may'18

door-to-door transport in **Lisbon**
from **technical** to **human** dimension

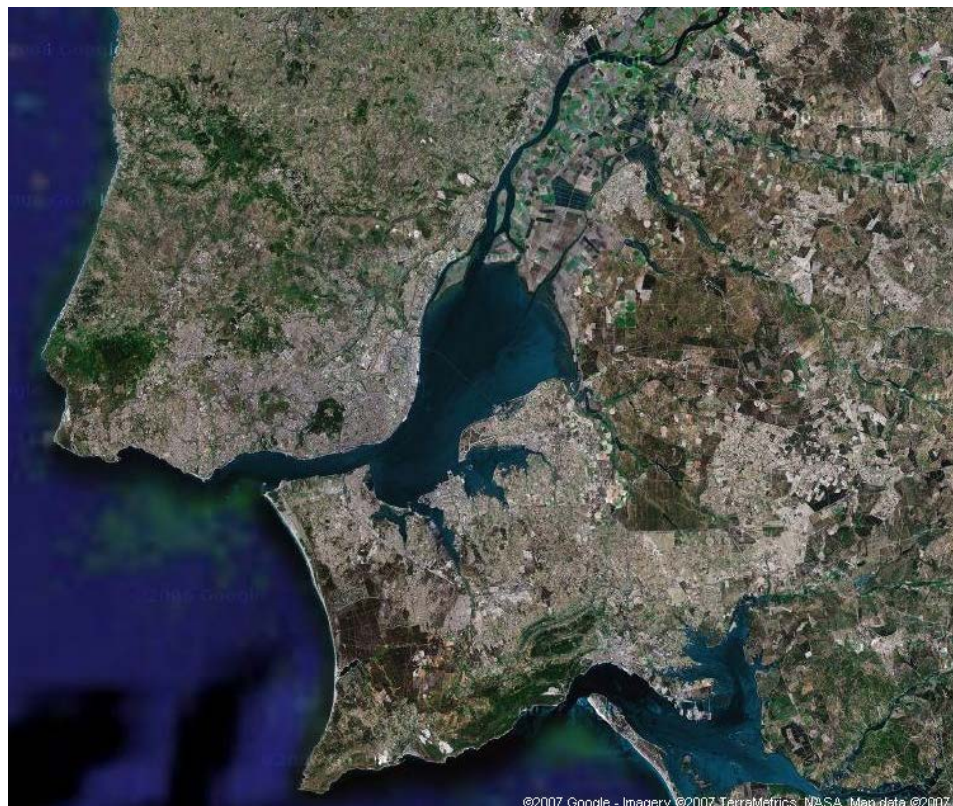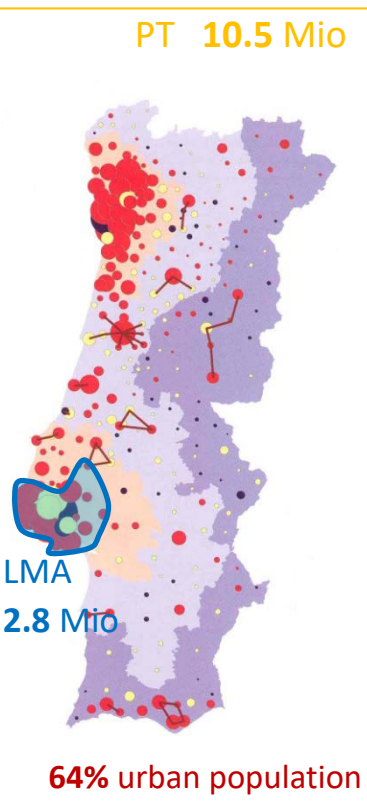Renata Lajas | Urban Planner & Transport Engineer

.outline

_context
_social exclusion
_door-to-door transport

.context

Lisbon Metropolitan Area

PT **10.5** Mio

LMA

2.8 Mio

64% urban population

consolidated
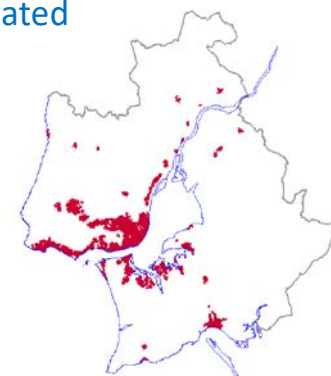
fragmented
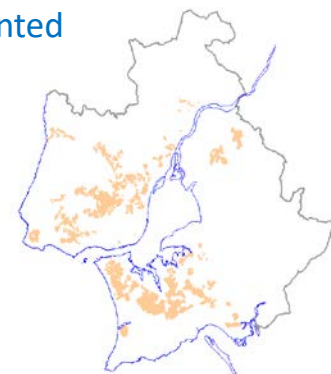
Demographic evolution in LMA (*10^3)

	Lisbon	LMA without Lisbon
1981	808	1.694
2001	565	1.877
2011	545	2.255
	-32%	+ 33%

- **18** Municipalities - **2.8 Million** inhabitants
- **30%** of National enterprises and **36% PT GDP**
- LMA **functional dependence of employment** with Lisbon
- **Urban fragmentation** & **high depence on car**

Lisbon City

Buildings

Population

Traffic

Noise
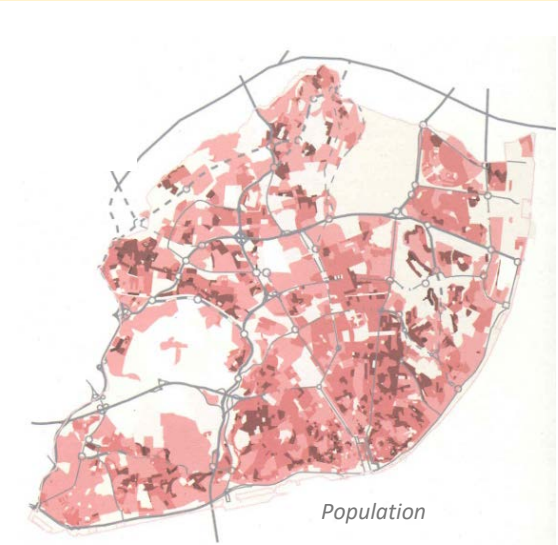
- Population   545.000
- Employment   595.242
             (43% of LMA)
- Univ. Students   130.000
- Motoriz. rate   300
- Commuters   ≈ 450.000
- Pop. Density   ≈ 5.165/km^2
- GDP/capita   26.900 €
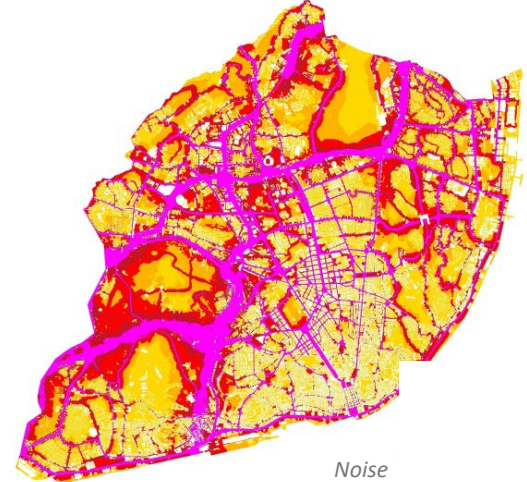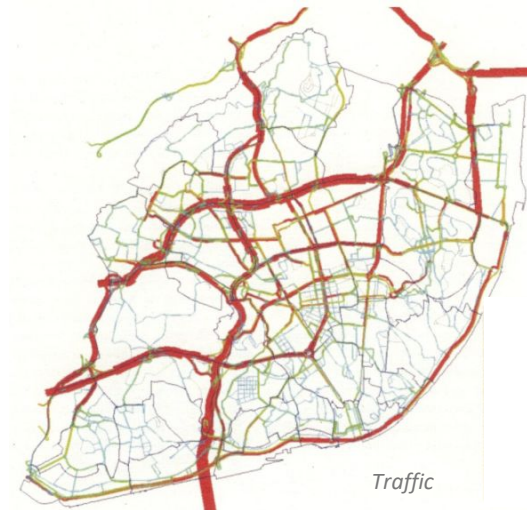
Public Transport network of Lisbon

Estações de Metro
- Linha Amarela
- Linha Verde
- Linha Azul
- Linha Vermelha

Rede Metro
- Linha Amarela
- Linha Verde
- LInha Azul
- Linha Vermelha
- ● Estações Ferroviárias
- Rede Ferroviária
- Rede de Eléctrico
- Rede Carris

CÂMARA MUNICIPAL DE LISBOA

DMMT/DPMT

Mobilidade e Transportes

LISBOA
CÂMARA MUNICIPAL

Data: 9 de fevereiro de 2017

Fonte da informação: Lisboa Interactiva, 2016

Sistema de referência: Hayford-Gauss, Datum 73

1:65.000

Modal share

	Car	PT	Foot
Lisbon (91)	29	49	22
Lisbon (01)	40	38	19
Lisbon (11)	54	28	16
LMA - Lisbon (01)	41	59	*(0,2)*
LMA - Lisbon (11)	56	27	*15*

