Green Cities

Questionnaire for the Avosetta Meeting on May 12th/13th 2023 in Bern

Content

Introduction

I. Inner-City Mobility and Transport

Road traffic plays a key role in supplying urban areas with goods and ensuring the mobility of city dwellers. At the same time, road traffic is a significant source of pollutants and CO_2 emissions, is more dangerous than other modes of transport, and takes up considerable space in terms of infrastructure. For these reasons, transport policy in the urban context is often geared towards the achievement of a shift to non-motorized and public transport.

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

2. *Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?*

3. *What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?*

4. *How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?*

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Austria

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

Austria is a federal state with a complex division of competences between Bund (national level), Länder (provinces) and Gemeinden (municipalities); with regard to public transport, the stitutaion is even more complex as there are various regional networks of public transport providers in which cities and municipalities play varying roles. **In order to highlight the instruments used by cities and the City of Vienna in particular, some elaborations on the national framework are thus needed.**

National level:
In 2021 on **national level** the Austrian "**2030 Mobility Master Plan**" was introduced. The strategy paper serves as climate action framework for the transport sector according to the motto "sustainable – resilient – digital". The federal government's target is to become climate neutral by 2040. This goal includes the objective to decarbonise the transport sector, as laid out by the national climate target for transport,[9] which is relevant for strategic planning for all modes of transport. The 2030 Mobility Master Plan identifies ways to avoid, shift and improve traffic and transport and significantly increase the share of eco-mobility.

- **Urban spatial planning is seen as an important tool** to foster environmentally responsible mobility. However, the federal government cannot directly regulate in this area, as it falls in the **competence of the Länder.** Nevertheless, the Mobility Master Plan 2030 highlights possible future scenarios in which the Bund could play a role: Giving the federal government the right to participate in terms of coordinating and targeting impact on settlement development, as well as supplementing land-use planning with fiscal control measures[10] are possible scenarios. Hence the federal government relies on a new climate partnership with the provinces, cities and municipalities. As these regional units will participate financially in measures, in the future the federal government can link financial support to a specific criteria.
- **Fare System:** An integrated range of public transport services is to be offered at an attractive base price. The **Austrian Climate Ticket (Klimaticket)** serves as a great example for this.[11] The ticket allows to travel throughout Austria by using private and public rail transport, city and public transport in certain areas (region, supra-regional and nation-wide) for a time period of one year.

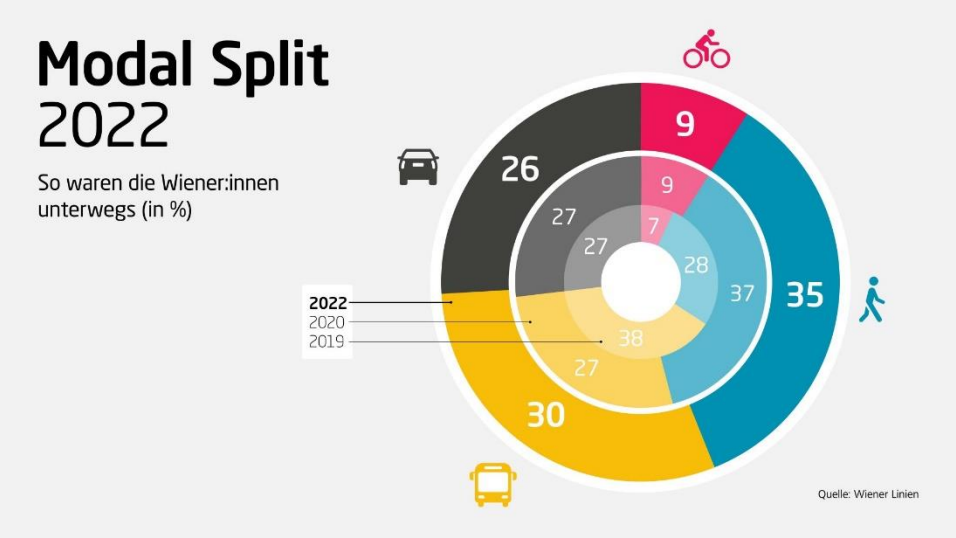
[9] Carbon emissions from transport must be reduced from around 24 million tCO_2eq (2019 levels) to close to zero tCO_2 eq by 2040 in order for Austria to achieve climate neutrality. Environment Agency Austria; THG-Bilanz 2019 (Greenhouse Gas Footprint for 2019); umweltbundesamt.at/news210119 (19.04.2023); see also Environment Agency Austria, Austria's Annual Greenhouse Gas Inventory 1990 -2021 https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0841.pdf (19.04.2023).
[10] Eg. charges for developing areas not connected to public transport or tying federal contributions to infrastructure projects that meet land-use objectives.
[11] https://www.klimaticket.at/en/; https://www.oesterreich.gv.at/themen/bauen_wohnen_und_umwelt/klimaschutz/klimaticket.html

- Shared mobility: To improve shared mobility an Austrian wide shared mobility strategy is currently developed.
- Active Mobility: According to the Mobility Master Plan 2030, current initiatives in Austria's walking and cycling master plan must be expanded as well as successful support programs and initiatives such as klimaktiv mobil[12]. The need to redesign the legal framework, such as traffic regulations (Straßenverkehrsordnung, "StVO") in order to meet the needs of cyclist and pedestrian friendly cities is acknowledged.. In addition, public space shall be reorganized (eg speed limits, expansion of car free zones etc)

City level:
For the **City of Vienna** there is a **strategic concept for mobility** (Fachkonzept Mobilität)[13] as part of the City Development Plan "Stadtentwicklungsplan2025" (STEP 25),[14] a concept for urban development planning. The mobility concept outlines the path to sustainable mobility in Vienna. The focus of the strategy was especially set on following objects:

- the sharing of road space,
- the expansion and development of public transport
- Coordination and therefore cooperation on transport and spatial planning issues in the entire eastern region of Austria
- Participation: stakeholders such as representatives of different institutions and organisations and the citizen's council.

Currently the City Development Plan STEP 2035 - as a roadmap for the future - is being developed and will be released by Summer 2024.[15]



Modal Split in Vienna 2019-2022.

[12] https://www.klimaaktiv.at/mobilitaet.html
[13] Fachkonzept Mobilität (2014) https://www.wien.gv.at/stadtentwicklung/strategien/step/step2025/fachkonzepte/mobilitaet/ueberblick.html (19.04.2023); https://www.wien.gv.at/stadtentwicklung/strategien/step/step2025/kurzfassung/bewegt-sich.html (19.04.2023); Fachkonzept Mobilität (2014) PDF file:///C:/Users/user/Downloads/AC16568587.pdf
[14] Stadtentwicklungsplan 2025 (2014) https://www.wien.gv.at/stadtentwicklung/strategien/step/step2025/ (19.04.2023).
[15] https://www.wien.gv.at/stadtentwicklung/strategien/step/step2035/ (27.04.2023).

There are no binding targets set for modal split –However the **strategic concept for mobility** sets a **target "80:20".** This means that **by 2025 the Viennese should cover 80 percent of their journeys by public transport, by bicycle or on foot**. The share of motorised individual transport should decrease from currently approx. 27 to 20 percent.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

In Vienna, there are **strategic concepts for pedestrians** (Strategiepapier Fußverkehr)[16] and **cycling** (Masterplan Fahrradstraßen Wien)[17] to promote non-motorized transport. They are both part of the City Development Plan STEP 2025.

27 % of all journeys made by Viennese inhabitants are by walking. However, this high portion shall be increased even more by making public space more attractive for pedestrians. Measures include

- Footpath design, esp regarding connectivity and attractiveness (seating, drinking fountains, shade etc)
- A comprehensive barrier-free footpath network; winter service.
- Speed limitations to 30 km/h shall help increase safety and reduce noise caused by traffic.

The Masterplan Fahrradstraßen helps to develop **"cycling streets" or cycling friendly streets.** Thereby the attractiveness of cycling shall be improved, and safety ensured. The city of Vienna also provides **bicycle-sharing services** (WienMobil Rad) [18] including "pick-up stations" and small "service stations"[19] for a quick bike fixup (pump and tools). Furthermore, there are financial **incentives for the purchase of cargo bike**s.[20]

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Typical conflicts include e.g. parking lanes vs wider side-walks, no general rules for resolving exist. The mobility strategy and the city planning strategy set goals that prioritise interests to a certain extent, paricpation – eg. When establishing cycling streets may help to resolve conflicts of interests.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

[16] Strategiepapier Fußverkehr (2014) https://www.wien.gv.at/stadtentwicklung/projekte/verkehrsplanung/fussgaenger/strategiepapier.html (19.04.2023); Strategiepapier Fußverkehr (2014) PDF https://www.wienzufuss.at/wp-content/uploads/sites/3/2016/06/Grundsatzbeschluss-Fussverkehr.pdf.
[17] The Masterplan Fahrradstraßen is part of the mobility concept. Masterplan Fahrradstraßen Wien (2014) https://www.wien.gv.at/stadtentwicklung/projekte/verkehrsplanung/radwege/masterplan-fahrradstrassen.html (19.04.2023); Generelle Radverkehrsplanung https://www.wien.gv.at/stadtentwicklung/projekte/verkehrsplanung/radwege/index.html (19.04.2023);
[18] WienMobil Rad, https://www.wienerlinien.at/wienmobil/rad (20.04.2023).
[19] WienMobil Stationen, https://www.wienerlinien.at/wienmobil/stationen (20.04.2023).
[20] Lastenradförderung Stadt Wien (2022) https://presse.wien.gv.at/2022/10/03/sima-blum-ab-heute-startet-neue-lastenrad-foerderung-der-stadt-wien-fuer-private-bis-zu-1-000-euro-foerderung (20.04.2023).

The action plan for environmental noise is based on Art 8 of the EU Environmental Noise Directive. The action plan for Austria is composed of individual action plans of the nine federal states based on the national implementation of the directive.

Actionplan Vienna:[21]

- To ensure public transport becoming less noise intense modern soundproofing technology is used for trams, buses, and subways.
- In addition noise barriers (Lärmschutzwände und Lärmschutzwälle) are used.
- The installation of soundproof windows is promoted and financially supported.

Currently the action plan for 2024 is being designed.[22]

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Citizen surveys and information campaigns are used to involve local residents in the development of cycling-streets, pedestrian zones or shared space.

Moreover, in Vienna several instruments are used to ensure the participation of the local population in climate policy (none of them is specifically aimed at urban transport policy):

- The "Wiener Klimateams" are a **participatory budgeting project** launched in 2022, in which a budget is provided to districts for the purpose of deciding on its use through participatory processes. Each year, some districts of Vienna are selected to establish climate teams, in which residents of these districts can contribute their sustainable ideas for the district. At the end of the year, a randomly selected **citizen jury** recommends which projects should be implemented by the city of Vienna.[23]
- The "Wiener Mitmachbudget"[24] is a participatory budgeting instrument for districts in Vienna, to finance projects that fall within their responsibility (mobility, design of public spaces, climate measures, etc). Unlike the "Klimateams" the district council decides what projects will be realized instead of a citizen jury.
- The "Local Agenda 21 Vienna"[25] is a program for involving citizens in sustainable urban development. The process usually last four years with a certain budget available per year. The amount is provided 50% by the respective district and 50 % by the City of Vienna. The funding enables a professional design of collaboration between citizens, district councils, and city administration.

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Belgium (Flanders)

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed

[21] Aktionsplan_2018_Teil_10.pdf (laerminfo.at)
[22] Aktionsplanung 2024, lärminfo.at (laerminfo.at)
[23] Wiener Klimateam https://klimateam.wien.gv.at/ (20.04.2023).
[24] Eg Mitmach-Budget Josefstadt https://www.wien.gv.at/bezirke/josefstadt/politik/mitmach-budget.html (20.04.2023).
[25] LA21 https://www.la21wien.at/was-wir-machen.html (20.04.2023).

reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

The outline for the Flemish mobility policy was set out by the Decree of 20 March 2009 on Mobility Policy and was, subsequently, redrawn with the Decree of 26 April 2019 on Basic Accessibility. The Flemish mobility policy aims to guarantee accessibility for a vibrant, active and prosperous society.

Pursuant to Article 3 of the Decree, the Flemish Mobility policy aims to ensure the accessibility of our society. This involves investing in a mobility system that supports the economy and society. The mobility system should be sustainable, safe, intelligent and multimodal. It is expanded and operated with attention to accessibility and liveability.

According to Article 4 of the Decree, the Flemish Region, the departments and agencies under it, the provinces, the municipalities and the public-law and private-law legal persons entrusted with public utility tasks in the Flemish Region aim to achieve the following objectives:

1° demand-oriented investment in accessibility;
2° preparing transport networks for the future;
3° developing a multimodal transport system based as much as possible on the STOP principle;
4° realising a victim-free transport system;
5° entice, motivate, stimulate behavioural change;
6° making Flanders a pacesetter in innovation;
7° addressing basic accessibility regionally and integrally;
8° ensuring a smooth flow of every mode of transport.

The mobility policy implements the European Climate and Energy Package 2021-2030 as adopted by the European Council on 23 and 24 October 2014. The mobility policy proposes concrete objectives and measures to achieve the greening and sustainability in mobility and the improvement of air quality due to transport.

The Flemish road safety policy invests in the safety and quality of roads and their appurtenances, using the STOP (stappen-walk, trappen – bike, openbaar Vervoer – public transport, personen Vervoer – private transport) principle as a starting point.

Many parties are involved in mobility policy: the Flemish Region and the departments and agencies that fall under it, the provinces, the municipalities and the public and private legal persons entrusted with public utility tasks in the Flemish Region. Mobility policy looks beyond the administrative borders of municipalities and policy areas and enters into a strong interchange with spatial policy.

Mobility policy builds on its own planning system. The so-called mobility plan remains the basis for mobility policy. Three planning levels are distinguished: At regional level, for the whole of the territory of the Flemish Region: the Mobility Plan Flanders; At regional level, for the whole of the territory of the transport region: a regional mobility plan. At the local level, for part or all of the territory of one or more municipalities: the Local Mobility Plan.

At the regional level, the emphasis is placed on the shared responsibility of the Flemish Region and the municipalities for the implementation of basic accessibility. For more information on the role of the municipalities in the transport region and the drafting of the regional mobility plan, please visit the Basic Accessibility website.

The preparation of a local mobility plan is no longer mandatory. Municipalities can decide for themselves whether the revision of the existing plan at local level makes sense or judge that the regional mobility plan is sufficient. The local mobility plan complements the provisions of the higher plans and sets the framework for the desired local mobility policy. The provisions at the municipal or intermunicipal level relate solely to the municipal policy level and must not contradict the higher plans.

Pursuant to the most recent Flemish coalition agreement (2019-2024) public transport should become more attractive, with comfortable vehicles, optimal frequencies, competitive speed (including through better tram connections) and simply integrated services and fares. The concept of basic mobility becomes basic accessibility. The government expressed the desire to move away from the 'free' policy and reduce spending on the internal organisation at De Lijn, provide additional income from advertising, control of blackouts, commercial co-use of infrastructure and more equitable and differentiated fares.

Regarding person mobility, according to the coalition agreement, the Flemish government aims to increase the share of sustainable modes (modal shift) for the whole of Flanders to 'at least 40%' and for the transport regions Vlaamse Rand, Antwerp and Ghent to 'at least 50%'.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Yes, this is integrated in the local mobility plans. The City of Ghent provides an interesting case-study, on different levels. It must be stressed, though, the the City of Ghent is, in the Flemish context, a pioneering actor when it comes to the promotion of non-motorized transport in the city.

Ghent Circulation plan

The Circulation Plan for Ghent prevents this transit traffic from entering the city center. This way, pedestrians, cyclists, buses and trams will get more space and drivers who really need to be in the city can easily reach their destination.

It is based on the following principles:

- the restricted traffic area is going to be extended.
- The city center is going to be divided in 6 sections surrounding the restricted traffic area.
- Car traffic that does not need to be in the city center can go from section to section through the inner ring (R40).
- Car traffic that needs to go from municipality to municipality, is being encouraged to take the main ring road (R4).

Ghent Parking Plan

With the Parking Plan, the City of Ghent aims to deal efficiently and wisely with the available parking spaces. In general: “The further away from the center, the lower the tariffs”. On the edge of the city, there are park-and-rides (P+R). These parking spaces are for free in most cases. At the park-and-rides, you can easily switch to public transport or bicycles. Amongst others, more areas will be reserved for resident parking. This way, residents will easily find a parking space close to their home. Parking spaces on the street will be divided in four zones. Each zone has its own tariffs, which will get lower the further you are removed from the

city center. This gives people who only want to park for a short time the chance to find a parking space faster.

Ghent Bike Plan

As of today, 30% of trips in Ghent are made by bicycle. The City of Ghent claims that this is the result of the bicycle policy implemented by the City of Ghent since 1993. The Cycling Policy Plan with which Ghent pioneered at the time described a bicycle route concept that was to connect Ghent's boroughs with the city centre, in combination with communication campaigns and bicycle parking facilities.

The City of Ghent aims to further implement and develop its bike strategy. In 2019, it expressed the ambition to have 35% bicycle use by 2030. To this end, Ghent wrote a novel bicycle plan. It focuses on 4 objectives: more space for cyclists, a city-regional route network, more bicycle parking facilities and an integrated cycling policy with the Cycle Embassy.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Local residents sometimes oppose new restriction on the use of private cars, as implemented in the local circulation plans. The third and final phase of the new circulation plan – dubbed 'Good Move' - in Brussels, which prioritises pedestrians and cyclists over cars in the streets across Brussels, was vehemently opposed in the Fall of 2022, in the boroughs of Schaerbeek and Anderlecht. Good Move aimed to introduce new one-way streets, traffic filters and various other measures to make the neighbourhood more car-free. However, the increased public protests in certain areas of Brussels, amongst others in Anderlecht and Schaerbeek, has led to the plan's temporary suspension, amongst others, in Schaerbeek.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

As of today, this is taken into account, yet I am unaware of the fact whether the requirements of EU-law and ECJ-case law are fully respected.

5. Does the participation of the local population play a role in shaping urban transport policy?

Yes, this is also provided for the in the aforementioned Flemish Decrees, yet in a recent court case, a local judge suspended a local circulation plan for a borough in Ghent (in the area near the Gentsbrugse Poort) because of a lack of effective participation.

Author: Hendrik Schoukens

Croatia

Overview of Public Transport (PT) in Croatia[26]

Overall, number of passengers in PT has increased over the recent years. However, the increase is largely due to biggest agglomerations (especially Zagreb), while most of the other continental regions have a decrease of number of passengers in PT. Generally, the decrease in the use of

[26] Source of information: Ministry of the Sea, Transport and Infrastructure, Transport Development Strategy of the Republic of Croatia (2017 - 2030) (further: National Transport Development Strategy), https://mmpi.gov.hr/UserDocsImages/dokumenti/INFRASTRUKTURA/Infrastruktura%2010_19/Transport%20Development%20Strategy%20of%20the%20Republic%20of%20Croatia%202017-2030%2029-10_19.pdf

PT is in relation to the increase of the motorization rate in the country and the effects of the global economic crisis. The decrease in continental regions is related to depopulation and a decrease in job offerings. The reduction of the national subsidies to certain population groups for the purchase of tickets is another contributing factor to the lower number of passengers. At present, PT in Croatia is not integrated. There are no coordinated timetables or single tickets for different modes of transport. Intermodal terminals, which enable transit from one mode of transport to another, do not exist or are extremely rare. On certain lines, buses and trains have "parallel routes". Low contribution of rail transport in total public urban transport is also influenced by the poor state of trains. The average age of trains is close to the end of its service life, while in the road transport the average age of buses is approximately 15 years. The railway networks are not properly maintained due to lack of funds. Some railway lines were destroyed in the war in the 1990s or were not properly maintained. The existing signalling and safety devices are outdated and should be replaced with new ones. Most stations in rural areas do not meet modern safety and access standards. The predominance of private transport causes greater traffic jams on access roads to urban centres. The PT system has a deficit balance. It is estimated that tickets in PT cover only 20% of the total costs. In areas where population density is the lowest, the existing PT is not well organized and it is too expensive for majority of population, which leads to further deterioration and isolation of rural areas.

1) Promotion of the shift to public transport in cities

General measures regarding the shift to PT are based on the National Transport Development Strategy. There are no binding targets for the shift to public transport. There are no measures regarding the reduction of space for private transport except developing Park and Ride (P&R) facilities along the railway lines as well as the establishment of passenger transport hubs. Moreover, the Strategy expressly states that public transport in cities should simultaneously operate with personal cars, due to the fact that available space in the cities is limited. The Strategy only proposes: 1) construction of dedicated public transport lanes or corridors intended for public transport (for trams and buses) and 2) increasing the priority of trams and buses through traffic management systems such as traffic lights.

General measures stated in the National Transport Development Strategy are:

- Improvement of passenger intermodality and development of intermodal passenger hubs (the location and form of each terminal shall be determined according to the studies for the specific area e.g. master plans (example: Master plan of the transport system of the City of Zagreb, Zagreb County and Krapina-Zagorje County adopted in 2020, which is aimed at the development of the transport system until 2030)
- Reducing environmental impact of transport (using energy sources with low or zero emissions, reducing noise emissions and the volume of continuous pollution and waste generation)
- Adaptation and mitigation of climate change
- Development of PT infrastructure
- Development of PT stations and stops (Sustainable urban mobility plans / Integrated transport plans shall identify the need for restoration of existing stops or setting new ones)
- Constructing alternative fuelling stations with the aim of reducing the consumption of conventional fuels

Concrete examples:

- City of Osijek -
- With the aim of modernizing Osijek's public transport, the purchase of 10 new low-floor trams shall be fully financed from the National Recovery and Resilience Plan
- The tram infrastructure is being modernized
- New low-floor buses have been purchased (financed from the Cohesion Fund by 82 %)
- City of Poreč - introduction of a new public transport service with an electric powered mini-bus; in Poreč, electric vehicles make up 30 percent of the city's fleet
- City of Dubrovnik - The key problem (that ten years ago threatened Dubrovnik tourism) were crowds and traffic jams in the old city centre that were caused by uncontrolled influx of tourists from mega cruisers. By implementing the "Respect the City" program, City of Dubrovnik introduced a series of measures such as limiting the number of cruise ships and banning excursion buses on Thursdays and Saturdays from destinations outside Dubrovnik.
- Given that a significant percentage of the total traffic in cities is caused by drivers looking for parking spaces, some cities are introducing "smart parking" to reduce congestion. Sensors are installed in parking spaces, and the mobile application provides users with information about available parking spaces and enables payment for parking.

2) Promotion of Non-Motorized Transportation

Cycling represents 5% of all trips in the Republic of Croatia (Zagreb 3%, Slavonski Brod 8.3%, Varaždin 26%, Sisak 8%, Zadar 6%). The share of bicycle traffic (5%) is significantly lower than the European average (8%). The Republic of Croatia has not yet adopted a National Cycling Strategy. Public consultation on its draft was held in April 2023. The Draft National Cycling Development Plan for the Period from 2023 to 2027 includes the following priorities:

- Construction and renovation of bicycle infrastructure
- Increasing safety of cyclists in road traffic
- Increasing financial resources for the construction of cycling infrastructure

Major issues include:

- The existing state of the cycling infrastructure is characterized by a disjointed network of cycling roads, which in some places does not meet the minimum traffic and technical criteria for the safe development of cycling traffic
- Parking areas in most cities are not equipped with high-quality parking spaces for bicycles, nor they enable the parking of a sufficient number of bicycles

In addition, National Transport Development Strategy contains measures for promoting non-motorized transportation. General measures stated in the National Transport Development Strategy are:

- Availability of information to users of public transport
- Introducing electronic reservation system and a single ticketing system that would cover all forms of transport that should facilitate multimodal travel, in particular encourage modal transport change towards active travel (cycling and walking), public transport and/or shared mobility schemes, such as bike and car-sharing

- Traffic reorganization measures: building more pedestrian zones in urban areas, bicycle paths for everyday use, introduction of public bicycle system
- The use of e-bikes has great potential for development in cities characterized by unfavourable morphology.

Concrete examples:

- City of Osijek - Project "Urban mobility of the city of Osijek" which includes car sharing, electric scooter sharing, bicycle sharing
- Many cities establish new pedestrian zones, new pedestrian and bicycle paths and increase the number of bicycle paths. Planned activities for the construction of new bicycle roads from 2023 to 2027 total about 384 km, which is an increase of about 45% compared to 2021.

3) Conflict between the different transportation modes

- Public transport (trams and buses) v. private cars - generally speaking, there is a lack of policy measures regarding the reduction of private transport
- Buses v. trains - the low contribution of rail transport is influenced by the poor state of trains and its unreliability due to constant delays; Croatian railways lag behind the average of the EU Member States. Only 20% percent of the railway lines network allows speeds of 100 km/h and only 5% allows speeds of 160 km/h. The average speed of trains is 40 to 60 km/h. Only 275 km of the rail network is double tracked.
- Cycling v. motorized modes of transportation – the low contribution of cycling is influenced by the poor state of cycling infrastructure

4) Noise protection

Agglomerations with more than 100,000 inhabitants are obligated to draw up strategic noise maps and action plans.

Example of noise management measures of the city of Zagreb

In the total number of road noise management measures under the jurisdiction of the City of Zagreb, the most common is the measure of replacing the normal pavement structure with a quiet pavement structure and the measure of building walls for noise protection.

Overview of measures: Installation of silent pavement structure 45%, Noise protection walls - road traffic 26% , Heavy duty vehicle traffic management 8% , Noise protection walls – rail 26%, Decrease in traffic density 5% , Reconstruction of bridges 5% , Choosing quieter technologies 2% , Rail maintenance 2% , Measures against whining, creaking, slipping noise 1%, Public transport management (e.g. renewal of public transport vehicles and noise emission inspection) 1% and Traffic slowing measures 1%. The Action Plan also states that proposed noise management measures often cannot fully compensate for many years of neglect of noise protection, and it is not realistic to expect that relatively limited activity, such as the speed limit of vehicles, will essentially reduce noise emission levels. Such limitedly successful scenarios indicate the importance of spatial management and spatial-planning measures of noise management that are determined in the procedures of adoption of spatial planning documents.[27]

Given that national legislation does not prescribe a methodology for determining priority areas burdened by excessive noise, nor does it define a method of prioritizing the implementation of

[27] Noise Management Action Plan in the City of Zagreb until 2023 (adopted on December 31, 2018)

measures, priority areas were designated for each noise source according to the following criteria:

- for road transport, the areas covering 1 % of the most exposed points
- for railway traffic, the areas covering 1 % of the most exposed in the vicinity of the main railway lines
- for industrial plants and installations, the areas covering 5 % of the most exposed points.

During the development of the Noise Management Action Plan in the City of Zagreb, requests from the public were received for consideration of additional areas that were not directly included in the Action Plan. For this reason, additional areas have also been taken into consideration as part of the development of the Action Plan.[28]

5) Participation of local population

Some cities include local population to participate in creating local budget. Local citizens are invited to actively participate and submit their proposals and ideas. All proposals received within the deadline will be considered, and those that are accepted will be incorporated into the final budget proposal.

The role of non-profit organizations that promote the use of alternative means of transport has proven to be very significant in many European cities. Among other things, there are organizations that promote public transport, the daily use of bicycles, organizations that deal with passenger rights, etc. These organizations can help local administrations and transport authorities in carrying out their duties and promoting the use of public transport and sustainable mobility. The inclusion of such associations, local groups and NGOs in the planning of transport-related decisions is envisaged by the National Transport Development Strategy.

State bodies and units of local and regional self-government are obliged to conduct public consultation regarding drafts of laws and regulations. The consultations are also mandatory regarding general acts or other strategic or planning documents which may have effect on the interests of citizens.

State administration bodies conduct consultations through the central state portal for public consultation,[29] while other state bodies, local and regional self-government units and other public authorities may conduct consultations either through their own web sites or through the central state portal. As a rule, public consultation should last for 30 days. Public consultation is conducting by publicising the draft of a regulation, a general act or another document, the explanation of purpose and goals to be achieved, and the call for public to submit their suggestions and opinions. After finalising the consultation, the public authority bodies are obliged to publish the report on conducted consultations. The public authorities are also obliged to publish the annual plan of consultations. Citizens may file a petition with the Information Commissioner if they find irregularities in the consultation process or if the consultations were not conducted.[30]

Author: Lana Ofak

[28] Ibid.
[29] https://esavjetovanja.gov.hr/ECon/Dashboard
[30] https://pristupinfo.hr/savjetovanje-s-javnoscu/?lang=en

Czech Republic

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

The shift to public transport or, in general, to other means of transportation other than individual transport in the Czech Republic can be found in various policies that should work in synergy. At the state level, the primary policy is the Transport Policy of the Czech Republic 2021–2027 with outlook to 2050 (Ministry of Transport).[31] The policy aims at all various modes of transport, identifies specific issues, and provides general measures regarding various modes of transport that should be adopted. Regarding public transportation, the policy recognises four levels of public transport that are used within the Czech Republic: Public transport as a social service, Public transport as a supplement to the system of transport service without the definition of social services, Public transport as an alternative to individual transport and Public transport as the basis of the transport service system.[32] The policy tries to incorporate individual transport into a multimodal transport chain. This means either the use of public transport in situations where there is an obstacle preventing the use of cars or the use of a car to get to the point where is public transport terminal to use public transportation (a preferred variant).[33]

Another policy document that follows the Transport policy is the Urban and Active Mobility Concept for the period 2021-2030.[34] The policy aims to lower individual transportation to a minimum and supports public transportation and other alternative modes (cycling, walking). The policy introduces various measures to lower the use of cars: establishing low emission zones[35], support of carsharing and bike sharing, gradual reduction of parking places and residential parking, establishing integrated public transport hubs, development of public transportation, and synergy between public transportation and individual transportation.[36]

Municipalities can adopt Sustainable Urban Mobility Plans (SUMP) or Sustainable Urban Mobility Frameworks (SUMF). Even though SUMPs and SUMFs are adopted voluntarily, most municipalities with inhabitants of 40 000 and more have adopted them. The framework and plan mirror the Urban and Active Mobility Concept. This means measures are similar to regional and municipal specifics.

All of the above-described measures are to be implemented continuously or in a specific time frame with the latest 2027. However, there are no sanctions if the municipality does not adopt them within the specific time frame.

[31] Transport Policy of the Czech Republic 2021–2027 with outlook to 2050. Available in English: https://www.mdcr.cz/Dokumenty/Strategie/Dopravni-politika-CR-pro-obdobi-2014-2020-s-vyhled
[32] Pp. 17-18 ibid.
[33] Pp. 26-27 ibid.
[34] Urban and active mobility concept for the period 2021-2030. Available only in Czech: https://www.mdcr.cz/Dokumenty/Strategie/Dopravni-politika-a-MFDI/Koncepce-mestske-a-aktivni-mobility-pro-obdobi-202
[35] S. 14 of Act No. 201/2012 Coll., on Air Protection.
[36] Pp. 10-12. Urban and active mobility concept for the period 2021-2030.

Another relevant policy document is the State Environmental Policy of the Czech Republic 2030 with a view to 2050 (Ministry of the Environment)[37]. However, the policy only suggests possible measures that can be adopted on municipal or regional levels, e.g., supporting the non-motorized, railway, and mass public transport to lower limits of air pollutants.[38]

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Some aspects are stated in the Transport Policy of the Czech Republic 2021–2027 with outlook to 2050. The policy recognises three categories – bicycle transport, pedestrians, and carts (wheelchairs).[39] It introduces several measures that should be adopted, e.g., the completion of cycle paths, an extension of bikesharing, development of standards for parking spaces for bicycles.[40] The policy acknowledges that there has been a decline in pedestrian transport in favour of individual transportation. Nevertheless, the policy introduces several measures to increase pedestrian transport, e.g., the preparation of a plan supporting pedestrian transport and preferential treatment of pedestrians in traffic.[41] The last non-motorised category – wheelchair has only one measure. The measure establishes rules for using carts for people with reduced mobility.[42]

The policy also includes possible measures to be adopted regarding infrastructure development. The possible measures, inter alia, are: the application of traffic calming elements and additional safety elements concerning pedestrians to accelerate the gradual construction of cycling infrastructure, including charging points, achieve a reduction in the number of accidents involving cyclists by separating cycling traffic from other modes of transport on heavily congested roads in urban areas, support the development of pedestrian transport by introducing measures for separation and safety of pedestrian traffic (barrier-free, wider pavements for carers with children and prams, lighting of stops and underpasses, luminaries with effective optical elements, proper lighting of crossings, etc.).[43]

The second policy – the Urban and Active Mobility Concept by the Ministry of Transport, further implements pedestrian and cycling modes of transportation. It contains general measures introduced in the Transport policy but in a more detailed manner. Furthermore, the concept advises municipalities on possible measures to include or which thematic areas to address in their SUMPs regarding pedestrian and bicycle transport.[44]

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Firstly, it must be noted that cities have different types of conflicts due to their spatial planning and their historical heritage in the Czech Republic. For example, due to its historical development, Brno-city is densely populated with limited space and capacity for new roads. As

[37] State Environmental Policy of the Czech Republic 2030 with a view to 2050. Available in English: https://www.mzp.cz/C1257458002F0DC7/cz/statni_politika_zivotniho_prostredi/$FILE/SPZP-2030_4AK_EN-20220525.pdf
[38] P. 33 ibid.
[39] P. 43. Transport Policy of the Czech Republic 2021–2027 with outlook to 2050.
[40] P. 44 ibid.
[41] Ibid.
[42] P. 45 ibid.
[43] Pp. 54-55 ibid.
[44] P. 19. Urban and active mobility concept for the period 2021-2030.

opposed to that, the third largest city – Ostrava, does not have such a long city history which, in turn, caused the streets and roads to be wider with greater traffic capacity. However, municipalities are investing in all modes of transport (each with a different priority) and trying to make streets and roads more passable, especially during rush hours.

These are the most typical conflicts in the Czech Republic:

The most typical conflict is connected to public transportation contra other means of transport. Public transport can slow down ongoing traffic and cause congestion (due to the narrow streets, insufficient lanes, and too many stops). On the other hand, other traffic participants can slow down public transport or cause it to have an accident. If the city implemented a system for prioritising public transport (usually in the form of preferential treatment at traffic lights), it can slow down other means of transport.

Another typical conflict in Czech cities is connected to cyclists (and nowadays city scooters) and cars or personal traffic. Czech cities do not usually incorporate cyclist lanes and cycling roads particularly well in their spatial planning. Therefore, various conflicts arise. This can be seen in Brno-city, where the municipality decided to create bike lanes by narrowing the road width for vehicles. However, drivers are used to stopping or parking beside the pavement where the bike line is marked, so parked vehicles are blocking the bike line. Furthermore, Brno-city does not have a comprehensive policy for bike lanes and cycling roads, and that means cyclists are forced to use city roads with heavy traffic, thus creating tensions between drivers and cyclists.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

There are several ways to handle noise protection in the Czech Republic. It must be noted that the Czech legal code differentiates between various sources of noise pollution and municipal transport can be regulated either as an acoustic pressure from vehicles during the type-approval procedure for new vehicles[45] or as a different source of noise pollution – roads/motor roads/highways (the owner of the road is the responsible person for noise pollution).

Municipalities can regulate noise from vehicles by establishing car-free zones, banning heavy-duty vehicles, or issuing a generally binding decree (a normative act) that alters legally set nighttime[46].

Spatial planning

The other source of noise pollution – roads/motor roads/highways are primarily regulated through spatial planning. On the state level, spatial planning documents contain important infrastructure projects such as highways which are essential for the whole state or are connected to trans-European road networks. State spatial documents are subject to environmental analysis, which has to contain the evaluation of impacts on sustainable development of the territory.[47] On the regional level, spatial planning documents contain specific infrastructure projects defined on the state level but implemented on the regional level. Regional spatial planning documents must also contain the evaluation of impacts on sustainable development of the

[45] Regulation (EU) 2018/858 together with Regulation (EU) No. 540/2014 on the sound level of motor vehicles and of replacement silencing systems.
[46] S. 34(2) of Act No. 258/2000 Coll., on Public Health Protection.
[47] S. 19(2), s.31(1) and s. 35a(1) of Act No. 183/2006 Coll., Construction Act.

territory under Act No. 183/2006 Coll., Construction Act.[48] The evaluation of impacts on sustainable development also includes the assessment of whether planned projects infringe noise limits set in Act No. 258/2000 Coll., on Public Health Protection and in implementing regulation.

Municipalities, during the preparation or amendment of spatial planning documentation, have to deal with the opinions of, among others, regional public health authorities according to Act No. 258/2000 Coll., on Public Health Protection (part of the opinion is dedicated to noise pollution). The municipal spatial plan has to contain the evaluation of impacts on the sustainable development of the territory.[49] New roads as noise sources are expected to be assessed whether they pose significant noise problems for inhabitants.

Construction of noise sources

According to Act No. 100/2001 Coll., on Environmental Impact Assessment, some infrastructure projects may be subject to the EIA assessment, and according to annex no. 4 of the act, effects on inhabitants and human health (noise) are to be also assessed.

During zoning and construction proceedings, the regional public health authority gives a binding opinion on whether the project affects public health and whether the noise limits set in legislation[50] are met.

During the trial operation of the noise source, it is determined whether the source keeps the health limits or not. If the trial operation succeeds, final construction approval is issued. However, this procedure can be problematic, as was seen in Brno-city, where the traffic tunnel project has been in the process of trial operation for over ten years because the noise pollution has been infringing limits set in the Public Health Act and Regulation No. 272/2011 Coll.

If the noise source owner cannot maintain the noise within limits, he can initiate exemption proceedings at the public health authority.[51]

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Urban policy

The local population has consultative and commentary functions. However, the final policy is the result of the needs of the municipality, spatial planning, construction proceedings, and superior policies.

The local population can, in one way or another, participate in spatial planning procedures and the construction procedure. Specifics depend on whether they are affected by the project on their subjective public rights (such as ownership).

Spatial planning

The local population generally benefits from two types of procedural instruments during spatial planning. It can either object to proposed spatial planning documents or give comments. Objections are saved for a specific group of persons, and it is also dependent on the type of

[48] S. 19(2) and s. 36(1) ibid.
[49] S. 19(2) and s. 50(1) ibid.
[50] Regulation No. 272/2011 Coll., on the Protection of Health against the Adverse Effects of Noise and Vibrations.
[51] S. 31 et seq. of Public Health Protection Act.

spatial planning documentation. On a regional level, only persons such as a representative of the public, authorised investors, and the municipality concerned can object to these types of planning documents.[52] On the municipal level, only persons such as a representative of the public, authorised investors, and owners of immovable assets affected by the planning document benefit from objections.[53] The objections shall be decided in an individual administrative act (a decision). The general public can give comments on all spatial planning documents. However, comments do not have to be individually dealt with as objections.

It must be noted that all spatial planning documents can be and are often challenged in court. Regarding infrastructural projects, this issue is especially problematic in the case of the Southmoravian region because the public has repeatedly challenged regional spatial planning documents adopted in 2016 regarding the location of new highways. The case is still pending at the Supreme Administrative Court.[54] At the same time, amended regional spatial planning documentation is also being challenged before the administrative court, and again the focal point is the location of other highways around Brno-city.[55]

Construction of noise sources

If the infrastructure project requires EIA assessment[56], the public concerned[57] can join in subsequent proceedings (e. g., zoning proceedings and construction proceedings) and object to the project. However, if the project does not require EIA assessment or in screening and scoping procedures is ascertained that the EIA is not necessary. Only selected persons can object during the zoning and construction proceedings under the Construction Act. The party to the zoning proceedings under the Construction Act includes the *applicant, the municipality where the project is to be carried out, and the owner of the land or building on which the proposed development is to be carried out if he is not the applicant and persons whose ownership or other rights in rem over neighbouring buildings or neighbouring land or buildings may be directly affected by the zoning decision.*[58] Regarding construction proceedings, parties to this proceeding include *the builder and other affected owners of the building or land on which the project is to be executed, and if they are different from the builder, the owner of neighbouring land or a building on it, if his property right may be directly affected by the construction.*[59]

[52] S. 39 et seq. of Construction Act.
[53] S. 52 ibid.
[54] The Supreme Administrative Court, case number 2 As 224/2022 (case in progress). Available only in Czech: https://www.nssoud.cz/en/about-the-court/general-information
[55] The Supreme Administrative Court, case number 1 As 356/2021 (case in progress).
[56] Points 46-49 of Annex No. I of Act No. 120/2001 Coll. (46) Tramways, trolleybuses, elevated and underground railways, suspended railways or similar railways of a special type used exclusively or specially for the transport of persons, if their length exceeds 1 km screening and scoping procedure is required. (47) Higways are to be always assessed. (48) Roads or local roads of four or more lanes, including the widening or reconstruction of existing roads or local roads of two or fewer lanes to roads or local roads of four or more lanes, with a continuous length from the established limit are to be always assessed if the their lenght is more than 10 km if the lenght exceeds 2 km, only scoping and screening procedure is for required. (49) Roads of all classes and local roads of Class I and II with less than four lanes from the specified length (2 km); other roads from the specified length (2 km) and from the specified design traffic volume assumed for new construction and the annual average daily traffic volume for existing construction (1000 vehicles/24 hours), require scoping and screening procedure.
[57] According to s. 3(i) of Act No. 100/2001 Coll., the public concerned can be a person or a legal entity, providing they fulfil all criteria set in the provision.
[58] S. 85 of Construction Act.
[59] S. 109 ibid.

Author: Jiri Vodicka

France

In France, the transport sector is responsible of 24% of greenhouse gas emissions. The Law 2019/1428 on the mobilities aims to make land transport carbon-neutral by 2050. This Law sets out the strategy and the programming of investments in transport systems for the period 2019-2037. The choice of the term «*mobilities* » instead of « transports » is emblematic. It 'll remain to verify whether a real ecological transition will be translated into reality "*without leaving anyone behind*". The development of least polluting mobility modes and of shared mobility and others alternatives to individual car is one of the five priority of the investment' programme. The Law 2019/1428 confirms the essential contribution of territorial collectivities and reinforce le pivotal role of the region (mobility basin) and of the intermunicipal authorities (communities of agglomerations, urban communities, metropolises such Lyon metropolis). Such normative process can be observed in other environmental sectors.

According to the Law on Mobilities (2019), in all the agglomerations with more than 100 000 inhabitants the competent local authorities (known as "mobility organising authorities") have now the obligation to establish a **mobility plan**. In Ile de France region, such mobility plan covers the entire region and is completed by local mobility plans. The mobility plan must be compatible with other territorial planning instruments such as regional intermodality plan and the territorial air-energy climate plan. Local urban plans and other municipal plans (cartes communales) must be compatibles with mobility plans. Finally, the mobility plans aim to contribute to the reduction of greenhouse gas emissions in line with France 's international and european commitments, the fight against air and noise pollution and the protection of biodiversity. For the other "mobility organising authorities" in territories (urban & rural) with less than 100 000 inhabitants, a **simplified mobility plan** is adopted but it has no binding legal effect and is enforceable (non opposable) against urban planning documents.

1. *On the basis of which strategies and (predominantly) with which instruments is **the shift to public transport promoted in cities** (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

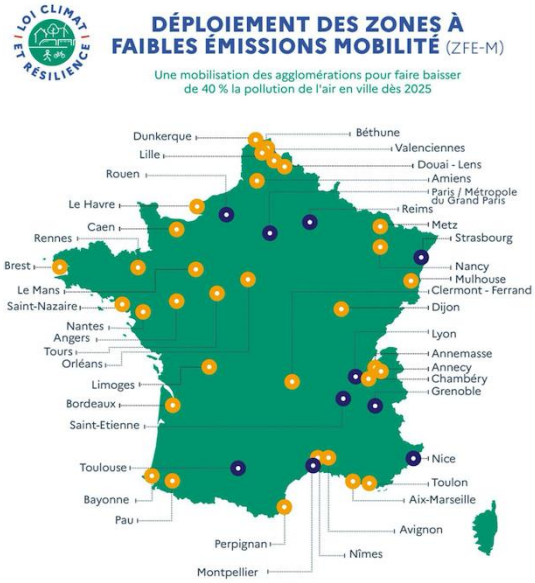
Mobility Plans: The reduction of car traffic and the development of shared use of motor vehicles as well as the development of public transport are among the objectives of the mobility plans. The mobility plans define the perimeter and the conditions of public transport services and determines the organisation of the traffic and parking zones (art. 1214-1 & al. Transport Code). They also could serve as a plan for the development of charging infrastructure for electric and/or plug-in hybrid vehicles.

Restrictions/ban of individual vehicles: The Law 2019/1428 on the mobilities reinforces the powers of police of the Mayor related to organisation of the traffic and the parking zones.

The mayor may impose a maximum authorised **speed** lower that provided by the road code (code de la route) for environmental reasons for all or part of the area open to traffic (L 2213-1-1 Code of territorial collectivities). The Mayor could also impose **permanent access ban** for the transport of good over 3.5 tonnes. Similarly, he can **reserve parking zones** for vehicules with a label (low-emission, carpooling, car-sharing). Since the Law on energy transition

(2015), the mayor of the president of inter-communal authority (with traffic police powers) may **ban the most polluting vehicles**.

