has been initiated. There have been discussions about an approach of spatial planning by “functional areas”. Such an approach can be challenging for the planning authorities of the cantons. However, the new Swiss Spatial Concept (Raumkonzept) highlights the important role of the metropolitan areas as the national government aims at more coordinated planning of metropolitan areas.

When it comes to incentives, the actors who were interviewed mentioned funding for transport investments as one of them. Others are the stronger national political signals of the need for coordinated planning at the metropolitan level. This is found for example in the Swiss Spatial Concept, which highlights the important role of the metropolitan areas. Others are the abovementioned potential change of introducing planning in “functional areas” in the Swiss Spatial Planning Act. Figure 2.2 presents the SOEI matrix for Zurich.

Figure 2.2: The SOEI matrix for Zurich
(Strategic objectives, opportunities, emergent problems and incentives)



Source: authors

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3 Profile of the metropolitan area of Prague

3.1 Characteristics of the metropolitan area

3.1.1 Geography and demographics

The Metropolitan area of Prague is defined within the framework of the European Integrated Territorial Investment programme (ITI). The area stretches over 4983 km² (~5011 km² according to European data), which is ten times larger than the core urban area of Prague (496.1 km²).

The area covers 515 municipalities and is characterised by three parts: 1) Prague city, 2) the inner suburban ring with 315 settlements (530,000 inhabitants) and 3) the outer suburban area with 199 settlements (200,000 inhabitants). The inner and outer suburban area outside Prague covers a bit more than half of the population of the surrounding Central Bohemian region.

The population number of the metropolitan area of Prague based on the ITI delineation, was about 2.13 million inhabitants in 2015, with a density of 401 inh./km².

The variations in the population growth in the city of Prague had fluctuating trends since 1992 when the population counted of 1,200,000 inhabitants. In the beginning of the 2000s decade, the population in the core urban area decreased by almost 150,000 people due to suburbanization and migration from Prague to the neighbouring Central Bohemian region. This affected mostly young families with children and aging groups. After this decline, population growth increased again, reaching 1,250,000 inhabitants in 2010. In the last decade the annual population growth indicates a stagnating trend. The expected population growth scenarios indicate either stagnation or moderate population growth. International migration has increased of about 30,000 people in 2007, but its relevance has declined since then. Meanwhile suburban migration peaked between 2005 and 2008.

3.1.2 Socio-economic development

Prague has an outstanding GDP indicator (178% of the EU average in 2015), with a dominant tertiary sector accounting for over 80%. The GDP (per capita) is significantly lower in the Central Bohemian region (81% of the EU average in 2015); the region has more developed areas close to Prague and less developed ones further towards the regional borders. The unemployment rate was 3.2% in Prague in 2016 and 4.3% in the neighbouring Central Bohemian region – thus significantly less than the national average.

Prague is famous as a tourist destination, since the city centre has kept its medieval character and is surrounded by emblematic buildings from the 19th century.

According to IPR Praha (Prague Institute of Planning and Development), the intensity of housing construction is higher in the neighbouring Central Bohemian region than in Prague, and suburbanization could also contribute to further social segregation in the capital, which so far has been able to keep its residential mix thanks to the relatively high level of social assistance and the survival of rent regulation (until 2012).

3.1.3 Strategic importance and history

Prague was established in the 9th century. It became the capital of the Czech kingdom (with Vratislav II as the first Czech king in 1085), which remained subordinate to the Holy Roman Empire and the German king. The core of the city was built in the 13th century (Staré město, Malá Strana), while the 14th and 16th centuries are considered as the golden age of the city. As an example, Charles University was established in 1348 as the first university in Central Europe, while many famous scientists were attracted to Prague, such as the astronomers Tycho de Brahe and Johannes Kepler in the 16th century. The reign of the Habsburg dynasty began in 1526 and the seat of power moved to Vienna. Prague lost its importance during the Thirty Years' War. The four independent urban areas of Prague (Old Town, Malá Strana, Hradčany and New Town) were united by Joseph II in 1784. The importance of Prague increased in the industrial revolution and the population of Prague started to increase

significantly in the middle of the 19th century. When the Austro-Hungarian Empire fell in 1918, Prague became the capital of independent Czechoslovakia. It became the capital of the Czech Republic on 1 January 1993. The territory of Prague was enlarged several times, practically by internalising its metropolitan area in 1920, 1968 and 1974.

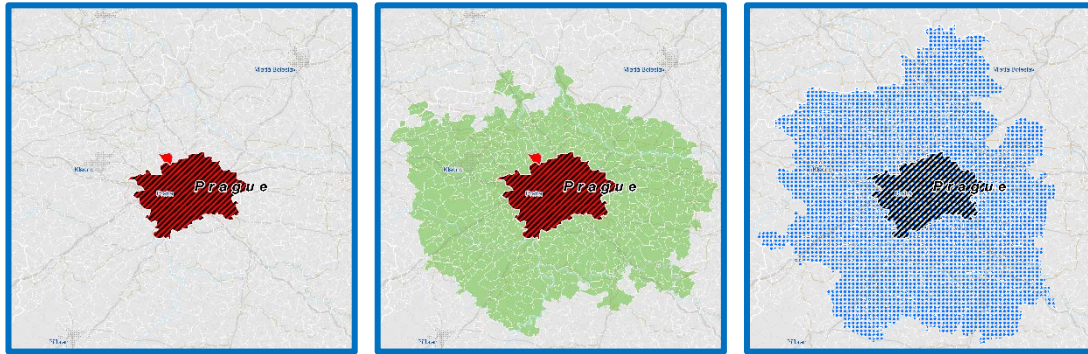
3.2 Spatial structure of Prague Metropolitan Area

3.2.1 Configuration of European FUAs & MUAs related to the MDA

The Prague MDA (as defined by the ITI) has a monocentric structure and includes the adjacent wider suburban territory (Map 3.1). It includes a second smaller MUA next to the one of the core city of Prague. The MDA is similar to the European FUA, with slightly larger territory in the north and the south parts (ESPON, 2013). It presents commuting patterns up to +/- 50 kilometres from the city centre of Prague. The number of municipalities being part of the FUA and the MDA is slightly different with more municipalities being part of the MDA only in the north and the south and more municipalities that are only part of the FUA in the East and the West parts.

Map 3.1 Relation between FUAs, MUAs and the Metropolitan Development Area of Prague

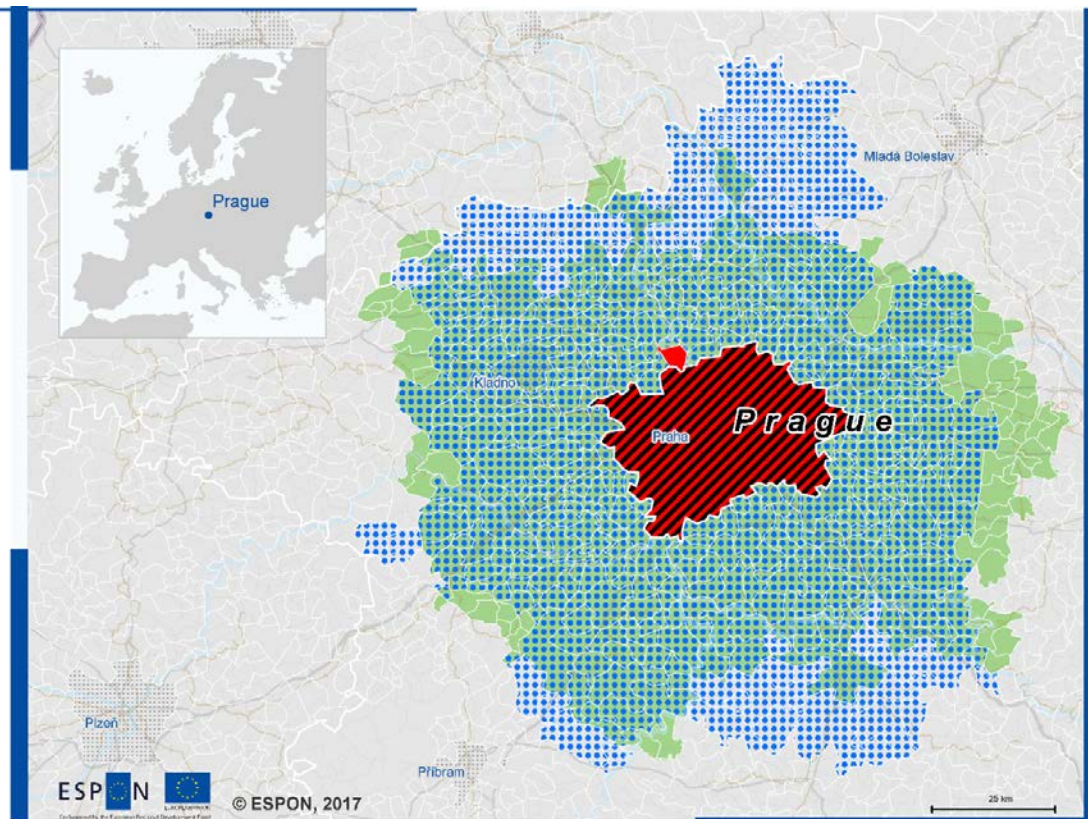
Delineation of MUA, FUA & MDA



A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Metropolitan Development Area (MDA)
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road
- rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

3.2.2 The formation of the MA

The delineation of the spatial scale of the metropolitan area has been more than once a subject of a debate, mainly for scientific purposes. The launch of the Integrated Territorial Investment (ITI) under the European Funding Programme served as the basis for a more elaborated and purposeful spatial definition of the area in a strategic and an operational perspective.

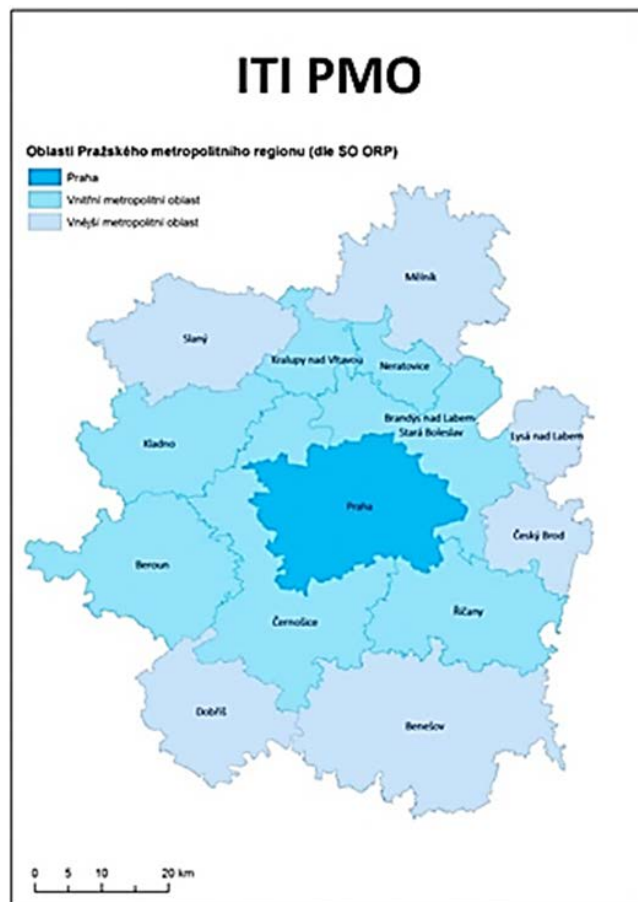
The ITI funding instrument part of the 2014-2020 European funding programme, provided opportunities for developing the Prague's framework for metropolitan collaboration. ITI is implemented differently in the different Member States, but the Czech Republic has chosen to use the instrument on a metropolitan level. A national proposal towards the seven largest metropolitan areas and six smaller urban areas in the country was elaborated by the ministry recommending the implementation of ITI-based initiatives on a voluntary basis. This national ITI framework provides a guideline on the development of the ITI programming documents, the operation of the managing authority and the secretariat, and on the calls for proposals. A part of the funding was estimated for each metropolitan area in combination with funding from different national operational programmes. The ITI programmes in the different selected metropolitan areas differ somewhat, regarding their scale and thematic orientation.

The Prague delineation of the ITI based metropolitan area is characterised by an inner ring and an outer ring covering in total 515, including Prague:

- the inner ring consists of 315 settlements
- the outer ring comprises 199 settlements

Both areas respect the borders of districts – even the real intervention area may be smaller than the district level covering only some municipalities from them, but from an administrative point of view district based delineation was applied.

Map 3.2 ITI target area including inner and outer rings



Source: IPR Prague

Although the metropolitan area has been defined more recently within the ITI, its functional developments are taking place for decades. One of the first metropolitan initiatives dates from 1993 when based on the emergent public transportation needs, an integrated transportation system (managed by ROPID - Regional Organiser of Integrated Public Transportation) has been established. The system covered Prague and a radius (commuting distance) of 30 km; however, it was gradually enlarged and currently in some directions it exceeds 60 km.

Officially the system covers Prague and about one third of Central Bohemia (about 1.8 million inhabitants). ROPID is an organization that coordinates tariffs (four zones in Prague and seven in the region), timetables, and the ticketing system. The public transportation system is funded by public actors (the state, Prague municipality, Central Bohemian region and the local municipalities), but ROPID is responsible for the organization of the services (managing the 17 operators) and the management of the payment transfers. If a settlement wants additional public transportation services ROPID is the organization that has to be approached – but the settlements have to co-finance any additional services. The integrated transportation system is currently under development aiming at its extension to Central Bohemia – beyond the metropolitan scale. A new organization is being established for Central Bohemia as Prague and Central Bohemia cannot have co-ownership of such semi-state financed organizations for legal reasons. The expectations are that the two companies will be able to establish a joint transportation company owned by the two regions that will allow better coordination.

The existence of ROPID was an influential factor in the preparation of the Sustainable Urban Mobility Plan (SUMP) for the area of Prague and the Central Bohemian region. The analytical phase of SUMP has just been completed, and expectedly it shall contribute to a more efficient utilization of the ITI funds for transportation.

3.3 Governance of spatial planning

3.3.1 Institutional framework of metropolitan planning

The planning system

The territorial self-government system of the Czech Republic is based on two tiers:

- Regions: as of 2000, there are 14 NUTS 3 regions with self-governing rights in the Czech Republic, and 8 NUTS 2 regions that only have a statistical role. The Central Bohemian region and Prague are NUTS 2 and NUTS 3 regions at the same time. The assemblies of NUTS 3 regions are directly elected based on the list of political parties. (The assembly of Prague municipality is also the assembly of the Prague region, and the mayor has a double role.) The regions have their own budget and deal with the issues of level 2-3 roads, regional public transportation, secondary education, healthcare and social welfare services, and they provide guidance to municipalities.
- Local municipalities, 6249 of which exist in the Czech Republic currently. All the municipalities execute their tasks that are rooted on their self-governing nature (e.g. primary education, housing, public transport, land-use planning, culture). Besides, there are municipalities among the 6249 that have additional tasks in executing competencies that were delegated by the state. There are two types of municipalities with additional delegated tasks:
 - Municipalities with extended rights - (obce s rozšířenou působností – ORP, ca. 200) Municipalities with extended powers perform state administration in the territory of other municipalities (e.g. police services and the issue of different licences and building permits), which belong to their administrative district. There are 13 such municipalities in the Prague metropolitan area.
 - Municipalities with authorized municipal office - (obce s pověřeným obecním úřadem – POU). A municipality with an authorised municipal office perform the state administration in delegated power. Its administrative district is smaller than the administrative district of a municipality with extended powers and always belongs to the administrative district of a municipality with extended authority.

In addition, bigger cities (local municipalities) like Prague or Brno have boroughs/districts, which are elected sub-divisions with limited authorities e.g. in provision of day care services, primary education and public space management. Prague has 57 boroughs, 22 of which have extra powers to provide state services to smaller boroughs.

The planning system is reflected in the administrative system, as each level has its own duties regarding strategic and land-use planning, and there is a strict hierarchical relation between them. However, although the lower-level plans have to be adjusted in line with the higher level ones, each level in the governance structure has its own room for manoeuvre by formulating their own plans strictly connected to their duties.

Strategic planning

Each level in the governance structure has created its own strategic plan.

- The Ministry for Regional Development provides methodological guidance and produces national-level documentation. It prepared the Czech Republic's spatial development policy. The ministry also coordinates the new instrument that was introduced in the 2014-2020 European budgetary period, namely the Integrated Territorial Investment tool.
- The 14 NUTS 3 regions also create their own regional strategic plans. The Central Bohemian region that surrounds Prague has developed the Development Programme of Central Bohemia 2014-2020. The strategy does not mention the metropolitan area of Prague as such; rather, it is based on the 12 districts that are located in the region. The strategy does have a very slight spatial dimension (mainly related to the technical infrastructure).
- Prague municipality elaborated its strategic development plan (Strategic Plan for Prague, 2008), a conceptual document with ambitious goals for the Prague Olympics that contained an action plan for the years 2008-2015 (although without any direct connection to the city budget). The next strategic plan, which will be in force up to 2030 – with stronger ties to the city budget – was accepted by the city assembly in November 2016. The new strategic plan has number of priorities (i.e. a thriving city with innovation in industry, civil society and public spaces; an authentic city that has cultural facilities towards the outskirts, ensures social cohesion in segregated neighbourhoods and a beautiful city with a compact development and efficient public transportation. The provisional strategic plan does not yet put any emphasis on connections with the suburban area; rather, it creates perspectives inside the city borders (except for some major infrastructure lines). The city boroughs, which may also have their own strategic plan - were consulted on the city-level strategy.
- Local municipalities in the Prague metropolitan area (515) prepare their own strategic plans as well.
- The ITI plan for the Prague metropolitan area (ITI Strategy for the Prague Metropolitan Area) is the strategic plan that was elaborated even though the metropolitan scale does not formally exist (as a governance level); however, it was created as an organizational framework in order to spend some of the EU funds in a spatially coordinated way. As was emphasized before, the ITI strategy cannot be considered as a metropolitan strategic plan as it can deal only with those issues that can be covered by EU funds both in Prague (a "more developed region" in EU cohesion terms) and Central Bohemia ("a less developed region" in EU cohesion terms). Consequently, the strategy concentrates on three topics: transport and mobility (transfer terminals, telematics, a road network to connect TEN-T and bicycle passes), the environment (flood protection) and the regional education system (in practice, kindergartens and nursery schools).

Statutory planning

The fragmentation across the national, regional and local levels can also be found in the case of land-use planning.

- At the state level, the Ministry for Regional Development coordinates spatial planning based on Act 183/2006 on Spatial Planning and Building Rules.

- The 14 NUTS 3 regions create their own regional land-use plans among them Central Bohemia around Prague. They are called 'Development Principles' (ZUR) and are prepared on a 1:100,000 scale. They define the space for major infrastructure development and areas for natural protection, thus are crucial to transportation, utility and environment issues.
- Prague has a special status, as it is a NUTS 3 region and the capital at the same time. Prague municipality elaborates the spatial and land-use plan for the capital at several scales: it prepares the ZUR as a region (2009, updated in 2014), it prepares the Prague land-use plan as a local municipality (2000), it has the right to prepare detailed land-use plans for certain neighbourhoods in Prague (none exists at present), and it also draws up the regulatory plans (only one currently exists for the historical part of the city). Prague is working on a new land-use plan in the last 4 years, called the Metropolitan Plan, with the intention of making it more flexible than the current one, but sufficiently rigorous to control urban expansion. The land-use plan intends to assist the use of brownfield areas in the city while not letting green-field areas to be further developed.
- Besides the binding land-use plans, the city produces non-binding, strategic analytical materials and studies. Boroughs in Prague (57) do not have land-use planning powers; this is delegated to the city level. However, settlements outside Prague (which may be even smaller than the Prague boroughs) do have land use planning powers.
- Local municipalities prepare their own land-use plan on a 1:10,000 scale, and can also elaborate detailed regulatory plans (1: 2,000, 1: 1,000) for specific neighbourhoods.

Lower level spatial plans must follow higher level spatial plans and this is reflected in their planning scale. However, strategic plans (called Development Plans by law) are more diverse and may diverge from higher status plans (e.g. the strategic plans of Prague's boroughs may not be in line with the strategic plan of the city, which might impede implementation of the upper level plans).

Besides land-use plans, there is a special genre of spatial planning, namely the 'territorial study', which can be initiated at the national, regional or local level. These studies can concentrate on certain territories (e.g. neighbourhoods), or certain topics (e.g. residential use). A study can be an in-depth analysis of the spatial character of a phenomenon and suggest spatial structures and steps to handle certain spatial conflicts. However, studies are not binding documents, so even if they are created, they cannot be enforced.

Metropolitan-level land-use planning is not addressed officially at the national level, although the Spatial Development Policy of the Czech Republic (2015) delineates the approximate borders of 12 metropolitan areas in the country, among which is the Prague metropolitan area. It also lists the spatial planning tasks that should be implemented at the regional level and the national level in order to coordinate metropolitan level spatial processes. In practice, the regions must define their development (metropolitan) areas at the settlement level, based on the guidance of the national Spatial Development Policy (it was already implemented in these areas). In addition, development tasks should be addressed in the regional- and local-level plans, while the national level together with Prague municipality and the Central Bohemian region should work on studies concerning the interconnected public infrastructure and the effects of urban sprawl. Some studies on power lines and main roads influencing Prague and the region have been carried out accordingly. A new study on the suburbanisation processes around Prague is just under elaboration.

There is no direct land-use planning activity and consequently no land-use plan at the metropolitan level; rather, the spatial/land-use plans of Prague city, the neighbouring settlements and Central Bohemian region are more or less coordinated. This is in spite of the fact that, as the study by Milan Turba points out, the Prague/regional border is artificial, as many city boroughs inside Prague (that joined the city in 1974) still have a rural character, closer to the suburban villages.

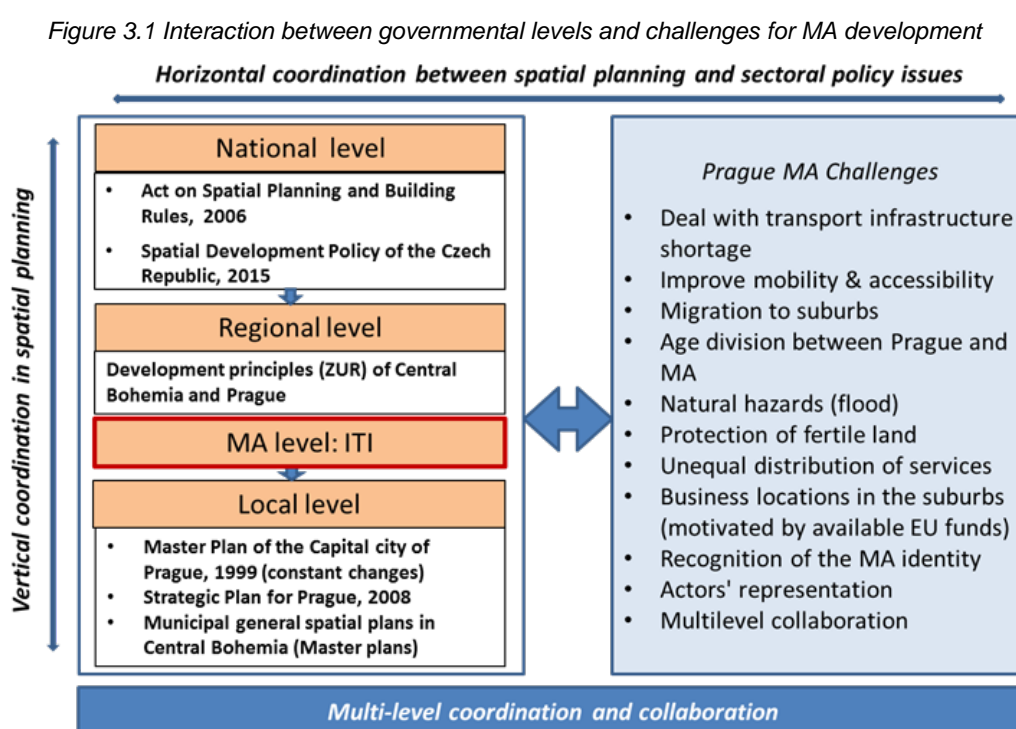
Collaborative planning

Formal agreements between the two regions (Prague and Central Bohemia) have existed for many years, but they have not produced significant results.

Integrated Territorial Investment seems to be the first attempt that may produce tangible results and coordinated projects. Prague ITI (with funding of €145 million) has an additional feature that stems from the fact that Prague is a “more developed region”, while Central Bohemia is a “less developed” one according to EU Cohesion Policy, which means that about 85% of the ITI funds must be used outside of the capital, and the number of the ITI topics are limited. The managing authority of the ITI, and the secretariat are located at the Prague Institute of Planning and Development (IPR). The working group that participated in the preparation of the ITI and takes part in preparing the calls for proposals and the evaluation processes consists of representatives of both Prague and the region.

Occasional cooperation in spatial planning between municipalities can also be found around Prague. For instance, some of the outer boroughs of Prague (with the approval of Prague municipality) and a suburban settlement recently agreed on a spatial plan for the creation of a park alongside the river bank.

The figure 3.1 shows the relation between the different levels of planning and the key challenges of Prague MA.



Source: authors

3.4 Key spatial development challenges and incentives

As spatial development is regulated to some extent at the regional level (Prague and Central Bohemia) and mostly at the local level (municipalities), there is yet a systematic approach for exploring potential opportunities in the entire area and in coordinating all spatial planning activities at metropolitan level. This results to rather uncontrolled sub-urbanization and sprawl.

- Suburbanization peaked in the mid-2000s, but urban sprawl is still continuing at a slower pace. The current land use plan for Prague supports the compact development of the city (about 10% of the city’s area was labelled as “built up” in 2012), paying close attention to keeping certain areas intact and not allowing further development there. Brownfield areas inside the city are theoretically more easily available for development, however the ownership structure, contamination and the fact that the land is already built up may result in high construction costs, not mentioning the fact that most of these sites are still under construction ban according to the current lands-use regulations. This is reinforcing the high real estate price gap between Prague and the suburban areas (as a housing developer

emphasized, the price for the same real estate can be two to three times higher in Prague than in the suburbs), and makes the related legal procedures significantly longer in Prague than in suburban areas, which in turn reinforces suburbanization. On the other hand, the suburbanization process has slowed down somewhat, partly because most decision-makers (and inhabitants) in the suburban settlements have started to oppose further growth as they become aware of the harmful effects on the municipal budget, the environment, and transport. The transport infrastructure (railway lines, roads and P+R facilities) have not kept up with the increasing traffic, which impedes the improvement of services (more busses are stuck in traffic jams). Other public services are also under pressure, as the capacity of schools, cultural institutions and sport facilities has not kept pace with the population growth in the suburban areas. This also contributes to increasing commuting needs and also to the unbalanced finance of services: Prague provides basic services to people who do not live and pay tax there.

- Most families moving to suburban areas would like to live in a family house, which is coupled with the usual policy of suburban settlements of setting a minimum size for buildable plots (600-1,000 m²). This way, land use is quite expensive and poorer households are crowded out and forced into the more remote parts of the metropolitan area, where access to the city is more limited. Some studies point out that the age gap is also likely to grow as young families are moving to the suburbs while the proportion of old people is increasing sharply inside Prague (the capital has the highest age index in the country, in contrast with Central Bohemia, which has the lowest).
- Prague and its surroundings are interconnected in several ways and these interconnections are not covered properly in spatial planning. For example, Prague is planning to introduce serious parking bans in the coming years that will make commuting more expensive and may lead to unregulated P+R spots outside the city borders. On the other hand, Prague is unable to manage flood protection inside its boundaries, and this needs a coordinated approach. The same approach is needed in waste management as Prague itself does not have sufficient space for this.
- The tax system does not provide the municipalities with any incentives for growth – part of the personal income tax is redistributed to the municipalities based on the number of permanent residents, and a very low real estate tax is also available to them. The revenue from these taxes, however, does not cover the costs of creating and maintaining additional public services. Business tax levied at the local level is also very low and based on the salary of employees, but this tax does not provide sufficient incentives either for additional businesses to settle in the suburbs. Consequently, growth is encouraged not by tax incentives but by other factors, like the demand for new family houses and the private interests of developers.
- The involvement of local citizens in the planning procedures is considered not sufficient. According to the law, citizens must be informed about spatial planning: the plans must be available at the municipality and public hearings must be organized. Nonetheless, most of the land-use plans and building permits for major infrastructure projects or public investments are attacked in court; therefore, it is not easy to create new plans or implement investments on time. This high rate of legal opposition shows that bottom-up disputes are not handled properly in the current planning system.

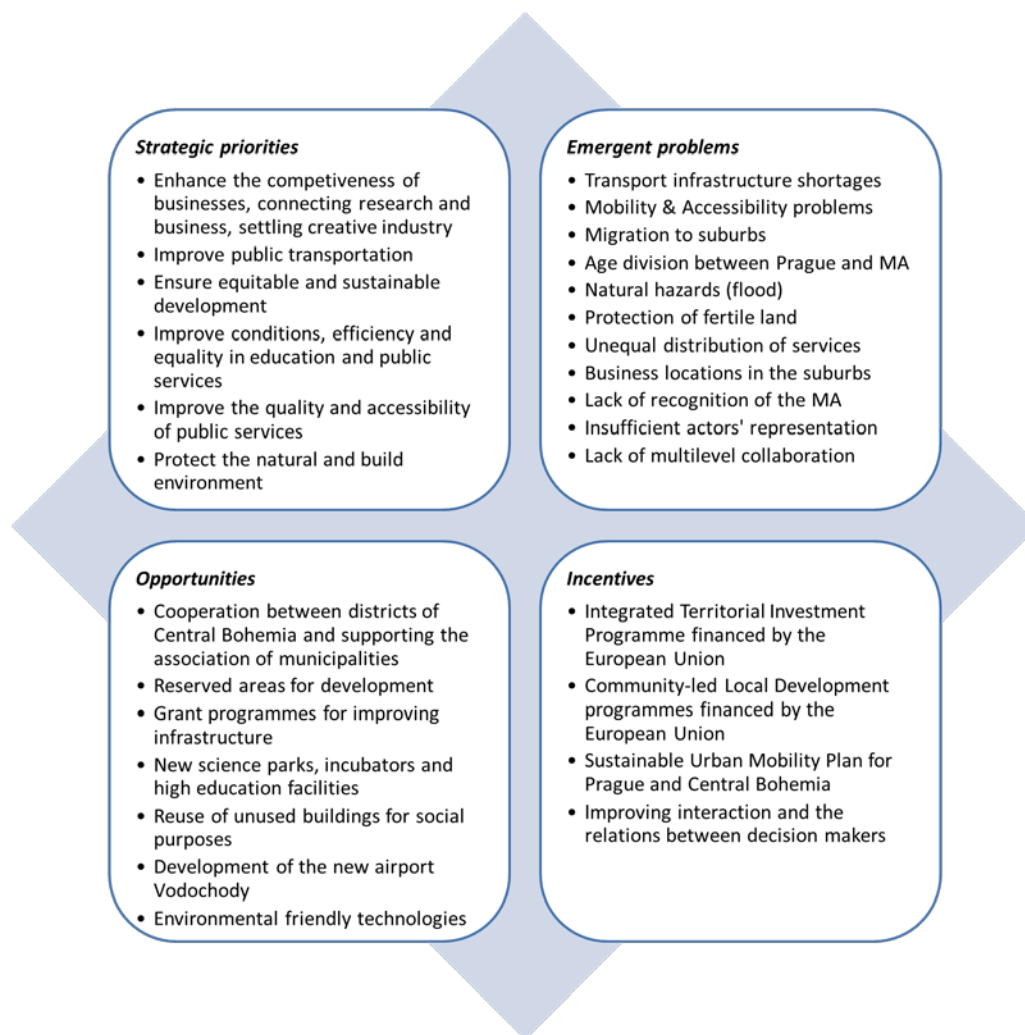
According to the opinion of the different actors interviewed by the SPIMA team, metropolitan-level spatial planning is impeded by the following key factors:

- The regional borders create a strong division between Prague and its agglomeration. The regions are relatively strong with relevant competencies, but they cannot effectively influence the land-use planning of local municipalities. (Before 2006, prior to the new Construction Law, there was a regional plan defining the maximum growth of individual municipalities.)
- The Czech Republic has a decentralized local government system with over 6000 municipalities (in a country of 10 million inhabitants). These municipalities can decide on the development of their settlements, including land-use planning. There are neither effective incentives (except for the EU funds) nor any kind of obligation for cooperation between individual municipalities.

- The large number of small municipalities limits the human and financial capital that can be used at the local level. Municipalities may not be able to think on a regional scale and consider the externalities of their decisions. These small municipalities can hardly act as equal partners to entities such as Prague municipality or the Central Bohemian region.
- The interests of inhabitants and municipalities close to Prague's borders are different to those located further away, on the borders of the Central Bohemian region. The region has difficulties balancing these interests.
- Interviewees frequently mentioned personal conflicts, political tensions and misunderstandings between the decision-makers of Prague and those of the Central Bohemian region in the past as a barrier to cooperation.
- Prague and the Central Bohemian region are in different categories regarding EU cohesion policy, thus despite the ITI Prague can only obtain very limited funds, which also limits the financing of interconnected projects. (This could change after 2020 as the Central Bohemian region is developing quite intensively.) The different categorization of the two regions also results in different levels of state aid, which encourages bigger businesses or science centres to settle just outside Prague's borders.

Figure 3.2 illustrates the strategic issues, opportunities and incentives that emerged in analysing the challenges and possibilities in the Prague metropolitan area.

Figure 3.2: The SOEI Matrix for Prague
(Strategic objectives, opportunities, emergent problems and incentives)



Source: authors

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4 Profile of the metropolitan area of Brussels

4.1 Characteristics of the metropolitan area

4.1.1 Geography and demographics

The Brussels Metropolitan Area (BMA) is considered as the geographical area of 135 municipalities from which 19 Municipalities within the Brussels-Capital Region (BCR) and 116 municipalities located within 30 km around Brussels. The starting point for the delineation of this BMA has been the area of the transport infrastructure covered by the future Railway Express Network (Zone RER). The Zone RER covers 4332 km² and it stretches over the territories of Brussels Capital Region (BCR) and part of Flemish and Walloon Regions (the Walloon Brabant Province (WB), the Flemish Brabant Province (FB), the Oost-Vlaanderen Province, the Antwerpen Province and the Hainaut Province).

Currently 111 municipalities among which 94 of the Zone-RER and 17 outside the Zone RER are considered in the possible establishment of a formalized agreement for collaboration in metropolitan development (Communauté Métropolitaine de Bruxelles Metropolitan Community of Brussels). The total area covered by these 111 municipalities (19 from BCR and 92 from WB and FB) is shared by the three regions as follows: BCR of 161 km², forming the core, the WB province of 1091 km² on the south, and FB province of 2106 km², which forms the rest of its peripheral ring.