Metro & Bus territory coverage

100%
75%
51%
25%
0%
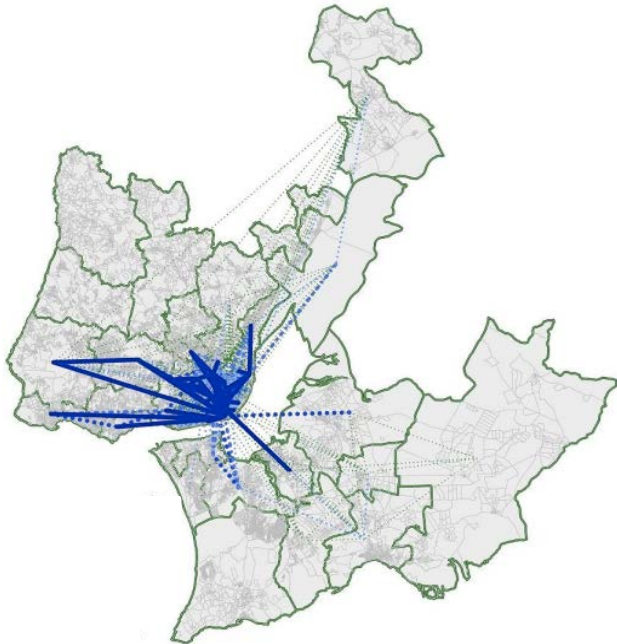
PT Origin/Destination Trips in LMA (2013)
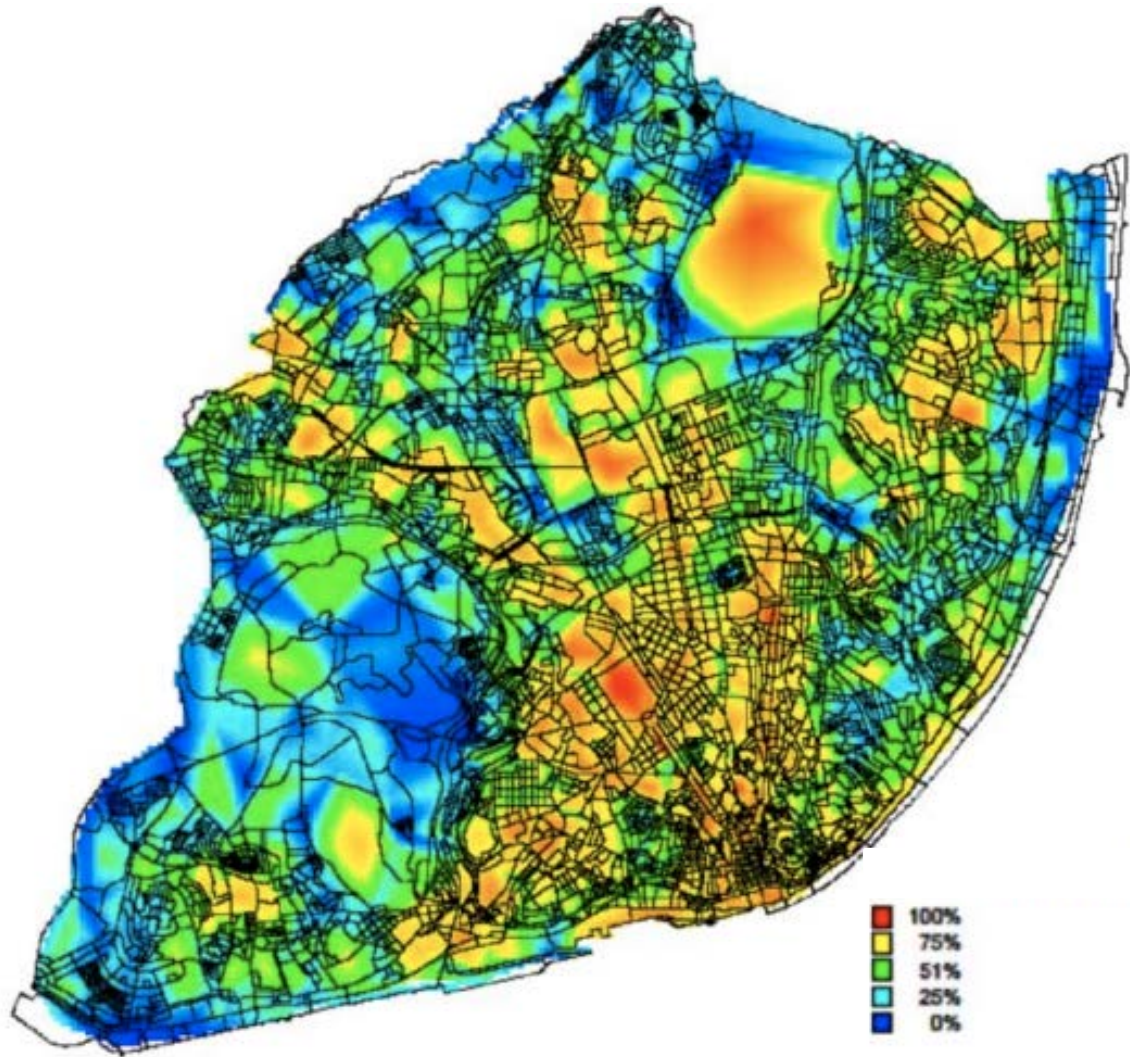
Lisbon **Metro** – **135 Million** passengers (2014)

Lisbon **Bus** – **145 Million** passengers (2014)

Demography

≈ 545 thousand inhabitants | ≈ 131 thousand elderly (24%) | 12,5 % > 80 years

» Ageeing index in Lisbon: 182,8 | 117,3 in metropolitan area

População idosa e crianças (%), Lisboa, 1960 a 2011
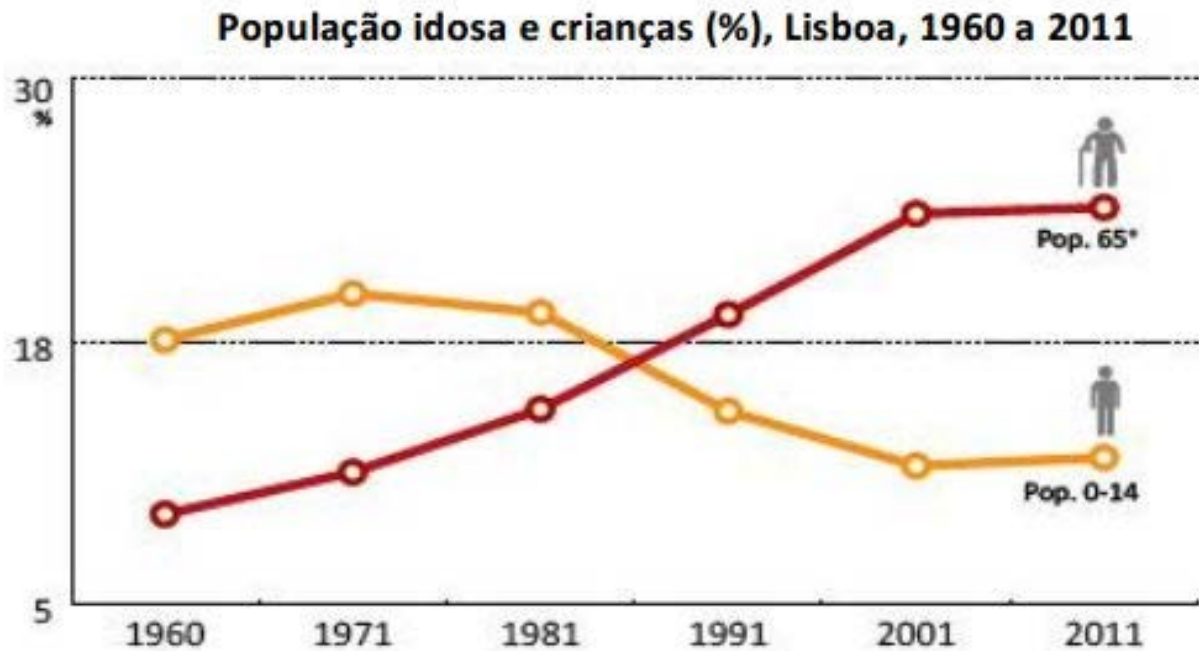
Fonte: INE, I.P., Censos 1960 a 2011