The Mobilities Law reinforce the system of restricted traffic zones renamed "**Low emission mobility zone**" and the Law 2021/1104 climate change & resilience impose the establishment of such zone in all agglomerations of more than 150 000 inhabitants before December 2024. 43 agglomeration will be concerned by such compulsory low-emission mobility zone and 11 metropolises have set up a low-emission mobility zone (Grand Paris, Lyon, Aix-Marseille, Toulouse, Nice, Montpellier, Strasbourg, Grenoble, Rouen, Reims et Saint-Étienne). However, exemptions are provided, for example when it is demonstrated, at least three years out of the last five that the average annual concentration of nitrogen dioxide (NO2) are less than or equal to 10 ug/m3 at all fixed air quality measurement stations in the agglomeration or for at least 95% of the agglomeration of each municipality in the agglomeration.



The **Crit'air quality certificate system** identifies the vehicles according their polluting emissions and such system is operational since July 2016. Such system (6 classes of certificate, depending of the type of vehicle, its engine and EU standard pollutant emission) is used during ambient air pollution episodes imposing differentiated traffic (prefect decision). Such air quality certificate is also mandatory for driving in Low-emission mobility zones. In the 11 metropolises: bans for Crit'air 5 (diesel over 22 years) in 2023, Crit'Air 4 (diesel over 18 years) in 2024, Crit'Air 3 (diesel over 12 years and petrol over 18 years) in 2025. In 2021, only 25% of vehicles fall into the Crit'Air 1 class (petrol less than 12 years) and 36% (Crit'Air 2 petrol 12 to 18 years old).

The Environmental Law (Grenelle 2010/788) introduced the possibility for agglomeration of more 300 000 inhabitants with an approved urban transport plan, of introducing, on an experimental basis, a **road pricing** for a period of three years (art. 1609 code des impôts). Such experimentation authorised by a decree (State Council) may only be introduced only after the establishment of public transport infrastructure and services capable of supporting the traffic shift resulting from the introduction of such road pricing. An experiment road pricing project had been envisaged (by the Court of auditors, report 2022) to finance public transports in Paris for example but such experimental system was removed by the Law 2021/1900 (Finance Act for 2022), in particular due to strong opposition and too short period for such experimentation.

Public transport: The major has the power to **reserve special lanes for public transport. Prior to the establishment of** low-emission mobility zone, an information campaign also informs the public about all the alternatives to individual vehicles, in particular public transports services.

In July 2022, the National Assembly has created a "flash mission" to promote the social acceptability of Low-emission mobility zone and to support people impacted by such restrictions and bans. They unsurprisingly call for faster development of public transport. If the

Mayor of Paris considered the project of **free public transport**, such idea (2018) was abandoned in view of the low environmental benefit and the saturated state of the Parisian transport network. Dunkerque has experimented free bus travel for all in 2014 and implemented 100% free bus travel in 2018[60]; but the environmental and health's benefits are more uncertain and such system does not solve the problem of urban congestion or air pollution.

*2. Does a policy exist to **promote non-motorized transport in cities** (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?*

The Law on mobilities (2019) introduces provisions on « *active mobility* » defined as « *all modes of travel for which human power is required with or without motorized assistance* ». It provides for the adoption of a national schema for cycle-routes (updated every ten years) which will be implemented in regional scheme with a fund of 350 million Euros. The objectives are to increase the modal share of cycling from 9% in 2024 (only 3% in 2019) to 12% in 2030. The State is committed to supporting local authorities in the creation of cycling infrastructure. The Law on mobilities reaffirms the obligation to provide cycles routes when creating or renovating urban roads. It no longer allows exemptions due to traffic needs and its constraints (these elements can only be taken into account to determine the type of cycling facilities to be put in place -L 228-2 Environmental code). The Law on air and rational use of energy (1996) has already introduced an obligation to develop cycle routes in case road works but in ambiguous terms ("*according to the needs and constraints of traffic*").

Following the first national cycling and active mobility plan in 2018 (350 million + 150 million from the recovery plan, call projects), a second plan 2023-2027 has be adopted (250 millions for 2023; 1,5 billion will be invested to develop cycling infrastructure and double the network by 2030). Since 2018: 22 000 km of cycling facilities have been built and 16 000 cycle paths and greenways: more than 40% since 2017 !

For agglomerations of more than 100 000 inhabitants, the mobility plan must ensure the development of less-energy consuming and less polluting modes of transport, particularly cycling and walking. The plan includes a section related to the continuity and the safety of cycle and pedestrian routes, including the location of cycle parks near stations, city entrances and multimodal hubs (…).

The total investment budget of local authorities on cycling policies has increased by 40% in the last ten years (Ademe data) but the main daily use of bicycles (5%) is still three times lower than the european average. According to Ademe study on cycling (2020), cycling increased by 30% in Paris from 2010-2018, 50% in Bordeaux (2015-2019). The city of Paris' cycling plan (2015-2020) has devoted 150 million euros to doubling the length of cycle paths: 1095 km (compared to 200 km in 2001). Among the measures introduced by the city of Paris: a self-service bicycle system, a map of the bicycle network and of bicycle parking facilities, subsidy 33% of the purchase price of electrically assisted bicycles (…).

While there has been a strong increase in the center of large cities, which concerns 20% of the population, there has been a decrease in the suburbs and the cities of the second ring. At the beginning of 2023, the "*alliance pour le vélo*" (which brings together different associations, including the club of cities and cyclable and pedestrian territories) called on the State to invest

[60] The agglomeration of Niort, Aubagne & Calais have also opted for free public transport. http://www.obs-transport-gratuit.fr/l-observatoire-161/

a minimum of 2.5 billion over 5 years in the development of the cycling sector. Since 2017, the State has been granting aids for the purchase of bicycles; and this year it has renewed the grant to cover 50% of the most modest households and increased aids for the most precarious people (tax income per unit less than EUR 6358)[61].

Concerning urban pedestrian routes, there are also pedestrian plans or director plans for pedestrian routes in cities such in Rennes, Brest, Lyon, Bordeaux, Strasbourg or Nantes.

*3. **What conflicts typically arise between the demands of different transportation modes** when it comes to local transport policy? How are they resolved?*

According to the Law on Mobilities (2019), public authorities (both national and territorial) must take into account the « **plurality of mobility needs** and the **diversity of territories** in order to provide appropriate, sustainable and equitable responses » (art. L 1211-4 code des transports). This Law states that the organisation of mobility throughout the territory have to « make effective the right of every person (…) to move and to freely choose the ways of doing so, including active mobility ». Such **right to mobility** must allow the user to move under reasonable conditions of access, quality, price and cost for the community. It includes the right to be informed about the means available and how to use them.

Three classic conflicts can be observed: - Lack of safety for soft mobility and space sharing - Social and territorial inequalities - Economic lobbying in favor of "tout voiture/individual car" approach, - social acceptability. Such conflicts illustrate the inadequacy of sectoral approaches, the socio-ecological inconsistency of public policies and the lack of financial resources allocated to achieve an ecological transition of urban transport modes for all.

- Lack of safety for soft mobility and space sharing:

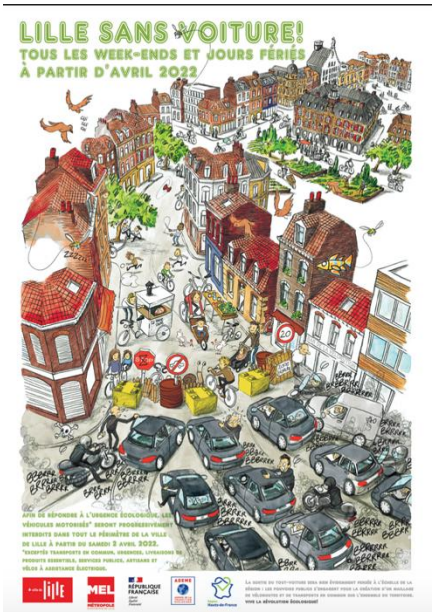
Despite the improvement of cycling and pedestrian infrastructure, significant safety risks remain regarding the sharing of space between road transport (including public transport) and soft mobility. Conflicts also arrive between users of softer modes of mobility, as shown by the problematic case of the dangerous use of trotinettes/scotters (electric scooter are considered as motorized personal transport devices and subject to the code de la route since 2019) . In April 2023, the city of Paris has organised a referendum "*for or against self-service scoters*". 89% of 104 084 Parisians who voted ware in favor of ending self-service scooters. The public domain occupation agreement with the private operators will end in the end of august 2023. Several cities have already banned self-service scooters for safety or public order reasons due to accidents or failure to respect the code de la route (Nice, Toulouse…).

- Social and territorial inequalities: the emblematic case of low-emission zone

From January 2025, vehicles with Crit'Air 5, 4 and 3 certificates (which account for 40% of the current car fleet) will not be allowed to access in the low-emission zones. According to a study of Fondation pour la nature et l'Homme and Wimoov, nearly 30% of total population (13, 3 million) over the age of 18 would be in a situation of mobility insecurity in 2021. 4,3 million are thus affected by mobility vulnerability, in particular for low-income households, in particular due to the absence of an alternative to the car or ageing vehicles. Two bills (from the Senate 2023 and the national Assembly 2022[62]), presented by members of national rally party,

[61] https://www.economie.gouv.fr/particuliers/prime-velo-electrique#
[62] Rejected by the national Assembly in january 2023.

aims to abolish low-emission zones because of their social exclusionary character. In October 2022, the association “40 millions d'automobilistes” denounces in a petition "*an anti-social project*". Together with the Fédération de la distribution automobile, it has started a "*great loop of the excluded*" in order to meet motorists affected by the introduction of the emission-low zones. Several cities have announced the postponement of the exclusion of Crit'Air 2 (Metropole Lyon), 3 (Reims, Metropole Grand Paris) and 4 cars. The risks of increasing territorial inequalities for peri-urban and rural areas are also highlighted by opponents. These diverse oppositions show the high problematic of social acceptability and the urgency of accelerating the supply of public transport and infrastructure for soft mobilities, including outside city center without forgetting the establishment of efficient intermodalities.



- Economic lobbying in favor of “tout voiture/individual car” approach

The process of ecological transition in transport suffers from a policy that has for too long favored the "all road" approach. The failure of the application of the ecotax for heavy goods vehicles following the so-called "red bonnets" (bonnets rouges) movement in Brittany (2013/2014), the yellow waistcoat (gilets jaunes) movement following the carbon tax project (2018) and the current opposition to low-emission zones illustrate this situation. In addition to the economic weight of the road transport sector, the lack of integrated consideration of the social, health and ecological impacts of transport modes accentuates the difficulties of transition process in the short term.

For example, the association 40 million d’automobilistes and the Fédération de la distribution autonomible are against the implementation of a low-emission zone in the Rouen Metropolis. They asked the Metropolis to repeal the “arrêté” establishing the zone and in February, the Metropolis reject this demand. The two entities therefore lodged an appeal with the administrative tribunal of Rouen in march 2023.

In the report (October 2022) of the national Assembly ‘s “*flash mission* «related to the measures to accompany the creation of low-emission zone, it is recommended to review the Crit’air system, to set up a national monitoring committee for such zones, to strengthen and better target national subsidies for purchase a low-emission vehicle and to invest massively in public transport (…).

*4. **How is noise protection handled when it comes to municipal transport?** Are the requirements of EU-law and ECJ-case law respected?*

The Law on mobilities (2019) provides that public authorities (national, regional, local) as private persons shall contributes within the limits of their competence to the implementation of the right of everyone to live in a « healthy noise environment ».

According to article L 572-2 of the Environmental Code, “***a noise map** and an **environmental noise prevention plan** are drawn up: 1° For each of the road, motorway and rail infrastructures*

whose characteristics are set by decree in the Council of State; 2° For agglomerations with more than 100,000 inhabitants, the list of which is set by joint order of the ministers responsible for the environment and the interior. This order is updated at least every five years". Within the perimeter of agglomerations with more than 100,000 inhabitants[63], the local authorities responsible for fighting noise pollution (municipalities or public establishments for inter-municipal cooperation) draw up noise maps that take into account the noise emitted by road infrastructure as well as by industrial activities and other sources of noise. For motorways and roads of national or european interest that are part of the road public domain (traffic of over 3 million vehicles), as well as for rail infrastructure (annual traffic of more than 30 000 train passages), the prefect (representative of the State authority) if competent. Similarly, the list of airports concerned is listed by a ministerial order (the last one was adopted in 2017).

Environmental noise prevention plans aim to prevent the effects of noise, reduce noise levels where necessary and protect quiet areas. They include an assessment of the number of people exposed to excessive noise and identify the sources of noise whose levels must be reduced. They also list the necessary measures to deal with the situations identified by the noise maps, in particular when limit values set under conditions defined by decree in the Council of State are exceeded or likely to be exceeded (L 572-6). Environmental noise prevention plans for road infrastructures are drawn up by the local authorities competent for these infrastructures.

The directive 2002/49/EC relating to the assessment and management of environmental noise was transposed in France by Order (ordonnance) 2004/1199 & Law 2005/1319. New instrument for mapping and planning management of noise and noise pollution have been to be adopted and implemented. A Ministerial order (14/4/2017) established the list of agglomerations with more 100 000 inhabitants concerned by the binding obligations of the directive. France has been the subject of two formal mise en demeure relating to the two previous deadlines (2007-2008, 2012-2013) for failure to adopt an environmental noise prevention plans for 58 agglomerations and a large number of major roads, rails and airports (Commission, dec. 2017). Since then, France has not been the subject of judgement of the EU Court of Justice compared to other Member States (Poland C 302/21, Portugal C-687/20, Slovakia C 683/20). French law complies in theory with the obligation to draw up actions plans for large agglomerations and for major roads and railway regardless of the ambient noise level.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

The constitutional principle of public participation applies to a variety of plans, programmes and projects and have to combine several procedures, in particular within the framework of development of urban projects (upstream (public debate, prior concertation) or downstream of projects such as public enquiry). Insufficient public participation is an important risk of failure or strong opposition, especially for people who cannot access to alternatives to the individual car. **The mobility plans** projects of the agglomerations with more than 100 000 inhabitants are subject to public enquiry. The adoption of simplified mobility plans (under 100 000 inhabitants) is subject to only a simple public participation.

[63] 62 urban units have more than 100,000 inhabitants, of which 36 have more than 200,000 inhabitants. 5 urban units have more than one million inhabitants, including the Paris conurbation with 10.8 million inhabitants (INSEE Data 2021).

Under the Law on mobilities (2019) a **low-emission zone project** covering several local authorities may be subject of a single public participation. The establishment of such low-emission zone is accompanied by a local information campaign (lasting at last three months) that informs the public of the controlled perimeter, the traffic restrictions and all alternatives to access to the zone (public transport (…). The Senate's information mission on the acceptability of low-emission mobility zones (ZFE-m) has opened an online consultation from 17 April 2023 to 14 may 2023[64].

Author: Simon Jolivet, Nathalie Hervé-Fournereau

Germany

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

We may distinguish between instruments related to space, services, and product quality.

Product quality (esp. emissions from cars) is based on EU and state law leaving room for municipalities only in the form of space related regulation such as access restrictions in inner cities.

Providing mobility services (tubes, tramways, bus lines) are a competence of municipalities. After a wave of privatization since the early nineties collective transport has since a few years again tended to be provided as a public service, and most often in the form of private companies whose shares are held by the municipality (which allows to hold wages modest and pay high salaries for top managers). It is of course a question of available budgets how much of this service is provided. Municipalities cannot shoulder this alone. They are heavily supported by Bund funding.

Concerning space a more general observation may be apposite. It is almost axiomatic that the street is the major tool of enabling inner-city mobility and transport. The term street (Straße) is in German law even defined as space for traffic (Verkehr). We should pause a moment to put this into question. Streets serve more goals than just traffic, goals that are rather stationary in kind: There are least two of this sort: to provide room for greens (roadside trees etc) (see below ch. II) and for human communication (children's play, cultural and political encounters, strolling around, street parties, sports, small business, etc). Over the years the car has taken over and is today the almost exclusive user of streets. Research on the city of Kiel revealed that cars are stationary on average 23 hours per day, and that 50 % of the cars parking in a street at night are not moved the following day. I heard a city planner suggest that one should not start with streets as an entity but with the space between house fronts thus opening up minds for multiple uses of that space.

The legal framework for space related legal instruments has three layers all of which can be examined in terms of enabling – or on the contrary impeding - the turn to public transportation.

[64] https://senat.limequery.org/721983?lang=fr

1) Land-use planning: the municipality when making local plans is empowered to establish that certain ways or squares shall be reserved for pedestrians or bicycles. This is based on a federal law, Baugesetzbuch (Construction Code) Art. 9 N. 11 which allows a Bebauungsplan (Construction Plan) to determine "space for traffic and space for special purposes such as pedestrian zones, zones for parking of automobiles, space for parking of bicycles …; the space can be determined as public or private space." However, the planning authority is not allowed to establish specific regulation of the traffic, such as speed limits. This is a matter for road traffic law (Straßenverkehrsrecht), see below.

2) Straßenrecht (law of road construction and use): The idea behind this body of law is that public roads are a public infrastructure the planning, financing and use of which needs separate legal framing. The legislative competence for inner-city and regional roads lies with the Laender. The Bund has legislative competence for highways and high distance federal roads (Fernstraßen). The municipalities are obliged and empowered to construct, finance and determine the use of municipal roads. The use of a road is determined by an administrative act called Widmung (dedication). In principle such Widmung enables Gemeingebrauch (common use), i.e. the right of everyone to make free use of the road. Uses of some intensity and duration such as for street restaurants or trade is qualified as Sondernutzung (special use) which needs authorization and is subject to the payment of fees. By Widmung the municipality can reserve ways for pedestrians, establish low speed zones, restrict parking etc.

3) The third layer of the legal framework of road uses is called Straßenverkehrsrecht (law on road traffic). It is based on the federal Straßenverkehrsgesetz (Road Traffic Act) and sublegal Bund ordinances including the highly important Straßenverkehrsordnung (Ordinance on road traffic - StVO). Its focus is on regulating traffic as such, in particular through the placement of traffic signs. According to the StVO any traffic regulation must be aimed at the safety and ease of traffic. While local planning and the local road infrastructure belongs to genuine municipal self-government, traffic regulation is police law resorting to Land administration. This creates a tension if the municipality by using its planning and infrastructure competences wants to scale down individual traffic while the administrative bodies in charge of the StVO are bound to ensure the easiness of traffic. The doctrinal tradition is that traffic regulation has priority but more and more scholars argue that city planning and infrastructure decisions should take the lead.

Interesting in this regard is a case concerning the parking of private cars in front of or close to the housing of the car owner. The city of Hamburg had classified parking on the spot as special use requiring prior authorization and possibly the payment of a fee. A house owner argued that parking belongs to common use and filed action. The case went up to the Bundesverfassungsgericht (Federal Constitutional Court) which decided that parking is traffic even if stationary, and that the ease of traffic must prevail over the Widmung of the municipality (BVerfGE 67, 299 (323).

This decision has been a major contribution to the cramming of streets in residential quarters with parking cars and the impoverishment of communicative uses of public roads. It is 40 years old and should be reconsidered.

In addition, the primary orientation of traffic regulation to safety and ease of traffic must be revised.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Yes, many municipalities are elaborating local concepts that shall pluralize the use of inner-city streets and spaces. Such concepts put various instruments together, such as zoning, revision of Widmung, investment in reconstruction of roads, adaptation of traffic signs, etc. One example is the municipality of Ottensen in Hamburg. Residents contested entailed restrictions of access from and to their property arguing this was an interference with the property guarantee. The Hamburg administrative court defended the concept finding the interference tolerable because a parking and delivery point was created in a neighbouring street.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

An exemplary case arose in Bremen, actually concerning the street where I am living. The street is crammed with parking cars which partially occupy the sidewalk so that pedestrians must walk one behind the other (called goose walk) to get through. The practice is clearly unlawful because according to the StVO partially parking on a sidewalk must be allowed by explicit traffic sign (which was not placed in this road neither in most other roads). The Bremen administrative court (VG Bremen, Urteil v. 11.11.2021 – 5 K 1968/19–, Nr. 35 (nach juris) and, upon appeal, the higher administrative court held that (1) the claimant – a resident of the street – had standing, (2) the partial parking on side-walks was indeed unlawful, (3) the authority had a duty to intervene, but (4) the authority had a choice of means and was only obliged to set up a plan how to improve the situation. This will take years to implement, if it is at all undertaken. The case is an example for the power of private car owners to ignore clear legal commands.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

Noise levels for road traffic are set out by the administrative guideline for noise (Technische Anleitung Lärm). If the limits are exceeded residents and NGOs have standing to ask an administrative court to order the responsible administrative body to remedy the situation.

5. Does the participation of the local population play a role in shaping urban transport policy?

Yes, very much so. In most cases of reorientation of street uses the initiative starts with local residents and NGOs.

Author: Gerd Winter

Hungary

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

National Environmental Protection Program

There are several elements, listed in this Program, focusing on the limitation of environmental pollution, deriving from mobility – changes in the railway system, railway vehicles, using new

types of buses, setting up bicycle parking places near public transport stations, using electric vehicles, among others in public transport. Occasionally a financial support system – not unlimited, based on competition – is available for the purchase of electric bikes, cars, motorcycles. The environmentally friendly cars may have a green plate and between 2018 and 2021 this number could go up four times, while on the other hand, the current Hungarian regulations related to the import of used cars is less helpful.

Beside the national Program, the regional, county and local level environmental programs are also available with some differences. The Environmental Program of Budapest (2021-2026) could set up a priority order for the transport and traffic policy: pedestrian traffic→ bicycles →track-based public transport→ public transport with the minimum environmental burden→ carsharing→less polluting car transport. Due to the fact that the agglomeration taffic towards the capital means a great load on the environment, the development of P+R parking spaces and also track-based transport from the agglomeration is on the agenda. Stiil, we may also face the contradiction between the national and local policies. At least according to the Budapest program the share of environmentally friendly buses within public transport should be 100% by 2026. https://budapest.hu/SiteAssets/Lapok/2020/budapest-kornyezetvedelmi-programja/Honlapra_BKP_2021_2026.pdf (Hungarian)

We might also take as strategic tool the air-quality programs for the zones of cities and agglomerations, needed in case of certain immission values. Based on the ombudman's initiative the legislator began to draft the changes in traffic regulations, aiming at the possibility to limit the movement of certain polluting vehicles in specific zones of towns.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

The development of bicycle roads is promising. In 2010 the National Association of Bike Friendly Settlements in order to support the best solutions. There are more and more rental places for electric bikes and rollers. Also the government strategy for the development of bicycle traffic has just been adopted, providing a wide range of supporting means and methods, from the changes in the general traffic rules to the development of service infrastructure, plus several financial support mechanisms to be developed.(https://cdn.kormany.hu/uploads/document/d/d5/d56/d56d7d20ced654ca5bc98ad589e9a3c4abb7bf4e.pdf)

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

There are specific conflicting problems in the capital, where many roads were converted from two lanes to one lane+one bicycle lane, but this is causing much more peak hours and pollution. The means and methods how to overcome this situation is still not available.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

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5. Does the participation of the local population play a role in shaping urban transport policy?

Many settlements - as Budapest are using different competitions towards the public, waiting good ideas, with the support of many business organizations.

Author: Gyula Bándi

Italy

General remarks – overall legal framework

The theme of sustainable mobility is addressed specifically as one of the priority areas in a number of strategic instruments adopted by the Government in implementation of EU law and in promoting the transition towards a sustainable and low carbon economy and society. These include in particular: the document 'Elements for a Roadmap for Sustainable Mobility' (2017) which among other things stresses the important local policies; the National Integrated Plan for Energy and Climate (PNIEC, 2020) adopted in implementation of EU Regulation 2018/1999 on Climate Governance, which affirms the Government commitment to channel investments towards improving public mobility systems, including by providing funding at the local level to renew the buses and to incentivize other measures aimed at decarbonizing the transport system; these commitments have been implemented through the Budget Law and through the Climate Law 141/2019 which converts into law the so called Climate Decree 111/2019, and provides incentives for sustainable mobility in metropolitan cities and other norms to promote school public transport.

Further support for sustainable mobility at the national level came with the National Plan of recovery and resilience (PNRR, 2021) whose Mission 2 (Green revolution and ecological transition) allocate funds to sustainable mobility, including measures to promote sustainable transport at the local level.

Finally, sustainable transport and mobility occupy an important place in the Plan for Ecological Transition (PTE 2022, GU 15 June 2022) and are actually one of the eight areas of interventions identified by the PTE, with actions aimed at expanding rail transport, the use of less impacting fuels and envisaging the objective of having at least 50% of motor vehicles as electric vehicles on 2030.

Among the measures for the implementation of these commitments and objectives, a significant initiative is the establishment at the national level of a Fund for Sustainable Mobility. The first of such Find was established in 2007 and in 2013 it had taken a special focus on supporting electric mobility. The Fund established with Budget Law of 2022 allocate 2 billion euros of which half is assigned to support interventions at the local level, for mobility in metropolitan areas and in municipalities with focus on e-mobility and micro-mobility.

In the past, other initiatives included the allocation of funding for an experimental programme for sustainable mobility home-school and home-work (see Law 28 December 2015, No 221) addressing projects carried out by local administrations and finalized at areas with more than 100,000 inhabitants and including initiatives such as car-pooling, car-sharing, education and awareness programmes, and other projects aimed at reducing road traffic.

At the local level, it is important to note that in implementation of EU commitments and in accordance with the national Guidelines adopted on the basis of art 3(7) legislative decree 257/2016, Municipalities and cities with more than 100,000 inhabitants shall adopt the Urban Plans for Sustainable Mobility (PNUS). Their adoption is indeed a mandatory requirement to have access to government funding for projects related to public transport.

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services,*

investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)?

On the **public transport side**, initiatives and instruments aimed at promoting a greater use of public transport in cities are mainly represented by both economic support measures to promote the use of public transport by individuals, and measures aimed at improving infrastructures and allocating funding to local administrations to that end.

Funding for infrastructures

To support the development of local public transport, the PNRR allocate funding to local administrations to substitute their old vehicles with new ones and to invest in electric buses and to experiment with hydrogen in both road and rail transport.

More recently, Budget Law 2023 (Law 29 December 2022, No 197, art 1, paras 479-482) established a Fund for the development of urban cyclable lanes (sviluppo di ciclovie urbane intermodali) and for promoting the use of local public transport and rail transport through the creation of infrastructures to connect to local public transport networks and to railways networks. Prior to submit their application to the Fund, however, the municipalities and cities shall have appropriate planning instruments to develop strategically the urban cycle lanes network.

While those funding and support measures are directed at local administrations, more recently the Ministry of Social Policy and Employment (Ministero del Lavoro e delle Politiche sociali) approved in 2022 and in 2023 the so-called 'public transport bonus' which allows users of public transport to get funding for the purchase of a public transport card. This measure was conceived by the Law (see for 2023 article 4 of Decree 5/2023) as an economic support measure for citizens against the rise of fuel prices (in fact, the law provides that eligible individuals shall not have an annual income greater than 20,000 euros), but it may also have positive impact on sustainability by incentivizing the use of public transport.

Promoting alternative fuels in public transport

Finally, legislation on sustainable mobility addressed at the public transport sector has also in the past included measures aimed at promoting alternative fuels in this sector (see in particular Legislative Decree 257/2016, implementing EU directive 2014/94/EU on the establishment of an alternative fuel infrastructures).

Improving sustainability in private Sector transport:

Measures to promote sustainable and clean road mobility among users in the private transport sector include, on the one hand, initiatives aimed at providing economic and financial support towards the purchase of electric and hybrid vehicles, electric bycicles, bicycles and other non-motorized vehicles; on the other hand, there are legislative and policy measures allocating funding to improve infrastructures for sustainable private mobility, particularly with respect to the creation or enhancement of cycle lanes.

In the first category one can find economic incentives given to individuals for the purchase of electric and hybrid vehicles. These measures are replicated across the years in various decrees and other normative instruments. Some of the most representative examples are listed here. To start with, already in Budget Law for 2019 (Law 2018 No 145, para 1031) the Italian

Government provided bonuses for the purchase of electric and hybrid cars in 2019, 2020 and 2021, and for the purchase of two and three wheels hybrid and electric motor vehicles. These incentives have been reiterated in Ministerial decree of 6 April 2022 (Decreto Presidente del Consiglio dei Ministri, GU No 113 of 16-05-2022) which provides economic incentives for the purchase of electric, hybrid and low emission vehicles (cars and motorcycles) for the years 2022, 2023 and 2024. In parallel, legislative decree of No 17 of 2022 strengthens the objectives of promoting sustainability in the private car sectors by setting up a Fund with the Ministry of Economic Development to promote the innovation and research in the automobile sector with a view to promote innovative supply chains in this sector on the national territory (see art 22(1) of Law Decree 1 March 2022, No 17).

Economic incentives measures have been also put in place with respect to the purchase and use of bicycles and other vehicles of micro-electric mobility, such as electric scooters. With respect to micro-electric mobility, the first significant step is represented by Budget Law 2019 (Legge Bilancio No 145 of 2018, art 1(102), which allows the use of electric scooters, Segway and hoverboard, with a subsequent decree which regulates the modalities for their use (see Ministerial Decree 4 June 2019 – Experimentation of road circulation of electric micro-mobility vehicles).

Alongside support measures aimed at individuals, recent Budgetary laws have consistently included specific measures to support Municipalities and local administrations in investing in the development and enhancement of infrastructure for sustainable mobility, such as cycle lanes. For example, Budgetary Law 2019 and 2020 establishing funds for the development of cycle lanes in main urban roads (sviluppo di ciclovie urbane) and similar measures can be found also in this year Budgetary law (2023). These have been also accompanied by amendments to the traffic code introduced by decree 76/2020 to facilitate cycle mobility and improve safety.

Interestingly, some measures with potential positive impact on sustainable mobility were adopted also in response to the constrains posed by the Covid pandemic. Thus, Law Decree 73/2021, art 51, provides certain measures aimed at ensuring a better distribution of public transport users and which include also the provision of financial incentives for individuals to purchase electric mobility vehicles (bycicles, or scooters for example – see art 229 of Law Decree 34/2020 on measures for health, support to employment and economy and social policies related to the pandemic) or to finance sustainable mobility initiatives by companies and public administrations, as well as schools (in the case of companies and public administrations with more than 100 employees, the law requires the appointment of a sustainable mobility manager who has the task of optimizing the mobility home-workplace or home-school place with a view to reduce the use of private car transport).

Other legislative interventions

Further legislative interventions include the progressive ban to the circulation of most polluting motorvehicles established by Legislative Decree 121/2021 (converted into Law 156/2021) according to which, in conformity with the decarbonization objectives established by the EU package Fit for 55%, a progressive ban to the circulation of the most polluting motorvehicles, both private and those for public transport (i.e. buses).

Additionally, specific bans to circulation are being adopted at the regional level and in some cases for specific cities.

Furthermore, since 2012 Italy has adopted a Plan to expand the possibilities to recharge electric vehicles (see Law of 134/2012, art 7 septies(1) on a National Infrastructural Plan for the Recharging of electric vehicles.

Are they binding targets to promote this modal shift?

The PNIEC lists among the main objectives for Italy in terms of RE amount in the gross final energy consumption in the transport sector for 2020 and 2030: 10% by 2020 (in line with EU target), and 22% by 2030 (beyond EU target of 14%).

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

See answer to Q 1 above.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Omissis

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

In Italy, noise deriving from transport and motor vehicles is addressed in general in the Framework Law on noise pollution (Law **447/1995**– Legge Quadro sull' inquinamento acustico) which sets out the main principles on noise pollution, including for pollution connected to transport, and the respective competences of the State, Regions, Provinces and Municipalities. Municipalities are competent to classify their territory in different areas for the purpose of application of the noise emission limits and quality values, according to the criteria established by the Region and taking into account the various destinations and uses of the territory. Moreover, they (art 6) shall adopt regulations for the implementation of regional and national legislation on noise pollution, and with respect to noise from transport they are competent for the measurement and control of noise emissions produced from vehicles and for regulation against noise pollution with specific respect to the control, containment and abatement of sound emissions arising from cars. Furthermore, the law provides that in case noise emissions exceed the established thresholds, municipalities shall adopt a plan for noise decontamination, which must be coordinated with urban traffic plans and other environmental legislation. Finally, article 8 provides that in case of projects concerning the construction, modification or enhancement of highways, extra-urban roads and main urban roads, and other urban and local roads which are either subject to EIA or under request by the Municipalities the proponent shall provide relevant documents concerning the potential noise impact connected to such projects.

Besides this general framework, the question of noise pollution from transport is addressed specifically by Ministerial Decree (DPR) 142/2004. The Decree classify roads according to their type (distinguishing between motorways, extra-urban roads, main urban road, local urban road etc) and according to whether they are existing or new, and for each class it provides legally binding noise emission limits and other related values, also according to the different times (day/night).

Furthermore, a Decree of the Ministry of Environment of 29 November 2000 defined the criteria according to which companies and management bodies of public transport services and

relevant infrastructure shall define the plans for the containment and abatement of noise. According to the Decree, within 18 months from its entry into force, the manager of a road or public transport infrastructure shall identify the areas where noise pollution limits have exceeded the relevant threshold and shall transmit the relevant data to the interested Municipalities and to the Region, and present to the Municipality, to the Region and to the Ministry of Environment a plan to contain and abate noise emissions, identifying the relevant necessary measures to that end.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Public consultation, together with impact assessment, is an integral component in the process of elaboration and approvals of the Plan for Sustainable Urban Mobility (Piano Urbano per la Mobilità Sostenibile, PUMS) drafted and adopted by Municipalities. The adoption of the PUMS is envisaged in legislative decree 257/2016 and represents a strategic document for the definition of the policies, investments and projects for the urban mobility in a temporal period of 10 years, with the objective to promote sustainable urban mobility and improve the quality of life of citizens. The PUMS are mandatory for municipalities and metropolitan cities with more than 100,000 inhabitants and for those entities the adoption of the Plan is a pre-requisite for accessing certain type of government funding for urban sustainable mobility. However, PUMS have been adopted on a voluntary basis also by other smaller municipalities.

A Decree of the Ministry Infrastructures and Transports of 4 August 2017, No 297 defines the guidelines for the drafting of PUMS. According to these guidelines, the approval of the PUMS is a process involving several actors, including the public administrations, civil society and businesses. Once the Plan has been drafted it has to undergo a process of evaluation (to verify the impact of PUMS on the environment and on the citizens' quality of life) and of public consultation. Public consultation is important, and according to the Guidelines it shall take place at the initial level, in the definition of the scope of application, and the definition of objectives and strategies. Citizens and stakeholders are also involved in the phase of monitoring the implementation of the plan.

Author: Massimiliano Montini, Emanuela Orlando

Latvia

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

There are indeed quite some strategies and action plans that are aimed to or embodies plans for improving mobility of inhabitants within the city and to the city (Riga and Riga region planning area) by improving the system of public transport and reducing attractivity of using private cars. At this moment, the planning is based on three main (local) planning instruments: (1) the Sustainable Development Strategy of Riga until 2030 (Strategy 2030); (2) The thematic planning of transport development for 2019 – 2030; (3) Riga transport system sustainable mobility action program. Short-term action plan for 2019 – 2025 (Action plan 2025).

The latter is based on the goal as defined in the Strategy 2030: "Comfortable, safe and residents' pleasant urban environment"; and on therein highlighted a hierarchy for mobility planning: pedestrian - cyclist - public transport - private transport – cargo transport. According to it, the aim is to reducing road intensity and air pollution especially in the centre of the city.

In the action plan, one may observe quite some activities and plans for improving accessibility and attractiveness of the public transport and reducing attractiveness of using private cars. For example, plans of extending the tram lines and improving passengers' train accessibility by integrating its services into the public transport system of Riga (single ticket); extending public transport lines on the roads; development of park&ride parking places outside the centre and reducing parking slots in the centre.

There are plans to reduce speed from 50km/h to 30 km/h in quite some areas of the centre of Riga and developing 'quite areas'.[65]

At the same time, there are no binding targets in the plans mentioned above neither in the legislation so far.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

There are quite some studies launched by Riga municipality to that respect aimed at finding the best solutions how to promote and prioritize this way of mobility (so, quite in development stage even if some cycling infrastructure has been established in recent years, but it is rather project-based activities).

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

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4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

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5. Does the participation of the local population play a role in shaping urban transport policy?

In recent years, the participation of local population is more and more playing the role although more with respect to local environment, development projects, but also infrastructure projects, however, less with respect to the urban transport policy. It seems thanks to the new Law on Municipalities (2022) local inhabitants become more and more active as the law introduced very clear and explicit system of involvement of the local population in the work and decision-making of a municipality through different tools, including e.g., establishment of consultative councils, entitlement to submit a collective submissions with respect to issues which are under a municipality's responsibility that could cover the issues on organizations of a municipality's transport as well. The law sets clear obligations how the submissions need to be handled.[66] Very

[65] In fact, this activity has just started (first signs are posted during April 2023). See related information below under Ch.4 on Climate noting the Low Emission Zone action plan for Riga.

[66] For example, «the municipality is obliged to collect and publish on the official website of the municipality up-to-date information on the progress and results of the collective application at least every three months» apart from informing a person representing the submission.

new idea has been established by the law on, so called, 'participation' budget, with an obligation of specific % of the municipality's budget to be dedicate for the projects of local initiatives. According to the law "the municipality uses the participatory budget to promote the involvement of the inhabitants within the development issues of the municipality." In addition, the law promotes the development of 'neighbourhood associations' providing *inter alia* the obligation to assign a coordinator (paid job) for the cooperation with such local inhabitants' organizations facilitating the involvement of the society in the decision-making of a municipality.

At this moment, I didn't discover any initiative that would have been initiated by the local inhabitants with respect to urban transport policy so far.

Author: Zaneta Mikosa

Netherlands

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

There are so many aspects of trying to make people shift towards public transportation that I hardly know where to start. Subsidies, traffic measures like circulation plans, less parking space in inner cities, introducing paid parking places, providing bus shuttles from and to the city center from (cheap) larger parking lots located closer to the highway.

Several cities have chosen to implement a local rule that (older; class 6) diesel trucks and/or busses may not enter the city center (e.g. Amsterdam; Utrecht; Rotterdam). On a more general note, we have seen that municipalities may – after careful consideration – use spatial planning to reduce the number of parking spaces in inner cities; usually a policy for people to reach the city center by public transportation (via a mobility hub) is required to substantially reduce the number of parking spaces. As far as I know there are no binding targets for the shift towards public transportation.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

In the Netherland, people go by bike and the infrastructure for cycling is very good and keeps improving (e.g. with 'bike highways' that are very broad and where cyclists always have priority over cars). City centers often provide sufficient space for pedestrians and cyclists. Sharing commercially available e-bikes / scooters is a relatively new phenomenon but very popular. Local governments / larger cities now often have policies in place to focus less on cars than in the past and stimulate shared mobility, healthy mobility (by bike) and public transport. In Groningen (6th city of the Netherlands) there is a policy document called the 'mobility vision' with the title 'Groningen: well on the way. Sustainable Urban City Plan', which can be accessed In English here.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Reducing the number of parking spaces is not always viewed positive by all and changing the possibilities to enter certain streets by car (on the basis of a traffic circulation plan) could lead to conflicts.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

For specific roads (mainly highways), train tracks and airports, there are specific norms that shall be relevant when drafting spatial plans (land use schemes). For smaller roads and roads that have a speed limit of 30 km/h less ton o rules apply. Spatial planning however remains relevant; to allow for sound spatial planning, taking noise into account is crucial. I'm sorry to say that I am unaware whether the requirements of EU-law and ECJ-case law are respected.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Yes. When policies are developed local bylaws usually provide for a right to state an opinion or a view concerning the idea to adopt a policy and concerning the draft policy. In many cases for anyone who is interested to participate.

Author: Kars de Graaf

Norway

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

Norway has only one city with a functioning metro and three cities with trams. In general, buses, regional trains and ferries are therefore the main modes of public transport. Nevertheless, the metro and trams are very important where they exist (in particular in Oslo and Bergen).

The main instruments are long-term planning, funding of infrastructure projects partly paid by road pricing, restrictions on and payment for parking, and subsidies of public transport. Local thematic and master plans set out targets for modal shifts.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Planning instruments are used actively for this purpose, but with limited effectiveness. There has been instances of local public financial support to purchase of electric bikes. There has also been instances of tax-free reimbursement for work-related use of bikes.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Safety issues are prominent. It is significantly more risky to use bike or to walk than to use public transportation or cars.

At the national level, in order to promote use of electric cars, such cars were allowed to use parts of the roads that normally have been set aside for buses and taxis. Similarly, electric cars were allowed free parking, and subsidies were available to establish charging infrastructure.

Increasingly, electric cars have become a significant competitor to public transport, which again has led to congestion. These are the main reasons why privileges have been scrapped.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

The transition to electric cars and buses has significantly reduced noise concerns.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Yes, this has become a very important issue in local elections.

Author: Ole Kristian Fauchald

Portugal

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

The EU Commission approved recently the recommendation 2023/550 of 8 March 2023 on National Support Programmes for Sustainable Urban Mobility Planning. Before that Portugal already had sustainable urban mobility plans.

On the public transport side investments in enlarging and improving the network are being made. The first instrument framing these investments is the Strategic Plan for Transport and Infrastructure (PETI3+) establishing structural reforms and investments in transport infrastructure investments to be completed by the end of the decade. This document aims to create a framework of strategic guidelines on the continuation of the reforms and a recovery of public investment, under strict criteria of financial sustainability.

The main objective of the Strategic Plan is to contribute to economic growth, supporting Portuguese companies and job creation, ensuring the competitiveness of the transport sector and its financial sustainability for Portuguese taxpayers, promoting social and territorial cohesion, ensuring mobility and accessibility of people and goods throughout the country.

For railway, there is the Railway Investment Plan which defines three priorities identified with the contribution of the stakeholders:

- International commitments, including bilateral agreements with Spain and those resulting from the Atlantic Corridor;
- Promotion of freight transport, particularly exports;
- Coordination between national ports and the main land borders with Spain;

To achieve these objectives, a financial package is available, consisting of EU funds from the Connecting Europe Facility (CEF) program, both in the general component (30-50% co-financing) and in the cohesion component (85% co-financing), as well as funds from the Portugal 2020 program (85% co-financing).

Other objectives of the Railway Investment Plan are:

1. Increasing the Competitiveness of Rail Transportation.
   - Reduction of travel times;
   - Reduction of transportation costs (€/km/container);
   - Increase in capacity (number and length of trains).
2. Improve International Connections:
   - Sines/Setúbal/Lisbon-Caia Corridor;
   - Leixões/Aveiro – Vilar Formoso Corridor;
   - Enhance the use of railways for journeys to and from national ports.
3. Create Conditions for Railway Interoperability:
   - Electrification: +480 km of electrified lines;
   - Signaling: +400 km of lines with electronic signaling;
   - Freight train length - increase to 750 m;
   - Gauge - installation of cross-ties (versatile) that allow gauge change in international corridors.

Reducing the fares has been a traditional approach in the largest cities. In Lisbon, since October 2022, the urban transport pass is free for the elderly (>65) and for the youngest (<23).

In the two main cities of Lisbon and Porto the collective public transport was subsidized by the central government, which created relative inequities.

On the private sector side several large cities are adopting traffic control measures: reducing inner city parking lots and replacing them with peripherical parks, banning diesel vehicles in certain areas, reducing speed in 10km/h less (from 50 to 40, from 30 to 20) and prohibiting any traffic at all on Saturdays and Sundays in some areas.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Non-motorized transport policy is supported mostly by planning instruments. The first one is the National Strategy for Active Cycling Mobility (https://dre.pt/dre/detalhe/resolucao-conselho-ministros/131-2019-123666113) was approved in 2019 by a resolution of the Council of Ministers and is helping to reduce congestion, improve air quality, and promote healthier and more active lifestyles.

This strategy uses numbers and graphics from the report “Cycling: the way ahead for towns and cities (by Dekoster, J., Schollaert, U. European Commission: DG Environment https://wayback.archive-it.org/12090/20151026120133/http://ec.europa.eu/environment/archives/cycling/cycling_en.pdf).

Regarding the % of population using bicycles Portugal is well below the European average:

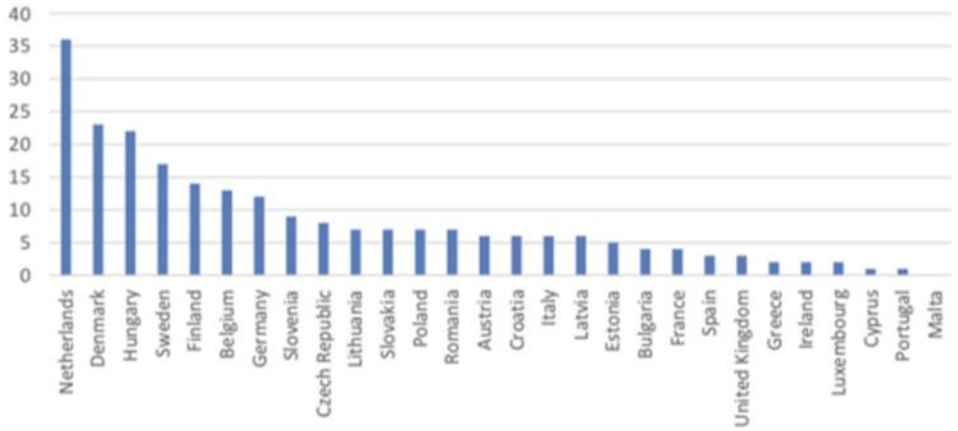


Fig.5 - Percentagem da população que usa a bicicleta como principal modo de transporte [fonte: *Eurobarómetro 422a, 2014*]

This is surprising considering the good weather conditions, no so much considering the orography of the country.

