

Placemaking and spatial cognition: the way to go on diffuse urban areas?

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Introduction.

Some areas of contemporary urban settlements have evolved into what Secchi (2006, p.181) calls “difficult areas”. These areas of “random (mal)formation” present several sustainability deficits and consolidation problems (Portas et al. 2011, p.164) and consequentially are affected by processes of exclusion, segregation and filtering down (Secchi 2006, p.181). In a time of economic crisis and of welfare state retreat it is crucial to think how to maintain, and if possible increment, the liveability and urbanity of those urban areas.



FIGURE 1 –Ave's (river) Valley region

The Northwestern part of the Iberian Peninsula, and particularly the Ave's Valley region (Figure 1), could well be described as above. This territory has a long tradition in extensive patterns of territory occupation (Castro 1762, p.48, Volume I)¹. Differently from the British or the North-American cases, though, these are sparse sprawling territories that evolved linearly along the roadways that serve and support them, defined by a diffuse low-density urbanization – usually non-consolidated – presenting a weak definition of local centralities (Figure 2 - zoom indicated on Figure 1).

The region's “modalities of territory occupation aren't strange to a type of social-economical configuration which helped to the enlargement of the influence area and local relevance of municipalities such as Guimarães, Vila Nova de Famalicão and Santo Tirso” (Pereira et al. 2012, p.99). “Such configuration is deeply connected to a high concentration of economic activities and people, associated to the formation of small urban patches and to the constitution of important industrial areas, in those municipalities” (ibid.).

¹ Castro (1762, p.48, Volume I) argues that in that Province (Minho, where the Ave's Valley region lays) “there are more people than land and there isn't a place where one can't hear a bell ringing or the calling of a rooster.” Furthermore, he argues that “the whole Province seems like a continuous City”.



FIGURE 2 – Famalicão's area

Urban perennities.

Uncertainty unsettles planners. Ever since planning is it has been obsessed with certainty. The corollary of this kind of reasoning is the modernist vision of planning, well characterized by the geographer João Ferreiro (2011, pp.81–83). The contemporary 'discover' of uncertainty seems to have shocked the planning community and the reaction to it is delivering interesting perspectives of how planning should approach uncertain realities.

Uncertainty emerges from the behaviour of complex adaptive systems such as cities, or social-ecological systems in general. In other words, we can't predict accurately, which will be the behaviour of complex adaptive systems. However, complex adaptive systems present a degree of stability around certain regimes of behaviour, attractors around which the system orbits and changes slightly. In the resilience framework (Holling 1973; Holling 2001) those are called basins of attraction and can be associated to more or less perennial regimes of the system.

Portas et al. (2011, pp.164–165) argue that the reurbanization process should be based on the most perennial elements that constitute the urban environment: biophysical system, streets, public spaces system, heritage and building footprint. Those are the material elements from and upon which we can found the reurbanization process: the perennities, as he calls them. However, there are other perennities that emerge from those, related both to human behaviour in cities and urban development patterns, which, in turn, thru feedback processes, influence morphological urban perennities (Lourido 2013). We call those somewhat elusive perennities, immaterial perennities.



However, as perennial they are, and since everything in social-ecological systems change with time, some perennities are more perennial than others. See, for instance, the case of geomorphology: it changes with time, though it does change in a very long time-scale. On the opposite side of the time spectrum is, for example, the case of lake systems, which can pass from a clear water regime to a turbid one and back again much quicker. According to that we can say that perennities, aside from being material or immaterial, can also be slow or fast, when compared to human life time-scale.

The understanding of the differences between perennities and their inter-relations can be helpful in the development of better planning proposals which may have a higher degree of certainty. This increases stakeholder's confidence in their implementation leading to its completion in a feedback-like process of self-accomplishment.

Reurbanization and the matter of scales.

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We have already addressed the reurbanization concept elsewhere (Lourido 2012, p.6). There, we argued that the reurbanizing process relates to the "project of the city" (Secchi 2006, p.185) or the "extensive area planning" proposed by Indovina (2009, p.23) and that it "connotes the process of completing, remaking and improving the supporting networks and the existent settlements spacing or potentially deficitary urbanizations of the extensive city" (Portas et al. 2011, p.164). Thus, strictly speaking, our definition of reurbanization diverges from the one of Champion's (2001, p.143,147) and is best integrated in the fourth group¹ of reurbanization definitions enumerated by Rerat (2011, p.2), despite the fact that he considers that that group of reurbanization definitions relate only to the scale of the neighbourhood.

In fact, that is precisely the matter. For us, reurbanization has to do with all scales up to the regional one – neighbourhood, local (municipal) and regional – and all parts of the city – both cores and peripheries. In other words, reurbanization is the "the process of completing, remaking and improving the supporting networks" (Portas et al. 2011, p.164), both infrastructural and social-ecological, "and the existent settlements spacing or potentially deficitary urbanizations of the extensive city" (ibid.), implemented both at the local and regional scale in accordance with a defined "regional concept" (Roo & Zandbelt 2011, p.36) or a "project of the city" (Secchi 2006, p.185).

¹ Rerat (2011, p.2) argues that in the fourth group of reurbanization definitions reurbanization is seen as "a synonym of renewal or regeneration" and that it "designates projects related to the built environment at the scale of neighbourhoods and that do not necessarily imply demographic growth."