Socio-Territorial cleavage in Lisbon
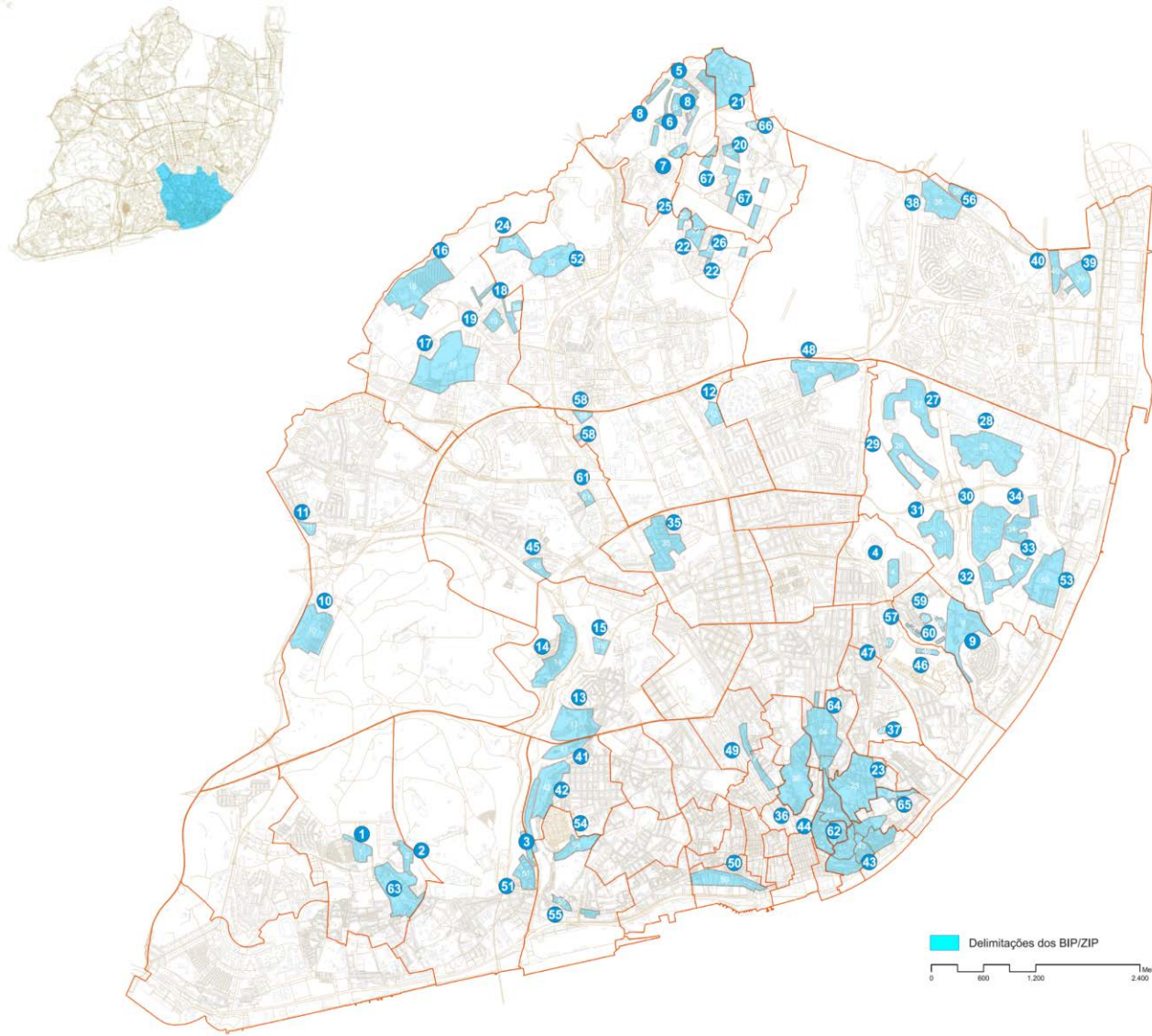
[67 BIP/ZIP Territories]
150.000 inhabitants [1/4 City population]
6,77km2 [8% Lisbon area]

Concentration of:

Low education levels:

» 51% iletrate or with 4 years education
/ 8% average Lx
» 11,4% Higher education
/ 48 % average Lx

High unemployment:

» 46,3% unemployed
/ 11,8% average Lx

High dependency on Social subsidies

» 12,1% RSI / 4,7% average Lx

(Censos, 2011)

Unemployed population *(CML - INE 2011)*

Legend:
- Áreas de Baixo Desemprego
- Áreas sem relação com vizinhos
- Áreas Críticas de Desemprego
- Aeroporto
- Parques e Jardins
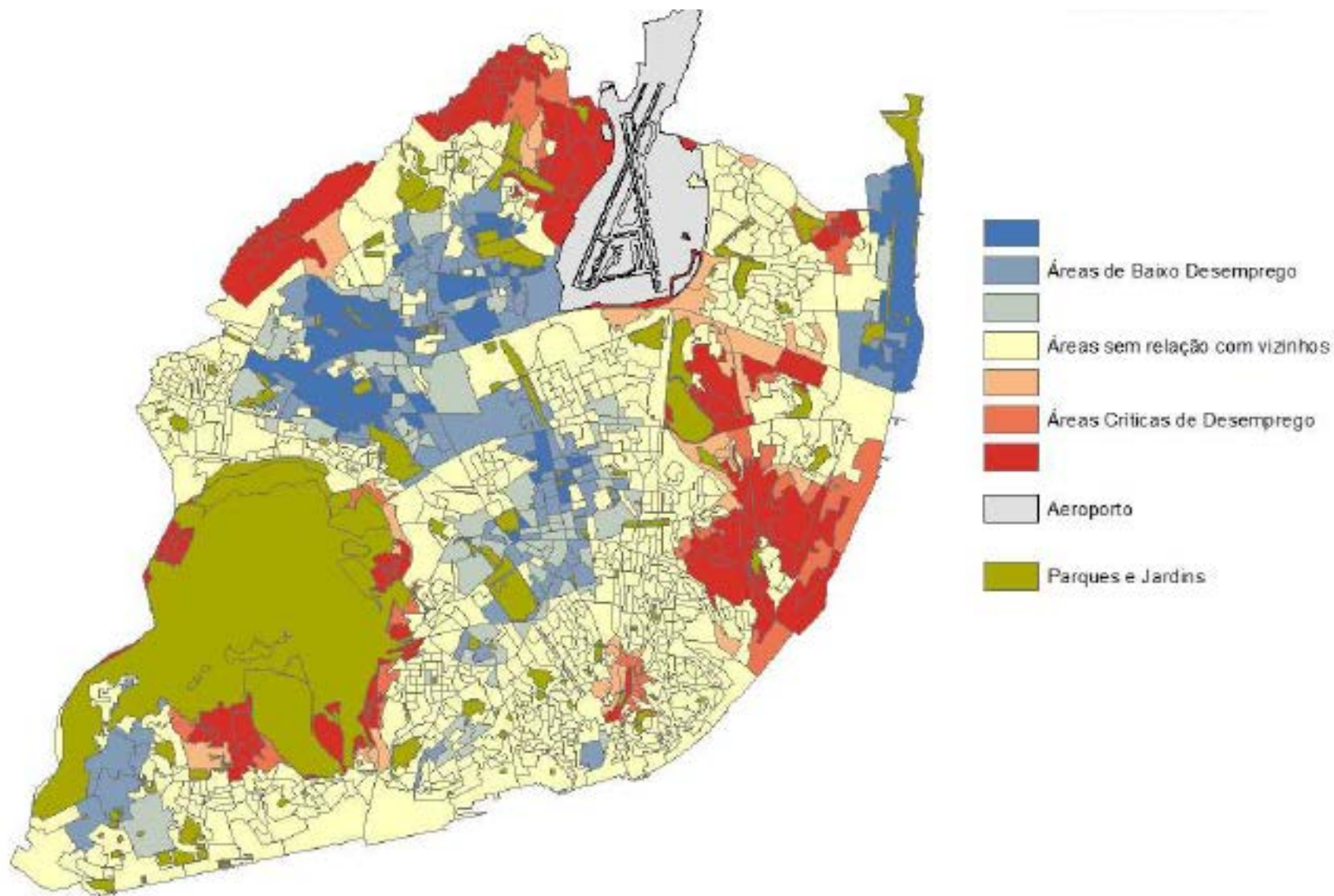
Education level and Unemployment concentration in Lisbon
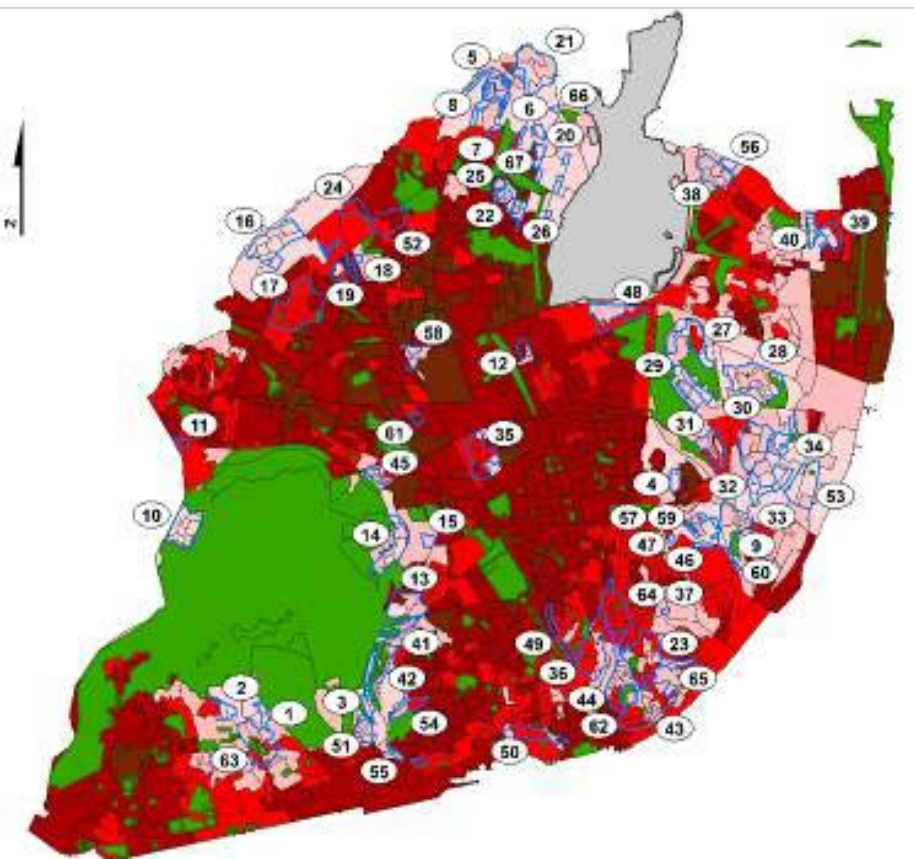
Education level, INE 2011
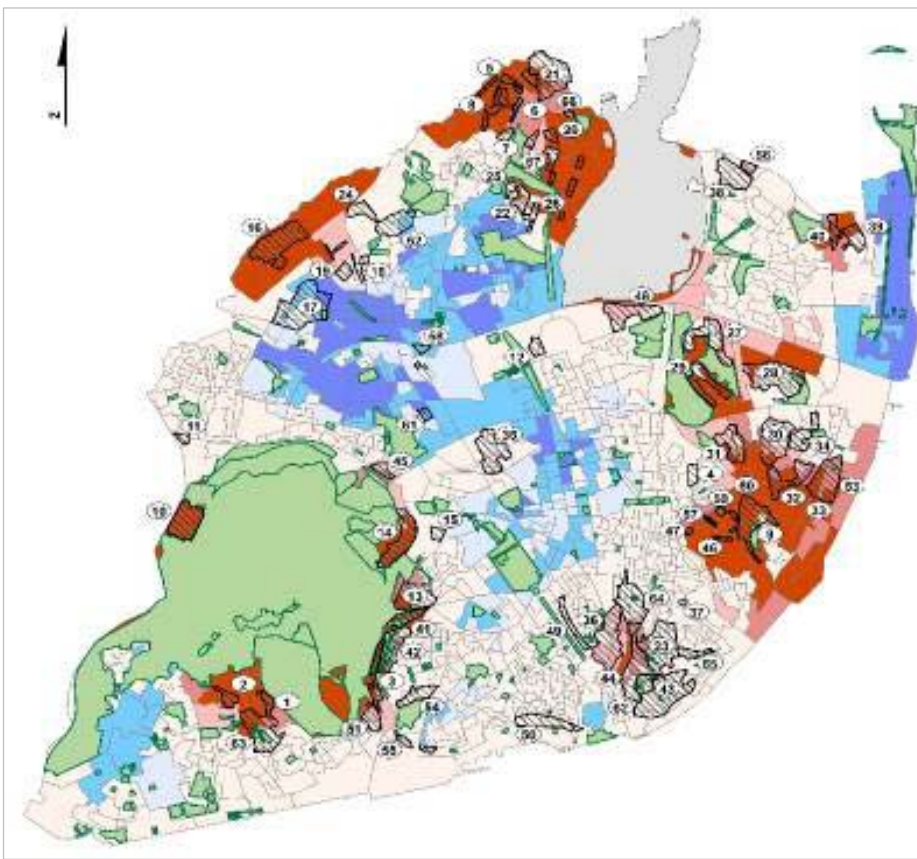
Unemployment, INE 2011