The main obstacles to a broader use of cycling are

a) infrastructures - nonexistent in most cities, and
b) culture - no tradition in the country.

As for infrastructure, the extension of the cycling network (both bike lanes and cycling paths) is reduced and should be enlarged until 2030.

Rede ciclável existente e prevista, em Portugal Continental (fonte: Fundo Ambiental / IMT, I. P., 2018)

NUTS III (CIM e AM)	Ciclovias Existentes (km)	Ciclovias Previstas (até 2023, km)	Portugal Ciclável (até 2030, km)	Rede 2030 (km)
ÁREA METROPOLIT. LISBOA	273	1 295	225	1 793
REGIÃO DE AVEIRO	249	629	42	919
OESTE	213	68	8	289
ÁREA METROPOLIT. PORTO	178	156	269	603
TERRAS DE TRÁS-OS-MONTES	175	41	8	224

However, as route selection usually considers only leisure displacements and not daily commuting, bicycles will hardly replace private transportation.

Regarding culture, cycling used to be associated with low social status, while owning a car raises the perceived social status. Luckily perception is changing and the use of bicycles is growing, mainly in cities and universities that provide the service of public shared bikes.

Regarding cycling, the goals for 2030 are

- National modal share of bicycle trips: 7.5%
- Urban modal share of bicycle trips: 10%
- Total length of bike lanes: 10,000 km
- Reduction of cyclist road accidents by 50%.

In September 2022 the Council of Minister approved a National Strategy for Active Pedestrian Mobility (ENMAP). and the National Strategy for Active Cycling Mobility, which are fundamental instruments for promoting active mobility.

Under the slogan "We Are All Pedestrians," the National Strategy for Active Pedestrian Mobility - ENMAP (https://www.consultalex.gov.pt/Portal_Consultas_Publicas_UI/DetalheConsultaPublica.aspx?Consulta_Id=270) develops action lines and creates measures to promote active pedestrian mobility at the national level for the period 2020-2030. The document is divided into four parts:

- Importance of pedestrian mobility in the current context of decarbonization and the development of pedestrian strategies in other countries, identifying transferrable ideas for the national reality.
- Vision for pedestrian mobility in Portugal and goals.
- Action plan, consisting of a set of measures grouped into action axes and aligned by strategic vectors.
- Governance and monitoring model.

This strategy was inspired by the New EU Urban Mobility Framework (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0811&from=EN)

3. *What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?*

There are conflicts between electric scooters and road transport. Electric scooters have been growingly involved in road accidents with cars and pedestrians.

There are also harsh conflicts involving Uber/Bolt/Cabify etc vehicles and taxis on the right to pick up passengers in airports, train stations or bus stations, and on the use of bus lanes.

The legal framework for «individual and paid transportation of passengers in non-identified vehicles through an electronic platform – TVDE) has changed to regulate this access and also to protect the drivers and the consumers (https://dre.pt/dre/detalhe/lei/45-2018-115991688).

There have always been conflicts regarding illegal parking, usually called salvage parking. These are conflicts between private car owners and pedestrians (parking on the sidewalk) other car owners (parking in front of garage doors) bus transport (parking in bus stops), waste collection vehicles (parking in front of the waste containers), electric car owners (parking in charging spots).

There some conflicts arising from old cars abandoned in the streets. They are parked but they are abandoned and never leave the space. In some municipalities there is a service for removing these cars, collecting them as waste, after announcements have been put in the car windows.

After the pandemia there was a conflict in some historic centers between car owners and bars, caffes, and restaurant owners on the use of roads for parking in residential areas or for outdoor terraces. The arguments were job creation, historic rights of neighbours, touristic development, public service, etc.

4. *How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?*

The EU Regulation 2018/858 of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers is observed and all the cars can only circulate if they are approved. The Directive 2014/45/EU of 3 April 2014 on periodic roadworthiness tests for motor vehicles is transposed (https://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=1762&tabela=leis) and applied.

There is a framework noise law (https://dre.pt/dre/legislacao-consolidada/decreto-lei/2007-34526375) which determines that the municipalities must approve noise plans. In these plans "sensitive areas" shall be defined to protect the citizens right to silence and rest. Sensitive areas are those areas designated for residential use, or for schools, hospitals, or similar facilities, or leisure spaces, whether existing or planned.

The plans shall be implemented through regulation which forbids the operation of noise sources during the night. A noise source is a permanent or temporary activity, equipment, structure, or infrastructure that produces harmful or annoying noise for those who live or stay in places where its effect is felt. It includes small commercial and service units intended to serve the local population, such as cafes and other dining establishments, stationery stores, and other traditional retail establishments, not allowed to operate during the nighttime (from 23 to 7).

For permanent noisy activities (including road, railway and aerial transportation) near sensitive areas or mixed areas noise prevention measures can be taken: a) Measures to reduce noise at the source (speed limits) b) Measures to reduce noise propagation (acoustic barriers) and c) Measures to reduce noise at the sensitive receiver (double-glazed windows).

In other cases, the right to silence and rest is totally disregarded. It is the case of the EIA for the new airport in Lisbon. After more than 20 years of studies to choose the better (or less bad) place to build it, the place chosen was a densely populated municipality in the outskirts of Lisbon (https://participa.pt/pt/consulta/aeroporto-do-montijo-e-respetivas-acessibilidades) where the health of 5 000 residents will be severely affected by the noise and 30 000 will be very affected. The decision has been challenged in court and a new EIA is being conducted looking for new locations.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Transport plans and projects are subject to public consultation prior to approval but citizen engagement with participation is generally quite low. The public participation during the public consultation of the National Strategy for Active Pedestrian Mobility received 45 contributions. The National Strategy for Active Cycling Mobility received 30 participations but the contribution of associations like the Portuguese Cycling Federation, the Portuguese Federation of Cycling Tourism and Bicycle Users or the Association for Urban Mobility by Bicycle were crucial.

In projects EIA, when expropriations are involved, public participation is more intense.

Sometimes the citizens only realize the changes when the construction works start and that’s when they go to court. In Coimbra this happened when the citizens realized that important urban trees were going to be cut down to allow the construction of a new tram lane (https://www.campeaoprovincias.pt/noticia/metro-mondego-diz-que-foi-apenas-suspenso-abate-de-arvores-e-obras-continuam).

In other cases there is a total disregard of public participation (as inn the case of the airport) and in other cases there is symbolic participation as in the case of a new bridge in Porto over the river Douro where the public participation platform is being used to choose the NAME of the bridge (https://participa.pt/pt/consulta/vamos-dar-nome-a-nova-ponte-sobre-o-douro)

Author: Alexandra Aragão

Slovenia

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

Slovenia enacted two comprehensive national energy climate resolutions (i.e. soft law), one until 2030 and the second until 2050. The latter (currently valid) lists lots of objectives, including to develop further **integrated public transport** (harmonization of timetables, integration of city transport, the establishment of a single/adequate operator of public passenger transport, development of shared mobility, the introduction of priority for public transport vehicles, inclusion of electricity cars), to promote sustainable transport choices in the context of travel expense accounting; etc. Some of those objectives are already in place and still need to be further developed. However, some de facto actions are nevertheless not in line with these objectives, and they are listed below under specific questions.

The strategy is, therefore, clear - how to reduce detrimental environmental impacts, especially regarding the climate change. There is a wide range of instruments in the public and private spheres. To avoid repeating myself, these instruments will be listed below under the specific questions.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

In cities, promotions to use bicycles are on the ascent. Using bikes in the cities (and also in the region, among the cities, especially with promoting e-bikes) is – looks-like- a priority in Slovenia's cities. Even concessions are awarded to the system of bike-borrowing (renting). If not the concessions, the municipalities organize the system themselves. The latter is usually a cheaper option for users. Therefore, bike renting is more prosperous in bigger cities and with fewer hills, i.e., plane relief (primarily for towns in the valleys).

Importantly in this respect, streets and roads in the cities have been newly marked for new bike tracks in the last years. New bike tracks are marked in a way to take some space from the roads intended for vehicles. These roads now must be shared with bikers. If a certain road is not wide enough (so that the tracks for cars could stay untouched), the bike tracks would nevertheless be added and are marked as a part of vehicle tracks. Bikers have priority over cars.

Consequently, the speed limits are reduced to 30 km/h on such roads. This is not true only on the streets and roads in towns (centres) but also in the suburbs. The development of the bike-infrastructure is in progress, also with the help of EU funding.

Bike renting systems is also part of Park & Ride systems. P&R systems are also on the rise. The system allows travelling from the city suburb or the very line of the city's broader centre, parking cars there and then continuing to the city centre or other parts of the town with a bike (not only with buses as the previous only solution).

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Probably the Slovenian situation is specific. We only have a few different transport options in the cities. Our cities do not allow the construction of various surface infrastructures without demolishing buildings, which are often also protected as historical and cultural objects (buildings). Underground solutions or underground infrastructure are probably not economically justified, given the small size of the cities. Therefore, urban transport solutions are less ambitious and mainly involve a combination of several different methods: from buses that use natural gas or are electric, closing parts of cities for other transport (usually city centres), enabling the rental of bicycles or scooters, park & ride systems, bus services with smaller buses but with more frequent time-table options, combined ticket for all possible modes of public transport, etc.); Future plans are underway; i.e. introduction of special taxes for entering city centres with motor vehicles, mandatory paid parking spaces even if it is private land, etc. Especially the last-mentioned measures cause distress among residents, workers, and daily economic migrants. All of those mentioned would prefer a better functioning public transport scheme and more economically accessible modes of transport within public networks.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

Mainly by reducing the speed. Another method is anti-noise fences/noise reduction fences or noise barriers, which are used along the roads in the cities, not only along highways. As far as I know, the EU law requirements are respected. The problem Slovene cities face relates to PM_{10}.

5. Does the participation of the local population play a role in shaping urban transport policy?

Regulating urban transport is also part of spatial planning rules. The spatial planning rules apply when new solutions demand newly built infrastructure; the general acts for spatial planning are necessary. If there is no new infrastructure or change of the existing one, the planning acts are unnecessary. Such solutions are, hence, usually adopted without any general-public participation. Sometimes the municipalities apply tender procedures to seek solutions for better organization of urban transport. This is, however, not the wider general public but usually a chance for experts to be heard.

Another way is the so-called "participative budget": a part of municipalities' budgets is reserved for the general public's ideas. The path gives a chance to residents to propose solutions (bottom-up). These often include transport issues, noise etc.

When it comes to general planning acts, as mentioned at the beginning of the answer, the general public participates, notwithstanding whether SEA is necessary.

Author: Rajko Knez

Spain

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities?

Especially in big cities, the shift to public transport is a dominant topic of the current local-political landscape. Taking into account the size of the country and the high number of local authorities, there are endless initiatives, policy proposals, plans and strategies to stimulate the use of public transport. Therefore, on the public transport side it is possible to note an expansion of public transportation lines (for instance, the subway network in Madrid); a permanent increase in infrastructure investment (for instance, new High Speed train lines, "AVE", connecting many cities) programs for reduced fares, and even free or reduced transport passes. For instance, in late 2022 the national railway company (RENFE) launched an ambitious program of transport passes for medium distance trains with a 50% discount, or even absolutely free passes for frequent travelers travelling between two fixed cities (for instance, Madrid-Zamora).

On the private transport side, the 2021 national Climate Change and Energy Transition Act (hereinafter, "CCA") provides (art.14) that "the necessary measures will be adopted, in accordance with European Union regulations, so that new passenger cars and light commercial vehicles, gradually reduce their emissions, so that no later than the year 2040 they will be vehicles with emissions of 0 gr of CO2 per km". This provision, naturally, has been surpassed by the 2035 ban on combustion cars, recently adopted by the Union.

On the other hand, the space for private transport is in most cities continuously reduced due to plans and works for the "pedestrianization" of streets, especially in the historical center (Madrid, Barcelona, etc.). This, of course, induce further traffic congestions…

Road pricing is not in practice (at least to our knowledge), but many cities have implemented speed reductions in the inner city (such as Madrid and Barcelona). Some of them, by the way, are absolutely ridiculous or unfeasible (like the under-20km/h speed limit).

The problem in major municipalities such as Madrid and Barcelona is that, since housing is outrageously expensive in the city, millions live in the suburbs and need to commute every day to work in the center. However, the public transport systems are not excellent and face frequent disruptions (technical problems, strikes, bad design). Consequently, the only alternative for many commuters is the private car.

At present, there are no there binding targets for the modal shift, but governmental recommendations or policy objectives.

A final reference should be made to what constitutes probably the key governmental instrument in this area: the low emissions zones ("zonas de bajas emisiones" or ZBE). As a consequence of the European directives on air pollution (which is mainly a "city" problem) most big Spanish cities are implementing these areas, where traffic is strictly reduced or even forbidden for non-residents.

The legal framework for these instruments are the State 34/2007, of November 15, 2007, on air quality and atmospheric protection, and some implementing regulations, the most important being the Royal Decree 1052/2022, of December 27, 2002, setting precise rules on low emission zones. In these areas, the municipality wants to attain some air quality objectives and can reduce, limit or even prohibit the entrance of the cars of the non-residents (they are obliged

to park their cars in underground public parking areas). There are basically two types of "ZBE", regular ones and ZBE of special protection.

In principle, all municipalities having more than 50,000 inhabitants (and those with smaller populations in certain cases) must approve these zones. In Spain there are 149 cities with more than 50,000 inhabitants, and therefore they are obliged to implement their corresponding "ZBE". However, as of January 1, 2023, only 13 of them declared that they were ready to implement these "ZBE" immediately, and in reality only two (Madrid and Barcelona) have them fully operational.

In case of violations, the drivers may be imposed outrageously high fines (200 euros for a "non-authorised" entry in the area, even if it is for a couple of seconds). This is a massive source of income for municipalities. For instance, in 2022 the city of Madrid collected roughly 100 million euros (!) in fines. For these reasons, these "zones" are seen by many as a mere instrument to get monies for the city hall.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Again, most big Spanish cities (Madrid, Barcelona, Seville, Bilbao) have incepted and implemented non-motorized transports in cities, predominantly through local schemes of public bikes, that citizens may use (not free). The scooters are allowed, but their proliferation is causing many problems for pedestrians (frequent collisions and accidents) and for traffic regulations. On the other hand, many cities have build bike lanes, but many of them are badly designed, disconnected or dangerous for the cyclists, and many accidents do occur. It is hard to "introduce" ex novo bike lanes in cities that have not grown with them, or without a culture of city cycling.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

Conflicts arise frequently when the local councils adopt and implement plans and initiatives on transport policy. It is hard to reconcile the needs, the wishes and the expectations of all stakeholders, and the need of economic activity and the environment. As a rule, there are no local referendums held on the matter. Consequently, policy issues, plans and regulations are adopted by the mayor and his team in the local council.

In some cities, transport problems have been discussed and settle through the decision-making process of the so-called "Local Agenda 21", but this movement, very popular some years ago, is in our view fading out lately.

At least to our knowledge, we are not aware of wide, ample and comprehensive processes of negotiations involving citizens and affected interests on those issues. However, now that the local elections are approaching (they are scheduled for May the 28th 2023), there are plenty of electoral promises on the matter…

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

When it comes to municipal transport, noise protection is mainly handled through:
(A) Setting of distances: the 1988 State Act on Roads sets minimum distances between a road and residential buildings. Moreover, municipalities may approve local and zoning regulations

establishing minimum distances between the roads, high capacity streets and the residential buildings;

(B) acoustic planning. The State Act 3/2003, of November 17, 2003, incorporated in Spain the Directive 2002/49 of the European Parliament and the Council, of June 25, 2002, on the assessment and management of environmental noise (several autonomous communities had already approved provisions in this area). For the stake of this questionnaire, the most important aspect of this legal provision is undoubtedly the so-called "noise maps". These are strategic documents to be drawn up for each of the major railways, major airports and municipalities with a population of more than 100,000 inhabitants. These noise maps are a tool that allows the municipality to know the actual and global situation of noise pollution in the city (noisiest areas and places, time slots with the highest noise pollution, average noise pressure by neighborhoods, etc.). This should then allow measures to be taken with regard to noise pollution, through action plans and other corrective measures.
Noise maps should delimit a number of "noise areas" and should contain information on the noise values in each of them (point and average), as well as the limit values and noise quality objectives to be pursued. These objectives may have been set as a part of the local Sustainability Strategy of the municipality (for example as a result of the implementation of a Local Agenda 21). These maps were to be drawn up before June 30, 2007, in the case of municipalities with more than 250,000 inhabitants, and before June 30, 2012 for those with more than 100,000 inhabitants. The truth is that at the expiration of these deadlines, very few municipalities had complied with this obligation.
Furthermore, the 2003 Noise Act provides for "noise easement zones" to be designated and noise pollution action plans may protect quiet areas in agglomerations and in the open countryside from increased ambient noise.

(C) Local regulations: the integration of the requirements derived from the fight against noise is also the subject of regular treatment to a greater or lesser degree in municipal ordinances on noise protection, that every city or town is empowered to enact. It is impossible to establish a homogeneous content of them, given the disparity of situations. For instance, the model municipal ordinance on noise protection standards for the municipalities of Castilla-La Mancha Region, establishes several techniques that have an obvious impact on the entire set of municipal urban planning and management. On the one hand these local ordinances set the obligation to "classify for acoustic purposes" all the local urban land (suelo “urbano”) and the land planned for development (suelo “urbanizable”) in different zones, which are called "acoustic areas". In each of these acoustic areas preference must be given to specific uses of the land (technique of urban land classification or allotment). Thus, in an area of “type I” (areas of silence), preference should be given to buildings devote to health and social welfare, while “type IV” (high noise areas) should be reserved for industries and the like.
This technique constitutes a real zoning of the land based on ambient noise considerations. On the other hand, a set of maximum sound levels should be established in each of these areas (in average magnitudes), both at night and during the day, which should set the tone for the subsequent urban planning and management decisions of the municipalities (for example, average noise of 55 decibels during the day in the slightly noisy area, and 45 decibels at night).

(D) *Interaction between land use planning and noise protection*

A State regulation (Royal Decree 1367/2007) supplemented the 2003 State Act on Noise. Namely, it introduced additional requirements in the field of urban planning: all spatial planning instruments must explicitly include "the delimitation corresponding to the acoustic zoning of the area of action" (art. 13.1). In addition, any modification, revision or adaptation of the general planning must review the acoustic zoning (art. 13.2).
As has been shown so far, the fight against noise has been decisively incorporated into the urban planning scene, reshaping it as a technique at the service of environmental protection and sustainability. The influence of the municipal fight against noise is projected on urban planning in many directions. For example, when approving, modifying or revising their urban development plans, municipalities can set up quiet zones in which certain noise pressure levels must not be exceeded. This, therefore, will affect the urban classification of the plots included in those spatial areas, since they will not be able to host activities producing excessive noise (e.g., large road arteries, etc.). Conversely, in those areas of urban land where the "noise pressure indexes" established as a local objective are actually exceeded, preference may be given to building that do not generate excessive ambient noise (green zones), so as to contribute to lowering the average sound pressure of the area in question.
Finally, when a City Council wants to approve urban plans that allow residential developments near major roads (highways, high-capacity roads), it may well decide to move the building line away from the vicinity of the road, in order to establish real noise buffer zones, instead of just respecting the zoning easements imposed by the abovementioned State Roads Act of 1988.

(E) Finally, local governments also fight the ambient noise by setting and building infrastructures and techniques such as acoustic screens (for highways and high capacity roads)

5. Does the participation of the local population play a role in shaping urban transport policy?

The applicable laws and regulations do provide for public participation, indeed, but in general it is not very developed, or not respected by the local authorities. For instance, in 2020 the Regional High administrative court of Madrid annulled the 2018 local ordinance of the city of Madrid on sustainable mobility and establishing a low emissions area ("Madrid Central"). The court annulled the regulation on the grounds, *inter alia*, that no public participation was held during the approval procedure (ruling of 27 July 2020). The city council appealed to the Supreme Court, but the appeal was not admitted. The local council then approved a new regulation on the same topic (the one in force currently) and opened a sort of public participation, where the people was constrained to make crosses on a short, pre-established digital questionnaire…

Author: Angel M. Moreno and Agustín García Ureta

Sweden

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

As I live in Stockholm, my examples come from here.

Stockholm city has about 900,000 inhabitants, while the region keeps 1,6 million. In Stockholm, the transportation system is to a large extent privatized, although the overall responsibility lies in the hands of the region and the publicly owned regional company SL. Over the last 50 years, there has been very little expansion of the traffic system in Stockholm and the infrastructure is rather poorly maintained. The last expansion took place some 20 years ago when a new tram line ("Tvärbanan") was built and subsequently extended. Congestion fees were introduced in 2007 after a referendum in the region, where a slim majority in the city was positive. The income from the congestion fees have been used to build the ring roads in order to lower the pressure from cars in the city. Both the building of the Tvärbanan and the congestion fees was politically controversial. As of today, all parties have realized that the city need to invest in the infrastructure to enable the city to grow and prosper (see below). Decisions have now been taken to expand the Metro to the municipalities east of the city, and the construction is on its way. It has also been decided to extend the tram lines to the south.

As for other means, the fees for public transportation are rather high in Stockholm (about €100 for a 30 days card, €4 for a single ride). Electric bikes are finally available after years of legal challenges in the public procurement procedure. On the other hand, the reduction of space for car traffic and parking is not very visible and the tax system promotes the use of private cars. In addition, the new conservative government strongly opposes the use of biofuels beyond what is obligatory according to EU law. In addition, we may expect a lowering on the taxes on traditional fuels, something which obviously will have an effect on the driving of private cars, also in Stockholm.

To this, it is noteworthy that the segmentation of the traffic system through the privatization creates problems of its own, not least concerning the maintenance of the railroads. For example, it is profitable for the private operators to drive the trains with old equipment (pantographs), whereas the cost for the reparation of the infrastructure (contact line) rests upon somebody else, that is the public purse. Asa result, we see a lot of disturbances in the railroad traffic due to destroyed electric cables.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Over the last 20 years, the Geen Party in the region has been advocating non-motorized transports in the city. As the Party has been part of the local government for some periods, some result has been achieved, such as the expansion of bike roads and introduction of public City bikes or Electric bikes. The result is however not only a success story as the conflicts between the different transportation modes are tangible. As a private reflection, I may add that the atmosphere between pedestrians, bikes and cars is rather aggressive.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

The ordinary conflicts concerning space and money, I would say. The political parties in Stockholm are all directing their intention upon the middle-class voters in the surrounding areas, outside the city centre. In order not to provoke these groups, the mainstream politics have become rather cautious and quite traditional. Evidently, we will see changes – not least due to pressure from EU law – but they will come slowly.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

The city has developed a "Stockholm model" for the building of houses close to roads and other noisy transportation infrastructure. This model uses somewhat different noise limit values and different methods for the measuring than the generally applicable Ordinance (2015:216) on noise from traffic in developed areas, although it has so far been accepted on judicial review. In my view (although based on serendipity observations), the land and environmental courts have showed a wide acceptance of the needs for development of infrastructural projects when balancing against concerns for the environment and inhabitants in the surrounding areas as regards noise disturbances. However, I do not know of any conflict with EU law on this area, in contrast to the limit values for ambient air (where we have several infringement cases from the EU, also concerning the city environment od Stockholm).

5. Does the participation of the local population play a role in shaping urban transport policy?

Not officially, but of course the politicians are sensitive about the pressure from the public. The conflicts concerning the staffing of the commuter trains and the from time to time malfunctioning of the trains between Stockholm and Uppsala (normally 40 minutes) also creates strong protests from the surrounding municipalities…

Author: Jan Darpö

Switzerland

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

In most if not all Swiss cities, a strong political will to enhance the public transportation system and to increase the respective offer can be observed. Therefore considerable financial means are invested in this domain: 1. Municipalities regularly subsidize the public transportation undertakings 2. The Confederations subsidies half of the costs for regional public transport not covered by ticket earnings (the Cantons cover the second half). 3. Infrastructure projects for public transportation in cities (tramways, new bus-lines, subway in Lausanne, underground urban line in Zürich) have seen a steep increase over the last years. 4. In the framework of the "suburban transport program" (*Programm Agglomerationsverkehr*) the Confederation designates a set of promising infrastructure projects by means of a beauty contest and financially supports such projects. These programs mostly relate to public transportation and to slow traffic such as pedestrian and bicycle traffic. According to a recent impact analysis particularly measures related to public transportation (larger agglomerations) and slow traffic (smaller agglomerations) have significantly contributed to reducing the modal split of individual motorized traffic.

At the same time, a general policy of reducing space for motorized traffic (creation of pedestrian zones, mainly in the 1980ies and 1990ies; reduction of parking spaces; in some cases reduction

of motor-lanes etc.) has possibly also contributed to a slight reduction of motorized traffic in the urban context.

The modal spilt of motorized individual traffic (measured in ratio of daily distances) is currently (2017) around 66.4 % in agglomerations, ranging from 59.3 % in larger to around 67 % in smaller agglomerations and has been slightly reduced in recent years.

As for the targets until 2040: On average cities aim at a reduction of the modal split of motorized individual traffic to around 54 %, larger agglomerations targeting around 49 %, while middle-sized agglomerations on average aim at around 59 %. These targets are usually set in the context of a planning process and thus do not achieve legally binding value.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Generally the promotion of non-motorized transport is implemented by means of an enhancement of infrastructure such as separate bike lanes, a network of designated speed bike lanes, bicycle parking spaces (at trains stations and elsewhere) or events for cycling culture. Zurich is currently constructing a bike-tunnel crossing below the main train station (ironically the tunnel was planned as a high-way tunnel in the 1970ies). The city of Bern – and other cities in Switzerland – has recently implemented a rental system for bicycles offering bikes at more than 200 locations, a project which turned out to be quite successful. The city also has the objective to become the cycling-capital ("Velohauptstadt").

A (private) association supported by the Confederation and larger municipalities publishes a ranking of the most attractive cycling cities (smaller municipalities usually rank first). Providing them with a further to foster cycling within the municipalities.

3. *What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?*

I would like to point to three out of many examples of such conflicts: (i) Federal law foresees the option of establishing speed 20 zones in residential areas (so called meeting zones [*Begegnungszonen*]; cf. art. 22*b* Ordinance on Signalisation). In the city of Bern, more than 120 such zones can be counted. In some cases there is opposition against the establishment of such zones and the conflict is taken to court (currently three projects in Bern are pending), sometimes up to the Federal Tribunal (such as FT, decision 1C_558/2019 of July 8, 2020). (ii) Similar conflicts arise with regard to the reduction of public parking spaces. In a recent decision rendered by the Administrative Court of Zurich, the reduction of parking spaces in the context of the establishment of high-speed cycling lanes was accepted. The Court held that the planning authorities have to be given a large margin of appreciation in this respect. (iii.) A third area of discussion is the issue of removing lanes for motorized traffic. An approach currently implemented in the city of Zurich with regard to one of the main axes into the city is to foresee a testing regime with a reduction of lanes, in order to collect data for a possible permanent reduction of lanes. However, there is also quite some opposition to this project, a petition "against artificial traffic jams" was signed by more than ten thousand people.

In general it can be said that the discussion is mainly fought in political debate and by means of direct democracy, but the most virulent cases are also taken to the courts, where the planning authorities however often prevail due to the margin of appreciation they are given.

4. *How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?*

Noise from road traffic remains a considerable problem in Switzerland. According to a study from 2020, more than 4 billion francs have been invested in noise remediation since 1985. Another 1.7 billion Swiss francs should still be invested in order to achieve the remediation objectives. The standards to be achieved are set by federal law, yet the implementation as far as local roads are concerned is to be done by cantonal and local authorities. As the deadline for noise remediation set by federal law was – again – not met in 2018, an NGO launched a pool of lawsuits with the objective of taking a number of pilot cases to the Federal Tribunal.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

Very much so. The establishment of speed 20 zones often requires the participation of the local population. In the city Bern for instance, at least fifty percent of the population living along the streets concerned have to agree explicitly in order for the establishment of the zone to take place.

Quite some current projects with regard to reshaping city-transport actually stem from popular initiatives. The provision concerning the promotion of cycle-paths in the Federal Constitution was implemented due to a popular initiative on the federal level (by means of a counter proposal). In the city of Zurich for instance, there were three local popular initiatives concerning cycle paths (popular initiative for secure cycling-routes in 2020; cycling-initiative in 2015 and popular initiative for the promotion of public transportation, foot and cycling traffic in 2011. In all three cases either the initiative or the counter-proposal were accepted or implemented.

Author: Markus Kern

Turkey

1. On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?

The policy regarding the shift to non-motorized and public transport is adopted and promoted according to the ‘sustainable urban transportation approach” and main vision such as “livable and sustainable value to life” that are adopted in the relevant national legislation[67] as well as policy and planning documents including action plans primarily taking into account the climate mitigation measures[68]. Five strategic goals (development of the intelligence transportation infrastructure -ITS, creating a livable environment and conscious society, ensuring sustainable smart mobility, ensuring road and driving safety, ensuring data sharing and security) are established under the action plan regarding national intelligent strategy document. Measures taken to apply these goals are mostly related to the public transport side. Additionally, “priority must be given to public transport and pedestrians on the preparation of all landscaping plans”

[67] See Annex 1.
[68] See. Annex 2.

under the By-law on Spatial Plans Construction[69]". In practice, these goals and rules are seriously considered mainly by the major metropolitan municipalities (MM) that are governed by the main opposition party for almost four years. In this context, MM increase the bus and metro lines as well as the number of modern-smart- buses; create measurement, information, control and guidance systems; integrate all modes of transport through providing efficient links; provide a single payment system etc.

On the private transport side, there is a by-law on increasing the energy efficiency on transportation[70]. It includes several measures regarding reduction of cars in the city centers. Road pricing and prohibition and/or limitation of private cars is accepted for the "low emission zones" that will be determined by municipalities. However, in practice the current measures are very limited such as the reduction of space through increasing public bus lines particularly on the main routes only in a few cities. There are suggestions in some urban climate action plans regarding road pricing. For instance, road pricing is adopted for certain days or certain hours of a day in the determined traffic routes under the Ankara climate action plan. This plan also provides priority entrance for electric cars' users in certain areas, and this can be regarded as an indirect measure to discourage the use of other private cars[71].

As to binding targets in terms of dates for the modal shift, there is no mandatory national legal provision regarding certain dates. Most soft law documents cite the year 2023. Therefore, in practice the issue mostly depends on the actions of each municipality regarding the implementation of all their plans (landscaping, implementation, transportation, climate action and green city plans).

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

Promotion of non-motorized transport is adopted and carried out according to the above-mentioned approach under the legislation, strategy and planning documents concerning several areas such as to increase energy efficiency and to combat climate change apart from transportation, urban and spatial plans (Annex I and Annex II). The above- mentioned by-law on the increasing of energy efficiency of transportation covers provisions regarding promoting the use of bicycles and there is a by-law on the bicycle routes[72]. Additionally, the Ministry of Environment, Urbanization and Climate Change published a route network master plan for bicycles[73]. The main goal is to spread environmentally friendly bicycles transportation route in all cities. In this context the by-law on e-scooter has been recently promulgated in the official gazette[74]. Municipalities are entitled and held responsible to make relevant adjustments (arranging special roads and parking lots, establishing particular lending mechanisms) to

[69] Mekansal Planlama Yapım Yönetmeliği. Resmi Gazete. 14.6.2014. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=19788&MevzuatTur=7&MevzuatTertip=5
[70] Ulaşımda Enerji Verimliliğinin Arttırılmasına İlişkin Usul ve Esaslar Hakkında Yönetmelik. Art. 7. Resmi Gazete 2.5.2019. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=31464&MevzuatTur=7&MevzuatTertip=5
[71] Ankara İli Yerel İklim Değişikliği Eylem Planı p.64-67. https://www.ankara.bel.tr/files/2022/06/22/0b663954d523bfee1d1e1d5fa66a082f.pdf
[72] Bisiklet Yolları Yönetmeliği. Resmi Gazete 12.12.2019. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=34025&MevzuatTur=7&MevzuatTertip=5
[73] Türkiye Bisiklet Yolu Ağı Master Planı. https://webdosya.csb.gov.tr/db/cygm/icerikler/turk-ye-b-s-klet-agi-c-lt1-20211202125047.
[74] Elektrikli Skuter Yönetmeliği. Resmi Gazete 14.04.2021. https://www.resmigazete.gov.tr/eskiler/2021/04/20210414-3.htm

encourage the use of bicycles and e-bikes. Almost all the plans prepared by municipalities contain measures to ensure the use of bicycle.

Ankara Metropolitan Municipality, apart from promoting the use of bicycles, has also constructed a teleferic system as a link for certain metro lines. Currently, it transports 2400 people a day.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

No available official data on the issue.

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

Noise pollution is handled under two by-laws. One is related to the noise emissions and exhaust systems of motorized vehicles[75] while the other is related to the control of environmental noise[76]. The former transposed the related EU directive (70/157/EEC) and regulates "allowable noise level". The latter which has been recently promulgated as a replacement of the previous one contains only one short provision with regard to transportation noise. It regulates noise limit values for day, evening and night. It prohibits both the changes on the noise decreasing equipment in vehicles and the use of noisy tools inside and top of the vehicles unless necessary. Unlike the previous by-law on environmental noise dated 4.6.2010 and prepared taking fully into account the EU noise directive, this new by law is a framework document prepared to establish "a special noise management system for each city". Therefore, it entitles both the municipalities and environment directorates in the cities to regulate the details through the preparation of strategic noise protection maps for each city. Thus, it is unlikely to determine its compatibility with EU law.

5. Does the participation of the local population play a role in shaping urban transport policy?

Public participation and "participatory governance" is adopted as an important vision and principle in all related soft law documents mentioned in the Annex 2. This principle must be legally considered during the preparation of all spatial plans including the urban plans. Additionally, legislation relating to municipalities also covers provisions with regard to taking the opinion of the local residents. For instance, promoting public participation has been cited among the duties of city conseils under the By-law on City Conseil[77]. However, this by-law does not contain either obligatory detailed provisions on the issue or particular rule concerning public transportation. Thus, in practice, participation of local population depends on whether and to what extent the incumbent mayors use their discretionary powers on the issue. Metropolitan municipalities governed by the main opposition party are very enthusiastic to receive the public opinion since they governed under the principles of participation and environmentalism that are cited also in the all-relevant documents prepared by them. For

[75] Motorlu Araçların Gürültü Emisyonları ve Egzoz Sistemleri ile İlgili Tip Onayı Yönetmeliği. Resmi Gazete, 30.11.2000. www.resmigazete.gov.tr.
[76] Çevresel Gürültü Kontrol Yönetmeliği. Resmi Gazete, 30.11.2022. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39864&MevzuatTur=7&MevzuatTertip=5
[77] Kent Konseyi Yönetmeliği. Resmi Gazete, 08.10.2006. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=10687&MevzuatTur=7&MevzuatTertip=5

instance, İstanbul MM prepared a guide on participatory planning models for İstanbul[78]. In Ankara, the mentioned principles are cited as the main principles and values[79]. As a consequence, residents have been invited to give their opinions regarding several issues such as public transportation modes (buses and metros) as well as lines through internet and mobile phones.

Author: Nükhet Yılmaz Turgut

United Kingdom

1. *On the basis of which strategies and (predominantly) with which instruments is the shift to public transport promoted in cities (on the public transport side: expansion of services, investment in infrastructure, reduced fares, etc.; on the private transport side: reduction of space for private transport, implementation of the EU ban of combustion vehicles, speed reductions, road pricing, reduction of parking zones, etc.)? Are there (binding) targets for the modal shift?*

One of the key measures to shift from car to other types of transportation, or cleaner vehicles include the so-called Low Emission Zones (LEZ) and Ultra Low Emissions Zones (ULEZ). These are introduced through specific legislation that applies to London (the Greater London Authority Act and the Local Transport Act 2008), England and Wales (the Transport Act 2000 and Local Transport Act 2008) and Scotland (Transport (Scotland Act 2001)).

Essentially, these are road charges, often applied in dense urban areas with the rationale of improving air quality and help with congestion. They do so either by targeting specific vehicles that emit certain levels of fine particulate matter and nitrogen dioxide or, as in the case in London, applying a comprehensive charge. To drive in these areas without paying a daily charge, a vehicle must meet certain emissions standards that limit the amount of particulate matter coming from its exhaust. If a vehicle does not meet the LEZ emissions standards, it can still be driven within the LEZ but by paying a daily charge. The zones are enforced by cameras recognizing number plates and whether the car is compliant. The incentive is thus either to change transportation mode, or choose cleaner vehicles. A 2023 peer-reviewed report[80] indicates dramatic pollution reductions achieved by the London ULEZ - in Central London where the ULEZ was introduced in 2019 NO2 levels have reduced by almost 50%, and some 21% in Inner London where the ULEZ was extended in 2021. The Mayor of London intends to extend the ULEZ to cover the whole of London in August 2023.

Commitment to decarbonised transport exists at both local and national level. Oxfordshire City Council, for example, adopted in July 2022 the Local Transport and Connectivity Plan[81] that includes targets of reducing 1 in 4 car trips by 2030, and deliver a net zero transport network that it aims to achieve through a range of policies, including Low Traffic Neighbourhoods (LTNs) outlined below.

[78] Katılımcı Planlama. İstanbul İçin Model Önerisi. https://iqelafn0f0xw.merlincdn.net/wp-content/uploads/2020/11/KATILIM.pdf.
[79] EGO Genel Müdürlüğü 2020-2024 Stratejik Plan.p. 115. https://m.ego.gov.tr/dosya/indir/18705.pdf
[80] Mayor of London (2023) *Inner London Ultra Low Emission One Year Report (*Feb 2023)
[81] https://www.oxfordshire.gov.uk/residents/roads-and-transport/connecting-oxfordshire/ltcp.

At the national level, in 2021, the Government published its strategy on 'Decarbonising Transport: A Better, Greener Britain',[82] which is heavily targets-based and geared towards reaching a net zero target by 2050 – transportation that is difficult to decarbonise (eg aviation) is meant to help achieve climate neutrality through offsetting.

2. Does a policy exist to promote non-motorized transport in cities (pedestrians, cycling, e-bikes etc.)? If yes, can you give a few instruments or examples?

There is a variety of different policies in place promoting non-motorized transport in cities – two high-profile examples which will be mentioned here, and which are relevant in discussing conflicts that such policies have given rise to below.

One is the creation of 'cycle roads' on major road, the most prominent example being London's 'cycle superhighway' which, anyone visiting the Thames Embankment recently is bound to have seen. This bike track takes up one lane of a four-lane road in central London. The idea behind it was to promote cycling and making it a safe alternative to motorised vehicles. It has been a hugely successful project – recent figures shows that the one lane carries more traffic than the other three lanes put together.

Another, perhaps more general approach to promoting non-motorised vehicles includes the creation of so-called 'Low traffic neighbourhoods' (LTN). In short, these are bordered by main roads carrying buses, lorries and non-local traffic and where 'through' motor vehicle traffic is discouraged or removed. The aim is to get the passing traffic down but the broader ambition is by doing so, to reduce motor traffic levels overall and make neighbourhoods safer, quieter, and also more inviting for cyclists. Such neighbourhoods have been trialled in cities with heavy road traffic across the country. In Oxford, for example, such schemes have been accompanied by so called 'traffic filters' which are not physical barriers but time restrictions aimed to reduce the number of cars in city. More precisely, a car cannot drive through the designated road without a permit and such permits are issued on an annual basis (100/year). Failure to comply is issued with penalties.

The official Highway Code was amended in 2022 to give more rights to cyclists and pedestrians over motor vehicle, both in. urban and non-urban areas.. Cyclists no longer are advised to keep to close to the kerb but are told to ride no less than half a metre from the edge. Motorists overtaking cyclists must leave at least 1.5 metres of space. Pedestrians at designated pedestrian crossings now have right of way while they are waiting on the pavement to cross (before they had to step on the crossing to do so). Breach of the High Code is a criminal offence.

3. What conflicts typically arise between the demands of different transportation modes when it comes to local transport policy? How are they resolved?

The creation of dedicated cycle roads alongside motorised transport has been heavily challenged, in particular by the Licensed Taxi Drivers' Association (LTDA) which has mounted a number of (most unsuccessful) legal challenges to new cycleways. In one recent case the Association argued that two separate lanes for cyclists, planned on a particularly busy London road 'would take up space, causing disruption' and that it required planning permission. The

[82] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf

judge Mrs Justice Patterson, however, rejected the application on the basis that such bike lanes are 'works of improvement' and as such, are not subject to the planning regime.

The current creation of Low Traffic Neighbourhoods (LNTs) in the city Oxford, in particular, has led to what could be described as 'climate wars' between local property owners, whose property values are seen to increase thanks to LNTs and local businesses that argue that LNTs have ruined their business. The latter in particular often draw the link between these climate measures and authoritarian rule and reports have found that the far right is trying to infiltrate the demonstration and local uproar.[83]

4. How is noise protection handled when it comes to municipal transport? Are the requirements of EU-law and ECJ-case law respected?

There are no specific limits in law on noise from roads, though individual vehicles must comply with relevant vehicle noise limits. Enforcement of such standards is problematically, but in 2022 the Government published results of using acoustic cameras for enforcement similar to speed cameras. The technology has potential though is still not yet perfected. Noise barriers may be installed where new roads are being built but there no specific requirements to do so.

Where noise from new roads exceeds specific limits, householders may be entitled to noise insulation grants, and they may be entitled to compensation for reduction of values in property (Land Compensation Act 1973). The provisions of the Environmental Noise Directive were implemented under the Environmental Noise(England) Regs 2006. Noise maps were undertaken in 2007, 2012, and 2017. Where Noise Important Areas where noise from existing roads is impacting on people, and provided extra funds for noise insulation. At present there are no indications whether these basic requirements from the Noise Directive will continue post Brexit, although the Government has indicated that all major EU environmental requirements will continue.

5. *Does the participation of the local population play a role in shaping urban transport policy?*

The standard speed limit in urban areas has long been 30 miles per hour (48 kph) but in recent years local authorities are increasingly introducing a much lower limit of 20 mph, following legislation in 1999 giving them the power to do so. Around a third of London streets are now subject to this lower speed limit. Low speed limits are seen to address a number of policy areas including safety, environmental, encouragement of walking and cycling etc.

A 2018 report from the Department of Transport was the first major study to evaluate the effects of the 20 mph limit in a range of case studies across the country.[84] The introduction of 20mph speed limits on roads involves extensive public consultation that saw the limit being supported by the majority of residents and drivers. Following the speed limit introduction, it has been reported that there has been a small reduction in average (median) speed - less than 1mph – and vehicles travelling at higher speeds before the introduction of the 20mph limit have reduced their speed more than those already travelling at lower speeds.

Author: Sanja Bogojevic with Richard Macrory

[83] Ben Quinn, 'Far right trying to infiltrate UK's low traffic protests, campaigners warn' The Guardian (24 February 2023).
[84] Dept of Transport (2018). *20 mph Research Study*

II. Urban Biodiversity and Heat Management

Biodiversity is under considerable pressure also in the urban context, as the impacts of settlements, industry and commerce, as well as the circumstances of modern life are often diametrically opposed to the interests of diverse and rich habitats for fauna and flora. This development correlates with an accentuation of the heat island effect in cites, which is caused by the lack of green spaces, absorption of solar radiation by the many sealed surfaces, restricted wind circulation due to dense development, as well as by excess heat from industry and traffic. Due to the interdependence of green spaces and heat, measures oriented at promoting biodiversity are likely to also result in the reduction of the heat island effect.

Seen from this perspective, biodiversity in agglomerations can constitute an important factor not only when it comes to the interests of nature, but also with regard to the health, the well-being and the quality of life of inhabitants.

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

8. *How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?*

9. *What instruments are in place in order to adequately handle heat management?*

10. *Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?*

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

Austria

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

Since 1991, the size, condition and development of green spaces and biodiversity in Vienna's urban area is monitored. The percentage area of tree canopy, shrub and meadow areas, built-up, sealed and unsealed areas is mapped and the distribution of habitats (biotope types) issurveyed by means of selective, areal mapping.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

Arten- und Biotopschutzprogramm,[85] based on § 15 Vienna Nature Protection Law.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

There is a publicly accessible heat map for Vienna.[86]

The Vienna Heat Action Plan (Wiener Hitzeaktionsplan)[87] analyses the situation and possible developments and identifies possible counter measures, such as public cooling zones, additional drinking fountains, financial incentives for external blinds etc.

9. What instruments are in place in order to adequately handle heat management?

See answer to question 8.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

No answer provided.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

City Nature Network: cooperation between Bratislava and Vienna to protect and promote urban nature.[88]

The City of Vienna - Environmental Protection department subsidises façade greening up to a maximum of 5,000 euros.

