

# Supplementary data

**Table S1.** List of the 24 parishes that currently comprise the city of Lisbon, and the changes that occurred in relation to 2010 (in 2010 there were 53 parishes). During this period, there was a reorganization of the parishes under the Municipal Master Plan [1]. The parishes that did not change during this period are shaded in grey.

2020		2010
01	Ajuda	=
02	Alcântara	=
03	Alvalade	Alvalade + Campo Grande +São João de Brito
04	Areeiro	Alto do Pina + São João de Deus
05	Arroios	Anjos + Pena + São Jorge de Arroios
06	Avenidas Novas	Nossa Senhora de Fátima + São Sebastião de Pedreira
07	Beato	=
08	Belém	Santa Maria de Belém + São Francisco Xavier
09	Benfica	=
10	Campo de Ourique	Santa Isabel + Santo Condestável
11	Campolide	=
12	Carnide	=
13	Estrela	Lapa + Prazeres + Santos-o-Velho
14	Lumiar	=
15	Marvila	=
16	Misericórdia	Encarnação + Mercês + Santa Catarina + São Paulo
17	Olivais	Santa Maria dos Olivais
18	Parque das Nações	Santa Maria dos Olivais
19	Penha de França	Penha de França + São João
20	Santa Clara	Ameixoeira + Charneca
21	Santa Maria Maior	Castelo + Madalena + Mártires + Sacramento +Santa Justa + Santiago + Santo Estêvão + São Cristóvão e São Lourenço + São Miguel + São Nicolau + Sé + Socorro
22	Santo António	Coração de Jesus + São José + São Mamede
23	São Domingos de Benfica	=
24	São Vicente	Graça + Santa Engrácia + São Vicente de Fora

**Table S2.** Characterization of the parishes that comprise the city of Lisbon in 2010 and 2020. Each parish was characterized in terms of total area, public green areas (PGA) and % of PGA, number of residents, and PGA per resident. The city was further characterized in terms of street trees (ST) area.

2010						2020					
Parish	Area (m <sup>2</sup> )	PGA (m <sup>2</sup> )	Residents (#)	% of PGA	PGA per resident (m <sup>2</sup> pers <sup>-1</sup> )	Parish	Área (m <sup>2</sup> )	PGA (m <sup>2</sup> )	Residents (#)	% of PGA	PGA per resident (m <sup>2</sup> pers <sup>-1</sup> )
Ajuda	2 850 839	1 366 921	15 584	47.9	87.7	Ajuda	2 876 647	1014800	15 620	35.3	65.0
Alcântara	4 414 985	164 098	13 943	3.7	11.8	Alcântara	5 074 844	100 000	13 943	2.0	7.2
Alto do Pina	838 744	52 567	10 333	6.3	5.1	Alvalade	5 341 751	234 800	31 813	4.4	7.4
Alvalade	594 389	130 502	8 869	22.0	14.7	Areeiro	1 719 002	94 500	20 131	5.5	4.7
Ameixoeira	1 617 231	226 313	11 863	14.0	19.1	Arroios	2 127 872	36 500	31 654	1.7	1.2
Anjos	488 381	10 404	9 361	2.1	1.1	Avenidas Novas	2 994 533	404 300	21 625	13.5	18.7
Beato	1 621 964	34 731	12 429	2.1	2.8	Beato	2 483 775	40 000	12 737	1.6	3.1
Benfica	7 930 372	592 701	36 821	7.5	16.1	Belém	10 426 949	232 800	16 528	2.2	14.1
Campo Grande	2 456 736	110 734	10 514	4.5	10.5	Benfica	8 024 545	208 100	36 985	2.6	5.6
Campolide	2 793 635	69 064	15 460	2.5	4.5	Campo de Ourique	1 651 405	8 200	22 120	0.5	0.4
Carnide	4 081 246	24 208	23 316	0.6	1.0	Campolide	2 774 373	66 000	15 460	2.4	4.3
Castelo	55 125	30 171	355	54.7	85.0	Carnide	3 688 827	24 900	19 218	0.7	1.3
Charneca	1 708 755	15 056	9 935	0.9	1.5	Estrela	4 604 096	145 000	20 128	3.2	7.2
Coração de Jesus	557 668	2 808	3 689	0.5	0.8	Lumiar	6 574 931	276 200	45 605	4.2	6.1
Encarnação	188 959	7 041	2 252	3.7	3.1	Marvila	7 122 522	940 000	37 793	13.2	24.9
Graça	349 523	13 939	5 787	4.0	2.4	Misericórdia	2 192 199	11 600	13 044	0.5	0.9

