



Mainstreaming functional urban areas cooperation as a tool to mitigate urban sprawl

Guidelines and recommendations

Urban Agenda on sustainable land use and nature-based solutions

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Information about the document

The guidelines and recommendations document was prepared by the Urban Agenda Partnership on the sustainable use of land and nature-based solutions (UA Partnership), as a part of the implementation of the Action 5 of the Partnership's Action Plan, entitled: *Mainstreaming FUA cooperation as a tool to mitigate urban sprawl*.

Data used

This document is based on data from existing studies and the study conducted by the Ministry of Investment and Economic Development for the UA Partnership in 2019. Studies on functional urban areas, especially those of ESPON and OECD, were used to give background information, as well as to formulate some conclusions and recommendations. Dedicated recommendations of OECD, prepared on the request of the UA Partnership were also used, as well as analysis conducted by Tosics, Geróházi and Grisel (2018) for UA Partnership. The study of the Polish Ministry includes survey among European countries and FUAs, as well as interviews with relevant stakeholders. Experiences and case studies from UA partners were also used. The final recommendations were formulated based on both, conducted analysis, as well as discussions held during UA Partnership meetings between 2017 and 2019.

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Summary

Many urbanized areas in Europe grow in size at much bigger rates than their populations. New investments, e.g. in housing, use natural and agricultural land surrounding the city, thus make them less-dense, more spread, with poorer access to infrastructure and services on the outskirts. This, phenomenon, known as **urban sprawl**, leads to multiple negative effects, such as higher infrastructural costs and less efficient service provision, loss of biodiversity and valuable land, and pollution caused by increased car use.

Due to this growing mobility and dynamic development in many urban areas, local administrative boundaries become insufficient not only for tackling urban sprawl, but also to achieve sustainable development and competitiveness. This new urban reality, where functional links between cities and their hinterlands overcome administrative boundaries, calls for paradigm shift in urban governance and approaching urban challenges from the perspective of functional urban areas (FUAs).

Collaboration within FUAs, either in a form of joint governance or ad-hoc coalitions, brings multiple benefits. Finding consensus and creating joint development visions that incorporate wider functional areas contribute to better economic performance and financial effectiveness in FUAs; joint projects provide integrated infrastructure and services, improving life quality; joint management helps with better land use planning, avoiding unnecessary investments and irrational localization of new developments –jointly managed FUAs perform better and have less urban sprawl.

Challenges of FUA cooperation

- Many municipal stakeholders do not know how to start FUA cooperation: what forms and tools to use, including how to implement integrated FUA strategies.
- Competition between municipalities often constrains building cooperative culture – stakeholders do not see benefits of FUA cooperation, which are not widely mainstreamed.
- Appropriate national/European regulatory and financial frameworks are often lacking, including incentives and technical support for FUA cooperation.
- FUA cooperation can be an important tool to mitigate urban sprawl and climate change, but FUA municipalities lack knowledge how to address those issues on the FUA level.

Vision of FUAs in Europe

Through the experiences of the Urban Agenda partners, discussions and exchanges held within the Partnership, as well as with other stakeholders, UA Partnership agrees on the comprehensive vision of the FUAs in Europe, which can be summarized as follows:

Functional urban areas in Europe are engaged in strong, long-term collaborations based on shared visions and goals, supported by appropriate European and national frameworks, including regulatory flexibility and financial support/incentives. FUAs are recognized as an important governance level and fully integrated in national and European policies and research.

FUAs have some kind of governance structure and cooperation is based on joint strategic plans that include topics of socio-economic development, spatial organization, land use, climate change, and others. Joint projects and initiatives are led in FUAs, with available financing options on national and European levels.

Due to good planning and cooperation, FUAs promote sustainable urbanization and compact city model; help to mitigate climate change and urban sprawl.

Key policy recommendations

Following the shared vision of FUAs in Europe, UA Partnerships formulated the following recommendations, which should strengthen FUAs not only in ensuring more sustainable land use, but also ensuring their overall sustainable development.

Municipalities in FUAs should recognize the **benefits of cooperation** and overcome competition; they should establish **joint development strategies** and, when possible, coordinated spatial planning practices. Both “soft” and “hard” governance tools can be effective, once based on collaborative culture. Engaging a **wide range of stakeholders**, including private sector, in FUA decision making is one of the elements of success. **Climate change and land use** should be one of the priorities of FUA cooperation.

The national level should ensure **appropriate regulatory and financial frameworks** for FUAs, including flexibility for different forms of grassroots initiatives, planning instruments, financial incentives, compensation schemes etc. Using cohesion policy territorial tools, as well as **mobilizing national funding** for FUAs is advised (together with financial instruments and public-private partnerships). National governments have also a crucial role in **rising awareness** about FUA cooperation and encouraging it through **capacity building**, including densification, spatial organization and urban sprawl mitigation – financial tools and incentives can be equally efficient here, as the binding regulations and land use restrictions. Additionally, FUA governance bodies should be **included in national policy-making processes** and policy dialog.

The European Union should raise the topic of FUA cooperation **higher on political agendas**, making FUAs governance bodies a well-recognized institutional level. **Strong narrative** is needed on the importance of FUA cooperation, e.g. for climate change mitigation and ensuring sustainable use of land. In the **cohesion policy**, FUA integrated strategies should be more promoted: technical support for FUAs and/or knowledge centre on integrated FUA strategies/ITI can be considered. EU should also play a stronger role in **rising awareness** and **promoting knowledge** on FUAs themselves and the benefits of FUA collaboration – **more European research on the effects and benefits of FUA cooperation** is needed as well.

Introduction

Even though cities cover a relatively small part of the European territory (around 3%, ESPON LUPA, 2012), most of the population lives in urbanized areas. In the last century, Europe transformed itself from a largely rural to a predominantly urban continent. Today, approximately 359 million people, 72 % of the total EU population, live in cities, towns and suburbs (according to the Eurostat classification). There are 26 cities of more than 1 million inhabitants and additional 373 cities of more than 100.000 inhabitants in the European Union (EC issue paper, 2014).

This urban development often leads to land use conflicts, as cities need more and more space and search for available land, mostly agricultural or natural. As the result, many cities grow in scattered, low-density fashion – the phenomenon known as urban sprawl, which challenges sustainable land use and building more compact cities. As urban sprawl expands city boundaries, solving challenges of sprawl requires a larger spatial dimension.

For centuries, urban reality was expanding administrative borders of a single city and stretching over surrounding areas. This dimension was recently defined as “functional urban area” (FUA) and included in urban discourses, thus creating a new dimension for addressing issues such as urban sprawl. Because the functional reality does not match administrative boundaries, processes, such as sprawl can only be addressed through governance and cooperation on FUA level.

This *guidelines and recommendation* document is a response to the emerging debate on functional urban areas in relation to sustainable land use/urban sprawl. It aims at strengthening FUAs by inspiring stakeholders at different levels: European, national, regional and local, to build efficient FUA cooperation and implement successful projects, not only regarding urban sprawl, but hopefully also in other thematic areas. FUA cooperation gains growing importance not only for more sustainable land use, but also for climate change mitigation and overall socio-economic development, thus guidelines and recommendations included in this document should help FUAs to develop successfully in a more sustainable way.

Examples of successful cooperation practices and recommendations on governance and management can be found on the following pages. For those seeking practical guidelines on building FUA cooperation, the document provides examples on regulatory and financial frameworks, as well as bottom-up collaborative initiatives and planning procedures. The focus of those case studies is sustainable land use/urban sprawl, as this aspect of FUA cooperation is a topic of the UA Partnership and is, so far, rarely addressed in wider debates. However, also other benefits of FUA cooperation are showcased to promote collaborative initiatives and encourage integrated planning on the FUA level.

By the solutions proposed in this document, the UA Partnership aims at **contributing to more sustainable urban development in Europe and building more compact and liveable cities**, improved EU policies and, in the global perspective, meeting Sustainable Development Goals defined in the UN Agenda 2030.

Urban sprawl in Europe

“sprawled areas now are poverty ghettos in the future” (personal communication)

Sustainable land use as the focus of the UA Partnership

Sustainable land use is becoming more and more pertinent issue in European space. Rapid development of urban areas leads to the conflicts over available agricultural and natural land. Many cities grow in size and are in constant search for new space for development. At the same time many areas remain under-used, and brownfields and vacant building become promising, but not utilized opportunity. More and more new land is taken, leading to loss of biodiversity, pollution and other negative effects. The way we manage our land is often unsustainable. Thus the European Commission Thematic Strategy on the Urban Environment (CEC 2006) recommends more compact settlements in addition to better coordination between urban transport and land use planning.

This is why UA Partnership focuses on actions **promoting sustainable land use and build compact and liveable cities**. Within the UA Partnership *sustainable land use* is understood and managing and using land resources in a rational way, avoiding unnecessary land take and supporting liveable compact city model (UA Partnership Action Plan, 2018). One of the action areas of the UA Partnership, related to sustainable land use, next to brownfields development, land take and under-used land, focuses on functional urban areas cooperation as a tool to mitigate urban sprawl. The topic is developed under the framework of liveable compactness, defined by the Partnership in the following way (UA Partnership Action Plan, 2018):

Liveable compactness: an approach to sustainable urban development that seeks to strike a balance, avoiding both over-crowding and excess urban sprawl through efficient use of land, and providing for adequate amount of public and green space, as well as affordable housing and living conditions. A Liveable Compactness city model recognises that land is a non-renewable and scarce resource, therefore prioritising brownfield over greenfield development, rededication and reuse of vacant and underutilised land, urban regeneration, more efficient land-use and mixing functions within the city and its functional areas are key measures to achieve a liveable compactness. In addition, increasing the presence of green spaces and infrastructures and promoting the use of nature-based solutions for improving living conditions within an urban area has to be pursued actively.

Defining urban sprawl

Tracking its history, urban sprawl can be characterized as an American “invention”, but the way it is defined and used in the US differs slightly from European context. In the US, sprawl is defined as the spread-out, skipped-over development that characterizes the non-central city metropolitan areas and non-metropolitan areas, associated, mostly, with single-family housing developments in rural and under-developed areas and increasing car-dependence in every-day life (Ewing, 1997). It refers to

development that expands in an unlimited and non-contiguous (leapfrog) way outward from the solidly built-up core of a metropolitan area. In terms of land-use type, sprawl includes both residential and non-residential development.

Europe, unlike in the US, has one of the world's highest densities of urban settlement, but even here an uneven expansion of urban areas is visible. In Europe, urban sprawl is mostly associated with **urban areas taking up a greater proportion of the available land area**, characterized by unplanned and uneven pattern of urban development that is driven by a multitude of processes and which leads to the inefficient utilisation of land resources (Oueslati et.al. 2015). Additionally, the recent study of OECD (2018) proposes a new definition of urban sprawl, based on variations of population density across space: *urban sprawl is an urban development pattern characterized by low population density that can be manifested in multiple ways* (OECD, 2018, p.29). Urban sprawl is also characterized by weak regional land use planning and control (Nilsson et.al. 2014).

As the result of sprawl, the size of many European cities is increasing at a much faster rate than their populations, in both metropolitan areas and in medium-sized cities, and some studies show that urban sprawl processes in Europe are accelerating (Oueslati et.al. 2015). There is no sign that this trend is slowing down and, as a result, the **demand for land – as depleting resource, is becoming a critical issue in many areas** (EEA, 2006). Oueslati et.al. (2015) show in their study that **urbanised area in Europe increased by 18.4%, while population density fell by 9.43%**.¹ OECD study points out that **in some countries, such as the Netherlands, Hungary and Poland population density decreased significantly due to suburbanization** – the process leading to urban sprawl (OECD, 2018). The sprawling nature of Europe's cities is critically important because of the major impacts that are evident in increased energy, land and soil consumption (EEA, 2006).

Costs and effects of sprawl

The "costs" of sprawl have been talked about for decades, often without a full understanding of what these costs are and to what level they should be assigned. The costs of sprawl can be defined as the resources expended relative to a type, density, and/or location of development. These "costs" involve physical (e.g. land), monetary, temporal, and social/psychological resources. They involve costs to the individual, to the community, and to society. Most of the costs specified to date are physical or monetary, although occasionally social costs (e.g., the loss of upward mobility) or psychological costs (e.g., the loss of sense of community) are documented.

Examples of costs of sprawl are:

- physical: land take, environmental degradation;
- monetary: higher costs of commute (cars), higher costs of infrastructure and services provision;

¹ The overview of urban sprawl dynamics and trends in Europe over time were described in more detail in the ESPON LUPA, 2012, Volume IV Scientific Report.

- social/psychological: loss of the sense of community.

Costs of sprawl in studies are often approached from environmental, societal or taxation perspectives. **The problem of land take is rarely approached, but depletion of land resources due to sprawl is more and more pertinent issue in European space.** Unsustainable utilization of land resources is one of the costs of sprawl: taking up natural or agricultural land for urban developments has its negative consequences that need to be addressed if we want to effectively deal with urbanization.

Urban sprawl, in the land use context, contributes to:

- the loss of fertile farmland, to soil sealing and to the loss of ecological soil functions;
- the reduction of size of wildlife habitats and increases landscape fragmentation and the spread of invasive species;
- higher greenhouse gas emissions, higher infrastructure costs for transport, water and electrical power, the loss of open landscapes, and the degradation of various ecosystem services (EEA, 2016);
- negative hydrogeological impact on settled human communities (Romano & Zullo, 2013);
- less open space, longer distances to attractive recreational areas (Nilsson et.al., 2014).

The urban sprawl in Europe is causing land use conflicts and is posing a major threat to sustainable land use. However, researchers point out that that **currently used sprawl indicators fail to thoroughly inform decisions-makers about the impacts of urban development and land use change, as well as that there is insufficient evidence on the effects of urbanization on land use** (Siedentop, 2010).

Urban sprawl should be handled on larger than city level, however one has to be aware that European urban areas are suffering from substantial territorial mismatch, as the administrative borders of cities are often obsolete and urban reality expands competence of elected local governments. Data from selected European cities (Tosics, 2011) illustrate how large the fragmentation of the European urban system is: the power of the city mayors does not cover at all the whole of the continuous urban areas (the morphological urban area is in European average +70% larger than the administrative city). The difference is even larger in the case of the so called “functional urban areas” (see the next chapter) which are +130% larger in population number than the administrative city (Tosics, 2011). Thus, one of the important challenges of European urban development is to **solve the problem of missing (or existing but weak) governance and planning on functional urban area level** (Tosics, et.al., 2018).

Functional urban areas in Europe

“The connections that define cities have always entailed some form of transportation. The people who live in sprawling exurbs have access to neighbours, stores, employers, and restaurants. They just have to drive”. (Glaeser E., 2011, Triumph of the City)

The concept of a functional urban area

Over time cities have outgrown their administrative boundaries and started to be recognized in functional, not administrative, terms. Functional urban area (FUA) can be a confusing term, partly because it quite a novel concept in policies and urban discourses. But it does not mean that FUAs did not exist before – this dimension has been always there, it is just gaining more recognition now.

The most recognized example of functional reality is everyday commuting, and this is how FUA is often described. **FUA can be understood as an area consisting of a core city/cities and its/their surroundings, defined usually by commuting patterns.** Thus, FUA includes towns and villages that are physically separated by un-built land or water from the built-up city, but are, at the same time, economically and socially highly dependent on the urban core (Eurocities, 2011). The most acknowledged definition is that of OECD (used also e.g. by Eurostat, see *Methodological manual on territorial typologies*) in which the **urban core** is identified based on a minimal density and a population threshold, while the **commuting zone includes all communities with more than a substantial percentage (15%) of their employed resident population working in the core city** (Tosics, Geróházi, & Grisel, 2018). Following this definition, OECD proposes one of the most consistent delimitation criteria catching those functional/commuting links (see Annex 1).

The growth in using the FUA approach in policy and research is a result in the observed growth of FUAs themselves. It is estimated that FUAs account for 60 % of the EU population (Tosics, Geróházi, & Grisel, 2018). For example, in the Nordic countries during last 20 years, 97% of the population growth has occurred in 30 FUAs (Smas, Oliveira e Costa, Fredricsson, & Feuk, 2016).