Contrast between Economic Dynamics and Vulnerable territories in Lisbon
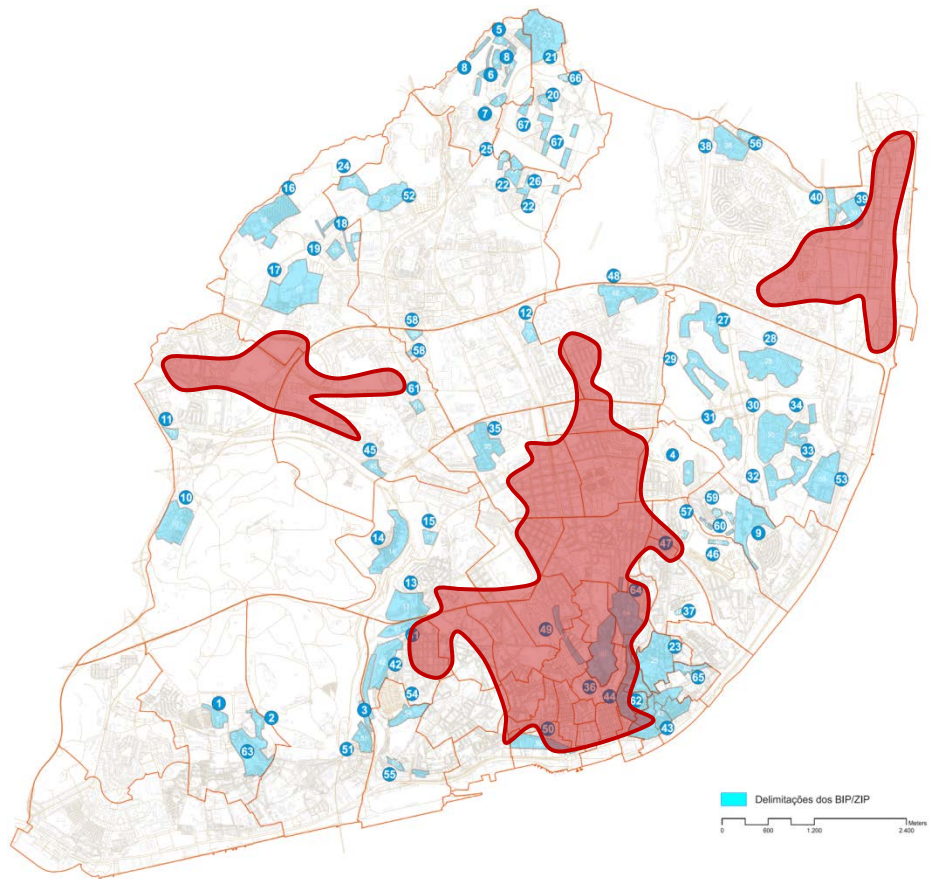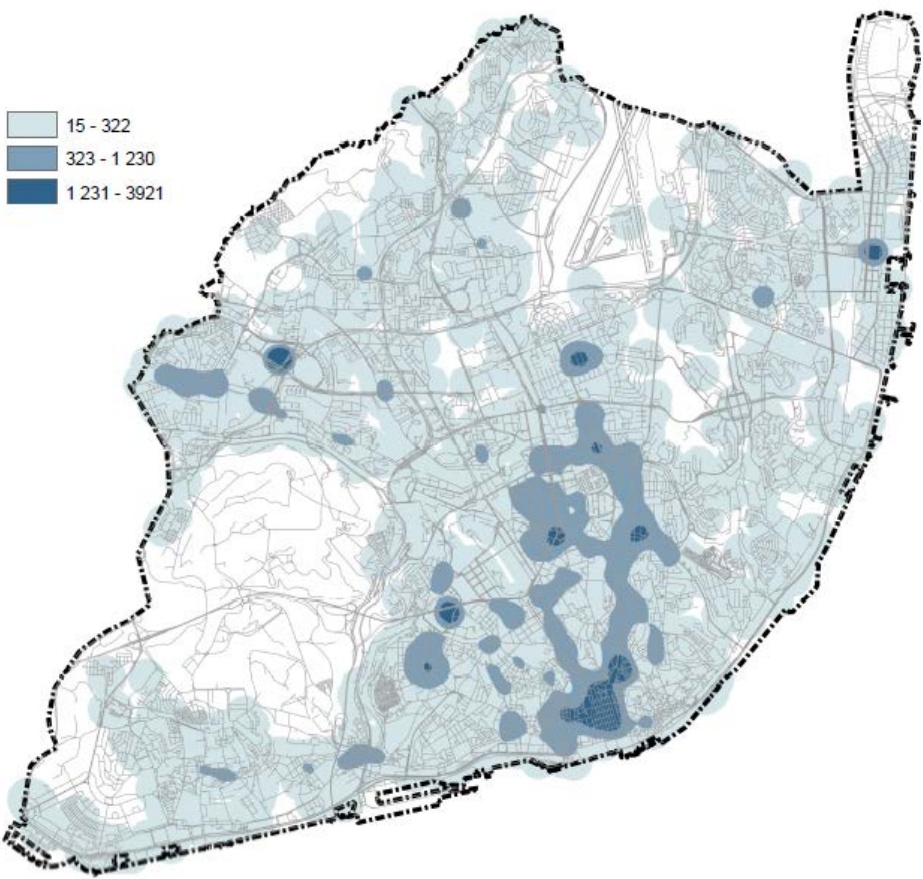
Concentration of Economic activities, CML 2015

