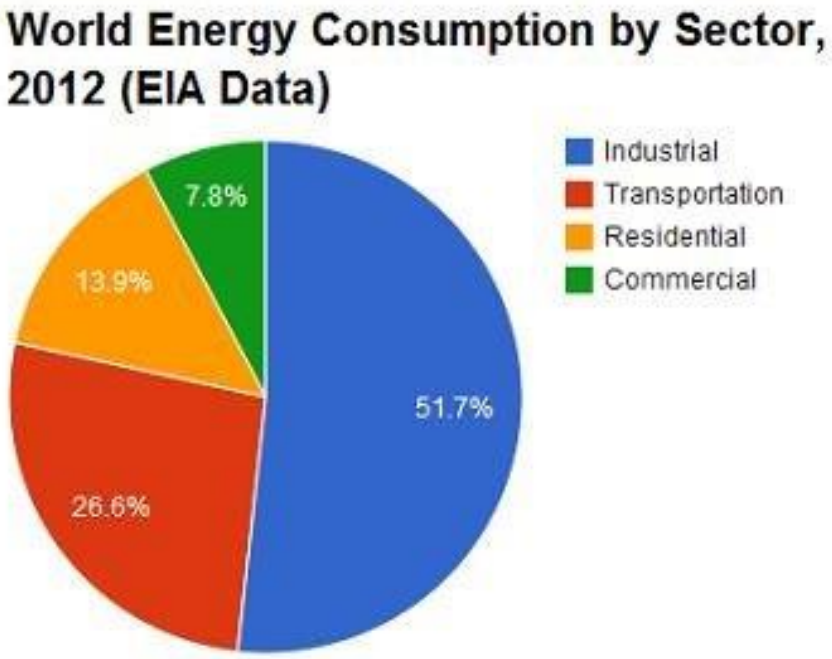
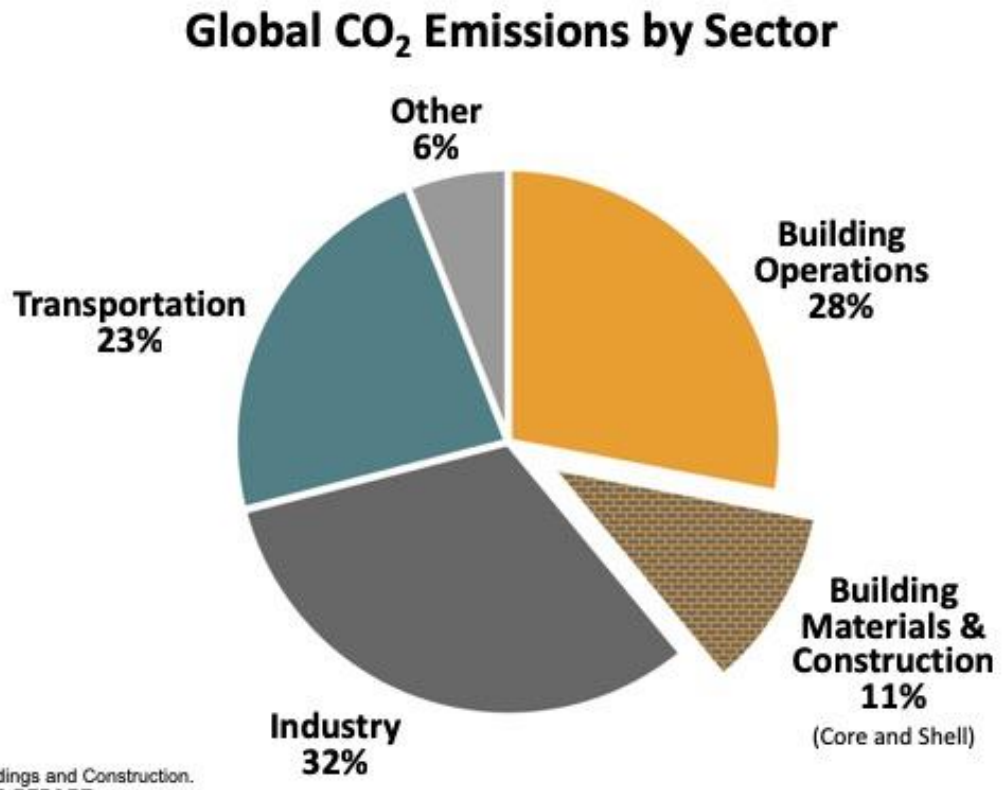
Should we worry about transportation sector?

