

Urbanization in the Ave Valley region: more than a sum of building projects?

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"Facing the evident mismatch, it was needed to put aside the idea – typical of planning technicians – that the world is wrong when compared to abstract models which are right; instead of thinking that the problem may be that our theoretical and technical tools are not adapted to reality." (Portas, [1986] 2006)



Figure 1. Urbanisation of V.N. Famalicão - a diffuse and fragmented urban landscape

1. Introduction

In the diffuse urbanized pattern of the Ave Valley region (Norwest of Portugal), the dominant urban morphology is one of unclear reading. The fragmented and discontinuous urban form is the result of a layered urban landscape with a big variety of urban patterns. In contrast to compact urban settlements, this region has a very dispersed urban image. Such image is determined not only by specific physical and social conditions but also by the planning instruments and established daily practices that shape common urbanisation processes.

Although the diffuse urban landscape and the fragmented urbanisation process are since long recognized and studied (Secchi, 1984; Portas, [1986] 2006; Sá, 1986; Indovina, [1990] 2004; Neutlings, 1990), certainty is that there are still missing the means, models and instruments capable of guiding action in these territories, based on their own logics, in order to improve their legibility and intelligibility (Sieverts, [1997] 2003). Furthermore, Cavaco (2009) emphasises the existing of a mismatch between the planning system and the urbanisation processes.

In a context of vast and diffusely urbanised areas, where urban transformation is made by the sum of small autonomous private interventions the main question is: how to articulate such individual operations in order to create a coherent and intelligible larger urban structure?

The answer seems to point towards a planning essentially based on management (Bourdin, [2010] 2011), resting on a more continuous, procedural and reflexive practice (Ascher, [2001] 2010), able to involve all willing actors (Jessop, 1998; Forester, 2008). Such practices

will necessarily be the result of a bottom-up process, based on learning experience of local agents (Sanderson, 2009) and on a profound knowledge of the existing reality.

More recent studies – namely in the field of urban morphology – seek such knowledge, by identifying and analysing the main elements that compose the complex structures of diffuse urbanisation (Boeri, Lanzani and Marini, 1993; Viganó 1999; De Rossi, 2009), and by understanding how they relate to each other in multiscale networks (Oswald and Baccini, 2003), and what are the logics and processes that shape each one of those elements (Mangin, 2004).

Following such path, this paper looks at the *loteamentos* of Ave Valley Region. These are private urban developments regulated by a simple procedural regime, and one of the main elements of this region's urbanisation.

Taking the municipality of V.N. Famalicão as a case study, *loteamentos* are analysed both as a process and as an urban morphology in order to better understand their role in the definition of this urban structure. Central questions are: What is the result of the total of all individual building projects, which patterns and structure can be mapped? What are the planning instruments, procedures and actors behind this process? What is the spatial contribution of *loteamentos* to the overall public space structure?

2. Urbanization in V.N.Famalicão

Adding fragments

During the last five decades, the Ave Valley Region has undergone an enormous urban growth, mainly shaped by the sum of small autonomous fragments, namely private urban development projects. Although this process followed an existing diffuse urban pattern¹, it shows a *trend break* on the urbanization process, which is expressed by the transformation speed, the type of operations, the building typologies and the planning procedures. The creation of *loteamentos* in 1965 is a key factor in this shift.

In the period 1970-2011, the population of V.N. Famalicão increased 49,2% and the total housing units rose 178,7% (Figure 2). This growth was caused by several reasons such as: internal migrations induced by new industrial jobs, improvements of living conditions and mutations on household types. Simultaneously, between 1976 and 2003, private house ownership was stimulated by a public program of subsidized credits and a series of fiscal benefits.

The existing planning instruments and institutions were unprepared for such a sudden growth. In V.N. Famalicão, the existing plans were limited to the central town area and essentially linked to the design of specific public spaces and facilities, leaving more than 90% of the population outside its limits².

¹ The extensive diffuse urban settlement of this region has ancient origins. It has been referenced in 1762 by Castro, who described this whole region as a *continuous city* (I, 48).

² The first municipal urban plan of V.N.Famalicão (1948) covered only the central town area. According to plan documents, it corresponded to c. 5.000 inhabitants. These were less than 9% of the 55.644 already existent in the municipality in 1940.

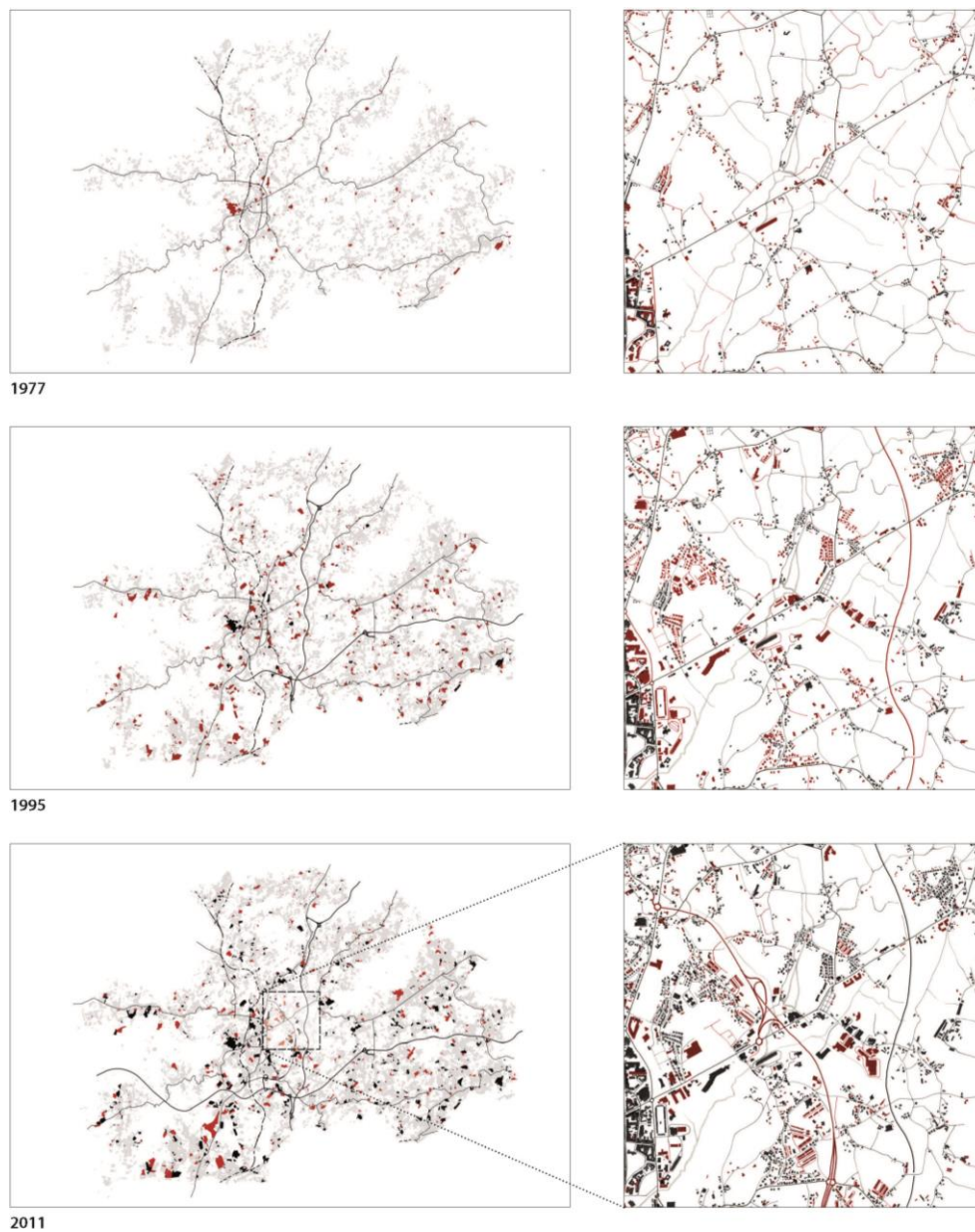


Figure 2. Evolution of the urbanisation in V.N. Famalicão

Left column – grey: urbanisation; red: new *loteamentos* in the last period; black: *loteamentos* built in the previous periods.

