ESPON

EUROPEAN UNION

Co-financed by the European Regional Development Fund

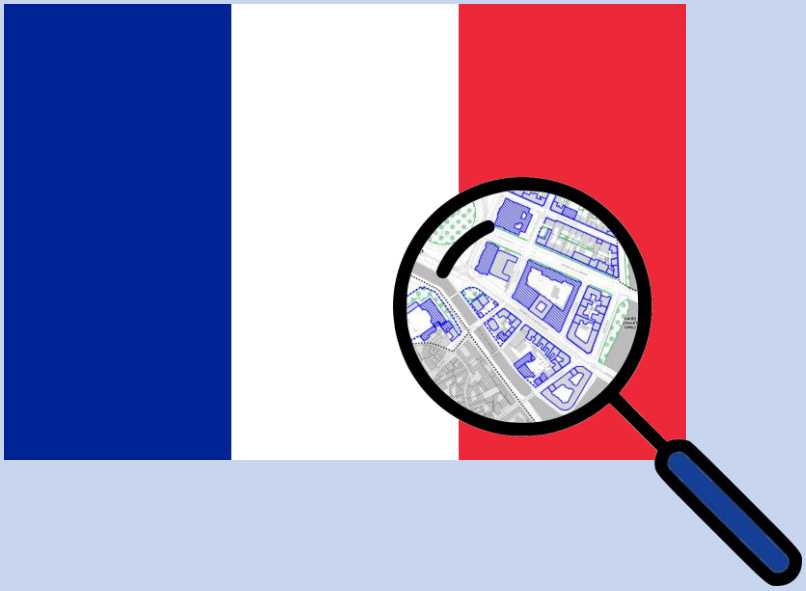
Inspire Policy Making with Territorial Evidence

TARGETED ANALYSIS //

DIGIPLAN – Digital plans and plan data in France

Annex 5 of final report

Final report // June 2021



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Abbreviations

ADEUS	Agence de développement et d'urbanisme de l'agglomération strasbourgeoise (Development and town planning agency for the Strasbourg agglomeration)
CC	Carte communal, a simplified land use plan for rural areas
CIGAL	Cooperation for geographic information in Alsace
CNIG	Conseil national de l'information geographique (National council of geographic information)
CRIGE	Constituted bodies of regional coordination of geographic information
DAC	Document d'aménagement commercial (business development plan)
DINUM	Direction interministérielle du numérique (Interministerial directorate for digitalisation)
DOO	Document d'orientation et d'objectifs (document presenting the goals and orientations)
DTADD	Directive Territoriale d'Aménagement et de Développement Durables (Territorial planning directive)
DU	Document d'urbanisme (local planning document)
GPU	Geoportail de l'urbanisme (geoportal dedicated to digital plan data from public authorities)
IGN	Institut national de l'information gégraphique et forestrière (National institute for geographic and forest information)
OAP	Orientations d'aménagement et de programmation (planning and programming orientations)
PADD	Projet d'aménagement et de développement durable (project for the sustainable development of the territory)
PLU	Plan local d'urbanisme (municipal land use plan)
PLUi	Plan local d'urbanisme intercommunal (municipal land use plan for several municipalities)
POS	Plan d'Occupation des Sols, the predecessor of the PLU (until 2000)
RNU	Les dispositions impé-ratives du règlement nation-al d'urbanisme (National planning regulations)
SCoT	Schéma de coherence territorial (Scheme for territorial coherence, a strategic structure plan)
SRADDET	Schéma régional d'aménagement, de développement durable et d'égalité des territoires (Regional scheme for land use, sustainability and territorial equality)
SRI	Sérvice de la Recherche et de l'Innovation (National service of research and innovation)
SUP	Servitude d'utilité publique (Schemes of public services)

Foreword by the research team

The ESPON DIGIPLAN project explored the development and state of digital plans and plan data in several European countries. It is the first of its kind; no similar research has been conducted before and the topic of inquiry was spanning wide from the beginning. The project employed therefore an explorative character to shed light on digital practices in different spatial planning contexts but also presents an early systematisation of general concepts, key terms and approaches describing emerging digital plans and plan data and related practices.

This report is one out of six in-depth case studies, presenting findings from France. No French stakeholder was connected to the DIGIPLAN project, but several interviews with practitioners from different levels of governance provided insights into various aspects of digital planning practices. As with the other case studies, we do not aim at giving a full picture of digitalisation of plans and plan data in France. This would go far beyond the scope of DIGIPLAN. Instead, we provide insights from different places in the planning system and in the country on current developments and challenges.

In France we focus e.g. on the national plan data portal GPU, the work with plan data in the cross-border region of the Upper Rhine and the digital plans in the city-regions of Strasbourg, Alsace, and Rennes, Bretagne. France is on an extremely interesting path in the digitisation of plans and plan data. There are strong national standardisation tendencies, but at the same time an enormous activity at the local level. However, the discussion on planning as such and if we get better plans (and better places) with digitisation seems sometimes subordinated to technical and administrative questions or, also, is digitisation not seen as having an influence on planning practice yet. Still, the huge change in accessibility to plans and plan data – within a few years already half of all plans in France are online – might just need some more time to unfold its potential for informing planning itself.

1 Introduction and data

ESPON DIGIPLAN provides an overview on digitalization of plan data in 15 ESPON countries, insight information from case studies in 6 countries and five thematic practice papers, synthesizing the state of the art in topics related to digital plan data and digital plans. This Annex reports on France, one of the 6 in-depth case studies. The methodological framework for the case studies is described in Annex 1.

The main empirical material for the case study are information from the plan data portals and interviews with experts in the field. We conducted six interviews with seven persons. The interviewees represent persons from different levels of governance and practice. Information from interviews in the text are referenced by (FR01) to (FR06), referring to an internal interview reference table. The interviews were conducted in French or English, citations are own translations based on transcriptions if necessary.

Table 1.1
Interviews held

Affiliation	Position
National council of geographic information (CNIG)	Expert for national geoportal
	Expert for national plan data geoportal
	Expert for standards for digital plan documents
Region Bertagne	Expert for regional geoportal, DREAL Bretagne
UpperRhine cross-border region	2 Experts for cooperation and GIS in the cross-border region Upper Rhine, GeoRhena
Strasbourg agglomeration	Expert and planner from public planning agency ADEUS

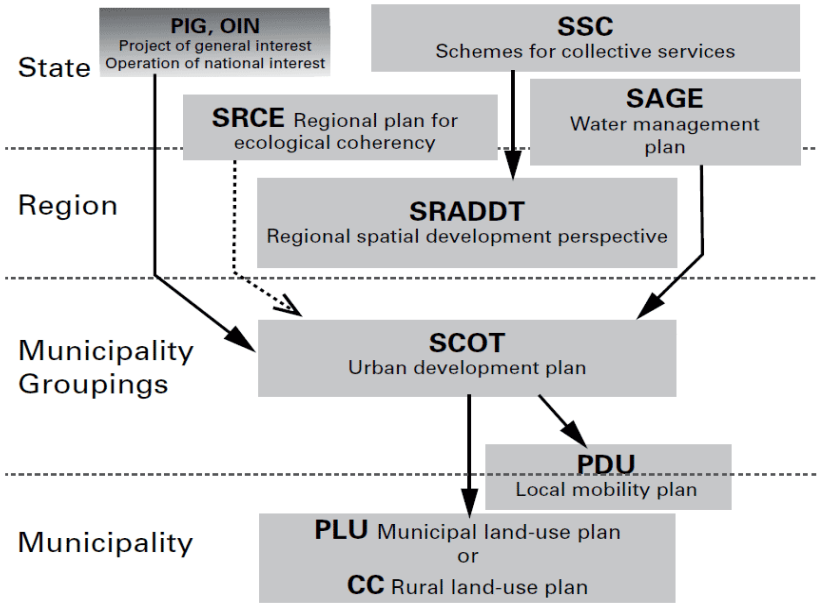
1.1 The French planning system

Metropolitan France is organised into 13 regions, 95 departments and 35,013 municipalities (2021). Spatial planning instruments intervene at different levels in France, though not on the level of departments. Among them:

- The SRADDET (regional perspective) defines medium and long-term objectives for territorial coherence, infrastructure, rural areas, housing transport, energy, environment, waste etc. on a regional level.
- The SCoT (territorial coherence plan) sets the strategic orientation for public policies in a spatial context, on an inter-municipal level.
- The PLU (local urban plan) / PLUi (inter-municipal urban plan) zone and regulate urban development.
- The *Carte communale* (municipal map) specifies e.g. detailed building rights in smaller municipalities.

Figure 1.1 illustrates the hierarchy of planning instruments in France. The legal relationship between these planning instruments is regulated by the principle of the "*Hiérarchie des norms*"; a pyramid of legal provisions requiring different types of symbolic expression in plans, and thus a structured typology of plan data (structures, directions, zoning etc.). In terms of digital plans and plan data we focus on the SCoT and the PLU/PLUi. The SCoT and the PLU exist since a planning reform in 2000.