Although it affects all scales, reurbanization has to be implemented differently according to the facet of intervention (economic, social, ecological, etc.), its size and expected impact in related subsystems. Thus, the question of scale is critical for management. For instance, one could argue that health related issues should be integrated in a national strategy. However, that doesn't mean that we can't have the regional and local levels of administration deciding where smaller public facilities such as local hospitals or primary healthcare centres should be located. That kind of decisions should be left for the appropriate management decisional level.

Equity, equality and planning.

Lefebvre argued that people have "the right to the city" and that that right is like "a cry and a demand" which.

"cannot be conceived of as a simple visiting right or as a return to traditional cities. It can only be formulated as a transformed and renewed right to urban life. It does not matter whether the urban fabric encloses the countryside and what survives of peasant life, as long as the 'urban', place of encounter, priority of use value, inscription in space of a time promoted to the rank of a supreme resource among all resources, finds its morphological base and its practico-material realization" (Lefebvre 1996, p.158).

However, accordingly to Susan Fainstein (2005, p.126), this "right to the city"¹ "raises questions of who owns the city, not in the sense of direct individual control of an asset but in the collective sense of each group's ability to access employment and culture, to live in a decent home and suitable living environment, to obtain a satisfying education, to maintain personal security, and to participate in urban governance".

Peter Marcuse (2009, p.190) is very clear about who is entitled of the right to the city. He argues that the "demand" for the "right to the city" "comes from those directly in want, directly oppressed, those for whom even their most immediate needs are not fulfilled: the homeless, the hungry, the imprisoned, the persecuted on gender, religious, racial grounds. It is an involuntary demand, those whose work injures their health, those whose income is below subsistence. The cry comes from the aspiration of those superficially integrated into the system and sharing in its material benefits, but constrained in their opportunities for creative activity, oppressed in their social relationships, guilty perhaps for an undeserved prosperity, unfulfilled in their lives' hopes."

1 See also Harvey's (2003; 2008) text, The right to the city.



Furthermore, he argues (ibid.) that where “choices must be made, the demands of the deprived are entitled to priority over the fulfillment of the aspirations of the alienated”. In sum, for Marcuse (ibid.) “the demand is of those who are excluded, the cry is of those who are alienated; the demand is for the material necessities of life, the aspiration is for a broader right to what is necessary beyond the material to lead a satisfying life”.

The right to the city “is a moral claim, founded on fundamental principles of justice, of ethics, of morality, of virtue, of the good” (Marcuse 2009, pp.192–193) and it refers to multiple rights, not just one: “not just a right to public space, or a right to information and transparency in government, or a right to access to the center, or a right to this service or that, but the right to a totality, a complexity, in which each of the parts is part of a single whole to which the right is demanded” (ibid.).

In sum and accordingly to Marcuse (ibid. p. 193), the principles of a right to the city’s respectful city would “include concepts such as justice, equity, democracy, the full development of human potentials or capabilities, to all according to their needs, from all according to their abilities, the recognition of human differences. They would include terms such as sustainability and diversity, but these are rather desiderata in the pursuit of goals rather than goals in themselves.”

Thru the following analysis of data we will try to have a glimpse of some territorial asymmetries that may be inflicting impairment to the right to the city.

As shown by Figure 1 urban pressure is much more felt down the Ave river, to the west, closer to the shore and other important coastal settlements, such as Oporto, Vila Nova de Gaia and Maia, to the south, and Póvoa do Varzim and Vila do Conde, to the north of the latter. Of course these are all part of the same system and, thus, administration boundaries do not have relevant impacts on urban development dynamics. Inevitable problems of spatial inequity and inequality arise, precisely, from the intrinsic differences between settlements: differences regarding all dimensions, biophysical, social and economic.

Despite the extensive urban pattern shared by the entire Ave’s Valley region there are clear differences between different locations within it. Analysing Figure 3 to Figure 6 regarding Famalicão’s and Fafe’s municipalities we can emphasize some of those differences.

Concerning income there are striking differences between Famalicão and Fafe municipalities. Since 1993 that Fafe’s citizens always had less purchasing power than Famalicão’s (Figure 3), whose purchasing power rose more than that of the region. In 2009 that difference was



of almost 18%. Furthermore, people in Fafe's municipality earn less in average than people in Famalicão's municipality (Figure 4). In 2009 that difference was around 200€, a third of Fafe's average monthly earning.