Lapa	740 253	54 410	8 000	7.4	6.8	Olivais	8 088 294	153 000	33 788	1.9	4.5
Lumiar	6 109 910	593 502	41 163	9.7	14.4	Parque das Nações	5 435 124	970 000	21 025	17.9	46.1
Madalena	115 659	1 572	393	1.4	4.0	Penha de França	2 710 761	21 000	27 967	0.8	0.8
Mártires	99 539	1 521	372	1.5	4.1	Santa Clara	3 355 563	248 000	22 480	7.4	11.0
Marvila	6 286 782	599 439	38 102	9.5	15.7	Santa Maria Maior	3 011 592	30 000	12 822	1.0	2.3
Mercês	268 397	11 300	4 345	4.2	2.6	Santo António	1 494 349	68 000	11 836	4.6	5.7
Nossa Senhora de Fátima	1 905 126	140 669	15 283	7.4	9.2	São Domingos de Benfica	4 294 403	368 000	33 043	8.6	11.1
Pena	500 034	1 300	4 486	0.3	0.3	São Vicente	1 985 856	17 000	15 339	0.9	1.1
Penha de França	682 770	6 280	12 780	0.9	0.5						
Prazeres	1 440 961	3 538	8 096	0.2	0.4						
Sacramento	85 236	7 461	742	8.8	10.1						
Santa Catarina	213 279	778	3 716	0.4	0.2						
Santa Engrácia	550 847	3 433	5 249	0.6	0.7						
Santa Isabel	626 109	87 152	6 875	13.9	12.7						
Santa Justa	246 256	1 321	891	0.5	1.5						
Santa Maria de Belém	3 317 154	167 731	8 541	5.1	19.6						
Santa Maria dos Olivais	10 943 275	137 988	51 036	1.3	2.7						
Santiago	64 886	4 200	619	6.5	6.8						
Santo Condestável	1 026 525	3 869	15 257	0.4	0.3						
Santo Estêvão	230 840	1 472	1 511	0.6	1.0						
Santos-o-Velho	530 218	3 067	4 020	0.6	0.8						

São Cristóvão e São Lourenço	77 965	1 572	1 341	2.0	1.2				
São Domingos de Benfica	4 300 372	626 603	33 745	14.6	18.6				
São Francisco Xavier	2 298 503	34 946	8 020	1.5	4.4				
São João	1 506 196	30 870	15 187	2.0	2.0				
São João de Brito	2 276 740	36 293	11 727	1.6	3.1				
São João de Deus	924 708	4 452	9 798	0.5	0.5				
São Jorge de Arroios	1 158 137	1 696	18 415	0.1	0.1				
São José	329 574	56 342	2 746	17.1	20.5				
São Mamede	614 160	3 054	5 420	0.5	0.6				
São Miguel	51 609	13 768	1 531	26.7	9.0				
São Nicolau	263 311	1 032	1 231	0.4	0.8				
São Paulo	436 927	3 959	2 728	0.9	1.5				
São Sebastião da Pedreira	1 084 510	288 612	6 342	26.6	45.5				
São Vicente de Fora	315 956	1 337	3 539	0.4	0.4				
Sé	104 470	11 821	910	11.3	13.0				
Socorro	110 858	2 690	3 065	2.4	0.9				
Lisbon's:	84 386 601		547 733			100 054 212		552 704	
PGA		5 802 309		6.9	10.6		5 712 700	5.7	10.3
ST		14 177 811		23.7	36.5		4 797 800	10.5	19.0

**Table S3.** Changes over 2010 and 2020 in parishes' % of UGI. The right-most column shows the variation between 2010 and 2020 (please see materials and methods). Shading colours reflect whether the value is above or below the respective minimum recommended value: values < 5% are low (red), values between 5-30% are considered intermediate (orange) and > 30% are considered high (green).

Parish	% of UGI (2010)	% of UGI (2020)	Changes in the % of UGI ( $\Delta$ 2020- 2010)
Ajuda	52.7	52.5	0 %
Alcântara	57.2	61.4	↑ 7%
Alvalade	36.2	34.9	↓ 4%
Areeiro	20.6	20.6	0%
Arroios	68.2	67.9	0%
Avenidas Novas	47.4	51.5	↑ 9%
Beato	6.5	6.5	0%
Belém	21.6	19.4	↓ 10%
Benfica	72.7	74.4	↑ 2%
Campo de Ourique	23.4	23.3	0%
Campolide	33.7	37.0	↑ 10%
Carnide	52.4	51.4	↓ 2%
Estrela	7.0	8.4	↑ 20%
Lumiar	37.8	37.1	↓ 2%
Marvila	33.0	32.0	↓ 3%
Misericórdia	2.9	2.9	0%
Olivais	36.3	33.8	↓ 7%
Parque das Nações	18.4	49.6	↑ 170%
Penha de França	16.6	19.0	↑ 14%
Santa Clara	24.0	23.0	↓ 4%
Santa Maria Maior	3.2	3.2	0%
Santo António	17.3	12.6	↓ 25%
São Domingos de Benfica	5.3	4.5	↓ 15%
São Vicente	8.1	8.1	0%

## References

- 1 CML, 2012. Plano Diretor Municipal de Lisboa, Lisboa.