Right column – black: existing buildings and street pattern; red: new buildings and street pattern, in the last period

The first comprehensive plan covering the entire municipality's territory – the PDM, *Plano Director Municipal* – was published in 1994, and it is still valid today³. This long or mid-term spatial plan established zoning (land use), generic rules (procedures, taxes, land use, typologies), new mobility lines and some special projects (as the town park). However, more than presenting a clear vision or strategy for the overall development of V.N. Famalicão, it appears mainly as a mechanism for regulating a bursting real estate market and for controlling land value. The plan enables large building possibilities in a vast area⁴, which was a common practice in Portugal. The logic was to provide excess of building area, to ensure low land values and, in this way, controlling housing prices, considering that housing production was completely dependent of the private market⁵. The plan does not go further in the creation of mechanisms to steer the urbanisation process, such as the definition of a yearly housing quote, target groups and their necessary housing demands, or a public housing policy. Furthermore, it does not include an implementation or execution programme.

More detailed urban plans – such as PU, *Plano de Urbanização* and PP, *Plano de Pormenor* –, which, according to the Portuguese planning system, were expected to detail and shape the generic rules of the PDM (art. 87th, art. 90th, RJIGT), have shown to be the exception (Portas, Sá and Cardoso, 1998).

It is important to underline that, due to limited financial and technical resources, the municipality has no leading role in the urbanisation production, at least as a developing agent. Even more, it has no instruments to directly control land value (Correia, [1993] 2002). In practice, this means that the municipality has a restricted capacity to impose specific land

³ Presently, the PDM revision is in process. According to the national law, this should be updated every ten years.

⁴ This included the already urbanised territories in 1994, plus an important share of contiguous areas for future urbanization.

⁵ Controlling housing prices was one of the main purposes of planning laws and practices of this period, due to the fast urban growth and housing shortage, especially considering the almost absence of public housing.

uses or urban design⁶. Therefore, its key role becomes essentially to regulate and control individual private urban interventions.

In fact, the urban structure of this region is not the product of any overall design, but the consequence of a process of successive addition of autonomous private urban development projects. Even though these operations have been created through different procedures, the standard legal instrument is the *loteamento*. In V.N. Famalicão it is possible to recognize the major impact of this mechanism in the urbanization process (Figure 2 and 3). There, we can count a total of 1090 approved *loteamentos*⁷. Since the PDM was published, in 1994, while only one PP and one PU have been approved, a total of 488 permits for *loteamentos* have been issued. These correspond to more than half of all housing units licensed during the same period.⁸

In this region, *loteamentos* are based on a small grain and historical irregular parcel structure. The overall image *loteamentos* have in common, is their significant autonomy or independence of developing logic (Figure 4), which is directly related to ownership and small grain of this urban territory (89,3% of the *loteamentos* are smaller than 2,0 ha). In general, the possibility to urbanise a certain area is always approached from the logic of one-entity-one-area. Though, in certain situations, the ability to develop larger areas through the collaboration of different landowners would probably increase spatial quality and economic value, this is not an established practise. By enabling building in such a vast area, the planning strategy made it impossible to create enough urban pressure to lead to bigger interventions. More than spatial reasons, the urbanisation is led by other factors such

⁶ This was particularly truth in a context where urban growth was an objective to cherish. Not only because it was understood as a device and a sign of local development, but also because it was an important source of income for the municipality.

⁷ Although the large majority of these *loteamentos* are held by private developers, they include 17 initiated by the municipality, 15 of which for public housing.

⁸ Between 1995 and 2011 there have been licensed 16813 dwellings in new buildings (data: Instituto Nacional de Estatística). The *loteamentos* licensed during the same period comprehended 8662 dwellings (data: Municipality of V.N. Famalicão), which corresponds to 51,5% of the total licensed dwellings.

as economy, employment, demographics, public policies (taxes, subsidies), and the trends and dynamics of housing market.

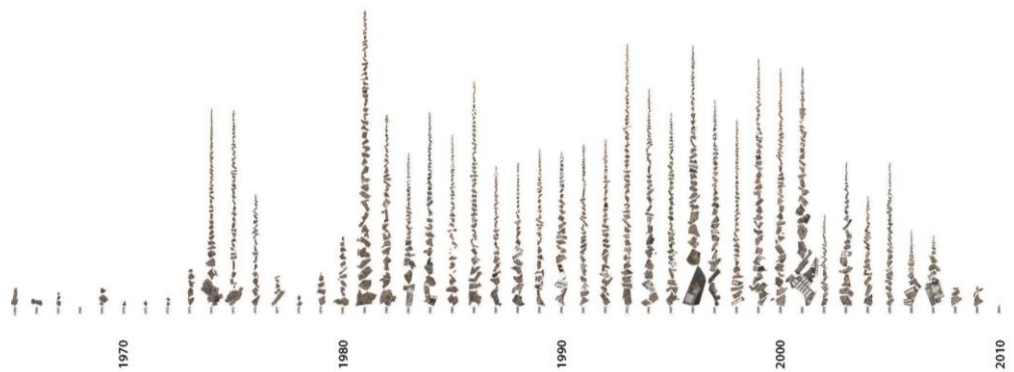


Figure 3. All *loteamentos* of V.N. Famalicão, by date.

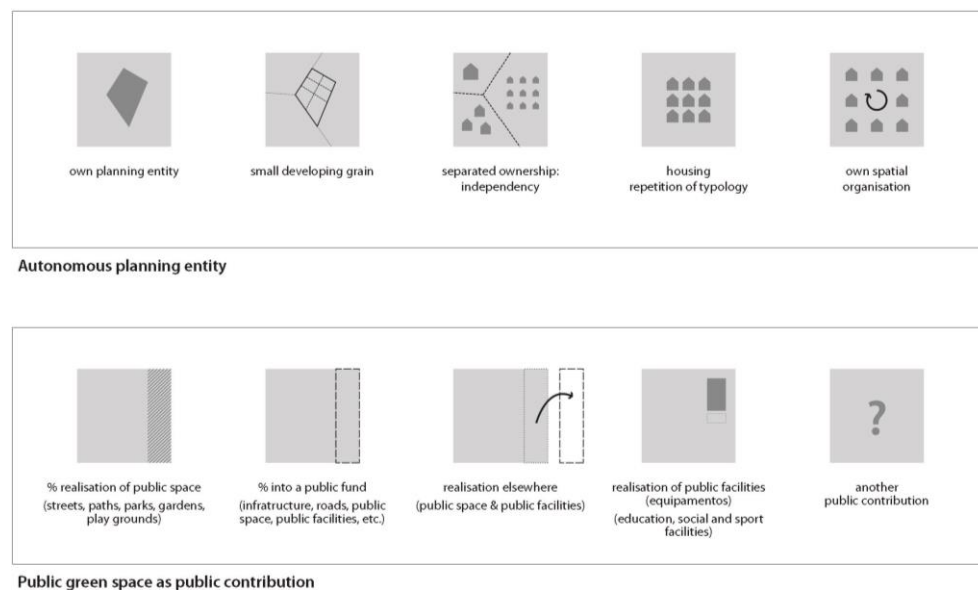


Figure 4. Planning logics of *loteamentos*

3. Planning instrument

Loteamento: The creation of the legal instrument

In legal terms, *loteamento* is an urban operation that implies the division of the land in plots to be subsequently built (art. 2nd i), RJUE). It was created in 1965 (Decreto-Lei nr 46673) as a reaction to the proliferation of private urban development projects held outside any planning instrument or legal framework, which was a reaction to the fast growth of that period. By then, existing regulations were only applied to the few areas covered by urban plans; as the possibility of relevant urban developing outside central town areas was generally not considered, although common practise. In order to control these kind of private developments, the government created the *loteamento*, as a new legal instrument. For the first time, it was recognized to private agents the ability to urbanize the territory, and, in this sense, private developers were considered as substitutes of public entities, in their duty of urban developing.

Since 1965, the legal framework of *loteamento* has changed several times, pointing towards the creation of a simple and fast procedure. Such changes followed three main axis:

- 1. Simplifying the procedure** – Initially, obtaining approval for new *loteamentos* outside planned areas was difficult, time-consuming and uncertain, as it was decided directly by the central government. Hence, the tendency for developers to use other legal or illegal mechanisms in order to obtain the same effect. Seeking to oppose such practices, the government tried to ease and clarify the approval procedure. Nevertheless, the main change came with the implementation of PDMs, with which approvals of *loteamentos* became dependent only from municipalities.