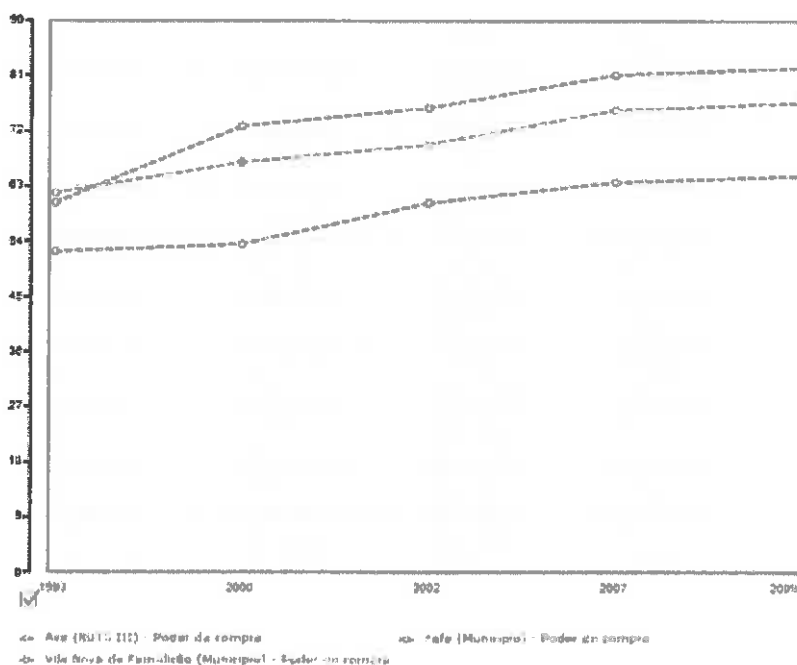


FIGURE 3 – Purchasing power per capita (%) (source: INE and PORDATA)

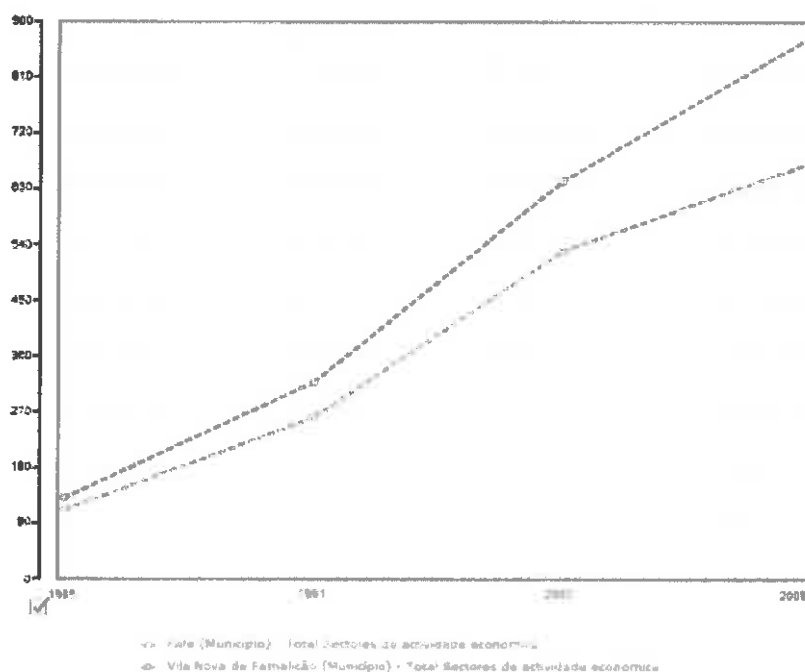


FIGURE 4 - Average monthly earnings of workers in paid employment (source: GEP/ MSSS and PORDATA)



Figure 5 shows that the percentage of people benefiting of social support on both Famalicão's and Fafe's municipalities has declined. We can argue that it has declined not because people don't need it anymore (unemployment is rising in both the municipalities and the region, it was around 18% by 2011 according to the national census), but because this kind of support has a limited duration after which people can't get it anymore. Emigration may also play a role on this. What Figure 5 shows is that Fafe's municipality has a higher percentage of citizens being supported by the State since, at least, 2003.

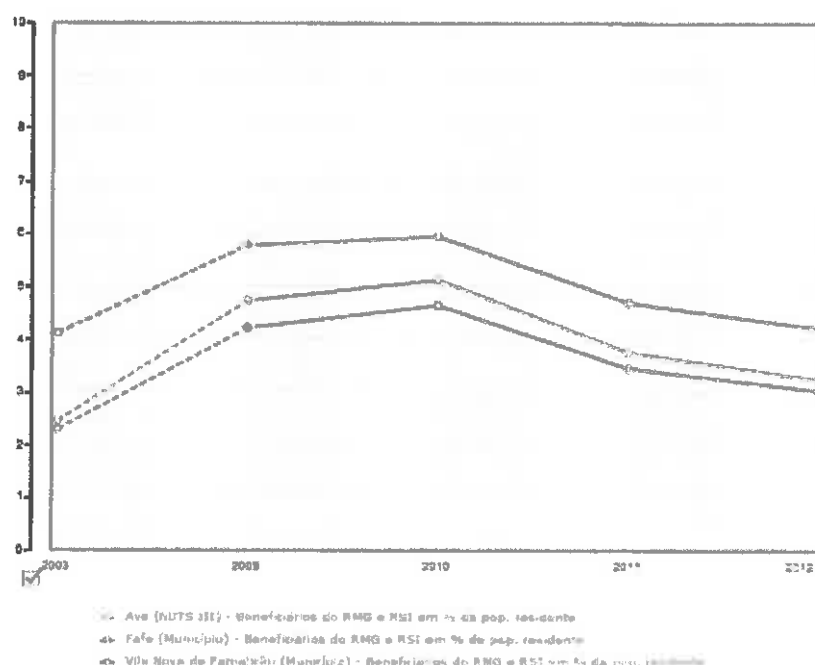


FIGURE 5 – Percentage of population benefiting of social support (source: II/MSSS, INE and PORDATA)

Figure 6 presents the evolution of the number of people with higher education, relative to the year 1960, in the Ave's region and both Famalicão's and Fafe's municipalities. We can clearly appreciate that despite both municipalities being evolving positively since 1960, they aren't evolving at the same rate, with Fafe's municipality evolving slower than Famalicão's.