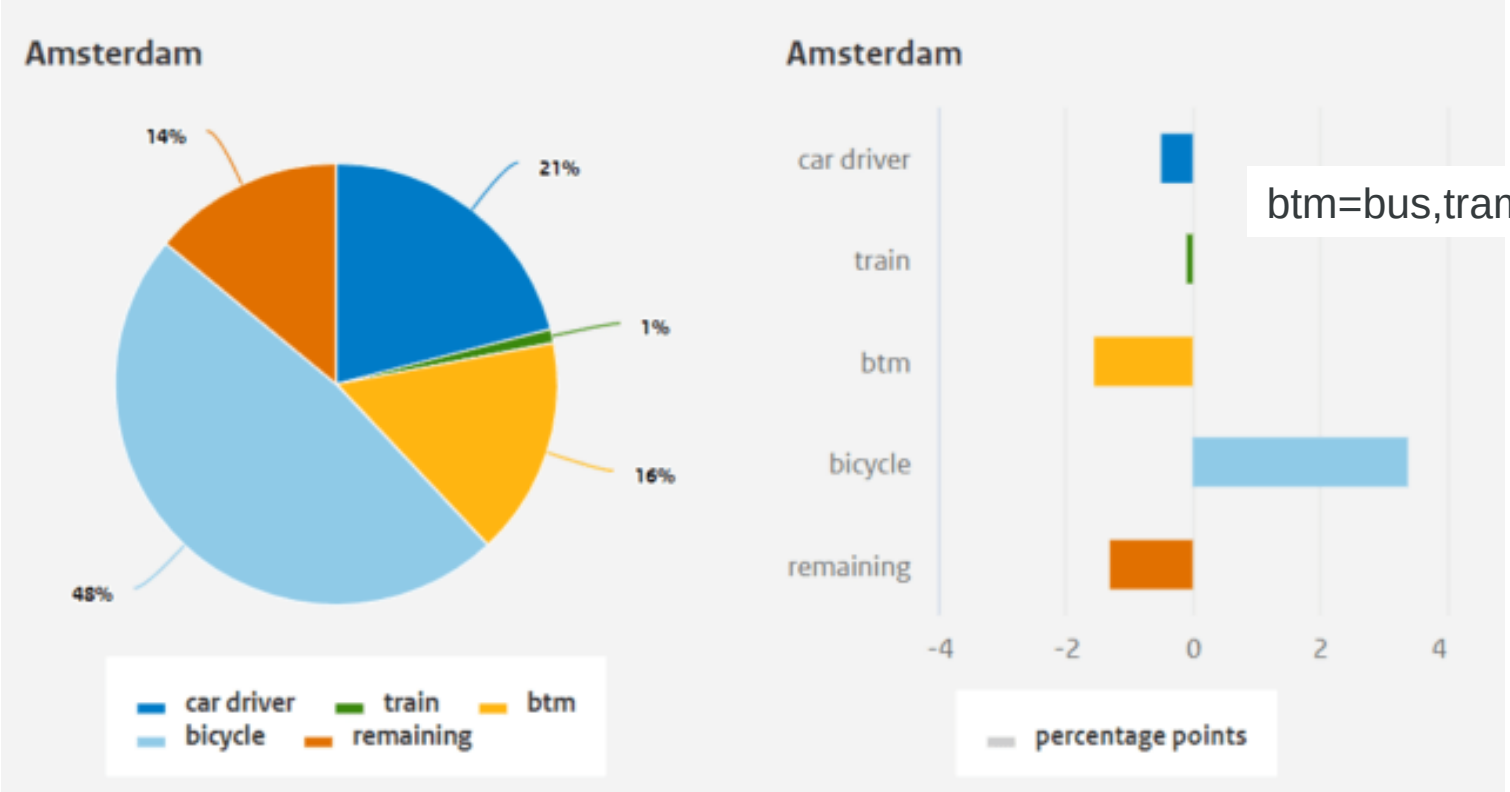




Source:
Global Alliance for Buildings and Construction.
2018 GLOBAL STATUS REPORT.