2. **Limitation of alternative mechanisms** – In order to escape the requirements of *loteamentos*' procedures, developers found other legal instruments that enabled land division, which became common alternatives. Several changes were made to the legal framework in order to abolish or limit those alternative mechanisms.
3. **Collective space** – In order to guarantee a minimum quality of collective space and prevent the common practice of selling parcels before the completion of the needed infrastructures and public spaces, seldom left undone, new regulations have been created, defining minimum areas and conditions for such spaces and determining that parcels can only be sold after the completion of all collective spaces and infrastructures.

The legal procedure

Loteamentos made it possible that the urbanisation process is mainly based on individual operations, held directly and autonomously by private developers. Prerequisite for this is that they follow the general legal framework, and that their parcels are comprised *within* urban or *to-be-urbanised* areas according to the municipal plan.

The *loteamento* is a simple administrative procedure that can be initiated by any landowner by presenting to the municipality an urban scheme proposal for the intervention (street layout, public green space, parking, plot divisions, building footprints and typologies, functions and number of dwellings, etc.). In this process, the municipality has mainly a controlling role. It verifies the compliance of the presented proposal with the legal national framework and with the municipal plans and regulations. If the intervention is smaller than

4 ha, has less than 75 housing units⁹ and is previewed to increase the population of its parish by less than 10%, no public consultation is needed.

After approval, the developer has to present detailed design proposals for all collective spaces and urban networks (water supply, sewerage, electricity, ICTs, roads, etc.). These are examined by the municipality, which consults all the responsible external entities. When these are approved and all due taxes are paid, the permit is emitted and the developer can start the construction of public space, including all the urban networks. Only after their completion and transfer to public domain is the developer able to sell the created plots or built units. The principle is that the municipality will be responsible of the maintenance of the public space.

Besides the needed streets and infrastructures, developers are required to create public green areas (Figure 4) and areas destined for public facilities. The needed dimension for this depends on the number of housing units or building area, according a general national regulation (Portaria nr 216-B/2008). However, such spaces are not always created. In agreement with the municipality, developers may compensate the public domain by creating similar spaces in other areas or by paying an equivalent financial contribution. In theory, this contribution should enter a public fund destined to invest in the creation of new public spaces and facilities elsewhere in the municipality¹⁰. In practice, this is not that evident.

⁹ 75 housing units, according to municipal regulation (art. 10th §1 b), RMUE) which, in this particular point, is stricter than national general law, which considers a maximum of 100 housing units (art. 22nd §2 b), RJUE). The remaining conditions are similar both in municipal and national regulations.

¹⁰ In Portugal it is not common to develop also a part as social housing, as requirement (Casas Valle, D., Broesi, R., Kompier, V., Van Rijswijk, H., Small Urbanism, on-going research).

Loteamentos and urban plans

Apparently, this simple and fast process came to substitute what was expected to be the role of PU and PP. Unlike *loteamentos*, those plans imply a fairly long and complex process, not only because of the needed steps to complete the procedure, but also because of the number of actors involved – namely several landowners, central government guidance, sectorial entities and mandatory public consultations. Changes to already approved plans are equally long and complex. Furthermore, whenever one landowner disagrees with the plan or does not wish to participate in its execution, all the process may simply block. Compulsory purchase is the established mechanism for solving such cases, but it implies financial resources public entities normally don't have.

More exactly, it is not relevant to compare the two processes – plan *vs* *loteamento* – as two possible alternatives (Figure 5). The *loteamento* is also the common mechanism for execution of urban plans. Therefore, it is possible to say that, in normal urbanisation processes, PU and PP are simply dispensable. PP and PU are only necessary if changes to the PDM are required (functions, building volumes or urban structure) or whenever the PDM explicitly states that a certain urban plan type is mandatory for a specific area. But these are clearly the exceptions¹¹.

¹¹ An on-going revision of national planning legal framework has the intention to change this condition. However it is still not possible to realize the real consequences of such revision.

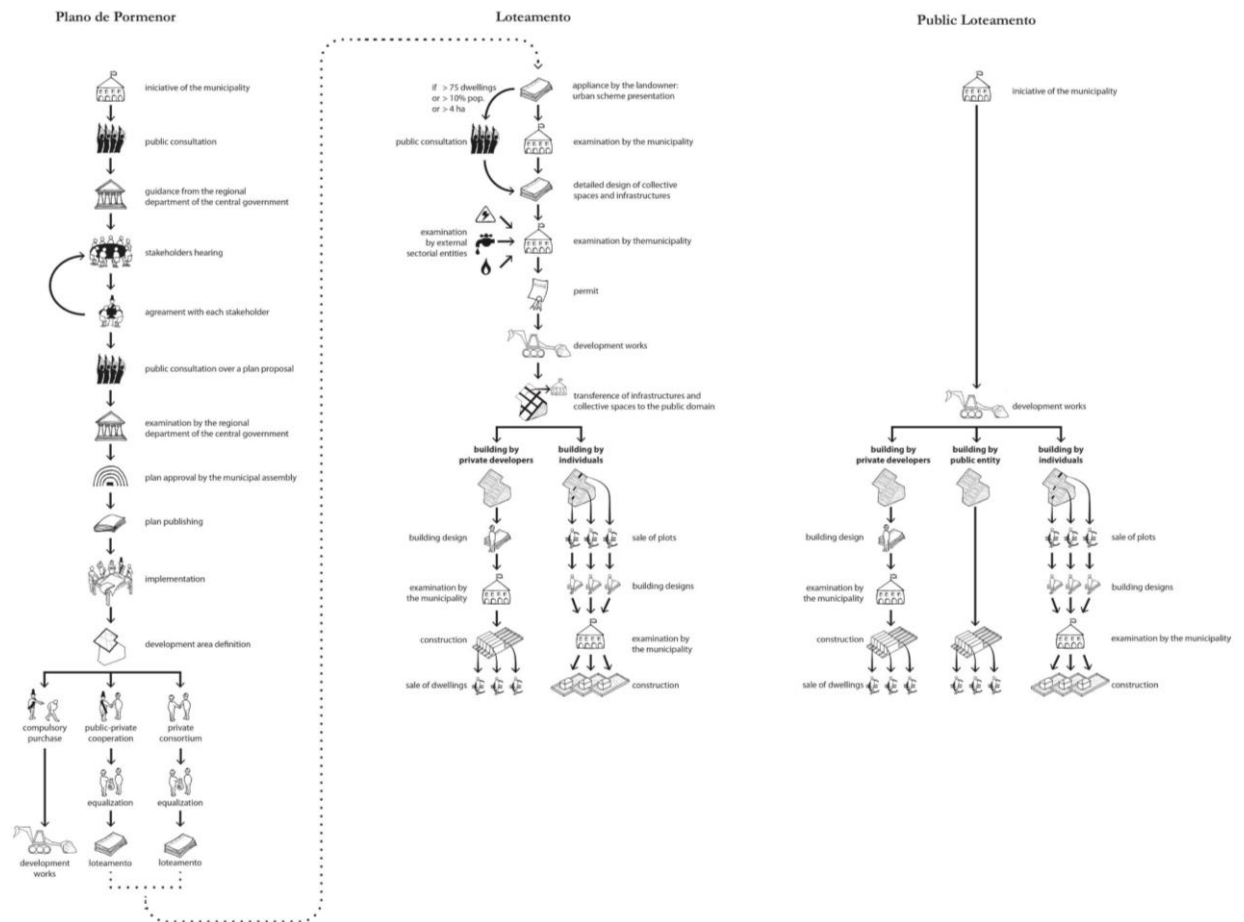


Figure 5. Comparison of planning processes between 'urban plan' (PU, PP) and *loteamentos*

A procedural paradox

In principle, *loteamentos* are not recognized as a planning instrument¹². According to the law that regulates *loteamentos* (RJUE), all urban structure and design should be determined by urban plans. Consequently, the *loteamento* should be understood as mere mechanism for their execution, with no relevant interference on urban structure, similarly to regular building licences. Such is the reason why the same law now regulates both *loteamentos* and

¹² This position is clearly stated in the on the law that regulates *loteamentos*: "*loteamentos should stop being understood as a mechanism for substitution of public administration by individuals in the functions of planning and urban management.*" (preamble, RJUE).

individual building operations. This is a significant issue, as it points towards the idea that public entities have mainly a verifying and approval role¹³, instead of an active planning position. According to this stance, local public administration should not have the instruments or the ability to guide or affect the design of each private urban development, in order to make it a logic part of a coherent wider urban structure, for which the municipality is responsible.