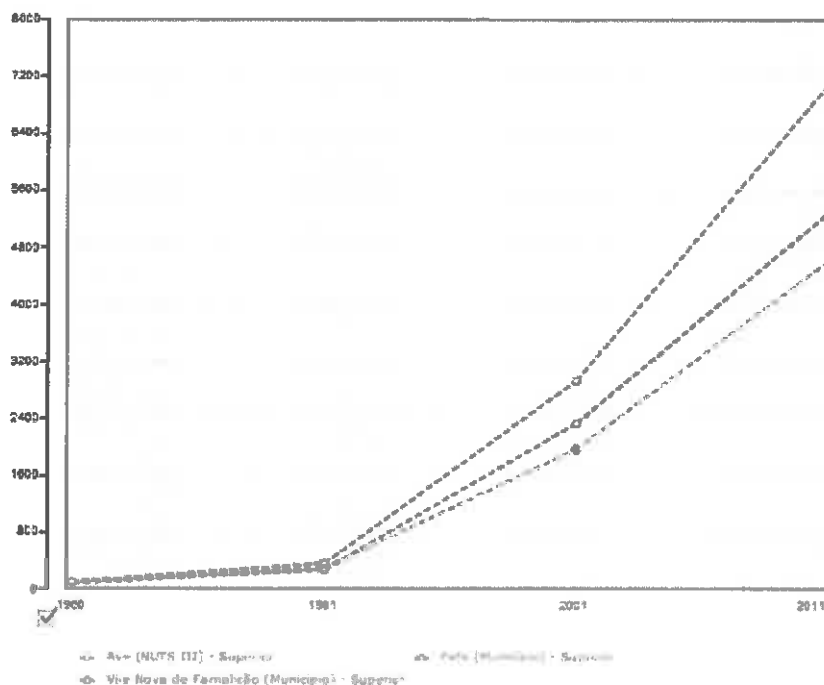


FIGURE 6 – Citizens with complete higher education (indexes, source: INE and POR-DATA)

Figure 7 show that the Ave's Valley region has one of the highest commuting attraction rates, with 5,5% to 7% of commuters coming into the region, relative to its population. However, Figure 8 shows that, simultaneously, the region is also one with the highest rates of outwards commuting, with 8% to 11,5% of outward commuting, relative to its population. Considering the entire population of the region, 511.737 inhabitants¹, it is safe to say that everyday roughly 32.000 commuters come into the region and 50.000 go outside. It's not a lesser issue.

¹ http://www.ine.pt/scripts/flex_definitivos/Main.html

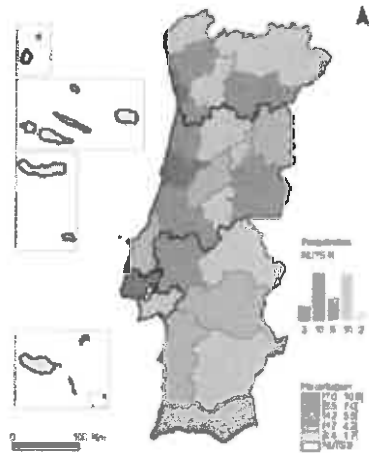


FIGURE 7 – Percentage of population that enters the region, relative to its inhabitants (Instituto Nacional de Estatística 2012, p.34)

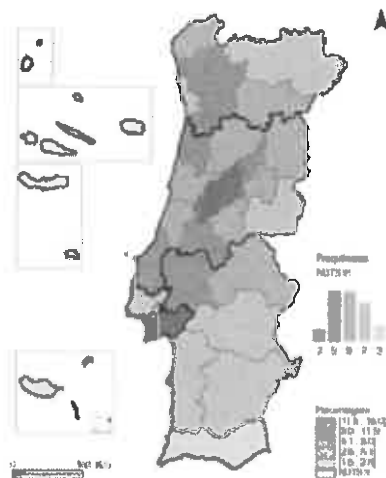


FIGURE 8 – Percentage of population that leaves the region, relative to its inhabitants (Instituto Nacional de Estatística 2012, p.34)

Figure 9 depicts the variation of car utilization in commuting trips. The Ave's Valley region has increased its car dependency by 18,8% to 21,1%, since the last census operation. In fact, the percentage of car utilization in commuting was, by 2011 and in the entire country, of 61.6%.

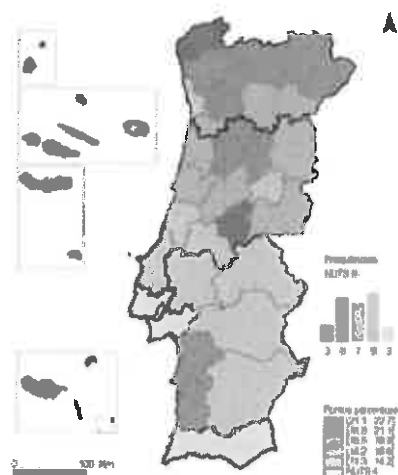


FIGURE 9 – Variation of car utilization in commuting (Instituto Nacional de Estatística 2012, p.36)

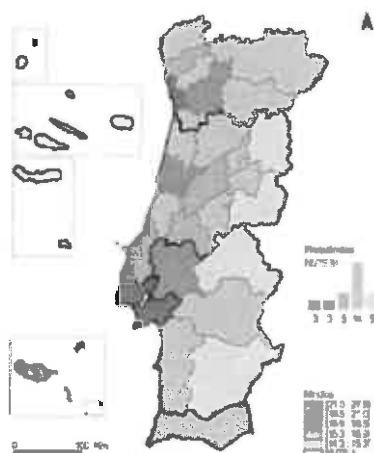


FIGURE 10 – Mean time of commuting (Instituto Nacional de Estatística 2012, p.37)

Table 1 presents the commuting indexes. The indicator reveals that, from 1981 to 2001, more and more people are commuting to work or school, both in Ave's Valley region and in Famalicão municipality.