However, except FUAs, there are also other similar terms that are used in policy and research, such as: Morphological Urban Area (MUA), metropolitan area (EUROCITIES, Metrex) or Larger Urban Zone (LUZ, Eurostat), peri-urban area, urban agglomeration or growth pole (CEMAT, 2017), city-region scale (NORDREGIO), Metropolitan Development Area (MDA, ESPON SPIMA); which make understanding of FUA slightly problematic. Each concept may lead to different delineations, sometimes overlapping with FUA, sometimes not. The basis for delimitation can be functional links, like in FUA, but also statistical units or other types of linkages. For example, Eurocities MAIA (2013) study on metropolitan areas (often associated with FUAs) shows that sometimes metropolitan cooperation corresponds geographically with FUAs, but sometimes covers either smaller or larger areas (Eurocities, 2013).

Thus, problem with understanding FUAs relates to the following aspects:

- **Definition:** different definitions are used for defining the same or similar concept that leads to confusion what FUAs actually are and how to distinguish them among various existing terms;
- **Delimitation:** even within the same definition of the term “FUA”, the criteria for delimitating its geographical scope can differ, depending on the methodology;
- **Data:** data is usually collected at the administrative (NUTS and LAU) level, which do not coincide with the FUA. Data on FUAs is scarce and FUAs are not sufficiently recognized as statistical unit;
- **Governance:** because decisions on FUA cooperation are often political or grassroots, existing cooperation practices do not necessarily cover the exact functional area (but cover its part or a larger area), making it more difficult to understand what FUA is.

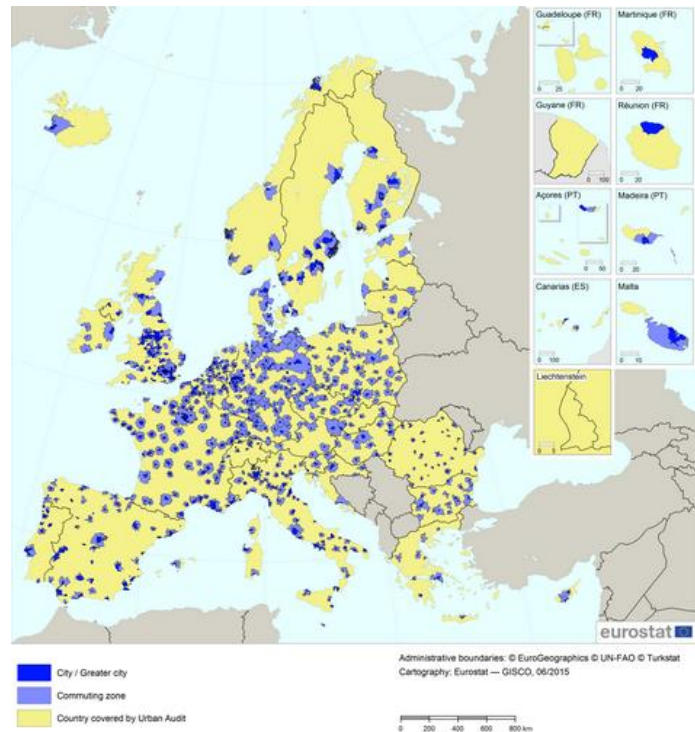


Figure 1 FUAs in Europe (source: Urban Audit, Eurostat, 2012)

Therefore, the **European policy and research would benefit from simplifying existing approaches and promote one, consistent FUA definition, based on commonly agreed delimitation criteria.** This would help interested countries and FUAs to establish cooperation and build necessary framework, as well would support statistical analysis and comparative studies. Promotion of a consistent definition and delimitation approach on the European level would also help to **raise awareness about the positive role of functional approach in urban planning and governance.** Ignoring the existence of FUA level makes urban planning and decision-making often inefficient and chaotic. Let’s imagine building of a plane: if we build all the parts separately and then try to put them together inside a plane, it may look somewhat functioning, but most surely it will never fly. It is the same with FUA – to solve problems and make cities work, we need knowledge on how things are inter-related, a good plan/strategic vision and cooperation in all thematic and spatial scales – that is where the FUA paradigm comes into force.

Studies on FUAs in Europe

Functional urban areas have been attracting growing attention in policy and research. Numerous studies have been carried out relating to FUAs in Europe, including (see more detailed overview in the Annex 2):

- METREX, 2006: The revised METREX practice benchmark of effective metropolitan spatial planning;

- Eurocities, 2013: Metropolitan Areas in Action, MAIA;
- OECD, 2014: The OECD Metropolitan Governance Survey;
- OECD, 2015: Metropolitan Century: Understanding Urbanisation and its Consequences;
- CEMAT, 2017: Functional areas in the Member States of Council of Europe;
- ESPON, 2018: Spatial dynamics and strategic planning in metropolitan areas SPIMA;
- Metropolitan Research Institute, 2018: Comparative analysis of six innovative metropolitan areas, study for Barcelona Metropolitan Authority;
- ESPON (on-going): ESPON FUORE – Functional Urban Areas and Regions in Europe;
- ESPON (on-going): SUPER – Sustainable Urbanization and land-use Practices in European Regions.

The so far studies on FUAs in Europe focus usually on:

- **definitions and delimitations** (see e.g. CEMAT, 2017, ESPON SPIMA, 2018);
- **governance models in FUAs** (see e.g. OECD, 2014), including comparative analysis between FUAs (see e.g. Eurocities, 2013, MRI, 2018).
- **planning practices in FUAs** (see e.g. METREX, 2006; ESPON SPIMA, 2018).

The existing studies reveal multiple approaches to define and delimitate FUAs in Europe, and also showcase numerous governance models. The delimitation approaches, used both in governance and research, usually correspond with those proposed by OECD and/or ESPON. However, in practice FUA delineations for cooperation purposes often do not match official definitions. For example, Eurocities (2013) analysis of nearly 40 European metropolitan areas shows that there are big variations regarding the types of collaborations existing on the FUA/metropolitan level around European cities, as well as their territorial coverage. The territorial scope of studied cases differs from smaller than FUA to larger than FUA, which shows that no collective understanding/definition exists on what a FUA is. Official definitions are quite different from one country to another and from one organization to another. Despite these obvious difficulties it is still possible to use existing data to draw an approximate picture of the European urban system (Tosics, et.al., 2018).

The FUA studies showcase different governance models, varying from non-binding, loose networking to legally-binding FUA governance with strong political setting (see e.g. OECD informal coordination and centric approach, OECD, 2015). The Eurocities (2013) study shows that on FUA level most often only informal collaboration exist and the strong collaboration usually do not cover the full FUA territory. The scope of cooperation also differs, from informal consultancy and coordination of activities, through joint lobbying and applying for joint projects, towards joint spatial planning and strategic planning practices that follow a jointly established strategy. The OECD (2018) study shows that four main types of arrangements emerge from OECD experience: **informal/soft co-ordination** (52% of OECD metropolitan areas that have a metropolitan governance body); **inter-municipal authorities** (24%); **supra-municipal authorities** (16%); and a **special status of “metropolitan cities”** (8%). There is considerable diversity among (and sometimes even within) these four categories in terms of legal status, composition, power,

budget and staff. For example, less than one quarter of OECD metropolitan areas has a governance body that can impose regulations (OECD, 2018). Cases such as Hanover or Stuttgart, where metropolitan level governance can impose regulation and is responsible for strategic planning for the whole area, is rather rare; even though the benefits of such an approach has been identified.

However, in general benefits of FUA cooperation have not gained much scientific interest so far, thus lacking more detailed data. OECD points out some existing benefits in their studies, for example showing better economic performance and higher GDP of FUAs having some kind of metropolitan governance structure (OECD, 2014). Those FUAs also have fewer problems with urban sprawl (OECD, 2018). Some insights into this topic were also included in the OECD RURBAN study (2013).

Precise data on FUA cooperation, neither on FUAs themselves, are not collected on the European level (see some Eurostat datasets, Stat-Board as exceptions). Individual FUAs rarely collect regular data on the effects of collaboration, such as socio-economic indicators showcasing the added value of FUA cooperation. However, there are some examples, e.g. France, Ireland, where FUAs are defined statistically. FUA cooperation in a form of ITI (e.g. Poland, Czech Republic) is also difficult to assess at this stage, as many projects are currently still being implemented. Data on monetary savings or land use in FUAs exists for some cases, but those case studies are not sufficient to draw more general conclusions.

The more evidence is also needed regarding FUAs and land use/urban sprawl issues. Some research exist in that topic (see OECD, 2018, UA Partnership study), but it should be more mainstreamed and deepened in order to influence more decision-makers and trigger FUA cooperation.

FUAs and urban sprawl

Existing data suggests that for urban areas growing in population numbers, the increase in urbanized land is usually faster (consequence is unsustainable land use/sprawl). For urban areas which are shrinking in population numbers, urban sprawl still happens (URBACT LUMASEC, 2010; EEA, 2006).

In the context of FUAs role in mitigating urban sprawl and dealing with its effects, the OECD (2015) study shows that metropolitan areas having a form of joint metropolitan governance have lower urban sprawl and even urban sprawl decreases if such governance is established (while it increases without it). Where organisations responsible for metropolitan governance exist, metropolitan areas tend to be larger but record lower levels of urban sprawl (OECD, 2014).

Additionally, coordinated spatial planning in FUAs helps to compromise investments and restrict new developments to ensure more compact urban structure. Despite various challenges, once introduced and executed, joint spatial plan, binding for local planning, may help to achieve a common development vision of the whole FUA, to ensure more sustainable land use by avoiding overlapping and unnecessary investments, as well as to locate new constructions in a more rational and compact way (see Region Stuttgart). Kaczmarek (2015) points out that it is one of the tasks of public administration in managing spatial development to **limit urban sprawl by the adoption of joint and coordinated spatial development plans.**

Therefore, the following chapters explore in more detail two aspects of functional urban areas cooperation: **FUA governance frameworks and FUA planning.**

How FUAs cooperation can minimize urban sprawl and mitigate its negative effects?

- ✓ Joint spatial/strategic planning help to order FUAs spatial organization and better integrate e.g. spatial development with transportation. Joint strategic vision of the whole FUA helps to build win-win scenario for all and show that instead of competing for investments and people, municipalities can benefit from joint projects;
- ✓ FUA governance bodies can put limits on land take and implement measures to protect natural areas;
- ✓ Smart urban densification and promotion of compact city model on the FUA level can change people attitudes and discourage urban sprawl;
- ✓ Learning and exchanges between municipalities build capacity for densification and more sustainable land use practices;
- ✓ In FUAs there is often under- or unused land and buildings which can be reused and adopted for new needs. Thanks to FUA cooperation and exchanges such opportunities can be better explored and utilized;
- ✓ FUAs develop joint public transport services and sustainable mobility projects (e.g. inter-municipal biking lines, P+R centre, commuting rail), limiting the negative effects of sprawl;

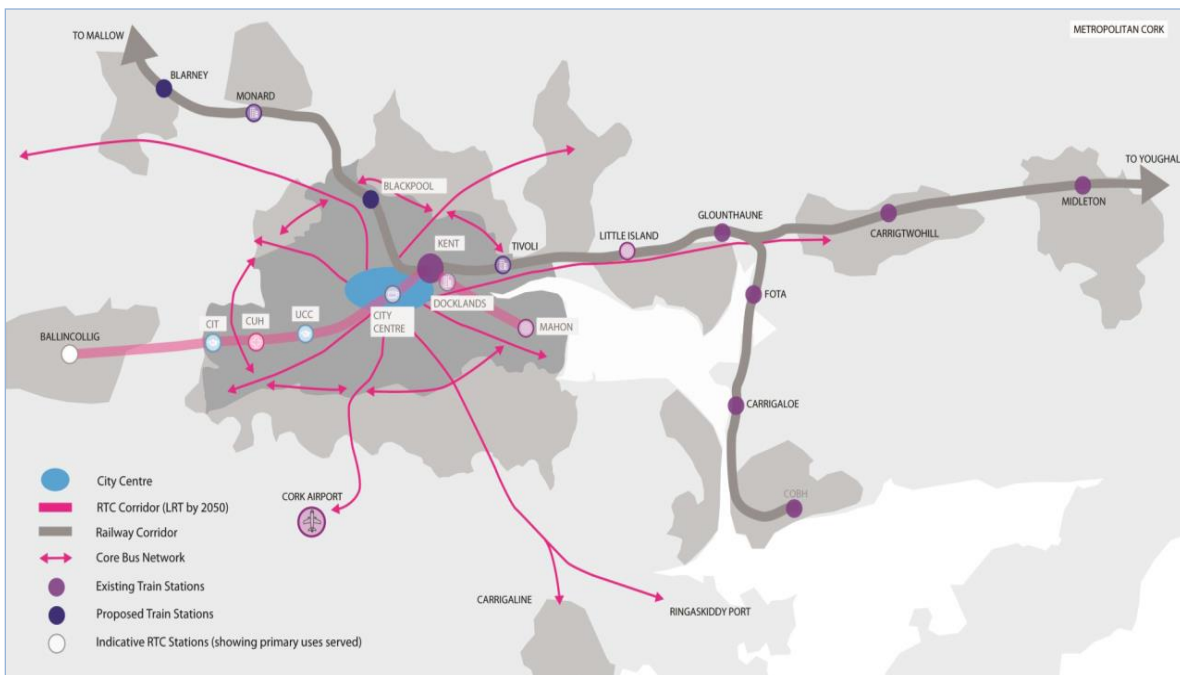
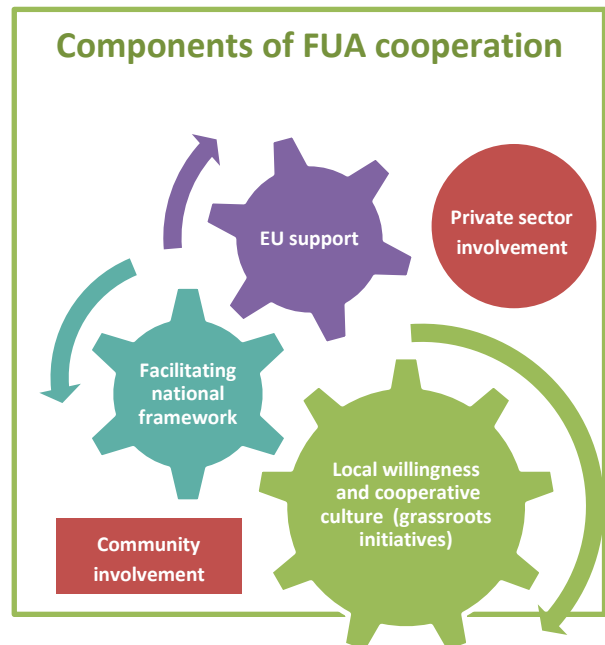


Figure 2 Transport Strategy for Metropolitan Cork showing the commuter rail line and other Public Transport initiatives (source: City of Cork). Jointly planned railway corridor (with secured funding from the national level) help to control and concentrate development along railway corridor, as well as to provide alternative to the car transportation

Frameworks for FUA cooperation

FUA cooperation is, first and foremost, depending on the **municipal and other local/regional actors**: their willingness, vision and ideas. The grassroots initiatives can evolve into more stable forms of governance, depending on local context and capacities. **National regulatory and financial frameworks** provide often necessary support and sometimes trigger or initiate cooperative initiatives. Significant support for FUA cooperation and governance is also coming from the **European Union** through the cohesion funds, but also the UE is a crucial actor in awareness raising, spreading knowledge and facilitating co-learning and experiences exchange on FUA cooperation (e.g. through Urban Innovative Actions, URBACT, Urban Agenda for the EU, the Urban development network). The role of private sector is, although often omitted, crucial too. The business community can play a powerful role in initiating a metropolitan/FUA reform dynamic by raising awareness and organizing itself at a metropolitan scale (see e.g. Chicago, Toronto, Marseille, and London) (Gómez-Álvarez et.al., 2017). The neighbourhood level is also under-estimated. Local community initiatives can overcome administrative borders and stimulate positive change, spreading also on the whole FUA.



So what is needed to start building FUA cooperation? Rayle and Zegras (2013) showed that those are positive incentives (e.g. money), flexibility in the institutional system, the presence of an external catalyst, already existing networks, and specific organizational characteristics, and most of these factors must be present for collaboration to occur.

FUA governance models

FUA cooperation can be either bottom-up driven through informal initiatives or top-down imposed by high-level decisions, but most often it is a combination of both, and no specific model of FUA governance is necessarily better or more efficient than another (Gómez-Álvarez et.al., 2017).