This leads to an apparent paradox. On the one hand, the lack public financial resources and the absence of urban pressure – particularly on a context of diffuse settlement such as the one of Ave Valley – makes it impossible for public urban plans to establish as a standard mechanism for urbanization. On the other hand, the municipality has no means to interfere on the design of each of the fragments that, in practice, compose the overall urban structure without any clear coordination.

Daily practice

In spite of law intentions, the daily practice shows that the municipality has means to interfere. In reality, the actual law gives necessary margins. As mentioned, during the approval procedure, the municipality has the duty to examine if the presented urban schemes comply with municipal plans and regulations (art. 24th, RJUE). Such examination allows some room for interpretation¹⁴; especially considering that such plans and regulations are created by the municipality. Other mechanisms are at the municipality disposal. For instance, in V.N. Famalicão, in the case of larger projects, the urban

¹³ RJUE clearly states the specific reasons for possible non-approval (art. 24^o).

¹⁴ The law that regulates the procedure clearly identifies the specific reason for possible non-approval (art. 24th, RJUE). However, it creates room for some interpretation. For instance by stating that an urban operation may be denied whenever it “*negatively affects archeological, historical, cultural or landscape heritage*” (art. 24th §2 a), RJUE) or by stating that “*The analysis by the municipality of loteamentos’ proposals [...] should focus on its compliance municipal spatial plans, national spatial plans, [...] as well as on its uses and urban and landscape integration.*” (art. 21st, RJUE)

management department of the municipality – responsible for the licensing procedure – usually asks the planning department to pronounce itself on the relation of the proposed development with its surroundings. The position of the planning department may then be presented as an external sectorial consult, and, in this way, reason enough for veto.

However, it is not as much a question of legal power, as it is of recognized legitimacy. In fact, from the analysis of several dossiers of licensing procedures in V.N. Famalicão¹⁵, it is possible to affirm that developers, in general, do accept municipality changes and suggestions in order to improve the urban scheme, without questioning its authority – obviously, after a process of dialogue and informal negotiation. Actually, this ability to directly negotiate with private developers has often been pointed out as one of the main instruments of the so-called *informal planning*¹⁶.

Nevertheless, this is the exception. Municipality's interference on the urban scheme proposals is usually very limited and restricted to the correction of clear and quantitative regulatory issues. In the few cases in which the municipality took a more active stance, the arguments supporting its suggestions were generally not evident, showing the lack of a clear, comprehensive and supported strategic vision for the spatial development of V.N. Famalicão. In this sense, it is noticeable the lack of municipal instruments based on spatial criteria, principles or qualities, than could be used in this phase, such as public space design guidelines or an overall maintenance strategy for public space. It was also possible to identify the absence of an established negotiation culture between the involved actors (no clear procedures, mistrust).

¹⁵ The presented conclusions result from an on-going systematic and detailed analysis of licensing processes of *loteamentos* in V.N. Famalicão. This study is part of the PhD research of one of the authors.

¹⁶ *Informal planning* is the common designation for the series of planning practices conducted by municipalities which are outside the established legal framework, such as negotiations with private developers or the development of urban design studies to guide urbanisation process which are not approved and have no value as plans. Several authors have studied such practices considering that, despite their lack of legal value, they tend to reveal higher effectiveness than formal planning system (Portas, Sá and Cardoso, 1998; Morais, 2006)

It is then possible to claim that, as João Ferrão (2011) argues, the main issue is not a legal one. It is mainly a question of *culture*. It is the way in which all involved actors understand and relate both to *spatial planning* and to the *territory* itself that determine the daily practices which shape the urban landscape.

4. Impact of Loteamentos in V.N. Famalicão



Figure 6. The sum of all *loteamentos* in relation to the urban areas of V.N. Famalicão

Looking at loteamentos

Acknowledging the impact of *loteamentos* in the urban landscape of V.N. Famalicão, it is clear they have contributed to the creation of a very dispersed and fragmented urban pattern (Figure 6). Analysing their spatial distribution there is no evident concentration related to any period or type, apart from a certain prevalence of collective housing typology in the central town area. *Loteamentos* are spread all over the municipality, following the existing diffuse pattern distributed along the valleys of the region and main road infrastructures, to which urbanisation is mainly linked. At a smaller scale, it is evident *loteamentos* have contributed to the creation of complex, discontinuous and fragmentary structures.

Dynamics

As stated, urban growth of the Ave Valley Region directly follows market dynamics. Until the implementation of democracy in 1974, *loteamentos* had little presence in V.N. Famalicão. In 1974 there was a first production peak, corresponding to a total of 926 housing units¹⁷, followed by a profound depression in 1978 and by a second peak in 1981 (1027 housing units). From 1985 it is possible to identify a continuous and sustained increase until the year 2000 (1252 housing units), after which the number of processes clearly falls. From 2008, with the sub-prime crisis, the market has basically paralysed.

During this period (Figures 7, 8, 9), different trends – related to typologies and procedures – can be identified. Key factors are the approval of the PDM and the introduction of professional developers. Before 1994, the most common projects were the ones initiated by individual landowners, who, most of the times, limited their interventions to plot division (with or without the creation of new public space and infrastructure) leaving building for future buyers. In such cases, single housing was the most common typology.

After 1994, the share of row houses increased enormously, becoming the most common typology for *loteamentos*. From 1994 to 2007, row houses and collective housing clearly dominated the growth process, which had a relevant impact on the urban landscape of the region, until then mainly dominated by the small grain of detached and semidetached houses. Such trend is correlated with the evident preponderance of private professional developers during this period. The introduction of this kind of developers had an effect on the dominant typologies, as they were normally responsible not only for infrastructure and plot division, but also for the buildings. It had also an impact on the scale and network type of the operations. Also, more non-residential *loteamentos* were initiated in period, because

¹⁷ Number of housing units contained in the approved permits for *loteamentos*.

of the industrial zones established by the PDM. These *loteamentos*' types show a completely different urban design and morphology, primarily because of the different building typology and heavy road network destined to trucks.

In the last years, the involvement of professional developers has gradually decreased. Though private companies are still responsible for the major part of *loteamentos*, they are now a minority when considering the totality of permits for new housing units in the municipality – something that happens for the first time since 1998. Such mutation will probably have noticeable consequences on housing typology and on the processes of transformation of urban landscape.