The population size of the Brussels MA by 2016, (based on the Zone RER) has been 3 370 298 inhabitants with population density of about 778 inhabitants per km². Since 2006 the population growth has been estimated at up to 10% (BISA & Economy Statistics Belgium, 2016).

The Brussels MA is dominated by the development of the BCR which is the smallest of the three Belgian regions but serves as a key driver of the metropolitan development in the country. The population of the BCR is more than 10% of the Belgian population (BISA & Economy Statistics Belgium, 2016). The population has been 1 187 890 inhabitants in 2016 with 16% of growth during the last decade. The population density is 7361 inhabitants per km².

BCR is currently the fastest growing region of Belgium in terms of population. This growth results from natural increase, births exceeding deaths, and from international migration. The population growth is expected to continue. According to the last statistical prognosis the population of the BCR will grow with approximately 87 000 inhabitants between 2016 and 2025. It is expected that by 2025 the population of BCR will reach 1 274 751 inhabitants. This means that in the coming 9 years the population will grow with average of 9 651 inhabitants annually (Federal Plan Bureau, 2017).

Since 2000, there has been population growth in all parts of the Brussels metropolitan region. This growth has been particularly prominent in the municipalities' located in the North and the West of the Brussels Capital region. Inside Brussels, the growth is partially driven by the policy of the region to make the city centre more attractive for living. Initiatives such as '*Quartier Latin*', '*Wonen in Brussel*' and the transformation of former industrial buildings into housing have all contributed to the accommodation of more people. The growth in the inner circle is a mixture of increasing densification in the poorer parts of the city, transformation of old structures and the building of new premises on the few remaining plots of waste land. In the outer circle of outer city municipalities, population growth is very uneven with stagnation of the population in the wealthy south-eastern municipalities and strong growth elsewhere.

4.1.2 Socio-economic development

The socio-economic development in the Brussels metropolitan area is highly influenced by the labour-market. According to EURES data (European Job Mobility Portal, 2016) in 2015 the territory of the Brussels-Capital Region provided jobs for 701 932 employees, making the Belgian capital the main area of employment in the country. A large proportion of these jobs are not held by people from Brussels: in 2015, the region had a total 701 932 jobs: 340 729

(48.5 %) of these were occupied by commuters (219 076 from Flanders and 121 653 from Wallonia). That is a decrease on the 2014 figures. Conversely, 16 % of people from Brussels work outside the city (68 869 in all, with 46 809 (68%) working in Flanders and 22 060 (32 %) in Wallonia).

The services sector is clearly the strongest sector in employment in the Brussels region. For example, 90.5 % of employment in 2015 was in the tertiary sector, versus 74.3 % in Flanders and 77.9 % in Wallonia. The employment structure in Brussels is dominated by public administration (14.1 %), healthcare and social welfare (10.3%), business (8.7 %), finance and insurance (8.6 %), and education (8.0 %). These five sectors account for 49.8 % of paid employment in Brussels, including the self-employed workers. In addition, the presence of international institutions, particularly the European institutions brings with it a large number of enterprises that support these institutions. It is estimated that the impact on employment of such international institutions in Brussels accounts for 121 000 jobs (81 000 direct jobs and 40 000 indirect jobs), or 16.7 % of total employment in the region (Dotti, 2015).

The jobs for which high levels of qualifications are required (university-level or higher education) are overrepresented in the following tertiary sectors: financial intermediaries, real estate, business services, public administration, education, healthcare, social welfare and international organisations.

Like many large city centres, the BCR may be one of the wealthiest in Europe (in terms of GDP) but it continues to suffer from a high level of unemployment. In 2016, the registered unemployment rate was 17.8 %, whereas it was 10.2 % for Belgium as a whole.

It should be noted, however, that the rate for young people under the age of 25 has been falling for 44 consecutive months, reaching 26.5 % at the end of January 2017 (compared with 33.9 % in January 2013).

The overall registered unemployment rate has been falling for 27 months in a row, reaching 17.5 % at the end of January 2017 (compared with 20.7 % in January 2013).

4.1.3 Strategic importance and history

Brussels has multiple statuses as the national capital, as a European capital, and as an international diplomatic centre, but it is also important because of its economic history and the geography of transport.

The history of Brussels is intrinsically linked to the history of Belgium, not at least because of the fact that the growth of the city was closely associated with the rapid industrialization of Belgium in the 19th century. Brussels was the first industrial city of the country in terms of the number of workplaces in the secondary sector up to the second half of the 20th century (Jacobs, 2004). Above all, as the political, administrative and financial centre of the country, the city was able to concentrate a considerable amount of wealth, clearly visible in the housing stock even today. During this rapid ascent of the city, the dominant language spoken in Brussels shifted from Dutch to French. Ever since, the linguistic relations in the region have been at the centre of the political turmoil associated with the gradual transformation of the unitary state into a federal state.

The role of Brussels as the capital of the European institutions has an impact on the development of the Brussels population and on the structure and development of the city. A period of intense growth and transformation started in the 1950s with the preparation of the 1958 world expo followed by the decision of the European Economic Community to locate several key European institutions in Brussels. The presence of the European institutions was particularly important in reshaping the current European Quarter. In the first few decades, the presence of the European institutions drew an important but still rather limited number of European civil servants to live in Brussels and did not prevent the downward trend in population. The expansion of the EU, with regard to both the political and administrative areas covered and the number of member states, changed this situation profoundly. Today the EU presence has a significant economic and demographic impact. The EU institutions (the Commission, the Parliament, the Council, the Committee of the Regions and other EU-related organizations) employ about 40,000 persons (Corijn et al., 2009).

Brussels is a very important diplomatic centre in the world with 159 embassies and about 2500 diplomats. In addition to the EU, it hosts more than 120 other international intergovernmental organizations and more than 1000 international non-governmental organizations. Even though the jobs are partially filled by Belgians, a large number of expats and their families are living in Brussels and the surrounding municipalities. Some of them only stay for a short period of time and only integrate in the small circles of the expat community, but others have become long-time residents and some have decided to remain in the country after retirement. According to the European Commission, about 65% of European civil servants live in the Brussels region. The importance of the EU and the international community for the city is also underpinned by the presence of no fewer than thirty international schools (Corijn et.al., 2009).

4.2 Spatial structure of Brussels metropolitan area

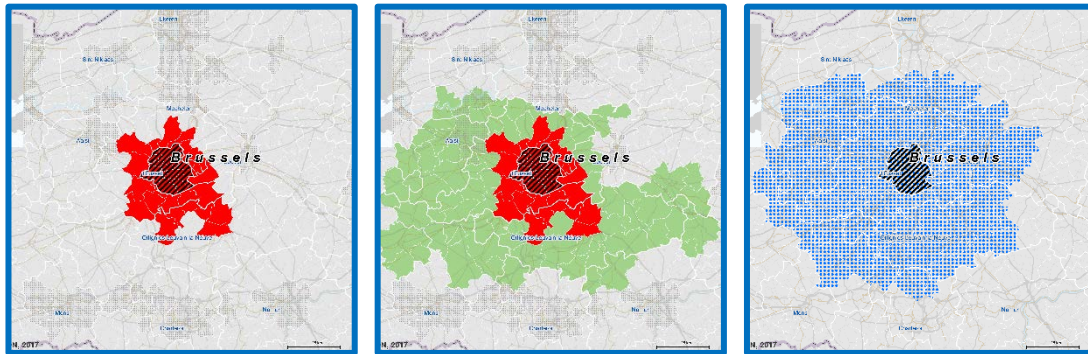
4.2.1 Configuration of European FUAs & MUAs related to the MDA

The delineation of the MDA of Brussels metropolitan area is based on the Zone RER (Map 4.1). It covers 135 municipalities across the three federal regions. The MDA is in its larger part overlapping with the delineation of the European FUA (ESPON, 2013). FUA is larger in the south-east Wallonia region and partly in South-West, while the MDA is outside the FUA in the North and partly in the South. It's notable that the MUA of Leuven (University City), located within 20 kilometre of the Brussels MUA in North-Eastern direction, is as well part of the MDA, however it is outside the FUA. Although the MDA and the FUA can be considered as monocentric they embed a number of additional MUA's next to the one of Brussels. This makes the spatial configuration at a higher spatial resolution rather polycentric than monocentric.

Generally, the MDA strongly reflects on the accessibility infrastructure in and around Brussels rather than on the European FUA.

Map 4.1: Relation between the FUAs, MUAs and the Metropolitan Development Area of Brussels

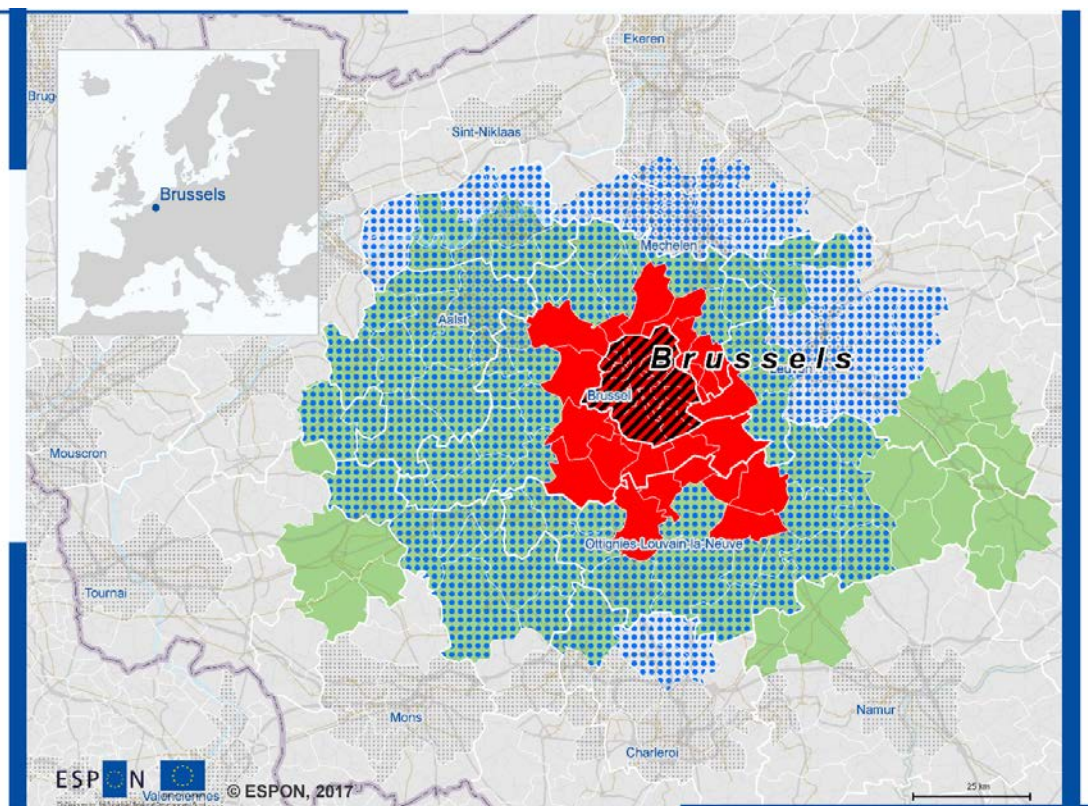
Delineation of MUA, FUA & MDA



A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Metropolitan Development Area (MDA)
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road
- rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

The high density of the Belgian population combined with a very liberal system of land acquisition, a low proportion of social housing and an absence of coordinated spatial planning over a long period of time led to sporadic urban sprawl in the country. Because of the lack of a coherent spatial planning policy in Flanders before 1996 and the increasing spread of new

individual mobility opportunities after World War II, rising household incomes fuelled urban sprawl even in the absence of population growth in Brussels. Within the BCR suburbanization was largely confined to the current 19 municipalities with expanding the morphological urbanization over an increasingly large area. This expansion process was led by the migration flows towards Brussels which have progressively been accompanied by emigration to the surrounding municipalities. These factors together with a physical environment without barriers, except for the Sonian Forest in the south east, led to residential sprawl far behind the borders of the region. Therefore, a very high proportion of the countryside is used for residential functions. In 1997, the Flemish region developed the spatial structural plan of Flanders (*Ruimtelijk Structuurplan Vlaanderen*) with a clear policy on land allocation for residential, industrial, agricultural or recreational purposes, but its impact on the existing land use is rather limited. One of the main negative aspects of urban sprawl is the higher per capita use of land and the high cost of energy for mobility. Hence, strong criticism against sprawl started early, but it was not until the 1990s that Belgian authorities started to develop policies to limit urban sprawl and to promote living in the city centres.

Analysing the demographic, social and economic fabric of BCR makes clear that the Brussels urbanized area now stretches far beyond the current administrative borders which determines the need for clear delineation of the Metropolitan area that will be most optimal and functional in addressing the current urban growth patterns such as the Zone RER area and the area for Metropolitan collaboration process.

4.2.2 The formation of the MA

The Brussels MA is not a formally instituted area. Several concepts have been considered with regard to the delineation of the Brussels MA. The few scenarios considered distinguish between Brussels Metropolitan Area, Brussels Metropolitan Region and Brussels Metropolitan Community. The basic concept for defining the spatial scale of the metropolitan area territory refers to the Brussels-Capital Region and the Railway Express Network (Zone RER) covering a 30 km ring around Brussels. The area consists of 135 municipalities, including 19 municipalities in Brussels-Capital Region and 116 municipalities located in a radius of 30 km around Brussels.

Next to the Zone RER delineation the most recently considered model for the Brussels MA has been the area of 111 municipalities (19 municipalities in Brussels-Capital Region and 92 municipalities located in the FB province and the WB province). 94 of these municipalities are part of the Zone RER. The latter model is currently used as a reference for the development of a formal collaborative agreement between the three regions to coordinate metropolitan development.

In the framework of the 6th reform of the Federal State, a special regulation was approved on 12 July 2012 which formalizes the establishment of a metropolitan community of Brussels. The provisions of this regulation entail a collaboration process between the three regions in the establishment of a Metropolitan Community of Brussels (*Communauté Métropolitaine de Bruxelles*). This collaboration should be based on an agreement between the regions. The implementation of the collaboration is currently under discussion between the three Regions. A consensus still needs to be achieved with regard to the thematic areas, the status, the obligations and the organization of the collaboration. The first proposal for the outline of this agreement was made by the Brussels-Capital Region in 2015, but this has not yet led to a consensus between the three regions. For the Brussels Regional government, signing this cooperation agreement is a priority in addressing a number of issues, including the economy, employment, mobility, environment, road safety etc. The key issue for this agreement is to address trans-regional issues of urban development between the three regions. In 2008, the Brussels Capital Region participated in the URBACT project *Joining Forces*, led by Lille Metropole to exchange experiences with other metropolitan areas on topics such as strategic and spatial planning mobility, and the environment.

4.3 Governance of spatial planning

4.3.1 Institutional framework of metropolitan planning

Belgium is a federal state composed of communities and regions. Decision-making power is not centralized; it is shared between the federal state, the three communities and the three regions. Communities are political entities based on language: the Flemish Community, the French Community and the German Community. Belgium is divided into three regions: the Flemish Region, the Brussels Capital Region, and the Walloon Region. The power to make decisions is shared between the federal state, the communities and the regions, which act on an equal footing, but are distinguished by their spheres of competence.

The planning system

For a while, the Belgium system of land settlement was based on a national land use planning law (1962) that affected the whole country. Since 1988, the law has become a regional responsibility based on the decentralization of the national planning system. Currently the federal state has no explicit power over the spatial planning system. Spatial planning takes place at regional level; however, the basic principles of the 1962 Spatial Organization and Town Planning Act still apply. There is no national Belgium planning system; rather there are three independent planning systems. Each of the regions has authorities in areas that affect the occupation of the 'land' in the broad sense of the term. The regions exercise their authority over spatial planning issues like economic development, employment, agriculture, water policy, housing, energy, public works and transport (except for the railways), the environment, rural revitalization and nature conservation. They are also responsible for scientific research and international relations in the above-mentioned areas.

The decentralized planning system introduced the development of regional, sub-regional and municipal territorial plans. There is a hierarchy between those plans: a national plan (which was never created), regional plans, sub-regional plans and municipal plans. The three regions are currently responsible for their autonomous planning systems.

The Flemish Region uses a three-level system: region, province and municipality. Key priorities are sustainable development, concentrated urban development and conservation of open space.

The Walloon Region uses a two-level, regional and municipal system. They created codes, structural plans and allocation plans in order to foster rural development and decentralize responsibilities for planning and achieve the four goals, namely:

- Manage urban sprawl
- Foster socio-economic development and territorial attractiveness
- Improve living environment
- Ensure mobility

The Brussels Capital Region works uses a two-level, regional and municipal system. Two types of plans are developed: a strategic plan and a land allocation plan. The priorities of the region are preserving the multicultural character of the local community, fostering culture, and social equity and reconciling economic interests with a better quality of life in the core urban areas.

Strategic planning

The key planning instruments for realizing strategic spatial development of the BCR is the regional development plan. The current focus of the strategic planning of the BCR is on the elaboration of the new strategic plan 2020-2025 entitled *Plan for sustainable regional development of Brussels* (in French-PRDD & in Dutch-GPDO). This plan reviews the key trends in the socio-economic and spatial development of the region and formulates strategic priorities in its territorial development in a long term. The plan consists of thorough analysis of the socio-economic indicators of the regional development and presents the policy and the institutional measures needed to implement the ambitions of the region. The key development ambitions of the plan include:

- development of new housing areas and affordable housing;
- development of facilities in a user-friendly, sustainable and attractive environment;
- development of sectors and services for stimulating jobs, the economy and education;
- improving mobility as a sustainability factor for urban development.

The strategic plan of Brussels is the visionary ambition of the Brussels Capital Region that promotes a new philosophy in spatial planning practice, namely one that envisions development in a wider territorial perspective than merely a single administrative unit. The idea of the plan is that a new approach should be promoted in planning that is based on better coordination between competent authorities and efficiency in the planning process. This involves:

- identification of priorities in developments that are focused on the implementation of specific policy objectives in specific zones in a balanced way, e.g. ensuring that development of new neighbourhoods contributes to the overall urban sustainability;
- promoting a polycentric for development of the territory to guarantee in each neighbourhood the opportunity to develop urban nodes with sufficient provision of services, facilities and green spaces and to reduce the use of cars.

These ideas in the new strategic plan coincide with the ideas for metropolitan planning. The plan addresses the need for making agreements between the regional authority and the 19 municipalities in the fields of mobility and housing, and in the development of shared facilities etc. Furthermore, the plan emphasizes the challenges of the regionalization process and the importance of collaboration at the inter-regional level. The plan elaborates on the need for agreements in the formation of the Metropolitan Community between the provinces of Brussels, Walloon Brabant and Flemish Brabant and the municipalities willing to join this agreement. The plan highlights in particular the need for collaboration in the field of mobility that has long been on the policy agenda, e.g. a metropolitan metro and tram network, coordination of bus services, development of the train infrastructure and traffic congestion issues.

Statutory planning

The three Belgian regions delegate the responsibility for spatial planning to the regional governments or administrations, the provincial authorities and the municipal authorities. The planning system is based on framework control, which means that the plans at the lower levels (with more precise specifications) should not contradict the plans at higher levels. The communities have no influence on spatial planning as they are mainly responsible for education, cultural affairs, the use of languages and matters regarded as “personalizable” (e.g. health policy, child protection, social work and the reception of immigrants). The lower administrative rung is occupied by the provinces. They must act in compliance with the federal, community and regional authorities.

The three regions are named Flanders, Wallonia and Brussels Capital. The three regional levels are split into provincial and municipal levels as follows: Flanders or Flemish Region: 5 provinces (Antwerpen, Limburg, Oost-Vlaanderen, Vlams-Brabant, West-Vlaanderen) and 308 municipalities. Wallonia or Walloon Region: 5 provinces (Brabant Wallon, Hainaut, Namur, Liege, Luxembourg) and 262 municipalities.

The policies of the three regions are based on the 1962 Spatial Planning Act; however, since the 1980s they have been free to interpret the act in their own way. At the regional level, the two key types of plans are land allocation plans (*Bestemmingsplannen*) and implementation plans (*Uitvoeringsplannen*). These are legally binding land-use plans which can cover a region, a sub-region, a municipality or part of a municipality. Those that cover regions or sub-regions are prepared at the regional level. Before final adoption, there is a legal requirement that land-use plans must be put through the public inspection process.

The following statutory spatial plans are developed for the BCR:

- Regional land allocation plan (*Gewestelijk bestemmingsplan*), which dates from 2001 and forms the top in the hierarchy of statutory plans. It sets out the general land use of all the parts of the region. All the urban development permits have to fit within the regional land allocation plan. There are also regional spatial ordinances (*Gewestelijke*

Stedenbouwkundige verordeningen), providing guidance regarding accessibility, and safety of buildings.

- Municipal development plan (*Gemeentelijk ontwikkelingsplan*) stating the most desired development of the municipality with regard to economic, social, traffic and environmental aspects.
- Municipal land allocation plans (*Bestemmingsplannen*) or implementation plans (*Uitvoeringsplannen*), which cover municipalities or sub-municipalities and are prepared at the municipal level; however, they must be approved at the regional level.
- Sub-municipal: Specific land allocation plans (*bijzonder bestemmingsplan*), which set out the detailed land use of parts of municipalities.

In the Flemish region, the following statutory plans are used:

- Regional spatial structure plan and Regional spatial implementation plan
- Provincial structure plan and Provincial Implementation Plan
- Municipal structure plans and Municipal implementation plans

The Regional spatial structure plan sets out the most desired future development of the Flemish region. The Regional spatial implementation plans are being set up to implement and make concrete the Spatial Structure Plan. These implementation plans are legally binding. The Municipal implementation plans are being set up to implement and make concrete the Municipal structure plan. The Municipal implementation plan is legally binding. The Municipal structure plan and Municipal implementation plans have to correspond to the Regional structure plan, the Regional implementation plans, the Provincial structure plan and the Provincial implementation plan.

In the Walloon region, the statutory spatial planning is regulated by following statutory plans:

- Walloon regional structure plan, which holds the general management and development strategy for the Wallonia region as a whole.
- Regional urban ordinance, which holds rules and regulations on the regional urban development.
- Sub-regional plan, which is a zoning plan for parts of the Wallonia region.
- Municipal structure plan, which holds information on the orientation, management and program of the most desired development of the municipality as a whole.
- Municipal management plan is a zoning plan of the municipality.
- Municipal urban ordinance holds rules and regulations on the municipal urban development.
- Sub-Municipal: specific management plan for zoning of parts of the municipality.

Collaborative planning

Metropolitan cooperation in the Brussels area still needs to evolve based on the agreement for the establishment of the Metropolitan Community. Yet there are constraints on this process, such as the current political, cultural and institutional issues that have not yet been sorted out between the three regions. The subject only recently appeared on the agenda and there is not yet a voluntarist attitude on the part of institutional actors. There are particular tensions between Flanders and Brussels on sensitive subjects. Given the slowness and the reluctance to collaborate in the current politico-institutional arena, civil society and the public administrations can be of great help. The legitimacy and the mutual benefits of the Metropolitan Community have to be made explicit to political actors with the aid of project- based bottom-up initiatives.

Currently there is a new tool for development in the form of an interregional consultation body called the Forum on Territorial Development. This forum was created in 2012 by an inter-ministerial agreement. Its members are the ministers and civil servants of the three regions. The mission of the forum is:

- to identify territorial planning processes of interest for at least two regions;
- to facilitate concertation on new planning documents;
- to organize and facilitate the exchange of information on new planning processes;
- to finance common studies.

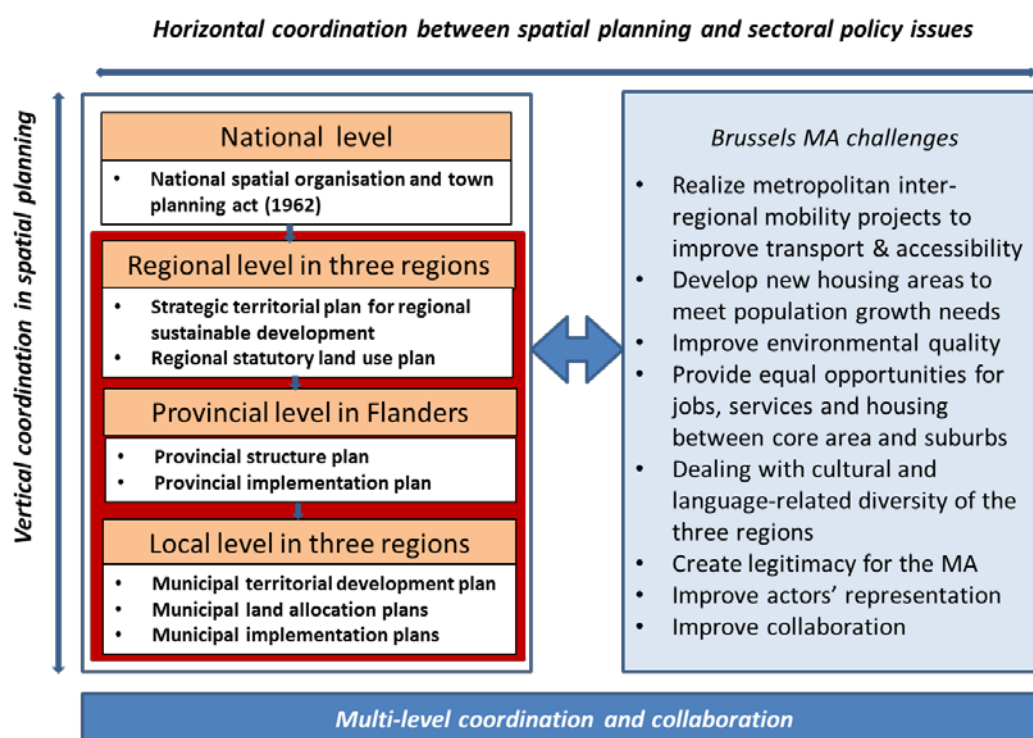
In addition, there are collaborative initiatives based on thematic areas related to metropolitan development, in which partnerships have been established. These include:

- employment: inter-regional union of mobility of workers
- transport: Railway Express Network
- the economy and business sector in the Brussels metropolis
- cross-regional spatial development: Noordrand project involving BCR and Flanders
- the Metropolitan Landscape Project

One initiative is by entrepreneurs of the Brussels Metropolitan Region who have joined forces, with the support of the Brussels Enterprises Commerce and Industry, *Union Wallonne des Entreprises*, *Vlaams Netwerk van Ondernemingen* and *Fédération des Entreprises de Belgique*, in the project called Business Route 2018 for Metropolitan Brussels. The business world has formed a community of interests that transcends regional and linguistic divides in order to demonstrate that political and institutional measures are not the only road to economic development in Brussels.

Figure 4.1 illustrates the levels of spatial planning governance, relevant for Brussels MA.

Figure 4.1: Interaction between governmental levels and challenges for MA development



Source: authors

4.4 Key spatial development challenges and incentives

The consensus on the fact that the socio-economic borders of Brussels exceed its institutional borders breaks down when it comes to management of its territory and resources. Different thematic area platforms present a broad range of solutions, all with the objective of coordinating public policies at the metropolitan level. Although the question of managing Greater Brussels is as old as Belgium itself, the need to ponder the development of Brussels in a metropolitan context currently stems, among other issues, from the additional cost combined with revenue lost due to the large number of workers in Brussels who do not live in the BCR. The need for discussions about the MA has also been prompted by dismal experiences with environmental nuisances (such as the Drogenbos incinerator, or flights over Brussels). In addition to coordination and harmonization, the responsibility for metropolitan development is as well a question of financial contribution in taxes by the majority of those using the public services. It would also optimise the services for public transport (e.g. of the National railway company-

SNCB) to ensure the connection between the capital and the other regions. This may also be the case for tourism activities in the regions.

The metropolitan development of Brussels needs still to be established in terms of a resolution of the current mistrust between entities working at the metropolitan level. Moreover, the relations between communes and regions need to be strengthened.

The current Brussels Capital Region authority is optimizing its capacity and resources to work at the scale of the metropolitan area. The current territorial development reviews as presented in the Regional strategic plan indicate that planners need to more than ever consider the economic links between Brussels and its hinterland and the metropolitan dimension of Brussels. However, the metropolitan character of the plan is still limited to its own territorial perspective. Yet it is not conceivable, given the political and institutional context, that Brussels should make recommendations on developments and actions to be carried out in Flanders and Wallonia. The key issue is finding the most acceptable scenario of shared governance for the inter-regional issues involving the three regions. The challenge is to reconcile the different interests and objectives of the regions in pursuing a shared vision for Brussels metropolis.

There should be a common agreement achieved between the three regions with regard to the extent of urban growth in each of the regional territories and what areas should be remaining with rural character or for conservation purposes. For example, there is a resistance to enhancing the urban character of the Flemish Brabant in Flanders. There are as well discussions about the Walloon's strategy of having Brussels as the capital of the Wallonia-Brussels Federation (the French-speaking community). In addition, local identity, including diversity in local cultures and languages (e.g. conservation of Francophonie in Brussels and in its periphery) are issues high on the negotiation agenda of the regions.

Possibly in line with Belgium's political tradition, metropolitan collaboration and its institutional arrangements will emerge gradually, particularly since participation in a cooperative structure requires existing entities to renounce a part of their powers, or at least the ability to fully exercise them. Furthermore, this implies one entity driving the process and being the first to concede its portion of autonomy, in the hope that the others will follow. It would undoubtedly be more efficient to implement flexible instruments and structures, enabling targeted concrete cooperation, rather than complex structures. A form of cross-border 'branding', a meeting place and space for dialogue, could be crucial to the dynamic economy of Brussels. The emergent challenges with regard to fostering MA planning approach include:

- Land-use planning and mobility: the development of the RER affected not only mobility but also socio-economic issues, including changes in the commuting patterns around Brussels, the allocation of jobs and businesses, increase in residential activities and the developments in the housing sector outside city of Brussels. In addition, an increase in migration patterns of people between the core city and the suburbs resulted to urban sprawl and intensification of the traffic within the BCR and between the BCR and across the cross-regional area of WB and FB
- Policy weakness and lack of commitment: politicians are reluctant to commit themselves frankly to these interregional planning processes
- Governance problems: the decisions concerning the implementation of the RER are taken at the federal level. However, the implementation of the RER services is as to be realized by the regional authorities and the municipalities across the federal regions.
- Building trust between regions, municipalities and municipal associations
- Sufficient knowledge of the local situation
- Shared vision and priorities in identifying different scenarios for MA developments;
- Distinguishing between the border areas and the central core areas;
- Joint studies and analysis (knowledge network for MA);
- Address the disparities with regard to the bilingual constraints and achieving a balance in a multicultural diversity of the local communities
- Keeping the organizational structure
- Development of concrete project initiatives that stimulate the building of trust and collaboration
- The coordination between the competent authorities needs to be enhanced
- Creating conditions for the exchange of information and knowledge between experts

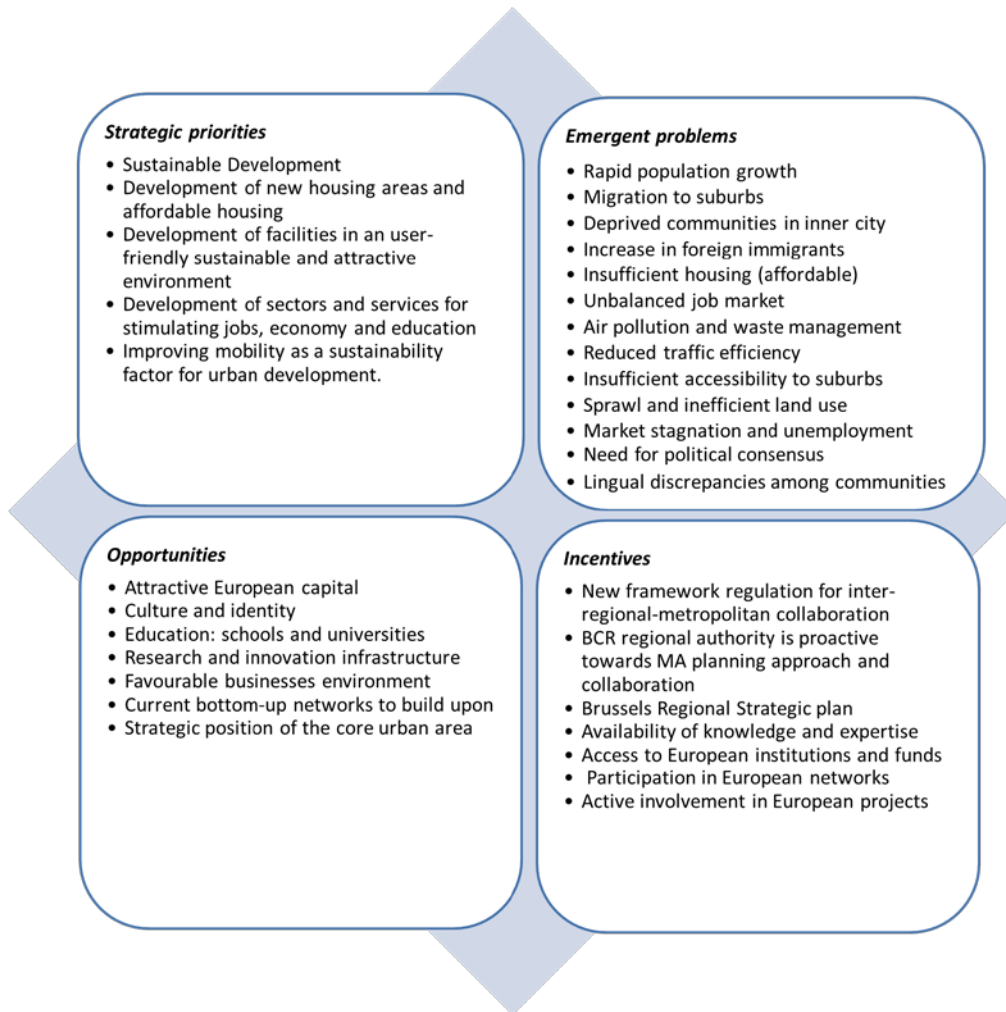
- Involvement of civil organizations and unions is needed to initiatives bottom-up collaboration initiatives and projects
- There is a socio-spatial mismatch between living in the Brussels metropolitan area and working there. This mismatch is obvious both in the relationship between Brussels and its hinterland and within the Capital Region itself. On the one hand, Brussels offers a wide range of highly skilled job opportunities, which are mostly occupied by inhabitants living in the hinterland. On the other hand, Brussels has a high proportion of low-skilled workers for whom there is a lack of appropriate jobs within the Capital Region, and particularly in the neighbourhoods where these groups live. Moreover, the region is confronted with a demographic boom necessitating an increasing supply of housing.