OECD study (2014) shows that **metropolitan area governance bodies (can be referred to FUA governance structures) are common across OECD countries** and they exist in 178 out of the 263 analysed areas (68). However, governance structures differ significantly, even within a country, including differences in their competencies and legal power. 48 out of the 178 existing governance bodies have the right to impose binding laws or regulations. Even though less than one third of all governance bodies

have the right to impose laws or regulations, bodies with these powers exist in more than half of the analysed countries. Many FUAs also do not have formal governance bodies, but have some kind of informal cooperative structure or even form ad-hoc coalitions, which can be also seen as “softer” forms of FUA governance.

Classification of different governance models was proposed, among other, by METREX (2006):

- **The Comprehensive Model:** this comprises elected metropolitan authorities with comprehensive powers for strategic planning and implementation (e.g. Region Hanover);
- **The Core Power Model:** this comprises elected or appointed authorities that have the power to undertake strategic planning of a specified range of issues (e.g. Verband Region Stuttgart);
- **The Agency/Voluntary Model:** this comprises appointed metropolitan agencies or joint bodies with strategic planning responsibilities and adviser implementation functions (e.g. the Öresund Committee).

In the similar context, the study conducted by the Metropolitan Research Institute, Budapest for Barcelona Metropolitan Authority (BMA) (2018) shows two approaches to govern cooperation (Tosics, 12-14 December 2018):

- **institutional**, i.e. the creation of a metropolitan organization on a fixed territorial basis with sufficiently large range of competences (Stuttgart Region, Greater Manchester Combined Authority, and Barcelona Metropolitan Authority);
- **procedural**, i.e. striving for mechanisms and rules which allow for coordinated activities on a sufficiently large metropolitan territory, not necessarily in fixed territorial constellations – often relating to joint strategic and spatial planning (Amsterdam, Copenhagen, Zürich).

Regardless of the adopted model of the governance, OECD (2014) **analysis shows that metropolitan areas with governance bodies perform better on several dimensions. They are denser, have higher per capita GDPs and attract more people.** In addition, there is a clear correlation between the existence of FUA transport authorities and the satisfaction of citizens with public transport services, as well as environmental outcomes.

FUA cooperation can occur formally and informally, long-term and ad-hoc, and various dimensions: local, national and European play a role in initiating collaborations and building governance structures.

Below the FUA cooperation frameworks are analysed in 3 dimensions: local, national and European, based on the UA Partnership insights and knowledge, as well as **UA Partnership study** conducted between March – April 2019. The study aimed at collecting knowledge and examples on the benefits of FUA collaboration in Europe, as well as existing governance and collaboration practices and frameworks. The study was based on the survey among European countries (8) and different FUAs, regions across Europe (9). Complementary, semi-structured interviews with selected stakeholders (3) were conducted (Annex 3). When suitable, examples from other cities/countries, not participating in the study, are also presented.

Local frameworks for FUA cooperation

On the FUA level, the character and model of the cooperation often depend on the established cooperative culture. It can be either informal collaboration, based e.g. on temporary coalitions or stronger form based on jointly agreed governance and/or coordinating body. Such structures can function informally, outside national legal and strategic frameworks, and have purely voluntary character. If supported by higher political level (national regulations and financing), the cooperation culture can either be built or additionally strengthened.

Among the UA Partnership study participants, the types of collaboration vary from loose networking (e.g. Metropolitan Region of Amsterdam) to joint strategic planning (e.g. Stuttgart Region, Lille Metropolitan Area, Hradec-Pardubice agglomeration). In most cases, there were no incentives given from the national level to establish cooperation, exception being Czech and Polish FUAs, where cohesion policy funds were provided (excluding cases where cooperation was top-down imposed). Next to the lack of incentives, there are other barriers constraining local cooperation. One of them is lack of willingness to cooperate and difficulty to reach agreements based on compromise. In case of ITI, novelty of the instrument was an issue, followed by lack of experience, changes of regulations, etc. Often dependence on the core city and its strong position is an obstacle. Smaller municipalities may feel dependent on the core city and be afraid of their voice not being heard. Also, a number of municipalities involved pose challenge. For example, in case of Turin MA, 312 municipal units are involved.

A crucial issue constraining effectiveness of FUA cooperation is the lack of cooperating culture and often conflicting interests of FUA municipalities. Difference was especially visible between big/core cities and surrounding municipalities. Sharing costs of sprawl also emerges as a crucial issue. Some cities, such as Wrocław, Poland complain that surrounding municipalities participate in and benefit from e.g. joint public transport, but do not contribute to it. The city of Wrocław was an example, where the city puts a lot of money into metropolitan public transport and provides bus connections with the surrounding municipalities, but most of those municipalities do not share the costs of this public transport. In this light, some cities call for more formalized cooperation that would enforce equal contributions (some new regulatory framework/legal act that would take this problem into consideration and e.g. force FUA municipalities to participate in the costs). It was underlined that the FUAs often lack ministerial tools that would force municipalities to add to the shared infrastructure.

Elements of successful FUA cooperation on the local/regional level

- ✓ willingness to cooperate (building cooperative culture, with regular contacts and exchanges);
- ✓ joint, agreed vision of the development of the whole area (and often compromise);
- ✓ sharing the costs of joint infrastructure (such as public transport, no free-riding);
- ✓ some kind of coordinating / governance body (can be informal);
- ✓ ideas for joint projects and initiatives (and willingness to pursue them);
- ✓ budget (including operational budget and budget for joint initiatives; without outside support this usually bridges down to municipal budgets contributions);
- ✓ joint strategic planning and ideally spatial planning (although at the initial stages or when

national frameworks are lacking, ad hoc initiatives and temporary coalitions are advised).

All FUAs participating in the study have one kind of joint governance body, either in a form of a council, association, etc. The tasks of this body vary from facilitating and organizing meetings, stimulating dialogue, to strategic and spatial development of the FUA with binding powers. In case of integrated territorial investment (ITI) tool, financed through the EU cohesion funds, (Poland, Czech Republic) financing of the governance body comes from EU funds; otherwise, those are mostly municipal budgets.

Most common areas of cooperation named by respondents were: **transport, public services and natural environment, housing**, as well as **land use and spatial planning**. Additionally, urban sprawl was often mentioned as a problem, but it was rarely a topic of collaboration. This shows that FUA collaboration may sometimes be not strong enough to impose regulations on land use or there could be lack of capacity and knowledge on how to address this issue on the FUA level.

Good practice: Metropolitan Region of Amsterdam, the Netherlands

Basic facts:

Number of municipalities: 32

Number of inhabitants: 2,4 mln

Metropolitan Region of Amsterdam (MRA) was formalized in 2016 and operationalized in 2017 when the Common bureau was established on the metropolitan level. Currently, the MRA is governed by an informal coordination body, with representatives from 32 municipalities, 2 provinces, and the regional transport authority (Amsterdam Transport Region). Despite the multi-layered cooperation, the body has a limited budget and no legally binding authority – MRA is an example of **informal, flexible and voluntary cooperation with a signed covenant, but no specific budget assigned**. The municipalities contribute by 1,5Eur per inhabitant to the joint budget.

This MRA cooperation is based on coordination of the activities and initiatives, deriving from the long collaborating culture. As a result, the MRA has the strong capacity to lobby for their joint needs on the national level. Although some core areas, such as housing or spatial planning are still strongly assigned to municipal level, there is potential for strengthening the metropolitan level cooperation. Steps towards that are already being taken: housing, transport and economic issues were selected to elaborate action plans and formulate action groups that was accepted by the municipalities, the provinces and the regional transport authority (in total 800 politicians) in spring 2017.

Building a cooperative culture towards more densification-oriented approach

The case of MRA shows how it is possible to develop cooperative culture in favour of sustainable land use based on soft measures and incentives. In terms of housing, municipalities have freedom in planning and building as long as they follow national and provincial guidelines.

The projected need for homes is 230,000 houses until 2040. For the realization of this need, there is a shared focus on densification in the MRA. Benefits that convince are e.g. using existing infrastructure and transport networks (e.g. close to existing train stations), increased agglomeration benefits,

sustainable land use, and reduced land take. In 2018 the MRA agreed on 8 key-areas for densification. The urbanization within these areas is complex, and cooperation with the government is essential. The expectation is that within those areas around 100.000 houses can be added, which will be just around half of the housing assignment up to 2040. Therefore the assignment of the 8 key-areas is the important first step in making agreements on the scale of the MRA about housing plans.

The crucial point of the transformation is not only changing plans, but also changing people's attitudes, including all citizens. The awareness raising and improving knowledge about densification (e.g. how to design projects and how to look for densification opportunities) is an important part of the transformation (with the help of regional organizations).

National frameworks for FUA cooperation

In terms of supporting FUA cooperation, **national regulations vary from delegating some tasks on the lower (FUA) level to establishing a dedicated FUA by a special law**. Based on UA Partnership study, only some countries (e.g. Romania, Norway, Belgium, Switzerland, Czech Republic and Poland) have certain regulatory framework for FUAs. In Romania, focus is on institutional collaboration (national law regulation); in Norway, Planning and Building Act delegates regional planning on the county level, associated with FUAs; in Belgium there was a special law voted by the Parliament that established Brussels Metropolitan Community; in Switzerland, the Swiss Agglomeration Policy (in effect since 2001) is a strategic framework that tries to promote cooperation in urban matters across municipal boundaries; and in Czech Republic and Poland there are regulations for integrated territorial investments (ITI) in FUAs.

Some countries provide incentives for establishing FUA collaboration. Those incentives include: special fund/public funding (e.g. on roads, Switzerland, Norway), supported research on FUA matters (commuting, Estonia) that helps to make joint decisions, ITI funding for FUA projects under cohesion policy (Poland, Czech Republic). Cohesion funds are used differently for FUAs, including: ITI (Poland, Czech Republic), community-led local development (CLLD) tool (Austria), dedicated priority axis/program (Estonia – for 5 largest FUAs).

Besides, financial incentives, coming mostly from EU funding and national funds (but mostly on roads and transport), FUA cooperation is promoted in various ways:

- **Policy recommendations (e.g. Austria by Austrian Conference on Spatial Planning);**
- **Including in the national development strategies (e.g. Latvia);**
- **Adopting Regional Policy Guidelines on the national level (e.g. Latvia);**
- **Establishing national programs and having calls for projects (e.g. in Switzerland).**

For example, in Switzerland, there is an Agglomeration Program, which every 4 years invites FUAs to apply for funding. “The Program’s budget is used to finance the most efficient, most important and most promising / urging projects. If proposals are declined, an FUA can launch a new – improved – proposal 4 years later. Usually, large infrastructure projects are financed by all 3 levels of government (local,

cantonal, national). The national share provided via Agglomeration Programs is often the most important contribution that ensures the implementation of the projects” (personal communication).

In some countries (Spain, Belgium) high level of regional autonomy makes it difficult or impossible to promote or impose FUA approach on the national level (though still possible on the regional levels). For example, in Spain it is autonomous regions’ competence; in Belgium, “There is no promotion at national level”, because in Belgium “spatial and strategic planning is an exclusive competence of the 3 Regions: each Region defines its own spatial planning strategy for its territory and the legal and institutional instruments needed. The Federal State has no competence on these matters and cannot define any strategy or action to promote FUA/metropolitan cooperation” (personal communication).

Sectoral approach in national policies is also an obstacle that disables more integrated approach to FUAs, as well as lack of regulatory framework and/or financial resources on national level. Low interest from municipalities to cooperate was also mentioned by study participants from the national level: common understanding of how to organize metropolitan governance processes is missing, thus lack of knowledge and awareness about FUAs arises as an issue. Other evidence also shows that FUAs, e.g. in Poland, do not feel involved in the national legislation process, which could potentially strengthen FUAs and ensure more integration of policies.

Good practice: Switzerland Agglomeration Programmes

The Swiss Agglomeration Policy (in effect since 2001) is a strategic framework that tries to promote cooperation in urban matters across municipal boundaries. As a part of this policy, Agglomeration Programmes try to intensify cooperation within FUAs, focusing on sustainable urban development (coordinated development of settlement structures and transportation projects). Metropolitan cooperation is also promoted by regional bodies (Cantons) and cities on a subsidiary basis, with no involvement of the national government.

The Agglomeration programs are financed via a special fund that was established to secure the budgetary base for the national highway system as well projects aiming to improve transportation in larger urbanized areas (agglomerations). This solution provides a long-term financing of projects in FUAs if the given criteria for quality and efficiency are met (by the projects).

The Agglomeration Programs are collected every 4 years. This means, each of the roughly 50 Swiss agglomerations (FUA) can apply for support every 4 years. The programmes are then scrutinized by the national government (Lead: Federal Office for Spatial Development) and if certain criteria are met, the budget is used to finance the most efficient, most important and most promising / urging projects. If proposals are declined, an FUA can launch a new – improved – proposal 4 years later. Usually, large infrastructure projects are financed by all 3 levels of government (local, cantonal, national). The national share provided via Agglomeration Programmes is often the most important contribution that ensures the implementation of the projects.

The issue of regulatory framework on the national level is a pertinent one for example in Poland, where in 2014-2020 integrated territorial investments (ITI) have been implemented on the FUA level. This approach can be described as a top-down driver for FUA cooperation, but now many FUAs have built cooperative culture and want to cooperate outside the ITI. However, they notice the lack of appropriate

frameworks to do that. For example, they stress the lack of mechanisms to share the costs of sprawl (where bigger city cover the costs of shared infrastructure). Thus, there is a need to provide national level mechanisms that would force smaller municipalities to add to infrastructure / share costs of urban sprawl within a FUA. Compensation mechanisms for lost value of land (in terms of mitigating urban sprawl and forcing more compact building) is also an issue. But, most pertinent was the need for **general, national-level act on FUAs**.

The role of the EU in strengthening FUA cooperation

The EU plays an important role in facilitating FUA cooperation and mainstreaming FUA approach. The links with FUAs can be found e.g. in transport policy, like Sustainable Urban Mobility Plans, and the notion of Urban Nodes in TEN-T policy (see H2020 VitalNodes project). The EU also has a role in defining the concept of FUAs and data collection at FUA level (Eurostat). But one of the most crucial supports for FUAs comes from the cohesion policy.

The first significant European Union support for FUA cooperation came through the cohesion policy 2014-2020 programming period where 5% of European Regional Development Fund (ERDF) national allocation was dedicated to the cities. Many countries decided to use this opportunity for financing FUAs, mostly using integrated territorial investments (ITIs) tool. Currently, EU cohesion policy is the most recognized way to support FUA development on the European level (however, other initiatives and tools such as Urban Innovative Actions, URBACT, Urban Agenda for the EU, and the Interreg can also act as facilitators of the FUA approach).

Within European cohesion policy, for the period 2014-2020, 191 territorial and urban strategies referring to FUAs (33% of all strategies) were established in the EU Member States to benefit from the EU cohesion funding. They refer either to ITIs or dedicated operational program/priority axis established for sustainable urban development (SUD). Projects financed under those strategies tackle mostly issues of low-carbon economy, environmental protection and social inclusion.

ITIs are one of the ways of implementing SUD in Europe, used by 15 countries². The benefits of using ITI, comparing to other mechanisms for SUD include the possibility to mix funding and various thematic priorities, as well as relatively flexible mode of implementation and opportunity to use it in FUAs. ITI strategy in FUAs usually refers to the whole geographical scope of a FUA, but in some cases it happens that ITI strategy is prepared jointly by few municipalities but its intervention focuses on one area, e.g. a neighbourhood. This situation shows that municipalities can effectively come together and cooperate to improve a situation in the area important for the whole FUA.

There are few practices on how to choose FUAs for financing under SUD (Borkowska, 2018):

1. Bottom-up delimitation based on expertise and political factors;
2. Application process for the strategies meeting certain criteria (all meeting criteria will be financed);

² Croatia, Czech Republic, Finland, France, Greece, the Netherlands, Lithuania, Luxembourg, Latvia, Poland, Slovakia, Slovenia, Sweden, Great Britain, Italy

3. Application process for best strategies (only some strategies will be financed, e.g. selected by the national commission).

Interesting solution applied in relation to ITI is using **financial instruments** (see e.g. London), as well as using **community-led local development** (CLLD) instrument in urban areas/FUAs. Although CLLD has local focus, it can help to activate communities / neighbourhoods in FUAs, also outside administrative limitations of municipalities.