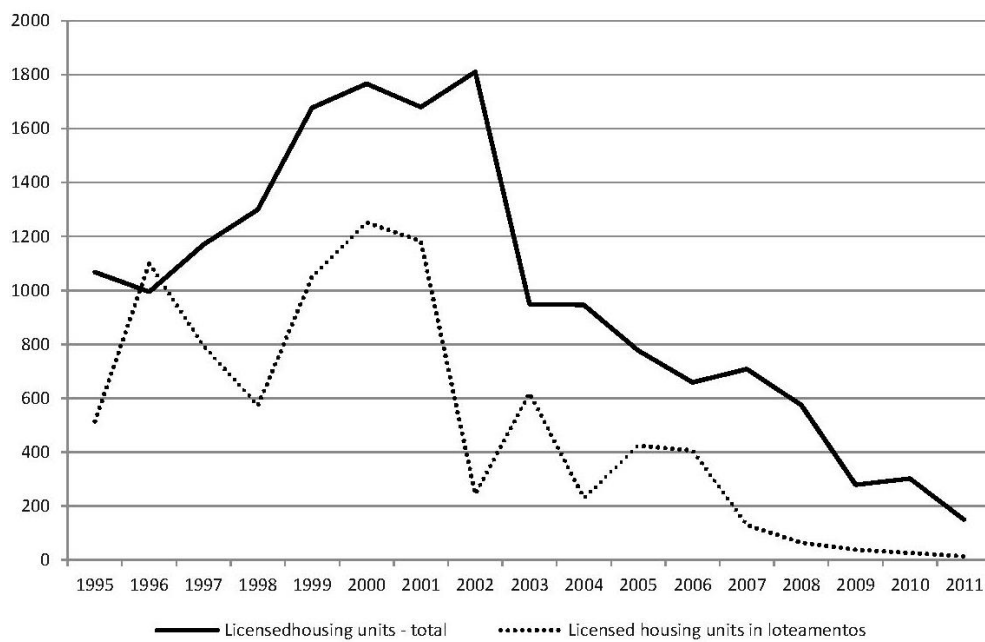


Figure 7. Licensed housing units – total and belonging to loteamentos

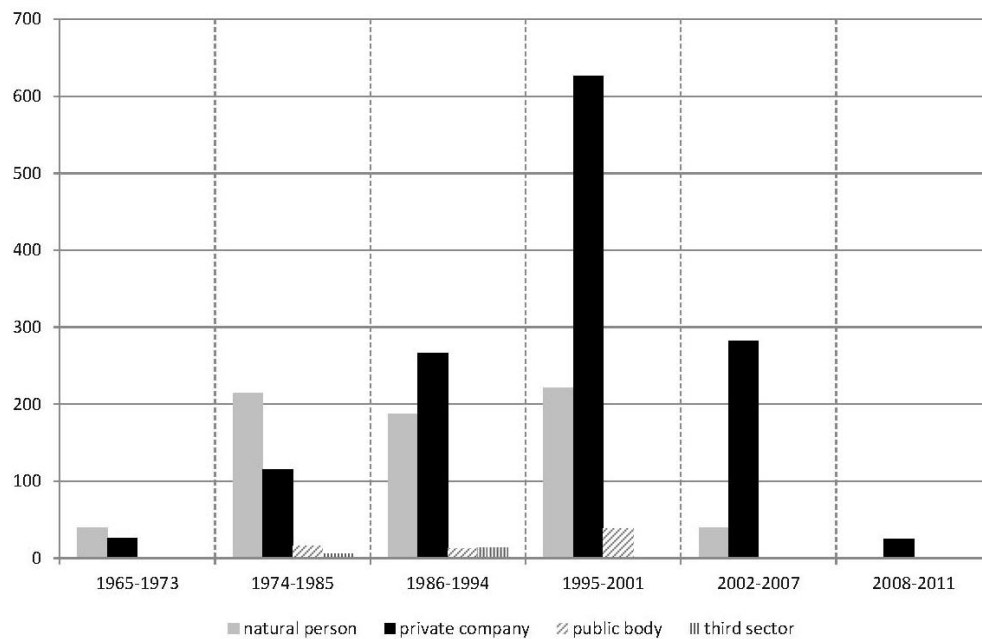


Figure 8. Housing typology in *loteamentos* (average housing units per year, for each period)

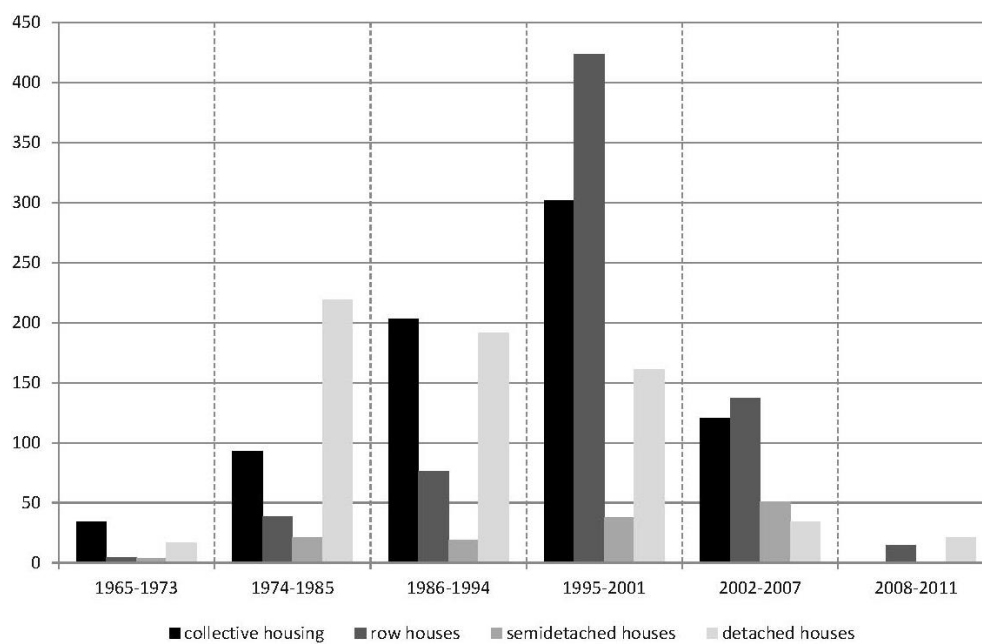


Figure 9. Developer category in *loteamentos* (average housing units per year, for each period)

5. Loteamentos: morphological typology

Case-study selection

For a more detailed morphological analysis of *loteamentos*, an East-West strip covering the whole length of the municipality is delineated to select a representative sample for residential *loteamentos* (209 *loteamentos*, ~19% of the total *loteamentos*) (Figures 10, 11, 12). It is a 1500 m wide strip along the axis of the regional road N206, covering different contexts: a more rural and dispersed area to the West, the central town area in the middle, and a more intense and diffuse settlement to the East.

The presented results are based on this sample. Main focus is on the contribution each *loteamento* has to a larger structure. In this sense, two scales were essential to map: the *loteamento* unit and the impact to a bigger area (sample). For this analyses GIS data is used combined with map and aerial photograph information. The base source for this research is the GIS database of the municipality of V.N. Famalicão. This database is further developed and extended by the authors for this article. In the last year, several fieldwork visits were made.

Relation of loteamentos to the overall structure

Essential *loteamento* aspects are: ownership, own accessibility, series housing types, and one single planning process. Therefore, *loteamentos* tend to present certain independence in relation to their surroundings: an autonomous spatial entity. Each *loteamento* introduces its own urban type (Silva, 2005) without clear or significantly transforming, adding, improving or adapting the larger existing context. However, the sum of all creates small and larger disruptions in the existing spatial structure, due to the introduction of big building

volumes and new typologies, clearly identifiable building clusters, or larger street space standards (Figure 13).

In order to better grasp in which way *loteamentos* participate on the construction of urban structure, the analysis focused on the *public contribution* given by each operation, namely looking at the proposed public space design.

Loteamentos with residential programme (205)

	Housing units (logos)	Plots - units (lotes)	Construction	
mean	41	14	4,310	
median	10	7	1,764	
std dev	126	19	7,550	
sum	8,438	2,836	900,786	
			61.7 %	

	Public space (=total plot, minus plot area)	Green public space (cedências)	Plots - area in m2 (lotes)	Area of loteamento
mean	3,152	1,205	6,989	10,161
median	1,005	0	4,416	6,001
std dev	5,730	3,371	8,505	12340
sum	658,855	251,658	1,460,734	2,123,642
	31.0 %	11.9 %	68.8 %	100 %

Geral data of sample

Programmes 1)	Residential		Developer type 2)		Public green space typology (cedências 1)		Network typology		
residential, only	163	detached	149	individual, private	760	on the edge, street	25	attachment	110
residential + other prog.	42	collective	24	company, private	299	'end' of interior street	24	cul-de-sac	50
commercial	37	both	23	public & third sector	22	interior, street	25	adhesion	39
industrial or storage	6	no housing/unknown	13	unknown	9	central	3	own street pattern	6
services	9					part of larger structure	2	part spatial structure	2
sport	17					no public green space	132	unknown	2

Public green space		Pedestrian area		Trees <i>in public space</i>		Sizes		
=< 5 %	143	specific area (36,4%)	76	with trees	62	< 0,5 ha.	91	
5 > 10 %	15	nothing (62,2%)	130	without trees	147	0,5 < 1,0 ha.	47	
10 > 20 %	24	unknown (1,4%)	3			1,0 < 2,0 ha.	48	
20 > 40 %	19					> 2,0 ha.	23	
40 > 70 %	6							
unknown	2							