….yes

TRANSPORT MODAL SHARE BY CITY



btm=bus,tram , metro

Modal share for work trips only on this page — pie chart shows data for 2016, and bar chart shows percentage change between 2005 and 2016:

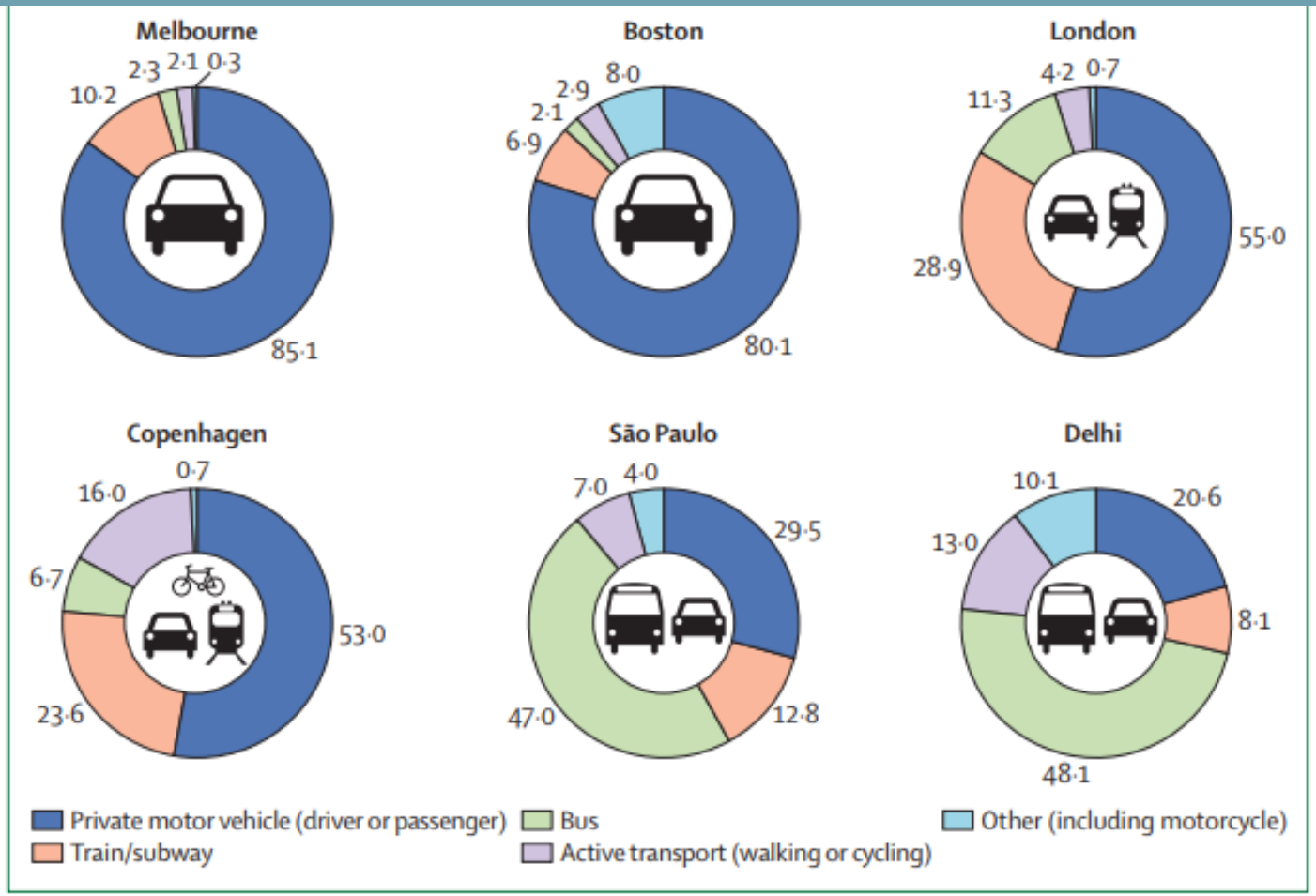
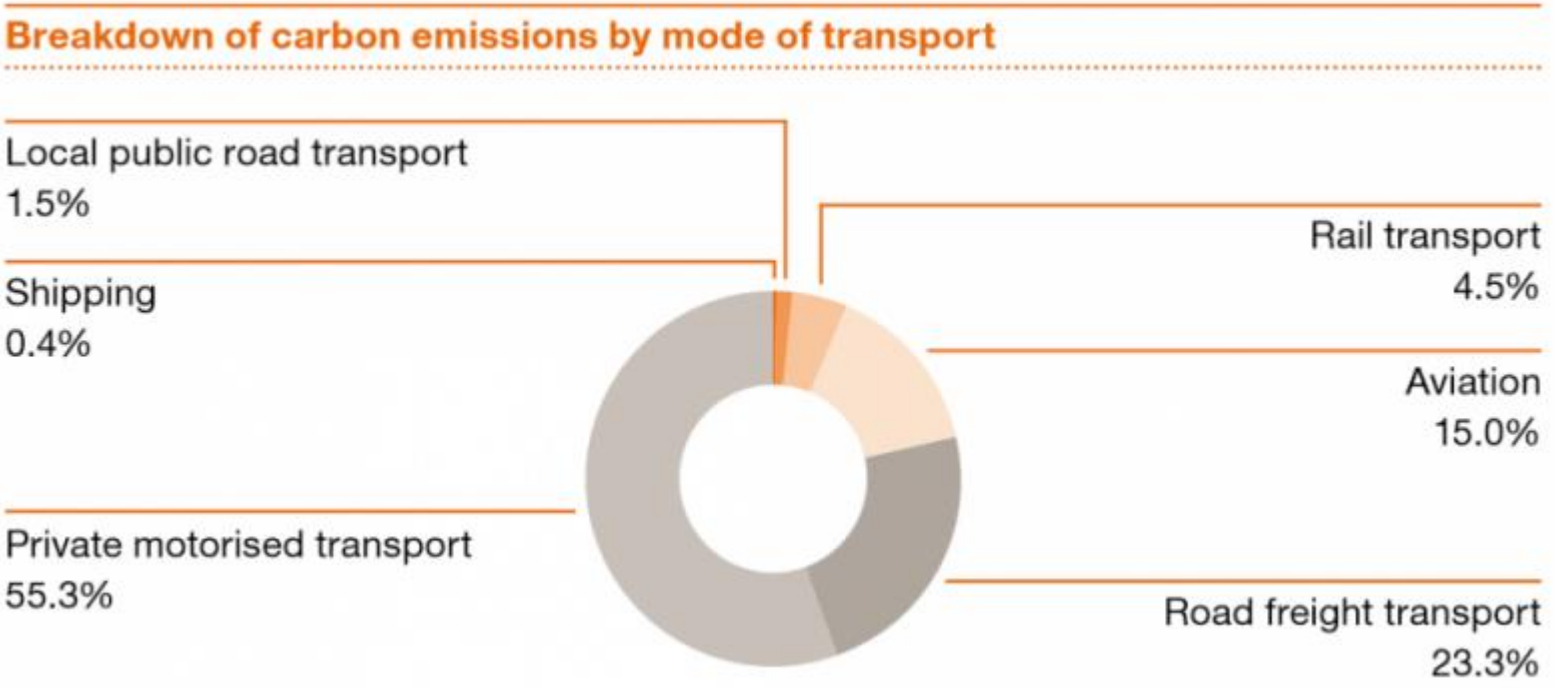