The key challenge of the Brussels local and regional authorities is to develop a shared vision towards achieving a balanced and sustainable development at the level of the proposed Brussels metropolitan area. The following six specific challenges have been identified:

- To facilitate the creation of jobs in the city, featuring a proportional mix of living and working opportunities, especially with regard to the most vulnerable groups in Brussels society
- To establish regional cross-border agreements and a collaboration process with regard to urbanization and the transport system: how can the urbanization of Brussels and its fringe be organized in such a way that economic activities become more accessible, while the urban agglomeration becomes less car dependent?
- To have an agreement on the political and administrative bodies responsible for MA collaboration
- To identify solutions to the mismatch between the perimeter of the metropolitan community and the real functional urban area
- To involve civil society
- To start with concrete projects to build up the MA's legitimacy.

Figure 4.2 illustrates the links between the current strategic priorities, emergent problems opportunities and incentives for the Brussels metropolitan area.

Figure 4.2 The SOEI Matrix for Brussels
(Strategic priorities, opportunities, emergent problems and incentives)



Source: authors

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5 Profile of the metropolitan area of Brno

5.1 Characteristics of the metropolitan area

5.1.1 Geography and demographics

The core urban area of Brno, the seat of South Moravian region, is located in the southern part of the Czech Republic, adjacent to the Austrian border, 120 km from Vienna and 200 km from Prague. The city has a population of 385,000 (2016), and the number of inhabitants has been stable in recent years.

Brno metropolitan area (BMA) was delineated in 2008 based on census data from 2001, but it was updated in 2014 within the framework of the Integrated Territorial Investment project (ITI). According to this latest update the metropolitan area had a population of 617.270 people in 2016 on a territory of 1755 km². The population of the metropolitan area has been increasing slightly. However, the population growth in the core city is stagnating, while the suburban population is slightly increasing.

According to the Integrated Development Strategy of Brno metropolitan area, it accommodates 52% of the inhabitants of South Moravian region. The area covers 167 municipalities, including Brno.

5.1.2 Socio-economic development

Brno and the surrounding area are considered as one of the innovation centres of Central Europe, accommodating progressive sectors of the economy and IT companies. Brno is also a university town with 77,000 students during the semesters (there are five public universities and several private colleges in the city). According to the interviewees, the future of these elements is endangered by unsatisfactory connections to Vienna and the TEN-T network (even though Brno has its own airport).

The South Moravian region has one of the highest per capita GDPs in the Czech Republic (at the NUTS 3 level) thanks to Brno and its metropolitan area. Brno has the highest per capita GDP in the country after Prague (about 1.5 times the national average). However, the unemployment rate in the South Moravian region (including Brno) has recently been higher than the national average (6.9% in March 2016) and among the worst four in the country. These numbers point to the specific labour structure of the region: the concentration of the labour force in highly productive segments of the economy.

5.1.3 Strategic importance and history

Brno is the second largest city in the Czech Republic. It has always had a strategic importance, dating back to the late Bronze Age. Brno was declared a town in 1243. Together with Olomouc it was a significant administrative centre for Moravia. The Margraviate of Moravia was ruled by different empires from 1182 to 1918, such as the Holy Roman Empire, the Hungarian kingdom, the Austrian Empire and the Austro-Hungarian Empire. In 1918, it became part of Czechoslovakia. In the 18th and 19th centuries the city was one of the most prosperous textiles centres of Central Europe (the Manchester of Austria). Its textile industry was rather well developed even after the Second World War, up until the fall of socialism. Brno Exhibition Centre (one of the biggest in Europe, opened in 1928) is also based on its strong industrial foundations.

Because of their location and because of the interaction with the neighbouring territories, Brno and Moravia have always had a significant German population. After the Second World War, and the re-establishment of the Czechoslovak state, most of the ethnic German population was expelled to Germany or Austria.

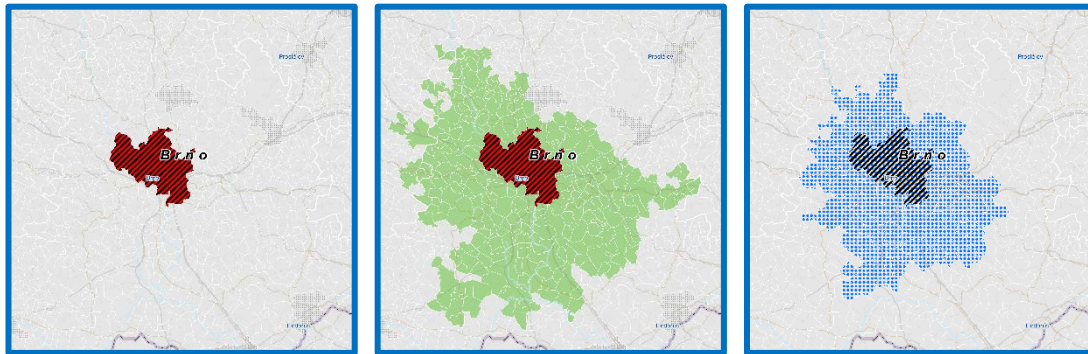
5.2 Spatial structure of Brno metropolitan area

5.2.1 Configuration of European FUAs & MUAs related to the MDA

The MDA of Brno (representing the ITI area) is rather similar to the European based FUA (ESPON, 2013). The relatively small FUA stretches beyond the MDA for approximately 5-10 km in the southwest and east parts (Map 5.1). The rather monocentric definition of the MDA and FUA, with only the MUA of Brno, shows the central regional position of Brno in Czech Republic. While the MDA is smaller than the FUA, the FUA does not stretch far enough to embed few urbanized parts in the north-east and the south east of Brno suburbs.

Map 5.1: Relation between FUAs, MUAs and the Metropolitan Development Area of Brno

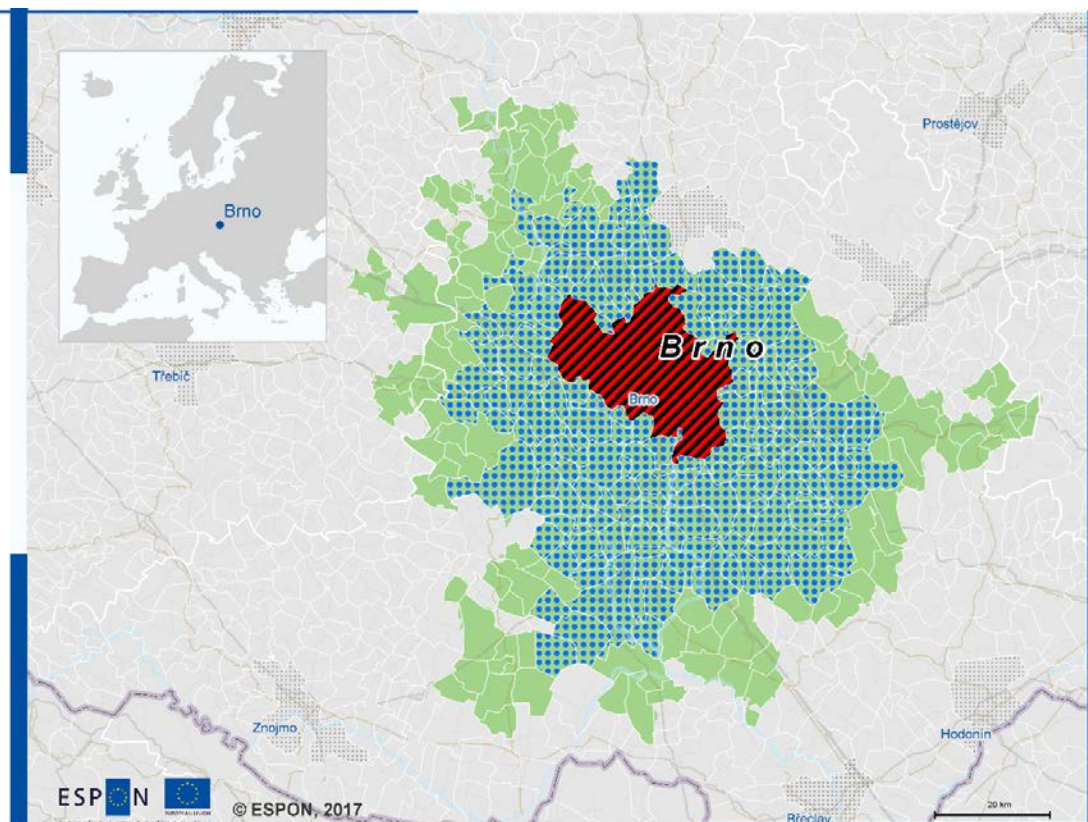
Delineation of MUA, FUA & MDA



A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Metropolitan Development Area (MDA)
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road
- rivers

Teritorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

5.2.2 The formation of the MA

The current definition of the spatial scope of the metropolitan area and the current planning activities and projects at the metropolitan level are part of the Integrated Territorial Investment initiative of Brno (ITI). The ITI is implemented differently in the different Member States, but the Czech Republic has chosen to use this funding instrument on a metropolitan level. A national programme was initiated for the seven largest metropolitan areas and six smaller urban areas in the country. The national framework provides a guideline on how to develop the ITI programming documents, how to set up the secretariat, and how to implement calls for proposals at the metropolitan level. Part of the funding is dedicated for each of the metropolitan area in combination with funding from the different national operational programmes. The ITI programmes vary between the selected metropolitan areas regarding their scale and thematic orientation.

The ITI-based metropolitan area was defined in 2014 as the Metropolitan Area of Brno. The delineation process applies a scientific approach, based on five categories of indicators (i.e. commuting to work, education, migration, transport accessibility for individual transport and public transportation). Based on statistical observations and modelling within these indicators, the Brno metropolitan area was defined as an area containing 167 municipalities, including Brno.

Map 5.2 Location of the Brno Metropolitan Area



Source: Brno municipality (2017)

Brno metropolitan area (BMA) is highly monocentric. Brno has nearly 400,000 residents, while the next municipality in size in the metropolitan area has slightly more than 10,000 inhabitants. The majority of the municipalities in the area have less than 1000 inhabitants.

Since 2004, the South Moravian region and Brno (i.e. a larger territory than the metropolitan area) have had an integrated transportation system. In addition, Brno has its own public transportation company. The integrated transportation system covers the whole region and the responsible body organizes the public transportation system (creates timetables, creates the tariff system, is responsible for the operation of P+R facilities, negotiates with the stakeholders about the services, and collects contributions from the stakeholders - i.e. local municipalities, the region and Brno).

In addition to the metropolitan area cooperation, individual municipalities are also entitled to create formal functional linkages. Based on the Act for Municipalities, the local municipalities may establish associations of municipalities. These associations are either based on a topic (e.g. coordination of primary education or coordination of road investments), or have a general nature (e.g. a coalition for opposing certain investments, like highway construction in a certain area). According to the Atlas of the South Moravian Region (March 2013), there were 56 such municipal associations in the region in 2012. Municipalities may take part in more than one association, which results in territorial overlaps. In addition, local municipalities can be part of

local action groups in order to implement a package of interventions in a community-led local development (CLLD) action, supported by the structural funds of the European Union.

5.3 Governance of spatial planning

5.3.1 Institutional framework of metropolitan planning

The planning system

The administrative governance system of the Czech Republic is based on three levels:

- Regions: as of 2000 there are 14 NUTS 3 regions with self-governing rights in the Czech Republic, and 8 NUTS 2 regions that only have a statistical role. The assemblies of NUTS 3 regions are directly elected based on the list of political parties. The regions have their own budget and deal with the issues of level 2-3 roads, regional public transportation, secondary education, healthcare and social welfare services, and they provide guidance to municipalities. South Moravian Region is a NUTS3 region, and together with the neighbouring Vysocina region they create the Southeast Czech NUTS 2 region (as an object of EU Cohesion Policy).
- Local municipalities, 6249 of which exist in the Czech Republic currently. All the municipalities execute their tasks that are rooted on their self-governing nature (e.g. primary education, housing, public transport, land-use planning, culture). Besides, there are municipalities among the 6249 that have additional tasks in executing competencies that were delegated by the state. There are two types of municipalities with additional delegated tasks:
 - Municipalities with extended rights - (obce s rozšířenou působností – ORP, ca. 200) Municipalities with extended powers perform state administration in the territory of other municipalities (e.g. police services and the issue of different licences and building permits), which belong to their administrative district. There are 7 such municipalities in the Brno metropolitan area.
 - Municipalities with authorized municipal office – (obce s pověřeným obecním úřadem – POU). A municipality with an authorised municipal office perform the state administration in delegated power. Its administrative district is smaller than the administrative district of a municipality with extended powers and always belongs to the administrative district of a municipality with extended authority.

In addition, larger cities (local municipalities) like Prague and Brno have boroughs/districts, which are elected sub-divisions with limited authorities, e.g. in primary education and public space management. Brno has 29 boroughs/city districts.

The planning system is reflected in the administrative system, as each level has its own duties regarding strategic and land-use planning, and there is a strict hierarchical relation between them. However, in spite of the fact that the lower level plans have to be adjusted in line with the higher level ones, each level in the governance structure has its own room for manoeuvre as they can formulate their own plans strictly connected to their duties.

Strategic planning

Strategic planning is also divided between these three levels, but in addition to these levels the metropolitan level (which officially does not have a permanent formal governance structure) can also be counted as a level for strategic planning.

At the state level, the Ministry for Regional Development provides methodological guidance and produces national-level documentation. It prepares the spatial development policy of the Czech Republic. The ministry also coordinates the new instrument that was introduced in the 2014-2020 European budgetary period, namely Integrated Territorial Investment.

The 14 NUTS 3 regions also create their own regional strategic plans. The Strategy of Development of the South Moravian region was drawn up in 2012, and is expected to be in force until 2020. The strategy emphasizes that one of the main goals of the region is to be part of the global economy (highlighting the fact that the region, with Brno as its capital, has Europe-wide ambitions). The strategy sets out four priorities: global competitiveness, high quality public services, infrastructure and transportation, and developing the disadvantaged parts of the region. The first three priorities are linked to the Brno agglomeration (alongside other parts of the region), while the fourth clearly concentrates on the outer parts of the region. The list of key projects (only public investments) in the strategy contains interventions both inside and outside the city of Brno, defining the roles of Brno municipality, the South Moravian region and the national government. From this perspective, the strategy can be regarded as a vehicle of metropolitan-level coordinated planning, even if its spatial scope exceeds the agglomeration area.

Brno also has a strategic plan (prepared in 2002, updated in 2007 and valid up to 2020). This strategic plan has reflections on the metropolitan area regarding the major infrastructure elements that are essential (or lacking) for the operation of the city, like the airport, which is the second largest in the country, and the incomplete city ring road, which is the most crucial topic in land-use planning in the region. The municipality of Brno recently began to elaborate a new strategic plan with a vision for the period up to 2050. The intention is for this new strategic plan to devote a separate chapter on metropolitan relations.

At the metropolitan level, Brno's ITI strategic plan was elaborated in 2015 as the Integrated Development Strategy for the Brno Metropolitan Area. It is important to consider that this Integrated Development Strategy only covers the topics that are strictly connected to EU structural funds (this was a requirement from the Ministry for Regional Development). Thus, this strategy cannot be considered as "the complete strategy of the metropolitan area", as it focuses on certain topics.

The key topics identified according to the Integrated Development Strategy of the Brno Metropolitan include: 1) transport: extension of tram and trolley lines, terminals with P+R sites cycling paths, regional road network and telematics; 2) environment: waste management systems, drought/flood management systems and reduction of the air pollution load; 3) social cohesion: social housing, community and drop-in centres, infrastructure of social services; 4) competitiveness: supporting creative industries/centres and quality of lifelong learning facilities.

Statutory planning

The fragmentation across national, regional and local levels can also be found in land-use planning.

- At the state level, the Ministry for Regional Development coordinates land-use planning based on Act 183/2006 on Spatial Planning and Building Rules.
- The 14 NUTS 3 regions create their own regional land-use plans. They are called 'Development Principles' (ZUR) and are prepared on a 1:100,000 scale. They define the space for major infrastructure development and areas for natural protection, and thus are crucial to transportation, utility and environment issues.
- Local municipalities (each smaller or bigger settlement in the region) prepare their own land use plans on a 1:10,000 scale, and can also elaborate detailed regulatory plans (1:2,000, 1:1,000) for specific neighbourhoods. Brno as a local municipality prepared its master plan in 1994, but has not managed to create a new one since then (due to certain crucial decisions that have yet to be made); however, the current master plan will only be in force until 2020.

Lower level spatial plans must follow higher level land use plans and this is reflected in their planning scale.

Besides land-use plans, there is a special type of spatial planning, namely the 'territorial study', which can be initiated at the national, regional or local level. These studies can concentrate on certain territories (e.g. neighbourhoods), or certain topics (e.g. residential use). A study can contain an in-depth analysis of the spatial character of a phenomenon and suggest spatial structures and steps to handle certain spatial conflicts. However, studies are not binding

documents, so even if they are created, they cannot be enforced. E.g. there was a study prepared in 2008 for the metropolitan area of Brno regarding the use of residential areas but this was never considered as a guiding principle.

Metropolitan-level land-use planning is not addressed officially on the national level, although the Spatial Development Policy of the Czech Republic (2015) delineates the approximate borders of 12 metropolitan areas in the country, including the Brno metropolitan area. It also lists the spatial planning tasks that should be implemented at the regional level and the national level in order to coordinate metropolitan level spatial processes. In practice, the regions must define their development (metropolitan) areas at the settlement level, based on the guidance of the national Spatial Development Policy (the South Moravian regional office has already done this, with somewhat different borders to those in the ITI), and development tasks should be addressed in the regional and local-level plans. The Spatial Development Policy calls for special attention regarding the interaction of public infrastructures around Brno, and specifies the need for preparing a study for this aim.

Collaborative planning

The most important organizational framework for metropolitan-level collaboration is the ITI structure. The ITI (with a budget of approximately €200 million) is based on the contract between the region, Brno and the five biggest municipalities in the metropolitan area that have extended power. As Brno belongs to the South Moravian region - and they all belong to the same NUTS 2 region together with the neighbouring NUTS 3 region, Kraj Vysočina the whole area is in the same financial category, as a “less developed region”, and the same conditions apply to Brno and the neighbouring area regarding the EU Cohesion Policy. This is one of the reasons why the ITI of Brno gained a stronger role comparing to the ITI of Prague.

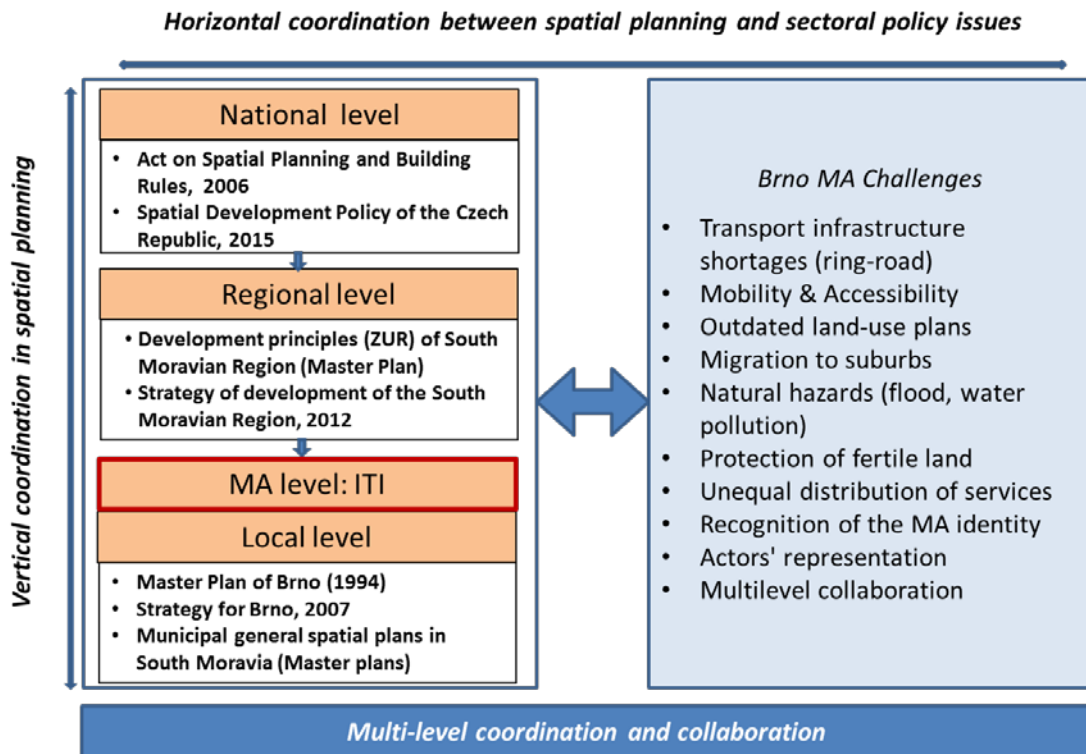
The managing authority of the ITI is located at Brno municipality, while it has a steering committee with the regional actors, the representatives of Brno and the five municipalities with extended powers (heads of districts adjoining Brno). The project is supported by thematic working groups such as in: transport & environment, competitiveness & education, social issues. The managing authority, the intermediate bodies, the working groups and the steering committee are responsible for the selection of relevant projects to be funded and implemented under the ITI project. The projects have to comply with the priorities of the integrated strategy of Brno metropolitan area and the related operational programme under which it was developed.

Currently the ITI is the link that supports planning activities between Brno and its suburban area. Besides the ITI, the following efforts are being made with regard to coordinated spatial planning:

- Brno is intending to prepare a new Strategic Development Plan (for the period up to 2050), and/or a Sustainable Mobility Plan of Brno (SUMP). Both documents take the metropolitan area as their scope, considering the broader involvement of local stakeholders. These documents may not impose any obligations on the suburban settlements but be guiding documents.
- As one of the municipalities of the South Moravian region Brno is obliged to take into account the regional master plan (ZUR) and adjust its spatial development needs to fit in with these requirements. (ZUR has a 1:100,000 scale and concentrates on major infrastructure lines, thus it has decisive but limited effect on the land-use plan of Brno). This gives a wider-perspective on the urban development and support its regional context.

Figure 5.1 shows the interaction between the different levels of planning and the challenges.

Figure 5.1: Interaction between governmental levels and challenges for MA development



Source: authors

5.4 Key spatial development challenges and incentives

Suburbanization is still going on, although at a slower pace than in the 2000s, as local municipalities (and/or inhabitants) have already realized the direct and indirect costs of growth. Brno's master plan has been in force since 1994, which limits the affordable possibilities for new developments; this in turn gives impetus to suburban migration. The inhabitants of suburban settlements are using the public services of Brno which consequently increases commuting between the core urban area and suburbs.

Further population growth in the settlements around Brno cannot be handled by the regions as they cannot interfere with the details of local land-use plans. There are already more than a thousand hectares of unused land dedicated for residential use near Brno, thus the goal is not further rezoning but the productive use of areas that are already regulated.

Mobility issues were identified as crucial both in written documents and by the interviewees – partly due to suburbanization. Four kinds of mobility problems were emphasized:

1. Transportation infrastructure development needs: the missing part of the ring-road highway around Brno (which is constantly the subject of debate as individuals and settlements have opposed all the options that have been developed) and the enlargement of the capacity of railway lines.
2. The need to increase the capacity of public transportation in the suburban area.
3. The need for new cycling paths towards Brno and in the suburban area.
4. The need for P+R sites at the main public transport stations. Currently parking in Brno is either free or very cheap, thus suburban inhabitants tend to commute by car.

Environmental risks (droughts, floods, waste water pollution, land pollution and air pollution) were emphasized among the challenges that can only be addressed on a larger scale than Brno.

Some of these topics are addressed to a certain extent in the Integrated Development Strategy of Brno Metropolitan Area; consequently, ITI funds can be used to improve the situation (e.g.

improvement of public transportation, flood protection), but some of the topics would require planning tools (e.g. urban sprawl) or national interventions (highway and railway infrastructure).

Whether local citizens were involved in the planning procedure was questioned by the interviewees. According to the law, inhabitants must be informed about spatial planning: the plans must be available at the municipality, and public hearings must be organized. Nonetheless, most of the land-use plans and building permits for major infrastructure projects or public investments are attacked in court; therefore, it is not easy to create new land-use plans or implement investments on time. This high rate of legal opposition, however, shows that bottom-up disputes are not being handled properly in the current planning system.

On the other hand, the ITI planning and decision-making procedure (with the operation of the thematic working groups) includes civil society actors (particularly in the working group on social integration and education) and service providers (transport and environment).

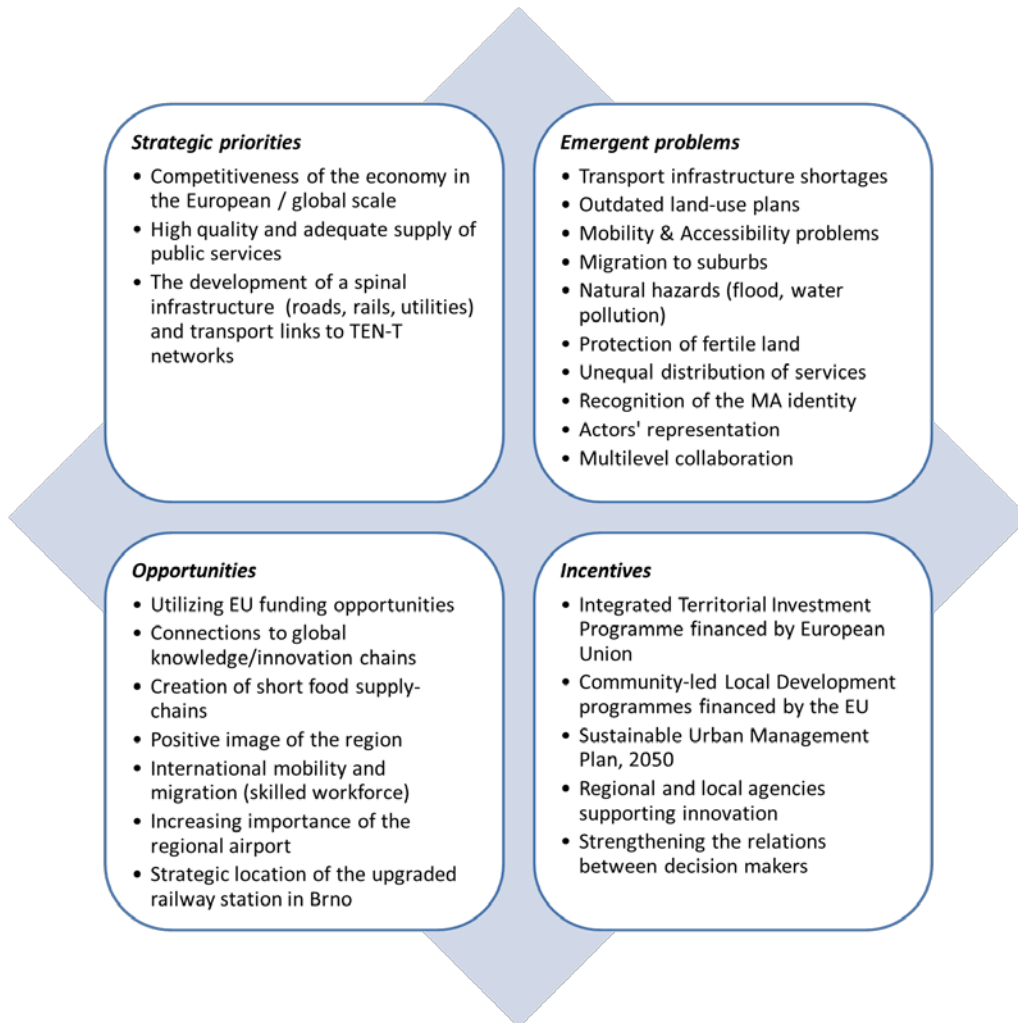
According to the opinion of the different actors, the metropolitan spatial planning in Brno needs further considerable progress. The ITI has played important role in supporting this process.

Still, there are serious impediments that need to be addressed in order to foster the progress:

- The Czech Republic has a highly decentralized local government system with over 6000 municipalities (in a country of 10 million inhabitants). These municipalities can decide on the development of their settlements, including land-use planning. There are neither effective incentives (except for the EU funds) nor any kind of obligation for cooperation between individual municipalities.
- The large number of small municipalities limits the human and financial capital that can be used at the local level. Municipalities may not be able to think on a regional scale and consider the externalities of their decisions. These small municipalities can hardly act as equal partners to entities such as Brno municipality or the South Moravian region.
- The South Moravian region is very diverse in terms of the per capita GDP (the most diverse region among the 14 in the country according to regional planners). The strategic development preferences of the region include balancing regional inequalities while also creating a competitive BMA. It is not easy to find a balance in these contradictory development goals, and in this contest the interests of BMA may be given a lower priority than the remote parts of the region.
- There were personal and political conflicts among the decision-makers of the South Moravian region and Brno municipality that paralysed cooperation for a long time.
- In practice, there is no land-use planning instrument between the scales of 1: 100,000 and 1: 10,000. So-called 'territorial studies' can be created under the Spatial Planning and Construction Act; these studies can be prepared on a metropolitan scale (or any other scale), analysing and handling certain crucial issues, but these studies are not binding, thus their implementation cannot be enforced.
- The Integrated Development Strategy of Brno Metropolitan Area (the strategic plan behind ITI) is the first thoughtful planning attempt at a metropolitan level. However, it has its limitations as it has to concentrate on issues that are financed by the sector oriented operational programmes (EU structural funds) and it has a weak spatial dimension. Even though it is a decision-making criterion that projects with the most significant effect on MA level should be chosen for financing, still there is no exact spatial concept of the desired metropolitan development. The ITI strategic plan does not yet fulfil the ambitious goal of providing comprehensive spatial vision for the metropolitan area and more targeted actions are needed in this direction.

Figure 5.2 gives a brief summary of the strategic priorities, and emergent problems, opportunities and incentives in the area.

Figure 5.2: The SOEI Matrix for Brno
(Strategic objectives, opportunities, emergent problems and incentives)



Source: authors

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6 Profile of the metropolitan area of Oslo & Akershus

6.1 Characteristics of the metropolitan area

6.1.1 Geography and demographics

The metropolitan area of Oslo has not been yet clearly defined, while few spatial scenarios have been considered based on current urban and regional developments beyond the core city.

One of the spatial scenarios embeds the urban agglomeration that includes the capital city of Oslo with its 666,759 inhabitants (2017) and part of the surrounding county of Akershus. Next to Oslo this urban agglomeration includes the municipalities of Asker, Bærum, Rælingen, Lørenskog, Nittedal, Skedsmo, Ski, Sørum, Gjerdrum, Oppegård. The agglomeration sprawls out into three distinct 'corridors': inland north-eastwards, and southwards along both sides of the fjord, which gives the urbanized area a shape reminiscent of an upside-down reclining 'Y'. To the north and east, wide forested hills (Marka) rise above the city; this area is protected by a national act (The "mark" Act). The city cannot spread out further into the forest areas. Of Oslo's total area, 130 km² is built-up and 7 km² is agricultural land. The total population of this agglomeration is 975,744 inhabitants.

Another scenario covers the Oslo's urban area and the 22 municipalities in the county of Akershus. This area together with municipality of Oslo covers 23 municipalities spread over a territory of 5 370 km² and has a population of about 1.23 million inhabitants (2015).

The spatial developments and urban functions taking place between Oslo & Akershus form the metropolitan perspective of Oslo urban agglomeration. The area have experienced considerably higher growth than the national average in the past decade. While the national average rate of population growth was 12% from 2004 to 2014, for Oslo it was 22%. Some of the municipalities in Akershus experienced higher population growth: Ullensaker 36% and Sørum 33%. Forecasts indicate that the population of Oslo & Akershus metropolitan area will grow by 260,000 by 2030 (www.akershus.no). Despite the growth, the metropolitan region of Oslo & Akershus is not densely populated. Even the city of Oslo is rather sparsely populated (4.7 persons per decare). In the inner city, the density is 11-17 inhabitants per decare (Tennøy, m.fl., 2014: 17). The municipal plan of Oslo (2015) suggests that 100,000-120,000 new dwellings will be built within the existing building zones by 2030 to accommodate new urban population (Nore et al., 2014: 82).

6.1.2 Socio-economic development

The Oslo region has experienced strong population growth in the past decade. Housing, employment and transport have grown correspondingly (Nore et al., 2014). Within the region, growth, in absolute terms, has been strongest in the centre, while in relative terms, the strongest growth has been in a band with about 45 minutes of travelling time from Oslo city centre. Densification has taken place in central parts of Oslo. In the outskirts of the city, growth has been concentrated along transport corridors (Langeland et al., 2016). Some municipalities have experienced growth rates of more than 30%. The region has a dynamic economy in which highly productive knowledge-intensive business services play a significant role. This is partly a result of the transformation of industries in Oslo the last 50 years, where traditional industry has downsized and relocated. In parallel with this, Oslo has become a service city. Many of these jobs are in the public sector, and in 1998 the city had 50,000 government jobs. At the same time, Oslo municipality had about 55,000 employees. In the private sector Oslo is also dominated by the service sector, and the majority of the country's largest business headquarters are located either in or near the city. The important business sectors in Oslo include logistics and trading, as well as 'new' sectors such as marketing, IT and legal and financial services.

In Akershus, the important business sectors are services, wholesale business, construction and transport; these business sectors are growing rapidly. Tourist- and travel-related industries (trade, overnight stays and catering services) are also growing faster in Akershus than in the rest of the country. However, even if the growth has been primarily along transport corridors

(Langeland et al., 2016), these patterns does not necessarily follow the ABC principle of location, which is a strategy for sustainable differentiation of business location in accordance with transport needs. The incentives for locating businesses in accordance with this principle are not very well developed. The prices in the central areas are high, and businesses often value parking opportunities highly. Thus, there is a tendency towards the development of a 'doughnut' pattern, where businesses are settling in the urban fringes (Nore et al., 2014:68).

6.1.3 Strategic importance and history

Oslo is the capital of Norway, and the metropolitan area has always had an important role in Norway. Its history can be traced back to the year 1000, and Oslo was also an important medieval city. The old town's core area is northern Europe's largest medieval area after Visby, and entirely protected. Oslo was a relatively small city by European standards until the 1800s, but after industrialization growth gathered momentum. By around 1900, the city was a well-established industrial centre with almost 250,000 inhabitants. Oslo is home to the first university in Norway (University of Oslo), and a range of museums are located there. Most of the national institutions are also located there, making it the most important administrative city in Norway.