Figure 1.1
The French planning system (2013)



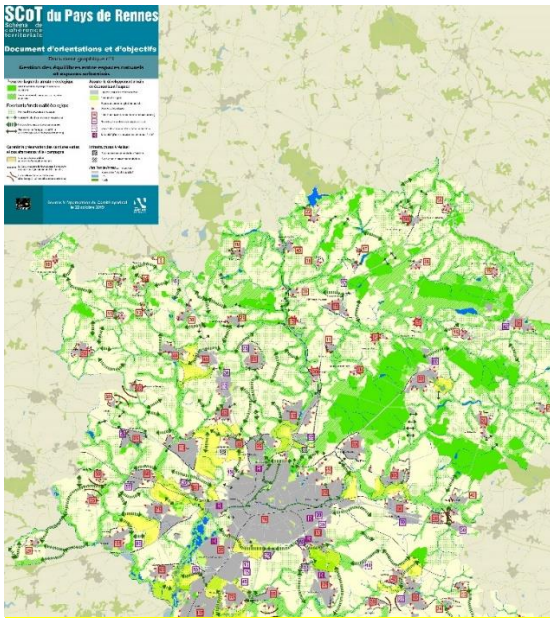
Source: Geppert (2015). This part of the figure does only depict planning documents with direct implications for land use, situation in 2013

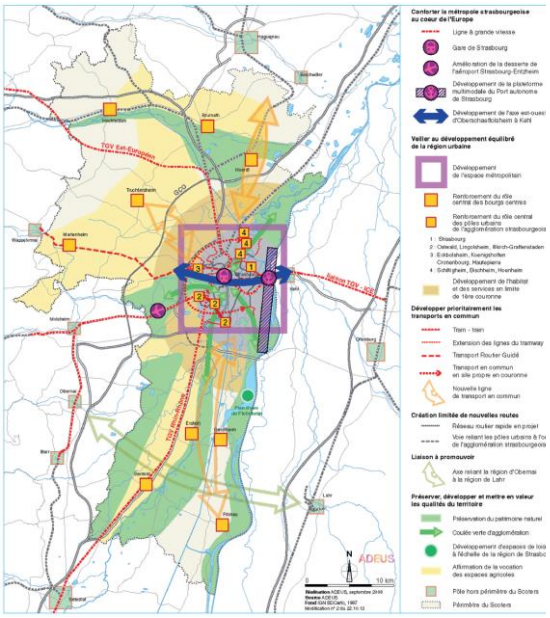
The SCoT – *Schéma de coherence territoriale*

The SCoT is a statutory French planning instrument designating a scheme for territorial coherence, typically at the level of metropolitan areas or other urban agglomerations at a scale that exceeds the single municipality. SCoTs can look very different. The *SCoT Le Pays de Rennes*[1] (approved 29 May 2015) may serve as illustration. It mainly deals with a number of sectoral policies, from housing, mobility and business development to the environment and landscape, with the aim of making them coherent at the scale of several intermunicipal units. The public entity behind the plan is a syndicate composed by 76 municipalities who are organised in 4 intercommunalities (EPCI): *Cormier communauté, Pays de Châteaugiron communauté, Rennes Métropole et Val d'Ille - Aubigné*. The content of the plan is organised in four components:

- A presentation report (*rapport de présentation*) which explains the choices made to establish the project (about 300 pages).
- The project for the sustainable development of the territory (*Projet d'aménagement et de développement durable – PADD*), a mandatory document which fixes the objectives of the plan and alligns it with principles of sustainable principles (68 pages).
- A document presenting the goals and orientations (*Document d'orientation et d'objectifs – DOO*), which explains how to implement and put the goals of the PADD into practice (88 pages including the main strategic map).
- A business development plan (*Document d'aménagement commercial – DAC*) which clarifies the sustainable development orientations of the DOO in business areas (44 pages).

Figure 1.2
SCoTs of Rennes (2019) and Strasbourg (2016)





Source Rennes: http://www.paysderennes.fr/IMG/pdf/scot2015_doo_approuve_22102019_carte_web.pdf, access May 2021
Source Strasbourg: https://wxs-gpu.mongeoportail.ign.fr/externe/documents/scot_256702705/e46e96571729b9f835c12163a262f9aa/256702705_padd_21102016.pdf, accessed May 2021 over GPU

[1] http://www.paysderennes.fr/-Organisation-du-territoire-aujourd-.html, accessed May 2021

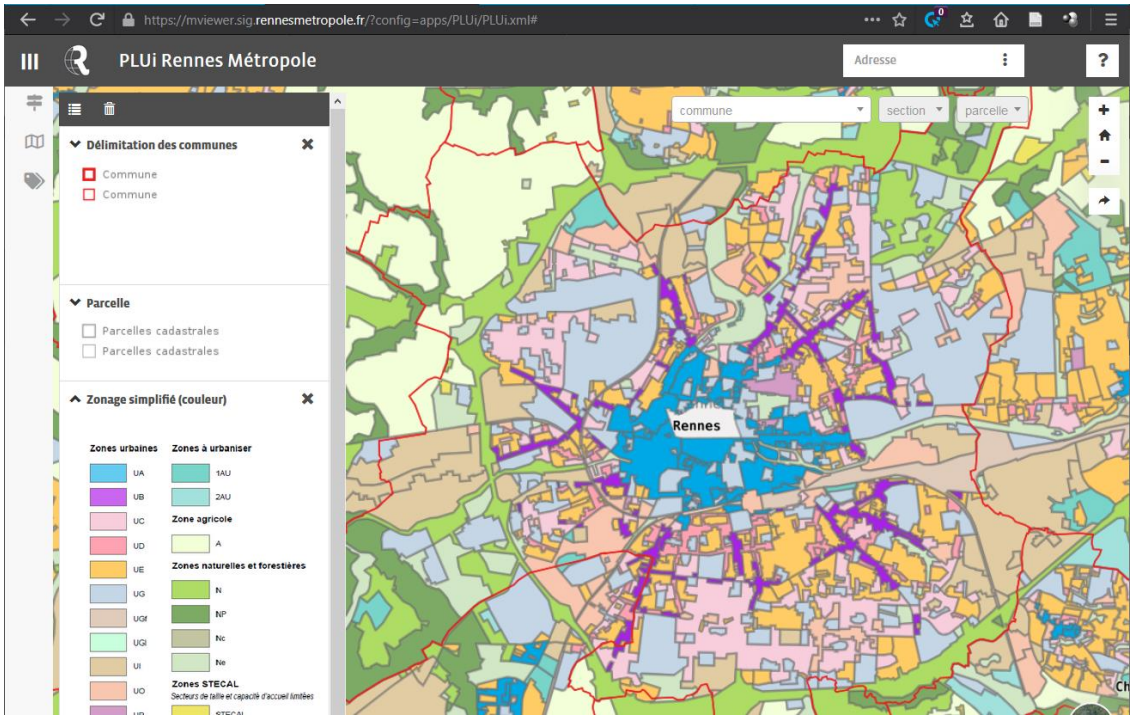
The PLU and PLUi – Plan local d'urbanisme (intercommunal)

PLU is a statutory plan, a "local city plan", providing zoning for each municipality (*plan local d'urbanisme*). In larger agglomerations municipalities may organise and provide a PLUi, an intermunicipal local city plan (*plan local d'urbanisme intercommunal*), with the same provisions and status as a PLU, but with a collaboration of municipal authorities behind it. A PLU uses four general zoning categories[2], which can be further specified:

- Zone U – Urban zones where new construction is permitted
- Zone AU – To be urbanised zones, where infrastructure is already available or planned.
- Zone A – Agricultural zone, where any construction must be related to agricultural production
- Zone N – Nature areas which are generally protected from new construction

Using the example of the Rennes metropolitan area again, the PLUi de Rennes, *ville et métropole* (effective since 4 February 2020) is a coordination of plans for 42 municipalities in the metropolitan area. It integrates the PADD, which defines the political ambition of sustainable development towards 2030, found in the SCoT, and provides it with a zoning instrument on a local level of governance. Here the scale is similar to the SCoT for the same area, but the example shows a different role of the PLUi, and thus the specificity of the PLU plan type. The PLUi must be in conformity with plans that are hierarchically superior, leading to document attachments such as the PLUi HD (*habitat et déplacement*), coordinating land-use, housing and transportation. The PLUi contains a large number of technical documents, in the form of local zoning plans, in accordance with planning and programming orientations (*orientations d'aménagement et de programmation – OAP*), a component which highlights certain sectors on a municipal basis.