Good practice: CLLD in the Hague (after van der Zwet et.al., 2017):

CLLD has been introduced for Scheveningen, an area within The Hague that has a strong identity and active community. It has also been identified as an area that is strategically important for economic growth and job creation. The Local Action Group (LAG) consists of representatives from SMEs, the cultural and sports sector, and residents' groups. The city acted as a facilitator. A foundation (*Stichting initiatief voor Scheveningen*, SIOS) was established in 2015. It is responsible for the management and implementation of the strategy.

The added value of the CLLD approach is the involvement and support for local development projects. The LAG has introduced alternative methods of project selection, involving citizens through online or newspaper-based project selection systems. CLLD has the potential to develop a democratic process that engages citizens in project decision-making, and could potentially bring politics closer to citizens. It also affords citizens an insight into the divergent views in communities (which policy-makers and politicians must navigate), and so fosters greater acceptance of project decisions.

Combining various funds (ERDF, ESF, CF, EAFRD) under ITI helps to improve its effects and ensure synergy. Using CLLD instrument within SUD can additionally strengthen the involvement of local communities in the implementation of a strategy (especially as some research suggest that intervention under SUD not always meets real need of the inhabitants). The functional relations, especially urban-rural links are addressed in almost half of existing SUD strategies, which shows the importance of this dimension (some ITIs include intervention under EAFRD). In fact, rural-urban partnerships (see OECD RURBAN, 2013) are a form of joint governance closely related to FUA – in fact, sometimes FUAs are interpreted on the rural-urban linkages scale (Eurocities, 2011).

Thus, the urban-rural dimension should be further strengthened in European policies, also in relation to FUA concept. There are already numerous projects by e.g. ESPON (URRUC), Interreg (Rumore) or Urbact and urban-rural dimension has its place in e.g. Territorial Agenda or Europe 2020 strategy. Joint development strategies for urban-rural areas are advised, which can be a part of FUA planning as well. *“Formal governance agreements can support the establishment of a common agenda for urban and rural policies, even though boundaries between rural and urban areas are flexible across different fields of action and re-defined over time”* (Interreg Rumore, 2019).

Coordinated planning in FUAs

Spatial planning in FUAs

Although existence of some kind of governance structure (making joint decisions and coordinating joint projects) already help with the urban sprawl, as OECD (2015) study shows, FUAs are additionally strengthened by joint strategic and spatial planning, which would coordinate land take, compromise investments and restrict new developments to ensure more compact urban structure.

Silva and Ransford (2015) propose to approach spatial planning as:

“the arrangements and processes for managing spatial development. Spatial planning is used to achieve a number of objectives in the development process across OECD countries. These include: (i) coordinating the spatial dimensions of other sectoral policies; (ii) leading to an integrated and functional organisation of land uses and their regulation; (iii) balancing the demand for socio-economic development with the need to protect the environment; and (iv) achieving balanced distribution of the gains of economic development between regions”.

Also, it should be noted that spatial planning system consists not only of spatial plans, but it combines regulatory, incentive-based and fiscal (i.e. taxes and exactions) policies (Silva & Acheampong, 2015).

Joint spatial planning in FUAs is challenging to implement and execute due to numerous reasons. National (and sometimes regional) legislations may restrain preparation of FUA spatial plans, as they are not a part of spatial planning system. European countries have different legislations and approaches to spatial planning policies and it is an issue not regulated on the European level (although references exist e.g. in Green Book on Territorial Cohesion, Territorial Agenda), giving the countries freedom in shaping their own spatial policies. If voluntary, such plans may lack framework of execution and making them binding. Besides, such a joint planning requires a lot of cooperation, dialog and compromise, not mentioning time and financial resources, which may be discouraging for initiating such an idea.

Despite various challenges, once introduced and executed, a joint spatial plan, binding for local planning, may help to achieve a common development vision of the whole FUA, to ensure more sustainable land use by avoiding overlapping and unnecessary investments, as well as to locate new constructions in more rational and compact way. FUA spatial planning also supports transport planning, such as TEN-t networks (see H2020 VitalNodes project).

Thus, national and/or federal/regional legislations should enable FUA spatial planning and provide appropriate legal and strategic frameworks. National and regional governments have a critical role to play in this regard by establishing frameworks to support integrated planning across functional territories. Better integration and coordination of policies is particularly important if a wider range of policy instruments is used to steer land use. Without better coordination mechanisms, it will not be possible to align more diverse set of policies to influence land use effectively (OECD, 2018).

Further, legislative framework should **ensure that such a plan is binding** on the local level, meaning that local spatial plans go in line with the FUA general plan. The most effective administrative arrangement for spatial planning at the FUA level is a single legally constituted planning body with the power to produce, adopt and sustain a spatial development plan and its supporting strategy, policies, programmes and projects (METREX, 2006). Such a plan should be subject to an inclusive and transparent process of public participation and to the acceptance by national/state government, or higher level authority, of its conformity with the national (or equivalent) spatial plan. The useful guidelines on how to establish spatial planning practices on the metropolitan (FUA) level was provided by METREX (2006).

Considering the problem of urban sprawl, setting targets for land take can act as an important tool, as well as putting restrictions on land take and specifying rules for new developments, in both long-term and short-term (annual) time frames. Moreover, FUA **spatial plans should include land use indicators**: land use should be better monitored and managed and give more evidence of urbanization on land use. **Urban sprawl indicators** are also crucial to establish in order to monitor and evaluate its consequences within FUAs: 6 of such recommended indicators are proposed by OECD (OECD, 2018).

Some case studies from Europe shed more light on joining FUA cooperation with spatial planning, with the consequences on land use/urban sprawl.

One example can be **Finland** where the state and regions/municipalities coordinate spatial planning through letters of intent. The FUA level in Finland is addressed by so called city-regions. In those regions, regional land use plans are often made to rather enable development than restrict it, as the municipalities of the Regional Council like to keep the land use decisions as much as possible in their own hands, and not to limit their own possibilities for actions (personal communication). Municipal competition for taxes and attracting businesses required state intervention. Thus, the state introduced in 2010 the procedure of making specific **letters of intent** between the state and the largest city-regions (Helsinki, Tampere, Turku and Oulu), concerning integration of land use, housing and transport (MAL). The state acts mainly as a “guarantor” and “quality assurance” of the joint city-regional plans. The main incentive is the major new transport investments to the region, financed totally or partly by the state. There are also some other types of smaller incentives for e.g. state support in infrastructure investments for new housing areas. The letters of intent are typically made covering one parliamentary election period (4 years) at a time.

A good practice in terms of coordinated and binding planning on FUA level is **Stuttgart Region, Germany**. The Stuttgart Region has a long experience in FUA cooperation and coordinated spatial planning is an important dimension. The growth of population and new jobs in the Region over the last decade put pressure on land resources. The conflict between valuable land protection (e.g. soil of very good quality) and new development is a pertinent issue. Therefore, in Stuttgart Region, mandatory regional planning was introduced, which, together with good cooperation, compromise between growth and preservation was possible. Based on the legal framework of national / federal regulation, the regional plan for the FUA sets mandatory guidelines for local land use plans (where to build and how to build). Land use planning and zoning is in the competence of the municipalities. As the result of coordinated planning, the **soil consumption for every new citizen is 6 times lower than the average of the Federal State of Baden-Württemberg**.

Good practice: Stuttgart Region, Germany

Basic facts

Number of municipalities involved: 179

Number of inhabitants in the FUA: ca. 2.8mln (2018)

Core city or most important core cities: Stuttgart, Ludwigsburg, Esslingen

Compared to the Federal State of Baden-Württemberg, Stuttgart Region comprises 10% of the surface, but is home to 25% of the population and contributes to 30% of the GDP. Thus, open space is rare and compromising between growth and protection is challenging. In Stuttgart Region 179 municipalities are in charge for providing residential areas for a population of 2.8 million people and development opportunities for an industry that has an economic output like the three Baltic countries combined.

The cooperation within Stuttgart Region is based on legal regulation by the federal state. Based on this legal framework, the regional plan for the FUA sets mandatory guidelines for local land use plans. Land use planning and zoning is in the competence of the municipalities. The leadership is directly elected – which is an exemption compared to German standards. The formal governance is carried out by the Verband Region Stuttgart – a formal legal body by public law. Within the competences decision-making lies with the regional assembly.

The instruments to reduce land take and enhance the efficiency of settlement development can be assigned to the following categories:

1. Binding Planning Regulations

The comprehensive planning document (*Regionalplan*) sets mandatory guidelines for all local land use / zoning plans. Regulations comprise (all requirements are strictly enforced and have measurable effects):

- Limits on the quantity of new settlements;
- Areas that are protected and cannot be used for development;
- Minimum density of new residential areas (persons/ha).

2. Provision of Data Base and Spatial Information

To improve decision making on local level, current data, planning perspectives and overall “big picture” information is delivered to the municipalities. Information comprises of e. g.:

- Demographic development and demand for residential areas;
- Economic perspectives and demand for commercial / industrial sites;
- Models for transport / mobility simulation;
- Basic data for open space quality;
- Date and requirements of climate change adaptation.

All data is easily accessible, free of charge and can be integrated in local planning procedures / documents. Recently prepared planning tools allow municipalities a local approach to climate adaptation strategies – saving more than 5 million € for separate strategies.

3. Direct Support for Municipalities

To support the activation of “good sites”, particularly suitable for development in terms of transportation and soil / open space quality; incentives are offered to the municipalities:

- Financial support for open space/recreation infrastructure (up to 50 % of the costs);
- Support to gain access to third party funding;
- Pilot projects and research programs including innovative approaches to deal with compensation for necessary interventions in open spaces;
- Brochures, good practice examples for density;
- Access to international and national networks;
- Political lobbying.



Figure 3 Mandatory regulations set up guidelines for further development, important functions of open spaces are protected.

Another example is the **Lille Metropolitan Area** (Métropole Européenne de Lille, MEL), France: more specifically, the area covered by the Territorial Coherence Scheme (SCOT). With 3.8 million inhabitants out of only 7,200 km², MEL is one of Europe's most densely populated regions, thus land use issues are pertinent for the development of this region. Therefore, MEL, alongside with the Weppes, Haute-Deûle and Pévèle Carembault communes are engaged in a common urban long term planning process through the SCOT, affirming the major ambitions of planning and development of the territory for the next twenty years.

As part of the work to develop the SCOT, the Lille Métropole Urban Planning Agency (ADULM) quantified urban sprawl at 264 ha per year. Under SCOT, the consumption of spaces in **urban extension**

amounts to a maximum of 135 ha/year on average for the next 20 years on the scale of the Lille Metropolitan Area and for all uses and the maximum land consumption target is 2,750ha of agricultural and natural land taken. Priority is given to urbanization within the existing city in order to preserve agricultural and natural land resources. The translation of a housing construction objective into an area (hectares) was done using housing rates per hectare per territory according to urban characteristics and their public transport supply. To meet those restrictions, five municipalities within the Scarpe Escaut Regional Nature Park (Coutiches, Bouvignies, Beuvry-la-Forêt, Landas and Saméon) must limit their urban growth by not exceeding 0.3% of the average annual growth of urbanized areas throughout the Park over the period 2010-2022.

Also **Turin Metropolitan Area** (*città metropolitana di Torino, CMTo*) has the system based on the binding regional plan that coordinates spatial growth. In CMTo, all the municipalities must adapt their local urban planning instruments to the Provincial Territorial Coordination Plan (PTC2) and must work to contain urban sprawl by planning urban expansion within the built areas (densification) or in close proximity to consolidated urban areas. **The containment of soil consumption and sprawl are key objectives of the territorial planning of the CMTo and the main theme of PTC2 is the "containment of land use and urban sprawl".**

Following this priority, support is provided for municipalities in following the rules deriving from PTC2 in a form of **technical assistance in urban planning** (*assistenza tecnica in materia urbanistica*). This assistance includes: administrative, technical and cartographic assistance for the formation of municipal and inter-municipal urban planning and territorial instruments, as well as strategic planning; and also administrative, technical and cartographic assistance for the adaptation of municipal planning instruments to the territorial and strategic planning of the sector.

But coordinated spatial planning and putting restrictions on growth is not always an easy task. For example, in Metropolitan Region of Amsterdam, the issue of urban sprawl is problematic. There is a need for densification, which is promoted, but, at the same time, there is a great wish/need for single family homes in residential environments that are difficult/impossible to achieve in the existing city. In addition, many municipalities are (financially) dependent on the revenues from the land (personal communication), which promotes sprawl. **The balance between a need for densification and the need for single family housing needs to be acknowledged.**

Additionally, densification needs to be balanced to ensure high quality of living. Cities should be not only compact, but also liveable. For example, densification effort in the Hague Region (aim at having 80% development within existing urban fabric) requires compromise and preservation of green, quality public spaces. Therefore, in the Regional Structure Plan of The Hague Region, multiple functions and high quality public space, as well as integrated polycentric development, e.g. limited sprawl in an organised way, are identified as useful strategies to maintain quality of life in dense areas (Nilsson et al., 2014).

Crucial aspect of liveable compactness is also **changing people's attitudes**, as the case of Metropolitan Region of Amsterdam shows. In the MRA, there is a focus not on creating restrictions for growth, but on building dialog and work with all the stakeholders. The awareness rising and improving knowledge about densification (e.g. how to design projects and how to look for densification opportunities) is an

important part of the transformation. The idea behind rather soft and incentive-based approach is not to give restrictions, as municipalities may already have commitments (financial, contracting) regarding projects and investments, thus stopping certain projects is not advisable. Instead, municipalities are encouraged to look more into benefits of densification and potentially changing their so far approaches (rather changing the mind-set than imposing regulations).

Good practice: Lille Metropolitan Area, France

Basic facts

The scope of the Lille functional area is addressed in several ways:

- *Cross-border: through the Eurometropolis Lille - Kortrijk – Tournai*
- *In an administrative way as a local authority: European Metropolitan Area of Lille*
- *In a broader functional sense within the framework of the territorial coherence scheme*

The European Metropolitan Area of Lille (MEL) is a Public Institution for Inter-communal Cooperation (EPCI). At the service of the 90 municipalities that make up the metropolitan area, the governance body works on a daily basis for more than one million inhabitants, in such areas as: transport, housing, energy, economy, public space and roads, urban planning and development, urban policy, water, sanitation, household waste, accessibility, nature and living environment, culture, sport, tourism, crematoria.

Governance of the FUA

Lille public authorities alongside with the communes of Weppes, Haute-Deûle and Pévèle Carembault are engaged in a common urban long term planning process through the Territorial Coherence Scheme (SCOT). The SCOT affirms the major ambitions of planning and development territory for the next twenty years. The legal basis for the cooperation is provided by the joint cooperation union (“syndicat mixte”) between local authorities. The joint cooperation union was created in 1991 to draw up the master plan for the development and urban planning of the borough of Lille. It has its statutes and internal regulations in order to draw the SCOT. The competences transferred to the FUA level include:

- the monitoring, modification and revision of the master development and urban planning plan for MEL approved in 2002;
- the preparation, approval, monitoring, modification and revision of the SCOT on the territory of the Borough of Lille;
- the Functioning of the “Syndicat Mixte”: The Syndicat mixte has designated the *Agence de développement et d'urbanisme de Lille Metropole* as its technical tool for the Syndicat's operating assistance missions and has entrusted it with the management of the work to develop the SCOT.

The SCOT is the tool for designing and implementing inter-municipal strategic planning at the scale of a large catchment area or urban area, as part of a sustainable development and development project (PADD). The SCOT serves as a reference framework for the various sectoral policies, in particular those focusing on issues of spatial organisation and urban planning, housing, mobility, commercial

development, the environment, etc. It ensures consistency of inter-municipal sectoral documents: local inter-municipal urban planning plans, local housing programmes (PLH), urban transport plans (PDU), and PLU or communal maps drawn up at municipal level. The SCOT must respect the principles of sustainable development: the principle of balance between urban renewal, controlled urban development, the development of rural areas and the preservation of natural spaces and landscapes; the principle of diversity of urban functions and social mix; the principle of respect for the environment.

Strategic planning in FUAs

Next to joint spatial plans, also **joint strategic planning** is advised for sustainable FUA development, both in the context of land use/urban sprawl, as well as wider socio-economic development. Strategic planning goes beyond spatial organization and land use issues, thus has a wider scope and influences more thematic areas of FUAs functioning. From the perspective of the UA Partnership, the issues of sustainable land use and also nature-based solutions, together with climate change mitigation and environmental protection, are not sufficiently integrated in existing FUA strategic planning and those topics should gain more attention.