[85] https://www.wien.gv.at/umweltschutz/naturschutz/biotop/netzwerk.html#:~:text=Das%20Netzwerk%20Natur%20hat%20eine,festgehalten%20(Monitoring%20und% (27.04.2023).
[86] https://www.wien.gv.at/stadtentwicklung/energie/hitzekarte.html (27.04.2023).
[87] https://www.digital.wienbibliothek.at/wbrup/download/pdf/3955617?originalFilename=true (27.04.2023).
[88] https://en.city-nature.eu/facts (27.04.2023).

The City of Vienna has focused on promoting animals living on buildings (such as birds breeding on facades). This is especially relevant for renovation and insulation projects.[89] initiatives to protect species

Author: Verena Madner

Belgium (Flanders)

6. Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?

This depends from one city to another. For instance, in Brussels, the competent regional and local agencies have developed biodiversity and tree plans which explicitly aim at the preservation and the restoration of urban biodiversity. In Ghent, the city council has adopted a spatial destination plan (ruimtelijk uitvoeringsplan) – dubbed 'RUP Groen' – which explicitly protects 370 ha existing green areas and enables the restoration and creation of an additional 113 ha of new green zones. With the project 'Groenklimaatassen' – green climate axes – the City of Ghent aims to create 8 green 'sustainable' axes, which harbor both existing green spaces and enable bikers and pedestrians to move in a safe manner through the city.

7. Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?

Yes and no. In the regulatory framework, a general 'nature test' (natuurtoets) has to be applied when handing out planning permits that impact biodiversity. This test, which is included in Article 16 of the Flemish Nature Protection Decree (Natuurdecreet) also applies in a urban context, even when the projects only impact 'ordinary' biodiversity (i.e. nature which does not harbour EU protected species or habitats). In several recent rulings, the Flemish Council of Dispute Settlement has underlined that also swamps and pioneering vegetations squarely falls within the scope of this nature test. On a more broader level, the principle of sustainable spatial development, which is enshrined in Article 1.1.4 of the Flemish Code for Spatial Management (Vlaamse Codex Ruimtelijke Ordening), also puts emphasis on nature protection and can be used as lever for the protection of existing green spaces as well as for the creation of new green zones in an urban context. In several local spatial development plans (ruimtelijke uitvoeringsplannen), new planning permit applications are required to include specific motivation with respect to green spaces in a urban context (eg. RUP Bouw- en Woonlagen in the municipality of Lennik).

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

The Flemish agency for environmental policy (Departement Omgeving) is well-aware of the phenomenon of heat development in cities. Several studies have been carried out in this regard. Several projects aim at the reduction of the buid up-surface exist and push local governments to implement such programmes and projects. No binding tools exist in this regard.

[89] https://en.city-nature.eu/life-on-the-house-facade (27.04.2023)

9. What instruments are in place in order to adequately handle heat management?

As mentioned, no binding, tailor-made instruments exist. However, one can assume that the topic of handling heat islands will become an increasingly important topic to be addressed in the context of future spatial planning instruments in an urban context. This might further trickle down in spatial planning instruments through, amongst others, the duty to carry out SEA/EIA, where also additional focus needs to go to climate mitigation and adaptation, pursuant to the recent versions of the EU law in this regard.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

See supra. In Flanders, several existing integration instruments, such as EIA but also the so-called 'nature-test' (natuurtoets) apply in the context of urban biodiversity. However, as of today, these instruments have been mostly interpreted as 'passive' protection tools, focused primarily on the protection of the existing green spaces. A more proactive approach to EIA/SEA and a more consistent focus on the principle of sustainable spatial planning might also put emphasis on the creation and/or restoration of additional green spaces in the context of spatial planning.

Conflicts regarding urban biodiversity do arise, especially in the Brussels Region. Notorious examples are 'Le Marais de Wiels', a swampy site in Forest/Vorst, which is set to be turned into a housing development site. The most well-known example is the Friche Josaphat in Schaerbeek (Brussels), an old marshalling yard that fell out of use in 1994 and where nature has slowly taken back the site. Because the site was not accessible to the public, insects, birds, and mammals such as foxes, have begun calling this wild cityscape their home. Biologists found more than 1200 animal species on the mere 24 hectares of land. A decade ago, the Friche, along with about a dozen of other sites, was selected as a potential site for urban development by the Brussels Capital Region. At the time, Brussels' population was expected to continue to expand explosively. As of today, it is still not clear of the Brussels Region is set to persist with its building plans for the site, while several NGOs and citizens have campaigned to preserve the natural area, amongst others by pointing out the increased relevance of green spaces in an urban context.

11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

The aforementioned examples from Ghent, which prioritized safeguarding and also restoring green spaces in their spatial planning instruments, can serve as an inspiring benchmark, both at the Flemish as well as Belgian level.

Author: Hendrik Schoukens

Croatia

6) Data and importance of biodiversity in urban areas

Data regarding biodiversity in urban areas (as well as in forest and agricultural areas) is the least known biodiversity data in Croatia.

58% of the Croatian population lives in urban areas, and at the policy level it is recognized that the creation, preservation and management of green infrastructure in urban areas can play a key role in solving development challenges such as climate change and resource efficiency.[90] In December 2021 Croatian Government adopted the Green Infrastructure Development Program in Urban Areas for the Period 2021 to 2030. The program aims to provide all stakeholders with a framework for the implementation of green infrastructure development in urban areas by identifying measures and activities, necessary frameworks and prerequisites for their implementation, expected effects of these measures and anticipated sources of funding.

The process of strong urbanization in Croatia and the large influx of population into cities (especially the largest ones) have led to overcrowding of cities, illegal construction and, consequently, their excessive construction. Cities and settlements have expanded at the expense of green areas, the total area of which is continuously decreasing.

In Croatia, there are no spatial databases of green areas or its different types. The goal is to create a national spatial database of green infrastructure in urban areas by 2030.

Urban Atlas is one of the Copernicus products that shows land cover classes for functional urban areas. A comparison of the capitals of the EU member states shows that Zagreb is at the bottom of the ranking in terms of the percentage of urban green area (1.62%). However, according to the data for urban tree cover in Europe, Zagreb is in fourth place (with 46%).

7) Biodiversity in urban areas as a specific topic in policy documents and legal instruments

Policy documents in Croatia do not specifically promote the concept of biodiversity in urban areas. Instead of this, they promote the concept of urban green areas. Main policy documents are:

- Climate Change Adaptation Strategy in the Republic of Croatia for the period up to 2040 with a view to 2070
- National Development Strategy of the Republic of Croatia up to 2030 and Spatial Development Strategy of the Republic of Croatia
- Report on the state of the environment in the Republic of Croatia
- Green Infrastructure Development Program in Urban Areas for the Period 2021 to 2030
- Program for the development of circular management of space and buildings for the period 2021 to 2030.

The problem with political documents is that their implementation depends on the priorities of the current governing authorities at the state and local level, as well as on the available financial resources. However, the development of green infrastructure is listed in the Spatial Planning Act as one of the objectives of spatial planning. Green infrastructure is defined as follows: planned green and water areas and other spatial solutions based on nature that are applied within cities and municipalities, and which contribute to the preservation, improvement and restoration of nature, natural functions and processes in order to achieve ecological, economic and social benefits of sustainable development.

8) Phenomenon of heat development in cities

[90] Report on the state of the environment in the Republic of Croatia for the period from 2017 to 2020, p. 415.

Phenomenon of heat development in cities is addressed in policy documents (see their list above) within the context of promoting green infrastructure in urban areas. Detailed analysis of the heat island effect in cities is tackled only in scientific research papers.[91]

9) Instruments for handling heat management

There are no specific instruments, just the following general measures suggested for mitigating urban heat islands:

- increasing the area of green infrastructure in settlements assessed as vulnerable
- establishing areas of continuous greenery and unbuilt areas
- improving the base of information as a basis for making rational decisions
- incorporation of measures into the system of spatial plans
- rehabilitation projects of the most endangered areas/localities
- raising the awareness of the public and decision makers

10) Infrastructure planning in the urban context

The preconditions for the development of green infrastructure are yet to be created in Croatia. When issuing construction and use permits, it is necessary to adjust the record-keeping system in order to be able to record the planned and implemented projects of green infrastructure. Next, it is necessary to create guidelines for planning green infrastructure in spatial plans. In addition, strategies and/or green infrastructure development plans shall be adopted at the local and regional level.

In December 2021 Croatian Government adopted the Program for the development of circular management of space and buildings for the period 2021 to 2030. The program was created with the aim of developing sustainable, inclusive, safe and resilient cities by encouraging measures of circularity in the planning of new buildings and defining construction guidelines according to the principles of the circular economy (other goals are: encouraging reuse of buildings and spaces and extending the durability of existing spaces and buildings, encouraging measures to reduce the amount of construction waste and increase energy efficiency and the use of renewable energy sources and reuse of existing construction products and materials).

11) Concrete examples

- Recently some cities have started to create and adopt green infrastructure studies and strategies.
- Planned measures include concrete projects such as for the adaptation of parks, revitalization of streams, establishment of tree rows and green belts and establishment of urban gardens.

Author: Lana Ofak

Czech Republic

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

[91] See for instance: https://www.mdpi.com/2071-1050/15/5/3963

To some extent, data are available. Relevant stakeholders give their opinions/statements/information, which are part of spatial analytical documents on which spatial planning is based. Some data is also available to the public via interactive online maps.[92] Relevant stakeholders regularly update their data sets; however, the interval differs for each stakeholder. Data sets in interactive maps provide comprehensive information about various topics in the Czech Republic, such as the environment (habitats, biotopes, bio corridors, nature, water, transportation, and socioeconomic factors). Biodiversity assessment in urban spaces is part of the evaluation of impacts on sustainable development of the territory during spatial planning procedures.[93]

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

Two strategies mention urban biodiversity. Both strategies are created by the Ministry of Environment – State Environmental Policy of the Czech Republic 2030 with a view to 2050. This policy document focuses more on biodiversity loss due to the expansion of suburban places.[94] The second policy – Biodiversity Strategy of the Czech Republic 2016-2025, acknowledges that biodiversity in an urban space is vulnerable and that there is a general need to support it through various instruments. However, it has proven to be difficult to obtain relevant and comprehensive data from the municipalities.[95]

There are no specific objectives set for biodiversity protection in urban or suburban spaces apart from specific protection connected to the Natura 2000 network[96] and specially protected areas[97], memorial trees, and specially protected species of animals or plants if they are located within municipality borders[98].

Other relevant instruments are spatial planning instruments on regional and municipal levels and financial instruments. Spatial plans can set up bio corridors and territorial ecological stability systems.[99] However, these instruments are mostly connected to non-urbanised spaces, such as landscapes and nature outside urban areas. Some financial instruments are also available, especially in the form of financial incentives and state aid to improve the local environment in municipalities.[100]

In general, there is no comprehensive framework that would deal with biodiversity in urban space; thus, the framework is inadequate.

8. *How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?*

[92] Geoportal. Available in English: https://geoportal.gov.cz/web/guest/map/
[93] S. 19(2) of Construction Act.
[94] P. 50, State Environmental Policy of the Czech Republic 2030 with a view to 2050.
[95] P. 56, Biodiversity Strategy of the Czech Republic 2016-2025. Available only in Czech: https://www.mzp.cz/web/edice.nsf/4A46CA81084E521FC1258050002DAE0C/$file/SOBR_CR_2016-2025.pdf
[96] S. 45a et seq. of Act No. 114/1992 Coll., on Nature and Landscape Protection
[97] S. 14 et seq. ibid.
[98] S. 46 et seq. ibid.
[99] S. 3 ibid.
[100] P. 57, Biodiversity Strategy of the Czech Republic 2016-2025.

The problem of heat development has been primarily dealt with only through policy documents. The Ministry of Environment published and amended National Action Plan for Adaptation to Climate Change.[101] The plan includes several goals, and of them is to boost resilience to climate change in urban development (and reduce heat development in cities). The Annex of the plan contains policy measures that can be adopted (e.g., Introducing a decentralised rainwater management system, Minimising road salting and the use of herbicides and pesticides in settlements, Establishment, development, and care of the system of settlement greenery with a view to increasing the proportion, quality and functional efficiency of settlement greenery and water areas, including their interconnection).

Analysis of the urban heat islands should be part of the sustainable development analysis under Decree No. 500/2006 Coll., on Spatial Analytical Documents, Spatial Planning Documentation, and the Registration Method of Spatial Planning Activities. The spatial analytical documents are the foundation on which spatial planning documents are based. However, some cities have had heat maps of their area done, e. g. Brno.[102] The collected data sets can be helpful in future spatial planning and for the adoption of well-aimed measures targeted at heat development in cities.

9. What instruments are in place in order to adequately handle heat management?

Apart from policies, only a few legal documents exist. The prevalent measures are connected to green areas and green infrastructure projects. Decree No. 500/2006 Coll. contains a possibility to include residential greenery in a municipal spatial plan.[103] Decree No. 501/2006 Coll., on General Requirements for Land Use, contains in s. 7a provision on residential green areas, but the provision is vague, and it is within the discretionary power of municipalities to implement it as they see fit.

Some regional and municipal authorities have adopted climate strategies or Sustainable Energy and Climate Action Plans (e.g., Prague[104] and other municipalities as parties to the Covenant of Mayors[105]), and some partially deal with climate change in the energy policy of municipality (e.g., Brno-city[106]) and some municipalities have created a general strategy on development (e.g., Ostrava-city[107]). However, heat management is only part of some of them, and measures contained in those policies are primarily financial.

Nevertheless, forward-thinking municipalities try to implement green measures into spatial planning documents and create green infrastructural projects. On the other hand, examples of good practices are mostly anecdotal because large cities prefer individual transport over vegetation, even though they have maps that prove to what extent the cities are suffering from heat islands. For example, Brno-city has been investing in new parking spaces and road infrastructure rather than in creating new places for vegetation, green zones, or new recreational parks, thus making Brno-city and its inhabitants more vulnerable to climate change.

[101] National Action Plan for Adaptation to Climate Change. Available only in Czech: https://www.mzp.cz/cz/narodni_akcni_plan_zmena_klimatu
[102] Heat map. Available: https://gis.brno.cz/mapa/teplotni-mapa/?c=-596411.15%3A-1162376.85&z=4&lb=of-brno_akt&ly=tepmap02019&lbo=1&lyo= and adaptation project https://urbanadapt.cz/en
[103] S. 21(1)(l) of Decree No. 500/2006 Coll.
[104] Prague Climate Action Plan 2030. Available in English: https://adaptacepraha.cz/en/documents-to-download/
[105] Covenant of Mayors – Europe. Available: https://eu-mayors.ec.europa.eu/en/about
[106] Priprav Brno. Available only in Czech: https://priprav.brno.cz/
[107] fajnOva. Available only in Czech: https://fajnova.cz/strategicky-plan/

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

According to the Construction Act, there is only a general obligation to evaluate impacts on the territory's sustainable development.[108] The evaluation is, inter alia, based on spatial analytical documents, which contain analysis of (among other things) nature and landscape, quality of the environment, and protection of inhabitants.[109] However, those categories are of general nature, and therefore they do not have to necessarily contain heat management issues or biodiversity in urban areas. Furthermore, the municipality is free to choose its development as it sees fit during spatial planning, providing, it stays within legal boundaries, is compliant with superior spatial planning documents, and all breaches of subjective public rights are proportionate.

All conflicts that might arise should be dealt with within the spatial planning procedure. If not, the person affected by the spatial plan can seek judicial review of the spatial plan.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

Project UrbanAdapt aims to develop urban adaptation strategies using ecosystem-based approaches to adaptation. Several large Czech cities are part of the pilot project. One of the project's outputs is creating a heat map of Brno-city. The map can be used in urban planning.

One of the few positive examples is the Liberec region. The regional authority has adopted – The Action Plan for Adaptation to Climate Change in the Liberec Region for 2021-2027.[110] The action plan contains strategic aims to be realised through specific measures. The measures aim at green infrastructure projects in various ways. The regional authority plans to implement green measures on its property and subordinate subjects. The other aim is to expertly help municipalities with green infrastructure projects and other adaptation measures.

The other lighthouse example can be found in Brno-city. Several city parts agreed to try self-cooling pavements (sidewalks) made of experimental material, which reduces the temperature and helps to water management in streets.

Author: Jiri Vodicka

France

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available?* *If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

Biodiversity in the urban context could not be considered as anecdotical in France as nature areas represent on average 40% of the surface of 28 French cities with more than 200,000 inhabitants[111]. So far as we know there are no overall data that deal precisely with biodiversity

[108] S. 19(2) of Construction Act.
[109] S. 4 of Decree No. 500/2006 Coll.
[110] The Action Plan for Adaptation to Climate Change in the Liberec Region for 2021-2027. Available only in Czech: https://zivotni-prostredi.kraj-lbc.cz/Adaptace_na_zmenu_klimatu
[111] https://biodiversite.gouv.fr/les-ecosystemes-urbains These data come from an evaluation conducted as part of the Efese program (the French assessment of ecosystems and ecosystem services), 2012-2018.

in urban areas although an assessment of urban ecosystems and their services has been conducted rather recently[112]. However, there are data regarding some groups of species. For instance, as far as butterflies are concerned, the most urbanized departments are particularly affected by their decline, with some losing more than 50% of their species[113]. Urban specialist birds are strongly and rapidly declining as well. They faced a loss of 27,6 % of individuals between 1989 and 2019. According to the authors of a landmark study, "the reasons are still poorly explained, and certainly multiple: decrease in food resources, especially insects, as in agricultural environments, even if, since a few years, pesticides are no longer used in urban green spaces; reduction of sites suitable for nesting (loss of cavities due to the ravishing of buildings and the felling of old trees, cleaning of facades favorable to swallows); pollution" from transportation and industrial activities also has an impact on their health[114]. In comparison, agricultural specialist birds have declined by 29,5 % over the same period, and forest specialist birds by "only" 9,7 % (which is partly due to a strong decline previously achieved).

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework?* *Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

Traditionally, biodiversity in urban spaces has not been addressed as a specific topic neither with regard to public policy nor to the legal framework in France. This refers to the broader issue of "ordinary nature" and its lack of consideration in policy and law[115]. It means that nature conservation policy and laws tend to focus on outstanding nature areas and wild species in France. As far as we know there are no specific objectives when it comes to urban biodiversity, but this is not very surprising as French law is generally reluctant to set binding targets. For instance, the aim to maintain or restore at favourable conservation status natural habitats and species of wild fauna and flora of Community interest (Habitats Directive, art. 2) does not appear at least explicitly in French Law[116].

However, the situation has begun to evolve quite significantly when the Grenelle 1 (2009)[117] and 2 (2010)[118] laws decided to set up the "green and blue infrastructure" – *trame verte et bleue*[119]. Actually, it is the name given to the French ecological network. The real novelty of the green and blue infrastructure is the consideration of "ecological continuities" (a concept preferred to that of "corridors" in French law), since for the rest it is based on existing tools

[112] EFESE, L'évaluation française des écosystèmes et des services écosystémiques. Les écosystèmes urbains, Commissariat général au développement durable, 2018, 889 p.
[113] Inventaire national du patrimoine naturel, La biodiversité en France – 100 chiffres expliqués sur les espèces, 2021, 52 p., p. 28 (https://professionnels.ofb.fr/fr/doc/biodiversite-en-france-100-chiffres-expliques-especes-2021)
[114] B. Fontaine, C. Moussy, J. Chiffard Carricaburu et al. 2020. Suivi des oiseaux communs en France 1989-2019 : 30 ans de suivis participatifs. MNHN- Centre d'Ecologie et des Sciences de la Conservation, LPO BirdLife France - Service Connaissance, Ministère de la Transition écologique et solidaire. 46 p., p. 20.
[115] A. Treillard, L'appréhension juridique de la nature ordinaire, PhD thesis in Law, University of Limoges, 2019, 589 p.
[116] S. Jolivet, « De la survie des espèces menacées d'extinction à la lutte contre le déclin des populations. Réflexions sur l'efficacité du statut d'espèce protégée à partir du cas de la faune sauvage », Revue juridique de l'environnement, n° 1/2020, p. 101 (https://hal.archives-ouvertes.fr/hal-03154399).
[117] Loi n° 2009-967 du 3 août 2009 de programmation relative à la mise en œuvre du Grenelle de l'environnement, JORF 5 août 2009, p. 13031.
[118] Loi n° 2010-788 du 12 juillet 2010 portant engagement national pour l'environnement, JORF 13 juillet 2010, p. 12905.
[119] Environmental code, art. L. 371-1 and following.

(such as national and regional parks or nature reserves). Although the green and blue infrastructure is not exclusively designed for urban spaces, the main part of its implementation is actually based on local urban planning documents. This is how biodiversity conversation and urban policies have started to meet up[120]. Indeed, local urban planning documents must be compatible with the regional planning scheme of the green and blue infrastructure (*Schéma régional d'aménagement et de développement durable des territoires* - Regional plan for land use and sustainable development). In order to meet this requirement, the initial choice of the French legislator in 2009-2010 is not to create new instruments but rather to use existing ones. Two of the "classical" urban zonings seem to be particularly relevant to implement the green and blue infrastructure in local urban planning documents. These are classifications in natural and forest zones, known as "N zones" (Urban code, art. R. 151-24), and in "classified wooded areas" (Urban code, art. L. 113-1 and following). Theses zonings can basically forbid constructions, with possible derogations. However, the law on biodiversity of August 8, 2016 creates a new specific instrument. It allows the regulations of local urban plans to classify as "ecological continuity spaces" (*espaces de continuités écologiques*) elements of the green and blue infrastructure that are necessary for the preservation or restoration of ecological continuities, and to accompany this classification with specific prescriptions (Urban code, art. L. 113-29 and L. 113-30). This possibility is especially interesting in urban zones, known as "U zones". For example, the intercommunal local urban plan of the Eurometropole of Strasbourg delimits a "Space contributing to ecological continuity". In the sectors delimited as such, new constructions and installations are forbidden, as well as the extension of existing constructions, with the exception of operations planned in "reserved locations" (*emplacements réservés*), restoration or renaturation work on the natural environment, and paths and developments linked to the accessibility of the banks of watercourses[121].

Nevertheless, the protection of urban biodiversity is still far from being adequate in France. Among many obstacles to improve the situation, we can list the principle of independence of legislations between environmental law and urban law that basically prevents the administration from applying environmental requirements to urban authorizations except if they are incorporated in urban law. This results notably in the relatively weak legal scope of the green and blue infrastructure towards urban law.

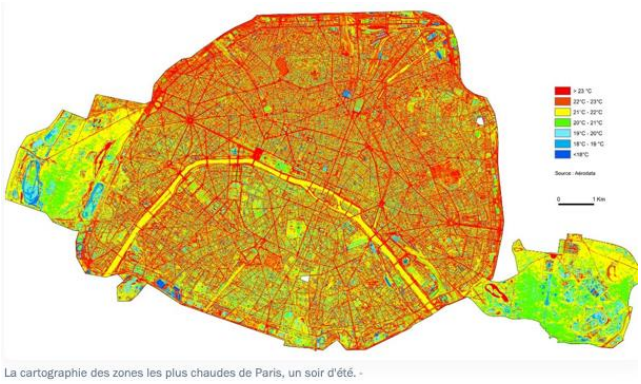
Things may change for the better in the future: in the national strategy for biodiversity 2020-2030 – which is meant to implement the European one but is a non-binding document – one can note several objectives relevant albeit non-specific to the conservation of urban biodiversity[122]. For instance, by 2030 50% of the priority "black spots"[123] identified by each region are eliminated (measure 2.2). Furthermore, a new "black infrastructure" is to be introduced in addition to the green and blue ones. It is designed to protect especially nocturnal species against light pollution and its effects on their health and behavior (measure 2.5).

[120] See Ph. Clergeau et N. Blanc (dir.), Trames vertes urbaines. De la recherche scientifique au projet urbain, Le Moniteur, 2013.
[121] D. Gillig, « Le PLU : un outil de préservation et de reconquête de la nature en ville », Construction – Urbanisme n° 3, mars 2021, Etude 3, § 40.
[122] https://www.ecologie.gouv.fr/strategie-nationale-biodiversite
[123] A black spot is basically an obstacle to an ecological continuity.

8. ***How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction?*** *Is there any analysis of this problem by local, regional or national authorities?*

The phenomenon of heat development in cities does not seem to have been fully addressed in national policies and law yet. For instance, the very phrase of "heat island" is absent in the Construction and housing code, the Urban code, the Environmental code as well as the Energy code[124]. Yet, the law "climate and resilience" of August 22, 2021 has started to adopt provisions aiming at mitigate the impact of the phenomenon (without naming it specifically) at the national level. Among them, one can mention article L. 171-4 of the Construction and housing code and article L. 111-19-1 of the Urban code. The former states that some buildings designed for commercial, industrial or office activities must include a vegetation system based on a cultivation method (that uses drinking water only as a supplement to recuperated water), guaranteeing a high degree of thermal efficiency and insulation and promoting the preservation and recovery of biodiversity. The latter provides that parking lots over 500 square meters must integrate over at least half of their surface area surface coverings, hydraulic arrangements or vegetated devices promoting the permeability and infiltration of rainwater or its evaporation. These same parks must also integrate vegetated devices or shades contributing to the shading of said parks on at least half of their surface.

As a consequence of this only emergent national legal framework, the way in which the phenomenon of heat development is managed in urban areas is especially to be found at a local level but also in the administrative case-law (see question 9 and 10).



La cartographie des zones les plus chaudes de Paris, un soir d'été. -

9. What instruments are in place in order to adequately handle heat management?

As there are almost no specific instruments to handle heat management, municipalities and intermunicipal associations may use general instruments provided by the Urban code. They are especially related to local urban plans and building permits. For instance, the local urban plan of Saint-Jacques-de-la-Lande – a municipality that belongs to Rennes metropolis – refers to the heat island effect in order to motivate the inconstructibility of a parcel within a "U zone" (urban zone where the principle is the possibility to construct new buildings)[125].

At the level of building permit issuing, the mayor or the president of the intermunicipal association may use a general provision that allows him / her to accept a project only subject to

[124] See R. Vandermeeren, « Quand le juge administratif s'intéresse aux îlots de chaleur urbains », La semaine juridique administration et collectivités territoriales, 2022, commentaire 2280.
[125] See CAA (Administrative court of appeal) Nantes, June 21, 2022, n° 21NT02560, Rennes Métropole.

the observation of special prescriptions if, by its importance, its situation or its destination, it is likely to have "harmful consequences for the environment" (Urban code, art. R. 151-26). The urban heat island effect seems to be part of the concept of harmful consequences for the environment[126].

10. ***Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context?*** *How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?*

As far as biodiversity issues have legally to be taken into account, see question 7 and our developments on the legal scope of the green and blue infrastructure. We may just add that beyond the question of hierarchical relationship between local urban plans and the ecological network planning, the preservation of ecological continuities is in any case an objective assigned as such to local urban planning documents (Urban code, art. L. 141-10 and L. 151-5). On the contrary, issues of heat management only have to be taken into account as part of general environmental issues, but not specifically so far.

Conflicts of interest are tackled by the administrative judge whenever there is a case-law. There are not many case-laws on these topics so far and it seems that the judge approach is very factual. The way in which he will conciliate biodiversity protection or heat management with other interests such as property right is rather unpredictable. Yet he is supposed to be guided by the proportionality principle and to be able to balance all the interests at stake. For instance, the administrative court of appeal of Bordeaux considers it possible to challenge the opening up to urbanization of a sector during the revision of a local urban plan for infringement of the preservation of a green infrastructure identified by a higher-level plan[127]. By contrast, in a rare case regarding heat management, the administrative court of appeal of Nantes judges that is vitiated by a "manifest error of assessment" (*erreur manifeste d'appréciation*) a local urban plan that partially classifies a parcel as a non-constructible space in order to avoid the "urban canyon effect" likely to be caused by the densification of the surroundings of a traffic axis. It has not been established by the intermunicipal association that the constructibility of the parcel would favor the constitution of an "urban heat island". The owner of the relevant parcel that challenged the local urban plan before the judge obtained its partial annulment[128].

11. ***Are there any best practices or interesting cases (lighthouse examples) to learn form available?***

In the assessment of urban ecosystems ordered by the French government, the Lyon Metropolis is quoted as an example of best practice for heat management: "to help cool Garibaldi Street, which is subject to the heat island, winter rainwater is stored until the heat wave period to water the planted walkways and allow the large trees to act as a "natural urban air conditioner" (our

[126] See CAA Paris, October 1, 2020, n° 19PA03846, Assoc. Atelier local d'urbanisme et développement de L'Haÿ-les-Roses et Patrimoine environnement.
[127] CAA Bordeaux, January 21, 2017, n° 14BX03698 : Revue juridique de l'environnement 2018, p. 377, chronicle J. Makowiak and I. Michallet.
[128] CAA Nantes, June 21, 2022, n° 21NT02560, Rennes Métropole.

translation)[129]. See also question 7 about the example of the Eurometropole of Strasbourg as far as biodiversity conservation is concerned.

Author: Simon Jolivet, Nathalie Hervé-Fournereau

Germany

6. Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?

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7. Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?

I may be noteworthy that in Germany a special kind of planning natural assets exists, called Landschaftsplanung (landscape planning) (Art. 8-12 Federal Nature Protection Act). It belongs to sectoral planning (Fachplanung), which embraces other sectors such as road construction, waste recovery and disposal, etc. Sectoral planning must be distinguished from integrated planning which overarches sectors. The Landschaftsplanung describes existing natural assets and prescribes measures that shall be taken to preserve or improve the situation. It is foreseen for different levels of generality including the landscape programme (Landschaftspogramm) of an entire Land, the regional landscape framer plan (Landschaftsrahmenplan), the Landschaftsplan for an entire municipality (scale of about 1:50000) and the Grünzonenplan for local zoning plan (scale of about 1:1000). The Grünzonenplan is of special interest because it shows in much detail where green spots shall be preserved or newly enacted. It can also be used for city quarters that have already been built. If wished I can show the example of the (interactive) Landschaftsprogamm of the city of Bremen.

The landscape plans are as such not binding. If they shall become binding they must be transformed into nature protection areas. Even without such transformation, however, the specifications of a landscape planning must be taken into consideration in integrated planning, administrative proceedings and in particular as information basis for EIAs and SEAs. Specifications of land use in a Landschaftsplan can even literally be included in an integrated plan.

In conclusion the role of a Landschaftsplan is therefore to bring nature protection concerns to the fore and remind integrated planning of the importance of nature protection.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

I am not aware of any municipal measures taken that specifically address heat events.

9. What instruments are in place in order to adequately handle heat management?

[129] EFESE, L'évaluation française des écosystèmes et des services écosystémiques. Les écosystèmes urbains, op.cit., p. 11.

City planning.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

Heat development is a growing consideration in local land use planning, such as when 'green' uses are planned.

11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

For instance, the construction of 3 high rise buildings was politically discussed in Bremen a few years ago. A major concern raised by opponents was that the buildings would form a barrier for the fresh air corridor flowing through the city. The project was finally abandoned mostly for reasons of urban design.

Author: Gerd Winter

Hungary

6. Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?

While only the 7 % of the total area of Hungary belongs to settlements, most of the population lives there. Though the role of green areas, green infrastructure is well-known,m the average area of green parts of the settlements is still relatively low, - the per capita green areas of bigger cities has been 24,5 m2 in 2015 and 26,0 m2 in 2020.

In connection with biodiversity loss and the degradation of natural habitats the Environmental and Energy Efficiency Program has been adopted for the years 2016-2022, one major result of which proved to be the National Project on Mapping and Evaluating Ecosystem-services, together with the development of the strategic framework for green infrastructure development.

As an example, we may refer to Budapest, having a double-face situation: while the rate of green areas within the direct living areas is not very satisfactory (in some inner city areas it is around 20%), the wider Budapest area has rich natural vales, and even the protected areas within the city go up to 3500 ha. There are very few places in other capital cities where the cave-system is so extensive – there are 140 caves, some of them might be visited (such as the Pál-völgyi-cave extending to 32 km, being the longest case-system in Hungary.

7. Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?

In connection with nature based solutions (NBS) the overall conceptual framework in Hungary is from 2022, using the natural qualities of ecosystems for the adaptation and mitigation of climate change, while the reinstatement of biodiversity together with the improvement of environmental quality might also be supported. In connection with this, our main aim is not to take the green infrastructure development as a special problem of nature protection only. There

are several policy papers in Hungary which focus also on this problem, from the National Sustainable Development Strategy, through eh National Biodiversity Strategy to the National Landscape Strategy. Also there are several legal regulations which might be taken into consideration, while none of them focuses on the biodiversity of urban environment. It is also questionable, what urban this really means, what does belong to this specific biodiversity.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

The urban climate system is greatly connected with the urban development, influenced mainly by the biologically active areas, thus the current Hungarian legal system leaves the whole problem to the local governments, does not have any legislation in this respect. Generally speaking, the climate issues should form a part of the local plans and programs, but we do not have too much information in this respect.

9. What instruments are in place in order to adequately handle heat management?

The main line may be via the county and local environmental programs, more specifically, the climate strategy within them, mostly in connection with the development of green areas and climate adaptation. In 2018 a methodological guidance was developed to support the urban climate strategy development. There has also been a financial support mechanism, attached to the development of such strategies, which resulted that in more than 100 settlements urban climate strategies could be developed.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

The legislation has attempts to limit the developments in green areas, among other by using brownfield investments, but it is not really successful. In 2018, the Act CXXXIX on spatial planning articulated that in an urban development plan it is only possible to use new areas, if there are no more available areas, dedicated as development areas earlier, or there is no brownfield area available. In 2020 the Government adopted a strategy package for the rust belt areas, covering among others the exploration, remediation and reuse of such areas. Alsao guidance documents have been developed for the green infrastructure projects (https://termeszetem.hu/hu/documents/categories/zoldinfrastruktura-eredmenyek-dokumentaciok) in order to provide assistance for the proper foundation for such strategies.

11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

In June 2017 the green infrastructure concept of Budapest have been made, commissioned by the local government. The main principle of the concept is to develop a wider, proportionate green area system, being in good condition and aligned to the landscape conditions, as the basis of urban sustainability. The network of biologically active areas, high quality green and open areas might provide the conditions of the more viable urban area. The following actions are attached to it:

- „Wild flower Budapest" for the protection of pollinators, developing bee-meadows. It is essential to explain to the citizens that these areas do not mean abandoned areas, they have their reason.
- An application, containing the trees in public areas, with the most important data, such as the specific individual values of the given tree. Also anyone may report damages to the tree via this application.
- „Grass to the Sky": a tender system to support that the courtyards of apartment houses are converted to garden, and also there is a tender to green the façade of the houses facing to the street, if the owners also maintain this for 5 years

In 2022 the Természet-Alapú Megoldások Magyarországi Hálózatának TeAM Hub – The Hungarian Network for Nature-based Solutions – collected good examples for the issue (https://networknature.eu/team-hub-term%C3%A9szet-alap%C3%BA-megold%C3%A1sok-magyarorsz%C3%A1gi-h%C3%A1l%C3%B3zata https://mailchi.mp/57be182fa63a/beszmol-a-termszet-alap-megoldsok-magyarorszgi-hlzata-nyit-rendezvnyrl-15079374)

Author: Gyula Bándi

Italy

Introductory remarks

In Italy, it is possible to find evidence of a progressive awareness of the importance of green spaces in urban areas already in the 1990s. For example, a legislation adopted in 1992 provided that each municipality shall plant a tree for every new born (Law No 113/1992), while other provisions related to green spaces in urban areas were scattered in regulations which more generally addressed urban and spatial planning.

However, it is only more recently that the question of the importance of preserving and enhancing biodiversity and green spaces in cities started to form the object of dedicated legislative and policy instruments, as it is illustrated more in details in the following sections. From the Preambles of relevant legislation and in national reports, it can be evinced that this new trend reflects and is partly prompted by the increased attention for biodiversity at International and EU level, and is further enhanced by current awareness and scientific evidence of the importance of green spaces for human health and well-being.

In terms of the public actors involved in this context, competences are divided between the central government and regional and local authorities. On a general level, the State is competent to establish, by means of legally binding instruments or strategic documents and/or guidelines, the objectives to be achieved and the criteria that shall inform the actions and specific interventions of local administrations, and to monitor the implementation of legislative provisions at the local level (see below on the role of the Committee for Urban Green Spaces). Local administrations, especially municipalities, are responsible for the implementation of interventions on their territory.

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

According to a report of the Italian Ministry of the Environment published in 2010, Italy has been the first European member state to provide a list of all the fauna species living in its

territory, with relevant information on their distribution in the various areas of the territory, and with information on the endemic or not status of the specie (see project Checklist of Species of Fauna in Italy – 1993-95), followed by a similar project focused on the flora species.

With specific respect to the urban context, the Italian Agency for Environmental Protection (currently ISPRA – which also carries out functions previously undertaken by APAT) publishes since 2004 on a yearly basis a report on the **Quality of the Urban Environment** as part of its analysis on the State of the Environment. In 2007, the Report also had an additional sub-report with data and information on the state of biodiversity and nature in the urban environment (La Natura in Città - Nature in the Cities, 2007).

Currently, the ISPRA website has a specific section where is possible to have access to data on the state of the environment in the various urban areas, divided by themes -- such as water, air quality, soil and territory, industrial activities – and which also include the theme on 'green infrastructures' (https://dbareeurbane.isprambiente.it/).

Those findings suggest that attention for the state of biodiversity in urban areas is not merely anecdotal, but at least from the point of view of studies and analysis, forms the object of systematic attention at the national level (typically through the work of the national agency on environmental protection).

At the local / Municipal level, important instruments for mapping and monitoring green areas and biodiversity are the *Censimento del Verde* and the *Sistema Informativo del Verde*.

The former is effectively a sort of census and classification of trees planted in public urban spaces together with a mapping and database of the green areas and urban green infrastructures, such as parks, urban forests, public gardens and botanical gardens.

The Sistema Informativo del Verde is instead an informatic database for public administration providing them with information on the relevant assets (trees, green areas, parks etc.) and the relationship between green areas and built areas, and which allows to monitor the state of plant and vegetation and to plan interventions.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework?*

Yes, in Italy there is a specific attention in policy documents and legislation dedicated to biodiversity and especially to the development of green spaces in urban areas. For example, at the national level, the first National Biodiversity Strategy had a specific chapter on Environmental Quality and Wellbeing in Urban Environments, and the more recent National Biodiversity Strategy for 2030, adopted in 2022, identifies as a specific objective the halting of green urban ecosystems loss and depletion, and the promotion of urban greening and nature based solutions.

With respect to legally binding instruments, the most significant one at the national level is **Law 14 of January 2013, No 10 - Norms on the development of Urban Green Spaces**. This is the first national law specifically addressing green areas (private and public) in cities and urban spaces, with the objective to re-establish the balance between buildings and green spaces. The Law strengthens the provisions of a previous legislation of 1992 establishing the duty for Municipalities with a population above 15,000 inhabitants to plant a tree for any newborn with

residence on their territory by extending it to adopted children and by providing specific monitoring mechanisms.

Two elements of Law 10/2013 are of special significance:

1. The creation of a national Committee for the Development of Public Green Spaces (**Comitato per lo Sviluppo del Verde Pubblico**) with monitoring, supporting and a strategic functions. It monitors the application of the law by the local administrations (primarily municipalities) and promote its implementation at the local level by supporting them in the process of definition and development of local policies to develop green areas. The Committee is expected to report to the Parliament on a yearly basis on the results of the monitoring activity and on any proposals for further actions to implement the relevant normative provisions. The Committee is also tasked with promoting actions to improve and protect historical gardens, and to support the Ministry of Environment in delivering educational initiatives in schools and in universities aimed at promoting knowledge of the forest areas.

In addition to these functions, the Committee has a more strategic role and it is responsible for the development, in agreement with the Conferenza Unificata (i.e. a decision-making forum bringing together the central and local governments), of a National Strategic plan outlining the criteria and guidelines for the for the realization of permanent green areas near the main urban settlements, and for the development of urban requalification projects. The Committee has adopted in 2017 the National Guidelines for the Management of Urban Green Spaces and preliminary indications for a sustainable planning, and in 2018 the National Strategy for Urban Green Spaces (see further below).

2. The second element of relevance in Law 10/2013 is represented by its article 6 which identifies local administrations (primarily Municipalities, but also Provinces and Regions) as the main actors for taking concrete actions for the implementation of the law and the pursuit of its objectives. This provision places on those local entities the obligation to develop, within the scope of their respective competences and available resources, green urban spaces and green belts around urban dwellings, and the adoption of measures aimed at promoting energy efficiency and at reducing the effect of heat island in the summer.[130] It also envisages the development by local entities (Regions, Provinces or Municipalities) of measures aimed at educating and forming the relevant personnel, as well as measures of information and communication aimed at raising citizens' awareness.

In addition to Law 10/2013, the question of urban biodiversity is addressed in climate legislation. For example, Legislative decree 111/2019 on urgent measures to comply with Directive 2008/50/CE on air quality, has a provision (art 4) on ‘Actions on Reforestation’, which allows public expenditure of 15 million euros for the years 2020 and 2021 for action aimed at the creation of urban and peri-urban forests and for planting trees in metropolitan cities. This provision was implemented by means of a Decree of the Ministry of the Environment (Decree of 9 October 2020) which governs the modalities for planning the relevant action and the allocation of funding for the Experimental Programme for the creation of urban and peri-urban forests in metropolitan cities.

[130] The law also lists specific activities to be put in place to those ends, and addressing both existing and new buildings, including the protection and conservation of existing trees, and promoting green covers for building with the creation of hanging gardens or vegetation covering lateral areas of buildings.

Policy frameworks

In implementation of the tasks assigned to it by Law 10/2013, the Committee for Urban Green Spaces has elaborated and published the **Guidelines** for Urban greening, in 2017, and the first National Strategy for Urban Green Areas (**Strategia Nazionale per il Verde Urbano**), in 2018.

The **National Guidelines for Urban Green Spaces** identify the main urban planning and management measures that Municipalities can put in place. These include the aforementioned 'green spaces census' (il censimento del verde) and Green Spaces Informative System (Sistema Informativo del Verde), as well as the Regulation of the Green Spaces (Regolamento del Verde) and the Municipal Plan of Green spaces (Piano del Verde). The latter (Piano del Verde) is adopted with a deliberation of the Municipal Council and is a voluntary instrument, which complements and integrates local urban plans and defines actions for the development and enhancement of urban and peri-urban greens spaces. A further tool is the Budget of trees (Bilancio arboreo), to be published on the website of the municipality, which has to report all the trees planted every in the 5 years of the local administration mandate.

The **National Strategy for Urban Green Spaces** is of particular relevance. It aims to set out the overall *vision* to inform regulatory and management actions to promote and enhance green spaces. The Strategy connects policies and interventions in the field of urban planning with the needs and objectives of climate adaptation and mitigation and those of pollution reduction in urban areas (see p 8 of the Strategy). It identifies 3 main elements or components of the Urban Plans for Green Spaces: (i) the expansion of green areas by moving from sq meters to ha; (ii) the reduction of asphalted surfaces, and (ii) the idea of 'urban forests' as the point of reference for planning and developing projects on green spaces. In particular, the Strategy employs the term 'urban forest' to indicate the creation within the urban territory of a municipality of green areas via the creation of parks, gardens, tree plantations etc. An interesting example of this can be found in the municipality of Lecce where a urban forest (in this case a woodland area) has been created in the town of Lecce (albeit on an area owned by a private party), as a forested space for trekking and excursions.

Together, the Law, the Guidelines and the National Strategies aim at developing a systematic approach to green urban spaces and to provide Municipalities and local administration with appropriate resources and instruments for an appropriate planning and management of green spaces.

Specific legislative and policy frameworks at the local level

In terms of public policy, biodiversity in urban spaces is usually addressed at the municipal level.

Are there specific objectives formulated when it comes to urban biodiversity?

The National Strategy on Urban Green Areas does not set legally binding or measurable or quantifiable objectives, but it outlines some of the main objectives and three main areas of intervention to be pursued and implemented through the Urban Green Plans: biodiversity and ecosystem services (protecting biodiversity to ensure the full functionality of ecosystems and of green infrastructures for a resilient city); climate change and heat islands (increasing the surface and improve the ecosystem functionality of green infrastructures); wellbeing and quality of life (improving citizens' health and well-being thanks to the abatement of polluting

substances by the forest ecosystem). These broad objectives and areas of intervention set the framework for the adoption of specific policy and management measures.

Do *separate (legal) instruments* exist? If not, is the *general framework* of protection adequate?

As mentioned above Law 10/2013 is a specific legal instruments explicitly aimed at greening urban areas. Besides this, a number of legislative or regulatory provisions have been adopted either in implementation of the Strategy or as part of broader policy on climate change.

For example, as part of the implementation and operationalization of the Strategy, the Ministry for Ecological Transition adopted a Decree, 10 March 2020 no 63, establishing minimum environmental criteria for the management of public green spaces and the procurement of related products. The criteria apply for example to the public procurement of services for the planning of new green areas, the requalification of existing areas, or for the management of green areas, in order to ensure that those services of planning and upkeep are assigned to personnel with the adequate technical competences and to avoid interventions of scarce quality which may be even harmful.