Figure 1.3
Section of interactive map of PLUi of Rennes



Source: https://mviewer.sig.rennesmetropole.fr/?config=apps/PLUi/PLUi.xml#, accessed May 2021

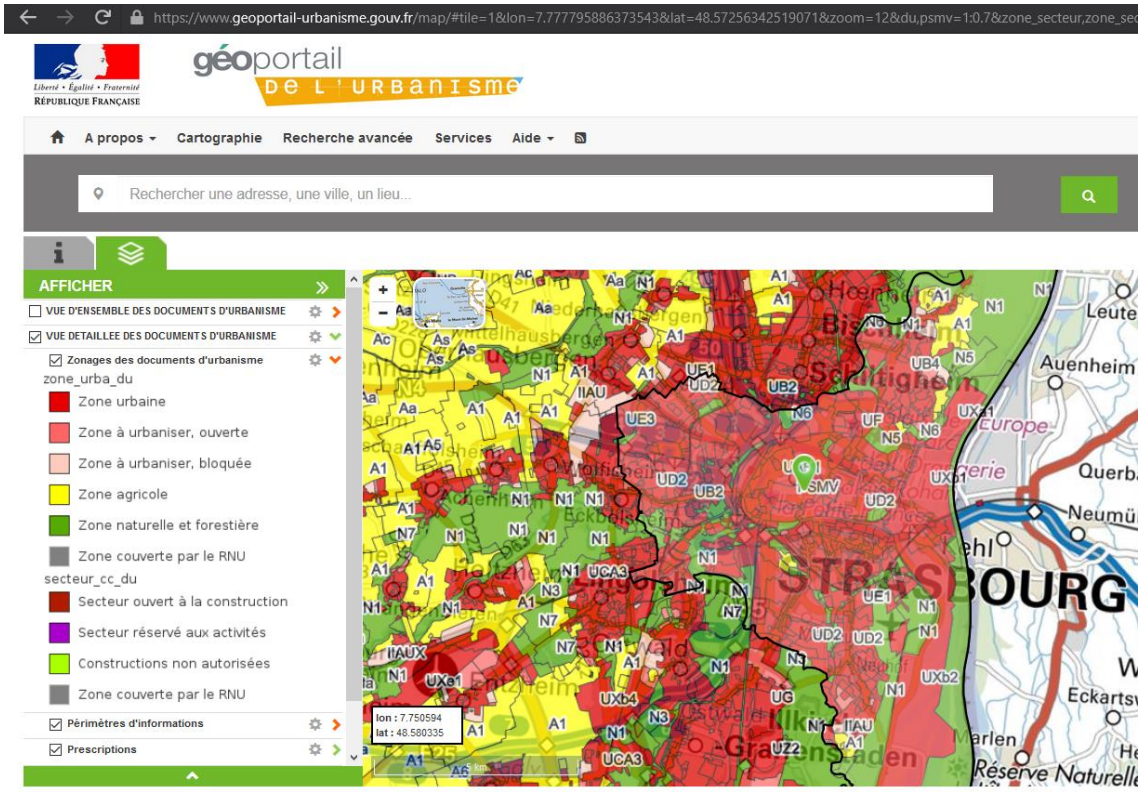
[2] Source: https://www.french-property.com/guides/france/building/planning/local-plans/plan-local-urbanisme/, accessed May 2021

2 Scope of digital plan data

2.1 The current state of digital plan data

The public French geodata system is based on a main geoportal, allowing the global diffusion of geodata. Managed by the IGN (National Institute of Geographic and Forest Information). This main database is referencing every geodata available to the public, with many tools and possibilities of utilisation. This is illustrating what is called the *Etat Plateforme* (E-government), a deeper digitisation dynamic of all public services. From this main platform, users can access different dedicated sub-geoportals and applications. One of them is the Geoportail de l'urbanisme (GPU), dedicated to digital plan data from public authorities.

Figure 2.1
Screenshot of *géoportail de l'urbanisme*



Source: https://www.geoportail-urbanisme.gouv.fr, accessed 22 February 2021

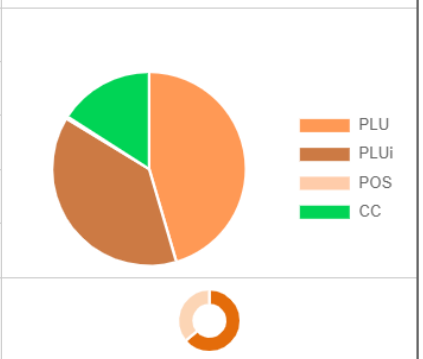
The GPU was established in 2013, a first version was online in 2016[3]. It includes currently the main planning documents on municipal / inter-municipal level, including the PLU/PLUi and the SCoT. Coverage of available plans is continuously increasing. Figure 2.2 presents a summary. Out of about 25,000 municipalities that are expected to be covered by a local plan as a PLU[4], data for 16,000 municipalities (64 %) is available on the

[3] Source: https://www.geoportail-urbanisme.gouv.fr/info-general, accessed March 2021

[4] Note that about 10,000 (25 %) of all 35,000 municipalities are not required to draw up a local plan, but are covered by the national urban planning regulations (RNU regime). This concerns mainly small, rural municipalities.

GPU by May 2021. This is about 64 % of those which are expected to have a local plan available. On the level of the SCoT, plan are available covering about 8,000 municipalities (35 %). The GPU has been established as the platform for plan data from public authorities, which third parties rely on as well as develop related digital products and services on.

Figure 2.2
Plans available on *géoportail de l'urbanisme* by May 2021

Number of municipalities covered by a published DU	16,035 municipalities	
Breakdown by document type:		
Number of municipalities covered by a published PLU:	7542 municipalities	
Number of municipalities covered by a published POS:	64 municipalities	
Number of municipalities covered by a published CC:	2643 municipalities	
Number of municipalities covered by a published PLUi:	6,346 municipalities	
Percentage of area of municipalities covered by a published DU / total area of all expected DUs in the territory	63.89%	
Number of municipalities covered by a published PSMV	0 towns	
Expected number of SCoTs	408 SCoT	
Number of municipalities covered by a SCoT (published or not)	24687 municipalities	
Percentage of area of municipalities covered by a ScoT (published or not) / all municipalities in the territory	62.41%	
Number of municipalities covered by a published SCoT	8,570 municipalities	
Number of ScoTs published on the GPU	135 SCoT	
Percentage of area of municipalities covered by a published SCoT / total area of all expected SCoTs in the territory	35.58%	

DU = *document d'urbanisme* (a local planning document)
Source: https://www.geoportail-urbanisme.gouv.fr/statistiques/france, accessed 22 May 2021

Table 2.1 lists the French planning instruments as summarised in the ESPON COMPASS project (2018) and their availability in the GPU. All local / inter-municipal plans are covered by the GPU, on the national level only the scheme for collective services (e.g. noise zones from airports) is available on the GPU. The planning instruments not available have often a more general policy document character, without spatially specific regulations.

Table 2.1
Planning instruments included in *géoportail de l'urbanisme*

Level	Name in French	English translation	in GPU
National	Les dispositions impératives du règlement national d'urbanisme (RNU)	National planning regulations	No
	Servitude d'utilité publique (SUP)	Schemes of public services	Yes

Level	Name in French	English translation	in GPU
	Directive Territoriale d'Aménagement et de Développement Durables (DTADD)	Territorial planning directive	No
	Les directives paysages	Operation of national interest	No
Regional	SRADDET	Regional scheme for spatial planning, sustainable development and equality	No
	Paris region master plan	Ile de France Region's master plan	No
Inter-communal	SCoT	Scheme of territorial coherence	Yes
	PLUi	Local land-use plan for several municipalities	Yes
Local (municipality)	PLU	Local land-use plan	Yes
	Cartes communales	Municipal map	Yes

Source: Own elaboration, based on ESPON COMPSS (2018)

However, some of it is available on more specific geoportals. Table 2.2 lists some examples. E.g. specific data on environment and nature, which are part of the regional policy SRADDET can be accessed on regional geodata portals (e.g. GeoGrandEst). Certain specifications as detailed annexes and regulations to a PLU are not accessible over the GPU, but can often be accessed over local geoportals (e.g. OpenData Strasbourg). For the cross-border region Upper Rhine, a specific geoportal called GeoRhena was developed to make data across the French, German and Swiss border accessible.

Table 2.2
Examples of geodata portals with plan data in France

Name of portal	Description	Link
Géoportail	National geoportal	https://www.geoportail.gouv.fr/
Géoportail de l'urbanisme (GPU)	National geoportal for urban planning, including data on PLU and SCoT	https://www.geoportail-urbanisme.gouv.fr/map
data.gouv.fr	French open government data platform, incl. downloads of various plan data	https://www.data.gouv.fr/fr/search/?q=urbanisme
GeoGrandEst (to be renamed DataGrandEst in 2021)	Geoportal of Region GrandEst with a varied collection of geodata, including perimeters of SCoTs in the region	https://www.geograndest.fr
Open Data Strasbourg	Geoportal of Strasbourg, section on PLU	https://data.strasbourg.eu/explore/dataset/carte_plu_detaille/custom/
GeoRhena	Cross-border geoportal for the Upper Rhine region, incl. information on regional planning instruments in all 3 partner countries (SCoT on French side)	https://sdi.georhena.eu/mapfishapp

Accessed May 2021

2.2 The historical background

The institutionalized dissemination of geodata from public authorities on national level started in 2006, with the creation of the Géoportail. The adoption of the INSPIRE directive in 2007, laid further foundations for the dissemination, availability, use and reuse of geodata and the establishment of geographic information infrastructure. On 19 December 2013 it was decided to create the Géoportail de l'urbanisme, a geoportal decidcated specifically to plan data. In the Ministry of Ecological Transition (Ministère de la Transition Écologique et Solidaire), where you find the INSPIRE contact point in France, the head of the national service of research and innovation SRI (Sérvice de la Recherche et de l'Innovation), decided how this was to be constituted in France. The development of the GPU has therefore within a rather short time period changed digital access to plans in France significantly.

"Things are now very different from ten years before. Now in France, for PLU, we have géoportail de l'urbanisme (GPU)." (FR06, 0:17)

The GPU is rather young. However, as in many other countries, digitisation of plans and plan data has a manifold and longer history with efforts on different levels and in different communities. Already in 1977, the city of Strasbourg created a special section for digital plan making in the administration[5]. With the start of use of GIS in the administration in the late 1980s in the administration, GIS got official introduced in the beginning of the 1990s. One of the main tasks of the time was the digitisation of the cadastral maps to create a digital land register as reference data. Individual enthusiasts and progressive departments in the administrations drove this phase.