According to UN-Habitat (2007) guidelines on sustainable urban strategic planning, this kind of planning needs to answer, in principle, three questions: where are we now? where do we want to go? and how do we get there? The guidelines also propose a framework for urban strategic planning, which can also be transferable in the FUA context.

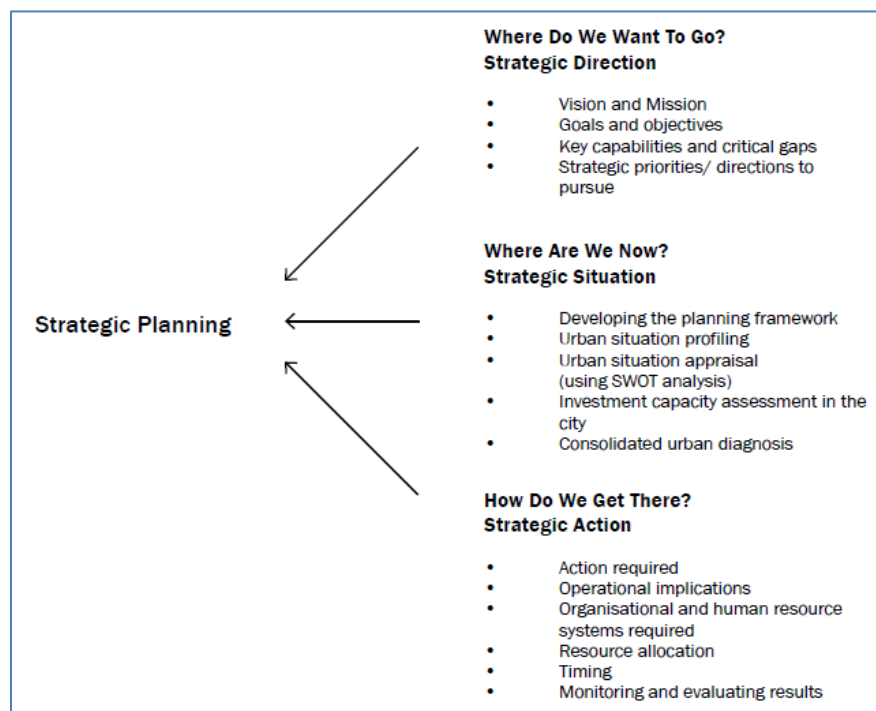


Figure 4 Urban strategic planning process (UN-Habitat, 2007)

Similar, as in case of spatial planning, also strategic planning requires regulatory and financial frameworks, ideally recognized on the national level, e.g. when applying for project funding (e.g. FUA strategy with indicated projects as precondition for national financing).

Sometimes, the multiple administrative levels involved in planning can be a problem. For example, in case of Lille, the coherence between SCOT, MEL, and the SRADDET (Regional Plan for Spatial Planning, Sustainable Development and Equality between Territories) is an issue (ESPON, 2018). SRADDET aims at simplifying regional planning: it is general strategic document and overall spatial planning concept, which should be superior to other local and regional documents. But it is also needed to comply with numerous other national documents, which makes the **national system of strategic and planning documents requiring constant monitoring, check and coherence control**.

Apart from regulatory changes and developing and implementing strategic plans (but also spatial plans), **building the appropriate environment among relevant stakeholders is needed**. As the case of Amsterdam Metropolitan Area shows, the change is possible with building awareness and knowledge, and encouraging stakeholders to act bottom-up. Also municipalities can learn from each other and they should search for cooperation opportunities and compromise, recognizing benefits of coming together vs. competing.

However, it may happen that more binding forms of land-use planning are needed within joint strategic planning, as sometimes softer forms, such as joint development strategy, seem not be fully efficient in addressing urban sprawl (especially when joint spatial planning is lacking). For example, **Cork** has a joint land-use strategy, but it has been not wholly successful in limiting urban sprawl and low density development around Cork, where green-field development has continued to spread and many areas remain under-used. To overcome this problem, the new initiative was recently implemented in Ireland: at the national level, the National Planning Framework has introduced a new concept of Statutory Metropolitan Area Strategic Plans setting out a planning, land-use and economic framework for each metropolitan area. **The aim is to ensure that at least 50% of new development in each city and suburbs is located within the existing built up area on brownfield and infill sites, in order to create more sustainable compact urban form**. These have been produced by the Regional Authority and in the case of Cork the Plan will cover both the city and county parts of the Metropolitan Area. This is a new initiative and it will be some time before its effectiveness can be assessed.

The mix between spatial planning and strategic planning can be exemplified by the case of **Zürich Metropolitan Area**, Switzerland, where spatial planning concept is implemented through "Raumordnungskonzept für die Kantone im Metropolitanraum Zürich (2015)" (Spatial planning concept for the cantons in the metropolitan area of Zürich, METRO-ROK-ZH for the next 10 years), inspired by the Metrobild-project of the Zürich Metropolitan Area Association. The plan serves as the key document that guides the MA development. Individual sub-areas in the Zürich metropolitan area form the core of the spatial planning concept of METRO-ROK-ZH. The strategic plan draws up four action spaces with specific characteristics and challenges: the urban landscape, the transitional landscape, the cultural landscape, and the natural landscape.

It is not government-binding and it was prepared by eight cantons: Aargau, Lucerne, Schaffhausen, Schwyz, St. Gallen, Thurgau, Zug and Zürich. The spatial planning concept serves the eight cantons as an

orientation framework and thus as an aid to their cantonal planning (for example, cantonal guidelines or concepts) as well as for inter-cantonal planning coordination. The Metro-ROK is an important guideline for coordination and cross-border issues in spatial planning. It also provides a good basis for further cooperation in the metropolitan area of Zürich.³

As a principle, 80% of future population growth must be channelled towards the urban landscape, as well as to regional centres in the transitional and cultural landscapes. The remainder of the transitional and cultural landscape will account for the other 20% (ESPON, 2018).

Besides defining the target areas for growth, the spatial concept contains the main transportation lines and planned developments (transport is connected to areas with the most growth potential), the proposed areas work workplaces, and the areas for protection. The plan, being rather a concept than a spatial plan, does not contain concrete objects like shopping malls, or bigger sport facilities. It is up to the cantonal plans to fit these ideas into the spatial concept. So far only Zürich and Zug cantons adopted fully the Metro-ROK concept into their own spatial plan, but the other 6 are also on this way (Tosics, et.al., 2018).

Preparation of a joint FUA strategy

According to OECD⁴, integrated development strategy of FUA should be seen as *“set of instruments and ways of working which enable sustainable development challenges to be tackled in a coherent and dynamic way”*, and this is how FUA strategic planning should be approached. Capacity for strategic planning highly depends on local competences and existing national frameworks, thus can have different forms and scope.

The below guidelines are adopted after the Polish guidelines for integrated strategies, prepared for 2014-2020 ITIs. It should be noted that those recommendations are general and their implementation is context-specific, depending on different national and local context. Thus, they should be treated rather as suggestions and inspiration for those working on integrated FUA strategies.

Integrated character of the strategy

It is important that cooperation in FUA covers not only territorial, but also thematic integration. It should be based on the agreed, comprehensive vision of the FUA development that includes numerous sectoral policies. Investments in “hard” infrastructure should be combined with “soft” measures, such as activities in education or labour market. Ideally, strategy should refer also to spatial planning policy (if existing) and land use issues. Thus, varied forms and sources of financing should be recognized for the realization of the strategy. The strategy should include projects that tackle different themes and are integrated with each other.

³ <https://www.zh.ch/internet/de/aktuell/news/medienmitteilungen/2015/metro-rok.html>

⁴ OECD, 2001, Policy Brief on sustainable development strategies, <http://www.oecd.org/environment/environment-development/1899857.pdf>

Where integration cannot be achieved, and difficult choices have to be made, they should be negotiated in a transparent and participative manner. Ensuring transparency and accountability is therefore an essential part of strategy development process.

Territorial integration

Territorial integration takes into account the territorial dimension of the intervention. The delimitation of FUA already ensures territorial integration as the area in focus grasps functional links and overcomes borders between municipalities. But it is also crucial to ensure inclusiveness and coherence of the territory under the strategy. This dimension should also consider specification of particular intervention territories, recognition of different types of territories within FUA and how it would be addressed. In this context, the strategy should be adjusted to the specific characteristics: potentials and challenges, of the specific territory. For example, highly-urbanized, rural, degraded, natural and other areas can be distinguished within a particular FUA.

Thematic integration

Mechanisms for cross-sectoral policy integration are essential to examine the interaction between policy decisions taken at different levels and in different sectors and their implications for different socio-economic groups. The intervention under the strategy should be multi-sectoral, thus addressing the identified challenges with various policy interventions that complement each other. Especially, investments in “hard” infrastructure should be complemented with the appropriate “soft” measures, such as programs and interventions in education, labour market, civil society etc.

Stakeholders’ integration

This dimension includes cooperation on various governance levels. Representatives of relevant public institutions from national, regional, local level should be involved or at least informed about the strategy development process. It is also crucial to involve other stakeholders from the FUA: inhabitants, business, science, NGO and provide dialog between those stakeholders.

The scope of the strategy

The integrated FUA strategy should:

1. Include the legal basis on which the strategy will be implemented.

The legal basis depends on the established form of FUA governance and wider regulatory framework. This can be, e.g. a decision of the FUA governance body (board, etc.), an administrative decision / local act etc. Such a decision should confirm that the strategy is commonly accepted by all involved municipalities (and potentially other stakeholders) and reflect the willingness to implement it.

All the involved stakeholders should sign the strategy.

2. Be coherent with existing national and European strategic and planning documents.

The strategy can be prepared e.g. under national regulations, to benefit from national funds or European/cohesion policy funds. In any case, it should go in line with existing national strategic documents frameworks. Documents that need to be taken into consideration include:

- National development strategy;
- Sectoral strategies;
- Regional and local strategies and plans, including spatial plans;
- Low-emission local plans;
- Sustainable urban mobility plans;
- Cohesion policy operational programs;

3. Address issues of sustainable development and UN Sustainable Development Goals.

Specify how the sustainable development of the FUA will be achieved thanks to the Strategy. Specifically, describe how the strategy will contribute to the achievement of the UN Sustainable Development Goals.

4. Specify the territorial scope of the strategy.

Usually the strategy includes all FUA municipalities, but sometimes it can be agreed to concentrate intervention only in the designated areas, even a specify neighbourhood.

To achieve the goals of the strategy it is crucial to specify concentration of intervention in the spatial dimension. It will be related to the identified areas of intervention, e.g. housing, revitalization areas. This should specify where exactly specific interventions will be realized. It should also point out specific goals and activities adjusted to the specific character of the intervention areas. Integrated character of the intervention should be ensured. For example, under the areas specified for housing investments, investments in transport nodes or e.g. cycling paths could be included. This territorial dimension of the strategy should also address issues of urban-rural relations.

5. Include synthetic diagnosis.

The diagnosis should be based on the territorial and demographic analysis that points out challenges and potentials of the given FUA. It should be based on the existing public statistic and, if needed, complemented with additional studies. The diagnosis should explain the planned intervention. Thus, it should specifically describe the situation in planned intervention areas. The diagnosis should avoid sectoral approach – it should have strong territorial and integrated focus: analyse potentials and problems in a holistic way, including links and inter-relations between different sectoral policies.

It is recommended to establish, already at the very first stages, coherent system of data collection regarding FUA. It will help to track development of FUA and analyse the changes occurring under the implementation of the strategy.

6. Indicate goals to be achieved through the strategy.

Present the synthetic vision of the FUAs development – this can be a one, summarizing sentence.

The overall vision should be followed by specific strategic goals. Strategic goals should directly derive from the diagnosis and should be formulated so that they clearly specify how the identified problems will be solved or potentials utilized. Expected results of the strategy's implementation should be

outlined. The goals should be accompanied by the quantified indicators of products and results, with the mile stone values determined. When the strategy is prepared to benefit from the cohesion policy funds: goals, investment priorities and indicators should be coherent with the cohesion policy regulations.

This section should also explain how the planned intervention will contribute to the improvement of the economic, demographic, spatial and environmental situation in the FUA. However, it should be noted that intervention under the strategy does not have to include all of existing intervention areas.

7. Specify thematic areas of intervention and list priorities.

The strategy should specify in which areas the activities and support will be realized. The suggested areas of intervention include:

- Housing (localization of housing investments);
- Land use and spatial planning;
- Sustainable and integrated transport systems;
- Revitalization of degraded areas;
- Improvement of environmental quality and environmental protection, including nature-based solutions;
- Air quality;
- Energy efficiency and low-emission;
- Culture and tourism;
- Education and labour market.

8. Define the projects to be implemented together with rules of their selection and financing.

The strategy should include a list of projects that are intended to implementation. Depending on the used approach, those can be already detailed projects or general ideas for what needs to be done. In such case, specific criteria for selection of the exact project proposal needs to be specified (e.g. call, tender etc.). Decided or intended financing sources should be specified as well.

It is important to ensure integrated character of projects, thus, when possible, complementarity and links with other projects should be described.

9. Address the issue of financial instruments and how they will be used.

It is recommended to mobilize use of financial instruments for boosting implementation of projects under FUA strategy, thus capacity to use financial instruments should be assessed and proposed in the strategy.

10. Include environmental impact assessment (if needed).

It needs to be assessed by the appropriate authority if the strategy needs to have and environmental impact assessment. If yes, each project listed in the strategy should undergo such an assessment. The

decision can be made e.g. by the appropriate environmental institution on the national / regional level – depending on the specific national framework.

11. Include the financial plan.

The strategy should specify the financing sources. It should refer to the resources mobilized by participating municipalities – to what extent their own budgets will be used, as well as information about loans, grants, private funding etc.

12. Define the implementation system.

This part should include specific information on the functioning of the FUA, its governance structure and related tasks. It should cover:

- Organizational structure (steering committee, secretariat, board etc.) and their tasks;
- Description of the basic procedures, such as procedures for selecting projects, monitoring and evaluation, cooperation with other institutions, decision-making, applying for funding etc.;

13. Describe how local participation of various stakeholders / inhabitants will be ensured.

The consensus on FUA strategy is important and requires wider involvement of various participants. It is recommended to consult wider public and inform them on each step of strategy preparation (face-to-face meetings, web sites, social media platforms). It is also recommended to include particular groups of stakeholders in specific areas of strategy preparation, such as spatial planners, academic, business, NGO.

The report from the process of strategy preparation should be accessible for all interested, for example on the dedicated website.

The strategy preparation process

1. Initial phase

- Selecting the core stakeholders (FUAs municipalities), establishing a governance / coordinating body;
- Inviting more stakeholders (national, regional, local, NGO, academic, business, planning organization, inhabitants and others);
- Creation of the Local Support Group with representatives from public and private sector;

2. Drafting phase

- Selecting people responsible for drafting a strategy and establishing of thematic working groups (optionally);
- Conducting a diagnosis based on existing data and, optionally, conducting additional research. Gathering evidence based on desktop studies and site work;
- Defining key problems and challenges, as well as development potentials;
- Generating ideas and solutions (also in participatory process);

- Identifying needed projects and their funding sources;
- Drafting a strategy;
- Ensuring that involved FUA municipalities meet on the regular basis and discuss the progress;

3. Consultation phase

- Public consultations and consultations with potential funding bodies;
- Communication of the process of strategy's preparation (media, official websites, social media and others) – ensure that wider public has an up-to-date access to knowledge about the process;

4. Final phase

- Final approval by the established legal entity (FUA governance body) and all involved municipalities;
- Preparation of the available summary from the whole process.
- Ensuring that strategy is publicly available (e.g. online).

Other benefits of functional urban areas cooperation

Functional urban areas cooperation, as shown in previous chapters, plays a crucial role in ensuring sustainable land use and mitigating urban sprawl. But there are many other benefits, which can encourage and inspire decision-makers to build FUA cooperation. The UA Partnership study (Annex 3) explored various benefits of FUA cooperation, presented in this chapter.