Other legislative and policy measures include taxation and fiscal measures aimed at promoting actions for the greening of urban areas, such as the green bonus, which is a tax deduction up to 36% on income related to the property of buildings for works on residential buildings related to the greening of outside surfaces, or the creation of green roofing or hanging gardens and other similar works. The maximum deduction is 1,800 euros (36% of 5,000) per building.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction?

The aforementioned Law 10/2013 addresses the phenomenon of heat development in article 6 by including among the tasks and responsibilities of local administrations for the promotion of green urban spaces also the adoption of measures aimed at improving energy efficiency and reducing the heat island effect. The provision identifies specific measures including the greening of new built areas and the enhancement and/or conservation of trees and plants in already existing buildings; the installation of green cover on the roofs of building or the creation of hanging gardens. The practical and concrete implementation of this provision is however left to the municipalities.

The question of heat island and the rising heat in cities is also addressed specifically in the National Strategy for Urban Green Spaces, which highlights the connection between the expansion of green areas and infrastructures and their benefits in terms of climate adaptation and cities' resilience to the impact of global warming.

8. Is there any analysis of this problem by local, regional or national authorities?

At the national level, the National Strategy for Urban Green Spaces refers to various studies which provide evidence that the inclusion of plants and vegetation, and the increase of green spaces in urban areas is a valid action to mitigate the heat island phenomenon and the heat development of cities in general.

At the same time, the question of heat development and heat island is also addressed at the municipal level. For example, the Municipality of Florence adopted an agreement in 2021 to work with the Institute for Bioeconomy of the National Centre for Research (CNR) to map the

cities in 'hot' and 'cold' climatic areas by using Nasa satellite sources in order to define the critical level and intervene appropriately to mitigate the phenomenon of heat island. On the basis of the findings of this research, the idea is to simulate the implementation of actions of mitigation of the heat island effect in areas which are particularly critical, so to be able to plan further projects for increasing urban green areas. This study is thus connected to the elaboration of the Plan for Urban Green areas of the Municipality of Florence (see link here).

9. What instruments are in place in order to adequately handle heat management?

Most of the instruments that are identified in the National Strategies and in Law 10/2013 are architectural and planning measures, consisting in creating and enhancing green infrastructures, equipping buildings of gardens and other type of green surfaces, and expanding green areas.

In addition, the Ministry of Health adopted in 2013, and updated in 2019, a set of guidelines on heat waves and atmospheric pollution with a view to prevent the effects of this on health. The Guidelines have a chapter on the prevention of the health effects of atmospheric pollution and a chapter addressing possible measures to contain and mitigate the heat island effect in cities. Among these, the Guidelines recommend actions concerning urban planning and urban buildings, with projects aimed at reducing the demand of water and energy, the reduction of GHGs emissions and the increase of the consumption of energy from renewable sources. The Guidelines also distinguish between adaptation measures (such as increasing vegetation both quantitatively and qualitatively, increasing its density and implementing green areas surrounding buildings especially those facing South and West; the replacement of the traditional darker concrete or asphalt pavements with the use of colored asphalt or concrete which is better able to mitigate the heath, and the preference for permeable material for pavements; and painting building façades with colours that diminish heat absorption.

10. *Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context?*

See above

10. *How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?*

The National Strategy for Green Spaces appears to take into consideration the potential tension between the implementation of measures to enhance green urban areas and biodiversity in cities and the relevant economic costs entailed by such measures. In that respect, the NS sees the objectives of enhancement of green spaces as economically sustainable and potentially also economically beneficial (the Strategy defines the relevant cost to enhance urban green areas as a potentially most fruitful investment, p 11). To this end, it proposes to identify appropriate indicators to understand whether and to what extent the development of green infrastructures in urban spaces may contribute to improve well-being and the green economy. It is also interesting to note that in Italy, the Law 221/2015 established a Committee for the Natural Capital with the task of reporting annually to the Government on the State of the Natural Capital, with data and information expressed in economic and physical units on the ecosystem services produced by the country's Natural Capital, and on the effects and impact of policies on the Natural Capital.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

Omissis

Author: Massimiliano Montini, Emanuela Orlando

Latvia

I would start with the quote from the recent judgement of the Administrative Supreme Court to indicate some positive trend with respect to wider recognition of the need (and means) for more green space in urban area and one may note that the administrative court (at least at the highest level) very well contribute to that direction.

"The proportion of green space in urban areas is an element of natural diversity. Trees and parks could be called 'the lungs of a city' - they are an important tool for ensuring a healthier environment and improving the city's climate. A tree is also an essential landscape element in an urban environment. Parks and trees diversity shapes a city's character and contributes to its attractiveness. City gardens and parks also have a social function, as shared outdoor space is an integral part of modern life of the city. Therefore, the right to a green urban environment is embedded in the scope of the right to a favorable environment."[131]

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

Most detailed this type of information is available with respect to protected natural areas, which in fact are located also in quite some cities, like in territory of Riga there is one national nature park *Piejūra* and three nature reserves – *Krēmeri, Jaunciems, Vecdaugava*. Each of these territories has a Nature protection plan, that includes detailed information about the protected types of habitats and species and how to protect/enhance them. The plans are mid-term management plans for 7 to 15 years.

At the same time, there are data layers for Riga city in different databases that covers nature-related information and is used in decision-making and partly covers 'data regarding biodiversity in urban space', for example:

- Protected nature territories and objects – protected natural areas, protected natural area functional zones, microreserve territories, protected trees (national protection, tress and 'nature monuments' protected at national level)
- Protected trees at the municipal level (mapping has been done in Riga)
- Data on trees next to streets and near educational buildings – database available for the management of trees.
- For the management of protected nature territories, the information and data are registered on, e.g.: where it is being mowed, grazed, where is happening utilization of construction debris, where the garbage is being collected, where are happening activities for restriction of invasive species.

[131] Supreme Administrative Court, judgement of 31.08.22 No SKA-298/2022, para 7. In the case the focus was on the specially protected tree that was illegally cut by an applicant who was penalized by the municipality. In the case before the administrative court an applicant tried to dispute the competence of the municipality to rule on the protection status of trees arguing that it is the competence of the state, thus the municipality cannot introduce a stricter requirements (due to which that tree fall under the special status). The judgment was in favour of the municipality recognizing their competence to rule of special protection status at local level.

- Part of this information is evolving and updated and used as a working tool. There are plans to develop municipal Georiga portal for better information exchange especially on green territories.
- Infrastructure objects for protected nature territories – tower, notice board, visitor counter, barrier, etc.
- Protected habitats – point and field layers for deposits of species, field layers for protected biotopes.
- 'City meadows.' It is the project-based activity where ENGO together with inhabitants developed 30 grasslands/meadows with valuable plant species for the enhancement of biodiversity in Riga. Another project will continue the activities and widen the covering of areas in Riga city.
- Data on location of invasive species (plants, in fact, we have problems with one - *Heracleum sosnowskyi)*
- Layer of forest parks

Data are collected and updated also by two active NGOs that have developed quite reliable citizen science network, where citizens can add their observations regarding plant and animal species:

- *Dabas dati* curated by two non-governmental nature protection organizations - the Latvian Nature Foundation and the Latvian Ornithological Society https://dabasdati.lv/lv
- The third atlas of nesting birds of Latvia (2020-2024) curated by the Latvian Ornithological Society https://www.lob.lv/putnu-atlants/

At the national level, under the supervision of the Ministry, the Nature Protection Agency is performing a significant project covering whole territory of Latvia with the aim of assessing the distribution and quality of protected habitats of EU importance in Latvia (in a sense to perform an "inventory" and mapping of protected habitant)[132]. In the first stage, the system for measuring the value of nature - a Nature Census – was introduced in order to collect detailed and complete information about Latvia's natural capital, to effectively manage those resources and plan economic activity accordingly. The "inventory" has been carried out during 2019-2022, at this moment, the assessment and compilation of received data is performed by supervisory authority, thus the project is still on-going although needs to be finalized during 2023.

The data on biodiversity (and protected habitats and species) are collected, registered, made publicly available through the portal (managed by the Agency) that covers whole territory of Latvia, including cities, at the same time, the data outside the protected areas are rather limited.[133]

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

[132] More about the project available here: https://www.skaitamdabu.gov.lv/public/eng/about_the_nature_census/
[133] The portal «Ozols» , available: https://ozols.gov.lv/pub

Riga municipality has started developing a Greening plan[134] and Biodiversity strategy [135]that will contain specific objectives regarding urban biodiversity.

The city has a mid-term planning document (Development Program of Riga 2022-2027), which has 9 priorities, that are tied together with Investment Plan. One priority is dedicated to environmental quality – *Good environmental quality and a resilient urban ecosystem to mitigate climate change.*[136] This priority has 28 indicators with a base and target values for 2027. One of the subtasks is to improve environmental quality. Regarding *biodiversity in urban spaces*, there are following indicators:

- Number of water objects with very bad environmental quality (to be reduced)
- Area of protected meadow biotopes (to be enhanced).

On the theme of *nature and biodiversity*, there are three indicators in the Development programme:

- Percentage of protected natural areas, restored and naturalised areas on public land in municipality;
- Percentage of tree canopy cover within the city;
- Change in number of species of birds in urban area/built-up areas in the city.

In 2021 Riga joined **Green City Accord**, a movement of European cities in which more than 70 city mayors have committed to protecting the natural environment. Riga has set goals in reducing water, air and noise pollution, decreasing waste volumes, promoting biological diversity and integration of green infrastructure in the city's nature territories as its main environmental priorities.[137]

In addition to the general (national) framework of nature protection, there is indeed additional (local) regulations adopted by municipalities protecting "nature monuments" in their territories like unique and valuable trees and other natural objects. The competence stems from the Law on Specially Protected Nature Territories and the Law on Municipalities providing entitlement to adopt a legally binding enactments for the protection and management of nature monuments and determining the liability for breaches of those rules.[138] There are quite some municipalities that have adopted such binding enactment and, in the case, quoted above the court confirmed this competence with respect to the protection of trees.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

At the national level, there is a planning document - Latvian National Plan for Adaptation to Climate Change until 2030 that covers 'heat waves' as one of climate extremes that needs to be

[134] Information on the project available: https://www.bef.lv/projekti/latestadapt/
[135] Information available: https://webgate.ec.europa.eu/life/publicWebsite/project/details/101074453
[136] Shorten version in English: https://www.rdpad.lv/wp-content/uploads/2022/07/220715_Informativais_materials_ENG.pdf)
[137] According to the agreement, Riga must provide first report 2 years after the signing of the agreement. The progress is going to be reported every three years on achieving the objectives for 2030.
[138] Law On Specially Protected Nature Territories, art. 6& 13. Available: On Specially Protected Nature Territories

addressed.[139] At the same time, in the Plan more focus is devoted to flooding risks (based on the historical data and experience of recent decades) and other risks. However, the municipalities are also called to adopt their mitigation and adaptation plans, addressing special needs and situations at local level. [140]

There are some activities at local level, for example, in 2016 there was a detailed examination of Heat Islands in Riga city.[141]

The results can be seen in the municipalities' Georiga portal, where one can find such layers as:

- surface temperature, net radiation, ground heat flux, sensible heat, ground heat flux, latent heat, surface albedo, leaf area index etc.

In 2022 there has been a study of open access satellite data for the possibilities of use in the spatial monitoring (to be developed by 2027). It included analysis of factors affecting heat islands, that can be practically used for the analysis of the existing situation, for identifying problem areas and for city development planning.

9. What instruments are in place in order to adequately handle heat management?

There are some solutions that could be associated with handling heat management in special planning rules on development and (green) infrastructure, including coefficients for the calculation of green open space, as well as some developments are going on with respect to adaptation measures, including municipalities developing the network of freely accessible public drinking water taps. However, there seems to be no instruments in place that could be indicated as aimed adequately handling heat management. At the same time, the tool available on the webpage of the Latvian Environmental Agency indicates that it worth to be addressed sooner than later.[142]

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

If the focus is on the 'enhancement' of biodiversity then rather answer would be, no, at least there is no binding rules that would set such requirement as the rule for infrastructure planning, similarly with respect to heat management. There are some conditions with respect to the protection of green areas, and planning of proportion of open green space as mentioned above. For example, the new Riga Spatial Plan (RSP), which got approved in 2023, has increased the proportion of nature and green areas that should be left as green space striving to protect also small green areas from the development. Specific requirements are laid down for landscaping, noise, and air pollution control through green planting.

[139] Two areas are identified where actions need to be taken: agriculture and health of vulnerable part of the society (as people with chronical diseases).
[140] Latvian National Plan for Adaptation to Climate Change until 2030 aproved by the government order No 380 in 2017.
[141] More information: https://sus.lv/petijumi/klimata-ietekmes-pielagosanos-klimata-parmainam-un-pielagosanas-iespeju-sociali-ekonomisko
[142] Tool available: https://www4.meteo.lv/klimatariks/

However, apart from Nature protection plans developed for the specially protected areas (like in Riga, four above-mentioned) not that much has been done so far to enhance biodiversity in Riga. At the same time, some changes are expected thanks to the need for adapting to the EU Biodiversity strategy for 2030, aimed at 'systematically bring nature back to cities.' According to it, cities with over 20,000 inhabitants are called to develop Urban Greening Plans. Development of these plans is currently underway in some of the cities (including Riga).

Conflicts of interest are tackled through the "classical" planning process/instruments involving different competent institutions, as well as stakeholders, organizing consultations, including with neighbourhood alliances (organizations representing local inhabitants) where established. The letters are active in different districts of Riga cooperating with the municipality quite actively for achieving "to be heard" effect.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

There are some interesting projects on-going or just submitted that have good potential to positively affect the issues discussed under this set of questions. For example:

1. Under the Life programme the Climate sub-program called "Developing and demonstrating portfolio of nature based and smart solutions for improving urban climate resilience in Latvia and Estonia".[143]

The LIFE LATESTadapt project is aimed at creating a framework (including guidelines, training, etc.) for integrating nature-based solutions into spatial development planning and promote the use of nature-based solutions in Latvian municipalities to adapt to the risks of climate change in the urban environment.

2. UrbanLIFEcircles: Restoration of 29 ha of Natura 2000 grassland habitats (1630*, 6450) in Jaunciems nature reserve (LV0524600).[144]

Established network of >45 urban meadows in city of Riga. The sites are in various sizes (0.01-1 ha) and the exact size of the intervention area is to be agreed with the plan to be elaborated under WP2. Improved connectivity of biodiversity in 8 km of corridors.

Another successful project that popularizes grasslands and their worth regarding biodiversity in urban space is a national project - "grow your own 1 m2 of meadow"[145].

Author: Zaneta Mikosa

Netherlands

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

I don't think so. Although many cities have targets - for instance - for planting trees and it would be helpful to be aware of the number of existing trees to keep track of the growing number of (planted) trees, I am not aware of the collection / accessibility of such data. Until now biodiversity in urban context has been rather anecdotical topic/factor I would say but the role

[143] LIFE LATESTadapt: https://www.bef.lv/projekti/latestadapt/
[144] https://webgate.ec.europa.eu/life/publicWebsite/project/details/101074453
[145] https://grasslife.lv/

is growing as we seem to be more aware that providing more green/biodiversity in (connected) urban spaces is not just good for biodiversity but also for combatting climate change and adapting to the changes (e.g. trees provides shade).

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

Although there are many cities that aim in their policies to have more green in the urban areas, I'm doubtful it is to be considered a specific topic with regard to public policy. Objectives could be formulated but only in policy documents. There are quite some instruments for the protection of nature (Natura 2000 and the Dutch Network of Nature Protection Areas), but I am not aware of any specific legal instruments. Most likely the general framework of protection could be considered inadequate. What is the general framework of protection? I can think of spatial planning ('green', 'park', 'forest') and of local provisions that protect against cutting down trees.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

Many cities have more general (local) heat plans (policy documents) about the measures that will be taken when temperatures remain above 27 degrees Celsius for a longer time and the public spaces are sometimes changed (e.g. by planting trees that provide shadow and by introducing drinking water access points) by municipalities but from a legal perspective (e.g. spatial planning perspective) I think the relevance of heat stress is not yet very high on the agenda.

9. What instruments are in place in order to adequately handle heat management?

Adjusting public spaces by the owner (mostly municipalities) and spatial planning / city planning but I think this aspect in planning is not yet often of legal relevance in court cases.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

Yes. In spatial planning decisions these issues are relevant. Heat stress, drought, flooding and flood risk management are four issues that relate to climate adaptation and should be weighed by the municipal council when adopting a new zoning scheme. However, I've not seen many cases where a local zoning scheme was deemed unlawful because the interest of heat management was not properly weighed in the planning decision; although there is case law that states that a zoning scheme may not cause unacceptable heat stress (ECLI:NL:RVS:2022:3312). The interest of biodiversity is predominantly weighed by referring to protected species and nature protected areas (both those with national protection and those protected by EU law).

11.Are there any best practices or interesting cases (lighthouse examples) to learn form available?

---- (maybe ECLI:NL:RVS:2022:3312)

Author: Kars de Graaf

Norway

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

Very limited data is available. Information about biodiversity is mainly anecdotal in urban areas. There is some degree of integration of urban and agricultural areas, but such integration is increasingly under pressure.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

There is no specific regulations or policies of relevance beyond animal welfare legislation and restrictions on the free movement of dogs.

8. How is the phenomenon of heat development in cities addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

This is not yet any relevant topic in the Norwegian context.

9. What instruments are in place in order to adequately handle heat management?

This is not yet any relevant topic in the Norwegian context.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

Issues of biodiversity is increasingly on the agenda in the urban context, mainly associated with wild animals being increasingly present in urban areas, and with a focus on animal welfare issues.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

No.

Author: Ole Kristian Fauchald

Portugal

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

No, there are no systematic data available.

However, there is a project going on at the municipal level, involving municipalities, one national ENGOs and an international ENGO (global footprint network) to measure the ecological footprint of the participating municipalities (https://www.pegadamunicipios.pt/). This project looks at well defined indicators one of which are green and blue spaces.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

Biodiversity in urban spaces is not addressed as a specific topic with regard to the legal framework. There are some legal instruments mentioning urban biodiversity. It is usually referred as "green spaces" in urban planning and territorial management laws.

In the law establishing the general principles of public policy on land, territorial planning, and urbanism (https://dre.pt/dre/legislacao-consolidada/lei/2014-57377208) the goals of the mentioned policy are:

"a) Valuing the potential of the soil, safeguarding its quality and the fulfillment of its environmental, economic, social, and cultural functions, as a physical support and cultural framework for people and their activities, a source of raw materials and biomass production, a carbon reservoir, and a biodiversity reserve.
d) Increasing the territory's resilience to the effects of extreme weather phenomena, combating erosion, minimizing greenhouse gas emissions, and improving energy and carbon efficiency.
i) Ensuring the rational and efficient use of soil as a scarce natural resource and valuing biodiversity.
n) Promoting accessibility for people with restricted mobility to buildings, facilities, green spaces, or other communal areas".

The same law determines the creation of a municipal fund which has not been widely implemented yet.

It is called municipal fund for environmental and urban sustainability. This fund receives money from the revenues resulting from the redistribution of capital gains derived from urban operations (for instance, the classification of land as urban, or the proximity of urban infrastructures). The municipality may also allocate other urban revenues to this fund, with the purpose of promoting the creation, maintenance, and strengthening of infrastructure, facilities, or areas for public use. The fund shall be used for urban rehabilitation, ecosystem sustainability, and the provision of environmental services.

Since 2019 there is a framework law establishing the framework of housing (https://dre.pt/dre/detalhe/lei/83-2019-124392055) where citizens are granted a right to housing… and to a habitat.

Article 14 on Habitat, reads:
1 - For the purposes of this law, habitat is understood as the territorial and social context surrounding housing, including the surrounding space, collective infrastructure and facilities, as well as access to essential public services and transportation and communication networks.
2 - The guarantee of the right to housing encompasses the existence of a habitat that ensures conditions of health, safety, environmental quality, and social integration, enabling the full enjoyment of the housing unit and the spaces and facilities for collective use, and contributing to the quality of life and well-being of individuals, the establishment of neighborhood and

community ties, as well as the defense and enhancement of the territory and landscape, the protection of natural resources, and the safeguarding of cultural and environmental values.
3 - Habitat can be urban or rural.
4 - The enhancement of urban habitat includes:
a) The existence of facilities to support childhood, preschool and compulsory education, health care, support for the elderly and people with disabilities;
b) The improvement of public spaces;
c) The safeguarding of environmental quality and adequate protection against environmental, natural, or human-made risks;
d) The maintenance of conditions of public calm and tranquility.
5 - The enhancement of rural habitat includes:
a) The existence of an organized system for the management of rural space, ensuring its sustainability and security;
b) The protection and preservation of the characteristics of the territory and landscape that give it its own cultural identity;
c) The safeguarding of environmental quality and adequate protection against environmental, natural, or human-made risks;
d) Access to health services and educational and social support.

This law can support initiatives, taken at the municipal level, to invest in enhancing the natural elements in urban areas.

In 2021 a law establishing a legal framework for urban tree management was adopted. (https://dre.pt/dre/detalhe/lei/59-2021-169780050). This law regulates pruning operations, transplants, and criteria applicable to felling and selection of species for planting, establishing their hierarchy and implements the Regulation No 1143/2014 of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

Heat is mentioned in one of the goals of the law establishing the general principles of public policy on land, territorial planning, and urbanism (https://dre.pt/dre/legislacao-consolidada/lei/2014-57377208): “d) Increasing the territory's resilience to the effects of extreme weather phenomena, combating erosion, minimizing greenhouse gas emissions, and improving energy and carbon efficiency.” Besides, “public policies and administrative actions also contribute to environmental preservation and are subordinated to the following environmental principles: a) Sustainable development, which requires meeting the needs of the present without compromising those of future generations, including the preservation of natural resources and cultural heritage, the long-term capacity of ecosystems for production, rational and balanced territorial planning to address regional disparities, the promotion of territorial cohesion, sustainable production and consumption of energy, safeguarding biodiversity, biological balance, climate, and geological stability, harmonizing human life and the environment.”

Heat waves are also mentioned as grounds for the need to enlarge the so called green areas in the Municipal Directing Plan in the cities.

9. What instruments are in place in order to adequately handle heat management?

Heat waves are treated as public health issues and Contingency Plans (called *Seasonal Health Plans*) are activated. These plans determine the measures to be applied by hospitals and other medical services during heat waves (https://dre.pt/dre/detalhe/despacho/2483-2017-106629368).

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

Yes. According to the law, the "Property owners have the duty to preserve and enhance natural, environmental, landscape, cultural, and biodiversity assets.

Property owners have, in particular, the following duties:

a) Use, maintain, and rehabilitate properties, including existing buildings;
b) Provide legally required areas for infrastructure, facilities, green spaces, and other communal areas, or, in the absence or insufficiency of providing these areas, compensate the municipality;
c) Create infrastructure, green spaces, and other communal areas;
d) Contribute to the costs of construction, maintenance, reinforcement, or renovation of general public infrastructure, facilities, and spaces;
e) Minimize the level of exposure to collective risks."

The territorial plans have to balance public and private interests, one of which is biodiversity:

Article 39 Balancing Public and Private Interests

1 - Territorial programs and plans identify, assess, and harmonize various public and private interests as reflected in territorial planning.
2 - Territorial programs and plans ensure the harmonization of various public interests with spatial expression, taking into account national defense, security, public health, civil protection, development strategies, as well as territorial sustainability in economic, social, cultural, and environmental terms in the medium and long term.
3 - The entities responsible for the development, approval, amendment, revision, implementation, and evaluation of territorial programs and plans must ensure, within their respective areas of intervention, the necessary coordination among various policies with territorial implications and the land-use planning and urbanism policy, maintaining an organic and functional structure capable of pursuing effective coordination, cooperation, and consultation in the exercise of various competencies.

To operationalize this duty there are two important tools. One is called "building rights transfer":

Article 21 Transfer of Building Rights

1 - Inter-municipal or municipal territorial plans may allow for the transfer of building rights assigned to a lot or parcel of land to other lots or parcels, aiming to pursue, in particular, the following purposes:
a) Nature and biodiversity conservation;
b) Safeguarding natural, cultural, or landscape heritage;
c) Prevention or minimization of collective risks inherent in severe accidents or disasters and environmental risks;

d) Rehabilitation or regeneration;
e) Adequate provision of infrastructure, facilities, green spaces, or other communal areas;
f) Social housing purposes;
g) Resource efficiency and energy efficiency.
2 - For the purposes of the preceding paragraph, inter-municipal or municipal territorial plans regulate the provision of transferred building rights, defining the terms and conditions under which the values of the specific right to build can be used, as well as the mechanisms for their operationalization, in accordance with the procedure provided by law.
3 - The transfer of building rights must be registered in the land registry of the lot or parcel of land to which such building rights were assigned, in accordance with specific legislation to be defined.

The other is called “redistribution of benefits and burdens”.

Article 64 Redistribution of Benefits and Burdens

1 - All systematic and non-systematic urban operations are subject to the economic and financial regime regulated by law and the following articles.
2 - Inter-municipal or municipal territorial plans contain instruments for the equitable redistribution of benefits and burdens resulting from them.
3 - The redistribution of benefits and burdens carried out within the scope of inter-municipal or municipal territorial plans is based on planning and management operational units, as well as execution units, considering the overall territory covered by them.
4 - The redistribution of benefits and burdens carried out in accordance with the previous paragraph applies to all systematic and non-systematic urban operations occurring in the respective territory, implementing the allocation of capital gains resulting from the plan or administrative act.
5 - The redistribution of benefits and burdens carried out within the scope of execution units or other programming instruments determines the distribution of benefits and burdens among all respective stakeholders.
6 - For the purposes of the provisions in the preceding paragraphs, inter-municipal or municipal territorial plans substantiate the process of forming land value increases and define the criteria for their parameterization and redistribution.
7 - The law may also establish mechanisms for the distribution of burdens and benefits aimed at compensating for costs arising from the protection of general interests, namely the safeguarding of cultural heritage, biodiversity enhancement, or ecosystem protection.

Article 65 Objectives of the Redistribution of Benefits and Burdens

The redistribution of benefits and burdens takes into account the following objectives:
a) Ensuring equal treatment regarding benefits and burdens resulting from inter-municipal or municipal territorial plans;
b) Making lands and buildings available to the municipality for the implementation, installation, or renovation of infrastructure, facilities, green spaces, and other communal areas, as well as compensating individuals in situations where it is deemed necessary;
c) Ensuring equal treatment regarding benefits and burdens within an execution unit of an inter-municipal or municipal territorial plan.

Article 66 Types of Redistribution of Benefits and Burdens

The types of redistribution of benefits and burdens include:
a) Social allocation of general capital gains granted by the inter-municipal or municipal territorial plan;
b) Distribution of benefits and burdens resulting from the inter-municipal or municipal territorial plan among landowners;
c) Contribution of areas for the implementation, installation, and renovation of infrastructure, facilities, green spaces, and other communal areas.

11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

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Author: Alexandra Aragão

Slovenia

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

These data are occasionally present, especially in the cities where certain green areas (like parks covered by forest), moors in the suburb, or SpA in the town or the suburb. Namely, one of the elements in the Slovene cities is that they are small in terms of European or world standards; cities are often surrounded by green areas, sometimes even with SpA, or SpAs are also inside the cities. Also, it has long been established that each part of the city shall have certain green details, like small parks, gardens, and meadows (with playgrounds etc.). Usually, it belongs to every apartment building or, to some of them, a small park or other green areas. This approach has also been used during fast industrial developments after the second world war, especially in 1960 and 1970. However, it happens nowadays that these areas are also built up with apartment buildings or, often, with parking places. Citizens usually oppose these planes, especially regarding the forests that are part of the cities.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

The regulation framework exists on the state level and is to be further implemented on the local level. According to the **Spatial Planning Act**, cities have to consider when adopting planning acts the necessary green areas. This law provides that a green area is an area in the residential area with a certain degree of naturalness (e.g. parks, urban forests, greenery by water surfaces, green spaces, avenues of trees, greenery by streets and roads, recreational areas, children's playgrounds, gardens, also cemeteries, etc.) and individual natural structures in the area (e.g. trees and other vegetation). Municipalities' spatial plans are to align with the state plans and statutory requests, meaning that the state level can demand from the municipalities also respect the green areas. To my knowledge, I do not know of any state demand in this respect. As far as I observe the development, fewer and fewer green areas are newly introduced in the city areas. It is more vice-versa processes in place. Also, when reading the opinions of old urbanists and architectures, they emphasize that the elements like individuals' well-being in the cities, including the individuals' need for social and green areas, are in decrease. I share these

viewpoints. It is also an interesting change: in the past, there was no rule to include green areas in the city planning acts and procedures, but they were nevertheless often included. It was important for the society. Today's rules envisage this obligation, but despite it there are fewer green areas in the city.

8. *How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?*

Not to my knowledge. Heat is mainly addressed regarding the working conditions for workers in open air. More frequent breaks during work are needed.

Resolution on climate strategy until 2050 (soft law) of 2021 includes that wherever possible, mitigation and adaptation measures will be implemented together, as most measures contribute to reducing GHG emissions and increasing resilience. The goal is to increase the energy efficiency of buildings, food self-sufficiency and the restoration of degraded ecosystems, as well as green urban infrastructure, which helps to reduce the temperature, which also means less energy for cooling, and at the same time, urban green infrastructure has a positive impact on biodiversity and the heat island effect in places.

However, to my knowledge, there is no binding rule in Slovenia in this respect.

9. What instruments are in place in order to adequately handle heat management?

See above.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

I mentioned above that the rules on the state level are rather general. Municipalities can obey them in whatever form, whatever size in the area; even not including the green areas in spatial plans would be possible. Densification is one of the main problem of interest. Also, the conflict of interest usually, unfortunately, prevails by reasons that streams towards densification. More and more individuals are either daily migrant workers or mowing to the cities for economic reasons. Usually, also a growing economy's demands (i.e., lowering the social problems) affect the decisions to densify city areas. Since Slovenia is very diversely-populated (mostly land-sharing approach), public transport is difficult to organise effectively. Hence, habitants rely predominantly on their transportation, usually cars. Decentralisation could cure less densification in the (main) cities.

Decentralization could be a lot more successful project in Slovenia. Unfortunately, this is not the case (i.e. daily moving of the working force to two or three bigest cities is substantive). Also, there needs to be better development of train-based transport or other modes of public transportation. Part of that is because Slovenia has a very diverse relief, and building railways is not only very expensive but technologically difficult. So far, the authorities instead stick with widening the highways, city ring roads etc. I follow the arguments of experts that better decentralization (for instance, that not all public authorities shall be located almost only in the capital city) would decrease densification. Secondly, better public transportation would also prevent less permanent (or long-term) relocations to cities.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

I can list the following:

- closing city centres for any other transport than modes of environmentally friendly public transport, bikes, etc. City centres in Slovenia can be easily reserved for (or at least given priorities) pedestrians and bicyclists since the cities are not big. Often walking distance suffice;
- reduction of public transport prices for older people, students or other groups to decrease the necessity for taxis or other forms of motor-based transport;
- preservation of some green regions in the cities as SpA under national, not EU, rules. That assures long-standing protection and conservation.

Author: Rajko Knez

Spain

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical?*

No, in Spain there are no aggregate or centralized data on this topic. Information should be collected in every municipality.
In the local scenario, biodiversity is currently a key topic in any new urban development project. On the one hand, most big cities have a mayor "green lung", a big park within the city or in the fringe thereof, where biodiversity is protected and enhanced. In the case of Madrid, the most important green area is the "Casa de Campo", a massive urban park covering more than 1,700 hectares. Within this park (and forest), which is preserved from urbanization by strict local urban plans and ordinances, there are plenty of initiatives, plans, actions to preserve and to enhance biodiversity, such as botanical pathways, bike lanes, birds-seeing, etc. (see: https://www.esmadrid.com/informacion-turistica/casa-de-campo).
On the other hand, the laws and regulations on urban growth planning (mainly of regional character) provide for mandatory requirements in terms of a minimum percentage of green areas for any new residential development or urbanization ("estándares urbanísticos"). These standards must be respected by the building companies implementing the new residential developments and urbanisations.
Finally, biodiversity and green areas constitute a powerful argument in most publicity relating to new residential estates, especially for high quality housing developments designed for the upper-middle and high social classes.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist?...*

As explained supra, the topic of biodiversity "within the city" is usually addressed in the laws and regulations on urban growth planning and zoning, and in the local ordinances and local urban plans. When the green area is sufficiently extensive (public park-forest), a specific local plan may be approved by the city council, describing the permitted uses, directions for the management of unique trees or wild fauna species, areas of specific protection, sanctions for wrongdoers and the like. Example: the public park "Cerro de los Angeles" in Getafe, which is

supposed to be the geographical center of the Iberian Peninsula: https://es.wikipedia.org/wiki/Cerro_de_los_%C3%81ngeles

8. *How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?*

This topic is no addressed in any special or specific manner, but in a general way, together with other aspects of the environmental strategic assessment when a new urban plan is prepared and approved by the local councils. The issue of heat development has not attained a significant or autonomous relevance.

9. *What instruments are in place in order to adequately handle heat management?*

See previous reply

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

As noted *supra*, the enhancement of biodiversity "in the big city" plays and ever greater role in Spain, and this is handled by each local council, with the framework of (mostly) regional laws. For instance, in 2006 the Region Madrid approved the Act 8/2005, of December 26, 2005, on the protection and promotion of the urban trees in that Autonomous Community.
This law includes a complete set of provisions aimed at protecting and improving the urban woodland, understood as the group of trees located within the land classified as "urban". Among others, the law includes provisions that prohibit the felling of trees, indiscriminate pruning, singular trees, tree inventories, requirements for new plantations, etc. The law also establishes that the owners of urban trees of any category are obliged to maintain, conserve and improve them, carrying out the necessary work to guarantee the proper condition of the specimen.
The conflicts of interests are solved by the local politicians of the day, although "illegal" local plans, regulations or projects may be challenged in the administrative courts.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

There are not too many cases that could be described as "lighthouse". However, there are many Spanish municipalities that have stood out in recent years for implementing plans, strategies and actions (e.g. Local Agenda 21) in which sustainable development and the integration and protection of biodiversity, among other aspects, have been especially valued. Some of them have even won national and international awards and recognition, such as the municipality of Calvià, in the Balearic Islands (www.calvia.com). Also noticeable is the case of Bilbao (see: https://www.bilbao.eus/cs/Satellite/agenda21/Inicio/es/100078002/Home)

Author: Angel M. Moreno and Agustín García Ureta

Sweden

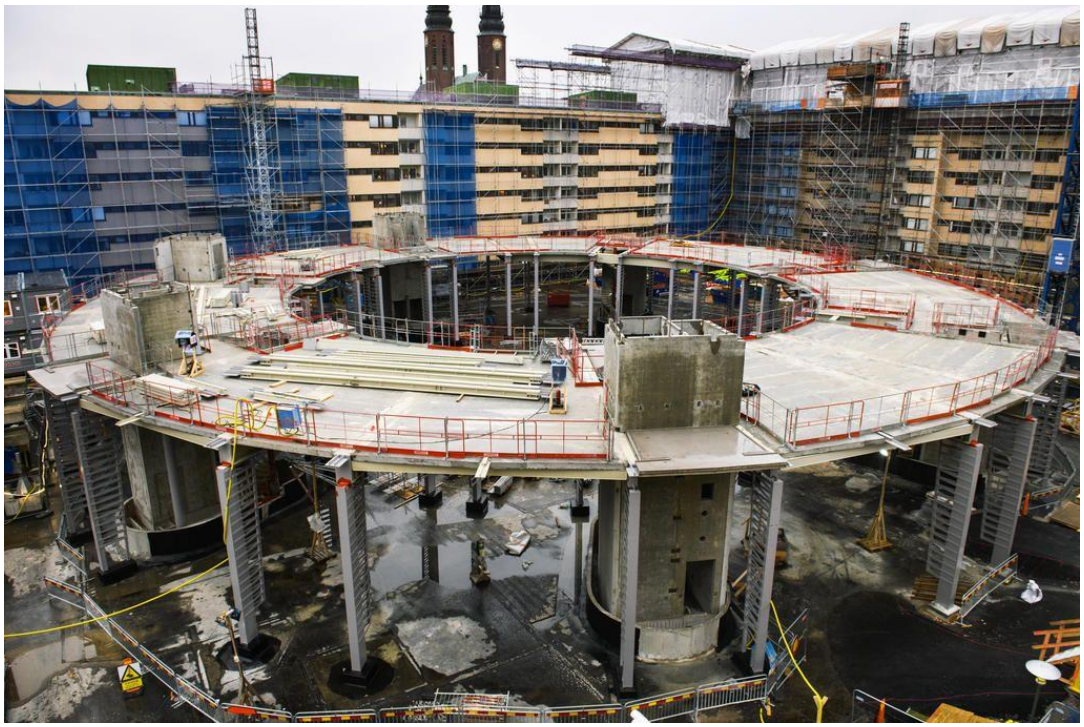
6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

The national authority Statistics Sweden publishes data on “green areas” in cities and their vicinities; Green areas within and in the vicinity of urban settlements (scb.se)

As Stockholm is a rather green city with lot of water, the debate about city biodiversity has been rather weak over the years. As a result of the increased pressure for development recent years, the issue is getting more attention.

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

As noted, little attention has been paid to these issues until recent years. Objectives for the city development in this respect are merely formulated in soft “guidelines” with no legal effect when it comes to individual planning or building decisions. As such projects mainly are triggered by private initiatives, there are many examples of horrendous densifications in the city, see picture below on the development at Plankan, where the green area and playground between the houses built during the 1970s will be replaced by a tower.



8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

No such documents or instruments available…

9. What instruments are in place in order to adequately handle heat management?

There is no such discussion in Stockholm…

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

According to the Planning and Building Act (2010:900) – referring to the Environmental Code (1998:808) – this is for the municipality to decide upon in a balancing of interests. There are no examples from 30 years of case-law where the land and environmental courts have quashed such a decision referring to green interests, unless there has been some cultural heritage involved.

11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

From reasons mentioned above, Stockholm has little to add to such a discussion (at least from an environmental friendly perspective)…

Jan Darpö

Switzerland

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

The data suggest that around 20'000 out of the 45'000 species existing in Switzerland can also be found in urban spaces. In Zurich 1210 ferns and flowering plants were found in 2001, around 40 % of the existing species in Switzerland. As for birds, around a third of all breeding birds in Switzerland can also be found in urban spaces, as for bats the rate amounts to 57 %. The surprisingly high abundance of invertebrate species is comparable to that in forest or agricultural areas outside the cities. About 13 % of the arthropods live mainly in cites and thus form a specifically urban community. Due to the heat island effect, some species stemming from the Mediterranean region are enabled to survive in cities and thus outside their native range. At the same time, biodiversity is also under pressure in cities, in Zurich for instance the number of breeding pairs of all bird species has shrunk by 20 percent in twenty years (source: Obrist et al., Biodiversität in der Stadt – für Mensch und Natur, Birmensdorf 2012).

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

Biodiversity in settlement areas is addressed as a specific issue in the Strategy on Biodiversity as decided by the Federal Council in 2012: It requires that "cantonal and communal spatial planning instruments should help to design settlements in such a way that the biodiversity develops there quantitatively (permeability of the settlement area by means of corridors, individual areas, unsealing, greening of buildings) and qualitatively." (p. 65 German version) It also constitutes a specific objective of the Strategy: "Biodiversity in the settlement area is to be promoted by 2020 in such a way that the settlement area contributes to the connectivity of habitats, preserves species specific to settlement, and the population is able to experience nature

in their living." (strategic objective no. 8 – Strategy on Biodiversity). Currently there is a specific project underway, which aims at raising the awareness of the different actors in the federal framework, pinpointing the potential fields of tension particularly with regard to densification, pointing out ways in order to reconsolidate the different objectives and clarifying the contributions and roles of the different actors (Program: Promote Biodiversity and the Quality of Landscapes in Agglomerations).

The main instrument in this respect is the mechanism of ecological compensation as foreseen in art. 18*b* para. 2 Federal Act on the Protection of Nature and Cultural Heritage (NCHA) stating that "[i]n intensively used areas within and outside residential areas, the cantons shall ensure ecological compensation by means of thickets, hedgerows, riparian tree plantations, or other near-natural vegetation adapted to the site. In doing so, due consideration must be given to agricultural requirements." Art. 15 para. 1 Ordonnance on the Protection of Nature and Cultural Heritage further specifies that the purpose of ecological compensation "is primarily to connect isolated biotopes, if necessary by the creation of new biotopes, in order to promote species diversity, to achieve forms of land use that are as near-natural and benign as possible, to integrate nature into residential areas, and to enliven the landscape." This instrument is however not sufficiently used in practice, mainly due to the fact that the trigger for the obligation to compensate is not sufficiently concrete and that the measures to be taken are defined in a rather open manner. Further, the federal distribution of responsibilities is also seen as a hurdle when it comes to its implementation in practice, as the obligation is set on the federal level, whereas the cantons are responsible for its implementation.

In order to increase the use and impact of the instrument, the Federal Office for the Environment thus published a collection of model-provisions, which should operationalize the federal obligation. These provisions relate to aspects such as the applicable conditions for compensation, cost sharing mechanisms, implementation and a substitute levy to be imposed, if local conditions do not allow for compensation.

The required surface for such compensation measures was assessed to be around 15 percent of the total urban territory. The biodiversity concept of the city of Bern thus aims at 18 percent of such surfaces, the municipal structure plan of the city of Zurich aims at 15 percent.

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

As far as I can see, there is no overarching framework concerning measures against the development of excessive heat in Switzerland. In the city of Zurich for instance, the authorities have set three main goals: Avoid overheating in the entire urban area, selectively relieve vulnerable urban areas and preserve the existing cold air system of the city. For each of the measures the city elaborated a specific plan. The implementation of these measures is done by means of a four-year-program addressing a broad range of measures (adaptation of the legal framework, strategies, instruments compulsory for public authorities, construction projects of the city, subsidies as well as counseling and information). The city for instance created a planning tool for planners and property-owners. The tool provides an analysis for each individual parcel of land and contains specific recommendations for measures to be taken in each case. The concerns of excessive heat are also taken into account in newer construction projects of the city and in addition to this, some punctual measures have been implemented,

some a part of pilot projects (small-scale unsealing, experimentation with new, light-colored pavements or the creation of an artificially generated fog cloud to be used on heat days). Despite these attempts, the current approach leaves the impression that the policy in this respect is still in the making. Measures start to be taken in specific respects, but the overarching legal framework is still to be put in place.

In order to get to more concrete and binding results, an NGO launched a series of municipal popular initiatives ("city climate initiatives") in various Swiss cities. In the case of the city of Bern the initiative requires that after the entry into force of its provisions, the area of at least 0.5 percent of the total road surface in the municipality must be unsealed form paved road surfaces and converted into green and/or ruderal areas every year for a duration of ten years. At the same time 1 percent of the total road area in the municipality has to be converted into pedestrian zones and/or additional areas for pedestrian and bicycle traffic every year for a duration of ten years. The city of St. Gallen accepted a counter-proposal to the initiative, which foresees to transform 120'000 m^2 of road surface into surface for pedestrians and cyclists as well as the conversion of 80'000 m^2 of sealed surface into green areas in the next ten years (together around 15 % of the total municipal road surface).

9. What instruments are in place in order to adequately handle heat management?

Currently the instruments are mainly pertaining to planning. Compulsory measures for public and private projects or mechanisms of conversion of current structure are still rare. But the topic is steadily gaining political attention.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

This would often depend on the local legal context. Mostly these considerations will be part of the general process of the ponderation of interests. As far as I can see, rigid and legally binding obligations are not to be found.

11. *Are there any best practices or interesting cases (lighthouse examples) to learn form available?*

The local "city climate initiatives" constitute an interesting way to raise the awareness for climate adaptation issues and for pushing the respective endeavors. However, it remains to be seen whether these initiatives will be accepted by the voters and how they would be implemented.

Author: Markus Kern

Turkey

6. Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g., agricultural spaces)?

At the national level, data regarding biodiversity are provided and opened to the public through the website called "Nuhun Gemisi"[146]. This website includes information regarding biodiversity

[146] http://www.nuhungemisi.gov.tr.

in each city as well as the assessments made for it taking into account the IUCN criteria. The existing information are updated and new data with regard to deficient areas are included into it as a consequence of new scientific studies. Additionally, data regarding biodiversity also are existed in the action plans concerning protected areas including species, and climate change.

Data regarding settlement areas is provided in the official statistics prepared at the national level[147].

At the local level data regarding biodiversity, agglomerations and settlement areas exist in several kinds of urban plans such as climate action and green city plans and landscaping plans prepared by metropolitan municipalities and district municipalities. For instance, Ankara MM prepared and published a very comprehensive landscaping plan, and it contains detailed information on all these issues[148]. The MM of İzmir (the third biggest city of the country following İstanbul and Ankara) has also prepared a strategic plan containing detailed information including goals and measures to protect biodiversity taking into account the related issues[149].

7. Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?