Average frequency of buses and Vulnerable territories
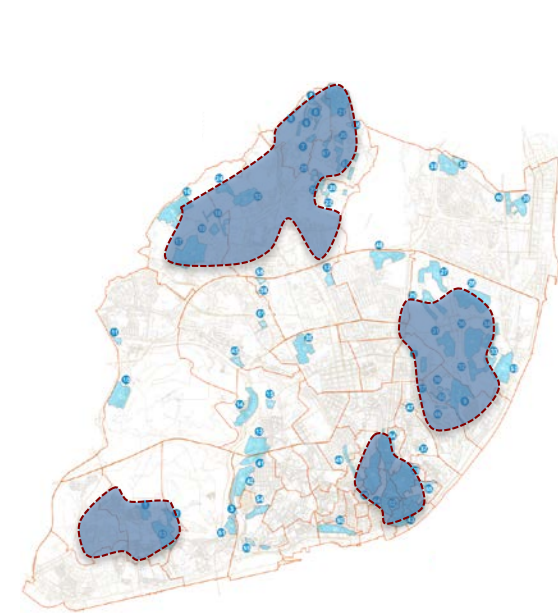
Areas of reduced bus frequency or inexistent network

Número de Circulações da rede CARRIS no concelho de Lisboa - Hora de Ponta Manhã (07:00h - 09:59h)

Ida: Centro > Periferia

Volta: Periferia > Centro
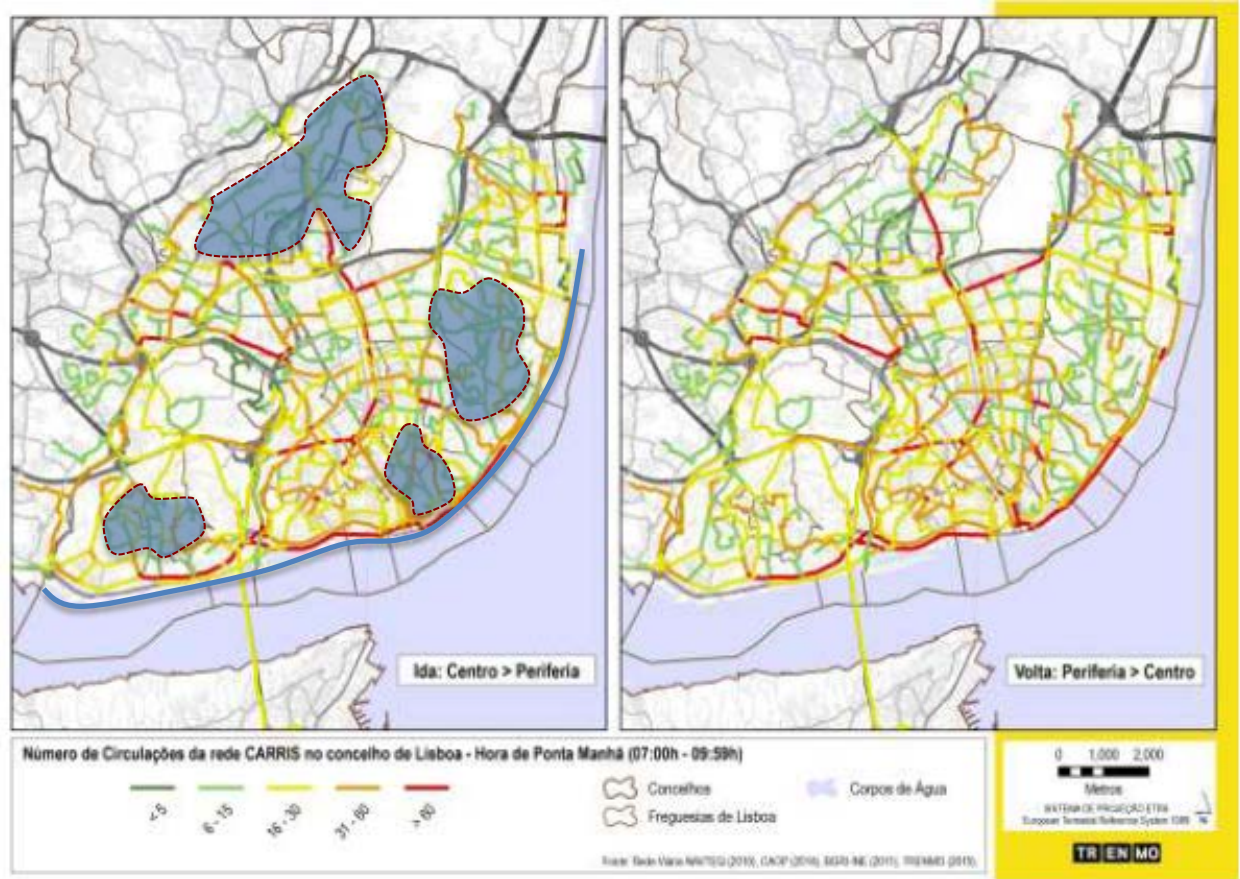
Número total de circulações por eixo na rede Carris – Hora de Ponta da Manhã

(Fonte: TRENMO, 2016)

Pedestrian potencial

Potencial Pedonal:

Alto

Baixo

0   2 Km
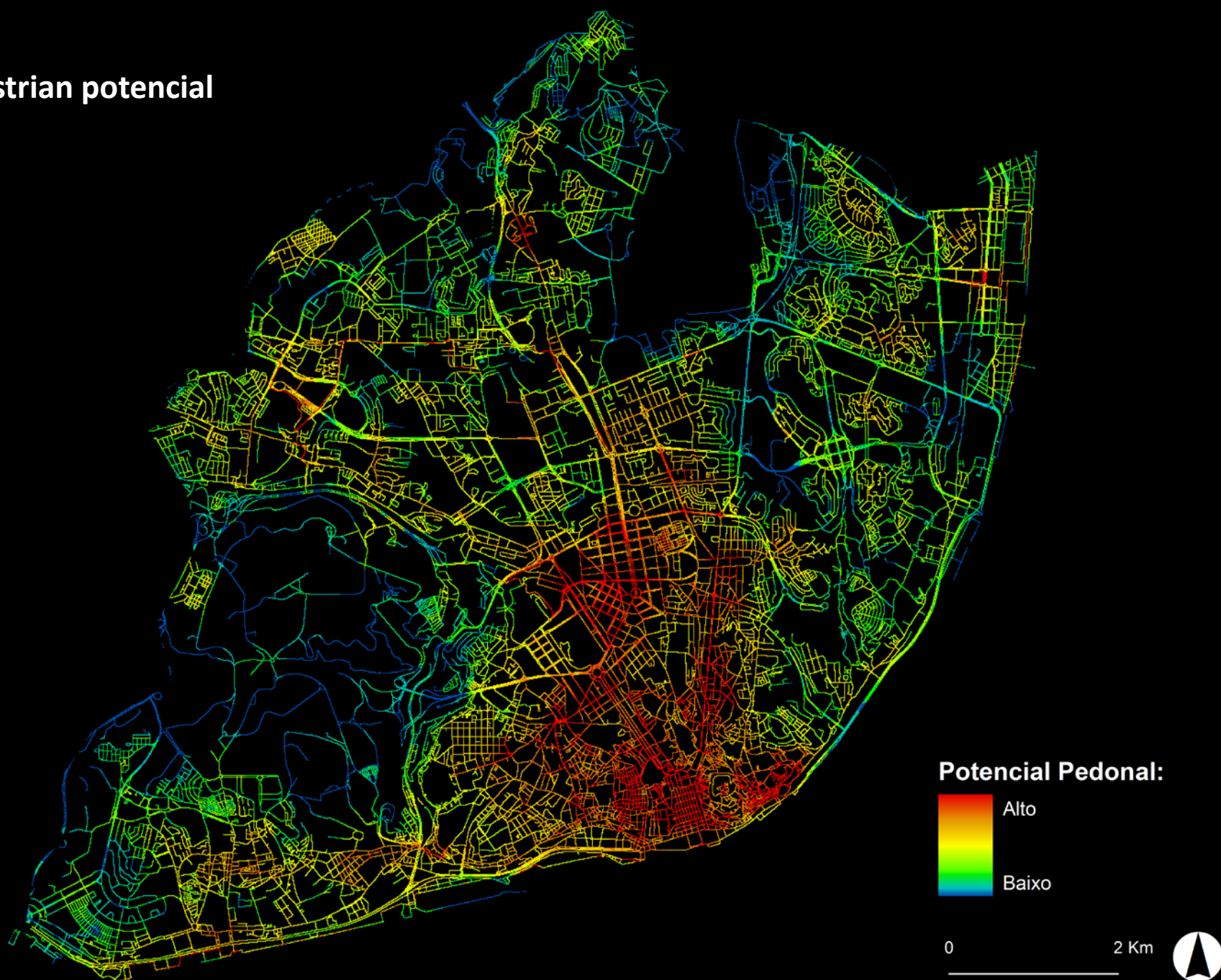
.social exclusion

Social Exclusion and Mobility/Acessibility

"A **process** trhough which certain individuals are pushed to the margins of society and prevented from participating in it fully (…) This keeps them away of **job opportunities**, better **income levels and education and training opportunities**, as well as social and communitary activities and networks" *(European comission, 2004)*

Mobility and accessibility context

_Availability, capacity and access to the transport network

_Barriers and conditions

Needs and motivations associated to personal mobility

Demographics
Socioeconomics
Life stage

Travel Decision-Making Process

an Activity or a demand, motivation, need, or desire to travel

environmental factors

Pleasure
Cost
Safety & Security
Accessibility
Feasibility
Hierarchy of Travel Needs

moderation

mediation

individual

Perception Lens

norms, values, beliefs, attitudes, preferences

Decision Rule
- Satisfaction
- By aspects
- Utility max.
- Habit
- etc...

Decision Contexts & Outcomes
- Frequency
- Destination
- Mode
- Time of day
- Route
- etc...

(by multiple dimensions)

inertia

information

new

Habit
Exploration

feedback

Fonte: Singleton, P. A. (2013). *A Theory of Travel Decision-Making with Applications for Modeling Active Travel Demand* (Master of Science In Civil and Environmental Engineering, Portland State University).

"Mobiity is a central part of our daily life" *(Lucas, 2010)*

Sources of exclusion related with transport

(Church, Frost & Sullivan, 2000)

- **Physical** – barreiras físicas relacionadas com, a natureza do sistema de transportes e do ambiente construído;

- **Geographic** – resultante da fraca acessibilidade da área;

- **Infrastrutural** – bons acessos a infrastruturas (saúde, educação. lojas, ...);

- **Economical** – o resultado das limitações da rede de transportes que podem levar a uma exclusão no acesso a empregos e outras oportunidades;

- **Temporal;**

- **Based on fear;**

- **Public space.**

It's rather more a matter of **access to** social opportunities then the **lack of** social opportunities!

"Amartya Sen's theory of entitlement" (Sen, 1981)

	Quality of the physical enviroment	
	Poor	Good
Necessary activities	●	●
Optional activities	·	⬤
"Resultant" activities (Social activities)	·	●

Jan Gehl, 2001

According to United Nations (2007) a "**Safe City**" **is a** "**Just City**"**,** and that is only possible if **people** are the **central elements** of urban design, being this translated into the priority order of public space quality.

"A **"good" city** is a city where people **can move from one place to another in different ways**, according to their preferences, physical capacities, and activities to do, according to their needs, hurries, places and neighbourhoods to cross, the time of the day or the season of the year." (...)

"The city is a **chain of rhythms.**"

Mobilités Urbaines", Georges Armar [2004], Ed. de l'Aube, Paris.

Intermodality and **Multimodality**

The importance of Human Dimension in public policies...

... Citie's mobility strategy definition;

...public space design and traffic calming and road safety measures;

...planning and management of transport system...

Trend:
Sharing Economy | Collaborative Consumption
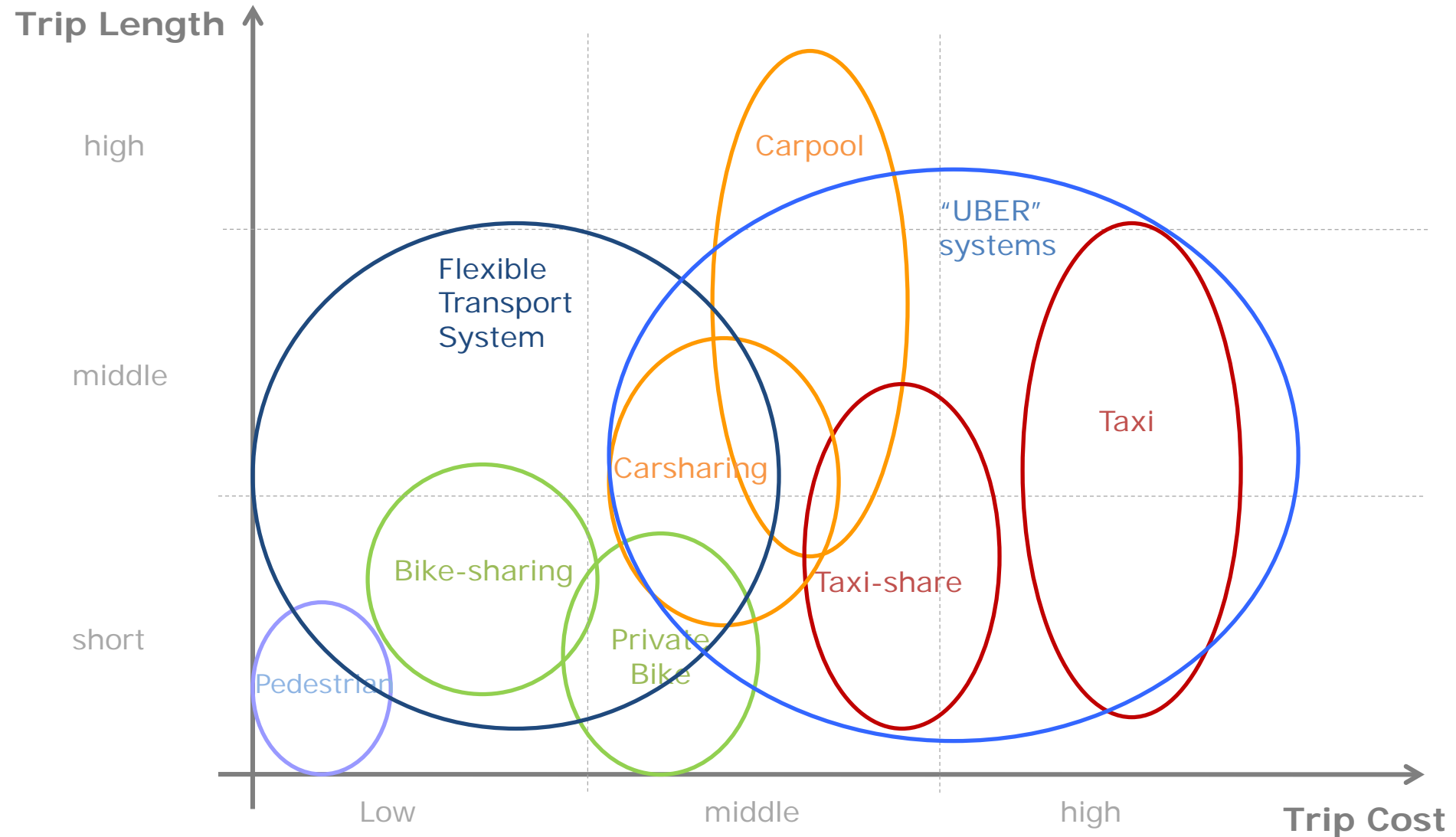
.Lx Porta-a-Porta

Door-to-Door transport in Lisbon

Created in **2004** by the Municipality to overcome the **mobility needs of historical center neighbourhoods** or **disadvantaged neighbourhoods in what concerns public transport supply.**

"**Lx Porta-a-Porta**" transport service is:

- flexible;
- Fixed route;
- Flexible stops;
- free;
- and complementary to public transport network