Year	Commuting Index		
	1981	1991	2001
Ave	12,7	14,8	20,8
Guimarães	10,0	8,2	13,9
Famalicão	15,1	14,2	19,2
Santo Tirso	19,5	17,0	23,5

TABLE 1 – Commuting indexes for the active resident and employed population of the Ave's region and Guimarães's, Vila nova de Famalicão's and Santo Tirso's municipalities (1981-2001) (%) (translated and adapted from Pereira et al. 2012, p.89).



Table 2 shows commuting modalities for Famalicão's and Fafe's municipalities, for working and studying populations. The car has, by far, the highest share of users, especially in the working population group, reaching shares of 87% in the Famalicão's commuter subgroup that work outside their residential municipality. Collective transport and soft modalities like walking and biking have very small shares, despite the fact that walking has relevant shares when commuting is done inside the residential parish, reaching 44,6% with Fafe's working population. Regarding car commuting shares we can say that more than a half of the working population drives their car to work, meaning that car occupancy rates are very low, around 28% in both municipalities¹.

A curious fact is that studying populations don't seem to rely on soft modalities to commute. In effect, the majority of students of both municipalities doesn't walk or ride a bike to school, even when the school is in their home's parish², municipalities doesn't walk or ride a bike to school, even when the school is in their home's parish, which is the most common case, by far – only about a third seems to do that. Instead they prefer to use the car, as passengers, or the bus – perhaps accordingly to their parents will.

Collective transport shares are generally below expectations. Globally, just 15,1% to 19,6% (in Famalicão's and Fafe's municipalities, respectively) commute using the collective transport network. Particularly, in the case of the working population of both municipalities the use of collective transport is almost residual, with percentages of 6,1% to 9,1%, in Famalicão and Fafe, respectively. A curious detail is that Fafe's commuting by soft modalities or collective transport has generally higher shares than Famalicão's. In other words people in Fafe's municipality appear to make a lesser use of the car. This seems rather counter-intuitive since we expected that Famalicão's municipality, having more dense patches of urbanized territory and presumably higher population densities, would present lower shares of car commuting. Arguably, this fact could be related to the already addressed higher income per capita of Famalicão's population.

¹ Assuming that the average of seats per car is five.

² We are talking about relatively small areas/distances since both municipalities have a great number of parishes.



		Working and studying population										
		By foot	Car as driver	Car as passenger	Car	Bus	Company or school bus	Train	Collective transport	Motorbike	Bike	Other
Famalicão	Total	14,9	48,0	19,9	87,9	8,5	4,8	1,9	15,1	1,5	0,3	0,2
	In the residential parish	38,2	27,5	26,0	53,4	3,6	2,9	0,0	6,5	1,4	0,4	0,1
	In another parish of the residential municipality	6,9	53,3	19,1	72,4	12,5	6,5	0,5	19,5	1,8	0,3	0,2
	Outside residential municipality	1,5	65,4	13,3	78,7	7,0	3,9	7,2	18,1	1,1	0,1	0,3
Fafe	Total	18,5	42,9	17,4	80,3	10,6	8,8	0,2	19,6	1,4	0,1	0,2
	In the residential parish	41,4	28,0	18,8	46,7	2,2	8,5	0,0	10,7	1,0	0,1	0,1
	In another parish of the residential municipality	4,3	48,0	16,9	66,9	18,3	8,4	0,0	26,7	1,8	0,1	0,2
	Outside residential municipality	1,9	62,9	11,0	73,9	11,3	10,2	0,9	22,3	1,4	0,1	0,2
		Working population										
Famalicão	Total	14,5	87,8	8,9	76,6	2,5	2,4	1,2	6,1	2,2	0,4	0,2
	In the residential parish	42,0	45,8	6,9	52,8	0,9	1,5	0,0	2,4	2,3	0,6	0,1
	In another parish of the residential municipality	6,4	73,7	10,8	84,5	3,3	2,7	0,2	6,2	2,5	0,4	0,1
	Outside residential municipality	1,1	79,6	7,3	87,0	2,8	3,0	4,2	10,0	1,4	0,1	0,3
Fafe	Total	18,4	61,3	8,8	70,1	3,4	5,5	0,2	9,1	2,1	0,1	0,2
	In the residential parish	44,8	44,2	6,3	50,5	0,8	2,3	0,0	3,1	1,5	0,1	0,2
	In another parish of the residential municipality	5,0	71,6	11,1	82,7	4,5	4,7	0,0	9,2	2,8	0,1	0,1
	Outside residential municipality	1,0	70,0	8,5	78,5	5,5	12,0	0,7	18,4	1,7	0,0	0,1
		Retirees population										
Famalicão	Total	15,9	7,0	42,9	49,9	20,8	9,7	3,3	33,8	0,1	0,0	0,2
	In the residential parish	33,1	2,6	51,9	54,5	7,3	4,8	0,0	12,2	0,1	0,0	0,1
	In another parish of the residential municipality	4,7	6,2	36,5	44,7	33,8	15,3	1,2	50,1	0,1	0,1	0,3
	Outside residential municipality	2,8	19,7	32,4	52,1	20,2	6,9	16,9	44,1	0,2	0,0	0,3
Fafe	Total	18,7	8,2	34,5	40,8	24,8	15,3	0,2	40,4	0,1	0,0	0,2
	In the residential parish	36,6	2,5	38,3	40,7	4,3	18,2	0,0	22,5	0,1	0,0	0,1
	In another parish of the residential municipality	3,1	4,1	33,5	37,8	43,8	15,4	0,0	59,2	0,0	0,0	0,2
	Outside residential municipality	5,9	31,2	22,0	53,2	36,4	2,1	1,5	40,0	0,0	0,2	0,3