Table 2.3
Phases and milestones in digital plans in France

Time	Main activities	Examples
1990s	Digitisation of cadastre, GIS projects in various authorities	1985: CNIG established 1991: GIS start in Strasbourg's geomatic department 1996-2004: Digitisation of cadastral maps, production of land registry reference data in Strasbourg
2000s	Establishing networks and partnerships around GIS, geoportals get created, GIS infrastructure and standards developed	2002: Regional partnership "Cooperation for geographic information in Alsace" (CIGAL), incl. Strasbourg 2004: Upper Rhine conference establishes GeoRhena 2006: National Géoportail starts 2006: CNIG elaborates first standards for digital planning documents 2007: INSPIRE directive 2009: Network of regional geodata platforms established
2010s	Broad digitisation of plans and plan data, improvement of accessibility, inclusion in law	2016: Géoportail de l'urbanisme (GPU) online 2016: Authorities must make plans available online (own site or GPU) 2018: GeoGrandEst platform launched

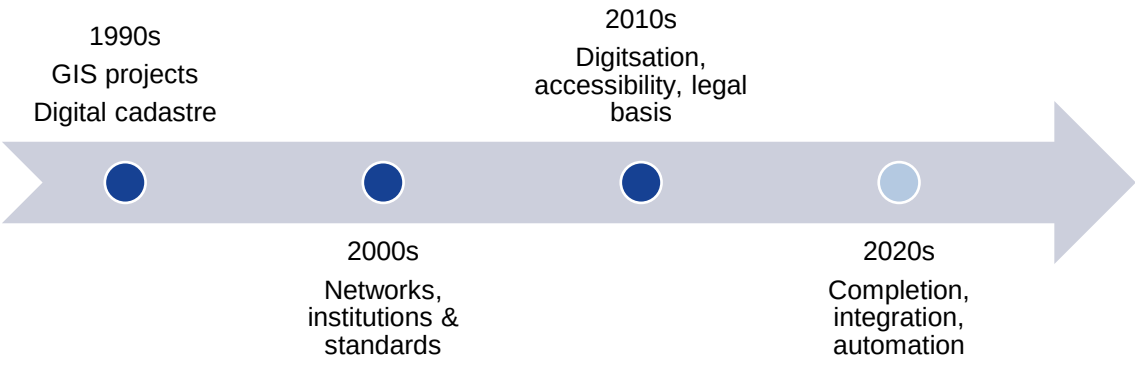
[5] https://sig.strasbourg.eu/index.php?page=mis_histo, accessed May 2021

Time	Main activities	Examples
2020s	Completion, inclusion of further planning instruments, dynamic integration in the wider administration, automation of data exchange	2020: Publication of plans on GPU becomes mandatory 2021: GéoGrandEst becomes DataGrandEst, establishing a regional data platform

Source: Own work

In the 2000s, the main direction for the further development was developed through networks, partnerships and finally directives, including the INSPIRE directive (2007) but also the establishment of the national geoportail in 2006. In the same year first technical standards for digital plans were developed. An organisational structure was established, slowly institutionalising digitisation on various levels. In the 2010s plan data gets on the agenda more broadly, with the development of the GPU and the refinement and expansion of standards by the national geodata council (CNIG) for various plan types. Since 2016, planning authorities must make plans available online, and since 2020 this has to be done over the GPU. The data in GPU will continuously become more complete, while an integration of the GPU and other plan data portals in a more general open and dynamic data environment can be expected, including the automation of data exchange. Table 2.3 and Figure 2.3 summarise the phases and some milestones in digital plans in France.

Figure 2.3
Phases towards digital plans and plan data in France



Source: Own work

3 Organisation of digital plan data

The main actors in digital plan data are (1) on the national level incl. ministries, agencies and councils in the role of legislator defining the planning code and procedures for digitalisation, administrators of data infrastructure and designers of standards for plans, and (2) on the local level the municipalities as the main planning authority in terms of land use. Municipalities very often though cooperate to deliver joint plans for the local (PLUi) as well as the city-regional level (SCoT). Regions and other authorities can be important to provide regional geodata or infrastructure (databases, geoportals). Little by little, especially since the reduction of the number of French regions in 2016, France is starting to get something more clear in terms of national infrastructure. When it comes to platforms there is a national level, a regional level, and first of all the metropolitan areas have each one their platforms, and the districts have theirs.

3.1 Digital plan data at the national level

DINUM - Direction interministérielle du numérique (interministerial directorate for digitalisation)

DINUM was established in 2019 to be in charge of the digital transformation of the state. The directorate drives several programmes and services, which shall support that transformation on different levels and fields of public administration. This includes the TECH.GOUV programme focusing on the digitalisation of public services or ETALAB, which coordinates and France's open data strategy and manages related portals as https://data.gouv.fr (open government data) or https://cadastre.data.gouv.fr (digital cadastre of France). Digital cadaster data are freely available. However, coverage is not complete (yet) and depends on data provided by the municipalities. Historical data going back to 2017 is available. IGN is offering a detailed cadaster data set which is not freely available.

IGN – Institut national de l'information gégraphique et forestrière (National institute for geographic and forest information)

The IGN was established in the 1940s. It produces, collects, qualifies and disseminate sovereign geographic and forest data to support public policies. The IGN is the main body in France for providing geodata and its infrastructure. It is responsible for the national geoportal (established in 2006) as well as for the GPU, the geoportal for planning.

Code de l'urbanisme (Urban planning law)

The *Code de l'urbanisme* defines the processes and contents of urban plans, regulating land use, except for agricultural production, and in particular the location, service, layout and architecture of buildings. The use of the GPU is mandated in article L133, where it says that planning documents must be transmitted in digital form to the state. The format to of the transmission is specified by a state decree.

CNIG – Conseil national de l'information geographique (National council for geoinformation)

The CNIG was established in 1985 and reorganized a couple of times. Today it has 35 members with representatives of nine ministeries, public agencies (incl. IGN), regional and local authorities (e.g. from the association of cities) and professionals in geographic information. The president of the CNIG is a member of parliament and it has a permanent secretariat, hosted by the French INSPIRE contact point and in collaboration with the IGN.

"The CNIG is the main leading structure about national data." (FR05, 0:53)

The CNIG is a key institution regarding digitisation and standardisation. In the field of planning, CNIG provides "*Prescriptions nationales pour la dématérialisation des documents d'urbanisme*" – national rules for the digitisation of planning documents, not least for their integration in the GPU. There are standards and

technical guides for every planning instrument at the municipal or inter-municipal level[6] as well as for certain national planning instruments. The standards become mandatory when the law / decrees refers to them.

Standards typically include (see for example for PLU in CNIG, 2017):

- a conceptual data model and a catalogue of objects
- format, organisation and naming of files
- topology rules (the structure of spatial data)
- geo-referencing system

CNIG's approach to digitisation has been a gradual transition, i.e. means increasingly more data is digitised and in more accessible (e.g. machine-readable) forms.

GPU – Geoportail de l'urbanisme (Plan data geoportal)

As written above, the GPU is hosted by the IGN and guided by the standards of the CNIG.

The GPU allows to

- Identify the zoning and the planning regulations which apply to a parcel, direct;
- Consult all or parts of the planning documents (geographical data and municipal regulations);
- Consult information on the public utility easements affecting the land use;
- Download geographic (zoning) and literal data (regulations in .pdf format);
- Overlay other layers (selection of prescriptions, cadastre, aerial photos etc.);
- Create and distribute your own map (prescriptions to represent, drawing tools).

The CNIG standards are mainly technical nature, but in the GPU certain aesthetical harmonisation are done. E.g. municipalities can choose colours for zoning categories freely, but the GPU assigns a common symbology to all town planning documents of the same type. E.g. the zoning AU ("to be urbanised") appear the same colour regardless of the territory.[7] Most recently though (March 2021), a working group of CNIG has drafted guidelines for the symbolisation of plans (in the GPU as well as in any other portal or format) with the ambition to distribute standard style files to be used in GIS software (CNIG, 2021b). The guidelines are still a working document.

3.2 Digital plan data at the regional level

"It's not so long that the different GIS levels work together. They were splitted or not working together. Since maybe five or 10 years they work together." (FR05, 0:17)

The current Regions were established with a structural reform, which included the merger to bigger regions, in 2015/2016. Regions are responsible for the regional plan SRADDET, which is more a regional policy instruments. However, more important for digital plan data is the establishment of regional geodata services. One of them is GéoGrandEst. Although driven by the region of GrandEst, certain departments and other public authorities contribute to its financing, allowing to develop further services and to take part in the governance of GéoGrandEst. These regional geodata services are sometimes also called CRIG, literally the regional version of CNIG. Figure 3.1 shows the current CRIGs in France.

The CRIGs main role is the maintenance and provision of geodata, not directly plan data..