At the national level, biodiversity in urban spaces is not addressed as a specific topic in the current legal framework as well as in the documents regarding infrastructure planning, transportation and/or spatial planning let alone to formulate particular objectives concerning "urban biodiversity". Instead, they consider it in the context of the term biodiversity and related terms as "natural, historical and cultural values", "ecological balance, integrity and ecosystems", "protected areas", "landscape", "forest areas" which are fragmentally cited under separate provisions. The National Biodiversity Strategy and Action plan (2018-2028) includes national targets (such as to determine pressures and threats to biodiversity and to eliminate them) and actions for each target that must be carried out until 2028[150]. However, it does not indicate any specific information regarding urban biodiversity, and the studies on the preparation of "the national spatial strategy plan" are not completed yet.

Thus, at the national level, currently urban biodiversity is mainly considered in two documents (the national report on the implementation of new urban agenda[151] as well as in "the smart cities strategy and action plan"[152]) which are prepared mainly taking into account the Sustainable Development Goals for 2030. As specific objectives, the former includes several goals such as minimizing urban sprawl and loss of biodiversity, identifying the negative effects of the climate

[147] https://www.resmiistatistik.gov.tr.
[148] 2023 Başkent Ankara Nazım İmar Planı. https://www. https://www.ankara.bel.tr/ankara-buyuksehir-belediyesi-nazim-plan.
[149] İzmir Büyükşehir Belediyesi Stratejik Planı 2020-2024. https://www.izmir.bel.tr/CKYuklenen/Dokumanlar_2020/Stratejik%20Plan2024.pdf
[150] Ulusal Biyolojik Çeşitlilik Stratejisi ve Eylem Planı 2018-2028. Ankara 2019. https://faolex.fao.org/docs/pdf/tur208837Tur.pdf
[151] Republic of Turkey National Report on the Implementation of the New Urban Agenda, March 2021. https://www.urbanagendaplatform.org/sites/default/files/2021-04/Republic_of_Turkey_NUA_Imp_Rep_2021_FINAL_EN_31.03.2021.pdf
[152] 2020-2023 Ulusal Akıllı Şehirler Stratejisi ve Eylem Planı. 2019. https://www.akillisehirler.gov.tr/wp-content/uploads/EylemPlani.pdf

change in the protected areas and implementing mitigation and adaptiation actions, conserving agricultural genetic diversity, given particular consideration to urban deltas, coastal areas and other environmentally sensitive areas as well as promoting sustainable consumption and production patterns. The latter focuses on establishing "competent and productive sustainable cities ecosystems" through an effective sustainable city governance.

Additionally, the two by-laws relating to the preparation of the landscaping plans and environmental design projects for the protected areas include requirements about consideration the research related to the biodiversity of these areas during the decision-making process concerning particularly the use of these areas for the private installations[153].

At the local level urban biodiversity has been considered in all kinds of urban plans (landscaping, climate action, green city) prepared for cities. However, currently these plans are not fully completed in all cities yet.

There is no separate specific legal instrument on the issue.

It is unlikely to indicate that the legal framework protection is adequate. There is no framework law regarding protection of nature in general, and Turkey did not fully transpose the EU law regarding nature protection yet. For the time being urban biodiversity is protected through the "action plans" prepared to protect species, habitats and ecosystems according to the separate national laws on the several elements of the environment such as national parks, historical, cultural and natural values as well as some ratified international conventions (such as Biodiversity, Ramsar, CITES, Bern). Furthermore, in practice, the Government applies a pro-development policy. In this context, green spaces, agricultural areas as olive fields and even protected areas are under the threat of industrial developments such as construction, mining and touristic installations. For instance, last year (2022)," the By-law on the Amendment to the By-law on the Amendment of the By-law on the Procedures and Substances Related to the Determination, Record and Approval of Protected Areas removed some strict prohibitions from the regulation, and entitled the responsible authorities to allow the construction of more renewable energy facilities in the protected areas"[154]. The new by-law on forest parks also reflects the same approach because it allows use of the protected areas within the forests for the touristic goals under the condition of taking permission from the relevant authorities who are responsible for the protection of these areas[155].

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

Heat development in cities is not specifically addressed in public policy documents and legislation at the national level. Indeed, it is not even cited among the factors and data that will

[153] Korunan Alanlarda Yapılacak Planlara Dair Yönetmelik. Resmi Gazete. 23.3.2012. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=15988&MevzuatTur=7&MevzuatTertip=5. Koruma Amaçlı İmar Planları ve Çevre Düzenleme Projelerinin Hazırlanması, Gösterimi, Uygulaması, Denetimi ve Müelliflerine İlişkin Usul ve Esaslara Ait Yönetmelik. Resmi Gazete. 26.7.2005. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=9171&MevzuatTur=7&MevzuatTertip=5

[154] See. Nükhet Yılmaz Turgut, "Recent Developments on Climate Law and Litigation in Turkey- Report". Avosetta Meeting 27/28 May 2022 in Uppsala *"Integrated Permit Regimes in Conflicting Times"* *https://www.avosetta.oer2.rw.fau.de/contents.html*

[155] Orman Parkları Yönetmeliği. Resmi Gazete.28.5.2022. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39544&MevzuatTur=7&MevzuatTertip=5

be taken into account during the preparation of plans described under the By-law on Spatial Plans Construction. Consequently, even local climate action plans and urban plans include no information on the issue except the action plans prepared for Ankara and İzmir. Ankara climate action plan indicates the risks of the heat island effects derived particularly from its geographical situation apart from local environmental problems. Determination of the most sensitive areas through proper scientific studies, preparation of action plans for heat waves are among the determined targets under that plan. Increasing green and open spaces as well as wetlands are among the major predicted measures[156]. İzmir Green City Action Plan also indicates steps for implementation such as identifying priority areas in terms of the heat island effect, then as the main measure focuses on the increasing of green spaces and promoting green infrastructure[157].

No data relating an official analysis at the national level on the issue.

9.What instruments are in place in order to adequately handle heat management?

There is no specific legal instrument regarding heat management. The main related regulations do not cover the issue. Thus, it can be indirectly handled either through the preparation of the urban landscaping plans in the context of climate mitigation and adaptation, or through the above-mentioned climate action plans prepared by some metropolitan municipalities in the past couple of years.

10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g., between densification or economic considerations and biodiversity or heat development) tackled?

No legal provision regarding heat management in the cities under the relevant legislation.

Biodiversity is cited among the factors that must be taken into account during the preparation of all types of plans described in the By-law on Spatial Plans Construction. Indeed, all the urban plans (landscaping, climate action, green city) prepared by several metropolitan municipalities indicate sustainable and green infrastructure.

There are no specific legal provisions or data regarding conflicts of interests. Some principles included in the By-law on Spatial Plans Construction such as “to ensure the sustainability of resources”, and “to promote the quality of life” can be taken into account to make a proper balance among conflicting interests. Furthermore, biodiversity and protected areas are listed among the data that must be taken into account during the preparation of plans in this by-law.

Additionally, the above-mentioned action plans for protected areas also indicate protection of biodiversity against several threats such as industry, transportation, densification, agriculture, overgrazing. Furthermore, at the local level several urban plans and urban climate action plans also cover similar information that will be helpful to establish a proper balance among

[156] Ankara İli Yerel İklim Değişikliği Eylem Planı p.116- 120. https://www.ankara.bel.tr/files/2022/06/22/0b663954d523bfee1d1e1d5fa66a082f.pdf

[157] İzmir Green City Action Plan 2020, p.128-131. https://ebrdgreencities.com/assets/Uploads/PDF/GCAP-EN_Optimized.pdf. İzmir Strategic Plan 2020-2024 also covers similar measures. See. https://www.izmir.bel.tr/CKYuklenen/Dokumanlar_2020/Stratejik%20Plan2024.pdf

conflicting interests. However, currently at the national level, the Government applies a policy in favor of development. Therefore, the construction of a proper balance among conflicting interests in cities can only be expected by some local municipalities to a certain extent governed by the main opposition party.

11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

No available data.

Author: Nükhet Yılmaz Turgut

United Kingdom

6. *Are data regarding biodiversity in urban spaces, agglomerations or settlement areas available? If yes, how do they evolve? Is biodiversity in the urban context a relevant factor or rather anecdotical? Is a comparison with other areas possible (e.g. agricultural spaces)?*

In January of this year, the Environment Agency published a report on 'The state of the environment: the urban environment'158 that discusses the need to make urban spaces resilient both in a climate sense but also to for public health purposes (the pandemic having shown the significance of (urban) green space). Also, biodiversity forms a key consideration in the report, especially in creating habitats for nature, help urban cooling to reduce emissions from air conditioning and slow the flow of surface water in case of flooding (a serious climate risk in the UK). This report does not contain much data on the subject – rather it is promotional of the need to include and safeguard biodiversity in urban spaces.

In 2019, however, the Office for national statistics, provided an account about green space in urban areas in the UK – available here: https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapital/urbanaccounts#extent-of-urban-space-in-the-uk

7. *Is biodiversity in urban spaces addressed as a specific topic with regard to public policy or the legal framework? Are there specific objectives formulated when it comes to urban biodiversity? Do separate (legal) instruments exist? If not, is the general framework of protection adequate?*

There is a mix of measures. For example, biodiversity is a key component of the planning regime in England and so is part of a general legal framework. Nationally significant infrastructure – eg airports, railway etc – will need to ensure biodiversity net gain.

In light of net zero commitments, biodiversity often appears as a service for offsetting – as seen in the UK Net Zero Strategy in 2021 and the revised version 2023.

A House of Commons Committee recently reported with recommendations to the Government on the state of biodiversity in the UK and here too, biodiversity is part of tailored policy as well as more general climate-approaches.[159]

[158] Available at https://www.gov.uk/government/publications/state-of-the-environment/the-state-of-the-environment-the-urban-environment.
[159] Available at: https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/136/136-report.html#heading-9

8. How is the phenomenon of heat development in cites addressed in public policy and law in your jurisdiction? Is there any analysis of this problem by local, regional or national authorities?

The report by Environment Agency mentioned above makes a case for the need to increase urban biodiversity to help with climate resilience in this regard. Also, the major of London recognises the heat impact of increased temperatures in the city, and especially with regard to vulnerable communities. There is a note that 'We are working with London's boroughs, public health officials, universities, community groups and others to research and reduce the risk of heat in the city'.[160]

9. What instruments are in place in order to adequately handle heat management?

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10. Do the enhancement of biodiversity and/or issues of heat management legally have to be taken into account when it comes to (infrastructure) planning in the urban context? How are conflicts of interest (e.g. between densification or economic considerations and biodiversity or heat development) tackled?

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11. Are there any best practices or interesting cases (lighthouse examples) to learn form available?

In January 2023, Lambeth Council in London launched the 'Kerbside Strategy' that aims to make 'kerbside fairer more accessible and more climate resilient'. It intends to do so through a mix of pledges, including enabling accessible travel and active – eg increasing cycle parking, improving mobility accessibility – reduce emissions and traffic – eg through targets but also pushing for electrical vehicles – and increase climate resilience – eg by creating more green spaces and shade. The latter, for example, is based on targets to ensure tress every 25 m on every street in Lambeth.

Author: Sanja Bogojevic with Richard Macrory

[160] Available at https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/climate-change/climate-adaptation/heat.

III. Urban Densification

In order to reduce land-use for settlements, to provide for sufficient living space, to render transport systems more efficient, to reduce commuting distances, etc. urban densification aims at more compact settlement structures. This may often have positive effects on the functioning and organization of cities and communities and free space for conflicting uses of the soil (agriculture, nature protection zones, etc.). On the other hand densification may further enhance the heat island effect in cities, it may have adverse consequences on the quality of life, reduce biodiversity and green spaces, etc. Thus the balancing of the interests at stake as well as a skillful design of densification is of crucial importance for quality of life in cities.

12. *Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?*

13. *Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?*

14. *How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?*

15. *Do you have any other thoughts on densification and its implementation?*

Austria

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Densification is often not mentioned explicitely as a goal of spatial planning, however it is addressed by planning goals aiming at climate protection and sustainable land use. See eg. for Vienna the goal aiming at the "creation of conditions for the most economical and ecologically compatible use of energy resources and other natural resources, as well as land, that is compatible with the climate and counteracts climate change established in the Vienna City Development, Urban Planning and Building Code – short BO for Vienna; (Wiener Stadtentwicklungs-, Stadtplanungs- und Baugesetzbuch short Bauordnung für Wien).

In general there are no explicit quantitative objectives; however, strategy papers may include quantitative data.

Building and planning laws usually include quantitative restrictions in creating different cateogries of building zones also with regard to height and coupled construction, thus influencing density.

Link to the Urban Development Plan Vienna: https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008379b.pdf

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

Planning law is addressing density by means of zoning and the aim to prioritize inner-city development. A main obstacles for planning law as a driver for densification is the fact that plots may be kept undeveloped thus driving further building activities and urban sprawl. Several instruments (taxes, temporary zoning) are designed to work against this trend and mobilizing building on already designated areas.

Financial incentives for using and refurbishing of vacant builidings are of relevance in small and medium sized cities in the countryside.

Non-binding strategic planning instruments, including strategies, concepts, master plans, and guiding principles, also being developed with regard to densification. A stronger prioritization of land conservation, i.e. the priority of inner development in relation to outer development, in planning-related interest balancing would significantly reduce land consumption which is extraordinarily high in Austria (cf also recommendations by the Austrian Spatial Planning Conference (ÖROK) [161]

Housing subsidies for new developments are to a certain extent already linked to criteria such as innercity- development. Moreover, non-profit building associations are obliged under the provisions of § 23 (4e) of the Limited Profit Housing Act (Wohnungsgemeinnützigkeitsgesetz,

[161] *Geschäftsstelle der Österreichischen Raumordnungskonferenz (ÖROK) (Hrsg),* ÖROK-Empfehlung Nr. 56: „Flächensparen, Flächenmanagement & aktive Bodenpolitik" Ausgangslage, Empfehlungen & Beispiele, 2017, 13.

WGG) to examine the economic viability of densification measures, including their technical feasibility, in the event of comprehensive renovation.[162]

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

In recent years, the concept of a city of short distances (Stadt der kurzen Wege) is prioritized and due to climate policy goals, the need for more green space ranks high.

E.g. the Viennese 'Thematic Concept Green and Open Spaces' developed under the framework of urban development plan STEP 2025 explicitly states the task of densification while at the same time underlining the need to maintain sufficient green space. The Urban Development Plan Vienna concludes that inner-city densification processes and development projects for the urban periphery must keep for fresh air corridors unaffected by construction measures.[163]

Concerning the issue of heat the Vienna Smart City Strategy clearly states that infill developments, extensions and conversions in existing built-up areas, should in any case be designed to improve the urban microclimate.[164]

The Urban Development Plan Vienna highlights the issue that residents frequently view structural change ambivalently or even oppose it, and underlines that for acceptance dialogue, participation and are state of the art when it comes to transformation in the built-up city.[165] In this context, the 1970-ies concept of gentle urban renewal proved in fact successful.

Restrictions to densification can also be implemented with regard to (local) cultural heritage.

15. *Do you have any other thoughts on densification and its implementation?*

- Reform of fiscal equalization, municipal taxes and housing subsidies (which often drive greenfield developments), the reduction of counterproductive tax incentives (subsidies for commuters), but also the creation of new subsidy instruments such as urban development subsidies.
- Exploring suitable legal forms for cooperative living and business (building groups, co-working spaces, etc.)
- Strengthening the local economy and thus creating a city of short distances (working and living)
- Exploring trends that are driving a commodification of housing; regulating AirBnB
- Fostering multiple and intermediate use of vacant buildings and sites

Author: Verena Madner

[162] Bundesgesetz über die Gemeinnützigkeit im Wohnwesen (Wohnungsgemeinnützigkeitsgesetz), BGBl I 139/1979 idF BGBl I 88/2022.
[163] *Vienna City Administration, Municipal Department 18 (MA 18) (Hrsg)*, STEP 2025 – Urban Development Plan Vienna, 2014, 136. https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008379b.pdf
[164] *Vienna City* Administration (Hrsg), Smart City Strategy Wien Der Weg zur Klimamusterstadt, 2022, 84. https://smartcity.wien.gv.at/strategie/
[165] *Vienna City Administration, Municipal Department 18 (MA 18) (Hrsg)*, STEP 2025 – Urban Development Plan Vienna, 2014, 41. https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008379b.pdf

Belgium (Flanders)

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Yes and no. In 2017, the Flemish Spatial Planning Code was amended so as to provide the municipalities with more leeway to authorize planning projects with reference to urban densification. For instance, planning authorities are now allowed, when checking the computability of a planning permit application with the local environment, also account can be taken of the goal of urban densification, under certain circumstances (see eg Article 4.3.1, §2 VCRO). In addition, old, outdated planning instruments – with an age of more than 15 years – can, under certain conditions, no longer be used as an instrument against urban densification projects.

Even so, no quantitative binding objectives exists as of today. In more recent urban strategy documents, further indications are provided in the context of urban densification.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

Through the existing spatial planning laws, although, as mentioned, an overarching view or vision is still lacking. The new generations of spatial strategies plans (ruimtelijke beleidsplannen) might provide with more guidance in this regard.

Especially on the countryside, there exists an increased dissatisfaction with 'urban densification'. The lack of proper regulatory schemes with binding force, often gives a lot of leverage to project developers. Seeing that the main competencies with respect to the permit policies are located at the level of municipalities, these local authorities often do not possess sufficient administrative powers and manpower to withstand pressure and lobbying from project developers.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

Too few binding norms and guidelines exist in this regard. Only the more general requirement of sustainable spatial development (duurzame ruimtelijke ordening – article 1.1.4 VCRO) might be used as a general lever in this regard, along with the general requirement that planning permits also need to be harmonized with the local environment. These constraints can be used as an effective obstacle against cases of unsound urban densification.

15. Do you have any other thoughts on densification and its implementation?

Yes, there is a clear lack of an overarching view on urban densification on the Flemish level, which leaves too much decision-making power to the level of poorly equipped municipalities and creates a lot of dissatisfaction at the local level.

Author: Hendrik Schoukens

Croatia

12) Urban densification as a goal of spatial planning

Urban densification is not prescribed as a goal of spatial planning. On the other hand, illegal construction of both individual buildings and entire settlements with substandard infrastructure has damaged the quality of the urban environment in Croatia. Illegally constructed buildings are a mass phenomenon in Croatia, which could rightly be said to endanger and devalue Croatian territory. As Constitutional Court of the Republic of Croatia pointed out, it was the State that, through its long-standing administrative practice and a kind of "official tolerance" of illegal conduct, actually allowed its own bodies not to act, which resulted in citizens' refusal to comply with construction rules. The consequences of such a pattern of behavior was a huge number of illegally constructed buildings that created the need to find a general legal model to solve this comprehensive problem of national proportions.[166] The Croatian Parliament adopted the Act on the Treatment of Illegally Constructed Buildings in 2011 (first Act) and in 2012 (second Act) that prescribed the conditions, procedure and legal consequences of inclusion in the legal system of illegally constructed buildings i.e. their process of "legalization". The constitutionally of the Act was challenged before the Constitutional Court. The Constitutional Court stated the following:

> ...the massive scale of illegal construction in the Republic Croatia and the longevity of such a situation almost exclude the possibility of applying such coercive measures which would have the required degree of effectiveness, which would be proportionate in scope and degree of repression, which would apply to all equally, which would have adequate effects within a reasonable time and which would not lead to their effects manifesting as further devastation of space. This contradiction put the State and the legislator in a legally difficult political task to find such a form of legal arrangements that will, as much as possible, meet the requirements of a fair balance between the goals set, enshrined in the Constitution, and the measures by which these goals will be sought to be achieved.[167]

The Constitutional Court has taken the position that the challenged Act can be considered as acceptable from a constitutional point of view. Its goals were undoubtedly legitimate – they perceived the legalization of illegal construction as a "lesser evil" than the mass demolition of illegally constructed buildings and were, from that point of view, economically and socially justified and, as such, in line with the interests of the State and society as a whole.

The Spatial Development Strategy of the Republic of Croatia and the Spatial Planning Act foresees urban rehabilitation for settlements and parts of settlements in which a number of negative spatial and social processes have been recorded (e.g. initial unplanned and illegal construction, degradation of the built structure, traffic congestion), as well as for built-up areas that were neglected in terms of the development of public facilities and infrastructure. Urban rehabilitation is defined as a set of planning measures and conditions that improve the character of built-up areas devastated by illegal construction and in other ways.

Urban rehabilitation of areas of illegal construction implies the creation of rehabilitation plans and the determination of detailed measures of rehabilitation of legal construction, with the aim of achieving a satisfactory standard of infrastructure, social standard, and a better contribution to the experience of the urban landscape.

13) Instruments of urban densification

[166] Decision no. U-I/4597/2012, 4 November 2014.
[167] Ibid.

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14) Addressing potentially negative effects of densification

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15) Additional remarks

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Author: Lana Ofak

Czech Republic

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

It is possible to subsume urban densification under the general goal of spatial planning in the Czech Republic because the goals of spatial planning form a vast category under s. 18 of the Construction Act. There are no statutory quantitative objectives. However, municipalities can adopt their own specific zoning regulations within spatial planning. It must be noted that since the Czech legal code does not contain a specific definition of urban densification, there is no possibility of ascertaining which zoning regulations aim at urban densification and which have urban densification as a secondary object. For example, the Supreme Administrative Court upheld Brno-city's zoning regulations that regulate floor space index.[168] Nevertheless, we cannot say that urban densification as a goal of spatial planning is legally established.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

The Czech Republic does not have a comprehensive policy or strategy regarding urban densification. It is acknowledged only as a short reference in the Implementation of the Architecture and building culture policy of the Czech Republic.[169] The Architecture and building culture policy of the Czech Republic does not mention urban densification at all.

The densification issue is also mentioned in the Annex of the National Action Plan for Adaptation to Climate Change (with specific measures concerning the Planning and development of green and water systems within urban development in relation to density and population - increasing functional quality). However, the measures are aimed at green and blue infrastructure measures.

Nevertheless, several other instruments have to be mentioned. The first instrument can be found in municipal spatial planning. The municipality can adopt specific zoning regulations within the spatial plan to foster or limit densification. However, not all municipalities have chosen to adopt such instruments. Usually, large cities have them. Furthermore, Prague can adopt its own construction rules in the form of regulations.[170] Some zoning regulations have proven

[168] Resolution of Grand Chamber of the Supreme Administrative Court of 17. 9. 2013, 1 Aos 2/2013-116. Available only in Czech: https://vyhledavac.nssoud.cz/DokumentOriginal/Html/628944
[169] P. 3, Architecture and building culture policy of the Czech Republic. Available only in Czech: https://www.mmr.cz/cs/ministerstvo/stavebni-pravo/koncepce-a-strategie/politika-architektury-a-stavebni-kultury-ceske-(1)/politika-architektury-a-stavebni-kultury-ceske-rep
[170] S. 194(e) of Construction Act.

detrimental to urban development because they set requirements that new developers cannot fulfil (especially in Prague, where regulations regulate daytime illuminance or spacing angle).

The second instrument can be found in s. 4(1) of Act No. 334/1992 Coll., on the Protection of the Agricultural Land Fund. The provision contains a condition to use non-agricultural land preferentially, undeveloped and underused land in the built-up area, or undeveloped areas of building plots of buildings outside these areas for development.

However, it is not clear whether these instruments are successful.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

Although urban densification is usually not addressed explicitly in spatial planning, some aspects, such as noise and heat, are dealt with in it. During the spatial planning procedure, the municipality has to have a balanced approach and thoroughly justify its intentions and possible changes in the area. Possible conflicts can arise between the needs of the municipality and the needs of a specific person or the public in general. The procedure was further elaborated on in question no. 4.

15. *Do you have any other thoughts on densification and its implementation?*

Even though professionals such as urban experts and architects know about urban densification and some conferences already took place on this topic, it must be stated that this topic is mainly unimplemented in policy documents and legal instruments.

On a side note, the densification is limited mainly in the Czech Republic by historical perspective and development of municipalities. Many municipalities started developing as small villages, and the local population does not welcome the densification of such specific locations. Furthermore, local conditions such as landscape character[171] play a vital role in the development of municipalities. For example, in historic city centres, is the development of new buildings (and skyscrapers) not welcomed and might pose a different problem for heritage protection as well densification in villages where the dominant building is a church might not be welcomed. However, the municipality can breach the landscape character protection by defining special conditions in spatial planning documents.[172]

Author: Jiri Vodicka

France

*12. **Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction?** Are there any quantitative objectives when it comes to the standards of densification?*

For quite a long time, notably since the law on solidarity and urban renewal of December 13, 2000, French law has been fighting against the phenomenon of urban sprawl. More recently, this fight has been included in a more comprehensive approach of the artificialisation of soils. It refers basically to "the process of transforming land from agricultural, natural or forestry use

[171] S. 12(1) of Act No. 114/1992 Coll., on Nature and Landscape Protection.
[172] S. 12(4) ibid.

to allow urban development"[173]. To this respect, the law "climate and resilience" of August 22, 2021 could be considered as a landmark one. It introduces among the general objectives of urban law "The fight against soil artificialisation, with the objective of no net artificialisation in the long term" – *zéro artificialisation nette* (Urban code, art. L. 101-2 6° bis). Artificialisation is defined by the law as "the lasting alteration of all or part of the ecological functions of a soil, in particular its biological, hydric and climatic functions, as well as its agronomic potential by its occupation or use"; and no net artificialisation as "the balance of artificialisation and renaturation recorded over a given area and period" (Urban code, art. L. 101-2-1). Besides, the article 191 of the law provides that "In order to achieve the national objective of no net artificial land use by 2050, the rate of artificial land use in the ten years following the promulgation of this law must be such that, over this period, the total consumption of space observed on a national scale is less than half that observed over the ten years preceding this date. These objectives shall be applied in a differentiated and territorial manner, under the conditions set by the law."

*13. **Through which means (urban planning; construction law, etc.) is densification fostered?** Can these instruments be considered to be successful?*

The first instrument to be targeted by the no net artificialisation loss objectives are local urban plans. They must include and specify at the territorial level the objectives of no net artificialisation loss set by the law at the national level. In practical terms, these documents "will have to set a trajectory to achieve the absence of any net artificialisation of the land, and a ten-year objective for reducing the rate of artificialization"[174]. If local urban plans are not modified by 2027 to set these objectives, openness to the urbanization will be forbidden on relevant territories. In any case, the opening up of new areas for urbanization is limited. The local urban plan can only provide for the opening up to urbanization of natural, agricultural or forest areas by justifying, "by means of a study of the densification of already urbanized areas, that the capacity to develop and build is already mobilized in the urbanized areas" (C. urb., art. L. 151-5).

The existing instruments could hardly be considered to be successful even if it is still too early to assess the effects of the law "climate and resilience" of August 22, 2021. According to the impact assessment of this law, between 20,000 and 30,000 hectares of natural and agricultural areas disappear each year in France due to artificialisation. It is roughly the equivalence of one French department every ten years.

*14. **How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?***

As urban law does not impose to achieve incompatible objectives in a same area, apparent contradictions may be classically overcome in a broader framework by using zoning techniques[175]. They can be up to four in a local urban plan: urban zone ("zone U"), zone to be urbanized ("zone AU"), natural and forest zone ("zone N"), agricultural zone ("zone A"). Building permits must respect local urban plans and their zoning. Moreover, the law "climate

[173] H. Jacquot, F. Priet, M. Soazic, Droit de l'urbanisme, Précis Dalloz, 9ème éd., 2022, § 2.
[174] L. Santoni, « Extension du domaine de la lutte : l'avènement de l'objectif ZAN », Construction-Urbanisme, October 2021, Etude 10, § 17. See also R. Noguellou, « La loi climat et résilience et le droit de l'urbanisme : le zéro artificialisation nette », Actualité juridique droit administratif 2022, p. 160.
[175] See H. Jacquot, F. Priet, M. Soazic, Droit de l'urbanisme, op.cit., § 50.

and resilience" of August 22, 2021 introduces a new approach in balancing conflicting interests. Basically, it allows to compensate artificialisation of new soils by the renaturation of artificialised or degraded soils.

15. *Do you have any other thoughts on densification and its implementation?*

No

Author: Simon Jolivet, Nathalie Hervé-Fournereau

Germany

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Densification as such is regularly not a legally specified objective of urban building planning. Instead, the German lawmaker primarily pursues the approach of legally limiting further urban sprawl in rural areas. The main instrument for this is the prohibition of building in external areas ("Außenbereich", § 35 BauGB). In these areas, only special building uses, so-called privileged projects, are legally permissible. The main controversy in recent years has been the privileging of wind turbines in outdoor areas under building law.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

The federal government has been pursuing a so-called "housing offensive" for years. According to its estimates, Germany lacks up to 400,000 new flats every year, especially in urban areas.

The municipalities are to be supported in activating building land and in securing affordable housing. To this end, the Federal Government presented the Building Land Mobilisation Act, which was passed by the Bundestag on 07.05.2021 and came into force on 23 June 2021. Densification is one of the central instruments for creating new living space.

The main requirements of the new law aimed at densification include:

1. introduction of the sectoral development plan for housing.

The new sectoral development plan is intended to help ensure that more affordable housing is built in inner cities as well. When new housing is built in big cities, it often happens in the so-called unplanned inner area ("unbeplanter Innenbereich", § 34 BauGB). Here, property owners generally already have building rights, i.e. a right to a building permit, if the project fits into the immediate surroundings.

These building rights are often used in inner-city locations of conurbations to create high-priced housing. In order to give municipalities better options for action here, the Building Land Mobilisation Act provides for the introduction of a new sectoral development plan. With this new type of development plan, the so-called sectoral development plan "housing supply" (§ 9 para. 2d BauGB), the municipalities receive a new planning instrument. This allows a plan to be drawn up in the unplanned inner area specifically for housing only. In this way, the federal government also wants to support the creation of socially subsidised housing.

Because the development plan is thematically ("sectorally") limited to housing, its preparation can be facilitated and shortened in time. The regulation is valid for a limited period until

31.12.2024. Subsequently, it will be examined whether the sectoral development plan is a suitable means of securing and creating affordable housing.

2. extension of municipal pre-emptive rights

According to the Building Code, municipalities have a pre-emptive right to purchase land in certain cases. According to this, the municipality can enter into a concluded land purchase contract as a buyer under the conditions agreed upon by the original contracting parties.

The law extends the pre-emptive right for the municipalities. They will thus be able to make use of it more easily in additional cases relevant to urban development.

This means in practice:

The general pre-emptive right is extended by clarifying that a plot of land is also considered undeveloped (and thereby subject to the pre-emptive right of the municipality) if it is enclosed or built on for temporary purposes.

The municipalities also receive a pre-emptive right in the case of so-called "junk" or "problem" properties. These are properties that are structurally dilapidated and thus have a negative impact on their surroundings.

If the housing market is tight and this has been determined by the state government by ordinance, municipalities can now establish further pre-emptive rights by statute.

As owners, the municipalities can thus influence the development of the plots with affordable housing. The pre-emptive right must be justified by the fact that it is exercised for the common good. Therefore, it is now clarified that this includes the housing needs of the population.

3. extension of building obligations

In order to strengthen inner development of cities, it should be easier to close gaps between buildings. To this end, the legislator has extended obligatory building requirements with regard to areas with a tight housing market, which have been designated by state governments.

In connection with the obligatory building requirements, it is clarified that a plot of land is also considered undeveloped if it is enclosed or built on for temporary purposes.

In future, it will thus be possible to prescribe a certain use - namely residential development - to the owner. However, the owners rights of disposal in favour of the closest family circle is to be preserved. This restrictive option is initially limited to five years and will then be evaluated.

4. further facilitations for housing construction

In addition, it is possible for the building permit authorities, under certain conditions, to grant exemptions from existing development plans in favour of housing construction. In this way, an often costly amendment of the development plan can be avoided.

According to the standard building law, residential buildings have to fit in structurally with their surroundings. Their construction is further simplified as the law relaxes the previous rules and allows more leeway for residential uses.

5. amendments to the Building Use Ordinance (Baunutzungsverordnung)

Amendments to the Federal Land Utilisation Ordinance (BauNVO) are also intended to make it easier to provide residential land.

For example, the upper limits for the extent of building use contained in the BauNVO have been converted into orientation values. This makes it easier for the municipalities to create the planning conditions for the expansion of an attic or extensions.

In rural areas there is a flexibilisation of building planning law: a new building area category "village residential area" in the BauNVO is intended to help the municipalities with planning.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

The negative effects of densification are mainly taken into account at the level of communal urban land use planning. The resistance of the local population to plans for densification is considerable and, with reference to the negative small-scale climate effects, can regularly prevail when it comes to the preservation of urban green spaces.

15. *Do you have any other thoughts on densification and its implementation?*

In many large German cities there is the widespread phenomenon of the allotment garden settlement ("Kleingartensiedlung"). These areas, which are only very lightly developed and are essentially used for individual local horticultural recreation, are subject to a legally quite peculiar and complex regime. Even in large cities, the corresponding areas sometimes take up a considerable amount of space. Nevertheless, the often propagated rededication of these areas and the subsequent densification that is then envisaged there regularly progresses only very slowly or not at all because of the considerable resistance of the tenants concerned.

Author: Bernhard Wegener

Hungary

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Unfortunately, there are no direct legal obligations of this kind, but some indirect references, such as the limitation of new development areas within physical planning, or the minimum 500 meters of unbuilt belt between the settlements. Due to lack of any such direct 'urban densification' provisions, there are several other rules – such as the possibility to build on agricultural areas – which aim at the opposite direction.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

As we could indicate above, the picture is mixed. Theoretically any local physical plans might contain relevant provisions, while it is not a legal requirement, and might face problems, meeting the national level legal environment, which is not supportive.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

Most of the conflict situations might occur, due to the lack of specific requirements.

15. Do you have any other thoughts on densification and its implementation?

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Author: Gyula Bándi

Italy

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

In Italy, most of the policy discussions and legislative frameworks in this context refer to 'Urban Regeneration' (rather than urban densification) which is generally referred to measures aimed at reducing the "consumption of new land", and instead using already existing spaces and areas within the cities and especially degraded or unused areas. Thus, measures of urban regeneration are generally aimed at requalifying an existing urban space, thereby limiting the use and consumption of new land space and enhancing environmental sustainability.

This idea of urban regeneration is gaining increasing attention at the national and regional level. At the national level, the first input is represented by Legislative Decree 18 April 2019 No 32 (now converted into Law) also referred to as 'Decreto Sblocca Cantieri' (literally 'Unlocking Building Sites'). This decree was primarily aimed at simplifying procedures for access to investments and authorizations processes for construction of new buildings and improvement of existing buildings. Therefore, its main rationale was mostly the need to foster the economy and facilitate public investments in the building sector. However, it also had among its objectives the promotion of measures aimed at the regeneration and requalification of existing areas, and to this purpose article 5 is specifically focused on urban regeneration and link measures aimed at significantly reducing land consumption and facilitating the regeneration and renovation of existing building stock.

Currently, a proposal for a national law specifically on urban regeneration is under discussion at the Senate (the current text of the proposal is here). According to the explanatory report, this law aims at promoting measures of urban regeneration and requalification as an alternative to the consumption and use of new land. The Explanatory Report also mentions as a further underpinning rationale the containment of urban expansion and urban sprawl. The proposed law also envisages the setting up of a Fund for Urban Regeneration to support selected plans and projects.

However, there do not seem to be specific provisions aimed favouring or specifically addressing urban densification.

Similar initiatives can be found at regional level, where several regions have adopted provisions addressing urban regeneration, often presented as an alternative to the problem of land consumption. See for example, Regional Law of Tuscany 10 November 2014 No 65, whose article 125 reads, 'The Region promotes intervention of urban regeneration as a strategic alternative to soil consumption' (for further examples see also here).

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

The discussion under question 12 seems to indicate that the main focus of national and regional legislative and regulatory/policy instruments is on urban regeneration and on the need to contain or reduce consumption and use of new land, with urban densification addressed instead mostly indirectly, rather than a specific objective. Arguably, however, those measures may have a positive, albeit indirect, impact also in promoting urban densification, in that most of them have as their objective to contain urban sprawls and thus to limit urban expansion and they do often refer to sustainability, conservation and landscape protection. Yet, urban densification is seldom mentioned in those instruments (see for example Regional Law of Veneto, 2017 which provides norms on containing land consumption, but which does not mention urban densification and not even the objective of containing urban expansion. For an overview of regional laws see here; for a commentary see here 'Urban regeneration as an answer to land consumption').

Additionally, further legislation that could have an impact on urban densification are the national and regional laws aimed at revitalizing the housing sector, although also those provisions addressed the issue rather indirectly and, arguably, inadequately. The first one of such law was adopted in 2008, the so-called 'Piano Casa', established on the basis of art 11 of legislative decree 112/2008 on fostering economic competitiveness. Article 11 (Piano Casa) provided for the adoption of a decree establishing a national plan for residential housing and which had as the main purposes to satisfying the housing needs of the population, including by providing financial incentives, while respecting the parameters of energy efficiency and the limits of polluting emissions.

This Decree was followed by similar legislation adopted at the regional level. These regional laws allowed building extensions to current residential building to increase their volume, but they have also gradually incorporated in their text (at least formally) environmental sustainability objectives, such as the need to limit urban expansion and to contain land consumption and the occupation of agricultural land. For example, Veneto Regional Law (No 31 of 29 November 2013), titled as Piano Casa Ter (literally 'Home Plan Three') is formally aimed at promoting the building sector but it also mentions concerns for the need to limit land consumption and the occupation of agricultural areas. In practice the effectiveness of these housing legislation, which are primarily aimed at reviving the building sectors to address land consumption and other sustainability objectives is debated and criticisms have been raised.

At the same time, it is worth noticing that an important limit to these regional legislation favouring extensions and expansion to existing residential buildings is represented by landscape and cultural heritage constrains. In fact, both the Constitutional Court (decision No 189 of 20 July 2016) and subsequently the Court of Cassation (see decision of 11 May 2020, No 14242) have established the principle that regional laws on housing (the so-called Piano Casa legislation) and other laws on urban planning cannot derogate existing norms on landscape planning.

With this in mind, some of the regional legislation exclude from the scope of application of the housing regulation the buildings situated in historical centres of towns and cities and in areas of special landscape relevance.

Finally, Budget Law 2020 (L 160/2019) envisaged the adoption of a national programme for quality housing (Programma Innovativo Nazionale per la Qualitá dell'Abitare – PINQUA) to be adopted by the Ministry of infrastructure and sustainable mobility and aimed at reducing

housing problems and addressing social housing with particular respect to outskirts and with a view to sustainability, urban densification and avoiding consumption of new land, and to this end it allocated a specific budget to it. Among the objectives and actions proposed under the Programme are interventions aimed at urban densification, together with other intervention aimed at regeneration and requalification, with a view to halt urban expansion and use of new land. To this end, the Programme proposes only 2% of surfaces to be dedicated to new buildings.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

Omissis

15. *Do you have any other thoughts on densification and its implementation?*

Omissis

Author: Massimiliano Montini, Emanuela Orlando

Latvia

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

It seems that no, it doesn't represent a legally determined goal of spatial planning in general and there are no quantitative objectives for standards of densification (contrary to objectives for extending green areas with respect to larger cities). If we take Riga as example. In fact, in Riga very intensive development emerged historically in the central part of the city, which has been built up since the Middle Ages and later to the suburbs, where large-scale (multi-storey) housing estates were built in the period between 1950-1990s. According to the Riga municipality's development department, today, the role of the municipality is rather to manage the development process so that it does not become too dense and intensive. Taking into account that the population of Riga has decreased since 1990 to almost 650 000, while the areas allocated for housing are still able to provide housing for about 2 million inhabitants, the Riga Spatial Plan approved in 2021 provides for a reduction in the number of floors for new buildings according to the principle - the further to the city periphery, the lower the number of floors of buildings.

Nevertheless, of course, in some areas of the city (more attractive parts due to existence of infrastructure, distance to the centre or public transport), exists a market-driven tendency to demolish older and inferior buildings, or former industrial enterprises, and replace them with more intensive residential or commercial development.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

One may not conclude that it is in anyway 'fostered', even outside Riga territory where exists quite large territories of low population density, which of course, for transport planning and other type of infrastructure is rather challenging factor.

At the same time, in principle the land use and building regulations set limits for the maximum building intensity and density (depending on the functional zoning of the particular area), as well as requirements for the minimum free green area that may not be planned for buildings, roads, parking lots etc.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

The Riga Sustainable Development Strategy 2030, approved in 2014, has set a target of green areas in the city to establish for at least 23% of the city's territory by 2030. Taking into account this target, the Riga Spatial Plan (approved in 2021) provides for more green areas, with the aim of having a publicly accessible green space within 300 m of every resident's place of residence. In addition, the existing forests in the city are aimed to be preserved for the recreational use of the population, as are the public waters and the seafront (to which free access to be provided for anyone according to the law). The spatial plan also provides for more green planting in (arterial) streets, car parks and along industrial sites.

15. *Do you have any other thoughts on densification and its implementation?*

One may note the tendency of migration of population from Riga to close but green neighbourhood showing the desire of people to live in an environment that is not densely populated, where personal free space is available. This has been noted especially during and after the COVID pandemic as one might remember rules restricting leaving one's residence place (being a house or apartment in the centre of a city – made huge difference for one's quality of life at that time). Now, according to the development department of Riga, they believe that more diversified housing areas should be created, including less dense (detached) housing areas on the periphery of the city, where forests and public waters are available for recreation. Such a development would be in line with the Riga Sustainable Development Strategy.

Author: Zaneta Mikosa

Netherlands

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Yes. The Spatial Planning Act provides public authorities at municipal, provincial and national level with instruments that aim to establish a situation of 'good spatial planning', e.g. by adopting policies and binding land use plans / zoning schemes. In the Spatial Planning Decree the government has introduced a specific provision that aims to prioritize urban densification over building at new locations (in the countryside), the so-called 'ladder for sustainable urbanization' (Article 3.1.6). This provision ('the ladder') applies to any building plan for a 'new urban development' (business park, seaport area, offices, retail, housing locations for 12 or more homes or other urban facilities). The development may be instigated by a developer or it can be a governmental plan. The goal of 'the ladder' is to prevent unwanted vacancy and to encourage careful and sustainable use of space. Spatial planning decisions must therefore state reasons about the sustainable and careful use of space. If a developer wants to realize new homes outside the existing urban area, the provision requires that the public authority explains why the construction plan cannot be realized within the existing urban area. This is the so-called

'ladder test'. The initiator of a (construction) plan will have a ladder test drawn up for the specific plan and that shall be included in a spatial substantiation (provide proper reasons for the decision) of a planning license that allows the new urban development. If the municipality council wants to adopt a new zoning plan to allow the development of a new residential area, it shall include the ladder test in the explanatory notes to a zoning plan for this new urban development.

If your housing plan meets a need and is planned within an existing urban area, the ladder test is met. The law defines an existing urban area as an existing urban composition of buildings for housing, services, business, retail or catering, and also the associated public or socio-cultural facilities, urban green and infrastructure.

If the plan aims to building new homes outside an existing urban area, the plan must explain why the building plan cannot be realized within the existing urban area. The availability and suitability of a location within an existing urban area are important. In the justification of the decision, one could look at the qualitative aspects of the need, such as the type of homes you want to realize or the price ranges. Environmental aspects can also play a role in assessing whether your building plan cannot be realized within the existing urban area. It requires a proper investigation to determine whether inner-city locations are available.

To my knowledge there is no (legally binding) national quantitative objective for densification; a municipality might implement a policy with quantitative objectives.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

Looking back at the answer to the previous question, the means used are basically spatial policy and the ladder of sustainable urbanization. Although I'm not sure whether these policies and the 'ladder test' are the reason, I do know that densification is rather successful. There is an interesting interactive map about densification over time (2005-2020) in the Netherlands: https://nl2100.nl/verdichting/; most residential neighborhoods have become densified in the past 15 years: 36% with residents and homes, 27% with homes only. More than half a million homes have been added in these neighborhoods, half of which are in 1000 neighborhoods with substantial numbers: more than 10% addition.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

In general, the focus on 'good spatial planning' in spatial planning policy and land use plans / zoning schemes, together with factual measures by government when developing an area (public space) are deemed to be sufficient (and ought to lead to) an acceptable living environment for inhabitants and should address the potentially negative effects of densification. Many cities have separate policies on heat stress (e.g. national and local heat plans), on greening cities (by planting trees or by stimulating citizens to remove pavement from their gardens) and noise nuisance. Spatial planning (policy) seems to be the main (legal) instrument to try and address the potential negative effects of densification. Under the new Environment and Planning Act the scope of the spatial planning instruments (spatial policy document and the zoning scheme) will be broadened to (in principle) encompass all components of the physical living environment (e.g. the municipal environment plan instead of the land use plan). The idea

is that the new Act provides a basis for an integrated weighing of all relevant interests (spatial planning; habitability of the city; climate adaptation measures and measures against climate change) and – in principle – at the municipal level.

15. *Do you have any other thoughts on densification and its implementation?*

In the Netherlands there is a new call for involvement of (providing direction by) the central government to achieve all sorts of goals with a spatial claim: predominantly building new houses (900.000 before 2030) but also renewable energy projects and infrastructure. In the fall of 2022, there have been some scholars that have argued that there also was a need on a National Program on Densification.