6.2 Spatial structure of the Oslo metropolitan area

6.2.1 Configuration of European FUAs & MUAs related to the MDA

The delineation of the Metropolitan area of Oslo is still in a deliberation. Earlier analysis of the possible extend of the metropolitan area has initiated a number of initiatives and enhanced the debate at local and regional level about the spatial scale of the metropolitan area of Oslo.

The key considerations about the configuration of the Oslo's MA are based on a region-wide perspective around Oslo urban agglomeration and the Akershus County.

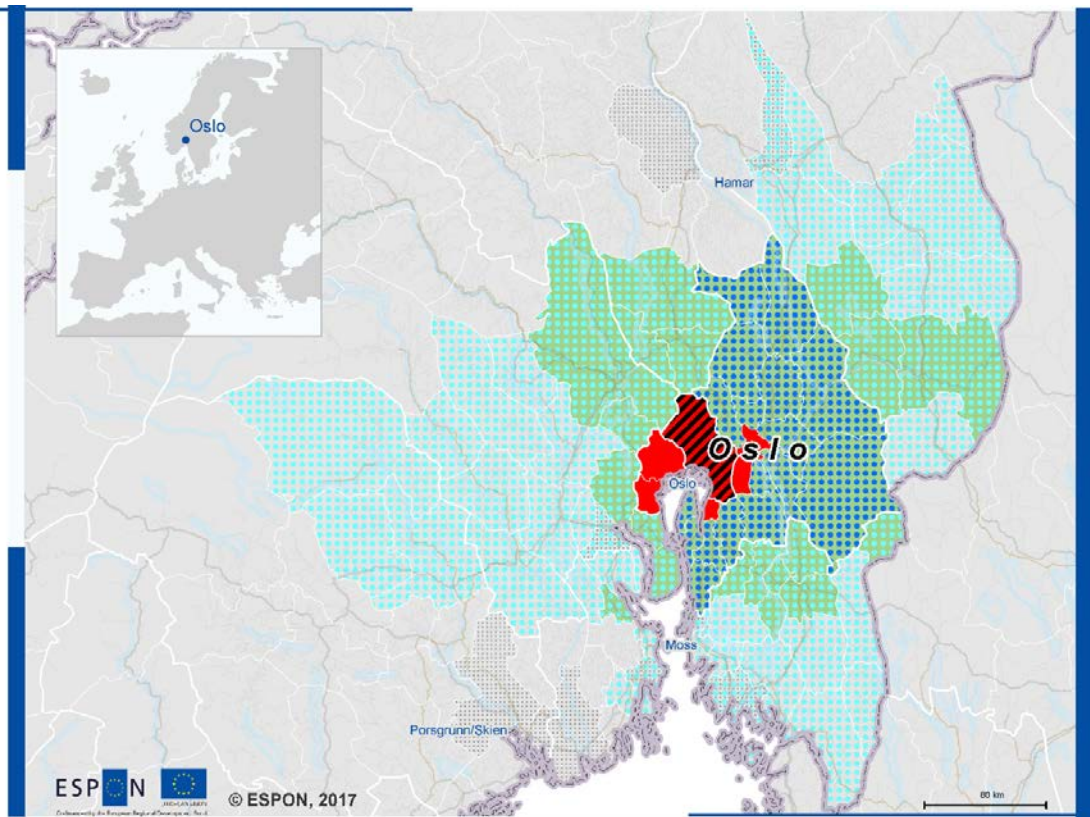
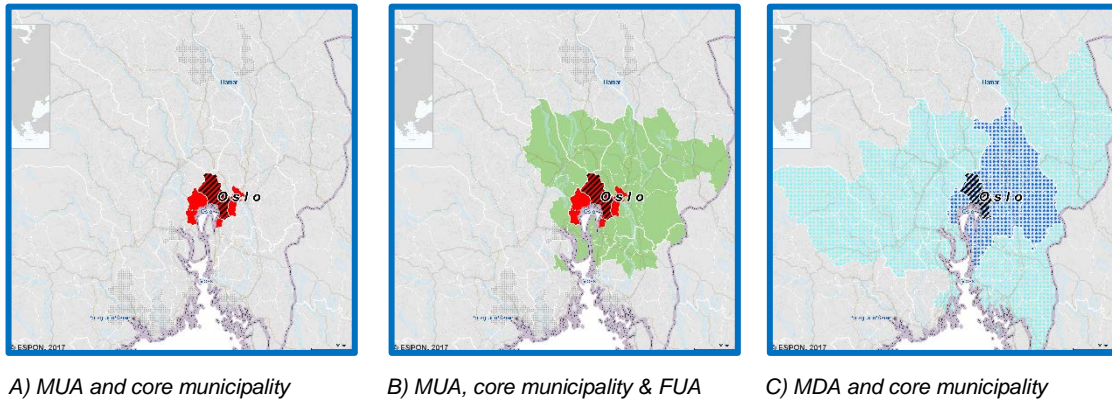
The regional structure of the Oslo & Akershus metropolitan area is to a large extend based on the public transport infrastructure (Ruter). The main mode of transport in the region is private cars, with the exception of Oslo city centre, where public transport is the dominant mode (Nore et al., 2014). Also, public transport accounts for a high proportion of commuting trips destined for Oslo city centre. While commuting has increased, the pattern has remained relatively unchanged since 2001 (Nore et al., 2014). The Oslo & Akeshus region represents the functional area of commuting patterns (FUA) and covers five county councils with 78 municipalities, and 2.1 million inhabitants (Nore et al., 2014). This area has as well be considered for the formation of the *Oslo's Regional Alliance initiative*.

Map 6.1 presents the Metropolitan Development area of Oslo (MDA) based on the most recently considered delineation scenario between Oslo and County of Akershus and its relation to the MUA and FUA. This delineation foresees a maximum and a minimum scenario. The maximum scenario represents the area of the Oslo's Regional Alliance consisting of 78 municipalities, being larger than the European FUA (ESPON, 2013). The minimum scenarios represents the Oso urban area together with the county of Akeshus, consisting of 23 municipalities and is much smaller than the FUA.

The MUA of the Oslo core city is relatively small, with the LAU2 of the municipality covering >50% of the MUA. The FUA area is monocentric, but with the extension of the model MDA in more diverse directions the MDA turns out to have a more polycentric composition. Compared to more centrally located European MDA's, this scenario of the Oslo's MDA covers relatively large proportion of (semi-) natural areas with a relative low population density, a situation comparable with the city of Torino.

Map 6.1: Relation between FUAs, MUAs and the Metropolitan Development Area of Oslo

Delineation of MUA, FUA & MDA



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Minimum extent of the MDA: City of Oslo and Akershus County Regional planning authority area
- Maximum extent of the Metropolitan Development Area (MDA)
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road
- rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISC), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

6.2.2 The formation of the MA

The delineation of the MA has been an important subject of debate in the Oslo region, especially since Akershus surrounds the city of Oslo and is part of the Oslo agglomeration area. The delineation was recently discussed in the proposal by the Government for new regions (April 2017). The suggestion is made to merge 19 county municipalities and to form 11 regions. It is proposed keeping Oslo as a region (and a municipality), while merging Akershus with its neighbouring counties Buskerud and Østfold. This new region will take up a large part of the 'Cooperation alliance of the Oslo region'.

Yet, there is no formal decision about the most relevant scenario for the metropolitan area of Oslo. However, several collaborative initiatives have been taking place between Oslo & Akershus that contribute to more coordinated spatial developments at a metropolitan scale.

6.3 Governance of spatial planning

6.3.1 Institutional framework of metropolitan planning

In general, Norwegian local government is considered highly autonomous (Baldersheim et al., 2001; Mydske, 2006). It is a highly decentralized planning system. Urban spatial planning is a policy field that is only subject to minor regulations set by the national government, and is one of the policy fields where local politicians really can have a say (Fimreite, 2003: 349).

Oslo is a uniqueness is that it has two administrative formal levels namely for the core municipality and the county ('fylke' regional authority). This status gives the city of Oslo the main responsibility for welfare services (except hospitals), transport and land-use planning.

Oslo has had a local parliamentary system of government since 1986. The supreme authority of the city is the city council (*Bystyret*), which currently has 59 seats, and five standing committees. The executive power is the city government, with the Governing Mayor of Oslo as the head. The post was created with the implementation of parliamentarism in Oslo and is similar to the role of the prime minister at the national level. The Vice Mayor for Urban Development is the politician with the responsibility for land-use planning.

Politically, after many years of government by the Conservatives and its coalition partners, the city government is now led by the Labour Party, which forms a coalition government with the Socialist Left Party (SV) and the Green Party (MDG). Traditionally, these parties have been more willing to use planning instruments for steering the development in the area.

The planning system

The spatial planning process is embedded in a system with national, regional and municipal levels, regulated by the Norwegian Planning and Building Act (PBA 2008). It is a highly decentralized system, where the municipalities are the main planning authorities, making legally binding land-use plans. The planning tasks of the different planning levels include:

- The national level: The national level does not ordinarily produce plans in the planning system. However, it does issue national expectations regarding regional and municipal planning every four years (section 6-1), as well as planning guidelines (section 6-2) and planning provisions (section 6-3). Occasionally, the central government may also prepare and adopt regular land-use plans (section 6-4). In addition, several national authorities have the opportunity to make objections to regional and municipal plans, safeguarding ensuring important issues in sectoral laws (section 5-4).
- The regional level (19 county municipalities): In general, the county municipalities can choose what kind of plans they would like to make. Since 2008, there has been no requirement to produce specific types of regional plans, except for a four year planning strategy. However, the National Parliament required Oslo (as a county municipality) to cooperate with the county municipality of Akershus on a joint regional plan for land use and transport (Ot.prop no. 10, 2008-2009). The main reason was the need for cooperation across municipal borders in the agglomeration area and functional area. The regional plans are not the primary binding land-use plans, but according to the national planning

law they can include legal requirements to municipal planning activities such as restrictions or sanction. The regional authorities do not often make use of such legal mechanisms. Principally the municipal plans need to comply with the regional plan.

- The municipal level (428 municipalities in Norway): Municipalities are the primary land-use authorities, and thus the main planning authorities. All municipalities are required to have a municipal plan, with a societal plan and a legally binding land-use plan (required by the National Planning and Building Act, 2008). Oslo and all the 22 municipalities in Akershus must make such plans.

If the proposed merging of county municipalities is realized, the formal regional planning units will be Akershus/Buskerud/Østfold and Oslo. The national requirement for developing joint plans might continue.

Strategic planning

In the metropolitan area of Oslo & Akershus, a loose alliance was established in 2004 between Oslo, Akershus, its neighbouring county municipalities and the municipalities within. The cooperation was called 'The Oslo Region Alliance'. The alliance presents itself as a collaborative, political membership organization, the goal of which is to strengthen the Oslo region as a competitive and sustainable region in Europe. This regional political collaboration is a response to increasing pressure for growth in a national perspective, as well as increased competition from ever-stronger European cities and regions. Today the alliance consists of five county municipalities and 78 municipalities.

The strategy for achieving this goal has been to direct efforts to profile and market the Oslo region internationally, but also efforts to positively influence various factors that make the Oslo region more competitive and sustainable. Therefore, the strategic work in this alliance resulted in a joint 'land-use and transport strategy' for the whole area in 2008. Here, the main principles were densification around public-transport hubs (railways) and polycentric (nuclear) development to spread the growth in the region across Oslo and selected surrounding municipalities. This strategy has been important for the development of the regional plan for land use and transport in Oslo - Akershus (2015). The strategy was revised in 2016, to be in accordance with the plan.

Statutory planning

The Norwegian Planning and Building Act (2008) do not require that the county municipalities produce a land-use and transport plan. The county municipalities are free to choose what kind of plans they want to develop. However, for this metropolitan area, the National Parliament saw a strong need for cross-border coordination, and instructed Oslo - Akershus to formulate a joint plan for the metropolitan area (Ot.prop no. 10, 2008-2009). This is the first inter-regional plan to be developed in this area.

The regional land-use and transport plan for Oslo - Akershus (2015): The main goals of the plan are to develop the Oslo region and turn it into a competitive and sustainable region in Europe. The land-use development is to be based upon the principles of densification, polycentric (nuclear) development and protection of the existing green structures. The transportation system must be developed in such a way that it connects the polycentric region, and connects it to other parts of the country and to other countries (Europe). The transport system is to be effective, sustainable and available for all, so that people do not have to depend on the car. The main strategies are to:

- develop Oslo as the capital of Norway;
- strengthen regional cities and strengthen concentration of workplaces in Akershus;
- develop the 'urban belt' (the agglomeration) and ensure better connections in the city structure, along with higher frequency of public transport (densification and concentration of growth along public transportation hubs, railways);
- concentrate growth in some prioritized local towns and villages in Akershus;
- maintain a good and stable living environment outside the prioritized towns and villages.

To reach these aims, the strategies have been operationalized. First and foremost, 90% of the growth in the municipalities in the urban belt must be inside the defined 'densification zone (green line)'. Secondly, 80% of the growth in the municipalities outside the urban belt must be located inside the densification zone. Here, the municipalities have to choose one of their centres to be the prioritized municipal centre.

In the action programme for the plan, the following actions are prioritized in the first stage of implementing the plan (2015-2018):

- Better cooperation to achieve more strategic land use and transport planning in the urban belt (agglomeration).
- Develop a joint system for measuring goal achievement.
- Revision of municipal general plans (societal part and land-use part). In this revision, densification zones (growth zones) are to be delineated. Only when the principles of the regional plan are integrated into the municipal plans do they become legally binding. Oslo did this in 2015, but for most of the other municipalities the process has just started. This work has just started, and is a critical phase of the planning process, as it represents the operationalization of the densification principle. If the principle is interpreted very loosely, then this will make it more difficult to attain the goals. Discussions are taking place for example in the municipalities in the urban belt, where 90% of the growth is to be located in the densification zone, within walkable distance from railway stations, the metro or high-frequency bus lines. A walkable distance is often defined as 600 metres, but here it might be interpreted more widely. In the revisions, all municipalities also have to develop centre plans (road and infrastructure), and ensure that the prioritized densification zones also have such qualities as blue-green structures.
- To ensure that the new national transport plan (Oslo package 3), is in accordance with the principles in the regional plan.
- To ensure more funding from national authorities for public transport in the region.
- Revision of the income system for municipalities and county municipalities, to stimulate implementation of the regional plan.
- Work on defining the regional network for public transport.
- Work on the regional bike road network.
- Work on how to fulfil the ABC principle when it comes to logistics and localization of larger logistic functions.
- Agreements as coordinating instruments, committing municipal, regional and national authorities to follow the principles of the plan. These agreements are currently being developed and negotiated (2016-2017), and are called 'Urban environment agreements' (transport investments) and 'Urban development agreements' (land-use planning). In subsequent revisions, these two agreements will be merged into one ('urban growth agreements').

Oslo & Akershus metropolitan area has also developed another joint regional plan to stimulate innovation and growth, 'The regional plan for innovation and entrepreneurship in Oslo & Akershus MA up to 2025', from 2015. The aim is to give an updated picture of the competitiveness of the region and which businesses have international potential and contribute to its attractiveness. In addition, the plan aims to give direction on how the county municipalities are to contribute to strengthen the competitiveness of regional businesses, and to stimulate cooperation between businesses, research and development (R&D) and the public sector.

Municipal master plans: At present, the municipalities are working on integrating the principles of the regional plan into the mandatory municipal plans. Oslo was one of the first one to integrate these principles in its own plan, as it revised the municipal master plan in parallel with the development of the regional plan. The main principles are to a large extent integrated. However, other municipalities point to one specific unbuilt development area, on the border with the neighbouring municipality, as problematic. In their view, this area should have been taken out of the municipal plan, as it will be problematic to ensure public transport for future development here.

Most of the other 22 municipalities (in Akershus) are now in the process of revising their municipal plans to integrate the principles in the joint regional plan. In this process, there are several national authorities that have the authorities to make objections to municipal plans – if they do not follow the principles in the regional plan and in national guidelines (about

densification and public-transport hub development). These are primarily the county governor, who is the formal representative of the state in the county. In the Oslo & Akershus state governor's annual letter of expectations about municipal planning practices (2012-2016), they state that in exercising this authority in 2017: "Our input into land use planning will emphasize implementation of recently adopted regional plans for land use and transport and mass management. We will focus on densification, high quality green borders and climate considerations".

The county governors (located in almost every county) represent the national state. They have the power to object and have a strong veto in local planning. The county governor can set the requirements for the municipal plans to comply with the regional plan. The county governor can as well request from the municipalities if needed to revise municipal land-use plans, and consider excluding areas from the plan that are in conflict with the regional plan. The county governor, therefore can supervise the implementation of the regional plan locally and evaluate detailed zoning plans.

Collaborative planning

The collaborative process in pursuing metropolitan development is based on a systematic approach. The challenges of the metropolitan area of Oslo have been on the national agenda for a long time. In 1998 the government and parliament discussed the amalgamation of Oslo & Akershus, or of Oslo and its neighbouring municipalities (agglomeration). However, the amalgamation initiatives were stopped, which implied that Oslo & Akershus metropolitan area had to continue with existing cooperation models and innovative new ones.

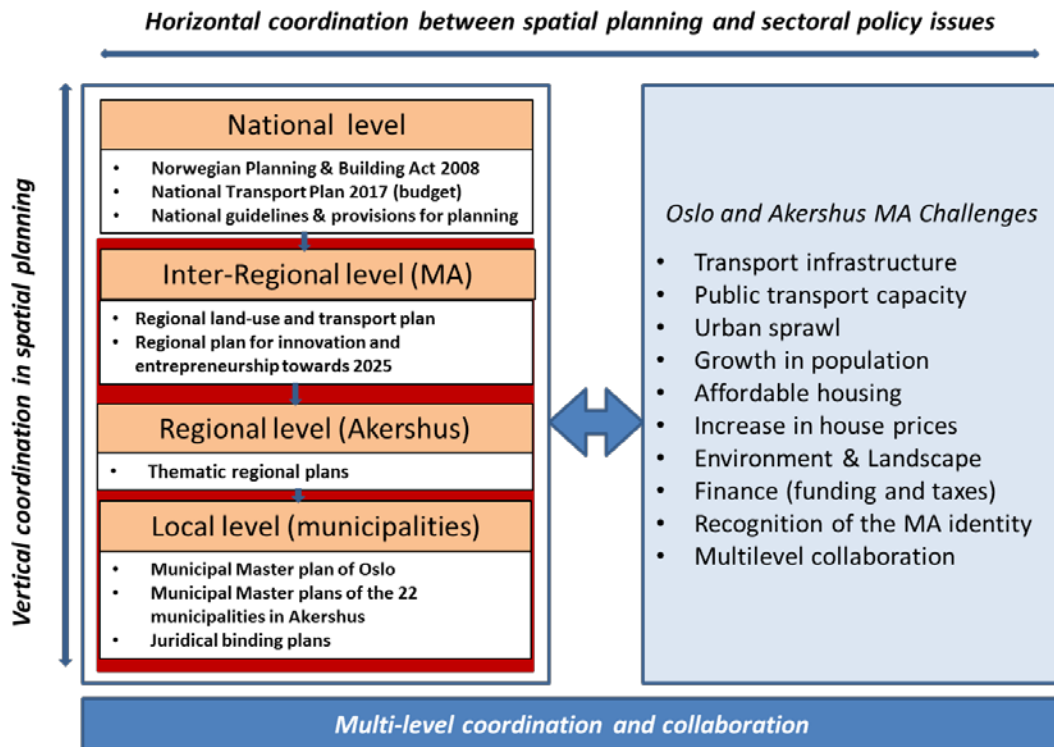
Oslo & Akershus have a strong tradition of joint transport planning and transport policy. In 1974 a joint public company was established by Oslo, Akershus and national authorities, with the name 'Great-Oslo Local traffic', later 'Ruter'. This joint company has been very successful in providing the inhabitants in the metropolitan area with seamless public transport.

In addition, the establishment of the Oslo Region Alliance in 2005, (five county municipalities and 78 municipalities), has stimulated strategic planning for the whole metropolitan area. This collaboration significantly contributed to the development of the 'Regional land-use and transport plan for Oslo & Akershus'.

The collaboration between Oslo & Akershus has been stimulated by the national authorities in the development of the inter-regional strategic plan.

Figure 6.1 shows the interaction between the different levels of planning and the key challenges of the metropolitan development.

Figure 6.1: Interaction between governmental levels and challenges for MA development



Source: authors

6.4 Key spatial development challenges and incentives

The key challenges of the Oslo's and Akershus metropolitan area are in sustained economic prosperity and population growth. The challenge for establishing a metropolitan planning is to ensure that growth occurs in the right locations, while a balanced distribution of this growth is achieved via different spatial functions. Developing a polycentric spatial structure that produces effective transportation flows and sustainable land use is considered as essential.

Meanwhile achieving a better quality of life in the region is a priority with view on the increase of population and climate change threats. The urban growth should not result in increase of car-use. Alternative transportation modes need to be considered in the new spatial structure.

Several of the actors point to the need to improve the transport network between the municipality and the core city (Oslo). This is also emphasized in recent research (Nore et al., 2014). The population growth trends in Oslo, with increasing commuting patterns from the rural areas to the core city, will require more efficiency and larger capacity in the public transport system through Oslo (bus, subway, train). In the long term, this can become an Achilles heel for the commuter lines around Oslo. IC offer express buses from the outer areas of the region. As such, this is a challenge to the region's competitiveness, and the ability to cope with traffic intensification in an environmentally friendly manner. A challenge in the future will be to combine an improved transport system with urban development outside Oslo, to reduce the number of commuting trips (Nore et al., 2014).

Another challenge in this respect is presented by the mechanisms of urban sprawl. Due to the decentralized planning system in Norway, municipalities are the primary land-use authorities. It is difficult for municipalities surrounding Oslo, in the urban fringe, to say no to development projects. There is also a lack of will to densify around public-transport junctions in these neighbouring municipalities, and they are sceptical about being restricted by a regional plan. They want to develop small centres, because they find it difficult to choose only one among them. This is explained by a lack of a comprehensive urban planning perspective in these municipalities. It is also explained by the challenge in densification that threatens these small municipalities losing their small-town identity. Small municipalities are often not sufficiently

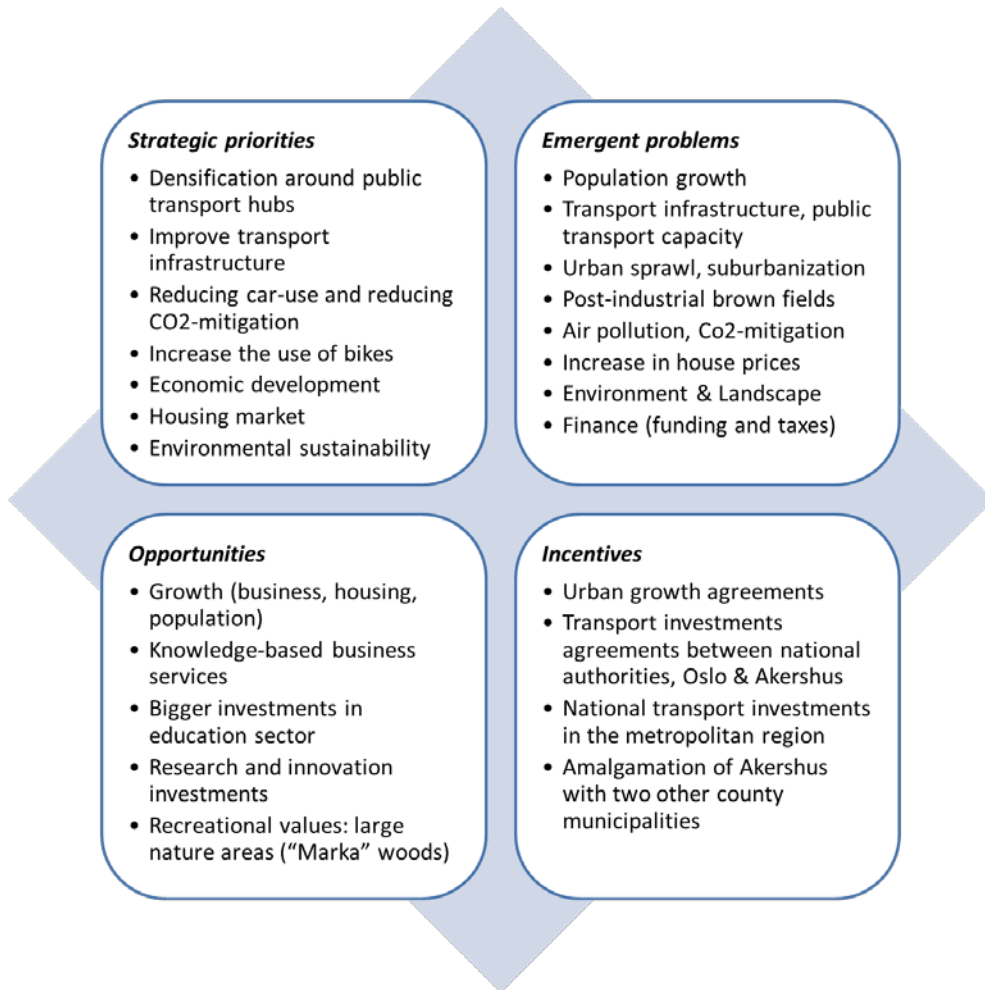
prepared to accommodate the consequences of large scale spatial developments such as infrastructure developments in the railway system.

- The region has partially succeeded in locating new dwellings in denser and more urban areas, thus protecting green structure and arable land. Still, places of work and public buildings are relatively scattered. There is therefore a need to choose the adequate degree of urbanization and densification of urban functions to meet the needs for services, jobs and housing etc.
- An important challenge is the lack of willingness at the national level to establish a multilevel coordination of spatial planning efforts. There is a lack of consistent national policy with regard to urban sustainable development, polycentric development and effective public transport systems. This is partly explained by the silo mentality in the different ministries. This makes it difficult to get national authorities to coordinate their actions (and investments) with regional needs and priorities. This points to a weakness in the Norwegian planning system, (e.g. section 8-2 in the Norwegian Planning and Building Act) which fails to ensure to a sufficient degree that national authorities follow the implementation of regional plans. An important challenge is that the national government may allow local government to be disloyal to inter-regional interests (and that the planning system allows that). Thus, the minister takes decisions, supporting disloyal municipalities that undermine the inter-regional plan. The municipalities then continue with uncoordinated urban sprawl.
- The actors also point to challenges related to the regional perspective, that many municipalities in the urban fringes do not see the metropolitan region as relevant for them. Objections from the county governor (the regional state authority) because of a lack of coherence with the regional plan have helped increase this polarization between the core cities and the rural municipalities in the region.
- Other challenges are related to the inter-regional planning process. Firstly, the question about who should lead the planning processes. Should this be the core city or the county municipality of Akershus? Secondly, another challenge is to commit local politicians to following the regional planning process outside administrative levels, especially as many are replaced every fourth year. This challenge has become greater under the current government, as the Minister for Local Government and Modernization allows many municipalities to be disloyal to the regional plan.

Regional actors share the opinion that receiving support from the national government will be indispensable in terms of: a) encouraging metropolitan planning; b) ensuring that municipalities are loyal to the regional plan; and c) ensuring funding for implementing the plan.

Figure 6.2 illustrates the current strategic priorities, emergent problems, opportunities and incentives for the metropolitan development and governance of Oslo.

Figure 6.2: The SOEI Matrix for Oslo & Akershus metropolitan area
(Strategic objectives, opportunities, emergent problems and incentives)



Source: Authors

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7 Profile of the metropolitan area of Turin

7.1 Characteristics of the metropolitan area

7.1.1 Geography and demographics

The Metropolitan area of Turin, formally referred to as the Metropolitan City of Turin (MCT) is located in northwest of Italy, covering a territory of 6.827 km² (*Italian National Institute of Statistics* - ISTAT, 2016).

The territory is characterized by a rather fragmented landscape, 52% of which consists of mountains ridges. It is surrounded on the western and the northern fronts by the Alps and on the eastern front by the hills of Monferrato. It is located mainly on the western bank of the Po River, and on the other side with the border of France.

MCT is the largest provincial territory in Italy and the second largest in the Piedmont Region (after Cuneo). The area consist of consists of 316 municipalities

The distribution of the population on the territory is characterised by a higher confluence of inhabitants in the flat areas. By 2015 the population of the MCT is estimated to be approximately 2.2 million inhabitants (Istat, 2015). About 40% of the inhabitants live in the capital city of Turin. The population of the main city is about 890,000 (Istat, 2015) while the population of the urbanized area is estimated by Eurostat to be 1.7 million inhabitants. The population density of the metropolitan area is estimated at 334 inhabitants per km² while that of the capital city is about 6850 inhabitants per km². A key characteristic of the population distribution in the MCT is the small population sizes of the suburban municipalities. The vast majority of the suburban municipalities have fewer than 5000 inhabitants and many have fewer than 100 residents. There is a general population decline and a trend of migration from the core city to the suburban municipalities. The number of foreign immigrants has been increasing in recent years. The population of the municipality of Turin increased by a mere 0.3% in the year 2006, while the city's 'first ring' suburbs grew by 2.5% and its 'second ring' suburbs swelled by 10.2%, showing that suburbanization is continuing (IRES, 2007). Foreign immigrants have been moving into the city centre, compensating to some extent for the low birth rate and the outward flow of existing residents to the suburbs. Currently there are about 221,961 immigrants residing in the MCT. The metropolitan city of Turin as a whole gained up to 116,800 residents in the 15 years from 2001 to 2015.

7.1.2 Socio-economic development

Even though much of its political significance and importance had been lost by World War II, Turin became a major European crossroads for industry, commerce and trade, and is part of the famous 'industrial triangle' along with Milan and Genova. As of 2010, the city was ranked by GaWC as a Gamma World city. Turin is well known as the home of the Shroud of Turin, the football teams Juventus F.C. and Torino F.C., the headquarters of automobile manufacturers FIAT, Lancia and Alfa Romeo, and as host of the 2006 Winter Olympics.

The MCT is Italy's second largest exporting market (in terms of the value of exports) with a share of 5.2% of the national total. The GDP of MCT raised from 46 billion € in 2011 (ISTAT - Tagliacarne Institute, 2015) to 50 billion € of GDP in 2015 (Chamber of Commerce of Turin). Its industries include manufacturing and engineering; the production of confectionery and chocolate; and banking and telecommunications. There has also been growth in construction, tourism and service industries. There are about 232,000 businesses registered in the MCT area. These numbers represent just under 50% of all those in the Piedmont region and 4% of the Italian total. There were 21,987 foreign entrepreneurs, with the majority being non-EU. The difficulties that industry in Turin has faced include a long phase of industrial restructuring, a crisis in Fiat and the transfer of production to developing nations. The MA (Metropolitan City of Turin) is still heavily reliant on industry, with the automobile and metal-working and mechanical engineering industries forming the basis of the economy. The recovery of Fiat since 2005, which still employs 30,000 people in the Metropolitan city of Turin (Galasco, 2007), is playing a major role in the revival of the local economy.

Currently, there are new business and innovation programmes in development. Examples include the 'New Turin Economy Project', working to assist collaboration in the private technology sector, and public and private partnerships in establishing a medical centre for research and health care.

7.1.3 Strategic importance and history

Turin is the capital of the Piedmont region. Metropolitan development is a consequence of the urbanization of Turin city and its significance for northern Italian business and cultural activities. The high extension of the provincial territory, the different morphology and number of the municipalities has determined a historical, cultural and economic diversity of the territory.

The city has a rich culture and history. The Turin urban area served as a strategic frontier outpost during the middle Ages, a prized stronghold changing hands between some of Europe's great military leaders. Captured by the powerful dukes of Savoy in 1280, it became the capital of their expanding dominion through to the 19th century. Political stability and prosperity fuelled the demographic growth and economic diversification of the city. In 1997, part of the historical centre of Turin was inscribed in the World Heritage List. The city used to be a major European political centre and was Italy's first capital in 1861.

The Savoy footprint is the one which mostly defines the Turin identity and from which noble residences have been inherited from XII century to XIX century. In 1997, the residences of the royal house of Savoy in and around Turin was inscribed in the World Heritage List. Moreover, in March 2017 the Turin Hill and the Po river protected area was inscribed as a MAB Unesco.

There are also interesting examples of medieval villages such as Chieri (host of the Martini Museum of history of oenology); In Cavour, the magnificent Santa Maria Abbey hosts one of the oldest Romanesque crypt; Pinerolo is also a well-known municipality, named "Nice of Piedmont", with the National Museum of the Cavalry Army (which conserves uniforms and weapons from the 1500s to the Second World War) and the Gothic Church of St. Maurice on the hill, symbol of the city.

Turin currently hosts the University of Turin and the Turin Polytechnic University. In addition, the city is home to museums such as the Martini Museum of history and oenology and the Mole Antonelliana. Turin's attractions make it one of the world's top 250 tourist destinations and the tenth most visited city in Italy in 2008. The 2006 Winter Olympics contributed to Turin's attractiveness after a period of economic doldrums. The remnants of the tourist infrastructure built for the games, however, need to be revitalized in order to attract new tourism opportunities. In 2008, the Turin area was visited by 5.3 million tourists. There are several municipalities, such as Sestriere and Bardonecchia, which are famous for ski resorts.

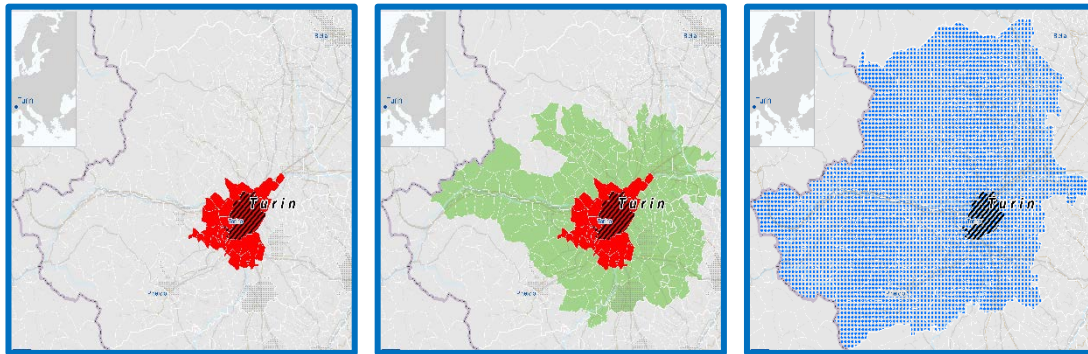
7.2 Spatial structure of the MCT (Metropolitan City of Turin)

7.2.1 Configuration of European FUAs & MUAs related to the MDA

The MDA of Turin (the new "MCT area", see Map 7.1) stretches out to a large extent beyond than the European FUA (ESPON, 2013). Particularly the MDA is larger in the northern and south-eastern parts. In southwest the MDA is relatively small compared to the FUA. While the area around the city of Chieri is part of the FUA based on commuting patterns, it is not part of the MDA. Both FUA and MDA are clearly polycentric with multiple MUAs inside and the MDA even encompasses multiple smaller FUA's. As in Oslo, the mountain areas of the MDA have a clearly low population density and large natural areas with occupation patterns limited to the valleys.