"The main obligatory competence of GIS data is the region, like Region Grand Est. For example, in the department it's not compulsory to have a GIS database, but for Region Grand Est it's compulsory." (FR05, 0:17)

[6] They can be found on http://cnig.gouv.fr/?page_id=2732, accessed May 2021

[7] See https://www.geoportail-urbanisme.gouv.fr/faq/#faq_99, accessed April 2021

"The CRIG is more about geodata, but not planning data. It's really separate in France. Planning is not geodata." (FR05, 0:54)

"What is interesting with GéoGrandEst is the capacity of checking information. I think they make a common platform to share different kind of data for all the region, but it's not only for planning information." (FR06, 0:59)

Figure 3.1
CRIGs – regional geodata platforms in France

Source: AFIGEO, https://www.afigeo.asso.fr/groupes-de-travail/reseau-des-criges, accessed 15 May 2021

However, the region's geodata is also an input to the regional policy SRADDET.

"GéoGrandEst is a tool for regional policies which survey the land use in the regional area for the application of the SRADDET. They need tools for the survey, the application of SRADDET." (FR06, 1:07)

Furthermore, the CRIG's have become a central data collector also for some plan data, especially those closer to the regional level like the SCoT.

"For that example, in France, the SCoT database was put together from the Region GrandEst. So they have the data, they maintain it and update it." (FR05, 0:16)

This transformation can also be seen in the forthcoming (during 2021) renaming of GéoGrandEst to DataGrandEst, which should highlight its role as a general public data provider, not limited to geographic data.

CRIGs are organised in a network. Since 2009 (that time with predecessors of the current CRIGs) the network "*plateformes régionales d'animation territoriale autour de l'information géographique*" meet regularly.

3.3 Digital plan data on local level

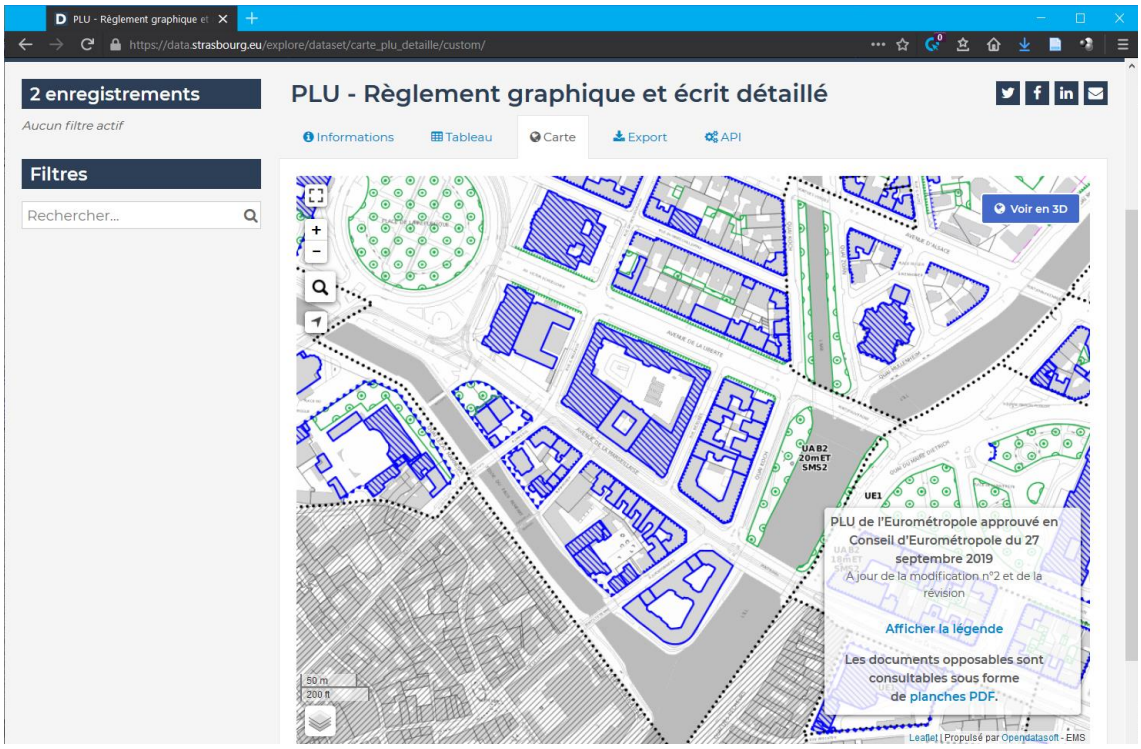
Municipalities or municipal cooperations are the main planning authorities on local level, responsible for major planning instruments as SCoT or PLU/PLUi. The state of digital plans and plan data on that level is very diverse. The following shows the situation for the Eurometropol Strasbourg, an intercommunal cooperation (French: metropole) of 33 municipalities, and of smaller municipalities in the Lower Rhine area.

Example: PLU of Eurometropol Strasbourg

Eurometropol Strasbourg has a central data portal called “Open Data Strasbourg.eu” (https://data.strasbourg.eu), which was created in 2019. A previous version of the geoportal, the StrasMap, was online since 2011, but Strasbourg has a long history in working with geodata, with the first official introduction of GIS software in 1991.

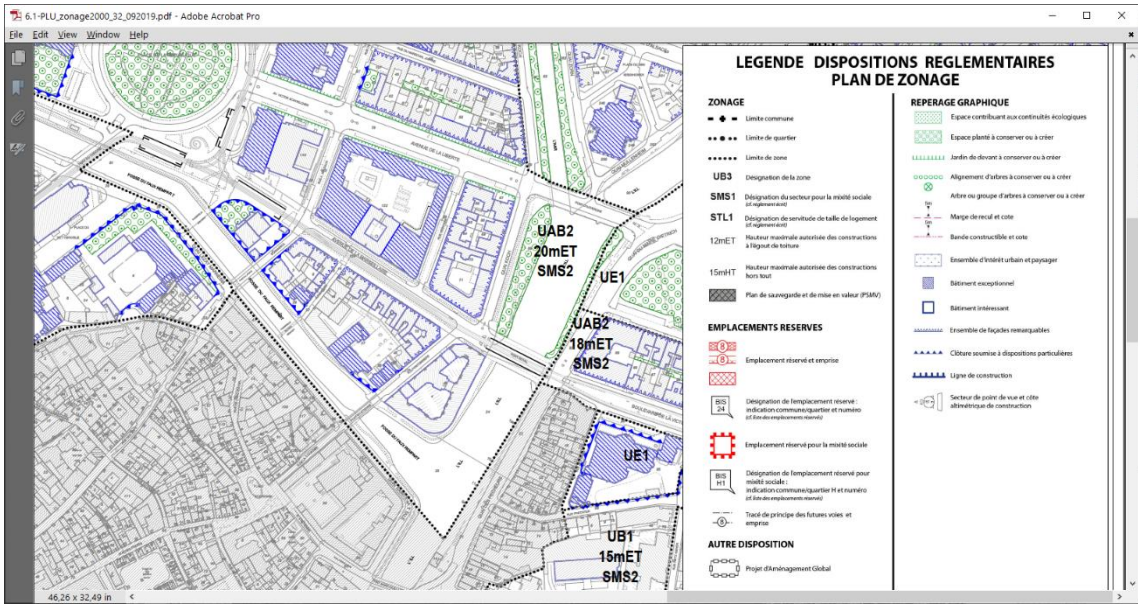
Plan data is published over the central data portal. For the local plan, the PLU, all detailed graphical regulations can be viewed in the portal Figure 3.2. A disclaimer in the geoportal notes that “*Les documents opposables sont consultables sous forme de planches PDF*”. This means that the legally binding documents are not the geodata, but the plan as PDF. The interface provides a direct links to the PDF version of the plan (Figure 3.3). The two versions show the same information in the same way. Note that on the GPU, PLUs are visualised only in broad, harmonised zoning categories and not in the same detail as in that example. However, the PDF with the detailed plan can also be accessed over the GPU.

Figure 3.2
PLU of Strasbourg, geoportal



Source: Screenshot from https://data.strasbourg.eu/explore/dataset/carte_plu_detaille/custom, accessed May 2021

Figure 3.3
PLU of Strasbourg, PDF-version



Similar section of PLU as in the previous figure. Source: https://sig.strasbourg.eu/datastrasbourg/plu_planches/6.1-PLU_zonage%202000/6.1-PLU_zonage2000_32_092019.pdf

The city also offers a specific 3D viewer[8], where 2D plan data from the PLU (or other data) can be viewed on top of a 3D model.

Example: smaller municipalities in Bas-Rhin (Lower Rhine)

> *"For the example of Strasbourg, you have a local system, local application to access the information. I think it's a very good system. But if I take the example of a rural place, which I know, you have no other solution than to use the GPU. You could go to the municipalities, of course. I think on the websites you have PDF access. But you will not find a geoportal." (FR06, 0:55)*

Many smaller municipalities do not have the same possibilities as big municipalities or intercommunal cooperation. However, they still have the same obligation to publish plan data online, since 2020 on the GPU. Municipalities in the department Bas-Rhin publish the PDFs of their plans on a joint portal[9], provided by ATIP, a public owned engineering consultancy for the region. The portal includes a simple database interface where plans for a specific municipality can be retrieved.