Author: Kars de Graaf

Norway

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Urban densification is a goal in the planning of many cities. It is not expressed in legislation, and it is mainly associated with the establishment of public transportation hubs.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

Densification is fostered through urban planning and policy instructions from the Government. Moreover, it is fostered through purchase of land, and, if the owner is reluctant to enter into a deal, transfer of property can be secured through expropriation. The latter is of significant practical importance. According to Norwegian practice, densification can be seen as a public purpose in the context of expropriation.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

In many cases densification is controversial. It is frequently conflicting with the interests of existing property owners, in particular those who do not personally benefit economically from densification. There are rules regarding compensation of such property owners to reduce conflicts. Moreover, large-scale developments often have to offset significant green spaces. In many cases, this is done through development agreements between municipalities and developers. Such agreements are regulated in a separate chapter of the Planning and Building Act.

15. Do you have any other thoughts on densification and its implementation?

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Author: Ole Kristian Fauchald

Portugal

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

The concept of density is used in a very specific context in Portugal: it is used in the context of territorial cohesion, to refer to the difference between low density (less developed) and high density (more developed) territories. Density therefore refers to demography (more population or less population) but it has a reflection as well in the urbanistic uses of the territories, namely those situated in the interior of the country (near Spain) where there is a strong population decline due to migration (internal to the coastal cities and external to other European countries). One of the biggest concerns of the central governments has been increasing attractivity poles in the interior of the country to attract and fix more population.

As a consequence, one of the objectives of territorial management is the adequacy of urban density levels, preventing the degradation of quality of life, as well as the imbalance of economic and social organization.

It is clear in the law that what is at stake is not so much densification of cities but rather developing low density areas (more connected to the transport network, with amenities and industrial poles). In the largest cities what is at stake is containing urban sprawl. "Enhance national cohesion by organizing the territory in a way that contains urban sprawl and dispersed construction, correcting regional asymmetries, particularly in low-density areas, ensuring equal opportunities for citizens to access infrastructure, facilities, urban services, and functions, especially those that promote support for families, the elderly, and social inclusion" (art 2/c).

There are no quantitative objectives.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

In Portugal there are two movements pushing the urbanistic evolution: one is the renewal of historic centers and the other containing urban sprawl, rather than the densification.

They are relatively successful.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

No reference to this discussion is present yet in the Portuguese law, administration or courts.

15. Do you have any other thoughts on densification and its implementation?

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Author: Alexandra Aragão

Slovenia

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Actually, no. I cannot find any rule or otherwise established goal in this respect. The principal statute in this respect is the Spatial Planning Act, which is silent in this respect. However, the Slovene Parliament adopted a Resolution in 2021 for climate strategy by 2050. The following objective can be found (and it is linked to densification, at least in some indirectly aspects): the goal is to reduce the need to use a personal vehicle (working from home, changing the parking

policy...). The goal is also to improve the integration of spatial and traffic planning (legally regulating comprehensive planning, reducing the trend of suburbanization, improving the management of daily migration in wider urban areas and other functionally connected areas, and increasing the compactness of cities).

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

The densification is usually mentioned in the new planning projects and mainly as an objection of the public, anticipating that their daily-life environment will deteriorate because of the density, with it connected needs for more transport modes, parking, traffic jams, insufficient infrastructure like the sewage system, drinking water distribution, heating systems etc. These objections are usually presented during the public consultations of the draft planning acts. The authorities have to consider them, but individual answers are not necessary. Only the affected public (that includes NGOs) can start court actions against such plans). NGOs initiate such actions. For instance, that was the case of too high noise levels (also) in the cities.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

I do not have a very promising answer. Usually is a win-lose situation (often in a direction towards densification), not a balanced middle way. One possible solution would be to increase decentralization, meaning people would not move to cities, especially big cities. Slovenia is unusually centralized, especially regarding the capital city and two or three biggest cities. Traffic is rolling into these cities in the morning (and vice-versa in the evenings), and the densification is substantive. The process of decentralization is slow, if at all present. So far, there were two plans already presented, but they were unsuccessful.

Concerning balancing the adverse effects: I can also observe that certain politic (local or on the state level) usually obtain approvals (permits, decisions), and the main argument is that they are allowed to do something. The administrative authorities/courts do not rule on suitability but on legality. A certain decision might be legal; however, this does not mean it is also suitable and balanced. Hence, being "hidden" behind the permits is a safe and usually the way to beat opponents.

15. *Do you have any other thoughts on densification and its implementation?*

More support should be given to green areas in the cities, also greening the roofs as a binding rule, and perhaps also the vertical walls as a direction supported by economic incentives.

Movements to work and from work are a considerable part of densification. Indeed not a kind of densification that would be the same as of permanent inhabitants in the cities, but nevertheless, it forms a part of densification in the cities. And it is also very energy-consuming. In this respect, decentralization (mentioned above) would be necessary. Also, the possibility to work from home, remote work, is of substantial importance in this respect (it also has other positive effects).

Also, I see positive effects (worldwide) if producers of heating/cooling devices could install blockades in the devices (for instance, not to coll below 25 degrees and not to heat more than

20 degrees). More than sole recommendations is needed. Massive energy savings are possible that way, especially if the buildings need to be properly isolated.

Cities shall include green parts for every building or smaller groups of buildings in their plans (i.e. not just one or two parks per city). Also, in the suburb, an organized in planned possibility should exist for the city inhabitants to have gardens and enable them to return to the earth to learn to live with the importance of the soil.

Author: Rajko Knez

Spain

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

This question cannot be replied in a general or uniform way in the case of Spain, simply because the issue of spatial planning (plans, zoning, land allotting, building, etc.) is mainly regulated by regional lawns and regulations (and there are 17 in the country). On the other hand, municipalities enjoy a very large degree of discretion when they decide the model of land occupation that the local master urban plan wants to implement. Moreover, when a new master plan is approved or seriously modified, a wide and general process of popular consultation is mandatory. Therefore, the model of land occupation is a mixture of political goals and democratic participation.
As a rule, the regional laws and regulations do not enshrine an explicit goal of urban densification, or the "compact city" model as a mandatory planning objective for the municipalities, although this is a natural consequence of the urban growth in cases of urban land depletion. In other cases, the "compact city" model has been the natural outcome of economic or touristic activities, and some of the most touristic cities followed "de facto" that model as a distinctive feature. The most extreme case would be that of Benidorm, a coastline city placed in the Valencia region, with the highest concentration of skyscrapers in the whole Spain (see: www. visitbenidorm.es).
On the other hand, the phenomenon of urban sprawl is very characteristic in many areas of Spain, especially in the outskirts of the big cities (Madrid, Barcelona, Sevilla, Bilbao), where large housing developments consisting of family houses (terraced, detached or semi-detached) have been built for the affluent people. This is a very successful model of housing, which consumes a lot of land.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

As explained supra, densification, where it exists, is mainly implemented through the local urban master plans. Local urban development and zoning plans are absolutely binding and obligatory.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests…

The best tool to address and to balance this potentially contradictory effects is the strategic environmental assessment of local urban development plans, which is regulated by a State Act of 2013 (ley de evaluación ambiental) and which transposes the European directive 2001/42,

on the matter. In addition, a plethora of regional laws on urban and regional spatial planning do regulate in detail the completion of that kind of evaluation

15. *Do you have any other thoughts on densification and its implementation?*

It is doubtful whether the "compact city" model is -always- the most environmental-friendly one. The *compact big city* model, dominated by huge skyscrapers and congested highways have their own environmental and social problems, too.

Author: Angel M. Moreno and Agustín García Ureta

Sweden

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

In Stockholm, there is a strong drive for city densification. This is partly due to the strange delimitations of the city boarders, the competition between the municipalities in the region and the reluctance to invest in regional transport infrastructure. However, the main component behind this trend is that most development is driven by private initiatives, something which is strongly supported by all political parties. The result from this is a situation "where anything goes" and where public planning is performed in order to facilitate this development. This way, the expansion of the city has little to do with concerns for climate issues, avoidance of heat islands or the need for biodiversity. Instead, development of the city and the following densification is a goal in itself. On the other hand, in times of uncertain economy such as the current, very little or almost nothing happens. The rate of development in Stockholm today is almost at a standstill…

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

See above…

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

As of today, there is no serious discussion on the matter. The common attitude from the politicians in Stockholm is that we have no problems with biodiversity or heat waves, as the city is very green and situated on 59 degrees latitude to the north…

15. *Do you have any other thoughts on densification and its implementation?*

Development according to public planning is the key issue, combined with national binding targets and goals…

Author: Jan Darpö

Switzerland

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Art. 1 para. 2 lit. a^{bis} Federal Act on Spatial Planning (SPA) provides that spatial and regional planning measures shall support efforts to "promote inward settlement development, while ensuring an appropriate quality of housing". Densification therefore constitutes a binding aim of spatial planning. The planning principles further provide that "measures should be taken to make better use of unused or insufficiently used areas in building zones and of opportunities to consolidate the settlement area" (art. 3 para. 3 lit. a^{bis} SPA). The structure plan related to settlements must define "how high-quality inward settlement development will be achieved" (art. 8*a* para. 1 lit c SPA).

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

Spatial planification knows various instruments to promote inward settlement development.

A first one is "construction land mobilization", under which municipalities may oblige landowners to build on their land (art. 15*a* para. 2 SPA). If this obligation is not followed upon, the municipality may (i.) have a purchase right and the option to sell the plot of land to an owner willing to build on it, (ii) rezone an undeveloped plot of land on the edge of settlement to the agricultural zone or (iii) levy an incentive tax as long as the land is not overbuilt.

Second, The SPA in its revised version obliges cantons and municipalities to rezone oversized construction areas and to foster densification. As rezoning usually entails significant losses of value, landowners have to be compensated under some circumstances. In order to generate the necessary financial means for this purpose, federal law stipulates that cantons and municipalities must foresee a minimum levy of 20 percent for value increases due to new zonings. Some cantons provide for higher levy rates of up to 50 percent both for new zonings (conversion from agricultural zone to settlement zone) as well as for upgradings (increase of the permissible utilization ratio of the property).

Additionally, densification is also fostered through the promotion of more compact settlement patterns, while at the same time ensuring adequate quality of living and sufficient free spaces. If structures already exist, there may be measures such as the increase in height of the building, an extension, a supplementary construction or demolition and replacement with more compact structures.

Finally, inner development also needs to consider the coordination between traffic (public transportation and settlement) as well as the coordination of settlement capacities between different municipalities.

In 2019 a federal popular initiatives purported to freeze the total area of building zones in Switzerland. New building zones would only have been allowed to be created if an area of least the same size had been abolished as a building zone elsewhere. The initiative was rejected clearly by both, the majority of the people and the cantons.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

Already on the federal level the SPA tries to address this conflict, when it sets the aim of the promotion of inward settlement development under the constraint that appropriate quality of housing shall be ensured (art. 1 para. 2 lit. a^{bis} SPA). With regard to the planning principles the

SPA demands to make better use of unused or insufficiently used areas in building zones and of opportunities to consolidate the settlement area (art. 3 para. 3 lit. a^{bis} SPA), while at the same time providing for the obligation to arrange settlements according to the needs of the inhabitants as well as for the obligation for the settlements to "contain numerous open spaces and trees" (art. 3 para. 3 and lit. e SPA). This field of tension is therefore already acknowledged by the federal legislator. The same applies for the cantonal legislator: In the canton of Aargau for instance, the applicable cantonal act obliges municipalities to "show how they promote internal settlement development and settlement quality" § 13 para. 2bis Cantonal Act on Spatial Development and Construction. When it comes to the application of these provisions, planning authorities as well as approval authorities will have to balance the interest at stake and would normally enjoy a large margin of appreciation, given that the tension between the different aims has not been resolved by the legislator.

15. *Do you have any other thoughts on densification and its implementation?*

Not for the moment.

Author: Markus Kern

Turkey

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Urban densification is not specifically cited as a goal but it must be taken into account under the By-law on the Spatial Plans Construction as well as the regulations related to the protected areas.

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

Legislation regarding landscaping and all other plannings include rules on densification. Urban densification is considered by municipalities through the preparation of all types of urban plans (spatial, implementation landscaping, transportation and climate action) as well as the permissions given for constructions under the legislation regarding construction and planning, apart from the legislation adopted for the protected areas. It is not likely to assess whether they are successful or not. Indeed, currently these plans either are not completed by all municipalities or are newly completed and not properly implemented yet.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

There is no available specific information on the issue. However, urban plans (landscaping, climate action, green city, transportation) prepared by some major metropolitan municipalities considered the mentioned issues altogether through implementing the sustainable development goals.

15. Do you have any other thoughts on densification and its implementation?

No suggestion.

Author: Nükhet Yılmaz Turgut

United Kingdom

12. Does urban densification represent a (legally established) goal of spatial planning in your jurisdiction? Are there any quantitative objectives when it comes to the standards of densification?

Historically, cities in the United Kingdom have been built less densely than many in mainland Europe. London remains the most dense city in the United Kingdom, and various studies suggests it is midway in density compared to other major cities (less dense than Bilbao or Geneva for example). Populations in British cities declined from the 1930s but many began to see an increase from the 1980s. The driver for densification has therefore been to accommodate the housing needs for this population growth in cities – using urban land more efficiently is reinforced by the fact that most British cities are surrounded by a 'Green Belt', a land-use planning policy introduced in the 1930s to inhibit unconstrained urban sprawl.

A step-change in the promotion of densification was seen in 1999 with the publication of a report by the Government appointed UK Urban Task Force, *Towards an Urban Renaissance*. There are no nationally prescribed standards for urban density. The Central Government's *National Planning Policy Framework* provides a framework against which local authorities prepare local land-use plans. In turn, the local plans provide the framework for individual planning applications – again authorities must have regard to them but are not bound, and the Plans do not in themselves grant rights to development.

In relation to urban density the latest version of the National Planning Policy Framework (Ministry for Housing, Communities and Local Government, 2021) requires that planning policies optimize the use of land. For cities, town centres and other locations well served by public transport, plans should include the use of minimum density standards. It then provides that '*these standards should seek a significant uplift in the average density of residential development within these areas, unless it can be shown that there are strong reasons why this would be inappropriate'.* For other parts of the plan areas the use of minimum density standards should be considered, but it is recognized that a range of densities may be appropriate rather than a single density standard. The Government does not prescribe density standards. Initially, densification was largely focussed on brownfield sites and similarly large scale plots. But the policy framework now gives greater emphasis to the importance of 'soft densification' (in-filling, dividing up houses, small plot development etc.)

It is therefore largely left to local authorities to develop their own density standards, and the issue has been receiving growing prominence in plans. To take an example, the Oxford City Local Plan 2001-2016 contained a very low minimum density standard of 40 dwelling per hectare, leaving flexibility to determine applications in accordance with local circumstances. The current Local Plan looking to 2036 contains a minimum density standard of 100 dwellings per hectare for the city and district centres. In other areas opportunities for the 'maximum appropriate density must be fully explored.'

13. Through which means (urban planning; construction law, etc.) is densification fostered? Can these instruments be considered to be successful?

The town and country planning system provides the main mechanism. Basically, any development requires planning permission from the local authority, set against the criteria and

policies contained in Local Plans. These plans are likely now to contain minimum density standards for different areas, but the system allows for a great deal of negotiation between developers and local authorities on individual planning applications.

Flexibility and discretion are core attributes of the British planning system. Even the Local Plan is not binding on decisions on individual planning applications. This has both strengths and weaknesses in securing policy goals. There are a growing number of examples of high quality densification where local authorities have confidence and vision, but equally, the system can be exploited by developers against less robust authorities. It is a system that recognizes the political nature of decisions about the way land is used, and encourages, "decision-making that emphasises the appropriateness of forms of development for the place and time".[176]

Compulsory purchase powers for local authorities are also of potential importance, and their use for regeneration purposes will be strengthened under proposed legislation currently going through Parliament (Levelling Up and Regeneration Bill).

Judging success is not easy. Density figures, though, for major cities in England indicate that the 15 years following government promotion of densification in the early 1990s has seen significant increases in average densification especially in inner city areas. Between 2001 and 2011 three-fifths of new dwellings built in the UK were within the boundaries of existing cities. Of these, around 30% were 'soft' densification (infilling, division of properties, small developments, etc.) as opposed to hard densification (major redevelopments, brownfield sites etc.) [177] In that period average densities in inner city areas has grown significantly (eg Manchester +28%, Bristol + 12.5%). Nevertheless, within London where in some areas densities have increased even higher, there remain acute housing shortages.

14. How are the potentially negative effects of densification (heat, noise, reduction of green spaces, etc.) addressed and balanced with regard to other interests in order to overcome the antithesis between greening and densification ("double inner development")?

High density policies in the past have often been associated with high rise flats, often poorly designed, especially where being directed at the less affluent. Increasing emphasis is now being given to the quality of design, as well as the experience of residents, and this may help to resolve some of the tensions and pay-offs involved. A recent study noted, '*Density per se did not seem to be a strong determinant of resident satisfaction: rather, what affected residents' experience was the quality of design and construction of the homes themselves and the outdoor areas, the neighbourhood setting (largely outside the control of the developer), access to green areas and good services, and protection from noxious factors such as noise, fumes etc."* [178] A good example of new planning policies promoting better design is the recent Planning Policy Guidance produced by Tower Hamlets Council in London (a non-affluent area but one of the most densely populated).[179] The guidance "*sets out how new development can share the benefits of growth in Tower Hamlets by contributing to the creation of healthy environments,*

[176] Booth (2007), The Control of Discretion: Planning And The Common-law Tradition, *Planning Theory*, 6, 127–145.
[177] Bibby et al *Under the radar? 'Soft' residential densification in England, 2001-2011* (White Rose Reseach, Universioty of Sheffiled, 2020).
[178] Scanlon et al (2018) *Residents* Exper*ience of High Density Housing in London*, (London School of Economics).
[179] London Borough of Tower Hamlets (2020) *High Density Living.*

encouraging physical activity, promoting good mental and physical wellbeing and reducing environmental impacts".

New proposed national legislation, the Levelling Up and Regeneration Bill, will reinforce this direction of travel. It includes proposals to

(a) strengthen the legal significance of the Local Plans against individual planning applications, re-balancing the power dynamics between developers and authorities. There will be now a presumption that the Local Plan prevails unless there are exceptional reason.

(b) heighten the importance of quality of design (local authorities will be required to include requirements in respect of design for developments)

(c) give local communities a greater say in directing the quality of design in their locations. This is especially importance given more emphasis on soft densification which can cause significant local opposition from existing residents.[180] According to the Government these proposals to increase the power of local neighbourhoods over design requirements will "*incentivize communities to consider the potential for development, especially in areas of high demand, and will support a gentle increase in density through well-considered, well-designed and locally supported proposals"*[181].

Low rise, high density housing in East London 2006 (111 dwellings per hectare)

Author: Sanja Bogojevic with Richard Macrory

[180] Dunning et all (2020) *Planning control and the politics of soft densification* (White Rose Research, University of Sheffield); City Geographics (2013) *A Urban Renaissance Achieved? Mapping a Decade of Densification in UK Cities* (City Geographics Sept 9 2013).
[181] House of Commons, Oral Answer by Minister, Hansard Vol 717 27 June 2022.

IV. Climate Protection

While the reduction of the heat island effect can be considered as a measure of climate change adaptation, mitigation of climate change increasingly is also a topic of discussion in cities.

16. *Are there any overarching goals with regard to the reduction of CO2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*
17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*
18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

Austria

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

As a general overarching goal Vienna's coalition government sets the target of reaching net zero in the legislative programme by 2040.182 Accordingly, Vienna is currently working on its own climate protection law, which is scheduled to be implemented in 2023. In addition to climate targets and strategies, this law should also include concrete climate and governance tools.183 Complementary to this, with the catalogue of measures "Raus aus Gas – Wiener Warme und Kälte 2040 (Out of Gas - Viennese Heating and Cooling 2040)", Vienna is pursuing the vision of covering the heating and cooling supply with 100% renewable energy by 2040. The target is to heat or, where necessary, cool all buildings in 2040 in a climate-neutral, emission-free and renewable way.184

The implementation of these targets are in line with the national objective of becoming climate neutral in 2040.[185]

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

The umbrella strategy to reach the goal of climate-neutrality is the **Smart City Wien Strategy** (SCWS), target horizon of 2050. It was adopted in 2014 by the Vienna City Council, and revised with reference to the climate targets set by the Paris Agreement on Climate Action, in 2019.[186] and in February 2022.

The Vienna Climate Guide serves as a climate roadmap, in which Vienna outlines the course to become climate-neutral even earlier by 2040.[187] The Vienna Climate Guide sets out concrete measures to make the climate goals tangible. Examples include: Additional supporting pillars of the strategy are: the **Vienna Climate Budget**, used for financing the measures, the **Vienna Climate Check** an instrument to evaluate concrete projects in early planning stage, and the **Vienna Climate Council,** and advisory body consisting eg of experts and representatives of politics, business and society to advise politics and administration on climate policy projects.

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

Viennese Building and Zoning Act

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[182] *Vienna City Administration (Hrsg),* Vienna Climate Guide Towards a climate-friendly city, 2022, 11. https://www.digital.wienbibliothek.at/wbrup/download/pdf/4047968?originalFilename=true

[183] *Die Fortschrittskoalition für Wien (Hrsg),* Koalitionsprogramm Sozial. Mutig. Nachhaltig. Menschlich. Modern., 2020, 64. https://www.wien.gv.at/regierungsabkommen2020/files/Koalitionsabkommen_Master_FINAL.pdf

[184] Vienna Municipal Administration, Municial Department 20 (MA 20) (Hrsg), Raus aus Gas Wiener Wärme und Kälte 2040, 2023, 28. https://www.wien.gv.at/stadtentwicklung/energie/pdf/waerme-und-kaelte-2040.pdf

[185] *Bundeskanzleramt (Hrsg*), Regierungsprogramm 2020-2024, 2020, 72. https://www.bundeskanzleramt.gv.at/dam/jcr:7b9e6755-2115-440c-b2ec-cbf64a931aa8/RegProgramm-lang.pdf

[186] *Vienna Municipal Administration (Hrsg),* Smart City Strategy Vienna Our way to becoming a model climate city, 2022, 13. https://smartcity.wien.gv.at/wp-content/uploads/sites/3/2022/05/scwr_klima_2022_web-EN.pdf (27.04.2023).

[187] *Vienna City Administration (Hrsg),* Vienna Climate Guide Towards a climate-friendly city, 2022, 11. https://www.digital.wienbibliothek.at/wbrup/download/pdf/4047968?originalFilename=true (27.04.2023).

Vienna's building code (art 118) requires the use of highly efficient alternative systems (eg decentralized energy supply systems based on renewable sources, heat pumps, combined heat and power, district heating/cooling) for new, additional, or modified construction projects, as well as for extensive (>25%) changes and refurbishment of building facades, *provided they are technically, ecologically, and economically feasibl*e.[188]

Energy spatial plans (Energieraumpläne) serve to link the use of climate-friendly energy sources (renewable energy sources, waste heat utilisation and district heating) and urban development. **Areas** can be designated where the use of **use of highly efficient engery systems for heating and hot water ist mandatory.**.

Subsidies related to energy: Vienna has a wide range of energy-related/emission-reducing subsidies in the areas of renewable energies and energy efficiency.[189] These include

- Vienna photovoltaic green roof subsidy
- Subsidy for heating networks (anergy networks) in connection with heat pumps for up to 3 objects
- Subsidy for sound and thermal insulation windows and for blinds
- Advisory services: A broad scope of advisory services related to the topics of energy and sustainability is available in Vienna, eg Hauskunft (information on renovation), Kompentenzzentrum Erneuerbare Energie (information on renewable energy systems and energy communities), OekoBusiness Wien (information for businesses), Die Umweltberatung (information on a more ecological life at home and sustainable measures in businesses), …[190]

Sustainable Procurement: Ökokauf, an ecological and sustainable procurement programme of the city has established criteria for public urban procurement taking into account i.a. Energy efficiency and repairability

Author: Verena Madner

Belgium (Flanders)

16. Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?

Yet, most of the local municipalities have signed the Convenant of Mayors 2030, which is advocated by the regional Flemish authorities as major building block for local climate mitigation policies. Signatories share a vision for making cities decarbonised and resilient, where citizens have access to secure, sustainable and affordable energy. The initial target to reduce greenhouse gas emissions by at least 20% by 2020 was renewed to a reduction of 40% by 2030. The pillar of adaptation to climate change was added. Flemish municipalities that have signed the Convenant, are expected to come forward with climate mitigation and adaptation plans (klimaat- en energieactieplan 2030) within a timeframe of 2 years.

[188] § 118 para 2 Wiener Stadtentwicklungs-, Stadtplanungs- und Baugesetzbuch (BO für Wien).
[189] https://www.wien.gv.at/stadtentwicklung/energie/foerderungen/finden.html (27.04.2023).
[190] https://www.wien.gv.at/stadtentwicklung/energie/wissen/kontakte/ (27.04.2023).

In recent case-law, the Council of Permit Dispute Settlement has excepted that local authorities can use the convenant as an argument to decline permit applications for unsound (fossile-based) project developments.

17. Is there a (binding) program/plan in order to implement the goal of climate neutrality?

Yes, see above.

18. Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?

Yes, many some municipalities focus on providing their citizens with subsidies for renovating their houses.

Author: Hendrik Schoukens

Croatia

16) Local climate neutrality goals

Pursuant to the Act on Climate Change and Protection of the Ozone Layer (hereinafter: Climate Change Act), cities with more than 35,000 inhabitants and cities that are county seats (regardless of their population) must create a climate change mitigation program. These programs do not contain specific goals regarding the reduction of CO_2 emissions.

However, many Croatian cities (even those with population less than 35,000) are signatories of the Covenant of Mayors for Climate and Energy and they committed to develop a Sustainable Energy and Climate Action Plan (SECAP) with the aim of cutting CO_2 emissions by at least 55% by 2030.[191]

17) Binding programs and plans

Pursuant to the Climate Change Act, the climate change mitigation programs are adopted as policy documents.

18) Specific measures of local policy

Example of the SECAP (pursuant to the Covenant of Mayors): The SECAP of the City of Vukovar (September 2022) contains a total of 21 mitigation measures that are planned to reduce direct and indirect CO_2 emissions from the construction, street (public) lighting and transport sectors, and 22 adaptation measures that will be implemented until 2030. Mitigation measures should result in a total reduction of CO_2 emissions of 60% by 2030 compared to the reference year 2019, thus meeting the goal of 55%. The plan envisages measures that the City of Vukovar is already implementing, such as energy renovation measures for public buildings and residential buildings, measures to increase the share of renewable energy sources, installation of solar panels, replacement of fossil fuels with renewable energy sources, electrification of traffic that will reduce greenhouse gas emissions, and improvement of street (public) lighting. The second part of the measures includes adaptation measures related to irrigation systems, "greening" of the city, installation of green roofs and rain gardens, and the like.

Author: Lana Ofak

[191] https://eu-mayors.ec.europa.eu/en/home

Czech Republic

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

National reduction objectives primarily stem from EU legislation [such as Regulation (EU) 2018/842 (effort-sharing regulation), Regulation (EU) 2018/841 LULUCF and specific targets defined in individual legislative acts such as Directive (EU) 2018/2001]. These binding targets are implemented through policy documents and statutes within the Czech legal code. The policy documents are binding for public administration. The policy documents should be mirrored in strategies adopted on the municipal level. For example, the Capital City of Prague Climate Change Adaptation Strategy references national policy documents (specific documents are discussed below).[192]

Furthermore, some municipalities are parties to the Covenant of Mayors with the aim of reducing 55 % of GHG by 2030. Municipalities adopted Sustainable Energy and Climate Action Plans with specific measures to be adopted either by them or by the private sector with municipalities' financial aid.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

The Czech Republic has many strategies and policies that either partially aim at climate change or fully aim at climate change. Furthermore, some policies aim both at adaptation measures and mitigation measures. Additionally, it must be noted that policies were created by several ministries (Ministry of Regional Development, Ministry of Industry and Trade, Ministry of Transport, Ministry of Agriculture, and Ministry of the Environment).

Policies and strategies that form a core of climate change policy: State Environmental Policy of the Czech Republic 2030 with a view to 2050[193], Climate Protection Policy in the Czech Republic[194], and Climate Adaptation Strategy[195] (with National Action Plan for Adaptation).

Policies and strategies whose objective is not climate protection but include climate measures: Strategic Framework Czech Republic 2030[196] (with Implementation Plan for 2022-2025), Regional Development Strategy of the Czech Republic 2021+[197], State Energy Policy[198], National Action Plan for Energy Efficiency[199], Drought Protection Policy in the Czech

[192] P. 44, Annex I. 1/1 Available in English:https://adaptacepraha.cz/en/implementation-plan-2020-2024/
[193] State Environmental Policy of the Czech Republic 2030 with a view to 2050.
[194] Climate protection policy in the Czech Republic. Available only in Czech: https://www.mzp.cz/cz/politika_ochrany_klimatu_2017
[195] Climate change adaptation strategy in the Czech Republic. Available only in Czech: https://www.mzp.cz/cz/zmena_klimatu_adaptacni_strategie
[196] Strategic Framework Czech Republic 2030. Available in English: https://www.cr2030.cz/strategie/dokumenty-ke-stazeni/
[197] Regional Development Strategy of the Czech Republic 2021+. Available in English: https://mmr.cz/cs/microsites/uzemni-dimenze/regionalni-rozvoj/strategie-regionalniho-rozvoje-cr-2021
[198] State Energy Policy. Available only in Czech: https://www.mpo.cz/cz/energetika/statni-energeticka-politika/statni-energeticka-koncepce--223620/
[199] National Action Plan for Energy Efficiency. Available only in Czech: https://www.mpo.cz/cz/energetika/energeticka-ucinnost/strategicke-dokumenty/narodni-akcni-plan-energeticke-ucinnosti-cr--150542/

Republic[200], Transport Policy of the Czech Republic period of 2021 - 2027, with an outlook until 2050[201], Policy of Architecture and Building Culture of the Czech Republic (and Requirements for the adaptation of settlements and landscape layout resulting from strategic materials[202]).

There are also additional programs and plans on municipal levels.

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

Measures on the local level can be divided into two groups depending on the addressees of the measures. The first group of measures is intended for the municipality and its subordinate subjects. In Brno-city,[203] these measures include, inter alia, the use of effective energy management systems, effective waste management systems, replacing steam piping for heat lines, construction of charging points for EVs, replacing old bulbs in public lighting for new LED bulbs, better water management system and providing financial instruments for the private sector.[204]

The second group of measures is addressed primarily to the private sector. However, the municipality motivates the adoption of the measures through financial instruments – funds and grants. The funds and grants can also be financed jointly with the State Environmental Fund of the Czech Republic.[205] Brno-city is currently providing six funds to aid the management of rainwater (collection and subsequent use), construction of green roofs, and greening of courtyards or backyards. Other funds can be used to organize social events with ecological themes or an educational program with environmental topics. The last subvention aims at public transportation and partially subsidises one-year tickets. If the person is paying the fee for waste collection, he or she can apply for this subvention.[206]

Author's note

The Czech Republic is currently in the process of adopting a new Building Act (Act No. 283/2021 Coll., Construction Act). Although the construction and spatial planning procedures will remain largely similar, some partial changes will be made.

One significant change will occur during the spatial planning procedure, specifically regarding public participation. Under s. 97, only comments will be allowed to be made, rather than both comments and objections.

[200] Drought Protection Policy in the Czech Republic. Available only in Czech: https://eagri.cz/public/web/mze/ministerstvo-zemedelstvi/koncepce-a-strategie/koncepce-na-ochranu-pred-nasledky-sucha.html

[201] Transport Policy of the Czech Republic period of 2021 - 2027, with an outlook until 2050. Available in English: https://www.mdcr.cz/Dokumenty/Strategie/Dopravni-politika-a-MFDI/Dopravni-politika-CR-pro-obdobi-2014-2020-s-vyhled

[202] Requirements for the adaptation of settlements and landscape layout resulting from strategic materials. Available only in Czech: https://www.mmr.cz/cs/ministerstvo/stavebni-pravo/publikace-a-odborne-texty/pozadavky-na-adaptaci-sidel-a-usporadani-krajiny-v

[203] Measures are similar throughout the Czech Republic.

[204] Priprav Brno. Available only in Czech: https://priprav.brno.cz/mesto/

[205] State Environmental Fund of the Czech Republic. Available in English: https://www.sfzp.cz/en/

[206] Eco Grants. Available in English: https://ekodotace.brno.cz/en/eco-grants/

The new act also includes a definition of green infrastructure under s. 10(1)(c). Furthermore, environmental and public health requirements must be considered during the design and construction of new buildings, as stated in s. 148.

Author: Jiri Vodicka

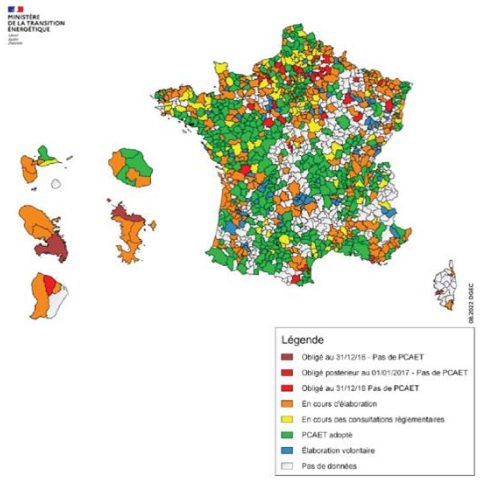
France

The 2010 Environmental Law (Grenelle 2) requires the adoption of a regional climate, air and energy plan. The regional prefect and the president of the regional council jointly draw up a draft regional climate, air and energy plan and then approved by the regional prefect. The Law 2015/991 related to a new territorial organisation of the Republic provide for the integration of such regional plan into a regional planning, sustainable development and territorial equality scheme (which merges several existing sectoral plans such the regional plan for land use planning and sustainable development, the regional waste prevention and management plan the regional intermodality scheme, the regional ecological consistency scheme).

The Grenelle environmental Laws also required for local authorities with more than 50 000 inhabitants to adopt a territorial climate-energy plan. The Law on energy transition (2015) created the territorial climat-air energy plan which succeed the territorial climate energy plan and refocused their governance on the intermunicipal level. Now, public authorities of intermunicipal cooperation (with their own tax status) with more 20 000 inhabitants also must adopt **a territorial climat-air energy plan** no later than 31/12/2018 (decree 2016/849).

16. ***Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level?*** *If yes, how have they been implemented and how do they relate to national objectives?*

The State, local authorities and their respective public establishments (metropole, intercommunalités) take into account the low-carbon strategy in their planning and programming documents that have a significant impact on greenhouse gas emissions. The **regional climate, air and energy plan** is a strategic document which defines the main objectives and orientations in terms of reducing greenhouse gas emissions, controlling energy demand, renewable energies development, air quality and adaptation to climate change. Such regional plan sets the following targets for 2020 and 2050 and sets the guidelines for mitigating and adapting the effects of climate change in accordance with the commitment made by France to divide its greenhouse gas emissions by four between 1990 and 2050 and in accordance with the commitments made in the EU framework.



The territorial climat-air energy plans include a diagnosis, a territorial strategy, an action programme and a monitoring and assessment system. Since 2018, just over 70% of intercommunal public authorities with more than 50 000 inhabitants have adopted a **territorial climat-air energy plan** (Ademe)[207]. The French Environment and Energy

[207] No precise date related to intercommunal public authorities with more than 20 000 inhabitants which are obliged to have such territorial plan.

Management Agency (ADEME) is responsible for certifying territorial climate-energy plans based on a methodology defined at the European level. In its territorial climate-energy plan, the Grenoble metropole has planned to reduce greenhouse gas emissions by 50% and reduce energy consumption by 40% by 2030 (compared to 2005). The urban community of Dunkerque has planned (in its territorial climate-energy plan) to reduce green gas emissions by 40 % (1990) in 2030, increase the part of renewable energy by 30% in 2030, and to reduce the fossil energy consumption by 40% (compared to 2012) in 2030 and the objective of industrial climate neutrality in 2050.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

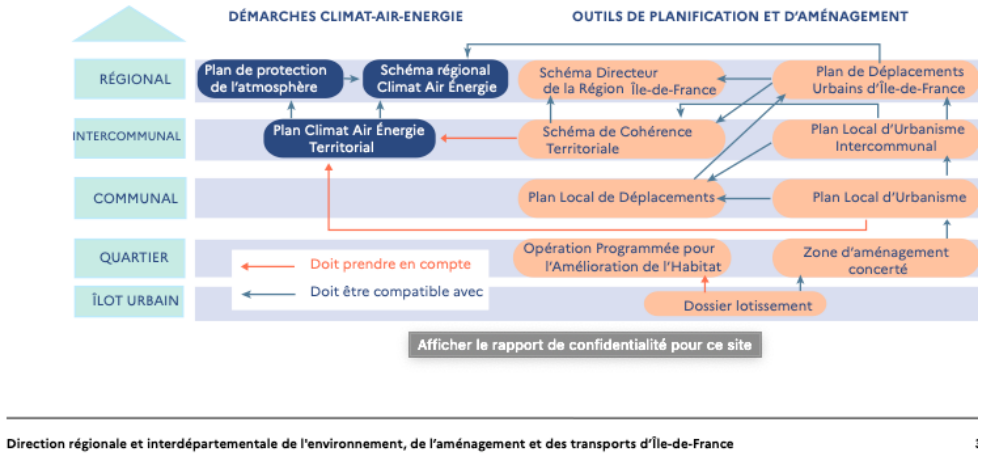
Public authorities of intermunicipal cooperation (with their own tax status) with more 20 000 inhabitants also must adopt **a territorial climat-air energy plan** no later than 31/12/2018 (decree 2016/849). Below 20 000 inhabitants, voluntary territorial climat-air energy plan can be adopted (in this case, the inter-municipal local urban plans (PLUi) do not have any obligation to take such voluntary plan into account). Such plans must be subjected to an environmental assessment (Article R122-17 environmental code). They include a diagnosis, a territorial strategy, an action programme and a monitoring and assessment system. The diagnosis provides an estimate of the territory's emissions of greenhouse gases and atmospheric pollutants as well as an analysis of their potential reduction, an estimate of the net sequestration of carbon dioxide and its potential development; an analysis of the territory's final energy consumption and the potential for reduction, a statement of the production of renewable energies in the territory and an analysis of the territory's vulnerability to the effects of climate change (art. R 229-51 environmental code).They are updated every six years.

The territorial coherence scheme (SCoT) can take the place of a territorial climate air energy plan (ordonnance 2020/744). Local town planning plans and equivalent document have to be compatible with the territorial climate air energy plan.

The **regional climate, air and energy plans** analyse the situation and policies in the fields of climate, air and energy and prospect for their development by 2020 and 2050. They include : **an inventory of direct greenhouse gas emissions** for the residential, tertiary, industrial, agricultural, transport and waste sectors, an **analysis of the region's vulnerability to the effects of climate change**, which identifies the most vulnerable territories and sectors of activity and defines the adaptation challenges they will have to face; an **inventory of the main emissions of atmospheric pollutants**, distinguishing for each pollutant under consideration the different categories of sources, as well as an estimate of the evolution of these emissions; an **assessment of air quality**; An **energy balance** presenting the final energy consumption of the residential, tertiary, industrial, agricultural, transport and energy sectors and the state of production of terrestrial and recovered renewable energies; an assessment, for the residential, tertiary, industrial, agricultural, transport and waste sectors, of the **potential for energy savings**, improvements in energy efficiency and demand management. The implementation of regional climate air energy plan is evaluated every 6 years.

According to several observers, the consolidation of all these plans is very difficult and does not make it possible to know whether we are on the right trajectory to achieve the UE objective (Fit to 55) in 2030 and the promised carbon neutrality in 2050. Furthermore, the obligation to draw up such territorial plans has not been accompanied by a sufficient financial transfer from

the State to local level without forgetting the complex articulation of different levels of decision-making.



18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

The building sector is an essential lever for the decarbonization of cities. Building sector accounts for 36% of the EU' emissions and 40% of final energy consumption.

A support service for the energy renovation of private housing is often included in the actions of **territorial climat-air energy plan**.

Among various local initiatives, the Grenoble metropolitan authority is a majority shareholder of the Grenoble local energy and climate agency (constituted in 2020 as a local public company in order to establish contractual relations with the sharing holding local authorities outside the obligations of competitive bidding). Such agency assists citizens in renovating their home with advices and information on financial aids. In Dunkerque agglomeration, the renovation of the housing stocks is a major challenge and a large part of the population is in a situation of energy insecurity. In order to promote energy renovation of housing stock, a fund "concours renovation energétique" is allocated to the municipalities and an "Eco Habitat plan" is also adopted by the agglomeration. The territorial climate air energy of Lorient agglomeration (Brittany) plans to renovate the entire housing stock by 2050 (3000 housing renovation by year). The energy sobriety was the principle guide of the process of revision of the local housing plan and Lorient agglomeration is committed to providing financial support for the energy renovation of 350 social housing units per year[208].

The integration of environmental criteria applicable to construction and renovation in urban planning documents is also a way to act on greenhouse gas emissions from housing.

Author: Simon Jolivet, Nathalie Hervé-Fournereau

[208] Report Intercommunalités de France, Plan climat air énergie territorial : comment en faire la feuille de route pour une transition énergétique du territoire, 2022.

Germany

16. Are there any overarching goals with regard to the reduction of CO2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?

The EU Commission is pursuing a programme "EU Mission: Climate-Neutral and Smart Cities", which supports 100 cities in the EU to achieve "climate neutrality" by 2030. From Germany, the following nine cities have been selected as participants in the programme: Aachen, Dortmund, Dresden, Frankfurt am Main, Heidelberg, Leipzig, Mannheim, Munich and Münster. A number of other cities have set themselves similar goals.

17. Is there a (binding) program/plan in order to implement the goal of climate neutrality?

The EU programme has also raised ambitions in other cities. The most prominent example is Berlin, where a referendum on a programme for climate neutrality by 2030 was held on 26.3.2023. Although the corresponding campaign received a record braking financial support, the referendum fell short of the necessary quorum of 25% yes votes. The rejection rate among the votes cast was also significantly higher than expected. The Berlin Senate (which itself aims for climate neutrality by 2045) had rejected the referendum as unrealistic and called on the population to vote "no".

18. Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?

The heat supply of buildings is currently the most discussed topic of local climate policy (next to transport issues). The current federal government is arguing about the ambitious targets for the conversion of heating systems and building insulation developed primarily by the Greens. The ideas of the Greens are often perceived by the public as unrealistically ambitious, too bureaucratic and one-sidedly focused on heat pump technology. Another major problem is the lack of qualified personnel for the renovation of buildings.

Author: Bernhard Wegener

Hungary

16. Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?

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17. Is there a (binding) program/plan in order to implement the goal of climate neutrality?

All county towns have their own urban climate strategy, plus several other towns, altogether 217 have such program, the quality of which is improving. There is a Climate and Energy Association of Mayors, producing guidance documents. There are only two strategies (XII. district of Budapest and Kaposvár), which have direct objectives with numbers and reporting obligation, while in case of Kecskemét there is some kind of measurement option, in order to evaluate the efficiency of actions.

18. Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?

Budapest is a partner in the ATALIER (smart citiy) project, which aims at the development of coming closer to an area with a positive energy balance. In the IV. district of Budapest, they started a social rented dwelling area as a brownfield investment, aiming at a positive energy balance.

There is a Coalition of Climate Friendly Settlements (http://klimabarat.sreter.eu/cimlap) with more than 80 members, which offer professional help and best practice methods.

Author: Gyula Bándi

Italy

16. *Are there any overarching goals with regard to the reduction of CO2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

National framework:

At the national level, targets and objectives of emissions reduction for Italy derives primarily from EU law and international law (i.e. Paris Agreement). These include EU measures implementing the initial commitment assumed with the NDC jointly presented by EU Member States under the Paris Agreement of achieving the reduction of 40% of GHGs emissions compared to 1990 levels (a commitment subsequently renewed and increased with the 2020 Green Deal up to -55% by 2030). These measures include the adoption of a revised ETS Directive 2018/410/UE, and the new effort sharing regulation (Regulation 842/2018) setting for Italy an emission reduction target for Italy of -33% for non-ETS sectors (agriculture, transport, residential building, waste and small enterprises) to be achieved by 2030.

In implementation of those obligations and in accordance with Regulation 1999/2018 UE on climate Governance, Italy adopted various legislative and policy/strategic instruments, including its PNIEC in 2020 and its National Decarbonisation Strategy (Strategia Italiana di Lungo Termine sulla Riduzione delle Emissione dei Gas a Effetto Serra) in 2021. Other important instruments in this context are the Plan for National Recovery and Resilience (2021), which allocates 40% of the resources to investments in the field of climate change, and the Plan for Ecological Transition (2022).

However, Italy does not yet have a specific law on Climate neutrality, although the possibility of adopting such a Law has been proposed by several organizations. Legislative provisions aimed at climate neutrality are therefore scattered among different normative and policy instruments.