TABLE 2 – Commuting modalities for Famalicão and Fafe (% of commuters) (Instituto Nacional de Estatística, 2012. Censos 2011 , Quadro 6.42 - População residente que trabalha ou está a estudar e que vive a maior parte do ano no alojamento, por local de trabalho ou estudo, segundo o principal meio de transporte utilizado para o local de trabalho ou estudo, a utilização de segundo meio de transporte para o local de trabalho ou estudo e condição perante o trabalho)

Commuting times for both Famalicão's and Fafe's municipalities are referred to on Table 3. We can clearly note that the majority of the population, nearly two thirds in both municipalities, commute within 15 minutes and bit less than a third in 16 to 30 minutes.

		Working and studying population				
	Commuting modality	Until 15 minutes	From 16 to 30 minutes	From 31 to 60 minutes	From 61 to 90 minutes	More than 90 minutes
Famalicão	Total	63,8	27,2	7,4	0,9	0,6
	In the parish were's living	91,7	7,6	0,6	0,1	0,0
	In another parish from the municipality were's living	63,7	33,2	2,8	0,2	0,1
	Outside residential municipality	64,7	31,9	2,8	0,4	0,2
Fafe	Total	66,1	25,2	6,2	1,4	1,1
	In the parish were's living	89,5	9,4	0,9	0,1	0,1
	In another parish from the municipality were's living	64,7	31,9	2,8	0,4	0,2
	Outside residential municipality	64,7	31,9	2,8	0,4	0,2

TABLE 3 – Commuting times for Famalicão and Fafe (% of commuters) (Instituto Nacional de Estatística, 2012. Censos 2011 , Quadro 6.43 - População residente que trabalha ou está a estudar e que vive a maior parte do ano no alojamento, por local de trabalho ou estudo, segundo o tempo gasto no trajeto para o local de trabalho ou estudo, e condição perante o trabalho)



Figure 11 and Figure 12 display boxplots for the distribution of road's and bus stop's angular choice and angular integration measures for two municipalities of the Ave's Valley region: Famalicão e Fafe - the first more urbanized and the latter showing less urban pressure¹.

Regarding road network geometry, differences in the distribution of global road angular choice and integration measures set those to municipalities apart. We can clearly see that Famalicão's has both global angular choice and angular integration measures values much higher than Fafe's, meaning that Famalicão's road network play a much more central role in the region's road network than Fafe's. In other words, Famalicão's road network is both more accessible – superficial in the network – and more chosen to cross than Fafe's. This affects the relative development of both municipalities thru a feedback process since economic agents will try to locate themselves in places with higher values of these measures, being followed by residents. This process implies densification of the network, which, in turn, increases those space syntax values, starting the 'cycle' all over again in a self-reinforcing process.

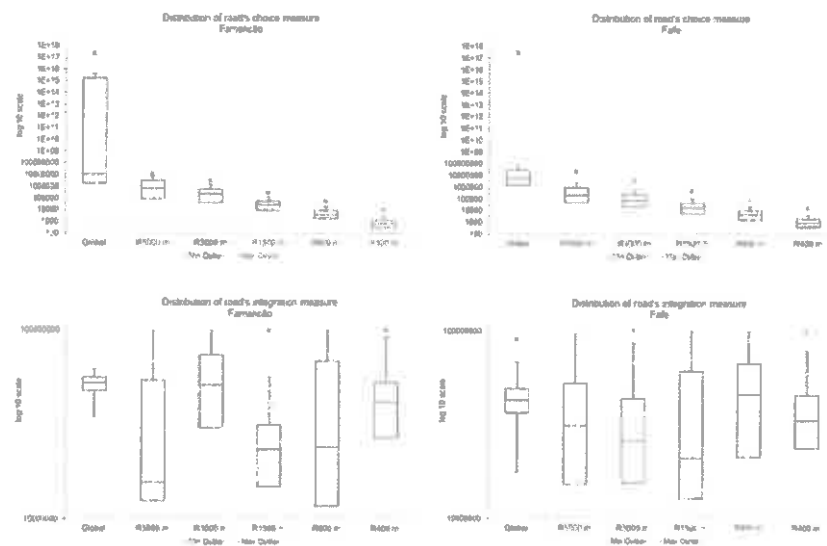


FIGURE 11 - Distribution of road's angular choice and angular integration measures for Famalicão and Fafe

On the other extreme of the spectrum, at the local scale, we can also identify some differences. Regarding angular integration at 800, and 1500 metres radius we can see that Fafe's road network presents higher values than Famalicão's. Overall this means that Fafe's road network is more accessible at those radiuses meaning that pedestrianization and bicycle strategies may be efficient ways of improving local mobility in that municipality. On the other hand, Famalicão's road network appears to be more suitable to strictly pedestrianization strategies since it presents a slightly higher value of integration at 400 meter radius. But, of course, that doesn't mean that bicycle strategies aren't welcome in

¹ See Figure 1.



improving local mobility.