3.4 Other actors

Many planning tasks are not done by the public planning authorities themselves, but by private planning offices or public owned agencies. We have already mentioned ATIP[10], a public owned engineering consultancy. It currently serves around 500 local authorities in the Lower Rhine region. ATIP supports plan making, but, as written above, also the publication and its digital accessibility. A similar public consultancy is

[8] https://3d.strasbourg.eu/CESIUM_OPENDATA/?open=enableODPLUdetaille, accessed May 2021

[9] https://diffusion.atip67.fr/birt-viewer/run.do?__report=report/client1/atip/atip_posplu.rptdesign, accessed May 2021

[10] ATIP - L'Agence Territoriale d'Ingénierie Publique, https://www.atip67.fr, accessed May 2021

ADEUS[11], serving around 140 local authorities in the Strasbourg metropolitan area, including Eurometropol Strasbourg itself. ADEUS provides support in all phases of plan making. ADEUS does not have an own geoportal, but provides digital tools for plan making to its members and maintains or monitors plan databases.

The Franco-German-Swiss Conference of the Upper Rhine, an institutional framework for cross-border cooperation, has developed the open data portal GeoRhena. GeoRhena is a geoportal, bringing together data from the three neighbouring regions. It also includes plan data, but stays on the regional level (in France the SCoT).

> *"We work with SCoT data, only the big data, but with the PLU, it's too fine, too detailed. You cannot compare state of the art data from the PLU on Gemeindedaten. It's really complicated on the regional level for the planer to understand what is inside, how is it built, how is it updated." (FR05, 0:25)*

Many private planning offices (studios) help municipalities making the plans or organise the plan process. Moreover, private GIS or software companies provide tools for the digital administration of land and plans. For example the company SOGEFI has a tool for public authorities called MonTerritoire, which can handle various spatial data and integrate a municipalities data with data from other providers. The tool also integrates the local plan (PLU) also connects the GPU (de Sulzer Wart, 2018).

3.5 Relations within different levels of government

In the development of standards for digital plans, the CNIG (see section 3.1) is a forum including all levels of government and even the private sector. Representatives from the regional or local level are persons from different associations as e.g. association of the urban communities, association of the large cities, federation of the medium-sized towns, association of small towns etc. For a planner or an administrator in a local authority, these can still 'feel' far away, but it is clear, that the standards need to be respected in the communication with the GPU.

> *"First, we have to respect the standard. It's the CNIG […] We have to have the polygon, which need to be closed, the input is verified by the application." (FR06, 0:20)*

There might though be only little insight into the making of these standards. It is clear that the national level, represented by the national government but also by nation-wide associations have a significant influence on digitisation through the CNIG.

The relation between regions or regional geodata services as GéoGrandEst and local authorities seems due to the not very long history of regions still new and unclear. Certainly, it is seen as an interesting potential.

> *"It's not so long that the different GIS levels work together. They were split or not working together. Since maybe five or 10 years they use to work together." (FR05, 0:17)*

On a local level, digitisation of plans and plan data has made exchange between public authorities easier.

> *"But now in the processes with PLUi, when we exchange with [other public authorities], we make the exchange with no paper. It's a digital plan, PDF, but it could be a shape file" (FR06, 0:25)*

[11] ADEUS - L'Agence de Développement et d'Urbamisme de l'Agglomération Strasbourgeoise, http://www.adeus.org, accessed May 2021

In general, probably because the digitisation efforts are still very young in many cases, a lot of coordination between stakeholders, sometimes organised in networks, seems necessary. The case of cross-border geo-portals as GeoRhena, involves a lot of cooperation between different actors:

> *"And we do not only work with local authorities, but also with universities or with researchers who work for us, for example in INTERREG projects. So we work with a lot of different experts." (FR05, 0:15)*

However, cross-border relations can also drive further action as was said by a planner from Strasbourg that the German side expects from transparency on the French side of planning.

3.6 Relation between governmental and not-governmental actors

In the CNIG also representatives from the private sector and professional associations are included. For example a recent working group on symbolization in plans was led by a representative from an intercommunal authority and a representative from ESRI, the international company developing the GIS software ArcGIS (CNIG, 2021b). Furthermore, the GPU is open to everybody and many technical interfaces exist. In public planning agencies as ADEUS or GeoRhena, the main relations are to other public bodies, and the work is very much oriented towards professionals.

> *"We work only with public partners. This means institutions or researchers. Our work is always free. We do not have any cost for our work, but we only work with public partners and institutions, never with private.[…] With citizens, we could, but it never happened in the history." (FR05, 0:45)*

However, as with the GPU, many portals including GeoRhena or GéoGrandEst provide their data for free and openly accessible. Sometimes also, specific formats or access points for different groups (see also section 4.3) are available. Still, it was not possible to get much insight on relations to private companies. Private actors are mainly seen as users of the data. Regarding citizens, digitisation and the availability of plans and plan data is seen as an advantage and an increase in transparency. However, regarding the GPU and other portals, data access is often limited to the adopted plans. Information on plans in the making and from the planning process is not centrally available.

3.7 Financing

The IGN is responsible by a national decree to keep the national geoportal. It is in its portfolio of tasks; the IGN receives financial funding from the State for that purpose. For the regions, it is more ambiguous. It is organised differently, by constituted bodies of regional coordination of geographic information (CRIGE)[12]. The CRIGEs were constituted to organise geographic information based on the recommended model of infrastructure for the regional level. They organise works, based on an economic model that forces them to earn money. They are responsible for the regional platforms. While at the IGN there is a national level, with a decree that comes from the ministries, asking it to organise the national geoportal, the planning geoportal (*géoportail de l'urbanisme*) and soon there will be others. We can see that France is progressively orienting towards an organisation of thematic platforms (FR1).

The costs of digitisation of plans cover the local authorities themselves. The CNIG provides though various guidelines and tools. A current working document suggests to provide common style files for layouting plan in GIS software (CNIG, 2021b).

[12] https://www.afigeo.asso.fr/groupes-de-travail/reseau-des-criges, accessed May 2021

4 Use of digital plan data

4.1 Use of digital plan data in the formal part of the planning process

The GPU became part of the formal planning process in 2020. Since, the planning law (Code de l'urbanisme) requires uploading of new plans to the national portal. Only planning authorities are able to publish over the GPU. The GPU also offers certain validation procedures. Plans for technical validation can also be uploaded by planning professionals.

Plans published in the GPU are though only adopted plans. Information on plans in the making or support for the planning process is not part of the GPU. The GPU only documents the currently effective plans.

> *"What is not so good now is the time before [the plan gets adopted], which is a very, very important time. It's the time of the creating, the elaboration, the making. That's a big deal. Now, we have no geoportal, we have a website and we put PDFs on the website to exchange with the population, with the planning authorities." (FR06, 0:34)*

However, local authorities, especially the bigger ones, are also working with digital plans and plan data portals in public consultation:

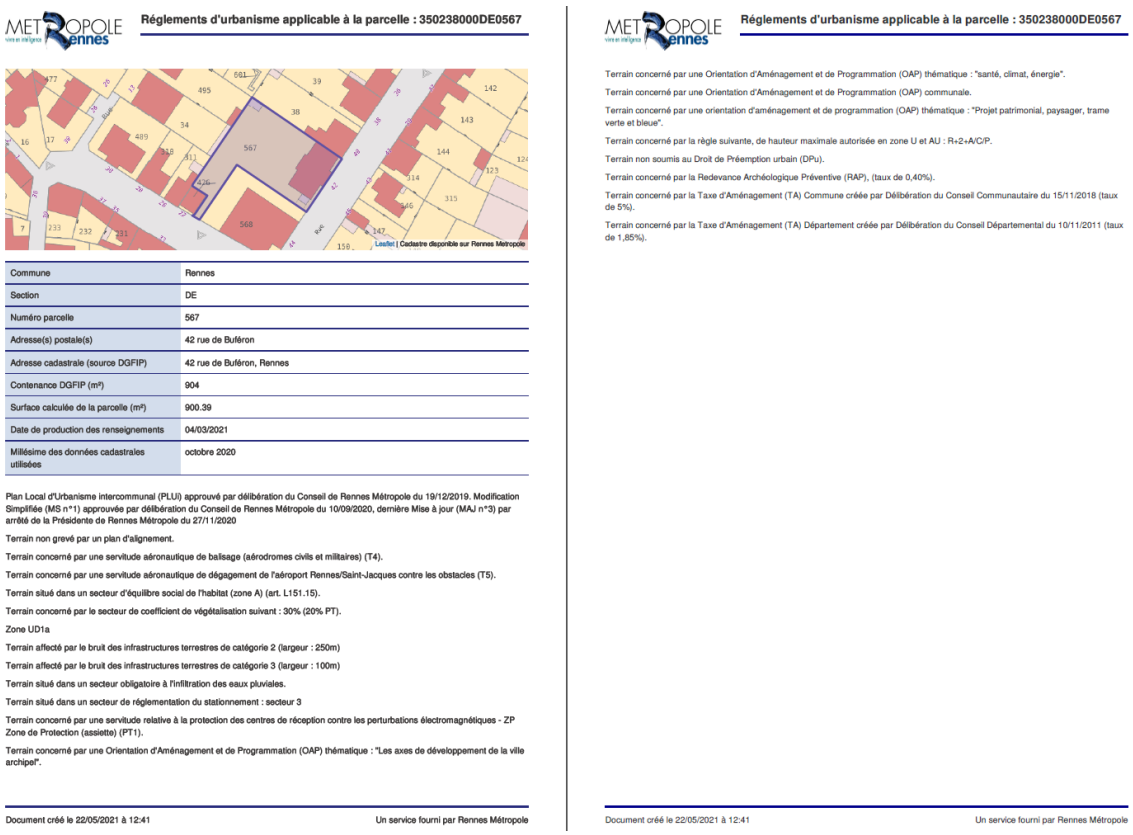
> *"The Eurometropol Strasboug, they make a special system, like the GPU, for the time of elaboration. But it's a voluntary decision of them. And I think it's very good because you need to make that. Eurometropol Strasbourg is maybe 500,000 people. You need to have good systems to exchange with the population."*

The plans and plan data on the GPU is not legally binding. As shown for Strasbourg (section 3.3), the digital plan in the form of the PDF is the legally binding plan. An example from Rennes Metropole provides further details how the status of digital plan data can be defined: Rennes Metropole's PLUi is available over its own geoportal[13]. The portal allows to produce individual fact sheets on regulations concerning a specific parcels, called "fiche" (Figure 4.1). The interactive map complies with the approved PLUi and its subsequent adaptations and plan data is published at the latest 24 hours after its approval. A disclaimer on the 'fiche' therefore states that urban planning information retrieved from the internet is only valid on the day issued. Also, the fiche does not exempt users from checking other special regulations. Finally it is stated that plans reproduced by screen printing have no legal value. However, because of the easiness of retrieving information in an accessible format as the 'fiche', it can be assumed that the portal is the preferred way to get plan information.