1) combinations are possible; 2) for all loteamentos in V.N. Famalicão

Figure 10. Sample of *loteamentos* 1 – general data

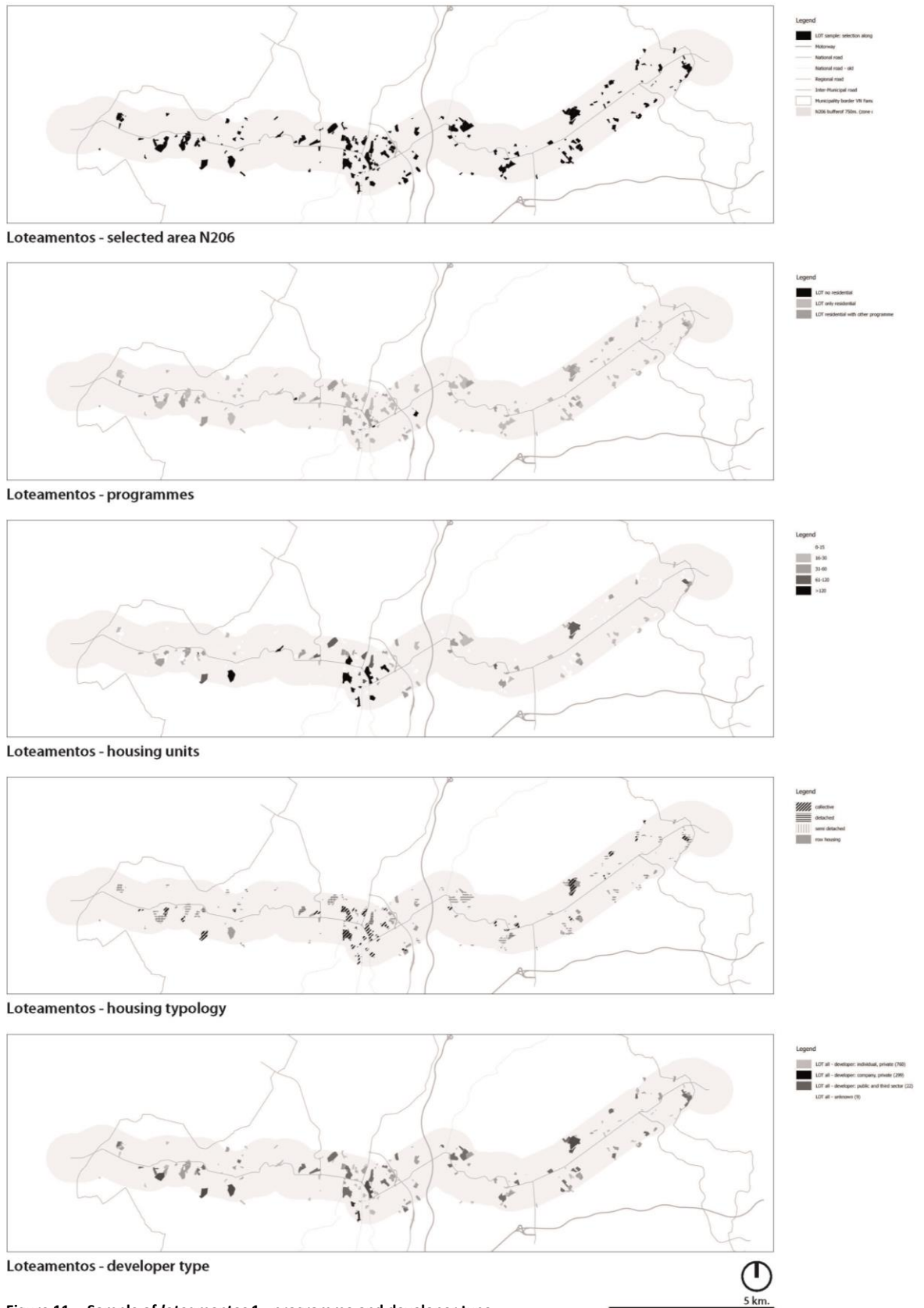


Figure 11. Sample of *loteamentos* 1 - programme and developer type

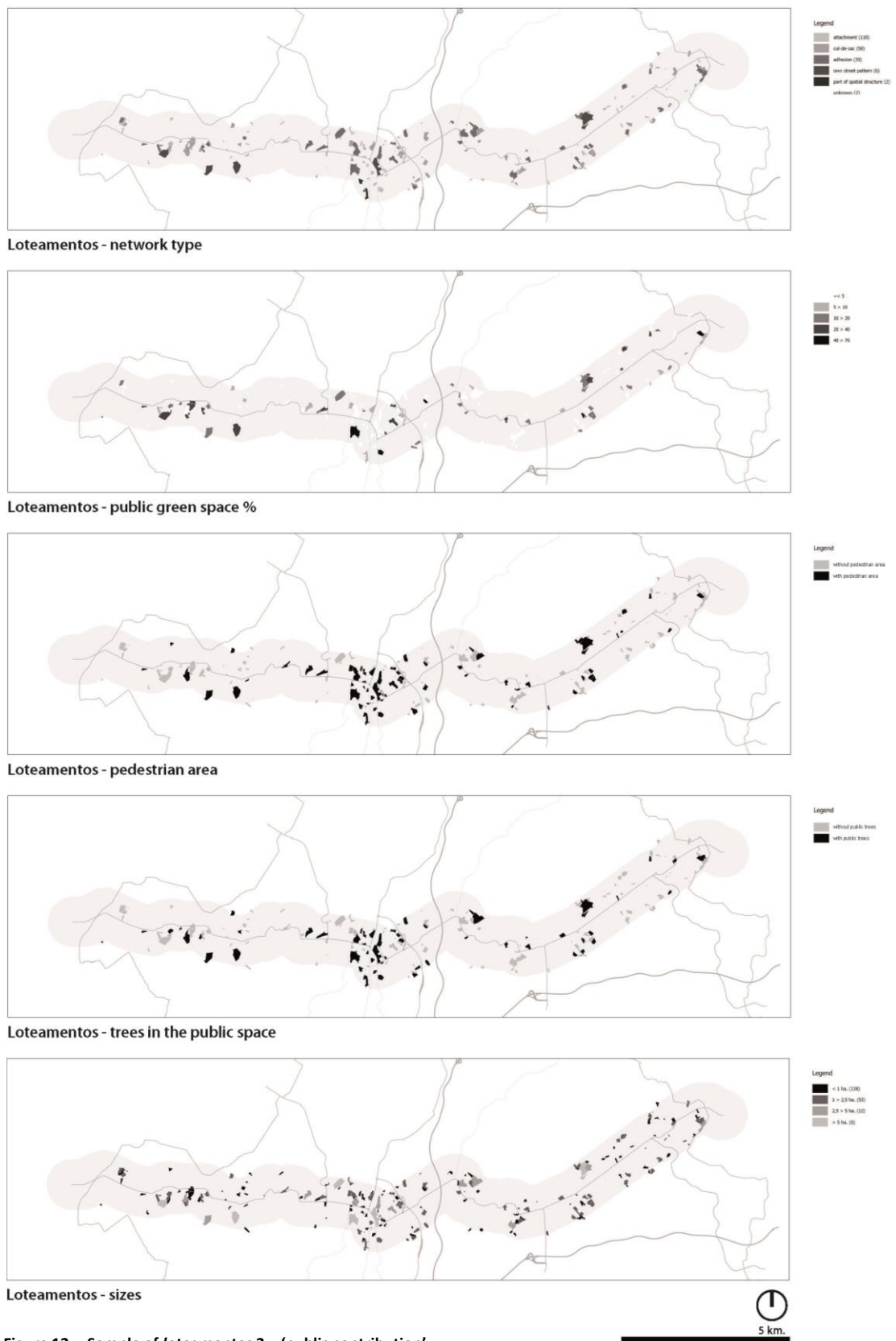


Figure 12. Sample of *loteamentos* 2 – ‘public contribution’



Figure 13. Two examples of *loteamentos* - introducing new public space characteristics and building typology

Public contribution

In principle, each loteamento is a unique and autonomous ‘urban product’. However, the ability to urbanise involves certain responsibilities towards the community and/or the direct surroundings. As mentioned before, developers have the obligation to execute all needed infrastructures networks and public space – namely public streets, a certain amount of public green space and areas destined for public facilities. After completion, these are transferred to public domain, shifting the maintenance task to the municipality. In this way, an important share of the public urban structure is created by the sum of private interventions.

Nevertheless, these are mainly quantitative demands – often even with a paid-off possibility – which do not take in consideration local spatial characteristics. Despite existing regulations, it is noteworthy the lack of public green space (only 37% of *loteamentos* sample), specific pedestrian areas such as sidewalks or squares (only 36%), or the use of trees in public space (only 30%). This gives an indication of the relative minor public contribution of the sum of all *loteamentos*.