The study of the UA Partnership identified the following FUA collaboration benefits:

- **Ensuring sustainable land use and mitigating urban sprawl (described in previous chapters);**
- **Strengthening the economic development in FUAs;**
- **Building administrative potential;**
- **Strengthening the position of cooperating municipalities (e.g. in lobbying for legislative changes);**
- **Savings for municipal budgets;**
- **Minimizing fragmentation of investments;**
- **Lowering competition for external funding (e.g. EU funds) and better quality of EU projects applied;**
- **Improved life quality of inhabitants;**
- **More effective climate change mitigation and environmental protection;**
- **More sustainable land use and less urban sprawl (explored in previous chapters).**

The above-mentioned benefits and effects of FUA collaboration are not exhaustive, as well as certain challenges and problems may also occur, such as dependence of the smaller municipalities on the core city, lack of decision-making freedom and others. There are also numerous indirect benefits of collaboration on the municipal level that facilitate achieving the main ones that is for example: exchange of knowledge, spread of innovations and promotion of learning, building trust or increase in the frequency of contacts between municipalities.

Strengthening the economic development in FUAs

In general, existence of **FUA governance, improves the economic performance of the whole area**. The OECD (2015) points out that metropolitan areas (can be associated with FUAs) with fragmented governance structures tend to have lower levels of productivity: for a given population size, a metropolitan area with twice the number of municipalities is associated with around 6% lower productivity. This effect is mitigated by almost half by the existence of a governance body at the metropolitan/FUA level.

However, due to lack of consistent socio-economic indicators on FUA level, it is impossible to provide more evidence on the positive effects of FUA cooperation.

Building administrative potential

This benefit is achieved through **building new competences of the authorities through participation in the collective bodies, joint trainings**, etc., where new skills of local and regional authorities are acquired, which are further utilized on the local level. Many cities participating in the survey stressed that exchanges and learning are important elements of collaboration and strengthening administrative capacity is an important added value.

For example, the Integrated Territorial Investments (ITI) in Poland pushed municipalities to think how to establish and continue collaboration, which was not done before. The delegation of tasks to sub-regional authorities (established specifically for ITI) has been instrumental in raising awareness of the role of integrated strategic planning, building responsibility for cohesion policy implementation tasks in a broader range of partners, and boosting administrative capacity. The ITI experience is raising awareness of the importance of territorial governance arrangements that cover functional areas and it is playing a part in growing calls for permanent arrangements for this type of governance to be established in Poland (Ferry & Borkowska-Waszak, 2018).

Moreover, contacts between municipalities, e.g. in joint coordinating bodies or project implementation teams, facilitate exchange of knowledge and experiences (co-learning). Intensification of contacts between municipalities, building relationships thanks to regular meetings, exchange of know-how at the strategic and operational level help to solve problems and come up with new ideas.

Strengthening the position of cooperating municipalities

Working together can help to achieve desired goals more effectively than acting independently. Collective power can be useful e.g. in **accessing funding, lobbying for policy changes on national level or reducing so-called ‘pork-barrel’ effect**. This can be achieved in the numerous ways, e.g. by:

- forming coalitions that lobby for their matters (see e.g. Metropolitan Region of Amsterdam, ITI for Central Region, Silesia, Poland);
- having a joint strategic plan, recognized on the national level (see e.g. Cork, Ireland).

In the **Metropolitan Region of Amsterdam (MRA)**, cities in the region come together to lobby on the national level on issues such as social housing or refugee matters. Cooperation between municipalities has rather weak, networking character, but it works through coalition-making culture. The strong lobbying position of municipalities that come together helps to show the case on the national level, e.g. in applying for funds or changing legislation: together the parties are stronger in their cooperation with the government. As one of the MRA representatives summarized: *“awareness of the benefits of building a better region for living and working together. More attention to sustainable urbanization, within which living, working and accessibility must be tackled together”*.

In Cork, Ireland, the Cork Area Strategic Plan (CASP) was established and incorporated into national framework. It strengthened the position of the Cork Area for lobbying and applying for funding on the national level. For example, there were proposed commuter rail lines that would serve the North and East of the city in the CASP plan, which helped to raise this issue on the national level for funding. The funding was obtained and further sustainable development of the Cork metropolitan area has been

designed along this line. CASP collaboration has also facilitated the development of a joint approach to marketing Cork City and County for both economic development and for tourism.

Good practice: Cork Area, Ireland

Basic facts

Number of inhabitants: Metropolitan area around 300,000 and a wider FUA – around 400,000

Core city or most important core cities: Cork

In Cork, the *Cork Area Strategic Plan (CASP)* was established in 2001 (updated in 2008). Incorporation of this plan into Statutory City and County Development Plans (national level) strengthened the position of the Cork Area for lobbying and applying for funding on the national level. For example, there were proposed commuter rail lines that would serve the North and East of the city in the CASP plan, which helped to raise this issue on the national level for funding. The funding was obtained and further sustainable development of the Cork metropolitan area has been designed along this line. CASP collaboration has also facilitated the development of a joint approach to marketing Cork City and County for both economic development and for tourism.

More recently in 2016, City and County came together to prepare *Cork 2050*, a strategy for development of the FUA to 2050, which was submitted to National Government. No other city/FUA outside Dublin has consistently co-operated to prepare agreed strategies on a FUA basis before.

Above-mentioned plans have been incorporated into successive Statutory City and County Development Plans and have also informed national and regional level plans.

The governance structure for the FUA cooperation has been relatively informal, consisting of:

4. The CASP Committee made up of Elected Members of Cork City and County Councils,
5. The CASP Steering Committee, made up of officials of the City and County Councils.

Limitations of the non-statutory collaborative approach

The joint strategies and collaboration have helped in case-making for infrastructure funding and helped to develop a broad collaboration culture on certain issues. However, they have not been wholly successful in limiting urban sprawl and low density development around Cork. Agreement on high level issues has been possible, and the broad trust of land use and transportation strategy has been agreed, but when it comes to more localised implementation and land use decisions it has limitations. Low density greenfield development has continued to spread, while the brownfield docklands sites in the city have not been developed, partly due to the need for costly infrastructure and market conditions, but also due to lack of constraint on greenfield growth.

Savings for municipal budgets

When working together on joint projects in FUAs, it is more possible to avoid unnecessary and overlapping investments, thus, ensure monetary savings. Besides, for example, in **Lublin ITI** (Poland), implemented in FUA, municipalities work on joint tenders. Implementing one, joint procedure is often a challenging task, but helps to save money by avoiding fragmentation of expenses. In ITI for the Central

Sub-Region of Silesia, Poland, municipalities prepare joint plans, where hiring one consulting company costs less than each municipality does it separately. In **Białystok ITI**, Poland, all participating municipalities formed a joint purchasing group for buying electricity, **which brought savings of 1.2 mln PLN** at the time the tender was resolved, and taking into account the current electricity prices – up to 9,5 mln PLN. Those savings are especially crucial when related to the budgets of smaller municipalities. The success of the first purchasing group caused the willingness to continue operations in this area, as well as the creation of another purchasing group for the gas.

Minimizing fragmentation of investments

Coordinated transport systems are one example of overcoming investment's fragmentation. Joint planning in transport enables to locate transport infrastructure and coordinate public transport mobility in an efficient way. For example, cycling paths or parking spaces are located in coordination, making integrated transport systems of higher efficiency and lower costs.

For example, in **ITI for the Central Sub-Region of Silesia**, Poland, a comprehensive transport evaluation was conducted for the whole region (transport study). The study includes building real-time transport model that would enable updated monitoring of the traffic, predict changes and need, and, thus, help to develop better transport system for the whole FUA. The study is implemented in cooperation of multiple partners, including local municipalities' association, local transport association and the metropolitan area (Górnośląsko-Zagłębiowska Metropolia).

Lowering competition for external funding (e.g. EU funds) and better quality of projects applied

Cooperating municipalities exchange on planned investments and funding applications (individual ones), share know-how. Thus, especially smaller municipalities could make safer decisions where it is worth to put money and effort in applying for funding (Borkowska, 2018).

In the **ITI for the Central Sub-Region of Silesia**, Poland, especially smaller municipalities got support in applying for funding. In the case of this ITI, it was visible that often smaller municipalities had less capacity to elaborate high quality project applications, e.g. due to less experience or less staff involved in those issues. Joint meetings, trainings and support from the ITI coordinating body helped those municipalities to prepare better applications and be more successful in obtaining funding. This was especially crucial for this specific ITI, as many coordinated projects were implemented separately on the further stages. For example, the partnership project for bicycle lines was initially designed and prepared in cooperation between 7 municipalities (one bicycle lines plan). However, municipalities decided to apply for funding individually. In such situation it is crucial to have all applications being of the similar, high quality to ensure that all involved partners will acquire funding.

Also the case of **Prague Metropolitan Area** shows that, thanks to ITI, relevant stakeholders (municipalities mostly) have reserved budget for the Prague Metropolitan Area, which means there is lower competition between applicants than on a national level (personal communication). Also representative of **Hradec-Pardubice agglomeration**, mentioned: *“regular communication with stakeholders (primarily thematic working groups) within the agglomeration was set up, the main advantage are better targeted, integrated projects in the agglomeration”* (personal communication).

Improved life quality of inhabitants

As the city grows, so grow the costs of living, e.g. housing. The sustainable FUA development seeks to leverage high costs of living and ensuring high quality of life and well-being. For example, integrated public transport provision helps to ensure that public transport services in FUA are aligned to each other. It offers residents advantages such as universal ticketing schemes, shorter transfer times and better geographical coverage of public transport. For example, in **Prague Metropolitan Area**, by supporting the effective and environmental friendly mobility to the core city – Prague through the ITI, people in hinterland spent less time commuting, using more comfortable and more environmentally friendly ways of transport. Also, better access to kindergartens and better equipped elementary and secondary schools in surrounding municipalities make their inhabitants commuting less often to the core city and spending more time in the place where they live.

Job market and education are important elements of FUAs planning too. For example, in **Białystok ITI**, Poland, a joint Competence Centre was created to develop coordination over vocational training in the whole area. The Centre covers all vocational schools in the FUA, studies the needs for particular professions and coordinates the school's programs so that they are adjusted to the current market needs. All vocational schools must prepare their development strategies that get approval of the accreditation commission within the Competence Centre, so that the school's cooperation with the local job market is checked and ensured. Cooperation between vocational schools, local job market, NGOs and municipalities helps to build social capital in the region, necessary for the FUAs development.

More effective climate change mitigation and environmental protection

Climate change should be a strong driver of FUA cooperation. Storm water management, flood protection and the influx of cool air to prevent urban heat island need an approach beyond city limits. Thus, for example Stuttgart Region climate adaptation strategy consists of numerous tools on the FUA level such as:

1. formal mandatory planning, including themes of protection of areas relevant for cooling and flow of fresh air or flood protection areas;
2. Climate atlas with analysis of local climate situation and necessary actions with database for local land use planning and zoning
3. Project on all relevant levels:
4. Consultancy program (in cooperation with Böblingen county)

Also, in 36 municipalities in the Metropolitan Area of Barcelona (MAB) transport flat rate that came into force in January 2019. The measure will allow to move with 1-zone tickets in the journeys in which both the origin and the destination are a municipality of the AMB (zones 1, 2A, 2B and 2C), regardless of their rate-zone. This should contribute to reducing congestion of the main roads accessing Barcelona and mitigate the negative consequences of sprawl.

Recommendations

Recommendations presented in this chapter have been elaborated and agreed among UA partners and they are of the UA Partnership. They are based on partners experiences, available evidence and studies, as well as exchanges and discussions held during UA Partnership's meetings.

General conclusions of the UA partnership

There is growing knowledge on FUAs in Europe, also in relation to land use (see e.g. past and on-going ESPON projects, Integrated Territorial Investments in FUAs [ITI], STRAT-Board⁵). Cohesion policy 2014-2020 triggered sustainable urban development (SUD) in FUAs by enabling dedicated intervention on this level e.g. through ITI. The Romanian Presidency in the Council of the European Union (2019) was putting efforts in bringing FUAs higher on the European political agenda. And the 2020 German Presidency works on the new Leipzig Charter with strong focus on FUAs in the updated document. The integrated planning has become more important and integrated strategic concepts on FUA level have the potential to contribute to several **UN-sustainable development goals**⁶. However, FUA cooperation is still not widely implemented and as popular as expected.

The study of the UA Partnership shows that **lack of willingness to cooperate and reach compromise are still pertinent obstacles to cooperate within FUAs, together with lack of appropriate regulatory and financial frameworks on the national levels**. On the national level, strong regional and local independence can be also a problem as it is difficult to impose any changes from the central level, thus it is often regional level, not national that needs action. The promotion of FUAs on the European level is also insufficient and there is lack of commonly agreed delimitation, data collection methodology and statistics on the European level that would help to establish and drive FUA collaborations.

Besides, despite existing knowledge on e.g. FUA delimitations or governance models, or planning practices, there is still **not enough recognition of the benefits of FUA collaboration** that would inspire decisions of relevant stakeholders. Consistent data (e.g. socio-economic and spatial indicators) and good practices should be mainstreamed and used to inspire various stakeholders to start cooperating within FUAs. The role of FUA cooperation in mitigating urban sprawl and ensuring more sustainable land use is insufficiently mainstreamed and promoted, lacking also more deepened knowledge on this topic. **Facilitating willingness to cooperate, based on recognition of the benefits, and building cooperation culture** is, thus, of growing importance.

The Partnership on sustainable use of land and nature-based solutions calls for more European and national research and providing evidence on the benefits of FUA cooperation, especially:

- Developing a statistical base on socio-economic and spatial indicators in FUAs;

⁵ <https://urban.jrc.ec.europa.eu/strat-board/>

⁶ <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

- Developing and promoting innovative ways of delimitating FUAs (e.g. based on GSM signals – see e.g. Riga, Latvia⁷);
- Developing methodology and tools for accessible tracking and measuring the effects of FUA cooperation (e.g. on socio-economic changes);
- More qualitative research, identifying benefits of FUA cooperation, with examples, best practices and model solutions;
- Research on monetary savings (financial evaluation) thanks to FUA cooperation that would showcase the financial benefits;
- More data and examples on the relations between FUA cooperation and sustainable land use and mitigating urban sprawl.

Recommendations to the FUA/local level

Building cooperation culture is an essential part of effective FUA cooperation. Municipalities that decide to work together need to meet on regular basis and establish a forum of exchanges and decision making. Depending on the frameworks, establishing of the joint governance body is recommended, or at least, joint coordinating body and/or joint secretariat. The running of the secretariat can be financed from the individual municipal budgets or other available sources.

Often, dependence on the core city and a strong position of a core city is an obstacle to boost FUA cooperation. Thus, having a **strong leadership** in the cooperation is advised, but FUA should avoid to give too much power to the core cities. Decisions should be made based **on consensus** and the needs of all municipalities should be acknowledged.

Although successful examples of ad hoc, informal FUA cooperation exist, it is often **integrated planning practices** (strategic planning, coordinated spatial planning) that really strengthen FUAs and bring visible effects. Integration in planning should refer to both, territorial integration (catchment of functional links and FUA delimitations, territorial concentration of intervention) and thematic integration (coherent vision of the FUA's development, reaching beyond sectoral divisions). Stakeholder integration should be also acknowledged, by recognizing the needs of different stakeholders and including them in the strategy and related activities. That refers also to the private sector, which is so far not sufficiently included into FUA-related processes, planning and decision-making.

Any form of joint planning in FUA should be based on the **agreed, comprehensive development vision** of the area. FUA strategies and plans should focus on **optimization and more rational resources management**, including financial resources, in the context of providing agglomeration services and the use of space. The cooperation should include themes of, among others: housing, air quality, mobility and transport, water management, education and labour market, land use and spatial planning, climate adaptation and nature-based solutions.

⁷ <http://www.la.lv/darbaruki-apatiskie-un-balletaji> (in Latvian)

The study of Urban Agenda shows that urban sprawl (and other unsustainable land use practices) are often an issue in FUAs, but they are rarely addressed in the existing collaborations. Thus, the UA Partnership recommends to:

- Deliver clear definitions of „urban sprawl“, sustainable development and liveable compactness – and support compromising between growth and protection of open spaces. Liveable Compactness paradigm can help to build appropriate mind frame to plan sustainability action;
- Provide clear guidelines and/or regulations on “where” and “how” to build to avoid sprawl, e.g. within spatial and strategic planning, and instead of or next to these regulations, aim at giving positive suggestions;
- Focus on the strong correlation of development, traffic and the use of public transport;
- Support the improvement of open space quality – and the multi-functionality of open spaces (e.g. habitat, climate adaptation, flood protection recreation);
- Support knowledge exchange and learning in FUAs on sustainable development (including issues of climate change and sustainable land use).