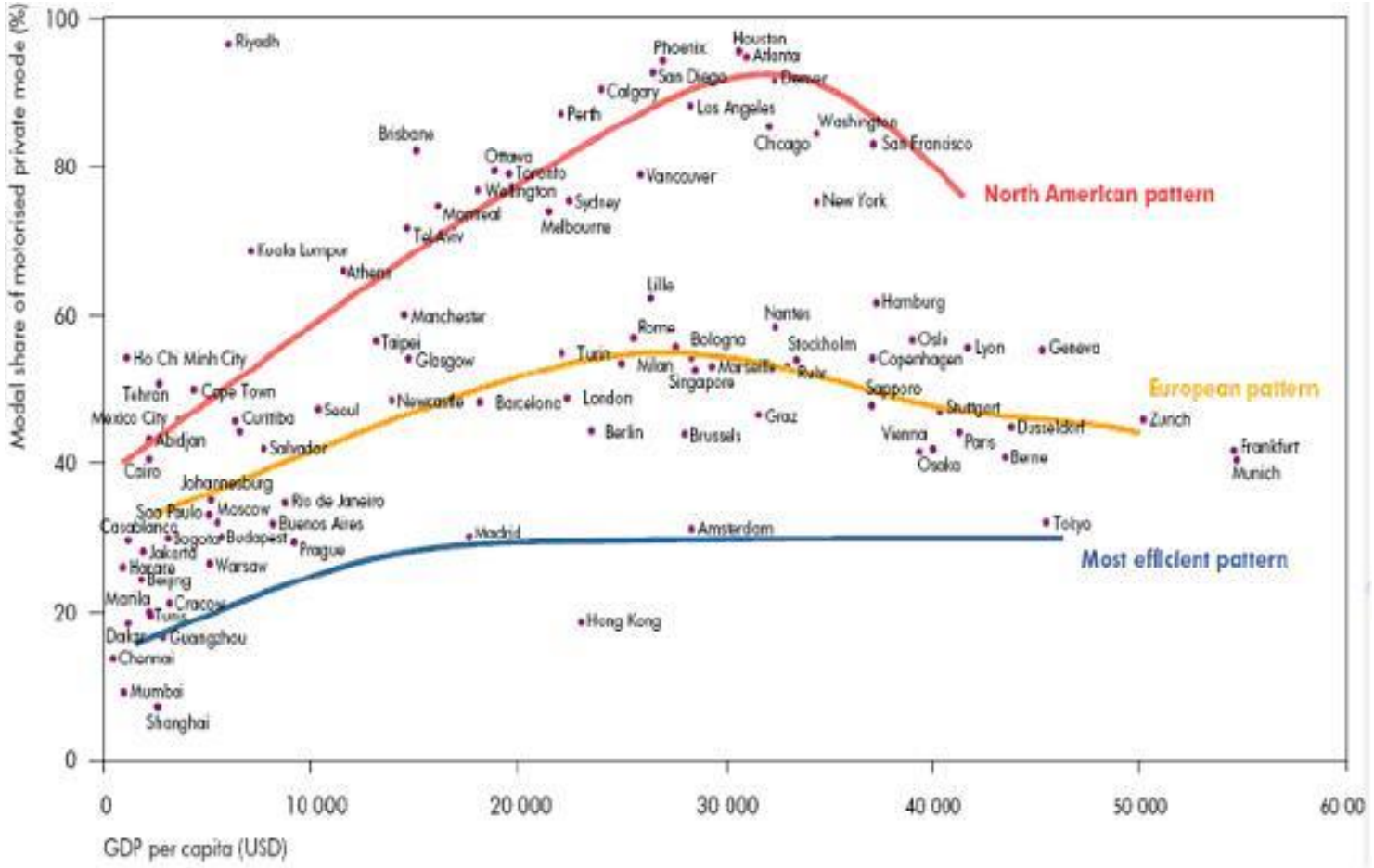
Figure 2: **Percentage of vehicle kilometres travelled (VKT) by mode in each city at baseline with dominant transport modes depicted**

