

GENERAL DATA			1981	1991	2001	2006	2011
1	Location - latitude (°N) and altitude (m)	°N, m	41° 09' , 97 m				
2	Climate - temperature (°C), Humidity (%), Annual Rainfall (mm) ¹	°C, %, mm	Max= 19,9°; Min= 9,9°; Relative humidity 75% to 80%; Annual rainfall = 1265mm				
3	Resident Population				1,260,680		
4	Employment				614.800 ²		
5	Overall city / metropolitan surface	km ²			814,70		
6	Urban area ²	km ²			see attached pdf 474,50		
7	Green-blue structures (non urban areas) ³	km ²			see attached pdf 356 ³		
8	Gross population density	inhab/km ²			see attached pdf 1550 ⁴		
9	Gross employment density	workplace/km ²			see attached pdf 755 ⁵		
10	GDP per capita	€/inhab			12.640 ⁶		
BUILDING STOCK			1981	1991	2001	2006	2011
11	Dwellings per 1000 inhabitants				541 ⁷		
12	Average age of the total stock	years			37 ⁸		
13	New construction ⁴	m ² /inhab x year			1,20 ⁹		
14	Rehabilitation ⁵	m ² /inhab x year			0,017 ¹⁰		
15	Building functions ⁶				10,37 ¹¹		
16	Building high ⁷	average no. of floors			2 ¹²		
17	Housing types ⁸				3,40 ¹³		
LAND USE AND URBAN FORM			1981	1991	2001	2006	2011
18	Geometric shape		Complex star shape made of the superimposition of a polycentric urban structure complemented by a number of linear structures co-existing with a traditional pattern of rural dispersion.				
19	Mono or polycentric structure		Polycentric structure				
20	Map of population density				see attached pdf		
21	Map of employment density				see attached pdf		
22	Concentration of employment in the city centre (CBD) ⁹	%			21,1 ¹⁴		
23	Residential dispersion index ¹⁰				1.33		
24	Public green areas ¹¹	km ²					
25	Street density in the urban area	km/km ²			12 ¹⁵		
TRANSPORT SYSTEMS			1981	1991	2001	2006	2011
26	Cars per 1000 inhabitants				355 ¹⁶		
27	Provision of public transport	1000 seat x km/km ²					
28	Trunk road length per capita	km/inhab			0,20 ¹⁷		
29	Street network length per capita	m/inhab			5,22 ¹⁸		
30	Modal split ¹²	%			52% - Private transport; 20% - Public transport; 19% - Walking; 1% - Others		
31	Parking spaces per 1000 city centre jobs				12,0		
32	Density of segregated transit routes ¹³	km/km ²			0,23 ¹⁹		
33	Public vs private infrastructure provision ¹⁴				0,74 ²⁰		
RESOURCE CONSUMPTION			1981	1991	2001	2006	2011
34	Urban area per capita	m ² /inhab			384 ²¹		
35	Residential floor space per capita	m ² /inhab			28 ²²		
36	Energy use in buildings per capita	kwh/inhab x year			1.250 ²³	??	
37	Energy use in transports per capita	kwh/inhab x year			2888 ²⁴	??	
38	Energy use in public transport per capita						
39	Energy use in private transport per capita						
PERFORMANCE INDICATORS			1981	1991	2001	2006	2011
40	CO ₂ emissions per capita	kg/inhab x year			5.206 ²⁵		
41	CO ₂ emissions per workplace	kg/workplace x year			10,676		
42	CO ₂ emissions per urban km ²	ton/km ²			176,41		
43	CO ₂ emissions per city km ²	ton/km ²			18,425		
44	CO ₂ emissions per residential floor space	kg/m ²			0,14		
45	CO ₂ emissions per GDP	gr/€			0,32		

¹ - Mean anual values

² - Urban areas include all areas within city boundaries with gross population densities above 250 inhab/km²

³ - Agricultural and forest lands as well as (non formalized) natural areas, located within city boundaries

⁴ - Anual production of new floor space per inhabitant

⁵ - Anual production of rehabilitated floor space per inhabitant

⁶ - Ratio of (exclusively) residential vs mixed and non residential buildings

⁷ - Average number of floors above ground in the whole city

⁸ - Ratio of dwellings in unifamily houses vs dwellings in multifamily houses

⁹ - Percentage of workplaces in the city centre on the total for the whole city

¹⁰ - This index is defined as the residents' average distance to the urban centre divided by the average distance they would have had if they were evenly distributed all over the urban area (equivalent to the concentration index of Naess et al, 1996)

¹¹ - Includes all formalized green areas such as squares, parks and urban green corridors

¹² - Percentages of the total journeys carried out by public, private and non motorised transport modes

¹³ - Total length of segregated routes occupied by bus, light metro, conventional metro and rail lines divided by the total surface of the urban area

¹⁴ - Ratio of the total length of segregated public transport routes (all modes) by the total length of urban trunk roads (network of urban motorways and fast carriageways) (adapted from Kenworthy & Laube, 2004)

^a - 2004 values, adjusted with the active resident population

^b - Ecological and Agricultural Reserves (REN & RAN) plus non classified forestry areas

^c - Gross population density = 1.260.680inhab/814,70km²

^d - Gross workplace density = 614.800workplaces/814,70km²

^e - GDP per capita = 15.934,5M€ (Eurostat - 2004)/1.260.680

^f - Dwellings per 1000 inhabitants = 264.744/1.000

^g - 50% of buildings built after 1970.

^h - Figures for 2004.

ⁱ - idem

^j - Building functions = 241.450/23.294

^k - Building high = (no. of floors x no. Of building units)/ total no. of buiding units)

^l - Housing types = 204.621/60.123

^m - Percentage of jobs in the city center. In this context the demarcation of the city center is coincidental with the limits of the ACRRU (Área Crítica de Reabilitação e de Reconversão Urbanística)

ⁿ - Street density in the urban area = 5.723,80/474,50

^o - 2000 values.

^p - Trunk road length per capita = 185,32/1.260.680

^q - Street network length per capita = 6.590,35/1.260.680

^r - Density of segregated transit routes = 185,32/814,70

^s - Public vs private infrastructure provision = 185,32/249.283,48

^t - Urban area per capita = 474,50/1.260.680

^u - Figures to 2004.

^v - Estimated values.

^w - Estimated values

^x - Monteiro, A.; Borrego, C.; Tchepel, O.; Santos, P. e Miranda, A. (2001). Inventário de emissões atmosféricas - base de dados Polar2. In actas da 7ª Conferência Nacional sobre a Qualidade do Ambiente, 18-20 Abril, Aveiro, Portugal, pp. 954-958