CML, 2012

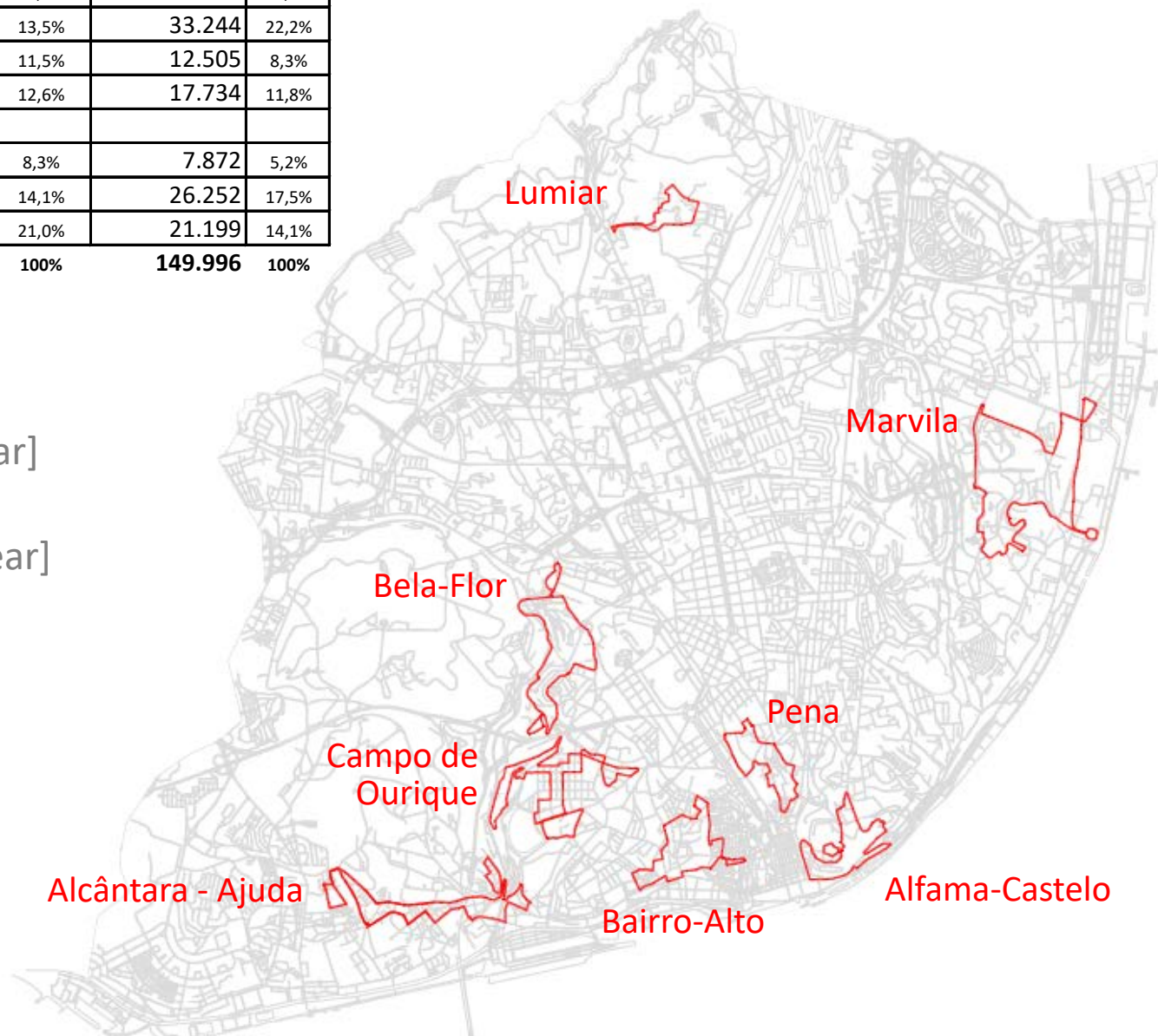| Circuito	total km percurso	Kms percorridos	%	passageiros transp.	%
Campo de Ourique	9,0	100.265	18,9%	31.190	20,8%
Alfama/Castelo	5,0	71.793	13,5%	33.244	22,2%
Bairro Alto	4,8	61.100	11,5%	12.505	8,3%
Pena	3,5	66.966	12,6%	17.734	11,8%
Alcantara - Ajuda					
Lumiar	2,7	44.238	8,3%	7.872	5,2%
Bela Flor	8,3	74.786	14,1%	26.252	17,5%
Marvila	7,4	111.294	21,0%	21.199	14,1%
	40,7	**530.442**	**100%**	**149.996**	**100%**

≈ 150 thousand [Pax/year]

≈ 530 thousand [km's/year]

CML, 2012

Circuito	total km percurso	Kms percorridos	%	passageiros transp.	%
Campo de Ourique	9,0	100.265	18,9%	31.190	20,8%
Alfama/Castelo	5,0	71.793	13,5%	33.244	22,2%
Bairro Alto	4,8	61.100	11,5%	12.505	8,3%
Pena	3,5	66.966	12,6%	17.734	11,8%
Alcantara - Ajuda					
Lumiar	2,7	44.238	8,3%	7.872	5,2%
Bela Flor	8,3	74.786	14,1%	26.252	17,5%
Marvila	7,4	111.294	21,0%	21.199	14,1%
	40,7	**530.442**	**100%**	**149.996**	**100%**

≈ 150 thousand [Pax/year]

≈ 530 thousand [km's/year]

Lumiar

Marvila

Bela-Flor

Campo de Ourique

Pena

Alcântara - Ajuda

Bairro-Alto

Alfama-Castelo

2004

(8 circuits - 16 Vehicles)

- **Creation** of a flexible transporte service (fixed **route** | flexible **stops**)
- **Concept:** Mobility – "overcome problems of low acessibility to public transport network"
- **Management:** totaly municipal *(Motoristas/Veículos/ Manutenção/Combustível)*
- **Cost for the user: Free**;
- **Access:** Without restrictions- age, Residence, income ressources, without scheduling
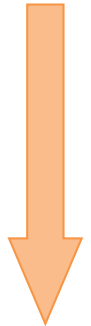
Start

I

2009

(10 circuit - 20 Vehicles)

- **widening** of the flexible transport service
- **Routes** Co-designed with local parishes
- **Concept:** Mobility – "acessibilility to public transport network favouring proximity displacements"
- **Management:** Descentralization of competencies (HR + fuel) | municiplaity: *Vehicles + Maintenance*
- **Cost of the Sistem:** budget transfer from municiplity to parishes (300.000€/year)
- **Cost for the user: free**
- **Access:** Without restrictions

Delegation of competences

II

2014

(21 circuits - 21 Vehilces)

- **Leasing contract of vehicles** (from municipality to parishes)
- **Fixed route** and random trough scheduling | **stops:** flexible| fixed | random (point to point)
- **New concept:** Mobility | Social support | Mix service
- **Management:** Autonomized and led by local parishes (inexistence of deliberate competency in what concerns transport activity, so its managed as a social service)
- **Cost of the system:** local parish own budget
- **Cost for the user:** free | apply for membership – social diagnosis | exclusive to residents | payed
- **Access:** With and Without restrictions

Liberalization / Autonomization

III

?
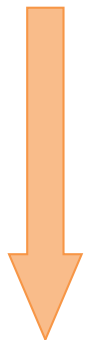
Door-to-Door transport | Solidarity transport (2017)

11 🟢 **Door-to-Door transport**
Mobility

10 🟠 **Solidarity transport**
Social support

3 ⬤ *Inexistent*

Novos Limites Administrativos de Lisboa

1 - Ajuda
2 - Alcântara
3 - Alvalade
4 - Areeiro
5 - Arroios
6 - Avenidas Novas
7 - Beato
8 - Belém
9 - Benfica
10 - Campo de Ourique
11 - Campolide
12 - Carnide
13 - Estrela
14 - Lumiar
15 - Marvila
16 - Misericórdia
17 - Olivais
18 - Parque das Nações
19 - Penha de França
20 - Santa Clara
21 - Santa Maria Maior
22 - Santo António
23 - São Domingos de Benfica
24 - São Vicente de Fora

Transporte Solidário
A PARTIR DE 1 DE ABRIL

BENFICABUS

JUNTA DE FREGUESIA
AVENIDAS NOVAS
PORTA a PORTA

TRANSPORTE SOLIDÁRIO
Mais uma medida do programa Beato Solidário
BEATO
TRANSPORTE SOLIDÁRIO

BENFICABUS
Benfica JuntadeFreguesia
LISBOA BIP ZIP

O AZULINHO

Transporte Solidário · Parque das Nações

porta a porta

PORTA-a-PORTA ALVALADE

Campolide
Soma e Segue

marvila transPorta

Olivais
Porta a Porta

"transporte organizado e gratuito de pessoas adultas em situação de isolamento social para serviços de saúde e atividades específicas, numa tentativa de combater a solidão e a exclusão social."

(Site JF Beato, 2017 | Transporte Solidário)

"Trata-se de um projeto social de transporte, gratuito, que visa colmatar o **défice de transportes** no bairro, e que opera, sobretudo como **interface** entre a Quinta do Loureiro – zona onde esse défice se acentua – e o **centro do bairro** onde funciona a maioria do comércio e serviços."