Lancet 2016; 388: 2925–35 http://dx.doi.org/10.1016/ S0140-6736(16)30067-8

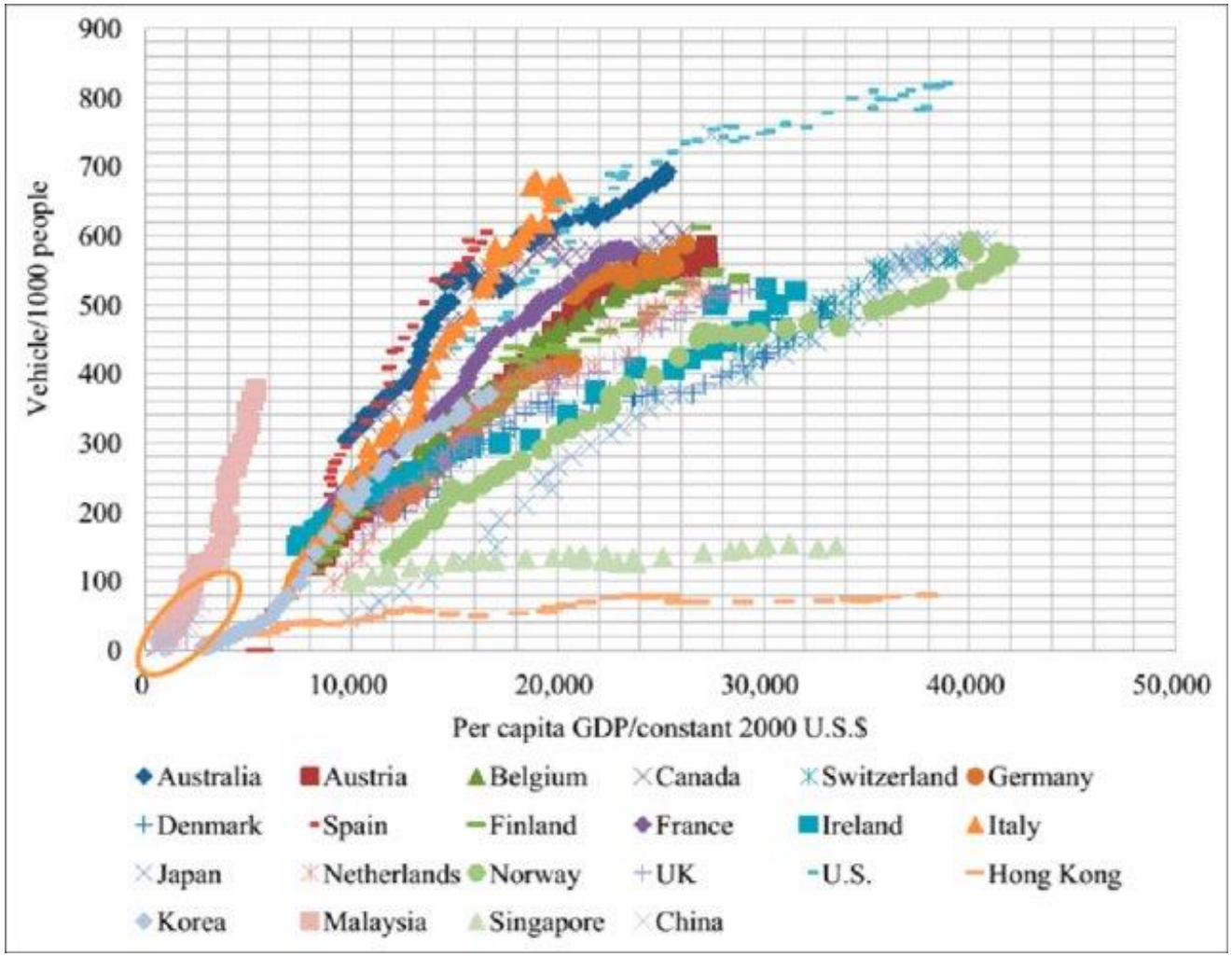


Germany
PWC (2015)

Why so much PRIVATE?