Map 7.1: Relation between FUAs, MUAs and the Metropolitan Development Area of Turin

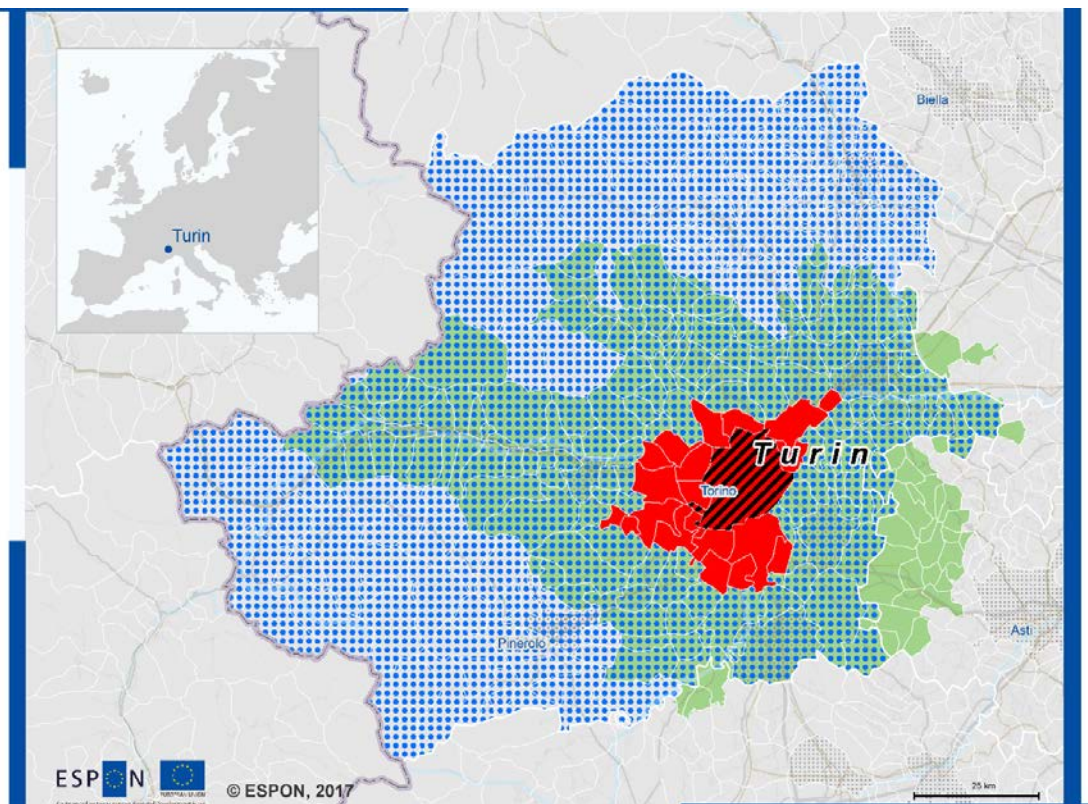
Delineation of MUA, FUA & MDA



A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Metropolitan Development Area (MDA)
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road
- rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical Information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

7.2.2 The formation of the MA

Over the years various models have been considered for the delineation of the MCT. In 1954 the Inter-Territorial Plan (never implemented) proposed a scenario which included 24 municipalities. In 1972, the Decree of the President of the Regional Government proposed having the MCT include 53 municipalities. In 1991 the region of Piedmont proposed a model with 33 municipalities. In 2000, a model with 38 municipalities was introduced at the Metro Conference, where the first Turin Strategic Plan of the city of Turin was proposed. The MCT was formally established by the National Act no. 56 of 2014 which formulates in total ten metropolitan cities in Italy. Moreover in 2 of 5 Italian regions with special status (Sicilia and Sardegna) other 4 metropolitan cities were established. In total in Italy there are 14 metropolitan cities. In accordance with this law, on 1 January 2015 the MCT took the place of the former Province of Turin as a new administrative level. The area consists of 316 municipalities, including the capital city of Turin. The city of Turin is a key driver of urban development in the rest of the Metropolitan City of Turin.

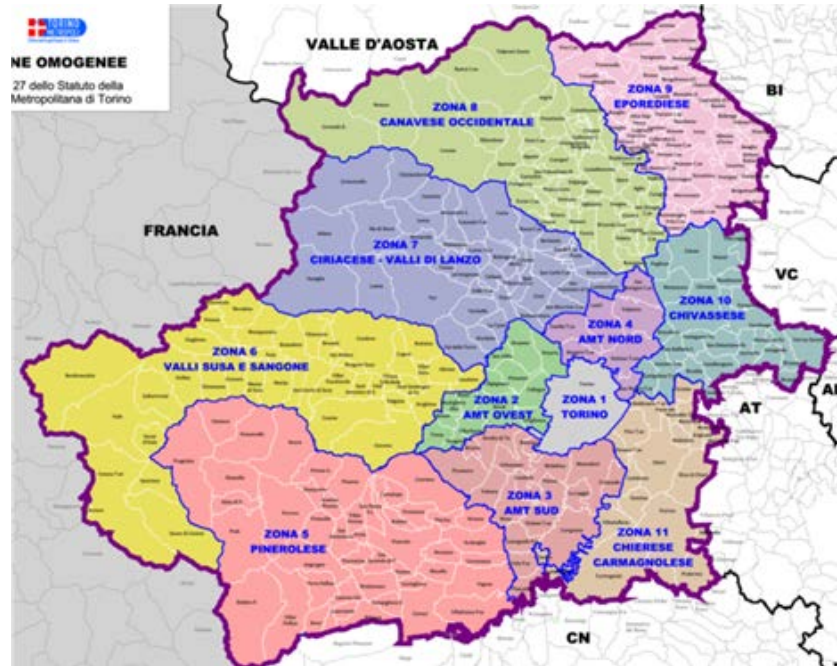
The MCT is the largest in Italy, the fifth in population size and seventh in population density. The extension of the Turin core city to a metropolitan area of urban fluxes is aimed at maintaining the spatial dynamics of the territory. Despite the changing external and internal market forces, the geography of production and cultural activities in the neighbouring territories continue to be an important component of the Turin regional identity, albeit difficult in terms of functional and spatial integration. The spatial dynamics of the MCT are characterized by the following factors:

- sub-regional division based on homogeneity of different areas, the socio-economic conditions and identity (homogenous zones);
- strong spatially integrated areas, as in the case of proximity between districts and industrial areas;
- a certain degree of convergence between areas (spontaneous or imposed, e.g. by the old mountain communities, integrated territorial plans, unions of municipalities, consortia, etc.).

The new MCT area is envisioned as having a clear subdivision of spatial areas based on functionality. This subdivision aims to reduce local fragmentation between different smaller areas and achieve a more coherent spatial structure of functions and flows. Another advantage is related to achieving a more democratic representation of the different spatial areas within the large territory of the MCT.

As a result of a resolution by the Metropolitan Council of the City of Turin in April 2015, and in agreement with the national regulation, the MCT has been formally divided into 11 Homogeneous Zones (see map 7.2). The formulation of these zones is the result of a complex analytical process, which considered many different boundaries and existing structures. These zones, however, do not comply with the OECD-EC typology of functional urban areas (FUAs).

Map 7.2: Homogeneous zones in the metropolitan city of Turin



(source: MCT Turin)

7.3 Governance of spatial planning

7.3.1 Institutional framework of metropolitan planning

The main goal of the MCT authority is to ensure sustainable development of the territory through planning at metropolitan-level. Such planning process is oriented toward ensuring social, economic and environmental objectives and network services, infrastructure and communication in the MCT territory. This goal is to be achieved by the coordination of the General urban plan (Piano Regolatore Generale Comunale –PRGC) covering 316 municipalities being part of the MCT territory.

The recently established MCT authority has a strategic planning role and a coordination function across the municipalities within the MCT and is responsible for the overall strategic development of the metropolitan territory.

While the municipal government could establish a coherent vision for the core city, the extension of this vision to the wider metropolitan region has been slower. National legislation from 1990 (law 142/1990) had aimed to promote the formation of metropolitan areas but lacked incentives for municipalities to give up their independence.

The former and currently ended initiative of a Metropolitan Conference in 2000, as proposed in the first strategic plan, led to the voluntary involvement of 38 municipalities in the Turin area. The Conference was designed to improve collaboration between municipalities through informal means, but its lack of formal powers (particularly its lack of a mandate for coordinating planning policy) proved a major stumbling block and meant it achieved little. In 2015 a formal mechanism for MCT planning was introduced by national law. This formal approach still needs to be implemented and prove its efficacy in being a coherent planning mechanism for the MCT. The formal reshaping of the provincial authorities into a metropolitan authority led to a need for reforms in this institution, including its jurisdictions, capacity and identity and the operational and political power assigned to it.

The planning system

The spatial planning process is embedded in a system with national, regional, metropolitan (formerly provincial) and municipal levels. In this system the regional authorities, the provinces and, if instituted, the metropolitan authority and the local authorities perform urban planning functions. The key instruments for implementing this planning process include:

- Regional level: the Regional Territorial Plan (PTR) and Regional Landscape Plan (PPR) formed by the Region, which considers the interests of the whole region;
- Metropolitan and provincial level: the Metropolitan General and Coordination Spatial Plan (PTGM) developed by the metropolitan authority and the Provincial Coordination Spatial Plan (PTCP) developed by the province authority.
- Sub-regional and/or sub-provincial level: for particular geographical areas or for the implementation of specific projects or complex policies: the Operational Territorial Projects (PTO), which considers specific sub-regional or sub-provincial areas which have special development interests.
- Municipal level: the General Urban Plan (PRG) developed by the 316 municipalities (included the Municipality of Turin).

Strategic planning

Strategic planning of the Municipality of Turin

The first strategic plan of Turin ("*Piano Strategico della città*"), and the first in Italy, was inspired by European models of strategic planning. The plan was developed in a complex process of consultations over a two-year period. The plan introduced the idea of integrated economic development, sets collaboratively determined objectives relating to the future of the city's economy, and aims to make the best possible use of available resources to achieve them (Kresl, 2007). The plan was used as the city's most important recovery tool. The development of the plan began in 1998, following the re-election of Mayor Castellani for a second five-year term. His administration was characterized by an unprecedented openness to new ideas and policy innovation, including learning from other cities' experiences via an active international networking programme. Inspired by the effectiveness of the strategic planning efforts of other European cities (Barcelona in particular), and galvanized by the severity of the economic and social crisis Turin faced, Castellani launched the city's own effort in 1998, making Turin the first Italian city to debate a strategic economic plan.

The deliberative process for formulating the strategic plan was, according to many local actors, if anything more important than the resulting document. The close-knit network of 57 local economic, social and political leaders which formed as a result proved important in implementing the plan, because of the ability to identify and assemble both the necessary actors and the sources of funding for each project. Through this process, municipal decision-making was opened up to civil society, enabling the municipality to draw on the expertise and resources of a wide range of actors: "The idea that underpins the strategic plan is that the local community can only gain maximum benefit through the combined action of public institutions and private enterprises. Accordingly, the strategic plan is nothing other than a framework for orienting the autonomous initiatives of a diverse range of actors, using a shared vision." (*Torino Internazionale*, 2007). The Municipality of Turin produced in total 3 Strategic Plans: the first one in the 2000, the second one in the 2006 and the last one in 2015.

Strategic Plan of the Metropolitan City of Turin

With the establishment of the MCT authority, preparation of the Metropolitan Strategic Plan (MSP)-commenced. In November 2015, the Metropolitan authority of Turin started the process for the preparation of the Metropolitan Strategic Plan based on a formally approved guidance document for the drafting of the plan. The draft document was presented to the Metropolitan Council and to the Majors of Municipalities Assembly in April 2016. On 5 June 2016, there was the election for the new mayor of the capital city of Turin who became automatically, by law, the mayor of the MCT. On the 1st January 2017, the process has been restarted with the new political administration. The new document will be presented at the summer beginning to be approved by the end of the year.

The metropolitan strategic plan (MSP) sets the guidelines for metropolitan development for the whole territory. It aims to programme socio-economic and environmental development in the territory. It must also comply with the regional directives. The plan also outlines the key priorities, the resources and the time frame for implementation of the key strategic objectives. The MSP is mandatory and it has a three-year time limit while being updated annually. It has to be approved by the Metropolitan Council and the Mayors Assembly of the homogeneous zones.

The planning process is coordinated by the MCT authority, namely by the 'Office of the Plan' (the director is also the director of territorial planning, transport and civil protection). The Office of the Plan consists of a stable working group. There is an ongoing discussion about the most effective process for involving different stakeholders in consultations about the plan and how the plan should be related to other plans. After the adoption of the strategic plan, the organizational chart of the former provincial authority will be modified in line with its new jurisdictions and functions as a metropolitan authority.

Statutory planning

The mandatory strategic plan of the MCT is supplemented by two types of mandatory spatial plans, namely the metropolitan general spatial plan and the metropolitan Coordination Spatial Plan.

The metropolitan general spatial plan (PTMG) regulated by the National Act no. 56/2014) is the new spatial planning instrument introduced for the planning and management of the territory of metropolitan cities. This plan addresses communication facilities, service networks and infrastructure at the metropolitan scale and serves as the basis for the municipalities' plans. In accordance with the National Act no. 56/14, the key objectives of this plan are:

- Perform planning and governance the territory and the spatial structures including communication facilities, services and infrastructure networks
- Set objectives for the planning functions of the municipalities
- To coordinate the general urban plans
- Safeguard and enhance the environment

The plan is approved by the Metropolitan Council with due consideration of the opinion of the Mayors' Assembly of the homogenous zones and the opinion of the Metropolitan Conference.

General Urban Plan- Piano Regolatore Generale (PRGC)

Each of the 316 municipalities of the MCT is developing a General Urban plan. Those plans must be in compliance with the Metropolitan Spatial Plans. These plans are a key instrument in Italy, allowing municipalities to designate land uses for a ten-year period. It is the framework which makes physical transformation projects possible, and within which private developers and other agencies must operate.

Turin's Urban Plan, ratified in 1995, drove physical renewal through land use and infrastructure planning. Turin had no new General Urban Plan for over 45 years.

The local administration saw the General Urban plan as a way of achieving physical regeneration by re-zoning industrial land and thus encouraging private developers to revitalize these areas. To ensure the support and cooperation of the private and public sector bodies needed to deliver the transformation, the development of the plan was accompanied by extensive public relations work and consultation. In the 2017 the new political administration has started the revision of General Urban Plan.

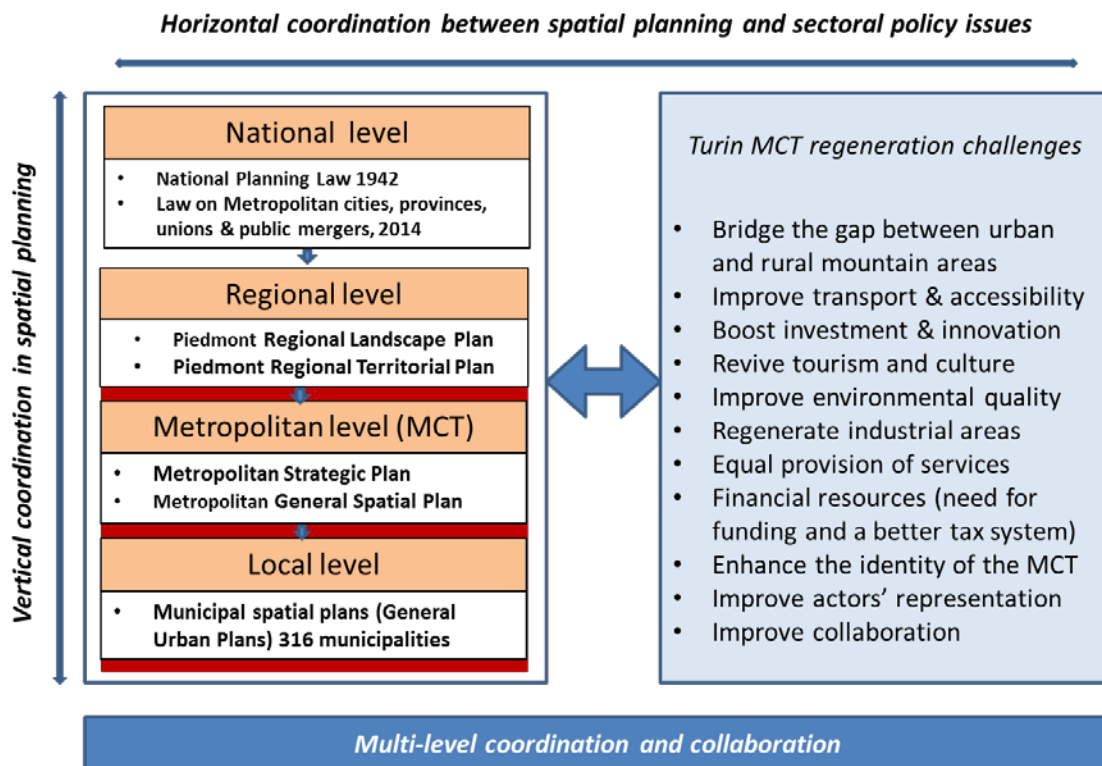
Collaborative planning

The collaborative process in pursuing metropolitan development until presently has not always been based on a systematic approach. However, there have been collaboration initiatives taking place by different actors, agencies and departments. The collaboration process has been taking place through the obligatory consultations between the Metropolitan Councils, Assembly of Mayors and Metropolitan Conference. In these legally based interactions, different plans are reviewed, approved and discussed with actors.

The coordination process at the level of the MCT requires clear relations and mechanisms of interaction between the different planning authorities. The entire process of collaboration between the key authorities of Metropolitan City of Turin, Piedmont Region and the Municipality of Turin, still has to be defined and is in process of deliberation. Particularly important issues with this regard are clear arrangements with regard to the process of shared decision making and balanced distribution of institutional and political power.

Figure 7.1 shows the administrative levels of planning and the challenges for the MCT.

Figure 7.1: Interaction between governmental levels and challenges for MCT development



Source: authors

7.4 Key spatial development challenges and incentives

There is not a very clear national urban policy in Italy, which often results in limited fiscal autonomy and tight budgets for the local authorities. Italian cities must therefore adopt an entrepreneurial do-it-yourself attitude to urban development and regeneration. Meanwhile, the decentralization-led reforms of the last decade introduced the direct election of mayors, which increased their powers and resources and gave them more responsibilities in planning.

Turin has to deal with its morphology and historical development, trying to connect its rural and alpine area to the city. Then, the city has to be transformed and rebalanced from an industrial area to a touristic and attractive one.

In this context, strong leadership, legitimacy and recognition of the metropolitan and local authorities appear to be critical for the success of Turin's regeneration process and the effectiveness of the new metropolitan development process. The key challenge in this is to introduce a regeneration strategy that is based on a flattening of hierarchies, cross-sector

collaboration, and coordination of efforts between all 316 municipalities. Currently, new ways of planning and innovative policy-making have been introduced with the spatial development of the newly established eleven homogenous zones of MCT. This fresh approach builds on an in-depth analysis of the local conditions and needs of the municipalities. The next step is for the metropolitan strategic plan to grow as a comprehensive and integrated approach to metropolitan planning and development, rather than being driven by political agendas alone. The new strategic plan needs to address the fundamental needs of the metropolitan community and provide solutions to key problems.

The Metropolitan city of Turin needs to build upon a locally-oriented, bottom-up approach to regeneration, rooted in strong cooperation between the new metropolitan authority, the local governments and local people. Political continuity is a key success factor that can ensure the commitment to a collaborative and integrated approach. The urban structure and environmental assets are attributes of the Turin metropolitan area that were extraneous during the industrial era and are now being revalued as assets on which to build its new post-industrial image. These attributes constitute core components of the city's appeal to the tourists and 'knowledge workers' that the area is trying to attract.

It is of key importance that Metropolitan city of Turin is recognized as the area operating in a new internationally competitive paradigm that requires a very different style of management from that of the industrial era. The local authorities need to be provided with sufficient capacity and resources to address the new strategic priorities of urban development in a wider perspective, outside the city and the region and across borders with other EU countries. Moreover, it is important to clarify the relationship between the municipality of Turin and the other 315 municipalities and the Metropolitan City of Turin in terms of power and authority.

The authorities of the Turin metropolitan city have to deal with a number of impediments currently influencing metropolitan development (Fig. 7.2), including:

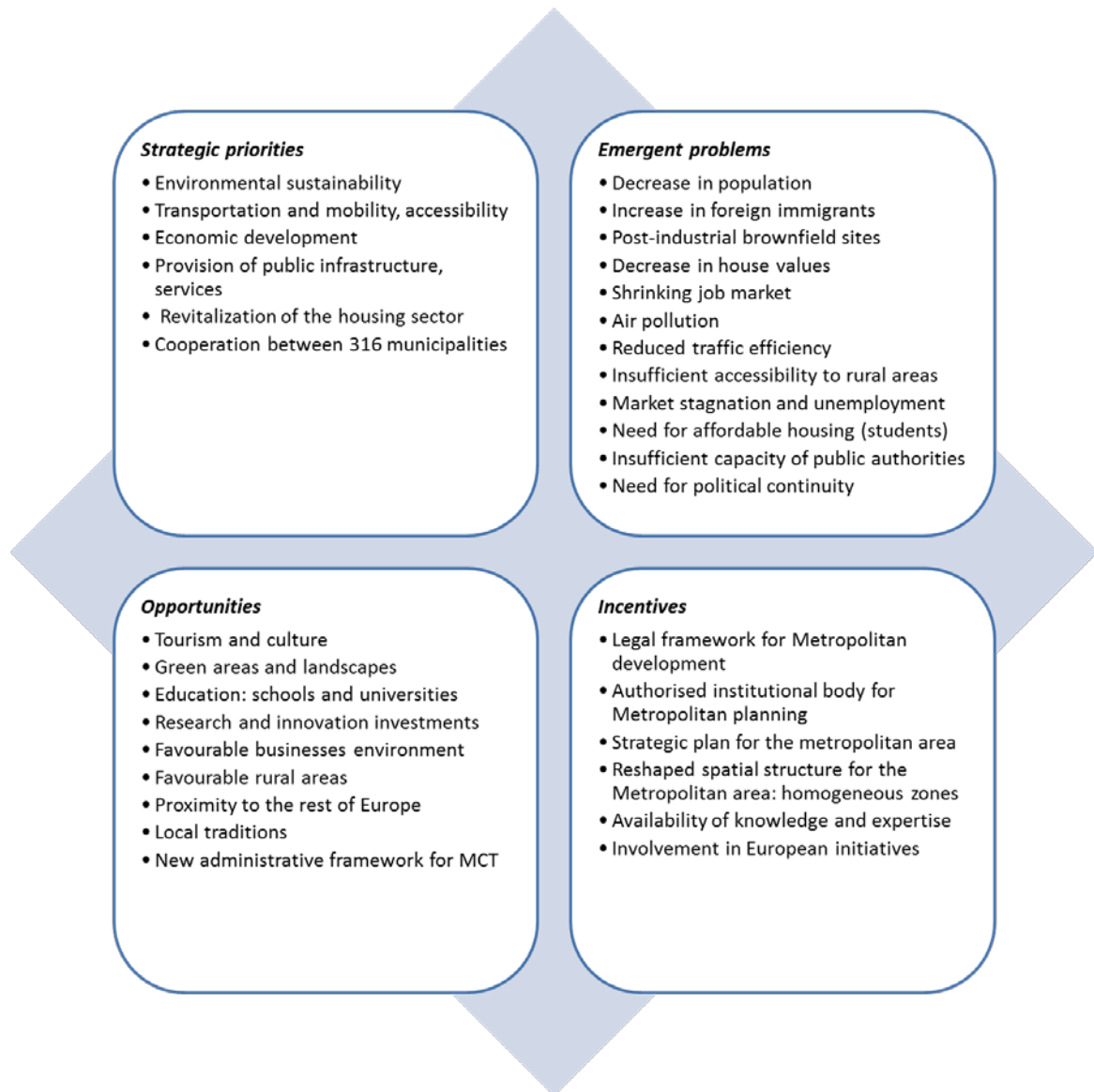
- The persistence of the economic crisis, causing the closure of productive areas and the loss of jobs in this sector
- The national economic policy which has introduced cuts in resources flow towards metropolitan cities and the withdrawal of a big part of its own economic revenue. The consequence is that the MCT authority is unable to perform its core functions and provide enough services to its citizens (e.g. provision of heating and maintenance of schools, street maintenance, etc.).
- Concerning the spatial development, Turin MA has received all the past industrial heritage which nowadays turned into abandoned post-industrial zones.
- The metropolitan city has problems with mobility and accessibility, especially in the rural areas because of the lack of efficiency of the infrastructures and, generally, of the yet unstable governance process. There is a political instability and insufficient administrative capacity to address all the challenges in the area, particularly these of transport, housing and environment.
- On the social side, there are number of issues that are occurring recently such as movement of population from the city to the marginal area due to housing prices and the low offer of jobs. On the contrary, a fast growth of immigrants moving in the city area and in its surrounding is taking place currently.

The problems above mentioned are less evident in the capital city, but they are very strong in the marginal and mountain territories.

Finally, concerning the incentives, the presence of a formal metropolitan body foresees an enhanced metropolitan governance process that can lead to a shared vision and as strategy. The preparation of a metropolitan strategy is in progress, however the distribution of competences for its implementation via the different levels of regional and local governments and spatial planning procedures still needs to be further clarified.

Another key incentive as seen by local actors is the involvement of the metropolitan area in European initiatives in order to exchange best practices and share of knowledge with other regional and local authorities.

Figure 7.2: The SOEI Matrix for MCT
(Strategic objectives, opportunities, emergent problems and incentives)



Source: authors

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8 Profile of the metropolitan area of Terrassa

8.1 Characteristics of the metropolitan area

8.1.1 Geography and demographics

The Metropolitan Area of the city of Terrassa (TMA) is situated in the autonomous region of Catalonia, Spain. The area is represented by an association of 11 municipalities. It stretches over 584 km² and has around 438,863 inhabitants (Muñoz, 2014). The TMA is considered as a Functional Urban Area (FUA) and there are diverse perceptions among local actors on its spatial dimension and scale. It is currently not formally recognized by the national government.

TMA is part of the Western Vallès or Vallès Occidental. El Vallès is a historical county in Catalonia, Spain, located in the center of the Catalan Pre-coastal range. It is nowadays represented by two separate administrative divisions (comarques) which are part of the Barcelona Province: the Western Vallès, which has two capitals, Sabadell and Terrassa; and the Eastern Vallès, with Granollers as its capital. Barcelona Metropolitan Area (BMA), of which TMA and also Sabadell Metropolitan Area are part, largely coincides with the *Ambit Metropolità de Barcelona* which is one of the seven territories of Catalonia. The *Ambit* holds 5,012,961 inhabitants (2010), with a density of 1,549 inhabitants/km².

The main city of the region is Terrassa, which has almost 50% of the population of the metropolitan area of in total 215,467 inhabitants (See Table 8.1.). It is characterized by an urban area of 22km², in a total area of 70km².

When compared to the entire region of the Vallès Occidental, Terrassa has the highest rate of population growth (1.19% vs 0.7%). Moreover, most of the population of the region is concentrated in the city, which shows a density of 2908 inhabitants/ km² compared to 1437 for the Vallès Occidental. Terrassa also shows a higher unemployment rate of 18% compared to the 9.4% of the Vallès Occidental (Table 8.1).

Table 8.1 Key population facts for Terrassa municipality and Valles Occidental 2016

	Terrassa	Vallès Occidental
Population	215.467	836.000
Unemployment rate	21,58%	9,4%
Employees	49.878	326.739
Self-employees	12.619	65.772

Source: *Statistical Yearbook of Terrassa, 2015*

Map 8.1 The territory of the Terrassa MA



Source: Chicón J (2014: 5)

8.1.2 Socio-economic development

Terrassa has assumed a central place within a network of cities in the Metropolitan Region of Barcelona (RMB) and the gateway to the strategic axis between Barcelona and Toulouse, creating new ways for networking by strategic alliances among economic structures and institutional/informal networks. Terrassa is about 300 km from Toulouse and just 30 km from Barcelona and the Mediterranean corridor.

In Terrassa, 7401 companies employ 49.878 employees which, together with the 12.619 self-employed, produce about €2,215 mil. of GDP, an eighth of the regional total (Muñoz, 2014). The main sectors providing jobs are commerce, business, health services, construction, metal industry, and textiles and knitting.

Currently, there are 14 industrial zones with more than 4 million m², where about 17,000 people are working, mainly in the secondary sector. Five more new zones will be realized in the following years: more than 2 million m² of land area available for industrial and tertiary activities. The programme will provide all basic supplies and also an advanced services centre for the development of the companies. This means a potential place of business for about 500 new companies, involving the creation of about 5000 highly qualified vacancies (Muñoz, 2014). Simultaneously, the municipality is looking for new formulas to integrally manage the common services in those specialized zones, such as mobility, public transport, energy, communications and landscape integration in the urban structure.

Terrassa is developing a concrete policy line in the field of environment protection and eco-innovation, which was supported with a special strategic guideline on the sustainable economy. Terrassa has become the leading city in research on the measure and modelling of sustainability, organizing several international meetings with the UNESCO Chair for Sustainability of the Polytechnic University of Catalonia (UPC). It is the second most important

university centre in Catalonia with about 15,000 students, 11 higher education centres for five universities and 38 recognized research groups and teams. To adapt to this rationale focused on innovation, the municipal administration and services devoted to strategic development adopted the concept of innovation as a priority.

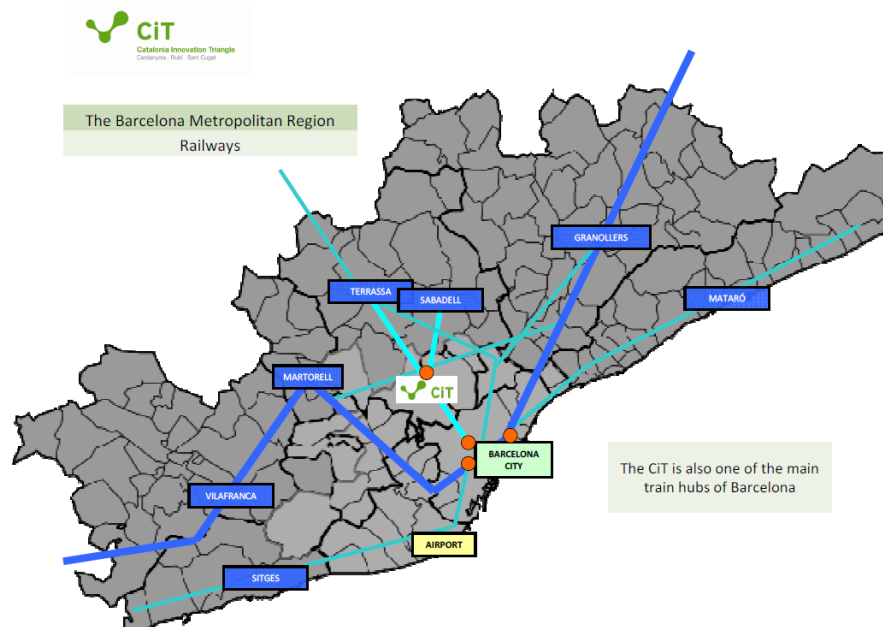
There is an integration of innovation services and strategic and economic services in the same municipal area. The core city is introducing the Local Plan for Innovation, in order to achieve the following objectives:

- Make a permanent diagnosis of strengths and obtain key actors' recognition for the innovation system
- Get sufficient leadership to deal with the city's challenges and take on higher powers such as the central and regional and even European administrations
- It involves recognition of the main strategic projects in the city, both public and private, in order to highlight the possibilities to coordinate their actions, and the innovative centres, such as: 1) Vapor Gran' innovative entrepreneurship axis: new centrality through business activities in the downtown area; 2) Audio-Visual Park of Catalonia PAC; 3) 'Leitat' High Research & Innovation Centre for textiles technologies; 4) 'Nexus III' of the UPC: spin-offs and entrepreneurship based on university projects.

8.1.3 Strategic importance and history

Terrassa is part of the RMB, and within this, it occupies a central place in its second industrial ring. The city has been a protagonist of the different industrial periods in Catalonia, becoming one of the engines of its industrial development. Nowadays, the traditional industrial development has turned into innovation process, creativity and competitiveness in the local community. In recent years Terrassa has become more a place for living than an industrial area and the population has started to increase.

Map 8.2 Barcelona Metropolitan Region railway infrastructure



Source: Catalonia innovation triangle (2014: 17)

Terrassa is well connected to Barcelona's port and airport by highways and railways. The C-58 and C-16 motorways also link the city with Manresa, Girona, France and Tarragona. The railway reached Terrassa in 1856, and nowadays two lines serve the city. The first, operated by RENFE, connects it to Barcelona and Lleida, and the second, operated by FGC, to Barcelona. Recently FGC extended its line to the north of the city, building three new stations; one of them acts as a rail hub with the RENFE line. This extension is known as the Terrassa

Metro. Several inter-urban bus lines connect Terrassa with the closest cities and towns such as Sabadell, Castellar del Vallès, Martorell, Rubí, Sant Cugat del Vallès and Vacarisses. Transport inside the city is provided by 14 bus lines operated by a municipal company (Transports Municipals d'Égara). In the future, when the three new FGC stations and the two planned for the RENFE line come into use, the railway will also serve as urban transport. In 2001, the local council adopted its Mobility Plan. It constitutes the very first step towards a new sustainable mobility scenario.

The local action plan, developed thanks to ADVANCE tools, defines the strategic goals and objectives for the city's new SUMP (Sustainable Urban Mobility Plan), which aims to achieve a more sustainable and safer mobility system.

Since 2008, the cities of Cerdanyola, Rubí and Sant Cugat, to the south of Terrassa, have jointly managed part of their economic development strategies. The programme is called CiT (Catalonia Innovation Triangle) and its vision is the creation of a principal economic corridor towards Barcelona to ease the economic development creating better conditions for the Innovation Triangle.