Figure 12 presents the same information of Figure 11 but strictly of road segments where there are bus stops. Here, differences are particularly striking between the two municipalities. It is clear that bus stops in Fafe are located in road segments that have higher global angular choice and higher angular integration at all radiuses, meaning that Fafe's bus network is less pervasive than Famalicão's. In other words, buses are less accessible to Fafe's citizens than they are to Famalicão's. This fact, presents itself, then, as a clear case of bus accessibility inequality within the same region. Still, as already referred, collective transport commuting has higher share values in Fafe's rather than Famalicão's municipality.

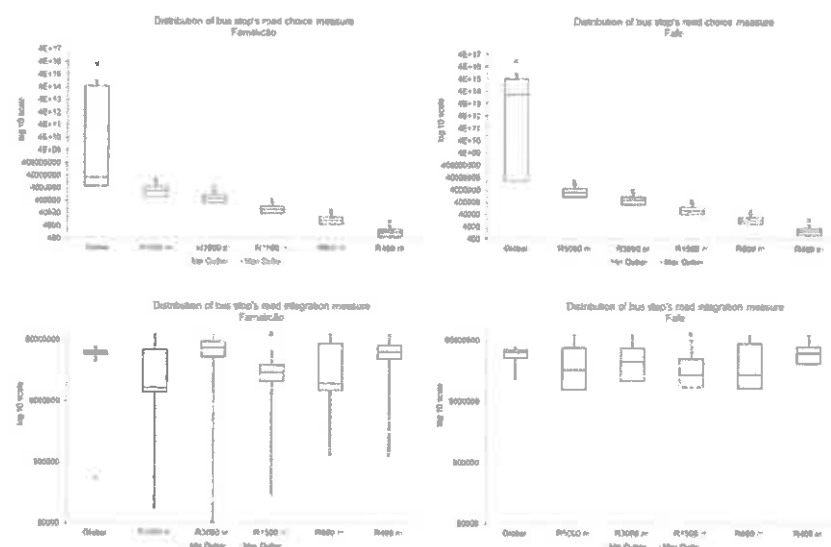


FIGURE 12 - Distribution of bus stop's angular choice and angular integration measures for Famalicão and Fafe



Reurbanization strategy: nucleation as a business model and increased mobility, transport inter-modality, walkability and adapted land use management as tactics.

Urban management, like all management, requires the definition of “contingent plans of action” usually referred to as strategies (Casadesus-Masanell & Ricart 2010, p.203). Contingency means that the strategy has to be suited for each urban case: in planning one size doesn’t fit all. For an urban reality which is already built and that is characterized by a surplus of built area we find it useful to consider reurbanization as a significant part of the strategy suitable for the Ave’s Valley case. Furthermore, issues like resilient thinking (Lourido 2013), social capital development and economic (namely the do more with less general guideline) and equity considerations (among others, eventually) must also be part of the strategy for urban management.

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Defining strategy, however, is not enough¹. “Strategy is a high-order choice” that has deep implications on the way we do business (ibid.), however it is not the way we do it. In other words, strategy is the set of guidelines for the way to operate but is not the way we operate: that is defined by the business model. We do business by means of a business model: “the logic of the firm, the way it operates and how it creates value for its stakeholders” (Baden-Fuller, MacMillan, Demil and Lecocq cit. ibid., p.197).

“Choosing a particular business model means choosing a particular way to compete, a particular logic of the firm, a particular way to operate and to create value for the firm’s stakeholders” (ibid., p.203).

The diffuse character of the Ave’s Valley built environment forces the choice of nucleation as the “business model” to adopt for now on. It is crucial that we bring cityness closer to those most deprived of it, both by

¹ “A strategy is a contingent plan of action as to what business model to use. The firm’s available actions for strategy are choices (of policies, assets or governance structures) that constitute the raw material of business models. Thus, strategy entails designing business models (and redesigning them as contingencies occur) to allow the organization to reach its goals. Business models are reflections of the realized strategy. In the same way (but at a lower, more detailed scale) tactics are also plans of action, which take place within the bounds drawn by the firm’s business model.” (Casadesus-Masanell & Ricart 2010, p.204)



distance and by income. However, to do that, we have also to acknowledge that we can't create enough critical mass – population wise – in order to develop active and lively nucleuses, in great numbers across the whole built environment. Thus, adopting smart tactics to implement the business model, accordingly to the strategy, is essential.

Distance-time to nucleuses by means of soft modalities or public transport is, thus, a critical indicator to use in the nucleation development. Considering that different locations will always be intrinsically unequal, the definition of nucleuses and attraction basins associated to them, based on distance-time measures, have thus to follow equity judgements.