In the context of land use/urban sprawl and FUAs, the issue of housing often emerges as a pertinent topic. The work of the Partnership shows that managing housing in FUAs is one of the most important dimensions of FUA cooperation related to urban sprawl and land use. Many FUAs, especially metropolitan areas, grow and need new housing. Demand for housing, and for affordable housing in particular, poses conflict over available agricultural and natural land. Compromise between land resources protection and satisfying new housing needs is crucial for ensuring sustainable development of FUAs. This process requires dialog with a wide group of stakeholders: municipalities, business, inhabitants, as well as include actors responsible for e.g. transport, environment, public services and others. The private sector should be more engaged in the processes of decision-making and planning.

Recommendations on densification in FUAs for more sustainable use of land and mitigating urban sprawl

- Deepened studies on densification in FUAs can explore new housing opportunities beyond taking new land;
- Certain regulations in local acts (if possible), such as directing new housing development only close to existing infrastructure and services nodes can prevent land take and urban sprawl;
- Putting restrictions on land take can force densification efforts (e.g. in Lille Metropolitan Area there is a limit on annual maximum land take);
- Joint FUA plan / spatial plan can precisely define where and how to build with enforcement mechanisms (legal mechanisms);
- Include a variety of bodies and authorities related to spatial planning into the FUA strategy making process that could work as a tool to deal with, e.g. land use issues – engagement of

multiple stakeholders into planning and strategy-making process;

- Awareness raising e.g. on densification is crucial – municipalities should exchange knowledge and share their good practices, mutual learning encourages to look for new solutions and carrying more about land take;
- Look for balance – there are also bad examples for high density neighbourhoods – pushing for densification can have adverse effects;
- Stronger role of FUA/regional institutions in consulting/support local authorities in this question – if they are enabled to do so;
- Provide incentives to stay in the city (not to move out in the suburbs), e.g. in a form of kindergarten subsidies etc. (but based on consensus on FUA level);
- Make sprawl financially unattractive (e.g. higher costs/taxes for areas located further away from major existing facilities);
- Provide incentives for sprawl-sensitive planning (national/regional/local);
- Define not only the role and responsibility of the real estate sector in FUA development.

Recommendations to the national level

Integrated planning on FUA level cannot be successfully implemented without **appropriate national regulatory and financial frameworks**. Thus, the UA Partnership recommends that the national governments:

- Enable various forms of inter-municipal collaboration (e.g. including possibility of forming inter-municipal associations in national legislations) – **national framework should refer not only to the biggest metropolitan areas, but also recognize smaller FUAs**.
- Provide consistent methodology for delimitating FUAs on the national level;
- Can establish FUAs under national acts (it is important that even if FUAs are top-down defined, other grassroots cooperation initiatives should be also allowed);
- Include FUA and other inter-municipal strategies under national strategic documents systems;
- Deepen integration between sectoral policies: reform sectoral policies so that integrated intervention on the FUA level is possible (more flexibility in the interventions);
- Recognize FUA as the institutional level in national policies – one solution is to recognize metropolitan/FUA governance in the national constitution (see e.g. cases of São Paulo, Stuttgart);
- The policy framework must recognise the differences in capacity between regions and the various types of municipalities without compromising the need for a set of minimum outcomes;

Additionally, the national **financial framework is also crucial** and UA Partnership recommends to:

- Provide incentives to establish or strengthen FUA collaboration. Those incentives may include:
 - Financial support for running FUAs secretariat or other technical support for FUAs governance;
 - Technical support for preparing FUA strategies / plans (expert support, knowledge provided by the nationally elected experts);
 - Tax incentives (e.g. for establishing cooperation, joint planning etc.);
 - Support of the research on FUA matters that helps to make joint decisions;
- Ensure funding in national funding schemes for integrated projects in FUAs, e.g. dedicated envelopes, preferences in national calls, etc. Financing of projects in FUAs from the national level works also as an incentive, but also has a crucial role in the realization of the general development policy of the state. National investments should not only overcome sectoral divisions, but also territorial separations, especially on the intra-municipal / FUA level, as the recognition of this level is often lacking;
- Consider including financial instruments as a part of the realization integrated projects in FUAs;
- Consider using cohesion policy funds in FUAs, e.g. within ITI instrument dedicated to FUAs;
- Provide incentives in EU funding for considering sustainable land use in FUAs (but not only in FUAs) as a part of sustainable urban development strategies;
- Ensure financial frameworks enable long-term (regular/permanent) funds for long-term territorial cooperation;

Next to the regulatory and financial frameworks, it is also crucial to **build knowledge and raise awareness** that encourages and supports FUA collaboration. It is especially crucial, as sometimes it is difficult to e.g. impose certain regulations due to given high autonomy to the regional / local levels. The UA Partnership recommends to:

- Improve knowledge base on FUAs: socio-economic and spatial indicators, more “qualitative” indicators, e.g. on administrative capacity building, cooperation between municipalities, inhabitants satisfaction etc., indicators for assessing progress;
- Consider awareness raising campaigns on benefits of integrated strategic and spatial planning on FUA level for encouraging cooperation;
- Consider establishing national knowledge network for implementation of FUA strategies that would enable exchange of knowledge and experience between stakeholders;
- Promote the „big picture“ of overall development within the FUA, and the importance of regional / inter-municipal governance;
- Provide support for smaller local units on important data, good practices and procedures;
- Consider policy recommendations;

- Consider adopting Regional Policy Guidelines on the national level (see e.g. Latvia).

Recommendations on strengthening sustainable use of land and mitigating urban sprawl in FUAs on the national level

- Promote compromise between the needed development and the protection of natural spaces, and provide compensation for compromise, including financial compensation for the e.g. lost land value do to changed use. It might be relatively easy to put restrictions on land use, but this always requires compromise with the existing investment needs. Cooperation among municipalities works best on a voluntary basis with incentives from the top, but also when a strategy is elaborated to engage those who feel threatened by the reform and to leverage their buy-in (sometimes by giving out compensation for their anticipated losses).
- National legislations should enable coordinated spatial planning in FUAs and provide appropriate legal and strategic frameworks – the concept of spatial planning must reconcile functional relationships between socio-economic and physical dynamics (ESPON, 2018b). Spatial planning should occur on all scales: national, regional (functional), local and should be coordinated. Executive legal mechanisms and/or various incentives (financial, taxation) can ensure that FUA spatial plan will be binding and followed by all stakeholders.
- Providing standards on density, land use and land take for cities/FUAs and executing them when offering national or EU funding for infrastructure.

Recommendations regarding FUAs in 2020+ cohesion policy

The EU cohesion policy can be an important tool in improving FUA cooperation. Integrated Territorial Investments (ITI) have been widely used in Europe in 2014-2020 programming period, providing good practices and useful suggestions regarding FUAs that can be used and strengthened during the next programming period.

ITIs are one of the ways of implementing the specific allocation to integrated and sustainable urban development (SUD) strategies (next to e.g. separate programme or priority axis) Similarly to the current programming period, SUD 2020+ will be also based on realization of sustainable urban development strategies under **policy objective (PO) 5: Europe closer to citizens – sustainable and integrated development of urban, rural and coastal areas through local initiatives**. Proposed art. 22 of Common Provisions Regulation (CPR) gives opportunities for using 3 types of territorial instruments that may consider FUAs: ITI, CLLD and other territorial tools under PO5. Although, CLLD and other territorial tools are focused on stimulating local initiatives, it can be successfully implemented as complementary to the FUA strategy.

Regarding preparation of the future sustainable urban development strategies, the UA Partnership recommends to **consider ITI based on joint FUA strategy**.

Combining various funds under ITI (ERDF, ESF, CF, EAFRD) can help to improve its effects and ensure synergy. The report on integrated strategies for 2014-2020 (van der Zwet et.al., 2017) shows that SUD tends to be primarily implemented through ERDF. Making use of ITI (or multi-fund OPs, priority axes) in which other funds can be mixed, should be used more often to ensure integrity of intervention.

In this context, FUA strategies should have integrated character and combine multiple sectoral policies for addressing recognized challenges. The strategy should consider such issues as, among others: energy efficiency, public transport, housing, climate change, sustainable land use (land take), nature-based solutions in FUAs, education, labour market and public services. The strategy should not be limited to the themes of specific investment priorities, where EU financing is possible, but address wider range of topics relevant for a specific FUA.

Using CLLD or other territorial tools under SUD can additionally strengthen the involvement of local communities in the implementation of a strategy (especially as some research suggests that intervention under SUD not always meets the real need of the inhabitants). ESPON (2018b) points out that CLLD and ITI integration is limited and could be improved.

With the new policy objective for example SUD could support integrated and innovative projects that are breaking policy silos, crossing administrative boundaries, or bringing together different stakeholders through active collaboration and partnership.

It is also recommended to **consider using technical support funds to co-finance FUAs governance secretariat / governance body** responsible for the implementation of ITI. Such a **technical support can be potentially provided directly from the European level**.

Including **financial instruments** as supportive to the SUD strategy financed within cohesion policy can additionally strengthen implementation of the integrated strategy.

The issues of land take (and in more general of sustainable land use), as well as nature-based solutions (another strain of UA Partnership), were not so far widely mainstreamed neither integrated in ITI strategies for FUAs. It is recommended that the **issues of sustainable land use** (land take, urban sprawl, brownfields re-development etc.) and **NBS are included in FUAs strategy**, even if the specific investment priority for that is not provided. This can be achieved, e.g. by:

- designating growth areas and protected areas within FUAs (the latter where new developments should not take place);
- promoting sustainable transport investment that will, at the same time, facilitate densification and rational housing development;
- promoting projects that follow sustainable land use principles, e.g. use brownfields, or temporary use of spaces;
- providing examples on successful projects on FUA level, both in terms of land use and NBS.

Recommendations for preparing SUD strategies in FUAs for 2020+ programming period¹:

1. Addressing urban-rural linkages and including urban-rural integration;
2. Including land take and urban sprawl issues within existing priorities, e.g. under transport, environmental protection and other priorities;
3. Considering using financial instruments and public-private partnership as a part of financing;
4. Organize public consultations of the strategy and invite other relevant stakeholders (private sector, NGO) to ensure that strategy meets local needs and expectations;
5. Considering including CLLD instrument as a part of strengthening local community's involvement in a strategy implementation – better integration between CLLD and ITI on FUA level;
6. In preparing a strategy, use existing data and conduct deep analysis of the area, including its spatial and socio-economic situation (consider issues of land take too);
7. Consider establishing national knowledge network for implementation of SUD / ITI that would enable exchange of knowledge and experience between stakeholders;
8. Elaborate consistent system of monitoring and evaluation (studies show that it is often the weakest part of strategies' implementation).

Recommendations to the European level

The European Commission has a pertinent role in mainstreaming FUA cooperation on the European level. It refers not only to the mechanisms of cohesion policy (e.g. SUD), but also a wider role of EC in knowledge exchange, influencing national policies and establishing development priorities. Thus, the UA Partnership recommends on the EU level:

Better regulation

- Consider establishing a direct EU-level financing mechanism/program for FUAs, e.g. in a form of dedicated instrument with national envelopes where selected projects are financed directly from the EU-level. Such a solution could help to engage more FUAs by skipping sometimes unfavourable national frameworks/programs;
- Incorporate FUA concept/dimension in various sectoral policies and thematic areas of EU legislation (e.g. directives);
- Include sustainable land use / land take among cohesion policy priorities, to be considered when planning cohesion policy ahead of 2027;

Better funding

- Promote using technical assistance for supporting FUAs (e.g. for FUAs secretariat, capacity building, etc.);
- Urban Innovative Actions call for integrated innovative projects in FUAs;

Better knowledge

- Establish an European (EC coordinated) knowledge centre on FUAs, where national and regional/local actors can seek expertise and support on building their FUA capacity and

establishing successful cooperation/cooperation frameworks;

- Provide a unified definition and delimitation criteria for FUAs in Europe together with the up-to-date list of FUAs that can be used by MS to identify their own FUAs;
- Provide consistent data monitoring on FUAs through the Eurostat;
- Provide expert support (e.g. establishing an expert group for free consultancy) for FUAs / MS that want to use territorial instruments e.g. ITI in FUAs after 2020 – the expert should help those who want to implement e.g. ITI in delimitating, preparing the strategy, determining the national funding framework. The group can consist of EC experts and experts from MS who already implemented ITI. The consultancy should be free of charge (consider using technical assistance funds to cover the functioning of the group);
- Guidelines for territorial instruments 2020+ should be considered. Preparation of such guidelines should be consulted with the wide group of stakeholders. The guidelines should e.g. include case studies and recommendations on FUA projects, thematic cooperation areas, methods to include land use and NBS in FUA strategies under ITI;
- Continue elaborating the STRAT-Board tool⁸.

The role of other actors should be also underlined when considering FUA collaboration on the European level:

1. **European Parliament** officials can have a pertinent role and act as a bridge in bringing a topic of FUA collaboration higher on the political agenda (more recognition of the FUA topic and its relation to e.g. climate change mitigation and adaptation, sustainable land use is needed);
2. **2020 German Presidency** in the Council of the European Union is planning to present the updated Leipzig Charter. The works on it are on-going, as well as on Territorial Agenda which is another crucial dimension promoting FUA approach. The recognition of the role of FUAs should be one of the key topics of the Charter. Also, the sustainable land use (in the context of FUAs, but not only) should, next to climate change, be one of the priorities in the future urban cooperation on the European level, and both themes should be strongly underlined in the Charter;
3. **URBACT** has had so far a prominent role in strengthening cities cooperation and learning, but FUA context was not strongly underlined in URBACT projects and networks. More URBACT initiatives (e.g. cooperative network, planning network, other initiatives) regarding integrated planning in FUAs and/or FUA cooperation (e.g. building cooperative culture between municipalities in FUAs) could help to strengthen FUAs in Europe.
4. **Eurostat and ESPON** – more cooperation between institutions on unifying definitions, delimitations and approaches, creating joint knowledge-base on FUAs and act as a reference point to data and information on FUA development.

⁸ <https://urban.jrc.ec.europa.eu/strat-board/>

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Annex 1: Definition of the Functional Urban Areas

Functional Urban Areas (FUAs) have numerous definitions, varying across countries and organizations. The following section provides different definitions of FUAs by focusing on the similarities and contradictions amongst organizations.

Approved in 2011 and applied to 29 OECD countries, the OECD definition of the FUA is the urban area composed of densely inhabited urban core(s) and its hinterland. Similarly, Eurostat describes FUA as a city core plus its commuting zone. JRC further defines FUAs as the contiguous set of municipalities with at least 50% of the population in the centre, plus the surrounding municipalities that have 15% of their employees in the core city. Along the same line, ESPON defines FUA as a travel-to-work area that acts as the “labour basin” of the Morphological Urban Area (MUA). ESPON highlights the fact that the identification of FUAs should be based on pure statistics, independent from any national, administrative, or political definitions. The Council of Europe (CoE) CEMAT introduces the term “functional rural area” in lieu of “commuting zone” which underlines the importance of rural identity. The CoE states that Functional Areas (FA) are composed of the urban centre and the functional rural area. Contrary to ESPON’s definition, the CoE puts strong emphasis on the functioning of FUAs as a unitary system from a political/social/economic point of view. The EUROCITIES agrees with the CoE in that the FUA is a wider urban system that is still functionally integrated with the core city. The towns and villages within one FUA are economically and socially highly dependent on the urban core. The definition of the FUA depends on national, constitutional, and governance arrangements since its scale is defined by different flows of people, goods, and services affected by markets, globalization and demographic change. Due to these contextual dependencies, EUROCITIES claims that there is no need for a uniform definition of functional areas. They further remark that functional areas are an appropriate spatial level for effective integrated approaches to sustainable development, where cooperation builds on the relative strengths and inherent value of its different constituent parts.

To sum up, **the common ground for all these definitions is the existence of an urban core that is surrounded by the commuting zone/urban hinterland.** The urban core and the commuting zone holds various definitions based on density and population characteristics. The most acknowledged definition is that of OECD, Urban Audit and EUROSTAT, in which the urban core is identified based on a minimal density and a population threshold while the commuting zone includes all communities with more than a substantial percentage (15%) of their employed resident population work in the core city.