8.2 Spatial structure of the Terrassa metropolitan area

8.2.1 Configuration of European FUAs & MUAs related to the MDA

The uniqueness of the MDA delineation of the city of Terrassa is that it is rather small and is entirely embedded in the neighbouring FUA of the larger metropolis of Barcelona (Map 8.3). Moreover, approximately 50% of the MDA of Terrassa is part of the Barcelona MUA. This is showing that conceptually there are overlapping influence zones, while in reality the mutual dependencies of Terrassa versus Barcelona are probably not equally distributed in terms of jobs, population commuting patterns and metropolitan services. The FUA of Barcelona can be considered as polycentric while the MDA of Terrassa is impossible to classify as mono- or polycentric, due to the neighbouring and much bigger metropole of Barcelona interfering with its delineation.

Map 8.3 Relation between FUA, MUA and the Metropolitan Development Area of Terrassa

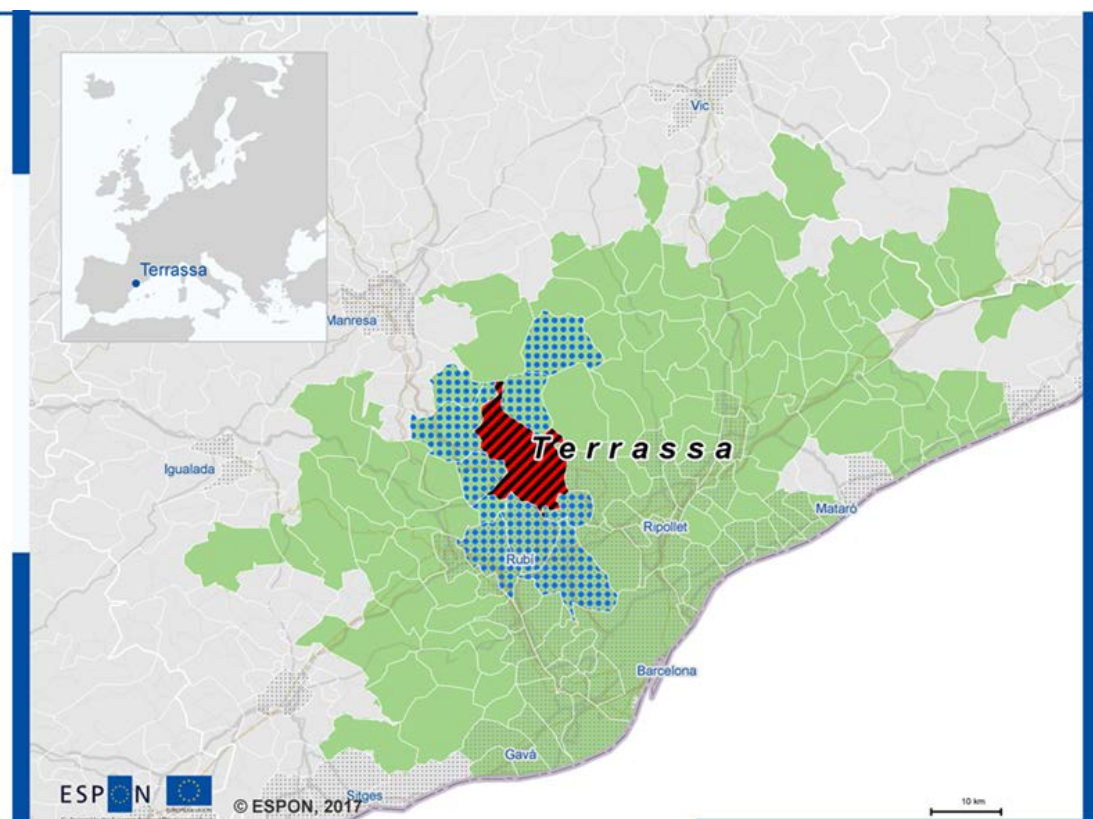
Delineation of MUA, FUA & MDA



A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Metropolitan Development Area
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

If compared to the entire region of Vallès Occidental County, TMA includes 11 of the 23 municipalities and around 50% of the total inhabitants (435,027 vs. 836,000). Unlike the TMA, the region had a dedicated budget (i.e. €21,121,022 in 2010).

The PTMB (Barcelona Metropolitan Territorial Plan) embeds the TMA within the territorial context of the seven *comarques* (little regions) that surround the core city of Barcelona. The PTMB covers 164 municipalities over 3236 km² and a population of about 4, 8 million people.

8.2.2 The formation of the MA

The TMA comprises the municipalities of Terrassa, Castellbisbal, Matadepera, Rellinars, Rubí, Sant Cugat del Vallés, Sant Llorenç Savall, Sant Quirze del Vallés, Ullastrell, Vacarisses and Viladecavalls. The initiative for the formation of the TMA is based on the idea of shared governance between the municipalities that would allow achieving synergies and benefits by joint planning activities and provision of services between municipalities. Since the 90s, several collaboration agreements have been established between the mayors of the 11 municipalities. Some of the common interests of these mayors are European integration, waste management, transport and security. Since January 2009, the TMA is a full member of the EURO CITIES network with a single vote in the assembly.

TMA is considered as a Functional Urban Area (FUAs) without any unified political or administrative structure. It is an inter-municipal informal MA combining a mix of users and functional areas within the region of Vallès Occidental County. Being an informal association of municipalities, TMA does not yet have a common budget.

8.3 Governance of spatial planning

8.3.1 Institutional framework of metropolitan planning

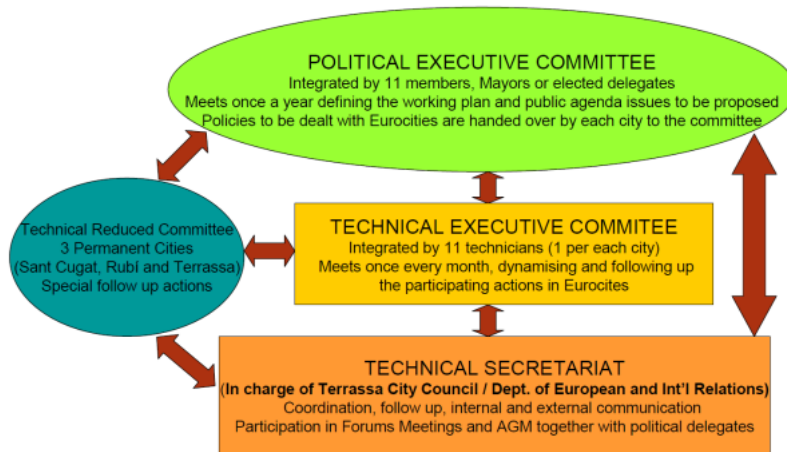
The territorial planning process is the responsibility of the department of Territori i Sostenibilitat (Territory and Sustainability) of the Generalitat de Catalunya, which is composed of:

- the Minister (in Catalan is called Conseller) of the Department
- Territorial Commissions of urbanism from different territorial scopes of Catalonia
- the territorial planning committees
- the urban planning subcommittee of the municipality of Barcelona
- the General Directorate of territorial and urban planning

The Commission of territorial policy and urban planning of Catalonia is the supreme body for advice and policy on territorial development.

The Commission of territorial planning acts as an informative, consultative and decisive manager and, at the request of municipalities, it also acts in an interpretive capacity. The general director of territorial and urban planning is the director of the institute of the general administration, which is responsible for urban planning.

Figure 8.1: Terrassa territorial planning organizational structure



Source: Chicón J (2014: 7)

The planning system

In Spain, territorial planning is perceived as “a public domain that deals with the spatial structure and management of public and private activities, with a physical impact on a territory”.

Territorial planning is a competence transferred from the State Government to the 17 autonomous regions, which have their own territorial planning laws and plans.

Spatial planning regulates the location of infrastructures, the organization and structure of settlements and the protection of natural resources and the environment (Benabent, 2006). The regional plans serve as reference for the master plans of the municipalities. The planning is carried out through regional plans, plans for urban development and municipal plans.

According to the Law 1/1995, the General Territorial Plan of Catalonia is the instrument which defines the objectives of the regional equilibrium respecting the interests of Catalonia and, at the same time, it should be the guiding framework for actions for public authorities, creating proper conditions to attract activities appropriate to the territory and ensuring that citizens of Catalonia have a decent quality of life regardless of which territory they live in. The plan is an instrument that defines the objectives for the sustainable development of Catalonia, regional equilibrium and preservation of the environment.

The plan of the metropolitan area is the closest to Terrassa MA development, i.e. the Barcelona Metropolitan Territorial Plan (PTMB), approved in 2010. It includes the territory of the regions Alt Penedès, Baix Llobregat, Barcelonès, Garraf, Maresme, Vallès Occidental and Vallès Oriental, with an area of 3,236 km² and comprising 164 municipalities.

The Barcelona Metropolitan Territorial Plan proposes a territorial model based on a polycentric network of cities. Its basic idea is to take advantage of current major centres within the Barcelona metropolitan region and to strengthen minor cities by concentrating future urban developments in them. In this way, the Barcelona Metropolitan Territorial Plan proposes neither dispersion nor excessive centralization in Barcelona. Instead, it offers a third option: the reinforcement of a polycentric metropolis articulated from both the central city of Barcelona and a set of main centres located beyond the central agglomeration. This set of centres, which are referred to as the cities of the *Arc Metropolità* (Metropolitan Arch), includes the cities of Mataró, Granollers, Sabadell, Terrassa, Martorell, Vilafranca del Penedès and Vilanova i la Geltrú. The plan proposes to reinforce these centres in order to strengthen their centrality and area of influence, as is the case for Terrassa.

The PTGC (General Territorial Plan of Catalonia) establishes the necessary guidelines for the coherence of the territorial plans and the territorial sectoral plans. Barcelona metropolitan area and Terrassa are part of the regional planning areas of the ‘General Territorial Plan of Catalonia’ (PTGC, 1995), the highest level landscape planning instrument in the region of Catalonia. The ‘Territorial Metropolitan Plan of Barcelona’ (PTMB, 2010) was developed following PTGC’s guidelines and approved in 2010 by the Government of Catalonia. The PTMB establishes three

main planning categories, so-called 'systems', for land use regulation in the Barcelona Metropolitan area: (1) open areas; (2) urban land; and (3) transport infrastructure. The open areas planning system regulates the land protected from urbanization, including, fully or partially, fourteen Natura 2000 sites. The urban planning system regulates built-up land and defines strategies for urban expansion through the tentative delimitation of development areas that can be subsequently refined by municipalities through urban plans. For example, most municipalities in the urban core, including Barcelona, share a common urban plan (General Metropolitan Plan from 1976), which is currently under major revision.

Currently there is no plan for the Terrassa MA, and the field of urbanistic planning is based on the Pla d'Ordenació Urbanística Municipal (POUM, the urban municipal plan,) of Terrassa, and on the general plans of each of the other 10 municipalities, part of the MA. In this case there is a necessity to consider the general plans of management of each of the 11 municipalities which makes the planning process more fragmented

Strategic planning

There is an urban plan for Terrassa (Pla d'Ordenació Urbanística Municipal (POUM) and a related strategic plan, but as yet no specific plan has been developed for the Terrassa Metropolitan Area.

At the regional scale, there is the Strategic Plan for Catalonia 2015-2017, approved by agreement of the government on 7 July 2015. It addresses six main areas of intervention that are influencing the Terrassa developments:

- boost transparency in publicly run activities;
- access to public information;
- good governance;
- promotion of open government and citizen participation;
- accountability and measures to promote the application of the law;
- training, outreach and awareness;
- it also specifies the schedule and the budget allocated to each of these goals.

In addition, the Smart City of Terrassa Strategic Plan promotes strategic objectives for the economy, human capital, governance, quality of life, environment, mobility and technology, with the idea of achieving the following commitments:

- turn the city into a dynamic economic engine capable of generating more and better jobs;
- become a city leader in the protection of social rights and commitment to the welfare of its citizens;
- achieve a democratic renewal process with actions to restore trust in politics, increasing participation and transparency;
- opt for territorial balance and mobility, infrastructures, telecommunications networks and quality and sustainable facilities.

Statutory planning

The municipal urban plan (POUM) of Terrassa determines urban planning in the municipal territory of 70.2 km² since 2003. POUM lasts for 12 years. After this period revisions might be considered necessary with view on the changes of the more recent economic situation, needs for land to build new housing areas, demographic changes or the need for development and of new public infrastructure.

The current plan does not address the context of metropolitan development in Terrassa. The same applies for the revision of the urban planning of the other municipalities' part of the TMA (278 km²). These need to be upgraded to ensure the coherence with the core city of Terrassa and with a view to overcoming the barriers between the administrative boundaries of the municipalities.

There is no specific law for Terrassa Metropolitan Area because it is considered as a Functional Urban Area (FUAs) only and not an administrative one.

The spatial developments within the Terrassa territory are regulated by the formal spatial planning system and the territorial laws of Catalonia (Fig. 8.2). Among these laws are the Law 23/1983 that sets the provisions of the General Territorial Plan of Catalonia as the planning instrument and the Law 1/1995 that defines the scope of the different partial territorial plans.

Collaborative planning

Collaborative planning is one of the key strategies of Terrassa MA, but this is still too weak and informal.

According to the current plans, cooperation should be enhanced both at the regional level and the inter-municipal level and strengthened with appropriate legislation that requires MA development and collaboration.

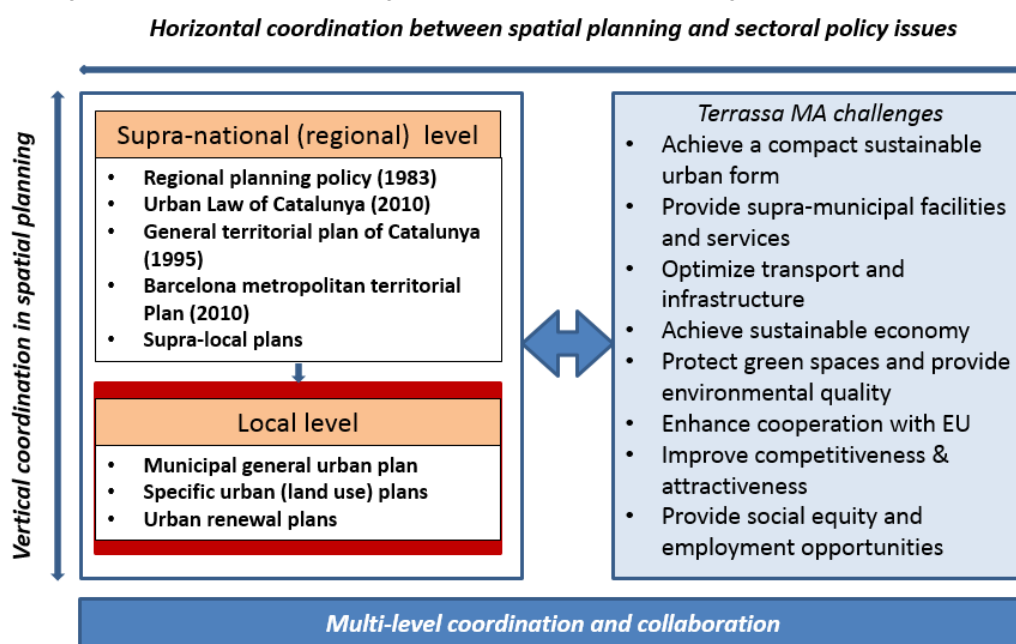
The collaborative process is currently taking place in a fragmented way. The Catalan core, administered by the recently established Barcelona Metropolitan Area, is coordinating territorial developments regarding issues such as water, transport, social housing, infrastructure projects and strategic planning for its 36 participant municipalities. At the same time, Terrassa authorities are coordinating urban and economic development for its smaller region to the north of Barcelona.

Furthermore, the three smaller cities which comprise the Catalonia Innovation Triangle (Sant Cugat, Cerdanyola and Rubí) have pooled their resources by linking the joint strengths of their industrial production capacity, technical university and a cluster of business headquarters to coordinate developments along the region's outer ring road.

Another initiative has been taken by Terrassa City Council, which formulated an area for collaboration regarding innovation and economic development, managed by Foment de Terrassa SA, the Municipal Agency for Economic and Social Development. It represents the intellectual machine which implements strategic planning on economic and social policies. The focus of this formation is on employment issues, including:

- Employment through increasing individual capacities in job orientation and information, education for employment and training, and local mediation with employers. This policy includes particular actions for special groups, as the disabled, women and foreigners.
- Employment through self-employment: technical support for the creation and consolidation of small companies' projects.

Figure 8.2: Interaction between governmental levels and challenges for MA development



Source: authors

8.4 Key spatial development challenges and incentives

Terrassa developments are embedded in a multi-layer system of planning that owes its uniqueness and complexity to the strong influence of Barcelona metropolitan area and the Catalonian policy of territorial development. The changes in the general metropolitan plan of Barcelona Plan General Metropolità de Barcelona (PGMO) in terms of spatial structure and dynamics have a direct impact on the development of Terrassa. For this reason, there is a strong necessity to promote effective horizontal and vertical coordination between the complex planning 'systems' dealing with different spatial development issues. Terrassa has its role as an urban centre with a metropolitan character covering the eleven municipalities in its surroundings, which brings the challenges of shared vision and coordination in the spatial planning process. As shown in figure 8.3 a number of opportunities are present which the local government of Terrassa is considering. Among these initiatives have already been started in the field of urban regeneration and the involvement of civil society and academics. The next step is to develop a clear strategy on spatial development and enhance the TMA identity together with the 11 local governments.

TMA developments is aimed at a compact and sustainable model that will favour processes of rehabilitation and renovation in the urban land and preserve ecological connectivity and efficiency of the agro-forestry areas. To achieve this, Terrassa MA has to maintain its links with the city of Barcelona and the municipalities surrounding its metropolitan area.

One of the specific emergent problems of the TMA is the lack of upgrade of the internal traffic system which is not corresponding to the current needs of mobility and accessibility. Another important challenge is the improvement of the social relations between community that have worsened among others as a result of economic crisis, political changes and immigration process (i.e. immigrants from Africa and South America).

In addition, the local government is currently considering the need for improving the rules, instruments and language of planners and relevant experts and the mechanism of citizens' involvement in the planning process that will shape the area in the future.

The cooperation at the level of the bigger system (which extends beyond TMA) no longer exists and political attention on the discussion for the independence process of Catalonia drains energy that is needed for the sustainable development of the region. The challenge is to deal with the perceptions of inequality such as in taxation process between different parts of the region. The tax regime is considered ineffective and causes competition between municipalities instead of collaboration. There are new governance mechanics and incentives needed that can reduce the negative effects of competitiveness at local level and, instead, promote attractiveness in a larger territorial context such as at metropolitan and EU level.

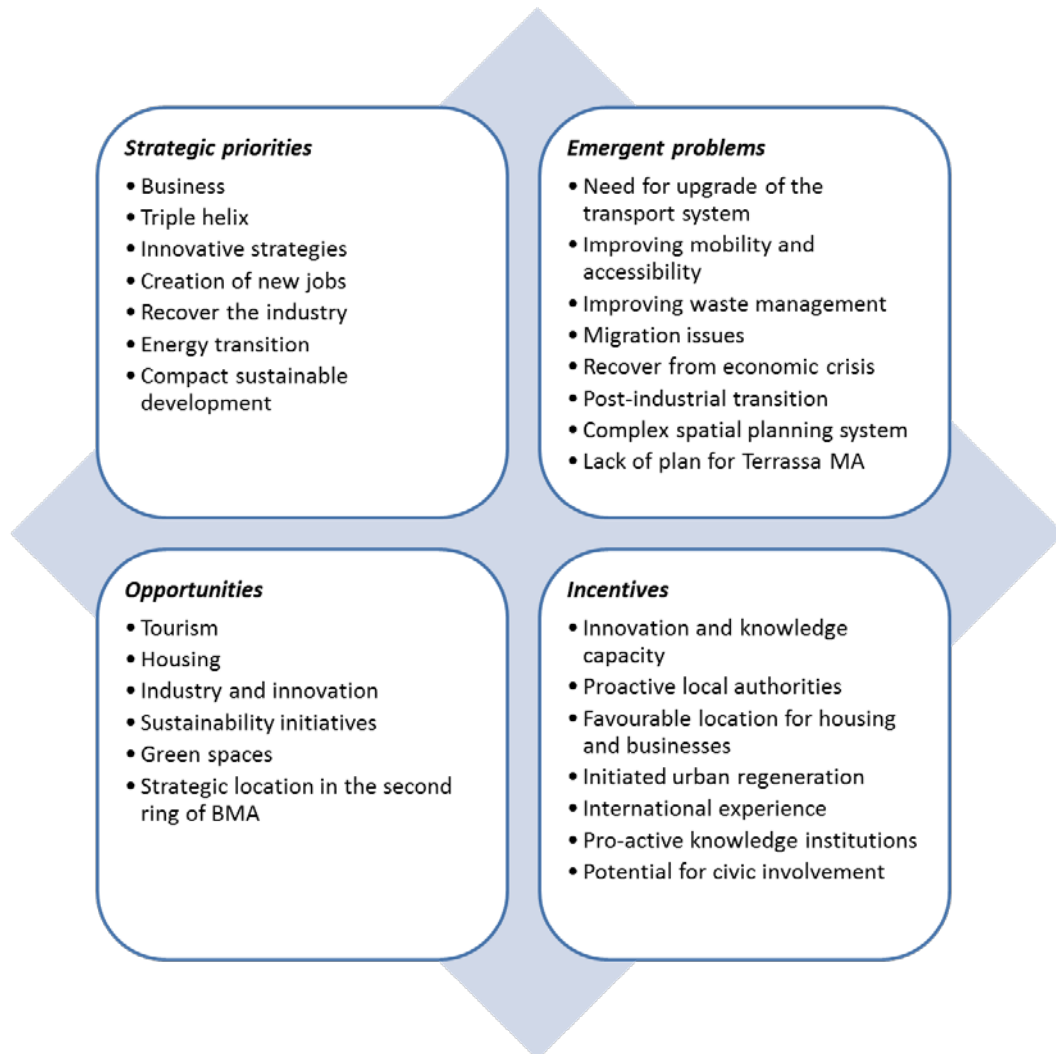
The harmonization of approaches and policies, within the bigger system of BMA is currently considered a very important and needed process. Political support and consensus building in view of joint cooperation are considered a key challenge and prerequisite for success with the transformation towards more extensive and a BMA oriented planning policy. There is a call for politicians to join hands and the local authorities looking for ways to strengthen the civic society, including businesses in taking initiatives for the development of the area. Also academic institutions within the TMA are having a proactive attitude towards new societal initiatives.

The economic crisis had an impact on TMA and, together with the immigration issue, added more problems concerning the administration and development of the metropolis. Some of the key challenges include the need to improve the transport system and the accessibility.

Overall, the metropolis needs a clear metropolitan planning approach, providing rules of the game and envisioning the future development and management of the challenges generated by post-industrial transition, planning inefficiency, waste management, transports, immigration.

The key incentive for TMA development is the pro-active approach undertaken by the local administration and citizens through bottom-up initiatives in different local developments. TMA's priorities and potential are in planning for attracting innovation and pursuing urban regeneration process, while creating opportunities for better housing, businesses and education. The key priorities, emergent problems, opportunities and incentives of TMA are presented in figure 8.3.

Figure 8.3: The SOEI Matrix for Terrassa MA
(Strategic objectives, opportunities, emergent problems and incentives)



Source: authors

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9 Profile of the metropolitan area of Lille

9.1 Characteristics of the metropolitan area

9.1.1 Geography and demographics

The metropolitan area of Lille represents a dynamic structure of urban agglomerations that have been formed over time and is still evolving, following more recent changes in the national territorial cohesion planning framework of France.

The “Aire Métropolitaine de Lille” or Lille Metropolitan Area (LMA), covers an area of 7,516 km² with a population of about 3.9 million inhabitants and of density of 520 inh./km² (EC & JRC, 2015; ADULM, 2011). The area represents a cross-border urban conurbation that stretches across the border with Belgium. The area covers in total 682 municipalities from which 622 in the French side and 60 in the Belgium side.

The developments at the level of the LMA from 2007 to 2016 were supported by a voluntary Association “Aire Métropolitaine de Lille” (French Law of 1901) which pulled together the efforts of different actors. While this association showed potential benefits in extending the collaborative activities in the functional urban area, it could not sustain its status until presently due to changes in the political commitment of the local authorities. Therefore, the LMA is not represented by a formal body but it is based on collaborative arrangements.

Within the territory of the LMA there two other important urban conurbations mostly on the French side of the area, including:

- The European metropolis of Lille (MEL= Métropole Européenne de Lille) which is a conurbation of 1.13 million inhabitants, and density of 1,722 inh. /km², covering an area of 647.78 km² (including 5 municipalities that joined in 2017). The core of Lille, with its economic activities is a driving force in the urban development.
- The EGTC Eurometropolis Lille Kortrijk Tournai which is an area about 3,550 km² (610 inh./km²). Its population is around 2,1 million inhabitants.

The geographical location of LMA is exceptional as it is at the crossroads between such major European capitals as Paris, London and Brussels. Conversely, this raises questions about the risk of dependence and marginalization in relation to these capitals.

The LMA was established in 2005 with a “call for metropolitan cooperation” launched by the French government as an informal form of metropolitan cooperation around the MEL, with no strategic planning competence. It is a polycentric metropolitan area characterised by highly contrasting territories, with a middle-sized main municipality (Lille, 230,000 inhabitants) which has gradually become the indisputable central city of the conurbation, following long discussions with the other two large municipalities, Roubaix and Tourcoing.

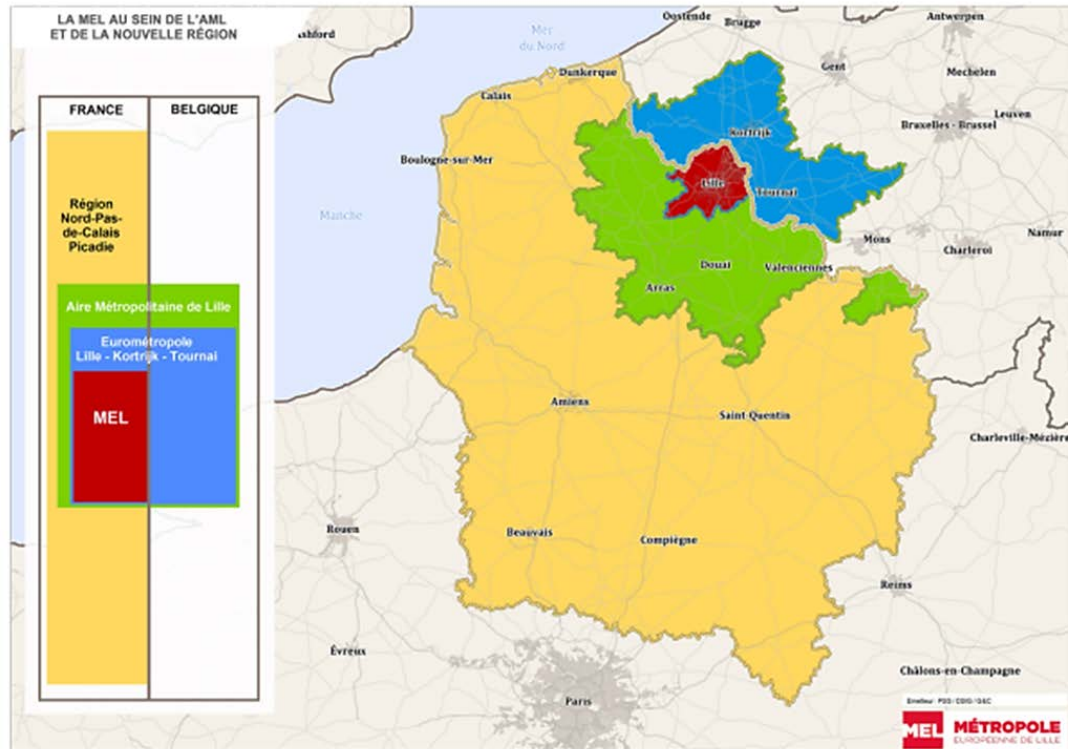
The central position in the Lille and its economic values make the urban context a real ‘metropolitan heart’. It is characterized by a juxtaposition of municipalities of an intermediate size: the majority have between 5000 and 15,000 inhabitants, grouped around city centres with less than 50,000 inhabitants.

Against the background of this polycentric model, MEL plays a pivotal role in terms of population exchange. It forms a metropolitan hub for 1.5 million inhabitants, or 40% of the LMA population. Numerous inhabitants of the MEL have lived in this core area during their lives, as they were often obliged to do so as part of their learning pathway or working life. 30% of the relocations from one district to another in the French part of the territory, as reported during the 90s, were people arriving in or leaving Lille core area.

However, these strong territorial ties are not enough, to talk in terms of demographic unity throughout the MEL and LMA. The territories report contrasting planning processes and developments. The population within the mining arc of LMA has been on a downward trend since the 60s. This has been a result of fundamental economic restructuring, while the overall population growth in the LMA’s metropolitan hub has continued to grow. Since 2000, the increase in the size of the population has been concentrated in the city of Lille, while extending

to areas within its immediate periphery, as well as to the south and west of the metropolitan area. This demographic pattern was less notable on the Belgian side of the LMA. 75% of the population lives on the French side, the densest part, which accounts for only 60% of the LMA surface area. As there is no natural obstacle, the population distribution does not respect political borders.

Map 9.1: Lille metropolitan area (MEL)



Source: Métropole Européenne de Lille

9.1.2 Socio-economic development

The establishment of the MEL formal area has helped creating six official competitiveness clusters and centres of excellence, which are operational levers for international development, and it has managed to develop an environment which promotes economic dynamism (high-level metropolitan jobs, innovative companies, assistance for business creation, training, etc.), particularly in the digital sector. The conurbation is continuing its economic transformation around its centres of excellence and competitiveness clusters. There are, however, differences observed in the larger area of the LMA cross-border areas about socio-economic issues.

On the French side, home ownership predominates in rural and rural-urban areas, while there is a large rented sector in the most urbanized areas. This situation applies in particular to the mining area. There is a prominence of social housing and tradition of company housing provided by the national coal industries and now managed by Housing and City Soginorpa. The approach adopted in cities covered by the Lille urban area is inclined more towards property investments, student accommodation or local authority housing.

A review of the housing market highlights significant price differences. North-west Europe typically has an urban culture of town houses, while in the metropolitan hub on the French and Belgian sides, apartments account for a bigger share of the property market than the rest of the LMA and they are sold at higher prices. In the peri-urban areas in the west and east, high quality residential areas comprise houses which are among the most expensive in the LMA. Conversely, in the mining arc or in the Wallonia part of LMA, properties (both houses and apartments) change hands for lower prices. At the level of LMA, the FUA, secondary urban poles have been formed within the mining arc with small-sized main municipalities, but highly populated conurbations such as in Béthune, Lens, Douai or Valenciennes.

There is a significant amount of French citizens living in neighbouring Belgian municipalities, rather middle-class people seeking cheaper housing or jobs. For example, in 2006, 20,000 French residents were working in Belgium, compared to the 11,300 ones in 2000. Map 9.2 illustrates the number of French residents in the cross-border communities with Belgium. In 2013 the poverty rate in MEL reached 18.6 % (Source: INSEE, 2013)

LMA has attracted about 150,000 businesses that provide jobs for 1.5 million people (2006 figures). Tertiary sector employment dominates but industrial jobs account for 18% of the employment. The Belgian section of the LMA provides more jobs for its citizens but they are still strongly attracted by the employment hub of Brussels. Lille provides a variety of key jobs within various fields of activity: services, finance and advice/assistance. The mining arc is characterized more by industry, business and transport. Industrial jobs declined by 10% between 2000 and 2005, and services-related jobs by 5%. There is a considerable shortage of jobs across the LMA and unbalanced employment opportunities.

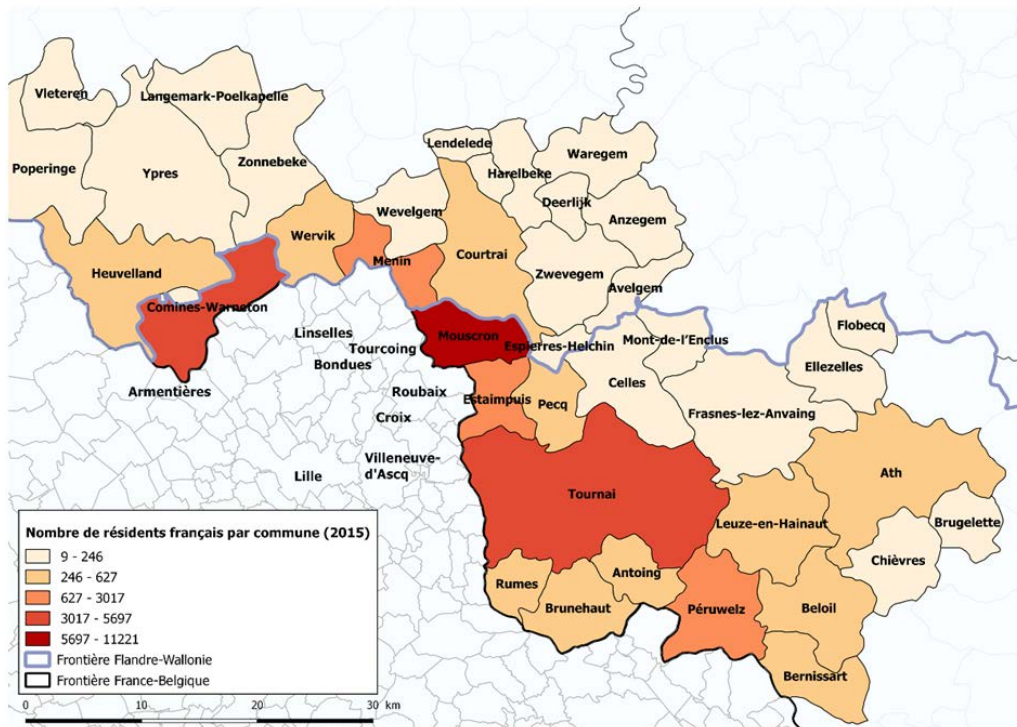
Furthermore, there is a clearly increasing pattern of commuting travel in various directions and across the borders. This is related to the population density and the proximity of the transport facilities. The concentration of economic activities and employment in various urban centres is uneven and it encourages different societal groups and cultural communities to commute across the borders.

According to OECD statistics corresponding approximately to the MEL's area, the generated GDP was about 33.5 billion euros in 2012. This would place MEL in the fifth place between French metropolitan areas, after Paris (550 billion euros) and Lyon (68.3 billion euros).

LMA has more than 36,000 industrial and commercial establishments, and it represents a GDP of 48 billion euros. It remains the capital of the 4th French economic region, although its share of French GDP has declined steadily in recent decades: 8.3% in 1962, 5.6% in 1995. In 2011 Lille could be considered at the heart of Europe's 1st and richest consumption area: 78 million consumers and € 1,524 billion of buying power within a 300km radius.