Due to the lack of spatial, urban design or morphological municipal regulating instruments or guidance, the design is shaped by generic rules¹⁸, independently from specific contexts. Such rules determine the existence and dimension of elements such as sidewalks, parking lots and road lanes, creating new urban design standards that contrast with the existing thinner and more delicate structures. Public facilities are basically absent. Due to the limited dimensions of *loteamentos*, mandatory areas destined for public facilities are generally too small for buildings. Therefore, they are usually used for installing simple children playgrounds. In the few cases of larger operations, some parcels are transferred to public domain unbuilt, as developers are not required to actually build facilities. Parcels are then part of a municipal land stock, which maintain available for future necessities or opportunities of public domain. In order to include in the spatial analyses urban morphology aspects, two urban design features are distinguished: network type and public green space type. Both are key indicators of '*public space contribution*'.

Network types

The relatively small size of *loteamentos* limits the possibilities of urban structure types. All *loteamentos* have a certain connection to the existing road network, also connecting to other urban networks¹⁹. In the selected area, five different network types can be distinguished (Figure 14, 15):

1. **Attachment:** *Loteamentos* that make use of the exiting street or road network.

¹⁸ Portaria nr 216-B/2008 is a national regulation that determines the required areas for public green space, public facilities areas and parking, as well as the required dimensions for roads and streets (road lanes, sidewalks, etc.). Such regulation is valid for all the country, unless it is totally or partially substituted by different rules by local spatial plans. V.N. Famalicão follows the national rules, which not include local specific aspects in order to adapt them to the spatial characteristic and qualities of each context. These regulations are further complemented by other national laws such as the accessibility regime (Decreto-Lei nr 163/06) that establishes in detail minimum measurements for sidewalks.

¹⁹ This point is clear in the PDM, where it is stated that in order to be approved, a *loteamento* needs to be connected to the existing road and urban network by qualified links (art. 37th)

2. **Cul-de-sac:** *Loteamentos* based on new introverted streets.
3. **Adhesion:** *Loteamentos* that create new streets connecting to the existing streets and roads, often improving local network continuity.
4. **Own street pattern:** *Loteamentos* with a proper public street design with its own recognizable logic, normally with a specific materialisation, urban furniture and green space.
5. **Part of the spatial structure:** *Loteamentos* that directly contribute to the realisation of a part of the street or road main structure.

In general, *loteamentos* have little contribution to the construction of an overall continuous and intelligible street or road network. In fact, a total of 160 *loteamentos* (77%) have basically no contribution to such a structure (*attachment* or *cul-de-sac* types). 45 *loteamentos* create some local street patterns: some improving the local street network by introducing new connections and enhancing its continuity (no dead-ends), others introducing their *own street patterns*, which, in general, are embedded and connected to the existing street network. Only two *loteamentos* have a direct contribution to the main street network, both at the scale of the town of V.N. Famalicão. No *loteamento* makes a contribution to the main regional network.

Noticeable in various urban schemes of *loteamentos*, is the simple repetition of series of a housing typology, even if it does not fit easily into local spatial context or if it does not benefit public space quality. This has directly consequences to the network type layout, public and private gardens, and the connection with the surrounding. Specially, if there is no clear vision on the overall public space structure, including a maintenance framework and specific design aspects.

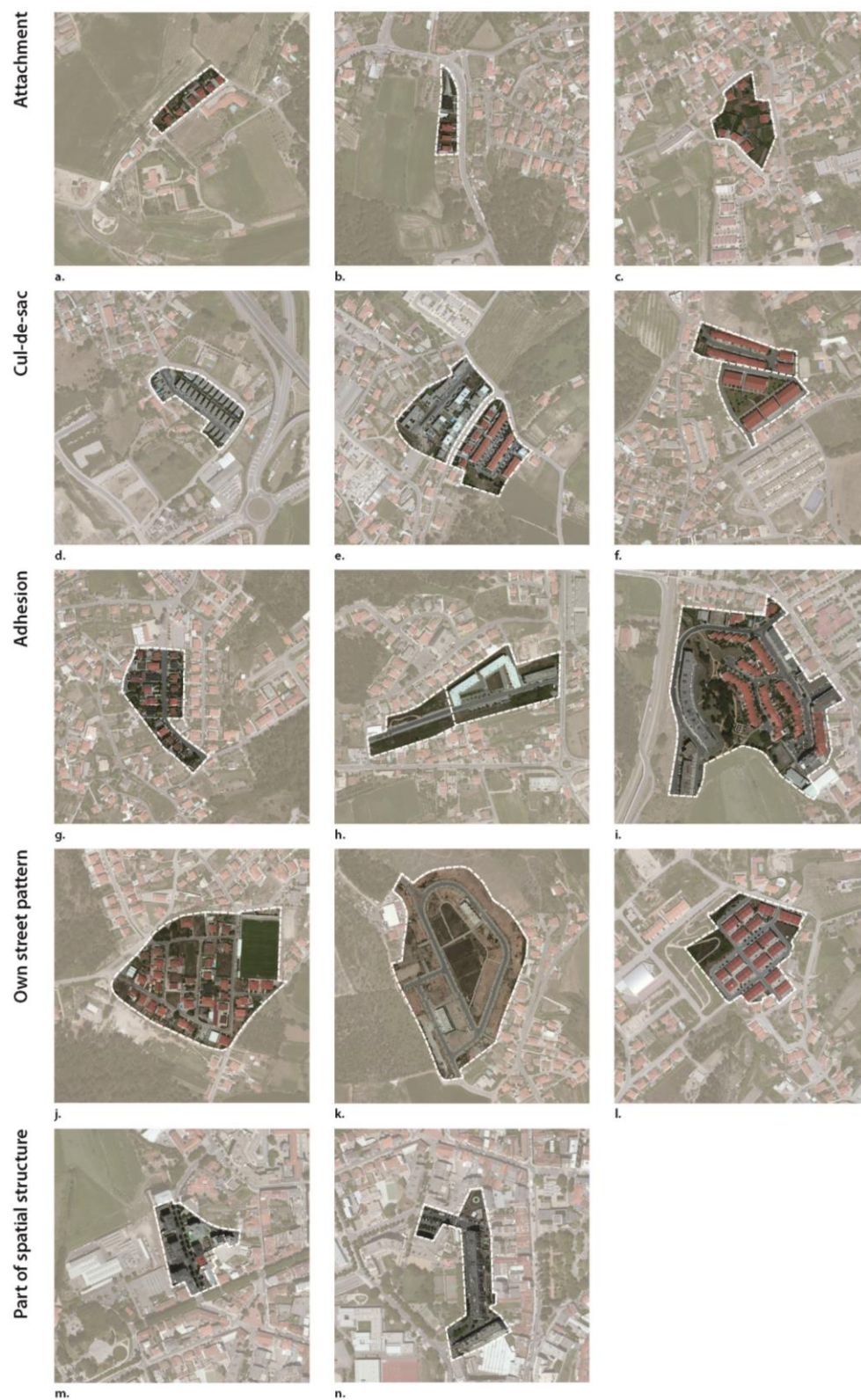


Figure 14. Network type, examples of *loteamentos*

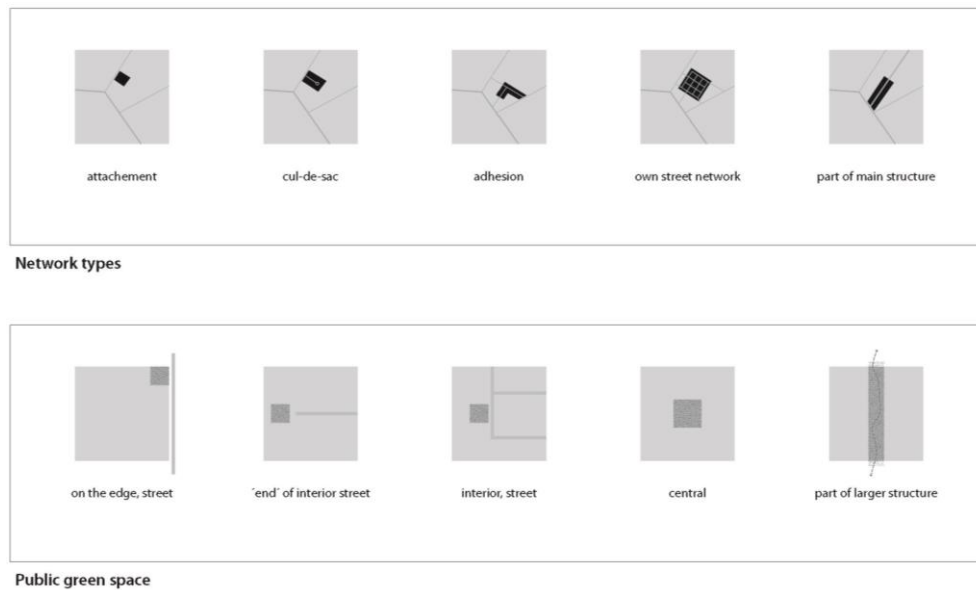


Figure 15. Network types and public green space types

Public green space

Based on the position and access scheme of public green spaces – and considering their relation with different network types – five categories were identified (Figure 15):

1. Green space situated on the edge of the *loteamento*, facing a street.
2. Green space situated at the end of an interior dead-end street.
3. Green space situated in the interior of the *loteamento*, facing a street of the new network created by the operation.
4. Green space as a central organizing space of the *loteamento*.
5. Green space designed as constituent part of a larger structure.