Among these, of special relevance is Legislative Decree No 111/2019 on the definition of a strategic national policy to combat climate change and improve air quality, in order to comply with Directive 2008/50 on air quality. With respect to Municipalities and Regions, there are not legally binding targets of CO2 emission reductions addressed specifically to them at the national level. However, those territorial entities are responsible for the pursuit of the national objectives under EU law and to comply with EU commitments. In that respect, article 1 of Legislative Decree 111/2019 reads, ‘Every public administration, as defined in article 1(2) of

legislative decree 165/2001 (i.e. as including all public administration of the state, including…. Regions, Provinces and Municipalities…) align the activities falling within their respective scope of competence to the achievement of the objectives of fighting climate change and improving air quality'.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

Several Italian Regions have adopted their own regional climate strategies and set themselves specific climate targets. For example, the Piemonte Region is preparing a regional strategy against climate change, while other regions have already adopted their regional strategy of mitigation and adaptation.

Moreover, a few Italian regions (namely Abruzzo, Basilicata, Emilia Romagna, Lombardy. Piedmont, Sardinia and Veneto) are part of the Under 2 Coalition, a coalition of 167 individual states, regions, provinces, subnational governments alongside other subnational entities working towards the target of achieving net zero emissions by 2050. As part of this, they signed the Under 2 Memorandum of Understanding, which is a non-legally binding, yet ambitious, commitment to reduce emissions as soon as possible, with a view to reach net zero emissions of CO2 by 2050 and of all GHGs about two decades later.

18. Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?

It is worth mentioning that nine Italian cities (Bergamo, Bologna, Firenze, Milano, Padova, Parma, Prato, Roma e Torino) have been selected by the European Commission to be included in a EU project (Mission 100 climate neutral cities by 2030) aimed at transforming them in centres for sustainability experimentation and innovation, with respect in particular to climate, environment and energy.

Author: Massimiliano Montini, Emanuela Orlando

Latvia

While the reduction of the heat island effect can be considered as a measure of climate change adaptation, mitigation of climate change increasingly is also a topic of discussion in cities.

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

It is worth starting with the information on the recent legislative development with respect to climate change issues and municipalities. In 2022 above-mentioned new Law on Municipalities has been adopted (in force from 2023) which among other 'autonomous functions of a municipality' explicitly includes a task "to contribute to climate change mitigation and adaptation."[209]

With respect to question on *goals* - yes, most of the state cities (9) have elaborated their sustainable development strategies/plans and/or Sustainable Energy and Climate Action Plans, where 'climate neutrality' has been mentioned as one of objectives (in the former) or the main objective (in the latter). The implementation mostly is developing through 'project based'

[209] Art.4(1)(22) of law on Municipalities.

approach in the areas and through the actions which are indicated in the plan as means to move towards climate neutrality objective.

The municipalities have been involved in developing a national Energy and Climate plan 2021-2030 and based on that most of cities have elaborated their action plans. According to the *National Strategy for the Achievement of Climate Neutrality by 2050* (Strategy 2050): "Local governments, upon fulfilling the duties laid down in the current laws and regulations, have a key role in advancement of the country towards climate neutrality. The majority (68 % in 2018) of inhabitants in Latvia live in cities, however, an even larger proportion of inhabitants work in cities."[210]

Local governments are one of the main 'players' highlighted in the Strategy 2050 as having «a high potential for influencing the contribution of the energy sector and transport sector to climate change mitigation» taking into account their autonomous functions that include such duties as «management of heat supply, water supply, sewerage, and household waste, organisation of the public transport, spatial development planning, and determination of the procedures for land use and building, as well as lighting of the territories provided for public use, arrangement and maintaining of green zones.»[211]

Two cities have to be indicated as most active or visible in connection with climate related objectives and activities, i.e.: Riga and Liepaja.[212] Riga and Liepāja have committed to the task of become climate-neutral smart cities of the European Union (EU) until 2030.[213] They are among those EU 100 cities chosen/agreed to be as experimentation and innovation hubs to enable all European cities to follow them by 2050. Thus, they had to elaborate plans and projects for fulfilling their commitment (fundings are open starting from this year, 2023).

In order to effectively achieve its commitments in climate and energy area, Liepaja has developed and adopted the *Sustainable Energy Action Plan 2020-2030*. Riga adopted similar action plan in 2022. These are linked and to some extend based on the national Energy and Climate Plan 2021-2030.

The *Riga Sustainable Energy and Climate Action Plan 2022-2030* is the main planning document of the Riga municipality for the medium-term energy and climate adaptation sector. In general, the energy goals set in the plan are for reducing CO2 emissions, adapting to climate change, and reducing air pollution. To achieve the goals, the plan has identified 112 measures that aimed to generate a total of 1,289 GWh in energy savings, provide 1,350 GWh of renewable energy and reduce CO2 emissions by 509 thousand tonnes. The overall goal of the plan is to reduce CO2 emissions in Riga by 30% compared to 2019, to ensure progress towards climate neutrality by 2050.

[210] Strategy of Latvia for the Achievement of Climate Neutrality by 2050 (Strategy 2050). Available: https://unfccc.int/sites/default/files/resource/LTS1_Latvia.pdf
[211] Strategy 2020, ch.5.
[212] Liepāja is a port city on Latvia's west coast, the third largest city in Latvia. In fact, the city of Liepāja has joined the European Union's initiative to reduce the impact on climate change already in 2012 by signing the Covenant of Mayors in the field of energy and climate . The signatories of the pact have committed to meet and exceed the European Union's goal of reducing CO2 emissions by 40% by 2030.
[213] Initiative «The 100 Climate-Neutral and Smart Cities by 2030». In 2022 the EC named 100 EU cities that will fulfil the EU task for cities by 2030 and become 100 climate-neutral smart cities. Within the Horizon Europe research and innovation programme 360 million euros is allocated for those 100 cities to enable them starting the innovation path to climate neutrality in 2030. In accordance with that programme the issues of clean mobility, energy efficiency and green urban planning will be addressed.

17 different measures have been identified for the municipal infrastructure under the direct control of the municipal government, such as continuous improvement and certification of the energy management system, procurement of 100% renewable energy in municipal buildings, renovation of municipal buildings, modernisation of street lighting, improvements in the efficiency of the use of municipal vehicles and others. The goal of the municipal sector is to achieve climate neutrality in 2030, by reducing emissions and partially compensating them, and motivating market participants to generate energy from renewable energy sources.

Goal	Target value	Target year	Baseline value	Baseline year
Reduce Riga's total CO_2 emissions	-30% -70%	2030	1,742 $ktCO_2$ 4,291 $ktCO_2$	2019 1990
Reduce CO_2 emissions in energy production	-30% -51%	2030	914 $ktCO_2$ 1,400 $ktCO_2$	2019 1990
Reduce CO_2 emissions in the transport sector	-30% +21.5%	2030	729 $ktCO_2$ 600 $ktCO_2$	2019 1990
Reduce emissions in the Riga City Council infrastructure	**-100%**	**2030**	**37.9 $ktCO_2$**	2019

2030 CO2 reduction targets for Riga (REA)

Currently, Riga is in a process of establishing a *Low Emission Zone action plan* to improve air and environment quality in city of Riga. It is planned that the low emissions zone would cover the whole historic centre where air pollution currently exceeds the norms set by both Latvia and the European Union. The city plans to gradually implement this project by 2027. It is estimated that it will reduce the car traffic by 20%, meaning there would be less congestion and better air quality.

In the *Development Programme of Riga for 2022-2027* the set goals for CO2 emissions until 2027 are the following:

- Reduce CO2 emissions in transport sector by 22%;
- Reduce CO2 emissions in municipality projects regarding traffic infrastructure by 20%;
- Overall CO2 emission reduction by 20%.

The implementation are facilitated though the development and realization of relevant projects based on indicated actions and investments in relevant planning instruments. So of the activities that has been indicated by Riga municipality when asked about the implementation of climate objectives:

- Change of streetlights to more energy efficient ones reducing CO2 emissions;
- Created a data base for climate data including CO2 emissions to better model and predict the patterns;
- Better burning material choice for AS "Rīgas siltums" to reduce CO2 emissions and improve air quality in general as well as efficiency of used energy;

- Optimization, modernization of central heating systems in the city to reduce heat loss and CO2 emissions;
- Installation of solar panels in the city;
- Changing transportation for municipality workers, promoting also more environmentally friendly mobility tools;
- Promotion of climate neutral mobility;
- Increasing the green areas in the city, planting trees, creating/improving parks;
- Supporting environmentally friendly public transport like trams and trolleybuses, buses powered by electricity;
- Building bicycle roads;
- Implementation of low emission zones in the city centre;
- Creating tools for greenhouse gas (GHG) emission accurate measurements and how to use that in city context;
- Reconstruction buildings owned by municipality to be more energoefficient;
- Buying tools or devices for municipality workers that are environmentally friendly and/or energy saving;
- Supporting projects that promote reduction, limit or counter GHG.

In principle, city's development plans, as well as climate and energy plans are based on national objectives elaborated in the Sustainable Development Strategy of Latvia until 2030 and Latvia's National Energy and Climate Plan 2021–2030. However, there are no studies performed in LV how and to what extend they contribute to the national objectives. Nevertheless, climate related implementing measures (and projects planned and performed at municipalities' level) that are embedded in the national Climate and Energy plan are calculated into the achievements of national objectives, as the planning is interrelated.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

The question is covered by the answers above 16 and below 19.

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

There are quite many housing programmes for houses insultations as well as for changing heating systems to switch from fossil fuels to RES and biomass. The latter, however, is stemming from the national policy and climate funding. At municipality level there are incentives to encourage users of fuel-burning equipment to connect to the central heating system, as it is in Riga (see below).

On hosing, for example, *Riga housing program*

It is worth noting that a municipality cannot carry out the renovation of multi-apartment buildings for the residents, but it can provide them with the necessary support and motivation in order to promote the involvement of the residents in the arrangement and renovation of their homes.[214] Main actions:

[214] Information on such support and developments in Riga available: https://atjauno.riga.lv/dzivojamas-majas/

- Targeted municipal campaign in cooperation with the Ministry of Economics to reach and facilitate participation of inhabitants in housing insultations. Campaign 'Dzīvo siltāk' ('Live warmer'). Planned to provide local residents with tours of renovated buildings serving as examples of good practice, to inform and involve local residents in co-financing the renovation of buildings within the Riga housing renovation programme. Informing about the building renovation process, its benefits, and ways to receive aid.

On air quality: Riga Air Quality Improvement Action Programme for 2021–2025

The plan was designed to reduce the negative effects of air pollution on the environment and human health, and to reduce costs and worktime lost due to health problems and doctor visits caused by air pollution.

One of the targets of the plan are heating supply systems (create a register of heating equipment, and conduct measures aimed at connecting households to the central heating system, replacing existing inefficient equipment).

Ensuring the connection of new clients to the central heating system of Riga

Based on calculations, in 2020, the central heating system in Riga accounted for only 56% of the total heat energy demand. From the point of view of air quality and efficiency, the central heating system is a more sustainable solution compared to decentralised heat supply systems. Therefore, one of the goals is to increase the share of the central heating system in Riga.

One goal of the city is also to create financial support or other instruments to encourage users of fuel-burning equipment to connect to the central heating system of Riga, by making changes to RCC Binding Regulation No. 97 'On territorial zoning of air pollution' in what pertains to the choice of fuel-burning equipment and setting requirements for reducing CO2 emissions.

In Riga Spatial Plan there are already zones where only central heating supply is allowed to reduce pollution in the city centre (applicable to new buildings).

Promote the use of renewables in decentralised heat supply or connecting to the central heating supply system of Riga

Gradually, with a transition period, no later than 2025, new permits will no longer be issued for the installation of fossil fuel-burning equipment with a capacity of less than 0.2 MW. This measure applies to both the replacement of existing equipment and the installation of new equipment.

Author: Zaneta Mikosa

Netherlands

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

If the question is whether there are binding greenhouse gas emission reduction goals for the local or regional levels, the answer is that there are no such goals. However, many local/regional governments aim to reduce CO2 emissions by implementing policies or at least state their goals. Some are party to the Covenant of the Mayors. All municipalities (and provinces) are signatory

of the *Klimaatakkoord* of 2019 which basically provides for an agreement how to achieve the (International, EU and) national CO2-emissions reduction goals. This Climate Agreement between societal partners, industry and all Dutch (decentralized) governments provides targets and goals for specific parts of society (e.g. industry; build environment; mobility; electricity production) and pathways to achieve them.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

The (national) Climate Act provides for a framework to achieve the goal set in that Act. It obliges the national government to adopt long-term plans with sufficient measures to reach the reduction target. To allow for a shift toward carbon neutrality the Climate Agreement (*Klimaatakkoord*) was negotiated to come up with measures that would not just achieve the goals but could also count on the support of stakeholders. Local and regional government do not have the obligation to adopt a plan to achieve carbon neutrality.

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

There are many local subsidy schemes that allow homeowners to either save energy or start the energy transition for their residence. Municipalities have an important role in the energy transition. The energy transition in the build environment requires local knowledge of the buildings and therefore the municipalities are required to adopt policy documents that should analyze which residential areas / houses shall no longer be provided with fossil fuels (Gas) for heat supply, cooking, and hot water and at what time in the future. Also, municipalities need to assess by what means the residential area will be guaranteed heat and electricity (electrification / heat supply via centralized heating?). This document and the (mandatory) program to implement it, will eventually lead to houses/residential area to be disconnected from the gas supply.

Author: Kars de Graaf

Norway

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

Several municipalities and some regions have set their own climate mitigation goals. At the municipal level, it is common to do this through political thematic plans on climate and/or energy, subsequently implemented through legally binding master plans.

The target of Oslo Municipality is to reduce greenhouse gas emissions by 95 % by 2030 compared to 2009. This is a much more ambitious target than the national targets. In addition, the energy consumed shall be reduced by 10 %. The three sectors emitting most is mobility (transport) with 52 % of the emissions, waste 25 % and construction 12 %.

A difficult question is what kind of technical requirements can be specified in master and zoning plans. One major project is the introduction of carbon capture and storage (CCS) technologies to the main waste treatment facility (using waste burning) in the Oslo region. The plan is to start the project in 2026. However, it has been delayed and much more expensive than budgeted. Most likely, achieving the targets it will be significantly delayed, and it might even be scrapped.

Electrification of private cars and even of buses, has been a success story in Oslo. of the construction sector has also been challenging. The introduction of electric buses is not new, but it is new to runs Electrification of transport has been a success story in Oslo.

Significant elements of electrification have been tried out in the construction sector as well. The Oslo municipality has requested “fossil free constriction sites” in their tendering documents, starting in 2017. The municipality has close collaboration with entrepreneurs in order to achieve this target, and is increasingly also using master plans to achieve the objective in private projects.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

There is no binding governmental program or plan that requires authorities at the municipal or regional level to achieve defined greenhouse gas reduction targets. To the extent that greenhouse gas emission targets are implemented through the master and/or zoning plans, the act of implementation might be mandatory, but achieving the objectives is not mandatory.

Author: Ole Kristian Fauchald

Portugal

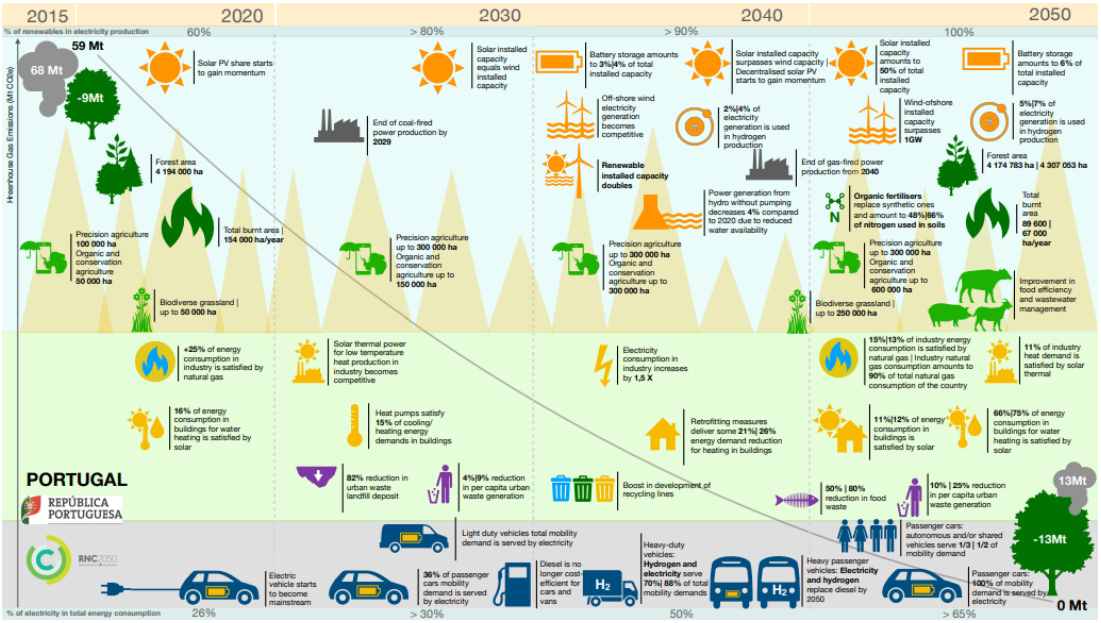
16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

The climate goals of municipalities are mostly associated with municipal transport efficiency. In December 2016 a network of 23 municipalities (out of 308 in total) focused on Local Adaptation to Climate Change, called adapt.local, was created. The participating municipalities signed a Letter of Commitment to establish an informal partnership among municipalities and other institutions, including higher education institutions, research centers, non-governmental organizations, and businesses, with the aim of promoting local adaptation to climate change in Portugal.

In May 2022, adapt.local was transformed into a private nonprofit association, thereby strengthening its capacity for action and intervention.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

Climate neutrality is foreseen in the Resolution of the Council of Ministers n. 107/2019 which approves the Roadmap for carbon neutrality (https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=%3d%3dBAAAAB%2bLCAAAAAAABACzMDexBAC4h9DRBAAAAA%3d%3d). This Roadmap was submitted to the UN one year ahead of the international deadline and establishes concrete measures with deadlines to be attained until 2050

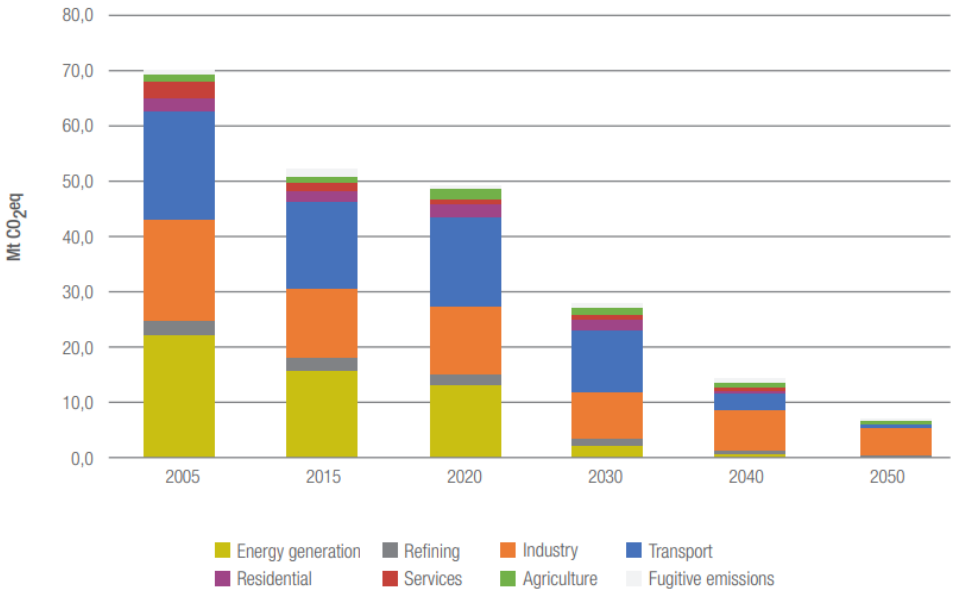


The energy transition to renewables, with the support of the Recovery and Resilience Funds is very advanced. In the OECD report on Portugal, released in March 2023 (https://www.oecd.org/environment/oecd-environmental-performance-reviews-portugal-2023-d9783cbf-en.htm) renewable energy production was the only aspect where Portugal performed well, in line with the targets and above average.

In November 2022 the prime Minister announced that carbon neutrality would be attained 5 years earlier, 2045 (https://www.portugal.gov.pt/pt/gc23/comunicacao/noticia?i=portugal-esta-em-condicoes-de-antecipar-neutralidade-carbonica-para-2045)

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

To make sure that the evolution of energy system emissions up to 2050 follows the desired path...



…concrete measures on energetic transition are being adopted with the support of the Recovery and Resilience Fund, the , the most applauded of which is residential energetic efficiency, providing support for roof isolation, double glaze windows, solar panels, etc.

However, the report by the Special Rapporteur for human rights and environment – David Boyd – on the Country (https://documents-dds-ny.un.org/doc/UNDOC/GEN/G22/616/63/PDF/G2261663.pdf?OpenElement) recognizes that "many low-income Portuguese still live in buildings that are not energy efficient". Why? Because the materials and construction works must be fully payed before the support is granted and only richer people can afford paying and waiting months for a subsidy that can arrive or not, considering all the formal requirements that have to be met (the material must be certified for its energetic efficiency, the company hired to apply the system must as well be certified, photos of the intervention, before and after, must be added to the project, everything must be submitted online, etc)

Support for the acquisition of electric vehicles by citizens (not companies) is a measure which has raised concerns of fairness considering first, that it is providing support to the wealthiest class who could probably afford the cars by themselves without public support, and second that the total amount granted is too low and as a consequence the whole amount available for the year runs out in February, hardly one month after the opening of the applications.

Author: Alexandra Aragão

Slovenia

16. *Are there any overarching goals with regard to the reduction of CO2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

The goal to reduce CO2 emissions is a general one. It is not measured (apart from the industry oblige for emission allowances). Binding rules need to be included—they are missing now. Also, recommendations in the Resolution mentioned above are general and not specifically targeted to the cities. But specific goals are more applicable in the cities, like consumption of energy in buildings, rules regarding the construction of buildings, traffic in the cities, etc.

Also connected: the Government issued a recommendation not to heat the public premises more than 20 degrees Celsius and not to cool more than 25, during the weekends not more than 28. This is not a binding general rule, applying to all premises that are not private. However, since these premises are primarily in cities, this measure influences the overall goals of reducing C02 emissions. This measure is widely used also in other countries from 2022 on.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

Not a binding one. Only in the Resolution mentioned above. It foresees neutrality to be achieved by 2050. The Resolution lists a lot of measures in this respect. Certain specific rules envisage being mandatory like new buildings will be needed to be built passively, meaning that they have to produce the energy they consume.

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

Listed above.

Author: Rajko Knez

Spain

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

Being a MS of the EU, Spain has a big deal of goals concerning the reduction of C02 emissions. Those goals are set:

(a) First of all, in EU rules, which are binding on Spain
(b) Second, by national legislation on climate change (Act 7/2021, of May 20, on Climate Change and Energy Transition), and by the National Integrated Plan on Energy and Climate ("PNIEC")
(c) Third, by regional laws and regulations (example Act 6/2022, of December 5, on Climate Change and Ecological Transition of the Valencia Region), and their corresponding mitigation and decarbonization plan
(d) Finally, local authorities may also approve their own initiatives and goals in the matter (for instance, a program of substituting traditional buses with hidrogen-powered buses)

As a rule, each region and local authority is fully responsible for implementing their own plans (principle of local and regional autonomy). In theory, the goals determined at regional and local levels must be consistent with the national objectives. Moreover, many objectives determined at national level can only be achieved at local and regional level. In a 2019 ruling, the constitutional court declared that an autonomous community cannot set regional reduction objectives that are incompatible with the ones determined at national level (ruling 87/2019 of 20 June 2019)

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

Yes, the most important rule is, again, the Act 7/2021, of May 20, on Climate Change and Energy Transition, which set the goal of reaching climate neutrality by 2050. Beside, the most important document is the National Integrated Plan on Energy and Climate (2021-2030), approved by the national government as a consequence of the European "Energy Governance" Regulation, 2018/1999. Apart from that, there is a national Strategy for long-term decarbonization (Estrategia Española de descarbonización a largo plazo).

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level….?*

As in many other countries, Spanish local authorities can do a lot of things in the domain of climate change and specifically in the field of emissions reduction. As referred supra, in Spain local authorities have significant powers that affect or contribute to the fight against climate change: from road traffic to trees, parks and green areas; from the verification of ecological criteria for building (materials, efficiency, etc.) to urban planning and building regulations, etc. Specifically, local authorities are endowed with regulatory powers, thanks to which they can adopt ordinances and similar provisions (local regulations and bylaws) by which they can

regulate the behavior of companies and individuals, making them compatible with the fight against climate change. They can also use their tax-financial and subsidizing power to foster behaviors or activities that are compatible with the climate.
On the other hand, local authorities can also approve their own plans and strategies, within their sphere of competence, to achieve objectives that contribute to the attainment of the major climate objectives (sustainable urban mobility plans, waste prevention and management, energy saving in municipal facilities and lighting networks, local buses and installations, etc.). In Spain alone, more than one hundred large and medium-sized municipalities have approved such plans or strategies.
Finally, municipalities can deploy their capacity to carry out communication and awareness-raising campaigns, training and outreach in schools, etc., to promote climate-friendly behaviors.
It is interesting to note that municipalities do not work alone and in isolation, but often in networks, not only at local, provincial or national level, but also at international level. At the European level, all relevant international networks of cities have a committee or action line on sustainability and climate change (the 1994 Aalborg charter and corresponding network, for instance).
A cornerstone of this movement was the holding of the 8th European Conference on Sustainable Cities and Towns in Bilbao (Spain) in April 2016. Two were the most important outcomes of this conference. First, the launch of the "European Sustainable Cities and Towns Platform", which is considered the next step after the European Sustainable Cities and Towns Campaign (initiated by the Aalborg Charter in 1994) to support cities across Europe to become more sustainable . The second relevant outcome was the "Basque Declaration". This document outlines new ways for European cities to create productive, sustainable and resilient environments for a livable and inclusive Europe. For example, this Declaration recognizes the need for transformation at the local level to decarbonize energy systems, create sustainable urban mobility patterns, protect and enhance biodiversity and ecosystem services, reduce the use of wasteland and natural spaces, protect water resources and air quality, adapt to climate change, improve public space and strengthen local economies. The last key event held so far has been the 9th European Conference on Sustainable Cities and Towns, which was held in Mannheim, Germany, in autumn 2020. The most important outcome was the "Message from Mannheim", which calls for local authorities to be key partners in the implementation of the European Green Deal, through the development of "Local Green Deals" or local green pacts.
In addition to making declarations and sharing experiences, international associations and networks of local entities working in the field of environment and climate change have developed "good practices" in those areas where they implement a given project or initiative, which is subsequently disseminated and can become a reference for others. Given that there are numerous networks and associations on the European continent, we will only refer to one having a Spanish dimension.
In Spain, there are different such networks at regional and national levels. At regional level we may refer to the “Basque network of municipalities towards sustainability” (*red vasca de municipios hacia la sostenibilidad)* or the Barcelona province wNetwork of cities and towns towards sustainability *(xarxa de municipis cap a la sostenibilitat).*
At national level, the most prominent network is the "Cities for Climate Network" (*Red de ciudades por el clima*). This network is very striking because it does not focus on environmental protection or sustainability in general, as most do, but specifically on climate change.
This network was created in 2005 as a section of the Spanish Federation of Municipalities and Provinces (FEMP). It is made up of local governments that wish to integrate climate change

mitigation and adaptation into their policies. In total, the network is made up of more than 300 large and medium-sized local entities, representing more than 60% of the total Spanish population. The network fulfills several tasks: firstly, it coordinates and promotes local policies to combat climate change in Spanish local governments. Secondly, it promotes the actions against climate change of the participating local governments, acting as a forum for the exchange of experiences and providing solutions and measures that can be implemented by the municipalities to curb climate change. Finally, it encourages the implementation of joint projects and develops information and awareness-raising, especially among young people. This network has a website listing all the municipalities that participate in the network and explaining the different initiatives and achievements they have made in the field of climate change mitigation (https://redciudadesclima.es).

Finally, a specific mention should be made to sustainable and “climate-friendly” buildings, and the intervention of local governments in this domain. This is the best example of how a national goal on mitigation (energy performance for buildings) must mainly be achieved through the active participation of local governments, since the competence on building licensing, planning applications, planning permits, inspections, sanctions and the like are, as a rule, on the hands of municipalities, irrespective of their size.

Traditionally, municipalities have established the typology and morphology of buildings through the classic "building and land use ordinances", which goes back to the Middle Ages. Gradually, however, this matter has been taken over by the State legislator, a process that culminated in Law 38/1999, of November 5, 1999, on building regulations.

For some time now, the legal regulation of building has been increasingly inspired by sustainability criteria or guidelines. With the idea of promoting sustainable urban development, the use of new construction techniques and materials and bioclimatic designs have been disseminated, partly on a voluntary basis, partly as a marketing tool and partly by legal imposition. This phenomenon has increased with the growing awareness of the environmental impact of building, and in particular its contribution to the problem of climate change: during 2004-05, the building sector consumed 22% of total energy consumption and generated 12.5% of total greenhouse gas emissions. Consequently, it has become necessary to establish measures for energy saving, insulation and generation, as well as to integrate the environment in the crystallization of urban planning.

At the national level, the Technical Building Code, approved by Royal Decree 314/2006, of March 17 (BOE of March 28), established a long list of measures and requirements regarding "basic energy saving requirements" (article 15), which affect the building typology, and prescribed, among other measures, the installation of solar panels for domestic hot water in all new residential buildings as of September 29, 2006. In recent times, the Spanish government approved several decrees to implement the requirements of the directives on energy efficiency for buildings (Royal decree 390/2021, of 1 July, among several others.)

Apart from these compulsory laws and regulations determined at “higher” territorial level, local governments may adopt numerous initiatives in the field of eco-friendly building (building typology, thermal insulation, use of solar energy, etc.) through their corresponding local building ordinances (Barcelona's solar energy ordinance was a pioneer at the time).

Author: Angel M. Moreno and Agustín García Ureta

Sweden

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

Stockholm has a goal of being "climate neutral" in 2040, thus aligning to the national climate goal. The city is part of the "Climate Pact" between European cities and companies, although the value is uncertain. Although the goals in many respects are ambitions, all of the city's efforts is based on general guidelines and voluntary contributions.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

Nope…

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

I would highlight the city's counselling for energy and climate issues, advising house owners and others on how to install solar panels, charging stations and other measures to decrease the use of energy. This service is easily accessible and free of charge for individuals and associations.

Author: Jan Darpö

Switzerland

16. *Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?*

Yes. Geneva was the first canton to enshrine a provision on climate protection in its cantonal constitution, demanding that "[t]he state [shall implement] policies to reduce greenhouse gases." (art. 158 Constitution GE). A similarly open provision is contained in the constitution of the canton of Nidwalden (art. 21a Constitution NW). The constitution of Glarus obliges the canton and the municipalities to make the necessary contribution to achieving the climate targets of the canton, the Confederation and the international agreements binding for Switzerland. At the same time it demands that "climate protection measures shall be designed in an environmentally, socially and economically compatible manner" (art. 22a Constitution GL; accepted at the Landsgemeinde of May 1st, 2022). The respective provision of the cantonal constitution of Bern – where I had the chance to be involved in the drafting process – contains a net-zero obligation for all fields of competence of the canton to be achieved by 2050 (art. 31*a*; accepted at a popular votation on September 26, 2021). The most recent example is the constitution of Basel-Stadt acknowledging that the "climate crisis is a threat to people, ecosystems, the economy and peaceful coexistence, and an opportunity for social innovation." Furthermore it contains the obligation to ensure "that the greenhouse gas emissions in the Canton Basel-Stadt are reduced to net zero in all sectors by 2037" in the field of its competencies. Furthermore, it provides for binding five-year goals and reduction paths for the development of emissions (art. 16a on climate justices Constitution BS; accepted at the cantonal votation of September 14, 2022).

On the municipal level the city of Zurich purports to achieve "the goals of the 2000-watt society, in particular for [reducing energy consumption, reducing CO_2 emissions to one ton per inhabitant and year etc.]" (art. 10 para. 3 Municipal Code ZH). Additionally, the city of Zurich wants to achieve climate neutrality by 2040; the municipal administration shall be climate neutral by 2035.

In their wording these provisions often relate to obligations contained in superior law of the Confederation or in international agreements. Usually the obligation to act only pertains to domains, where the canton/municipality enjoy powers. All of the provisions mentioned are legally binding. However, most of them are formulated in a fairly open manner, leaving the implementation to legislator as well as to the assessment of specific projects.

17. *Is there a (binding) program/plan in order to implement the goal of climate neutrality?*

The canton of Bern for instance lists a whole range of ongoing or planned projects, which should help to achieve climate neutrality by 2050: decarbonization of heating by means of cantonal subsidies, use of bio-mass for energy production, the shift from plusenergy-neighbourhoods to plusenergy-cities, climate analysis for the canton etc. The canton of Basel-Stadt is in the process of elaborating a climate protection strategy in order to implement is goal to achieve neutrality until 2037. However, it cannot be denied that there is a gap between the aspirations reflected by the constitutional goals and the process of implementation. One of the specific reasons in this respect may be, that, when voting in the framework of direct democracy, people are willing to accept the abstract objective of reducing CO_2 emissions, but are reluctant to concretely renounce to projects and constructions or to agree to measures, which may entail costs or a loss of beneficial conditions.

18. *Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g. heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?*

In its Climate and Energy Strategy 2025 the city of Bern aims at reducing the CO_2 emissions per capita from 4.42 tons CO_2 equivalents to 3.35 tons CO_2 equivalents until 2025. To reach this aim, a broad range of measures are being implemented: increase of solar electricity production on administrative buildings by 5 percent; support to biogas-production and the extension of the district heating network, construction of a plusenergy-school building, reduction of food waste, consideration of energy aspects in the planning process of municipal construction projects etc.

The city of Zurich has a subsidy program for the switch to alternative heating systems and the isolation of buildings, aims at expanding its district heating network, foresees that by 2030 90 percent of driving by municipal authorities should be done with renewable energy, aims at orienting the procurement of goods and services according to climate criteria and is about to switch to climate-friendly catering in municipal companies.

Author: Markus Kern

Turkey

16. Are there any overarching goals with regard to the reduction of CO2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?

The goals for climate neutrality are mentioned under almost all kinds of local plans prepared by metropolitan municipalities. However, the main documents are local (urban) "climate change action plans" because they include detailed goals as well as targets and measures for the implementation. They are prepared by metropolitan municipalities taken into account the national legislation and soft law documents concerning climate change. Additionally, urban design projects also regulate the issue to a certain extent. Municipalities prepare the guides according to "the urban design guide for local governors" published by the Ministry of Environment, Urbanization and Climate Change[215]. All of these documents consider climate neutrality potential, and the percentage of predicted reductions for each sector separately.

17. Is there a (binding) program/plan in order to implement the goal of climate neutrality?

Implementation process (in spite of some differences among cities) under the local climate action plans and green city plans generally coincide with the targets specified at the national level according to the international obligations under the ratified climate treaties. For instance, these plans cover a certain percentage of reduction targets for years 2025, 2030, 2040 and 2050.

18. Can you name some specific measures of local policy (outside the fields of transportation and green spaces) that aim at reducing emissions on the local level (e.g., heat supply for housing, measures for thermal insulation of buildings, incentives for businesses/industry, etc.)?

Measures regarding climate neutrality change according to the above-mentioned climate action, and green city plans since the problems as well as priorities of cities are different from each other. (For instance, in Ankara, most of measures are related to ensuring of the energy efficiency in buildings since the most of the current pollution are derived from buildings[216]). Apart from transportation and green spaces, they are generally about the energy efficiency and using of alternative and renewable energies. In this context, thermal insulation of the existing buildings to prevent heat loss according to the relevant by-law[217], and construction the new-smart -green buildings through the application of solar energy, "green roofs", "green labeling systems" in accordance with the relevant by-law on green certificate for buildings[218], and developing the LEED certificated projects are the major efforts. All of these measures are envisaged under the main goal toward establishing "smart-sustainable-green cities. The reduction of "carbon footprint" has been considered as the main step to be able to create such cities. Currently, the project to establish "smart or ecological cities" is developed mainly for the city Gaziantep. As a consequence, Gaziantep Municipality, apart from the climate action plan, has also published a guide on the implementation of ecological city[219]. There are also ongoing similar projects for some towns of some cities (İstanbul- Piyalepaşa[220], Ankara, Eskişehir, Konya, Denizli, Antalya etc.) The successful examples of these projects and the

[215] Yerel Yönetimler İçin Kentsel Tasarim Rehberi https://webdosya.csb.gov.tr/db/mpgm/icerikler/yerel-yonetimler-icin-kentsel-tasarim-rehberi-kapak-eklenm-s-hal--20220202084506.pdf
[216] Ankara İli Yerel İklim değişikliği Eylem Planı. https://www.ankara.bel.tr/files/2022/06/22/0b663954d523bfee1d1e1d5fa66a082f.pdf.
[217] Binalarda Enerji Performansi Yönetmeliği. Resmi Gazete. 5.12.2008. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=13594&MevzuatTur=7&MevzuatTertip=5
[218] Binalar ile Yerleşmeler İçin Yeşil Sertifika Yönetmeliği . Resmi Gazete. 12.6.2022. https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39565&MevzuatTur=7&MevzuatTertip=5
[219] 1. Gaziantep Ekolojik Kent Uygulama Tasarım Rehberi. https://www.gaziantep.bel.tr/uploads/2022/08/ekolojikteviksistemi2021.pdf ; 2. Gaziantep İklim Değişikliği Eylem Planı. https://www.gaziantep.bel.tr/uploads/2020/07/gaziantep-ccap-tr-final-20111102.pdf
[220] İklim Değişikliği İle Mücadale Kapsamında Şehir Planlama Araçlarının Geliştirilmesi. İstanbul 2019, p.48-49. https://iqelafn0f0xw.merlincdn.net/wp-content/uploads/2020/09/YESIL_YERLESIM.pdf

related information has been opened to public in a special web portal[221]. Additionally, the Ministry of Environment, Urbanization and Climate Change has established an "open data platform" relating to smart cities.[222]

As regard to incentives, as parallel to the incentives provided for the property owners and industrial installations under the national legislation with regard promoting the use of renewable energy, several local climate action plans cover similar support systems such as providing a certain amount of financial aid for farmers to build solar energy systems. Additionally, to provide lead ampule for some residents to ensure energy efficiency is among the measures envisaged in some urban plans. Under the Gaziantep Ecological City Project, an ecological incentive system (credit) has been provided for the buildings which are classified according to their planning situation. The system works at two steps. The first step includes the calculation of the grates determined according to the energy percentage that is provided by the renewable sources. The second step includes the determination of the number of credits according to the calculated grates[223].

Annex I. Laws (www.resmigazete.gov.tr.)

(There are also several by-laws promulgated to implement all the below-mentioned laws)

1. Laws on landscaping and municipalities: *İmar Kanunu. No. 3194. Resmi Gazete 3.5.1985. * Büyükşehir Belediyeleri Kanunu. No. 5216. Resmi Gazete. 23.7.2004. *Belediye Kanunu. No.5393. Resmi Gazete.13.7.2005.

2. Laws on electric, energy efficiency and renewable energy: *Yenilenebilir Enerji Kaynaklarının Elektrik Enerjisi Üretimi Amaçlı Kullanılmasına İlişkin Kanun. No.5346. Resmi Gazete 10.05.2005. * Elektrik Piyasası Kanunu. No. 6446. Resmi Gazete 14.03.2013. *Enerji Verimliliği Kanunu. No.5627. Resmi Gazete. 18.04.2007.

3. Law on transportation: * Karayolları Trafik Kanunu. No.2918. Resmi Gazete. 18-10-1983.

4. The Law on Environment. Çevre Kanunu. No.2872. Resmi Gazete.11.8.1983.

Annex II. Soft law documents prepared at the national level.

1. Documents relating transportation

* Ulusal Akıllı Ulaşım Sistemleri Strateji Belgesi ve 2020-2023 Eylem Planı.(2014-2023). https://www.uab.gov.tr/uploads/announcements/ulusal-akilli-ulasim-sistemleri-strateji-belgesi-v/ulusal-akilli-ulas-im-sistemleri-strateji-belgesi-ve-2020-2023-eylem-plani.pdf

*Republic of Turkey 2053 Transportation and Logistic Master Plan. 2022. https://sgb.uab.gov.tr/uploads/pages/yayin-sunum-ve-tablolar/uab-2053-master-plan.pdf

*Erişilebilir Ulaşım Stratejisi ve Eylem Planı 2021-2025. https://www.uab.gov.tr/uploads/announcements/erisilebilir-ulasim-stratejisi-ve-eylem-plani-2021/erisilebilir-ulasim-stratejisi-ve-eylem-plani-2021-2025.pdf

[221] https://www.akillisehirler.gov.tr/ . https://www.akillisehirler.gov.tr/basarili-ornekler/.
[222] https://ulasav.csb.gov.tr/
[223] See above footnote 30.1, p. 15-18.

* Türkiye Bisiklet Yolu Ağı Master Planı. https://webdosya.csb.gov.tr/db/cygm/icerikler/turkye-b-s-klet-agi-c-lt1-20211202125047

2. Documents relating planning, urban design and smart cities

*11. Kalkınma Planı 2019-2023. http://www.usaintlouis.be/sl/984.html

*Yerel Yönetimler İçin Kentsel Tasarim Rehberi https://webdosya.csb.gov.tr/db/mpgm/icerikler/yerel-yonetimler-icin-kentsel-tasarim-rehberi-kapak-eklenm-s-hal--20220202084506.pdf

* Republic of Turkey National Report on the Implementation of the New Urban Agenda, March 2021. .https://www.urbanagendaplatform.org/sites/default/files/2021-04/Republic_of_Turkey_NUA_Imp_Rep_2021_FINAL_EN_31.03.2021.pdf

* 2020-2023 Ulusal Akıllı Şehirler Eylem Planı. 2019. https://www.akillisehirler.gov.tr/wp-content/uploads/EylemPlani.pdf

3. Documents relating climate change

* Republic of Turkey Climate Change Strategy 2010 2023. https://webdosya.csb.gov.tr/db/iklim/editordosya/iklim_degisikligi_stratejisi_EN(2).pdf

*Republic of Turkey Climate Action Plan.2011-2023. https://webdosya.csb.gov.tr/db/iklim/editordosya/file/eylem%20planlari/iklim_degisikligi_eylem_plani_EN_2014.pdf 2011-2023

*Turkey's National Climate Change Adaptation Strategy and Action Plan. 2011-2023. https://webdosya.csb.gov.tr/db/iklim/editordosya/file/eylem%20planlari/uyum_stratejisi_eylem_plani_EN_Final.pdf

4. Documents relating energy

* Enerji Verimliliği Strateji Belgesi 2012-2023. https://www.resmigazete.gov.tr/eskiler/2012/02/20120225-7.htm

*Ulusal Enerji Verimliliği Eylem Planı 2017-2023. https://enerji.gov.tr//Media/Dizin/EVCED/tr/EnerjiVerimlili%C4%9Fi/UlusalEnerjiVerimlili%C4%9FiEylemPlan%C4%B1/Belgeler/UEVEP.pdf

* Türkiye Ulusal Yenilenebilir Enerji Eylem Planı (2014). file:///Users/nukhet/Downloads/DELOITTE%20-%20T%C3%9CRKIYE%20ULUSAL%20YENILENEBILIR%20ENERJI%20EYLEM%20PLANI.pdf

*Enerji ve Tabii Kaynaklar Bakanlığı Stratejik Planı (2019-2023). https://sp.enerji.gov.tr/ETKB_2019_2023_Stratejik_Plani.pdf

5. Document relating biodiversity:

Ulusal Biyolojik Çeşitlilik Stratejisi ve Eylem Planı 2018-2028. https://faolex.fao.org/docs/pdf/tur208837Tur.pdf

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United Kingdom

While the reduction of the heat island effect can be considered as a measure of climate change adaptation, mitigation of climate change increasingly is also a topic of discussion in cities.

16. Are there any overarching goals with regard to the reduction of CO_2 emissions (climate neutrality) to be found on the local (or regional) level? If yes, how have they been implemented and how do they relate to national objectives?

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17. Is there a (binding) program/plan in order to implement the goal of climate neutrality?

The major policy paper is the Net Zero Strategy: Build Back Better,[224] which was following litigation (as discussed in the national report), revised in Powering Up Britain[225], to lay out more concretely how the government will deliver on the net zero commitments in

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Oxfordshire Country Council, for example, has set the target of reaching carbon neutrality by 2030 and has several policies on how to do this – eg improving streetlighting (46% of emissions are reported to come from this source), improve energy efficiency of buildings etc but the measures proposed are mainly targeted at public (and some corporate) spaces.[226]

Author: Sanja Bogojevic with Richard Macrory

[224] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1033990/net-zero-strategy-beis.pdf
[225] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147340/powering-up-britain-joint-overview.pdf
[226] Available at: https://www.oxfordshire.gov.uk/residents/environment-and-planning/energy-and-climate-change/net-zero-2030