Table: Definitions used to explain the Functional Urban Areas term:

Source	Definition
OECD and EC	<p>City+ Commuting zone</p> <p>If 15 % of employed persons living in one city work in another city, the first city becomes a part of the FUA of the second city. If one municipality meets the criteria to be a part of the FUA of two cities, it is assigned to the FUA to which the higher percentage of the employed residents is commuting. FUA is the urban area composed</p>

	of densely inhabited urban core(s) and hinterland. OECD database contains 695 urban objects that cover 31 countries (EU28 plus Norway, Switzerland and Iceland). The OECD metropolitan areas database (MAD) comprises the functional urban areas with a population of at least 500,000.
EC: ESPON	Morphological Urban Area (MUA) is the City Core + Contiguous urban landscape. FUA=labour basin of MUA attracting the work force from the surroundings. It is based on pure statistics -independent from any national, administrative or political definitions. ESPON 1.4.3 project provides the first map of European FUAs of 29 countries. It includes 1595 FUAs with > 50000 population.
CoE: CEMAT	Functional Area functions as a unitary system from a political/social/economic point of view . It is established based on the interactions between an urban centre and the functional rural area and delineated based on commuting characteristics.
EUROCITIES	There is no need for a uniform definition of functional areas ; variety of different interpretations exist. It depends on national, constitutional, and governance arrangements; relative size of the hub; and the number of centres.
METREX	Metropolitan area is a labour-market area for core city/cities including a substantial part of the commuting zone(s) . Metropolitan regions are larger than Metropolitan areas and include sub regions which may identify with the core city do not have daily contact or significant/essential shared functions.
EC: JRC	FUA is the contiguous set of municipalities which have at least 50% of their population in the urban centre , plus the surrounding municipalities for which at least 15% of the employed persons commute to the main municipality of the urban agglomeration.

As there is no universal definition of city or urban nor for FUA, one of the most important questions that needs to be answered about FUA is: Is it possible and coherent to implement the same methodology and parameters in each country, considering the variability of data, the heterogeneity of the settlement contexts and the differences in definitions?

Classification

FUAs can be classified based on functional and cooperative relationships: social, economic, geographic, criteria, heritage, and landscape.

The EUROSTAT classifies regions into NUTS. NUTS 3, which are the closest to FUAs, are classified into capital MRs, MRs and non-MRs. However only few countries such as Germany and Slovenia are using NUTS 3 to define their FUAs. ESPON, CEMAT and METREX classify FUAs by function, economy, management of mobility, and territorial planning into: Metropolitan European Growth Areas (MEAGs), Transnational / national FUAs, and Regional / local FUAs. METREX in addition ranks FUAs by mass, competitiveness, connectivity and knowledge. ESPON has identified 1595 Functional Urban Areas

(FUAs) with over 50,000 population, of which 64 Metropolitan Growth Areas (MEGAs) seem to be the most important. The latter consist of the following: Global nodes: 2 (Paris and London), European engines: 13 (e.g. Munich, Stuttgart), Strong MEGA's: 10 (e.g. Stockholm, Gothenburg), Potential MEGA's: 23 (e.g. Lyon, Bratislava), Weak MEGA's: 16 (e.g. Naples, Valetta). The JRC classifies FUAs into three categories:

1. LULC (Land use/land cover) for which population shares are assumed to be directly proportional to the amount of build-up detected in the ESM (Urban fabric and Agricultural areas),
2. LULC assumes to contain only residual amounts of resident population (Industrial, commercial, public military and private units; Port areas; Sports and leisure facilities), and
3. LULC assumed to have no resident population (All other).

Source: (Tosics, Gerőházi, & Grisel, Functional Urban Area governance. Examples and proposal for the study on the action 6 "Cooperation in FUA: Stocktaking" of the Sustainable use of land and Nature-based Solutions Partnership of the Urban Agenda for the EU, 2018)

Annex 2: Functional urban areas in Europe – literature review

Functional urban areas attract growing attention in policy and research. Numerous studies have been carried out relating to FUAs in Europe, including their governance structures, delimitations, planning practices. Below, selected studies are summarized in order to showcase so far knowledge base on FUAs in Europe. Most studies come from OECD and ESPON. Other organizations, such as CEMAT, Metrex, Eurocities, Metropolitan Research Institute also carry on research on those topics.

1. **METREX, 2006: The revised METREX practice benchmark of effective metropolitan spatial planning**

The study indicates that metropolitan areas need competencies (authority to adopt, implement and safeguard a metropolitan spatial strategy), capabilities (knowledge and understanding to take informed decisions), and processes (means to regularly monitor, review and update the strategy) for effective integrated economic, social, environmental and spatial planning to take place (Tosics, 2011).

METREX has identified three different ‘city -region’ models, somewhat referring to FUA level, used across Europe:

- The Comprehensive Model. This comprises of elected metropolitan authorities with comprehensive powers for strategic planning and implementation. It usually requires the re-organisation of existing local administrative arrangements (e.g. Region Hanover);
- The Core Power Model. This comprises of elected or appointed authorities that have the power to undertake strategic planning of a specified range of issues (e.g. Verband Region Stuttgart);
- The Agency/Voluntary Model. This comprises of appointed metropolitan agencies or joint bodies with strategic planning responsibilities and adviser implementation functions (e.g. the Öresund Committee).

In this study, practical recommendations have been proposed in order to successfully adopt FUA approach to planning, such as setting up a metropolitan body and ensuring public participation in planning processes (see more in recommendation chapter).

2. **Eurocities, 2013: Metropolitan Areas in Action, MAIA**

The study conducted by Eurocities is one of the first comprehensive reviews of metropolitan cooperation models in Europe. The aim of the study was to analyse:

- Spatial dimension of metropolitan cooperation compared to FUA;
- Content and forms of cooperation;
- Institutional forms of cooperation.

The analysis of nearly 40 European urban areas shows that there are big variations regarding the types of collaborations existing on the FUA level around European cities, as well as their territorial coverage. The territorial scope, compared to FUA level, differs from smaller than FUA to larger than FUA, showing that in general metropolitan cooperation corresponds with FUA level, but may differ in precise delimitations. The outcomes show that on FUA level most often only informal collaboration exist and the strong collaboration usually do not cover the full FUA territory (Tosics, 12-14 December 2018).

The study also sheds the light on types of collaboration and their classification. It shows that:

1. metropolitan areas are established in many places, in all parts of Europe and in various types of cities;
2. metropolitan areas address a wide range of different issues of common interest;
3. in the majority of cases, local authorities and especially core cities are the initial players, though national and regional authorities may also be decisive stakeholders or catalysts by providing legal frameworks and/or incentives;
4. the decision to work in partnership is motivated by (i) a shared sense of urgency to tackle complex challenges at the level of the functional area, and by (ii) the increasing mismatch between administrative boundaries and the reality of development on the ground.

Most of the established collaborations work in the areas of transport/mobility, strategic spatial planning or economic development, or combinations of these. Many of these multi-purpose partnerships also deal with health/educational services. For the few collaborating networks that focus on only one field, economic development and transport/mobility is referred to in a number of cases.

3. OECD, 2014: The OECD Metropolitan Governance Survey

The results of this study show that **metropolitan area governance bodies are common across OECD countries** and they exist in 178 out of the 263 analysed metropolitan areas (68%). However, governance structures differ significantly, even within a country, including differences in their competencies and legal power. 48 out of the 178 existing governance bodies have the right to impose binding laws or regulations. Even though less than one third of all governance bodies have the right to impose laws or regulations, bodies with these powers exist in more than half of the analysed countries. Out of the twelve countries in which governance bodies with legal powers exist, six have both governance bodies with and governance bodies without legal powers. Corresponding to the few responsibilities that they have, small budgets of less than 30 US dollars (USD) are prevalent among most organisations. Nevertheless, those organisations that have more powers can have annual per capita budgets of several thousand USD (OECD, 2014).

The **analysis shows that metropolitan areas with governance bodies perform better on several dimensions. They are denser, have higher per capita GDPs and attract more people.** In addition, there is a clear correlation between the existence of transport authorities and the satisfaction of citizens with public transport services, as well as environmental outcomes. These results can be seen as indicative of the positive effects of governance bodies

4. **OECD, 2015: Metropolitan Century: Understanding Urbanisation and its Consequences**

This report is one of the most recent, comprehensive reviews of global urbanization processes. In terms of FUA / metropolitan dimension, the report points out that modern urban processes may expand beyond traditionally set borders and their functional aspects need to be considered. **Efficient and coordinated transport planning and land-use planning are crucial for the success of metropolitan areas.**

Growing urban areas also need a balance between protecting green areas and allowing new constructions. This can be achieved, e.g., by considering costs of driving a car or integration of transportation systems within functional areas.

The study also shows that, for OECD countries, **between 2001-2011 population growth was stronger in commuting zones than in the urban cores**, and also stressed that the urban sprawl is becoming more and more pertinent issue for growing metropolitan areas. However, there is no clear trend visible in the concentration and centralization continuum.

With high concentration and centralization, metropolitan areas are compact: that is the case e.g. of Denmark, Estonia and Sweden. On the opposite side, **little concentration and centralization lead to urban sprawl**, such as in Poland, Czech Republic, France or Spain.

In this context, two approaches are outlined towards metropolitan governance: **informal coordination and centric approach** that is either merge of municipalities or moving some competencies to a coordinating institution.

5. **CEMAT, 2017: Functional areas in the Member States of Council of Europe**

The report was prepared as a preparatory study for the 17th session of CEMAT. It reviews the functional areas in Europe, including functional urban areas, providing a concise classification of those areas. It highlights geographical scope of those functional areas, functional links and types of territorial governance.

The study points out that most FUAs in the Council of Europe countries are delimited in line with ESPON and/or OECD definitions, or close to one of these. The study compares the ESPON and OECD delimitations, showing different coverage for FUAs, depending on the methodology used.

6. **ESPON, 2018: Spatial dynamics and strategic planning in metropolitan areas SPIMA**

The study aimed at reviewing traditional urban planning practices with the current urbanization trends that go beyond the core-centric spatial patterns and beyond the jurisdictions of a single administrative authority. It analyses 10 metropolitan areas in Europe (**Vienna, Prague, Brno, Zürich, Brussels, Oslo and Akershus, Turin, Terrassa, Lille and Lyon**) in the context of key challenges in spatial development in those metropolitan areas and of governance processes that such development entails. The study grasps joint metropolitan challenges that are part of modern urbanization processes, beyond administrative borders; how those challenges can be overcome by joint strategic planning and, thus, how functional urban area cooperation can act as an efficient tool in addressing the needs of the metropolitan areas.

The project has developed policy recommendations and tools to support the relevant authorities in addressing key challenges and in achieving a coherent metropolitan spatial planning approach.

The project analyses the following seven key issues (ESPON, 2018):

- definitions for delineating metropolitan areas,
- key socio-economic and environmental trends that determine the spatial dynamics and the spatial scale for metropolitan development;
- current challenges in the spatial development and governance and the institutional frameworks;
- key success factors, incentives and policy tools for improving metropolitan governance;
- types of metropolitan areas;
- policy implications for metropolitan planning process;
- relevant guidelines for implementing a coherent metropolitan planning approach.

The project used a new approach to delimitating metropolitan area and proposed its own methodology for Metropolitan Development Area (MDA), corresponding to certain extent with FUA level.

SPIMA project also shows that a coordinated metropolitan planning approach is either not yet firmly institutionalized and/or not yet fully embedded in the existing planning practices. The problems are:

- Fragmented institutional structures;
- Lack of coordination between local plans and policies;
- So far initiatives need to be scaled up in terms of territorial scope and policy issues (adjusted);

SPIMA project identified a need for joint spatial planning effort at the metropolitan scale.

In the SPIMA project the main challenges in metropolitan-scale planning are:

- Ensuring and efficient transport infrastructure;
- The need for multilevel collaboration;
- Achieving a shared vision of strategic plans;
- Dealing with traffic congestion;
- Political reluctance to address issues at metropolitan scale.

General recommendations made by SPIMA include:

- Combining top-down policy incentives with bottom-up collaboration and implementation;
- Collaboration between the relevant planning authorities at national, regional and local levels;
- Involvement of a wider range of stakeholders (e.g. business);
- Ensuring the transparency and openness of collaboration processes and build awareness;

- Working towards a “minimum gain for all” when negotiation and compromise is needed;

7. Metropolitan Research Institute, 2018: Comparative analysis of six innovative metropolitan areas, study for Barcelona Metropolitan Authority

This study was a targeted analysis conducted by the Metropolitan Research Institute, Budapest for Barcelona Metropolitan Authority (BMA). It is a comparative analysis of six metropolitan cooperation cases. The conducted analysis shows two approaches for dealing with metropolitan challenges (Tosics, 12-14 December 2018):

- **institutional**, i.e. the creation of a metropolitan organization on a fixed territorial basis with sufficiently large range of competences (Stuttgart Region, Greater Manchester Combined Authority, and Barcelona Metropolitan Authority);
- **procedural**, i.e. striving for mechanisms and rules which allow for coordinated activities on a sufficiently large metropolitan territory, not necessarily in fixed territorial constellations – often relating to joint strategic and spatial planning (Amsterdam, Copenhagen, Zürich).

One of the challenges identified in this study relates to the fact that usually insufficient competences are given to organizations on the metropolitan level (institutional challenge). Another major challenge relates to the fact that metropolitan institutional structures do not always cover the whole FUA area, which, territorially, weakens the intervention in the functional context (territorial challenge). The authors observe, regarding the analysed Barcelona metropolitan area case, that the analysed metropolitan cooperation covers an area closest to the FUA delimitation by ESPON, while the OECD delimitation seems to be smaller than the studied area. The proposed solution for overcoming this territorial challenge in the case of BMA could be seeking collaboration and planning agreements with municipalities outside the BMA area and lobbying for indirect planning powers or strategic planning systems from the national and regional, i.e. Catalonia levels (Metropolitan Research Institute, 2018). This means that in urban areas which already have institutional structures for metropolitan cooperation (as BMA in the case of the Barcelona urban area), the procedural approach can be an important additional tool to strengthen planning cooperation with that part of the metropolitan area which falls outside of the territory of the existing metropolitan cooperation institution.

One of the observations from the study points out that often accepting a joint spatial concept or plan is not sufficient and proper tools need to be established to ensure its execution or stimulate further growth (e.g. compensations, land buy-out capacity) (Metropolitan Research Institute, 2018). Sometimes a metropolitan body (if exists) can push for spatial changes in a form of strategic investments (e.g. convention centre in Stuttgart), while in other cases in form of large events or within the framework of existing spatial plans.

8. ESPON (on-going): ESPON FUORE - Functional Urban Areas and Regions in Europe

The project is focused on elaborating an interactive web-tool for FUAs.

9. ESPON (on-going): SUPER - Sustainable Urbanization and land-use Practices in European Regions

The main objective of this project on sustainable land-use is to build on existing key relevant studies and projects and suggest measures on how sustainable land use can be promoted and how land-take, soil sealing and urban sprawl can be avoided, reduced and compensated in Europe, its cities and regions. The starting hypothesis is that a sustainable use of land would entail that compact and denser urban development would lead to less need for transport, less energy use and more open spaces enhancing the quality of life thus generating benefits and requiring less cost.

Annex 3: Information about Urban Agenda study

Between March – April 2019, the Ministry of the Investment and Economic Development of Poland, for the **Urban Agenda partnership on sustainable use of land and nature-based solutions**, conducted a study aimed at exploring benefits of FUA collaboration in Europe. The study was based on the survey among European countries (8), cities, regions and FUAs across Europe (9), as well as semi-structured interviews with selected stakeholders (3), conducted additionally by the author. Participants are listed below.

Member States and other European countries (survey):

1. Austria
2. Belgium
3. Estonia
4. Latvia
5. Norway
6. Romania
7. Spain
8. Switzerland

Cities, regions and FUAs (survey):

1. Amsterdam, the Netherlands
2. Białystok, Poland
3. Gdańsk, Poland
4. Hradec-Pardubice, Czech Republic
5. Praga, Czech Republic
6. Szczecin, Poland
7. Turin, Italy
8. Warsaw, Poland
9. Catalonia, Spain

Partners of the Urban Agenda (insights):

1. Lille Metropole
2. Stuttgart Region
3. Cork

Semi-structured interviews:

1. Amsterdam, the Netherlands
2. Lublin ITI, Poland
3. Central ITI, Poland