Besides the local plan documents as SCoT, PLU/PLUi and CC, the GPU also publishes the schemes for public services (SUP). These schemes are administrative limitations on property rights instituted by official authority in a public purpose, drafted on the national level. The schemes become legally binding when available online.

[13] https://mviewer.sig.rennesmetropole.fr/?config=apps/PLUi/PLUi.xml#, accessed May 2021

Figure 4.1
A retrievable "fiche" on the PLU regulations for a specific parcel in Rennes



MÉTROPOLE Rennes

Réglements d'urbanisme applicable à la parcelle : 350238000DE0567

Commune	Rennes
Section	DE
Numéro parcelle	567
Adresse(s) postale(s)	42 rue de Bufféron
Adresse cadastrale (source DGFIP)	42 rue de Bufféron, Rennes
Contenance DGFIP (m²)	904
Surface calculée de la parcelle (m²)	900.39
Date de production des renseignements	04/03/2021
Millésime des données cadastrales utilisées	octobre 2020

Plan Local d'Urbanisme intercommunal (PLUi) approuvé par délibération du Conseil de Rennes Métropole du 19/12/2019. Modification Simplifiée (MS n°1) approuvée par délibération du Conseil de Rennes Métropole du 10/09/2020, dernière Mise à jour (MAJ n°3) par arrêté de la Présidente de Rennes Métropole du 27/11/2020

Terrain non grevé par un plan d'alignement.

Terrain concerné par une servitude aéronautique de balisage (aérodromes civils et militaires) (T4).

Terrain concerné par une servitude aéronautique de dégagement de l'aéroport Rennes/Saint-Jacques contre les obstacles (T5).

Terrain situé dans un secteur d'équilibre social de l'habitat (zone A) (art. L151.15).

Terrain concerné par le secteur de coefficient de végétalisation suivant : 30% (20% PT).

Zone UD1a

Terrain affecté par le bruit des infrastructures terrestres de catégorie 2 (largeur : 250m)

Terrain affecté par le bruit des infrastructures terrestres de catégorie 3 (largeur : 100m)

Terrain situé dans un secteur obligatoire à l'infiltration des eaux pluviales.

Terrain situé dans un secteur de réglementation du stationnement : secteur 3

Terrain concerné par une servitude relative à la protection des centres de réception contre les perturbations électromagnétiques - ZP Zone de Protection (assiette) (PT1).

Terrain concerné par une Orientation d'Aménagement et de Programmation (OAP) thématique : "Les axes de développement de la ville archipel".

Document créé le 22/05/2021 à 12:41 — Un service fourni par Rennes Métropole

MÉTROPOLE Rennes

Réglements d'urbanisme applicable à la parcelle : 350238000DE0567

Terrain concerné par une Orientation d'Aménagement et de Programmation (OAP) thématique : "santé, climat, énergie".

Terrain concerné par une Orientation d'Aménagement et de Programmation (OAP) communale.

Terrain concerné par une orientation d'aménagement et de programmation (OAP) thématique : "Projet patrimonial, paysager, trame verte et bleue".

Terrain concerné par la règle suivante, de hauteur maximale autorisée en zone U et AU : R+2+A/C/P.

Terrain non soumis au Droit de Préemption urbain (DPu).

Terrain concerné par la Redevance Archéologique Préventive (RAP), (taux de 0,40%).

Terrain concerné par la Taxe d'Aménagement (TA) Commune créée par Délibération du Conseil Communautaire du 15/11/2018 (taux de 5%).

Terrain concerné par la Taxe d'Aménagement (TA) Département créée par Délibération du Conseil Départemental du 10/11/2011 (taux de 1,85%).

Document créé le 22/05/2021 à 12:41 — Un service fourni par Rennes Métropole

Source: Retrieved over https://mviewer.sig.rennesmetropole.fr/?config=apps/PLUi/PLUi.xml#, May 2021

4.2 Use of digital plan data beyond the formal planning process

With its increasing coverage and the inclusion of more plan types, the GPU has become an important reference portal (Capart, 2019). The number of users of the GPU has increased continuously (FR04). Digital plan data in general is seen as a big advantage in terms of being accessible online to everybody, allowing to use the data for various purposes.

> *"I remember, I had a discussion with a friend who would like to buy a pharmacy and he said to me, I see that here you have future planning for residential, then it could be a good place. I think even for little retails, they check it." (FR06, 0:44)*

But also the public authorities are using the data themselves, e.g. for analyses of land use or risk analysis combined with other data.

> *"[Supervising planning authorities] use it to make land consumption analyses. They can make different analysis, than they could make with the paper [plan]." (FR06, 0:26)*

> *"… we use now these data to monitor in real time the void, the waterproofing. There is a tool to mix these data to check and evaluate." (FR06, 0:46)*

However, at the portals and data providers themselves, very often, knowledge on data use is missing:

"We do have a map, we do have the data, but how it is used afterwards, we have not each time feedback." (FR05, 0:37)

4.3 Accessibility

The GPU as well as the other mentioned examples for plan data portals are open to everybody. Typically, there is a viewer with different functionality, search functions and links to further documents (e.g. the PDF plan versions). The digital and online availability of plans has increased transparency and made it easier for citizens to access information.

"I think the GPU is useful for the citizens, that's for sure, because it's easier for citizens. Because they can access very easily the information and they are sure that the information is up-to-date. Because you have not a plan every ten years. In big cities each year you have a new version. Then it's very useful to have a digital website, then you are sure that the information is up-to-date." (FR06, 0:52)

The GPU has also produced guides for different user groups (see Figure 4.2), including video tutorials and has been organising workshops or several regional user conferences ("Journée Géoportail de l'urbanisme").

Figure 4.2
Manuals for different user groups available on GPU

Source: https://www.geoportail-urbanisme.gouv.fr/manuals/

In the case of a PLU, most data is available over the GPU, but there might be some minor parts which are only accessible over the municipalities website:

"Then we have standards from CNIG […]. We have to have the polygon, which need to be closed, the input is verified by the application. That's for the plan. We also need to send all the different documents by PDF. Maybe not the Annex, but 90 or 95 % of the plan, which is downloadable on the geoportal." (FR06, 0:20)

In the case of GeoRhena, the cross-border GIS platform of the Upper Rhine conference, accessibility also includes the special aspect of language:

"We work with these experts and those experts say we have a need. This need is to have a common database and a common representation. They come to us and say that's our data […] Our job is to put them together, to document them with metadata in French and in German, because the main problem is the language, but also to put them together in a database with the same attributes, and to distribute them." (FR05, 0:20)

For geodata in more general, not all available data will be published always because of certain restrictions. Nevertheless, metadata can then be published as a minimum:

"Once the data or the final map is produced, we ask the working group, can we put the data on the map, on our website, on our spatial data infrastructure? […] Mostly when they say no, it's because there are sensitive data, security or something like that. […] But we have the meta data published, and the contact to the working group. So people can directly contact the working group who has the data." (FR05, 0:35)

4.4 Process change and challenges

Digitisation of plans and plan data has been on the way for quite some time in many French planning authorities. The CNIG standards have also developed over several years with the first version for a digital PLU available in 2007. The introduction of the GPU in 2016 and the mandatory upload since 2020 is therefore not necessarily seen as having changed planning processes:

"In the big administration. I'm not sure there is a big challenge because if I take Eurometropol Strasbourg, they had a digital system before. It was just an internal system then. I don't think it's a big change for that. Maybe for rural [areas it] could be different to have digital plans, may be easier. But they used to have a system before also." (FR06, 0:48)

Smaller authorities might though experience bigger challenges in adapting to digitalisation in planning:

"You need to have good systems to exchange with the population. In rural [areas] we don't have the same kind of systems [as in Strasbourg] at the moment." (FR06, 0:36)

"For the example of Strasbourg, you have a local system, local application to access the information. I think it's a very good system. But if I take the example of a rural place, which I know, you have no other solution than to use the GPU. You could go to the municipalities, of course. I think on the websites you have PDF access. But you will not find a geoportal." (FR06, 0:55)

In the special case of cross-border regions, digitalisation has provided new opportunities, although joint standards, as the CNIG for France, are not available:

"When you do a SCoT, for example, you have to take the neighbourhood into consideration. When the neighbourhood is across the border, there is a gap. Whom should we call, in what form, that is why we are here. The idea was to have a visualization of the perimeter of a planning document and also to know which planning document is [updated]. So the neighbour from the other country can […] get the data and so on." (FR05, 0:21)

"Unfortunately there are no standards. Each country has its own standards. So if we are lucky, we have some shape files with the data. If we are unlucky, we have only a PDF and we put them together." (FR05, 0:29)

In general, digital plans and plan data seem to improve exchange between authorities and replacing all paper exchange:

"But now in the processes with PLUi, when we exchange with [other public authorities], we make the exchange with no paper. It's a digital plan, PDF, but it could be a shape file" (FR06, 0:25)

4.5 Purpose / added value

The digitisation of planning documents for the GPU fulfils three objectives[14]:

- To facilitate citizens' access to information by ensuring that plans are made available online
- To simplify the exchange of information by harmonizing the standard for digitising planning documents
- To save budget and resources by allowing documents to be transmitted electronically to associated public entities or during legality checks.