In Bill Hillier's words, space syntax theory is in two parts: "on the one hand, a theory of how the spatial form of cities is shaped by spatial laws linking the emergence of characteristically urban space patterns to cognitive as well as to social and economic factors; on the other, a theory of how the emergent patterns of space shape movement, and through this shape land use patterns, leading through feedback and multiplier effects, to the generic form of the city as a foreground network of linked centres at all scales set into a background network of largely residential space" (2007, p.vi).

At "a sufficiently localised scale space works in a metric way, perhaps reflecting the scale up to which people can make reasonably accurate judgement about distance in complex spaces, so an account of the metric properties of space is necessary to a functionally sensitive and predictive analysis of space at this level. But at the non-local level, it seems that the functionality of space reflects people's use of a geometrical picture of the network connectivity rather than a metric picture in navigating the urban grid, and at this scale introducing metric weighting into the measures is positively misleading" (Hillier 2007, p.vii).

Read (2005, pp.341–342) critically argues that space syntax, "in its ambition, is a way to the understanding of the complex effects, on the horizontally distributed social body of the city, of its physical infrastructural movement networks. But as a way into a movement network dynamics and to the horizontal modulations effected in the urban-social field by these dynamics, it has two obvious weak features; one is its tendency to treat the urban object as a thing bounded by the limits of the densely built fabric of the centre; the other, to treat all movement spaces equally when it is quite clear that different classes of physical space in the fabric of the city perform quite differently at the levels of urban speed and function and at the level of the human experience of space and time." (...) "There is a tendency therefore, I believe, in space syntax today, also to over-localise the question of the emergence of centrality in cities, to miss and to misunderstand some of the effects of highly dis-



tributed network infrastructures on contemporary urban centrality, and indeed to think rather too statically and rather too locally when dealing at a conceptual level with the highly dynamic, and highly distributed, phenomenon of the contemporary city. The net result of all this is, I believe, that space syntax is not fulfilling its potential as a manner of thinking the dynamical forms of the contemporary city. It is not as useful as it could be in guiding creative and design thinking about the forms and problems of contemporary urban life and about possible urban futures”.

This paper constitutes a first attempt to do exactly that: fulfil the space syntax potential “as a manner of thinking the dynamical forms of the contemporary city”, (...) “guiding creative and design thinking about the forms and problems of contemporary urban life and about possible urban futures” (ibid.).

Hillier (2009, pp.9–15) and Chiaradia (2009) showed that space syntax variables – integration and choice – are strongly related with economic dynamics of the city. “Centres in effect exploit and develop spatial potentials for both to-movement [integration] and through-movement [choice] already inherent in the urban grid, and do so across scales. These spatial factors are not simply a matter of metric distance, although they are also this locally, but have to do with the ways in which space is configured geometrically and syntactically to create patterns of movement. We could think of these multi-scale properties of centres as embeddedness. Centres are attractors in the urban grid, but if a centre is an embedded attractor, it will have additional potentials to act as an economic focus in its area” (Hillier 2009, p.13). Choice, in particular, seems to relate deeply with centrality and its pervasiveness.

Figure 13 represents the distribution of global angular choice measures across the Famalicão’s road network. Since choice variable correlates strongly and positively with through-movement we can clearly identify a foreground network with higher values for choice variable (segments in red), associated with higher movement, and a background network.



FIGURE 13 – Famalicão's road network angular choice global

As we diminish the radii of the analysis (Figure 14, Figure 15, Figure 16) we observe two things: segments that have higher global relevance generally lose their relevance at smaller scales and local through-movement centres start to emerge.



FIGURE 14– Famalicão's road network angular choice with radius of 1500 meters



FIGURE 15– Famalicão's road network angular choice with radius of 800 meters



FIGURE 16– Famalicão's road network angular choice with radius of 400 meters

We argue that the identification of local centralities, based on network geometry, is a tactic that could serve to guide the development and implementation of a nucleation process. The association of the latter with placemaking tactics could better exploit the network's embedded movement potential, creating more dynamic, lively and economical sustainable places.



Conclusion.

In this paper we've made a first attempt to tackle the "difficult areas" of the Ave's Valley region, acknowledging the lack of public economic funds.

Recognizing planning's problem with uncertainty, we identified material, immaterial, slow and fast urban perennities on which we can base territorial and urban intervention, in particular reurbanization, in a way that increases stakeholder's confidence in planning proposal's accomplishment.

We have identified some "sustainability problems" such as inequalities in income and collective transport accessibility within the region that could be leading to processes of exclusion, segregation and filtering down. The focus on collective transport issues is decisive: it has been recognized that sprawl may be playing a negative role with respect to social mobility (Krugman 2013). Car-less functioning families seem better prepared to face the economic challenges that are expected (ibid.).

The differentiation between development's strategy, business model and tactics seems essential to understand how to implement the devised "project of the city". Implementing the nucleation "business model", thru placemaking and taking advantage of the already existing embedded movement potential of the road network, appears to be the set of tactics with the best investment-return ratio. Thru the implementation of the nucleation process, and generally speaking, we expect that local cityness, urbanity and economic sustainability are reinforced and commuting is decreased, augmenting productivity, leisure time and quality of life for the affected populations.

Further investigations have, of course, to be made. Developing more the strategy, business model and tactics of the nucleation process and deep understanding of the inter-relations between these three elements is crucial for its successful implementation.



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