Similarly to the network types, it is here possible to observe that public green space has little contribution to the creation of an overall coherent urban structure – only in two cases are green spaces part of an existing or expectable larger structure – or even to the definition of a clear order for the *loteamento* (see example m and n in Figure 14). In the majority of

the cases, they are small spaces, with no specific character or use, simply located in the areas of the parcel which are the most difficult to occupy with buildings. In this sense, they seem to bring little value to public space or to each operation.

Management of public contribution?

These two features underline the aforementioned difficulty of the municipality to guide each project in order to make them part of a larger intelligible urban space. However, it is not possible to claim that this results from the lack of legal instruments.

Municipal regulations clearly state, *"[...] all loteamentos [...] involving the creation of new roads shall be designed so that they rest on the existing network, establishing connections with unquestionable logic and urban justification and, whenever possible, avoiding dead-ends."* (art. 35º §1, PDM) They equally affirm that the *"location, design and dimension"* of public green spaces must *"a) ensure an appropriate relation to its surroundings, enhancing the urban space where it is embedded; b) present adequate size and shape to the intended uses [...]"* (art. 12nd, RMUE). However, the effectiveness of such regulations depends on the municipality's capacity to interpret and implement it.

6. Conclusions

It seems clear that, in the Ave Valley Region, an urban growth shaped by the sum of autonomous small fragments has failed in creating an overall coherent and intelligible urban structure. *Loteamentos* are a key element of this process, producing various (new) urban typologies. And, in fact, generally, they do not contribute to the construction of continuous logic larger structures, mainly due to the lack of attention paid to their public space.

However, the main problem is not the existence of the legal instrument of *loteamento* in itself - although it is not an adequate instrument without overall spatial plans or visions. In reality, *loteamentos* seem to have revealed an important potential for the production of urban space, especially in a moment of a bursting real estate dynamics, and in which other planning instruments have shown to be incapable of answering to the existing demands. The problem rests mainly on the lack of efficient apparatus able to coherently connect each individual operation to other interventions and to its surroundings, in order to create logic urban structures.

Nevertheless, such lack of effective mechanisms is not primarily due to existing legislation or procedures. It is a result of the *spatial planning and territorial culture* of all involved actors, which determine daily planning and urbanisation practices. It is possible to identify a mismatch between, on one side, what different involved agents think planning and urbanization process *should* be, and, on the other side, the real dynamics, trends, logics and processes that daily shape the urban landscape. In parallel, there is also a mismatch between the planning system itself and its instruments (plans, design guidelines and regulations: formal and informal). Standardisation may have evident value when applied to large-scale integral urban plans. But when applied to scattered small urban developments,

such as *loteamentos*, an incomprehensible mismatch between new small urban pieces and the existing spatial structure is produced.

In order to develop more effective planning practices, it is essential not only to recognize the specific characteristics and logics of *loteamentos*, but also to understand the impact the sum-of-all has to urban landscape. Much more important than possible changes to the formal planning system is to create an informal planning process based on local contexts and on local actor experiences. Instruments such as informal guidelines and spatial strategies – clarifying an overall vision but open and attentive to specific characteristics of particular territories – can contribute to the urban planning process in order to guide and define clear requirements in more open and transparent dialogue phase. This is not to substitute the formal planning system itself, but to give more room for local-based-solutions.

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References

- Ascher, F. ([2001] 2010) *Novos princípios do urbanismo* (Livros Horizonte: Lisboa).
- Boeri, S., Lanzani, A. and Marini, E. (1993) *Il territorio che cambia: ambienti, paesaggi e immagini della regione milanese* (AIM/Abitare Segesta, Milano).
- Bourdin, A. ([2010] 2011) *O urbanismo depois da crise* (Livros Horizonte, Lisboa).
- Castro, J.B. (1762) *Mappa de Portugal Antigo e Moderno* (Officina Patriarcal de Francisco Luiz Ameno, Lisboa).
- Cavaco, C. (2009) 'Formas de habitat suburbano: Tipologias e modelos residenciais na Área Metropolitana de Lisboa', unpublished PhD thesis, Faculdade de Arquitectura da Universidade Técnica de Lisboa, Portugal.
- Correia, P.V.D. ([1993] 2002) *Políticas de solos no planeamento municipal* (Fundação Calouste Gulbenkian, Lisboa).
- De Rossi, A. (ed) (2009) *Grande Scala: architecture, politic, form.* (LISt Lab, Barcelona).
- Ferrão, J. (2011) *O Ordenamento do Território como Política Pública* (Fundação Calouste Gulbenkian, Lisboa).
- Forester, J. (2008) 'Editorial', *Planning Theory & Practice*, 9:3, 299-304.
- Indovina, F. ([2004] 1990) 'La ciudad difusa' in Martín Ramos, A. (ed.) *Lo Urbano en 20 autores contemporáneos* (Edicions UPC, Barcelona) 49-60.
- Jessop, B. (1998) 'The rise of governance and the risks of failure: the case of economic development', *International Social Science Journal*, 50 (155), 29-45.
- Mangin, D. (2004) *La ville franchisée: formes et structures de la ville contemporaine* (Éditions de la Villette, Paris).
- Morais, P. C. P. (2006) *Planificação sem planos: estudo sobre algumas figuras planificatórias de natureza urbanística não designadas ex professo pela lei como planos.* (Almedina, Coimbra).
- Neutlings, W.J. (1990) 'Tapijtmetropool' *Archis*, 3.
- Oswald, F. and Baccini, P. (2003) *Netzstadt: designing the urban* (Birkhäuser, Basel).
- Portas, N. ([1986] 2006) 'Modelo territorial e intervenção no Médio Ave' in Milheiro, A. V. and Afonso, J. (ed.) *Nuno Portas: Prémio Sir Patrick Abercrombie UIA 2005* (Ordem dos Arquitectos, Lisboa) 80-87.
- Portas, N., Sá, M. F. and Cardoso, R (1998) 'Planos operativos de escala intermédia: caracterização técnica e arquitectónica', unpublished research study commissioned by Direcção Geral de Ordenamento do Território e Desenvolvimento Territorial, Portugal.
- Sá, M. F. (1986) 'O Médio Ave', unpublished thesis, Escola Superior de Belas Artes do Porto, Portugal.
- Sanderson, I. (2009) 'Intelligent Policy Making for a Complex World: Pragmatism. Evidence and Learning', *Political Studies*, 57, 699-719.
- Secchi, B. (1984) 'Le condizioni sono cambiate', *Casabella* 298/299, 8-13.

Sieverts, T ([1997] 2003) *Cities without wities: an interpretation of the Zwischenstadt* (Spon Press, London).

Silva, C. (2005) 'O Difuso no Vale do Ave', unpublished master thesis, Faculdade de Arquitectura and Faculdade de Engenharia da Universidade do Porto. Portugal.

Viganò, P. (1999) *La città elementare* (Skira, Milano).

Cited laws and regulations

Decreto-Lei nr 46673 (29-11-1965)

Decreto-Lei nr 163/96 (08-08-2006)

Portaria nr 216-B/2008 (03-03-2008)

RMUE, 'Regulamento Municipal da Urbanização e da Edificação' (16-05-2003)

RJIGT, 'Regulamento Jurídico dos Instrumentos de Gestão Territorial', Decreto-Lei nr 380/99 (22-09-1999).

RJUE, 'Regulamento Jurídico da Urbanização e Edificação', Decreto-Lei nr 26/2010 (30-03-2010)