(Site JF Campo de Ourique, 2017 | Porta-a-Porta)

"(...)através do programa BIPZIP Gerações, disponibiliza (...) o **transporte solidário para seniores** – Benfica BUS. O grande objectivo deste projecto, é **melhorar a acessibilidade das pessoas com dificuldades de mobilidade à rede de serviços da freguesia**. Este serviço, além de assegurar a mobilidade e a segurança dos idosos, visa contribuir para a **diminuição do isolamento, solidão e percepção de insegu**rança."

(Site da JF Benfica, 2017 | Transporte Solidário)

	Campolide "Soma e Segue"	Parque das Nações "Transporte Solidário"	Olivais "Olivais Porta-a-Porta"
[Parish] **[Name]**			
[Concept]	Mobility / Accessibility (Public T. Network /Facilities)	Social support / Accessibility (Facilities / leisure-optional activities)	Mobility / Accessibility (Public T. Network /Facilities)
[Route]	Fixed (Sept.'16) – 45'	Ramdomly defined (Mar'14)	Fixed – painted in street (Mar'15) - 45'
[Stops]	Fixed	Needs pre-sechedule - *3 days before (by telephone)* *Main motivation: health (95%)*	Flexible (and fixed)
[Cost]	0,2€ (pre-purchased) 0,5€ (on board)	Apply to membership| social diagnosis	Free
[schedule]	Weekdays – 8h-19h (11h) Sat – 5h (manhã)	Dias úteis: 8h-18h	weekdays: 7h45-12h / 15h-19h
[area]	parish	City	parish
[Access]	ticket	Membership card	free
[Stats]	1500 pax./month 3800 km's/month 540eur/month (fuel) *(4T-2016)*	400 pax./month | 20/day 2290 km's/month 32.000eur/year *(Jan'17)*	

A senhora Maria do Céu Pascoal e o senhor Joaquim Manuel Pascoal, casados há quarenta anos, são exemplo disso mesmo. Tomaram conhecimento do serviço através do Centro Social e Paroquial de São João de Brito e usam frequentemente o Porta-a-Porta: «Eu, como vou, infelizmente, tanta vez para Santa Maria, quando soube, disse assim: "Isto é ótimo, porque nós cada vez que vamos gastamos cerca de 5 euros em transporte. E assim, sempre é uma ajuda para quem tem tão pouco". E agora usamos também para ir ao dentista. É ótimo.», conta a senhora Maria do Céu, que é já uma "embaixadora" deste serviço, passando a palavra e oferecendo folhetos às suas amigas.

TUDO SOBRE RODAS COM O PORTA-A-PORTA

Alcântara, Lisboa, criou serviço de transporte para acabar com isolamento de fregueses

24 nov 2015 · 06:00

Atualidade

Lusa

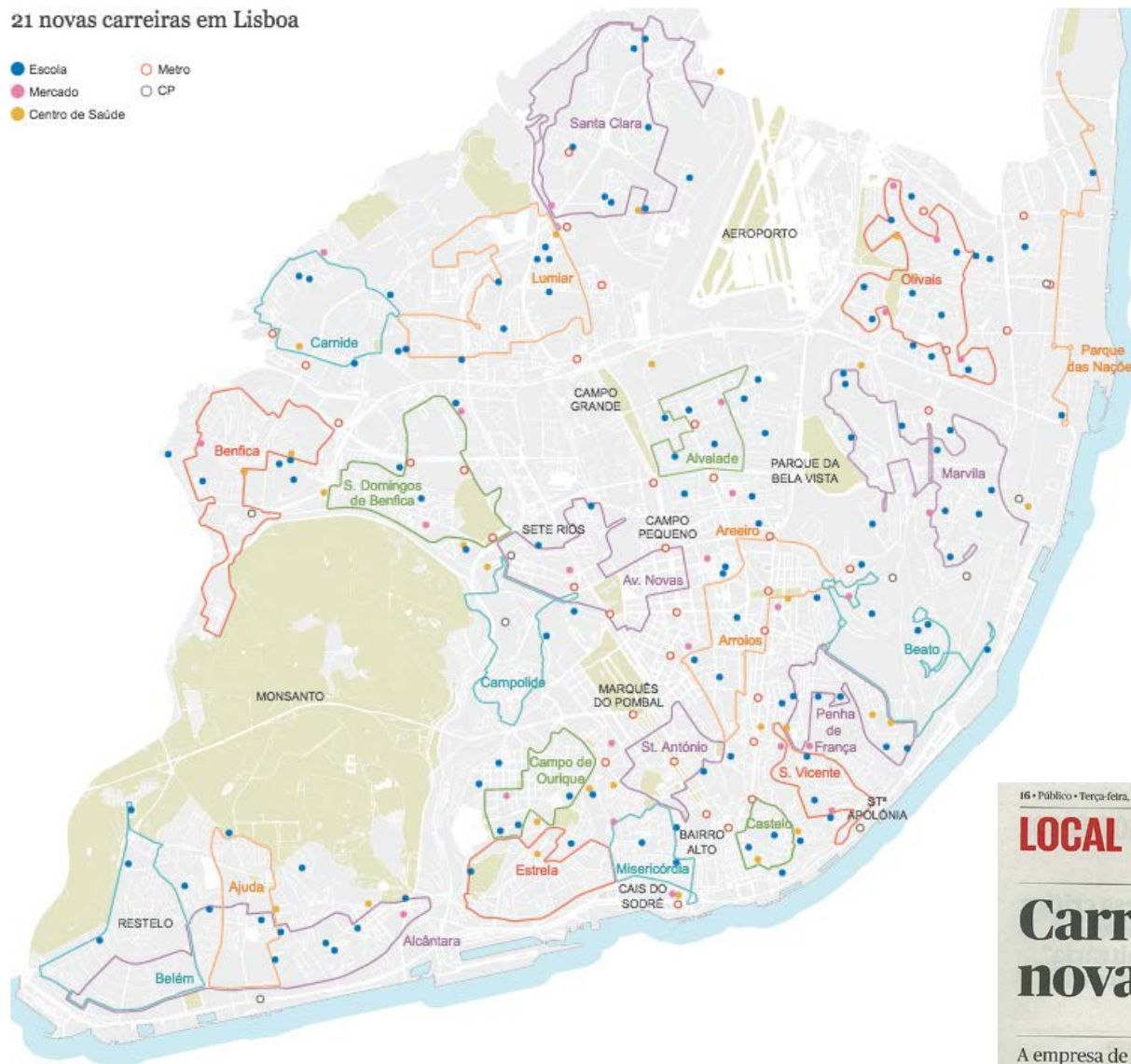💬 Comentar

A Junta de Freguesia de Alcântara, em Lisboa, criou um serviço de transporte para acabar com o isolamento a que algumas pessoas estavam sujeitas por falta de transportes públicos na sua zona de residência.

Future (in 2017):

- 21Neighbourhood bus lines

- Universal access and paid

- *Elderly discounts and children up to 12 years old*

21 novas carreiras em Lisboa

- Escola
- Mercado
- Centro de Saúde
- Metro
- CP

*"The idea is that this new **lines work as a complement to the existing network** (...) with the connection of **key centralities** of each zone, schools and health care centers, **children and the elderly** are the natural users of this new network scheme"* (Tiago Farias, 2017)

Nowadays (in 2018): 5 already working

Novas carreiras em Lisboa

Santa Clara

Parque das Nações

AEROPORTO

Olivais

Rede de Bairros até 2019

Alvalade
Arroios
Avenidas Novas
Beato
Belém
Benfica
Campo de Ourique
Campolide
Carnide
Estrela
Lumiar
Misericórdia
Penha de França
Santa Clara
São Domingos
São Vicente
Santo António
Santa Maria Maior

32B

31B

PARQUE DA BELA VISTA

Marvila

LISBOA

CARREIRAS QUE INICIAM AMANHÃ
CARREIRAS QUE INICIAM ATÉ AO FIM DO MÊS

carris

CARREIRAS DE BAIRRO

Final remarks...

» The world is not grey!
    technique and regulation of Flexible public transport should be adapted to the reality of informal systems

» "One size doesn't fit all"
    _the uniformization of the legal competencies of parishes
    _different needs / different solutions

» Articulation with the new neighbourhood bus lines
    _parallel process (Universal access / restricted access – different goals)
    _local intervention of the municipality and delivery of public service
    _complementarity (social support / mobility)

» there should be a higher coherence of the different "door-to-door" existing services
    _uniformization of different aspects that promote a balance between horizontal and vertical equity for the population, independently of their residency in the city

"Porta-a-Porta" lives from the differences and specificities of each territory and of each population, but everybody has the right to mobility.

The uniformization of key aspects of this service will be important for a broader attainment of equity !

renata lajas

Urban Engineer &
Transport Planner

renatalajas@gmail.com
(+351) 916 515 816
/in/renatalajas
renartz