Although the unemployment rate is much lower in the neighbouring Flemish region than in the MEL, there are still marginal flows of Flemish workers seeking jobs in the France in the recruiting sectors of activity (e.i. textile, construction, food industry, and logistics). The barrier of the language is not necessarily at stake but transportation and mobility are a big issue to meet the demands of these residents. This is an important factor for the metropolization of Lille.

Map 9.2 Distribution of French citizens across the borders of the MEL



Source: Métropolitique (2017)

The average annual per capita tax based income within the LMA was €12,000 in 2005, while it was higher in the peri-urban areas around Lille and Arras: €14,000. In the urban areas, the average is close to the LMA average but with huge disparities between wealthy and low-income households.

The metropolization process needs to be well managed with regard to the economic disparities it can create in the region. Such disparities are already present in MEL and LMA with regard to social segregation of the local communities. The metropolitan area is strong because of its growth potential. However, this potential need has to be used in balanced way. This is the case in with the strong dependence on the car mobility to access services and jobs and the presence of low income communities (Direction Régionale de l'environnement, de l'aménagement et du logement, 2015).

9.1.3 Strategic importance and history

During the 20th century, the mines in the region caused an increase of population. Furthermore, the LMA's trading tradition is a reflection of the region's economic background. Retail continues to enjoy a high profile, as it is where the headquarters of major groups are located, such as Auchan, Decathlon and Leroy Merlin.

The powerful economic networks in the LMA provide opportunities for future development. The expansion of business activity is driven by the large number of customers and the high level of local expertise. The fact that leading large-scale distribution and online retail companies are based in the area is one of the key assets for the trade distribution network. This sector is an integral part of the region, present everywhere from the training and research centres to the decision-making centres. The logistics sector benefits from the LMA's strategic position on the major north European corridors and access to a potential market of over 100 million inhabitants.

In 2015, Lille started being referred as the "Lille European Metropolis" in the MAPAM law. The Lille metropolitan area has links to the European transport networks and its easy access to the world trade markets along with its population density and economic dynamism have enabled the region to develop a genuine logistic approach, which has helped making the case for the

Seine-North Europe canal. In this regard, the current LMAs have important economic incentives for development such as:

- a strategic location for handling freight traffic passing in transit through the major North European corridors, while industrial activities in the region also produce traffic;
- a potential market of more than 100 million inhabitants within a radius of 300 km;
- large-scale facilities such as the Delta 3 platform;
- the world-class I-Trans cluster, primarily based in Valenciennes and Lille.

According to the INSEE Flash N°10 (2015), the uniqueness of MEL in a European context is its orientation towards non-market services. It has yet a slightly low rate of actively employed persons and young/not educated population. Moreover, Lille hosts both families, who are owners of their houses and, at the same time many individual dwellings.

9.2 Spatial structure of Lille metropolitan area

9.2.1 Configuration of European FUAs & MUAs related to the MDA

The LMA is a multipolar urban agglomeration located at a key multimodal crossroads in the international transport infrastructure, with high-speed rail lines to Paris, London, Brussels and Amsterdam, the South-East of France, highway networks to Paris, Lyon, Antwerp, Rotterdam, etc., and a network of waterways, which is currently being reinforced. Lille, Roubaix and Tourcoing are the main metropolitan poles at the scale of the MEL urban conurbation. At the level of the LMA, cross-border area these are also Kortrijk and Doornik in West Flandres and Wallonia respectively.

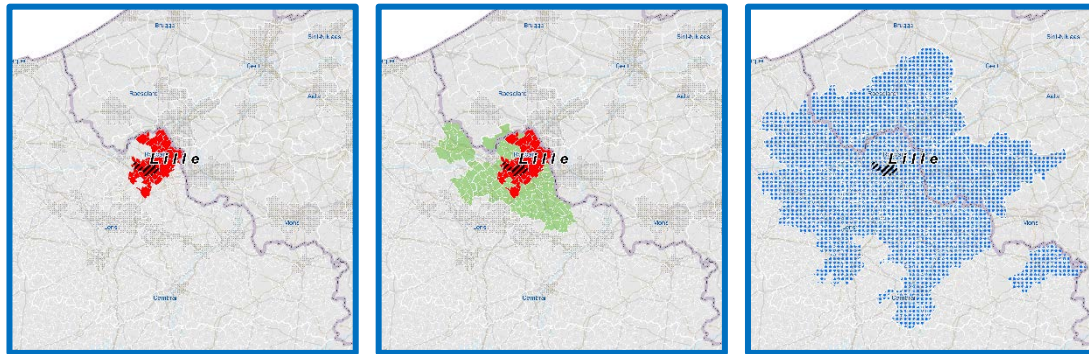
Creating a spatially coherent structure for the LMA is considered as a relevant scenario for addressing the dynamic metropolitan developments in the urban region.

The metropolitan pole and the mining arc in the south of MEL, are two major settlements crossing the political and administrative borders separating countries regions, provinces and departments. The urban areas inside MEL constitute more or less an urban continuum, which emerged during the 20th century (Conseil de Développement, 2017).

The delineation of the MDA of Lille based on the LMA territory with a cross border perspective. The MDA is much larger than the European FUA of the core urban area of Lille (Map 9.3). This delineation represents a cross border spatial structure across the Belgium border. This indicates a metropolitan area with an extended potential to cover multiple urban trends and functions among which intensified commuting, housing and job related urban activities.

Map 9.3 Relation between FUAs, MUAs and the Metropolitan Development Area of Lille

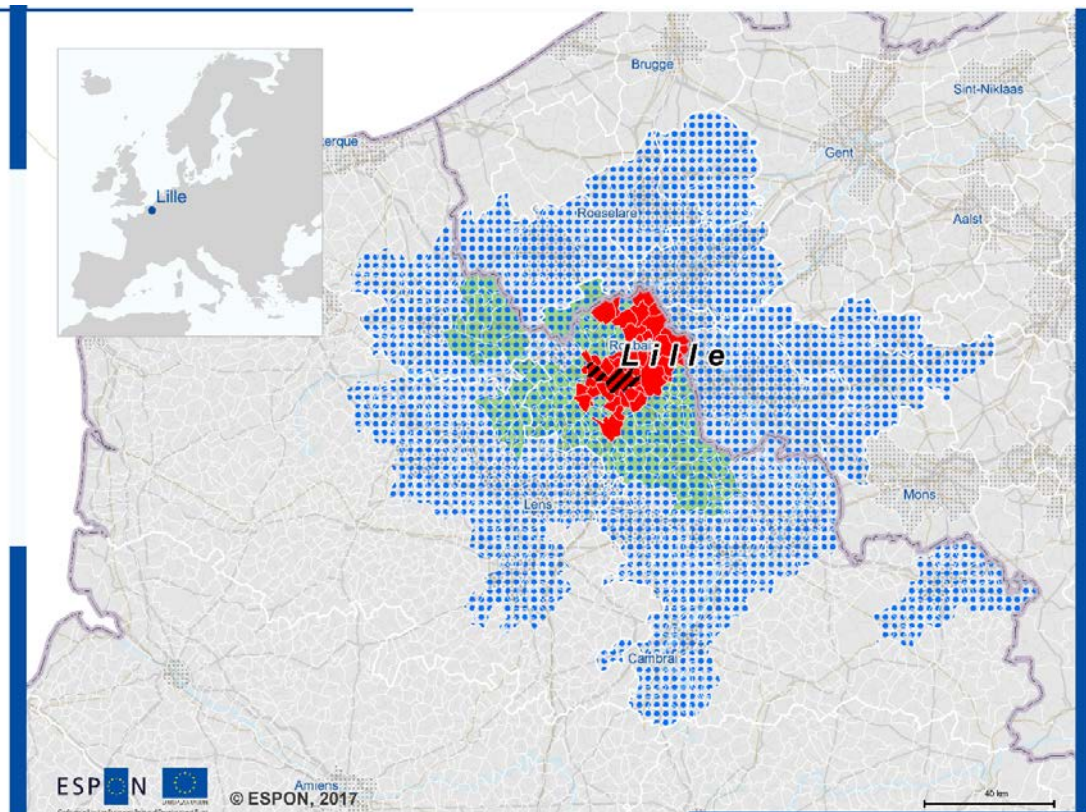
Delineation of MUA, FUA & MDA



A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



- Core city municipality
- MUA of the core city (ESPON 2013 Database)
- Surrounding MUA's (ESPON 2013 Database)
- Metropolitan Development Area (MDA)
- FUA of the core city (ESPON 2013 Database)
- National border
- Railroad
- Motorway
- Primary road
- Other road
- rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2011
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

9.2.2 The formation of the MA

The formation of the LMA area is based on an informal collaborative arrangements and strategic considerations about the relevance of metropolitan planning at a wider cross border perspective. At the same time, the MEL urban conurbation has been formally established first since 1996 and have received an upgraded formal status in January 2015 as an intercommunal cooperation. The MEL's formal objective is to help resolving the fragmentation of the administrative system across municipalities and focussing on the development of the wider urban agglomeration of Lille.

The formal creation of the MEL was followed by the creation of the Hauts de France region on 1 January 2016. These two events have been of major significance for the start of some cooperation between the local institutions. The establishment of MEL can be seen as an impetus in development of the wider regional territories, helping to enhance their assets and share the benefits.

MEL is a formally existing structure consisting of 90 municipalities and 1.1 million inhabitants. As a public establishment for inter-municipal cooperation it has number of responsibilities and competences and an annual budget of 1.7 million. In January 2017, it gained five new municipalities due to a new territorial law in France making it impossible for inter-municipal authorities with fewer than 15,000 inhabitants to continue to exist and forcing them to join bigger existing authorities. The goal is to merge small municipalities to improve the efficiency in the provision of services.

9.3 Governance of spatial planning

9.3.1 Institutional framework of metropolitan planning

Planning system

Urban planning tools and methods renewal in France began in 2000 with the establishment of the solidarity and urban renovation law. The decentralisation of planning responsibilities has reorganised the roles of the regional and local governmental institutions, while the state planning services have abolished any territorial plans at national level.

As the primary local urban planning document, the SCoT (Scheme for Territorial Coherence of Lille) serves as a reference for local urban development plans (PLU), which are granted three years to become compatible with the approved SCoT. The SCoT also serves as a framework for creating other master plans in transport (the Urban Mobility Plan – PDU) or housing (the Local Housing Plan - PLH).

Under the terms of Article L.143-16 of the Urban Planning Code, the semi-public company has jurisdiction with regard to the territorial cohesion plan and it is responsible for drafting, approving, monitoring, modifying and revising the territorial cohesion plan (SCoT) for the territory of the inter-municipal authorities of Weppes, La Haute-Deûle, and Pévèle Carembault, as well as for the MEL, pursuant to Articles L.121 and L.122 of the Urbanism Code pertaining to territorial cohesion plans.

The SCoT of Lille is developed by at the administrative scale of Arrondissement (a larger administrative district that is divided in cantons and municipalities).

Three phases and key documents characterize the drafting of the SCoT:

- the introductory report includes, in particular, the territorial diagnosis, the initial condition of the environment, and the environmental impact assessment of the choices made in the SCoT project;
- the sustainable development plan (PADD) is the expression of the political project of the elected officials of the semi-public company for the SCoT of the Lille Metropolitan area;
- the steering and objectives document (DOO) is the regulatory and enforceable component.

Two broad ambitions guide the territorial project:

- develop, boost and enhance fluidity;
- protect, preserve and ensure the energy transition.
- to achieve these ambitions, the following objectives are defined:
- mobilize stakeholders to promote development and innovation and to attain economic excellence;
- improve accessibility to the territory and improve the mobility flows;
- meet the territory's needs in terms of housing, via a solidarity-based approach;
- improve living conditions and aim for environmental excellence;
- meet residents' needs locally.

There is a hierarchy between the different planning documents and the inferior ones should respect the upper ones. This system organizes the relations between the different documents. For instance, the permission to build should be compliant to PLU, which has to respect the SCoT.

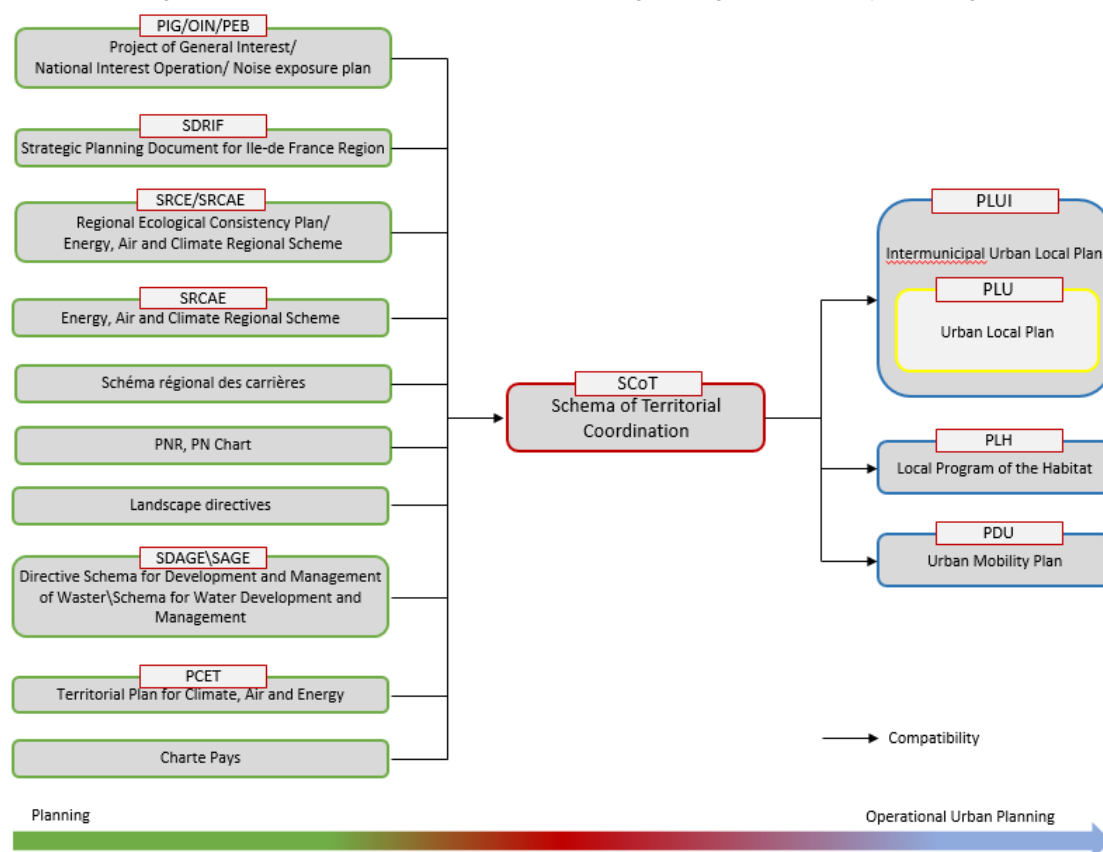
The local urban development plan (PLU) defines the orientations and rules of urban planning at the scale of a territory, the MEL in this case. The MEL is the project owner of the PLU. Much more than a document to be consulted during a real estate purchase, it is above all the fulfilment of the development and strategic project on a metropolitan scale. Economic development, mobility, housing, the environment etc.

PLU (the same for PDU) in MEL has always been carried out at the inter-communal level, even if this was not a legal obligation. In order to have consistent urban development within the MEL the planning process takes place at municipal level.

The PLU is the mandatory document that is consulted when looking to buy a plot of land, to build or generally to carry out a development or construction project. The PLU is currently undergoing a general review. The current PLU (which dates from 2004) will remain in force until the PLU2 will be finally adopted (in autumn 2018) and it serves as the reference framework for planning.

Likewise, before 2004, MEL had not the jurisdiction for housing, which was held by the municipalities. Since 2014 the planning for housing is held at the inter-communal level in order to get consistency and solidarity at the right scale.

Figure 9.1 Governance scheme of SCoT linking strategic and statutory planning



Source: adapted from the French scheme for Territorial Coordination (2016)

Strategic planning

France is carrying out significant territorial reforms that give regions a larger role in planning. Regions have become the lead actors for strategic spatial planning and sustainable development. Lower-order plans must now be consistent with the newly mandated Regional Spatial Plans (SRADDET) that merge three previous sectoral plans (transport, ecology and climate air and energy) and include a waste management plan by 2017. These plans have to be adopted by 2018. The recent sub-national reforms also clarify their responsibilities among subnational tiers reduce the number of metropolitan areas and merge some regions. The new planning regime sets ambitious goals for sustainable development that demand highly integrated planning across functional territories (OECD, 2017).

In 2005, Lille metropolitan area had no strategic planning powers. The initial 23 public partners had signed a memorandum of understanding for the development of a cooperation process aiming at improving the territorial competitiveness through the development of concrete projects. Six strategic objectives for launching a 'metropolitan project' were decided upon in the very early days of this cooperative effort:

- have sustainable development serves as a touchstone
- facilitate the creative process in all its various forms
- become acknowledged as a European-wide centre for innovation and research
- promote and improve access within and outside the area
- become a new meeting point for north-west Europe
- enhance the vitality and raise the profile of the metropolitan area

The SCoT is the territorial project for the MEL (covering a slightly broader territory but the population is about the same) based on a diagnosis and an overview of the development and the consistency of various public policies (economic development, housing, leisure, the environment, etc.). The new SCoT was adopted in February 2016. The public inquiry lasted

until 14 November 2016. The council of the mixed syndicate for the SCoT voted on it on 10 February 2017 and has to start implementation from May 2017. In fact, the SDDU 2002 has not been valid for one year due to complex legal reasons.

The SCoT for the Lille metropolitan area confirms the high ambitions for planning and development in the local territory for the next twenty years.

The key urban planning document for Lille Metropolitan Area, encompasses the cross-border area that unites the MEL and the inter-municipal authorities of Weppes, La Haute-Deûle and Pévèle Carembault.

Regarding MA developments outside the administrative urban areas, the relevant level for strategic planning in France is the region. Between these two levels, there are other strategic levels such as:

- the Département du Nord, a territorial authority which has no specific competence in the field of territorial strategic planning in general;
- the metropolitan hubs or poles (in France), acknowledged by the region as eligible for funds but with no strategic planning competence (see below).

There are therefore two main administrative levels for strategic planning: the Metropole of Lille (MEL), a public inter-municipal cooperation body, and the region Hauts-de-France Nord-Pas de Calais Picardie, a territorial authority.

So, the relationship between the SCoT, for MEL, and the SRADDET (Regional Plan for Spatial Planning, Sustainable Development and Equality between Territories), for the region, becomes the biggest issue as far as strategic planning is concerned. The NOTRe law created the SRADDET in 2015 as an answer to the desire of the regions to have more strategic and prescriptive tools at their disposal. This law intended to reinforce the new regional plan. As the principle of free (subsidiarity) administration forbids one local authority exercising direct power over another, the approval of the SRADDET plan by the Prefect activates its enforceability on the local authorities. This enforceability operates on two levels:

- the objectives are considered in the local planning documents;
- the measures taken by local authorities are compatible with the general rules.

One of the two objectives assigned to the SRADDET by its creators is to contribute to the *"clarification of the role of local authorities," by giving the region the powers to produce a "prescriptive planning document"*. Indeed, this is the main new element in this plan, a descendant of the SRADT, a unique situation where one local authority has the power to prescribe orientations for the others.

The main purpose was to create a new model of relationships between the regions and the sub-regional territories. To achieve this, the SRADDET therefore has either a strong strategic ambition, particularly extensive thematic windows (climate-air-energy, ecology, transport, waste disposal, etc.), or an unprecedented prescriptive scope, which explains the mandatory need to associate with some strong partners such as the metropolises.

The SRADDET will therefore merge five existing plans:

- Inter-modality;
- climate, air, energy;
- ecological consistency;
- waste;
- territorial digital development.

It should have a vision, not just metropolitan, but also integrate cross-border partnerships, networks and issues, and the stakes linked to disparities within the territory (rural territories, deprived neighbourhoods, etc.) and the territorial solidarity and cohesion implied by the new status of MEL within a merged region.

SRADDET is therefore a "simple" spatial planning document that shall generalize relevant issues related to the local urban planning documents. As perceived by the local authorities the relation between the SRADDET and the SCoT is seen in the following aspects:

- a SRADDET is a multi-themed spatial planning document intended to lay down general guidelines;

- SCoT (or PLU), PDU and PCAET (Territorial Climate-Air-Energy Plan) should be in compliance with the general guidelines of the SRADDET.

The SRADDET is seen by the national territorial law as the mechanism to reinforce the prescriptive of the new regional planning. The approval of the plan by the Prefect establishes the status of the plan as guiding document for the local authorities. This means that the local authorities must consider the objectives of the SRADDET in their plans and any of the measures taken embedded in the local plans must be in compliance with the SRADDET.

The SRADDET, on the other hand, must comply with a number of documents and projects, including:

- France Urbaine: a lobbying Association of French big cities and inter-municipal authorities. It merged in 2016 two former associations: AMGVF (Association of the Mayors or the French Big cities) and the Association of French Urban Communities (ACUF).
- General Interest Projects (PIG);
- National Interest Operations (OIN);
- Orientations on the balanced and sustainable use of water resources;
- Projects concerning the location of major amenities, infrastructures and economic
- Activities in terms of investment and jobs;
- Charters and maps of the national parks;
- Inter-regional massif development plans
- Water Development and Management Master Plans (SDAGE) and the Flood Risk Management Plans (PGRI).

The implementation of the SRADDET at the scale of the LMA level, is foreseen by the development of the Consistency framework document (Cadre de coherence, 2016) at the by the state authority (DREAL). This framework document guides the State authorities to examine projects of local authorities. It acknowledges the fact that projects at the metropolitan scale have to be examined at even a larger scale, i.e. the metropolitan area one (i.e. LMA level). This is particularly considered in this document with view on achieving better coordination and consistency between projects aiming at preservation of nature and environment, building an efficient and sustainable transport network, or managing urban sprawl.

The approach proposed in the consistency framework at LMA level and on the basis of the study of the network of urban development agencies regarding population-based approach, home-work commuting flows, services, employment concentration, demography the Region proposed a sub-regional territorial division in five Territories among which the LMA. The areas are hierarchized in 5 categories according to their functional weights. Enhancing the relationship between these 5 territories is the key goal of the Region to be addressed in the SRADDET. The SRADDET therefore should propose a coordinated planning approach between the core-urban area (Morphological urban area) and at the scale of the SCoTs plans.

Statutory planning

In France, there has been high degree of decentralization of planning responsibilities to the local authorities. There are not actually national planning documents (apart from general infrastructure schemes or blueprints for public infrastructure over which the state has retained authority such as the high-speed railway network, prisons and tribunals). The state has a role in specific contracts with collective bodies such as the state-region planning contracts (CPER).

The CPER 2015-2020 is a national funding programme that aims to finance projects with leverage and convergence of financing in favour of local investment and structuring projects for the territories.

In December 2000, parliament voted the Solidarity and urban renovation law i.e. the SRU law, which renewed the French planning system. This law defines strategic priorities such as: planning policies being more coherent, more urban solidarity in housing sector, urban transportation policies to be better linked with planning policies to ensure efficient mobility.

Between the regional and inter-communal level there is a degree of juridical hierarchy established between the strategic and the statutory plans such as between the SCoT and

SRADDET. The SCoT plans must consider the goals of the SRADDET and must conform its objectives.

Furthermore, following the constitution of new inter-communal authorities, new local services emerged under the competences of the local authorities. However, the need increased in coordinating all plans, which could concern the local authority such as adjoining SCOT, PLH or PDU; PLU which at the same time have to be compatible with their own SCOT, PLH or PDU (See figure 9.2). Currently, under the new statutory regulations the PLUs and PDUs are as well encompassed at the inter-communal level with the aim to achieve a better coordination between the municipalities.

Collaborative planning

Collaborative planning in Lille metropolitan area is supported by several cooperative arrangements.

- MEL represents (i.e. according to the division of types of metropolitan areas in France) a Public Inter-Municipal Cooperation Establishment (EPCI). It involves 90 municipalities and has extensive legal fields of competence, either enforced by law or voluntarily transferred from the municipalities, and more recently from the Département du Nord. Key competences include public transport, waste disposals, water supply, sewerage, urban development and planning, economic development, housing policy, culture and sport facilities.
- Metropolitan poles (*Pôles métropolitains*): MEL is not a part of a metropolitan pole on a legal basis but it is one of the five parties committed to the regional planning arrangement Contrat de Plan Etat Région (CPER). In Nord Pas de Calais Region, the metropolitan poles are acknowledged in the CPER 2015-2020 to receive subsidies from the Region. Metropolitan poles are not legal obligation but are created as a spatial concept by the territorial reform started in 2010. These aim to strengthen the cooperation between the different metropolitan areas and the inter-municipal establishments (EPCI) as defined by the national territorial plan from 2014.
- LMA: A voluntary association, '*Aire Métropolitaine de Lille*' (AML) or 'Metropolitan area of Lille' (LMA), was created in December 2007 in order to represent and develop this cooperation process. The cooperation topics include economic development, transport and sustainable urban development. LMA was dissolved in 2016 but the territory and the cooperation arrangement is still considered by planners as highly relevant to address metropolitan challenges.
- EGTC Eurometropolis Lille-Kortrijk-Tournai, a formal public organization, was set up in 2008 in order to develop and manage cross-border cooperation. The area covers 152 municipalities, 2.1 million inhabitants (1.1 million in France and 1 million in Belgium) and 3550 km². A cross-border cooperation process had already started in 1991 involving Lille metropole and four neighbouring Belgian intercommunal associations (Flemish and Walloon). This was done through a French voluntary association, COPIT (Cross-border inter-municipal Conference).

In January 2008, the Eurometropolis was created as the first EGTC (European Grouping for Territorial Cooperation). It consists of five historic partners and nine 'upper-level' partner authorities: the French government, the four Belgian governments concerned, the Nord-Pas-de-Calais region, the Département Nord, and the two provinces of West-Flanders and Hainaut. It is therefore a multilevel political structure with 14 members, designed to be the hub for all cross-border information, activities and services, supporting their exploitation and development and sometimes even adapting them. Institutions, companies, artists, associations and clubs, various organizations, etc. are all invited to coordinate and pool their projects, allowing them to speak with one voice. The Eurometropolis is instrumental in developing concrete ways to help people study, work, travel, indulge in cultural activities, visit each other, have fun, participate in society, etc.; helping companies to innovate, invest, share ideas, etc. However, it has not been granted

any specific powers, including in the field of strategic planning. The ambition of this unique multilevel cooperation is to amalgamate the cultural, political and administrative borders and create more opportunities for wider cooperation in different developments. The inhabitants from France, Flanders and Wallonia have also joined forces to support the development of projects where there is a common interest in various fields: transport, tourism and environment. The territory is organized by inter-municipal authorities with the main ones lending money for the LMA projects. Each one comprises a significant number of inhabitants to enable it to have its own economic and social system, while being connected to the wider framework of the LMA.

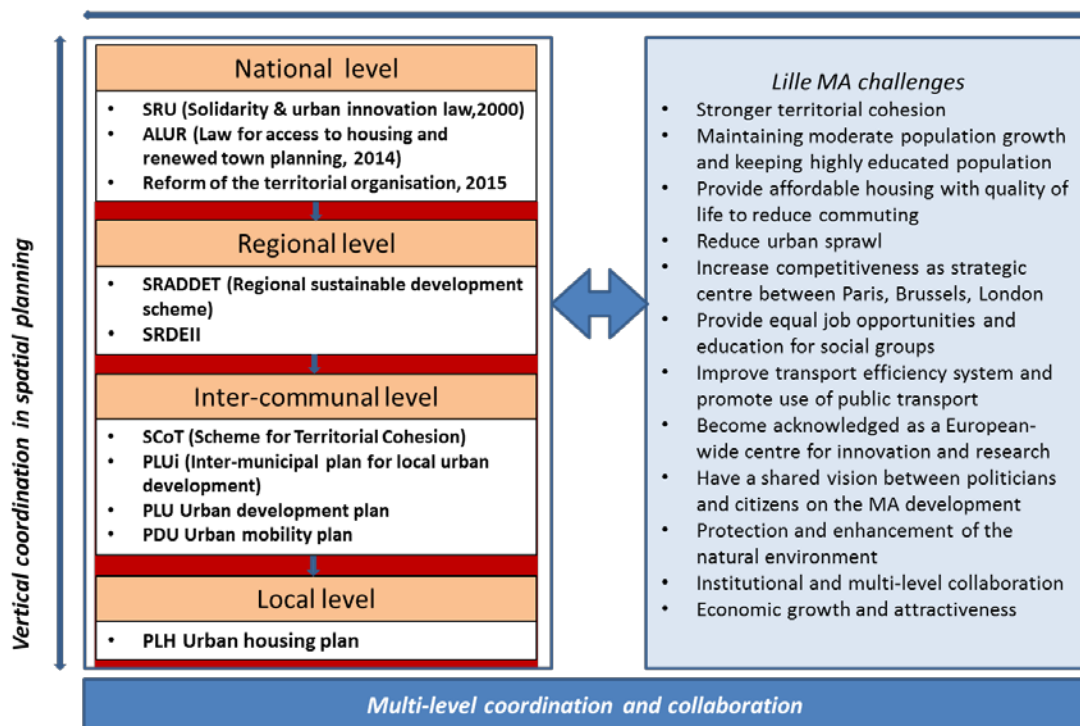
The collective interests of the MEL, other regional territories and the region inevitably lead to the need to build win-win cooperation between the metropolis and many of the other territories in the region, in forms that are adapted to each particular case, in a systematic manner, especially with the nearby territories which make up the cross-border metropolitan area, or founded on projects or themes shared with the more remote territories. In many fields, the regional territories may appear to be in competition, whereas often they could be enriched and have more ambitious goals by taking a shared approach.

Lille Metropolitan Area Association was launched in 2007. Several partner projects were set in motion in the past few years by this association. They involved territorial authorities, government departments, health services, consular organizations, associations, cultural stakeholders and other members of civil society. An example is the development of the Dourges Delta 3 multimodal platform, which is the outcome of the cooperation between three urban centres in the mining area, the municipal associations of Sud Pévélais and the LMA.

Figure 9.2 illustrates the formal levels of spatial planning relevant to the LMAs governance.

Figure 9.2 Interaction between governmental levels and challenges for MA development

Horizontal coordination between spatial planning and sectoral policy issues



Source: authors

9.4 Key spatial development challenges and incentives

The key challenge of the metropolization process of Lille is to manage the area in such a way that it prevents excessive focus on the urban-core area alone i.e. following balanced redistribution strategy. This is important particularly to avoid socio-economic recess of the suburban areas and the municipalities already heavily affected by unbalanced territorial developments. The LMA cross-border area and the MEL area present challenges in relation to strong social imbalances and environmental threats than need to be addressed based on a systematic planning approach.

Furthermore, transportation infrastructure, accessibility and mobility is a key issue at the level of the MEL but it can only be solved if a coordinated planning is established at the level of the LMA cross-border territory.

According to the Cadre de coherence (2016), the ongoing dynamics (what the territory will be in twenty years if we don't do anything) is rather worrisome, since the territory is vulnerable for strong social imbalances.

Meanwhile, a key incentive for the planning process of MEL is the support of the national and regional government to plan across administrative boundaries with view on achieving coherence between the urban and suburban territories and involve different sectoral actors.

The implementation of new planning approach at the level of LMA and MEL as suggested by the plan could be based on the following institutional arrangements:

- An authority (joint association type), and a (prescriptive or not) scheme of inter-SCoT planning
- An urban planning agency in the metropolitan area
- Public planning establishment (EPA) to carry out project management and land acquisition and ownership
- Contract based territorial developments inspired by those of Greater Paris and adapted to the metropolitan area

The areas of development at the scale of MEL and LMA should be based on meeting three challenges (Cadre de coherence (2016)).

- Protect the natural, agricultural lands, the biodiversity and water resources threatened by the urban pressure
- Build a durable transport system to face the increased need of mobility, the saturation of the road transport and the scarce use of the resources
- Managing urban sprawl and peri-urbanization due to population growth limiting the extension of the artificial environment while integrating logistic, economic and commercial activities around multimodal poles

In the opinion of the members of the Development Council, the metropolitan development idea is not easy to understand yet, apart from the SCoT planning project. There are some significant sector-specific projects (doubling the number of carriages on metro line 1, the transport Eco-bonus, French-Tech, etc.), themed strategies (tertiary education and research, agriculture and food, the economy and employment, etc.), or declared perspectives (new tramlines, etc.) but the overall vision uniting these partial approaches and placing them in perspective is yet to be developed. On a smaller scale, there are also many redevelopment projects, for the most part initiated by the municipalities in association with the MEL. One original feature that should be highlighted is the existence of the Grand Lille Committee for more than 20 years, an informal network bringing together business leaders and also involving representatives from the institutional and academic worlds. In the past, it has contributed to the success of several of the metropolitan area's projects: candidacy for the Olympic Games, European Capital of Culture, etc.

Moreover, Lille aims to enhance the multi-level institutional collaboration while involving stakeholders on the territory of the metropolitan area, creating a shared vision of the MA development and improving the territorial cohesion. As consequence, LMA planning shall focus on the economic growth and innovation, increasing the attractiveness of the cross-border metropolis.

At the same time, particular attention should be paid to limit population fluxes, assuring high standards for living conditions and protection of the natural environment. Social issues due to extra European immigration, economic crisis and political changes created discontent.

Movement of people with consequent competition for housing, insufficient transport systems and bad governance generated social difficulties in the MA. As indicated in the Fig. 9.3, Lille needs to delineate a unique a shared vision in order to gain attractiveness and to start providing high level services.

There is a need to reduce administrative boundaries via improving the coherence between the strategic plans (SCoTs, Inter-SCoTs and the regional SRADET). Key incentive for this is obtaining European support through cross-border projects. The establishment of a consolidated metropolitan body at a LMA level could as well as be stimuli for improving the regional governance and coordination between sectoral policies, planning documents and clarifying the roles of the authorities.

*Figure 9.3: The SOEI Matrix for Lille
(strategic objectives, opportunities, emergent problems and incentives)*



Source : authors

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10 Profile of the metropolitan area of Lyon

10.1 Characteristics of the metropolitan area

10.1.1 Geography and demographics

Lyon metropolitan area (LMA) is established based on a strategic planning approach between 13 individual territories for inter-municipal collaborations (unions), each of which has a strategic territorial plan i.e. Schémas de cohérence territoriale (SCoT). The metropolitan area consists of 968 municipalities. It has a surface of 12,316 km² with 3,217,370 inhabitants and a population density of 261 inhabitants per km². Elected officials and partners of the Urban Planning Agency of Lyon have defined the LMA boundaries in 2004. Six regional departments (communes) manage the area.