This trinity of transparency, accessibility and efficiency is mentioned in many contexts in regards to digitisation of plans. Targeted towards municipalities, Vincent (2019) lists the for example the following advantages of the GPU:

- Archiving is simplified by digitization
- Communities less solicited because citizens can access data online
- Reduced printing costs
- Save time when obtaining information on national schemes of public services (SUP)
- Publish and share good practices (free consultation of all planning documents)
- Construction information, parcel regulations accessible to all
- Possibility to digitise legal control
- Shortening of processing times and securing requests

The CNIG also list a range of arguments for digitisation of plan documents and the respective standards (stated for example in CNIG, 2017) similar to the above, including some more innovative possibilities such as

- Developing services around the data to exchange information, improving effective consultation;
- Communicating information on long-term building possibilities.

4.6 Digital and analogue

"I think, now maybe it's more transparent because when you are you are living in a place you don't need to go to the city hall to open a very, very huge plan, a very big paper to check the information that you would like to find. I think that's a good news and it's a good evolution. […] It's very interesting: now for the citizens, for PLUi, which is legal, they can have an easier access to the information." (FR06, 0:32)

"With digitalisation you are sure, that you have the updated version." (FR06, 0:53)

The two quote above illustrate the advantages to easly find what you are looking for in a digital plan and to have updated data available. A good interface (portal, viewer, website etc.) is very important here if it should replace analogue version. However, especially when PDFs are used a lot, they can often get difficult to navigate:

"I think with these big PDFs on a little computer is not so easy to check the information with these kind of systems." (FR06, 0:34)

Even if plans get fully digitized, there will still be a need to approach plan matters in "physical form", because understanding planning documents remains difficult (Aubert, 2015). Also, for some purposes as the legal control (in some areas), analogue plans are still used, although they are typically only a print of a digitally produced version.

[14] Source: https://www.geoportail-urbanisme.gouv.fr/faq/#faq_73, accessed 2 February 2021

"When I make the PLU of Pays de Barr for 20 municipalities, it is two years ago. 90 % of the processes was digital. But we need to print for the legal control." (FR06, 0:25)

4.7 Future use scenarios

A big ambition for the near future is the development of machine-readable plans. The project SmartPLU has explored that in the past years. The idea is to deduce planning regulations for every parcel in France from the plans. It was thought to apply machine-learning methods, extracting regulations from the texts. But CNIG has now started a process renewing the standards to structure urban planning regulations in plan documents (CNIG, 2021a), to facilitate an automatic interpretation. The new standard requires an XML format for PLU regulations; a transformation of the current regulations which are provided in PDF format.

The expected future uses include:

- checking the compatibility between a project and the regulations
- accessing regulations related to an area
- comparing the regulations between areas
- simplified extractions from the regulation
- various studies and monitoring possibilities

The modelling of the planning regulations are looked at on two levels:

1. Generating a searchable document on the plot, bringing together all the written rules of the by-law
2. More finely model the regulations so they can be integrated in computer programmes.

The ambition is to solve that in the next few years.

Figure 4.3
SmartPLU tools to check allowed building heights

Source: https://www.youtube.com/watch?v=sohYmbd0TiI, accessed May 2021

On the regional level, GéoGrandEst is redefining itself as DataGrandEst, becoming a central node for open data in the region (GeoGrandEst, 2019). GeoGrandEst also wants to reach out to private actors, which in the time of the huge data archive of global players as Google needs to be discussed. The fast change of portals and data infrastructure might also make some existing infrastructure obsolete in the future.

"In 20 years, the GeoRhena will not exist anymore because ESPON and Eurostat will have data, put data together and we don't have the need of local cross-border data infrastructure." (FR05, 0:47)

On the local level, the extension of digital plans with participation and public involvement tools will be a topic in the coming years. Not least in rural areas, which lack behind that development (FR06).

5 Synthesis and recommendations

How does the availability of digital plan data empower different actors?

The national level with the provision of standards and the data infrastructure has certainly gained power with digitisation. With the GPU there is now a directly link between the state and the local authorities making plans. Also collectivities, i.e. intercommunal cooperations (and their planning agencies), are strengthened, as digitalisation requires resources and skills, which small municipalities cannot provide on their own. Citizens and the general public have easier access to planning documents and regulations. However, the influence on plan making is not necessarily affected.

How does the availability of digital plan data change collaboration within the administration and between administration and stakeholders?

Although networks as the CNIG include representatives from many different institutions, for a planner or an administrator in a local authority, these can still 'feel' far away. Efficiency, accessibility and transparency are mentioned as main advantages when exchanging plans and plan data digital. The collaboration with stakeholders outside the administration seems not particularly changed. Innovation in terms of new integration of fields/sectors or combinations with other data are only anticipated for the future.

How does the driver (e.g. efficiency, need for transparency, need for control) and funding source of digital plan data affect planning practice?

On the one hand, digitisation in planning has be going on for a long time, gradually changing practice in local authorities, e.g. slowly out-phasing paper plans. On the other hand, changes in the past few years with the national GPU and the mandatory digital publication of plans are rather young as that we can see specific changes in practices yet. Digital exchange often still happens 'manually' (a person submits data over a form, or data gets send by e-mail) and we have not seen automation or increasing dynamics in data exchange, which have the potential to change practice significantly. However, from the interviews we can see, that accessible plan data is increasingly used outside planning authorities and we can thereby expect shorter feedback new plans or regulations, adding new dynamics and stakeholders in planning practice.

Patterns

We can clearly see the main ambition standing out: to be an efficient public administration. The discussion on planning as such and if we get better plans (and better places) with digitisation seems sometimes subordinated to technical and administrative questions or, also, is digitisation not seen as having and influence on planning practice yet. However, the huge change in accessibility to plans and plan data – within a few years already half of all plans in France are online – might just need some more time to unfold its potential for informing planning itself.

Policy recommendations

Digitisation makes plans easier accessible and improves collaboration

Digital plan data in general is seen as a big advantage in terms of being accessible online to everybody, allowing to use the data for various purposes. Digital plans and plan data also seem to improve exchange between authorities.

Consider a better monitoring of the use

At the portals and data providers, very often, knowledge on data use is missing. Typically, online general online statistics are available, but it is unclear who is using what for what purpose. A qualitative monitoring, getting in touch with users directly, is important to keep up the relevance of the portals and data and ensure that they actually fulfil their purpose.

Address digitisation in rural areas

Our study indicates that smaller and/or rural municipalities, which are not part of metropolitan or intercommunal cooperations lack behind. This gap might even widen over time, as digitisation, so far, seems to get more complex with more standards, more data, more portals and more demands. This makes it difficult to catch up for those lacking behind. A review of the standards, so they fit also smaller authorities could be considered. Also, the national or regional level could help digitising plan data in less resourceful municipalities, e.g. by providing funds or expertise.

Employ digitisation to make plan process visible, not only the final document

The national plan data portal (GPU) as well as many other portals document the current state of plan regulations. Digitisation and new ways of communicating and accessing data and plans could be used to also improve and open up the plan making processes as well as the implementation and evaluation following.

Can citizens or the private sector be more active involved in the development?

The current plan data governance structure seems to be closed around public authorities. While being cautious with influence of non-elected bodies in public administration, it could still be beneficial to consider a more active involvement of citizens or the private sector in the development of digital plans and plan data, and not only see them as data consumers. Citizens and the private sector have insights from specific places, practices or professions and have valuable knowledge to share. Involving them could contribute to make plans and the plan portals more useful to a wider audience.

Disseminate good examples of digital plans and plan data use

France is on an extremely interesting path in the digitisation of plans and plan data. There are strong national standardisation tendencies, but at the same time an enormous activity at the local level. The Strasbourg case shows that cities can be very advanced in digital plan data. Sharing these and similar experiences in the community can inspire good practice and accelerate digitisation.

European institutions can support exchange, not least in cross-border areas

It is very likely, that in the next few years, digital plan data of rather good quality and detail will be available from all member countries. The GeoRhena sub-case showed the need for data exchange between regions of different countries. European institutions as Eurostat or ESPON can support that also in the area of plan data, especially regarding the data collection and provision as well as the provision of important meta data (e.g. what a certain plan / regulation implies. INSPIRE might be the platform to build on.

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