Within the LMA there is a distinguished metropolitan inter-municipal structure, identified as Metropolitan Pole of Lyon (Pole Métropolitaine Lyon) that focuses on strategic planning issues of metropolitan development on the territories of six clusters of municipalities (unions). The area of Metropolitan Pole of Lyon is smaller than LMA and covers 4,500 km². It has around 2.3 million inhabitants within 172 municipalities. The planning of the area takes place by the cooperation between six unions of municipalities and five SCoT strategic plans. It is structured around the urban centres of Lyon and Saint-Etienne, situated 60 km southwest of Lyon. Three regional departments manage the area.

One of the six inter-municipal unions, part of Metropolitan Pole of Lyon is the area of Lyon Metropolis. In 2015, the Lyon Metropolis replaced the former Urban Community of Lyon (known as "Great Lyon"). It currently encompasses only the core of the metropolitan area of Lyon consisting of 59 municipalities on an area of 515.96 km². The area has 1,281,971 inhabitants with a density of 2,485/km². About 37.4% of the population lives in the core city of Lyon.

Map 10.1 General map of the Lyon Metropolitan area (in green the Inter-SCoT area, in pink the metropolitan pole)



Source: Agence d'urbanisme Lyon & Saint-Etienne (2013 : 5)

10.1.3 Strategic importance and history

Lyon has always functioned as a bridge between the Mediterranean region (of France), and the urban areas of Northern Europe, primarily thanks to the Rhone River. In the national framework, it has always been a second city to Paris: in its positive aspects, this means that in the twentieth century, the city was France's second major centre for education and research and the second major transportation hub. The economy of the city benefited from the vitality of the Rhone-Alpes region, with a high degree of specialization in technology industries.

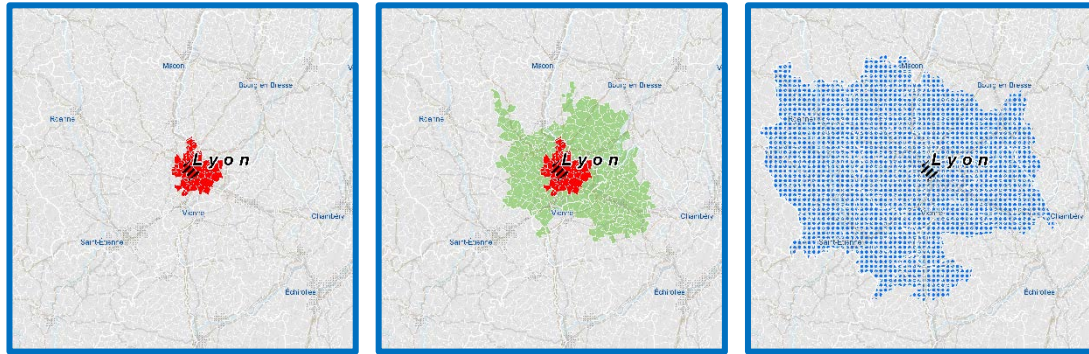
10.2 Spatial structure of Lyon metropolitan area

10.2.1 Configuration of European FUAs & MUAs related to the MDA

The delineation of the Lyon's MDA extends beyond the European FUA (Map 10.3). The MDA interacts with several neighbouring FUA areas, which indicates the need for assessing the specific urban functions of each of the FUAs in relation to the MDA. The MDA is particularly larger than the FUA of Lyon in the west, southwest and northwest.

Map 10.3 Relation between FUAs, MUAs and the Metropolitan Development Area of Lyon

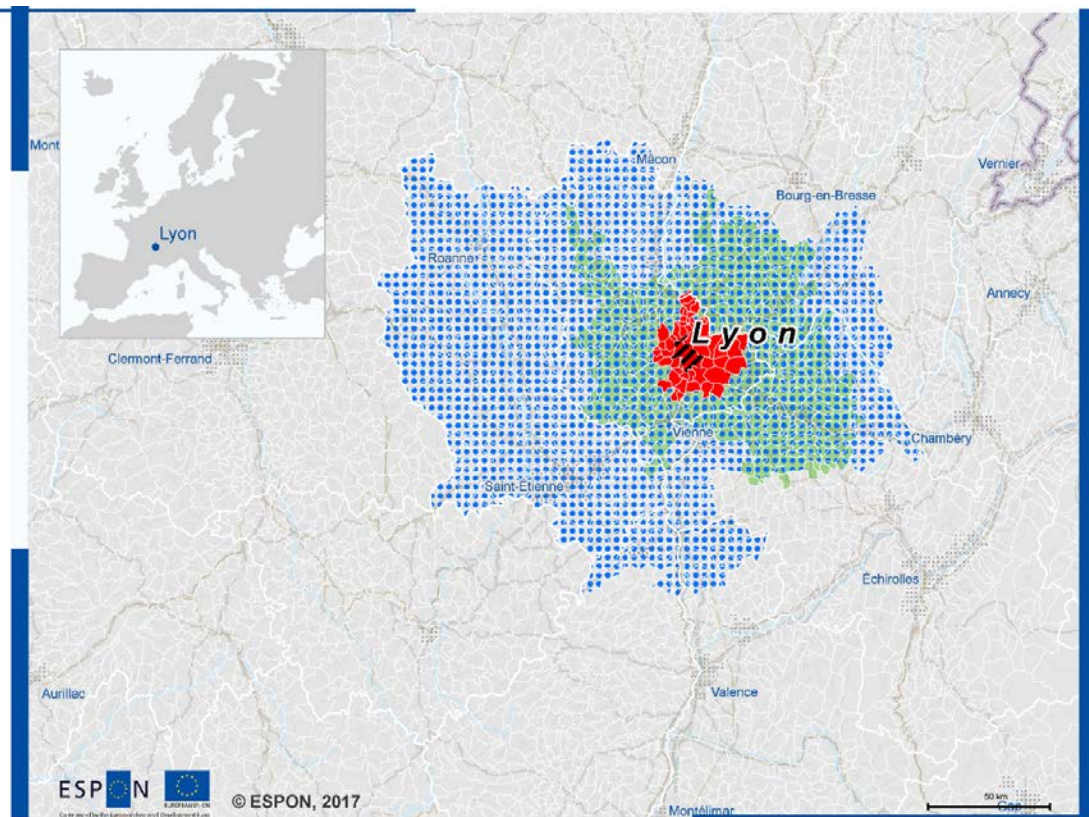
Delineation of MUA, FUA & MDA














A) MUA and core municipality

B) MUA, core municipality & FUA

C) MDA and core municipality



-  Core city municipality
-  MUA of the core city (ESPON 2013 Database)
-  Surrounding MUA's (ESPON 2013 Database)
-  Metropolitan Development Area (MDA)
-  FUA of the core city (ESPON 2013 Database)
-  National border
-  Railroad
-  Motorway
-  Primary road
-  Other road
-  rivers

Territorial level: LAU2 (version 2011)
 Source: Geographical information system of the Commission (GISCO), 2017
 Origin of data: EUROSTAT, 2011
 © EuroGeographics for the administrative boundaries

Source: authors (based on ESPON data, 2013)

10.2.2 The formation of the MA

On the 1st of January 2015, Lyon Metropole replaced the Lyon Urban Community, while keeping the same boundaries consisting of 59 municipalities with 1,32 million inhabitants, on a territory of 534 km² and population density of 2,481 inhabitants per km². The first initiative for establishing the Lyon metropolitan area started in 1969, when the Lyon Urban Community was formally created by law. This entity was a grouping of adjoining municipalities with a total of about 500,000 inhabitants. It included at least one municipality with a population of 50,000 or more. It also had the legal status of a "public entity for inter-municipal cooperation" (EPCI), with its own taxation and fields of competence, recognized by all its member municipalities. The EPCI had fields of competence in urban development and the economy, territorial development and the management of services of collective interest. The objective was to have a solidarity-based community conducting an urban-development and spatial-planning project. Lyon's metropolitan area was one of the first four 'urban communities' formed by law in France. It took over the powers of Rhône county council, in particular in the welfare sector.

10.3 Governance of spatial planning

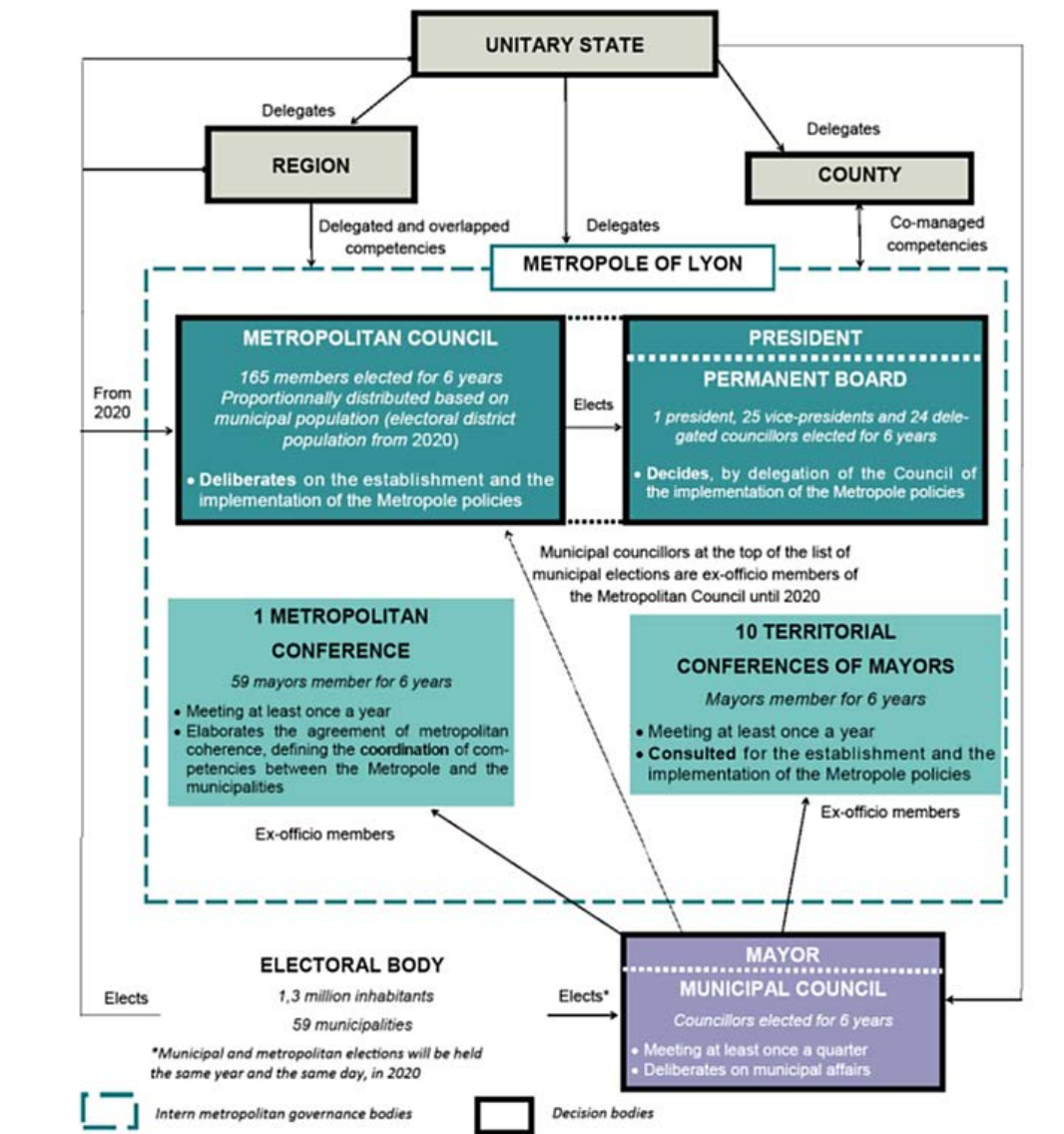
10.3.1 Institutional framework of metropolitan planning

The institutional structure of the Lyon MA is complex and multi-layered. The agencies involved in strategic planning have different statuses and powers, ranging from directly elected local governments to 'negotiation platforms' without legal status. Since 1962, there have been a number of strategic planning efforts that have resulted in a number of strategic plans and inter-municipal cooperation initiatives. The institutional bodies responsible for the area include:

- The metropole council deliberative assembly: It consists of metropolitan councillors elected by universal suffrage. The council elects its president. The metropole council also elects the members of the permanent board, which is the metropole executive. Each decision is taken by majority vote. From 2020, the metropolitan councillors will be elected directly by the citizens. Meanwhile, the 165 councillors elected in March 2014 are performing the same role. The metropole council has set up seven permanent thematic committees. The president of the metropole council chairs these thematic committees. Each committee appoints its vice-president and their deputy. Each committee has at least 30 seats; each political party is allocated one or more seats. The president of the former Lyon urban community has become president of Lyon metropole.
- The permanent board: executive commission where the council delegates some of its powers to its president and to the permanent board. The 24 councillor delegates are responsible for a specific field of competence.
- Metropolitan conference: A body coordinating Lyon Metropole and the 59 municipalities in its territory. This body debates all subjects of metropolitan interest. The metropolitan conference draws up the agreement of metropolitan coherence between the metropole and the municipalities within six months following each renewal of the municipal councils. This framework document proposes a strategy for delegating Lyon Metropole's powers to its member municipalities, and a strategy for delegating some of the municipalities' powers to Lyon Metropole.
- Territorial conferences of mayors: These bodies are consulted during metropole policy-making and execution. Their scope is determined by metropole council deliberation. Each conference elects a president and a vice-president. They meet at least once a year, on their president's initiative or at the request of at least half their members. The metropole council sets their rules of procedure.
- The SEPAL: Established in 1985, the SEPAL, Syndicat d'Etudes et de Programon de l'Agglomération Lyonnaise (Syndicate for Studies and Programming for the Lyon Intermunicipal Area), has been given authority from its constituent municipalities to develop the SCoT. It also ensures the follow up of its implementation, working closely with member municipalities

Figure 10.1: Organizational structure of the metropolitan governance of LMA

**Metropolitan governance and delegation of authority:
Lyon Metropole**



Source: Agence d'Urbanisme aire métropolitaine Lyonnaise (2016: 9)

The planning system

In France, the possibility for metropolitan planning takes place through the Territorial Coherence plan (SCoT). It is also encouraged through the possibility to undertake intercommunal local urban development plans (PLUI). The SCoT is the general document which is then transferred down to the local urban development plans (PLU). For each individual commune involved in the SCoT, PLUs must be compatible with it by integrating its content and objectives.

Planning responsibilities for Lyon MA are currently shared between four different scales:

- Central government: it may delegate various powers to Lyon Metropole, particularly in respect of housing and the living environment. The state may also transfer responsibility to Lyon Metropole for waste, spatial planning, and the maintenance and management of major amenities and infrastructures.

- Auvergne Rhône-Alpes regional council: by agreement, the Auvergne Rhône-Alpes regional council may delegate some of its powers to Lyon Metropole. In that case, Lyon Metropole exercises these powers instead of the regional council.
- Rhône county council: Lyon Metropole and the new Rhône county council have set up several partnerships: county firefighting and emergency-rescue service (SDIS); Rhône county archives service; and Rhône county management centre.
- Municipalities: Lyon Metropole may delegate the management of certain fields of competence to its member municipalities via inter-municipal boards.

Strategic planning

France is carrying out significant territorial reforms that give regions a larger role in planning. Regions have become the lead actors for strategic spatial planning and sustainable development. Lower-order plans must now be consistent with the newly mandated Regional Spatial Plans (SRADDET) that merge three previous sectoral plans (transport, ecology and climate air and energy) and include a waste management plan by 2017. These plans have to be adopted by 2018. The recent sub-national reforms also clarify their responsibilities among subnational tiers reducing the number of metropolitan areas and merging some regions. The new planning regime sets ambitious goals for sustainable development that demand highly integrated planning across functional territories (OECD, 2017).

In the 1990s, the strategies for Lyon focused on transportation, defining the trajectories for the enhancement of the airport and the national and international high-speed train lines, for support to SMEs and for the enhancement of cultural assets. In general, internationalization has been central in the strategies of the city in terms of economy, trade and attractiveness of urban cultural assets, and in terms of participation by the city in international networks such as Eurocities. The active presence of Lyon in the international arena is supported by actors such as the agency for economic development, with the involvement of the chamber of commerce, Grand Lyon authorities, the urban community and the 57 municipalities of its metropolitan area. This introduces an aspect which seems to be a key factor in the competitiveness of Lyon: the strategic vision has been drawn up in the framework of a joint effort among actors. This helps the projects at the metropolitan level, such as in urban mobility and the creation of a polycentric region. An example of this is the strategic territorial development plan of Lyon, SCoT 2030 (*Schéma de cohérence territoriale de l'agglomération lyonnaise*), in which the economic and demographic development, sustainability and territorial cohesion are elaborated and implemented in the territorial plans of 73 municipalities with an impact on 1.3 million residents. The development of the infrastructure network is a key priority in this plan as the city has two main infrastructure axes:

1) the east-west axis, which sees the city at the centre of a longitudinal area stretching from the Atlantic to Budapest, through Geneva and the cities of Northern Italy and Slovenia in an area in which more than 10 million inhabitants will be living within three hours of Lyon by 2020;

2) the north-south axis, which sees Lyon in connection with the urban core area, Lyon-Brussels-Paris and the North Sea and with the Mediterranean Arc in the south. This axis fits in with the progressive implementation of the high-speed train network in France (TGV) and neighbouring countries, in particular Spain (*Chamber of Commerce of Lyon 2009*). The urban agglomeration of Grand Lyon has also a declared common economic strategy, dealing with the economic crisis by emphasizing innovation, openness and the quality of the research institutions, with the aim of creating an environment that is attractive for new businesses and favourable for the existing ones.

Statutory planning

In France, there has been high degree of decentralization of planning responsibilities to the local authorities. Hence, there are not national planning documents (apart from general infrastructure schemes or blueprints for public infrastructure, over which the state has retained authority, such as the high-speed railway network, prisons and tribunals). The state has a role

in specific contracts with collective bodies, such as the state-region planning contracts (CPER). The CPER 2015-2020 is a national funding programme that aims to finance projects with leverage and convergence of financing in favour of local investment and structuring projects for the territories.

In December 2000, parliament voted the solidarity and urban renovation law i.e. the SRU law, which renewed the French planning system. This law defines strategic priorities such as planning policies, being more coherent, more urban solidarity in housing sector, and urban transportation policies, to be better linked with planning policies to ensure efficient mobility.

Furthermore, following the constitution of new inter-communal authorities, new local services emerged under the competences of the local authorities. However, the need increased in coordinating all plans which could concern the local authority such as adjoining SCoT, PLH or PDU; PLU which, at the same time have to be compatible with their own SCoT, PLH or PDU (See figure 10.2).

Collaborative planning

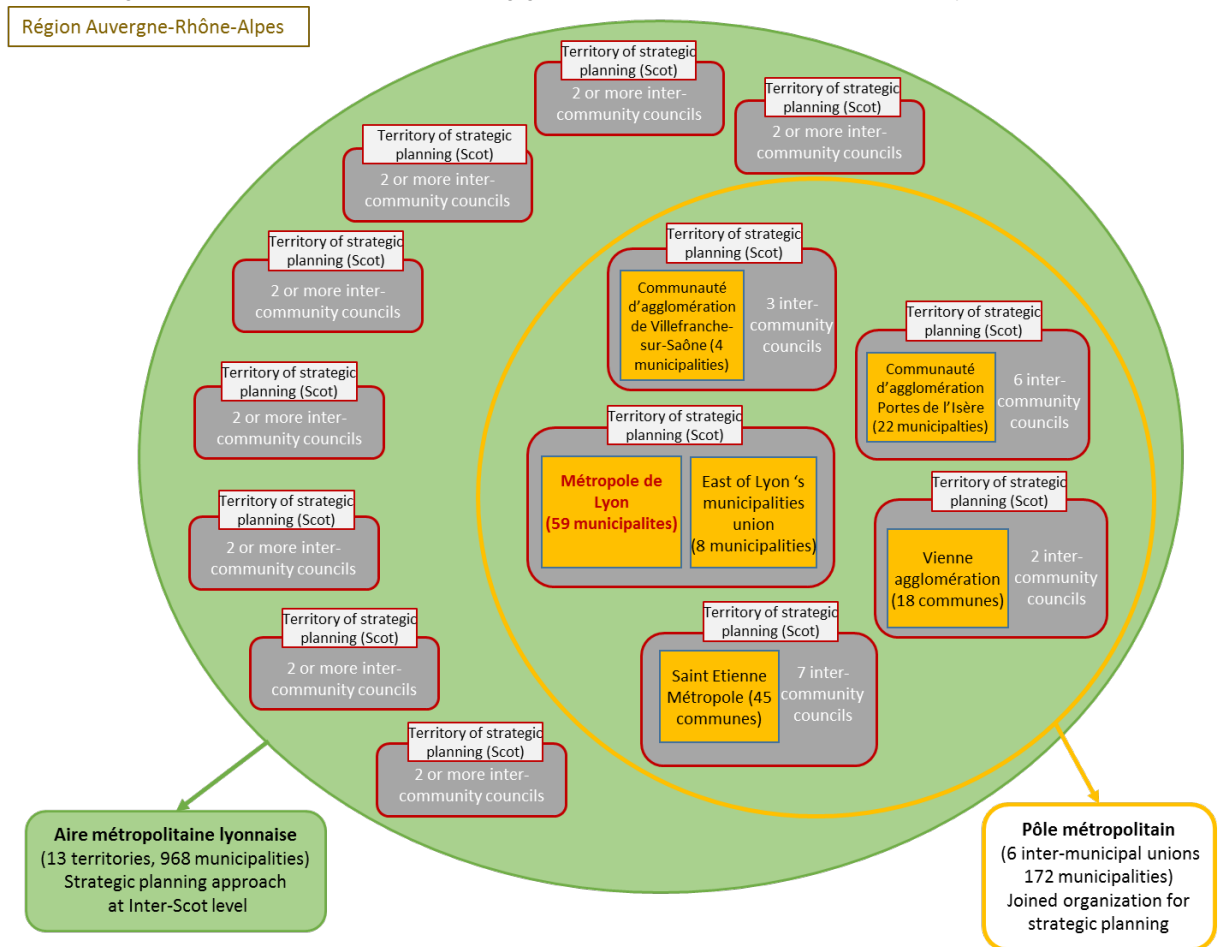
The French system of subnational government creates a system whereby voluntary collaboration is critical to achieve the goals of most communes. Various inter-communal collaborations are linked to political or other structures for implementing planning tasks at metropolitan level. Collaboration within the Lyon metropolitan area takes place through a number of bodies and initiatives, including:

- *Pôle Métropolitain*: Cooperation on the metropolitan-region scale.
- *Inter-Scot*: Programme of cooperation and dialogue on strategic planning, which currently involves 13 territories that form the Lyon metropolitan region and comprise 3,185,000 inhabitants.
- *Greater Lyon Development Council*: It is supporting the dialogue between Lyon Metropole councillors and civil society. It was set up in 2000 with an advisory role for the councillors.
- *Local Public Services Advisory Board*: It has statutory obligations arising from the law of local democracy for territorial authorities and "public entities for inter-municipal cooperation" (EPCI) with more than 50,000 inhabitants. Created in 2003, it comprises elected and voluntary-sector representatives. In particular, this board makes it possible to report back on activities and improve services in the areas of water, car parks, district heating, cemeteries, sewerage, and waste collection and treatment.
- *Inter-Municipal Accessibility Board*: This is a citizen-participation body for disabled people. It is a permanent consultation body designed to improve the implementation of the planning policies. Set up in 2009, it brings together three types of expertise: political expertise (Lyon Metropole councillors), technical expertise (Lyon Metropole technical staff) and user expertise, (disabled and able-bodied people).

The inter-communal structure of Lyon Metropolitan Area (Pole metropolitain) is based on 6 communities: Communauté d'agglomération of Porte de l'Isère (CAPI), Community of Communes of East Lyon, Community of Agglomeration of Villefranche Beaujolais Saône, St Etienne Metropole, Community of Agglomeration Pays Viennois. The union of inter-communities exists since 2012 and it is based on voluntary basis. Initially, they were the three communities (CAPI, Metropolitan of Lyon and St. Etienne Metropolis) because they had a privileged relationship since their cooperation in the Association of the Metropolitan Region of Lyon, 20 years ago from now. This association was stopped in 2015 once the Metropolitan Pole was installed. Villefranche joined the three already the year after. The other two more recently, when the project St. Exupéry has been realized. The inhabitants of Villefranche were working in Lyon, so there were clear links already between these two poles. The others were added for reasons of economy, which led to a more rational approach to community action.

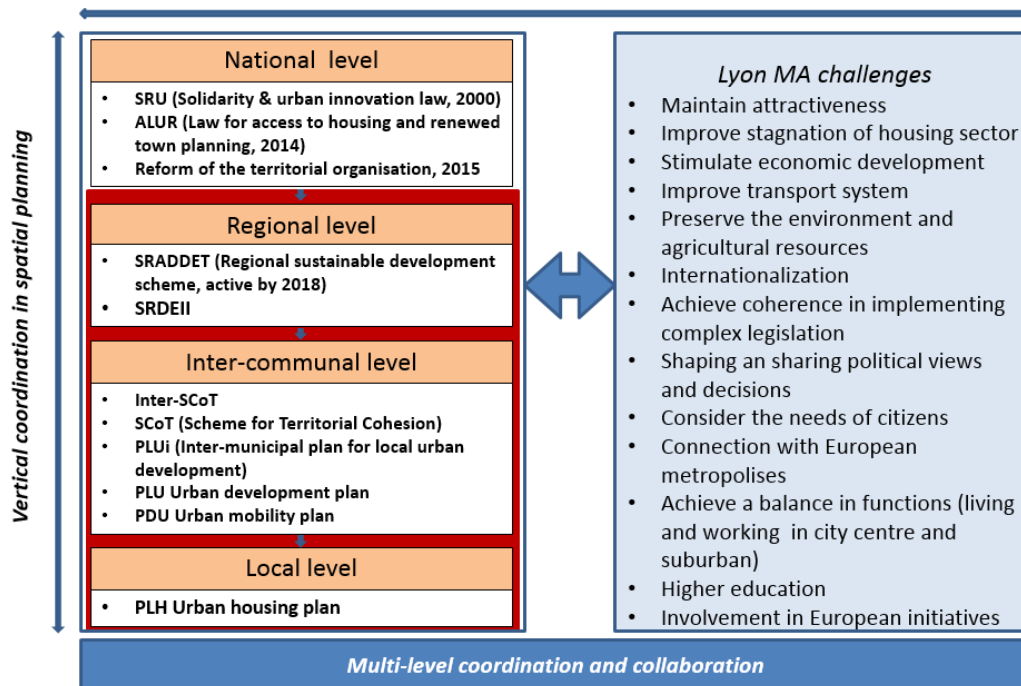
Figure 10.2 illustrates the system of spatial planning governance in the metropolitan area of Lyon. It presents the 13 territories of strategic planning (SCoT) where each of them includes, at least, 2 inter-municipal unions. For example, the SCoT of Lyon city is composed by “Lyon Métropole” (59 municipalities) and the east area of Lyon community (8 municipalities identified as “Communauté de communes de l’Est Lyonnais”). For the last 13 years, all the 13 territories have been involved together in one voluntary and informal approach of technical and political exchanges on strategic planning. The yellow boxes highlight the 6 biggest inter-municipal unions of the metropolitan area which are linked to the “Pole métropolitain”, an organization created by law. The main objectives are to improve mobility by setting up an intermodal and coherent public-transport system, to protect natural spaces and farmland, to foster employment and to provide diverse cultural offers.

Figure 10.2 Map of the spatial planning governance in the metropolitan area of Lyon



Source: adapted from Agence d'Urbanisme aire métropolitaine Lyonnaise (2017)

Figure 10.3: Interaction between governmental levels and challenges for MA development
Horizontal coordination between spatial planning and sectoral policy issues



Source: authors

10.4 Key spatial development challenges, and incentives

Lyon is well positioned with regard to access to markets and the availability of office space and housing, but it is poorly positioned with regard to linguistic skills and the institutional environment. The identified key challenges are related to the complex governance process, where political decisions have a great impact. The decentralization of the planning system in France has resulted in reforms of the local governments and the need for clarification of responsibilities for urban planning and identification of the role of each commune in metropolitan development. The key concern is to achieve a shared vision between elected officials regarding the urban-rural areas development. Lyon Metropolitan area should become stronger as the North-South axis of Europe regarding infrastructure and economic opportunities. A more efficient transport system is required to provide enough accessibility to employees. Another challenge is to amalgamate the fragmentation of administrations of agencies and change the planning cultures towards more collaborative approach. Figure shows the SOIEI matrix of Lyon metropolitan area with an indication of the key priorities, opportunities, problems and incentives for metropolitan development.

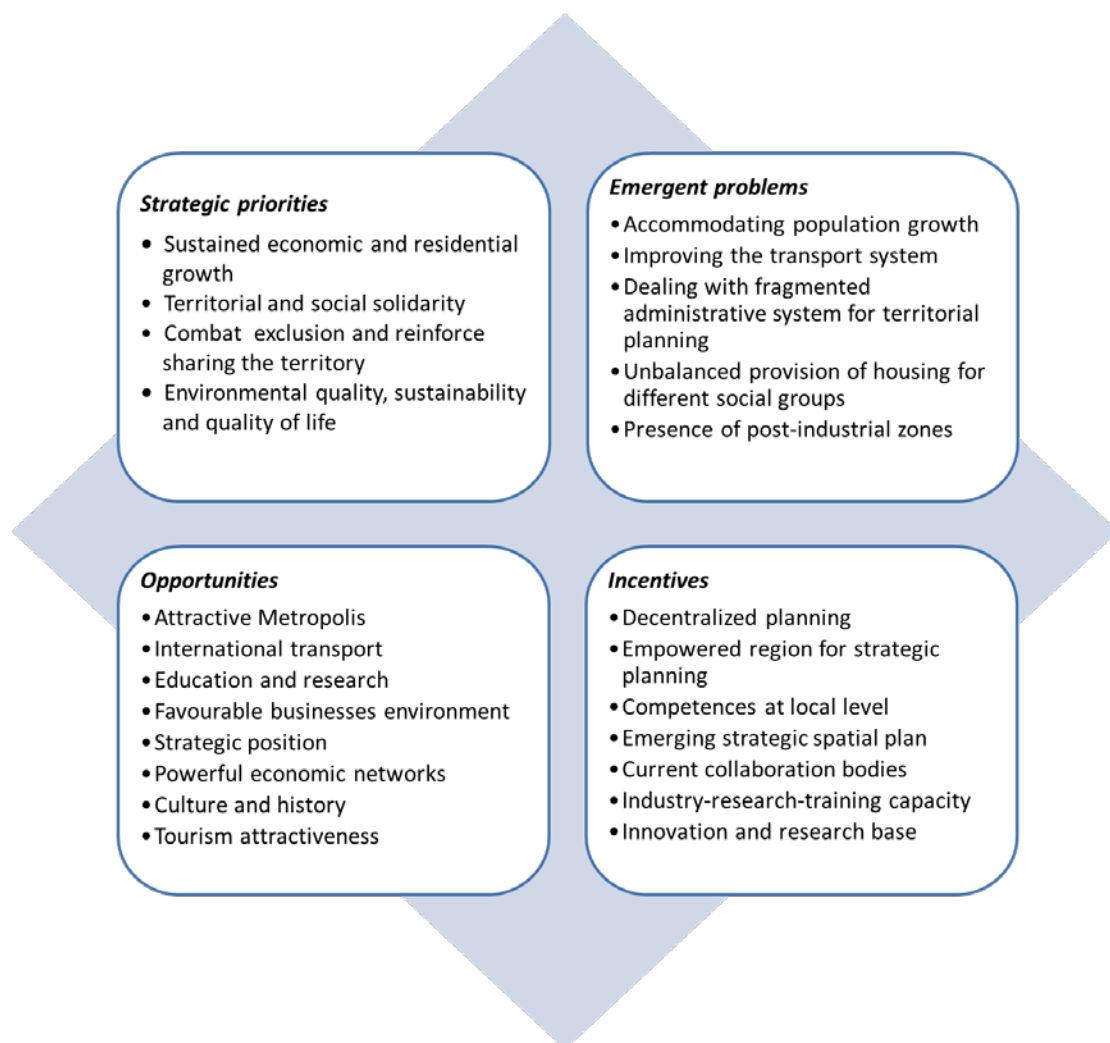
Moreover, Lyon's MA challenge is to increase its attractiveness, becoming an urban hub of economic opportunities and innovation, reaching the international level. It is necessary to focus on housing sector, unblocking its stagnation and minimizing social issues originated from the polarization of suburban areas a city centre. Creating a balance of the functions and improving the higher education will also be a necessary step to provide the right future social and economic development.

Due to the rather complex governance structure, Lyon MA needs to find more effective mechanisms for coordination between the formalized MA bodies and to implement its strategic plan. A collaboration will generate a shared political vision necessary to overcome the issues mentioned above.

In the figure 10.4 it is evident how some impediments of Lyon are comparable to the ones of Lille, previously analysed: the distribution of the population in the metropolis, the limited and inefficient transport system and the fragmentation of the territory and of its administration are the first priorities to solve. Then, the presence of post industrial zones and the imbalanced provision of housing to different social groups are consequent and specific problematic which could be solved after having structured an efficient administration.

Authorities have to decentralise to adapt to the new planning system permitting them to receive more responsibilities. Consequently, they have to divide and clarify their roles and responsibilities. The strategic plan and the existing collaborations are already good samples which could be improved and integrated within a common vision.

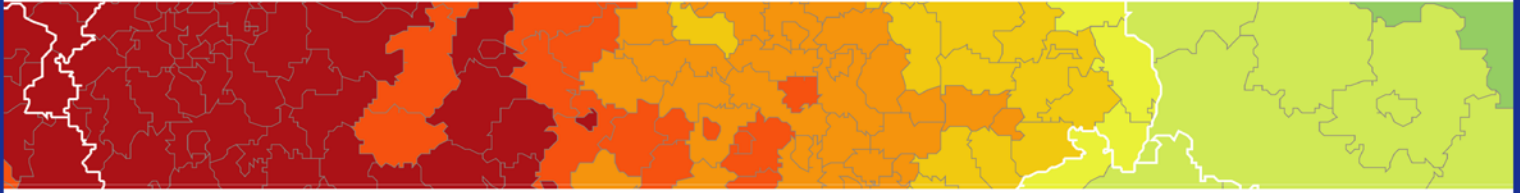
Figure 10.4 SOEI matrix for Lyon MA
(Strategic objectives, opportunities, emergent problems and incentives)



Source: authors

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