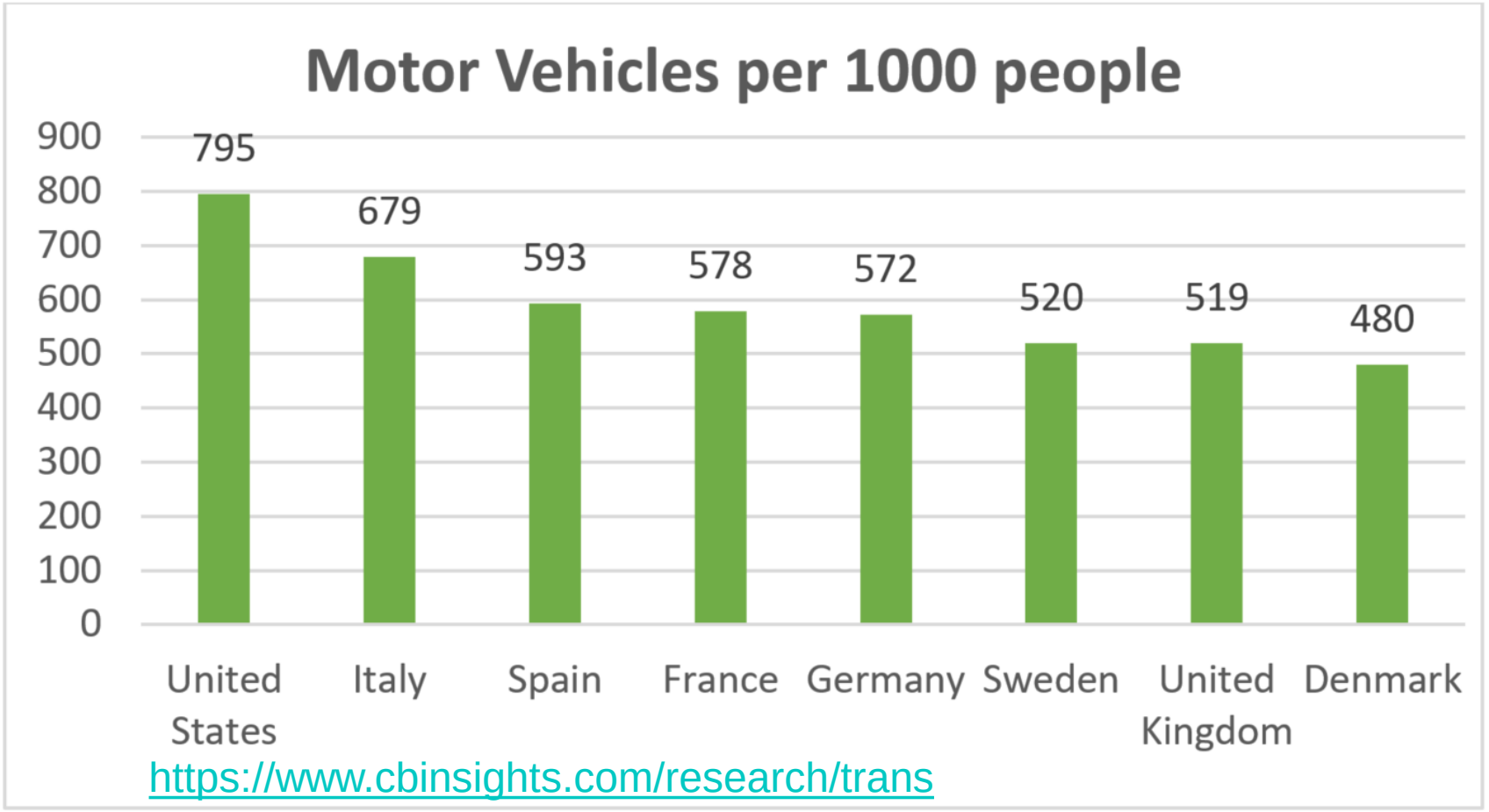
The relationship between GDP and motorised personal transport. (Source: UITP 2006)



Worldwide vehicle ownership trends and per capita GDP

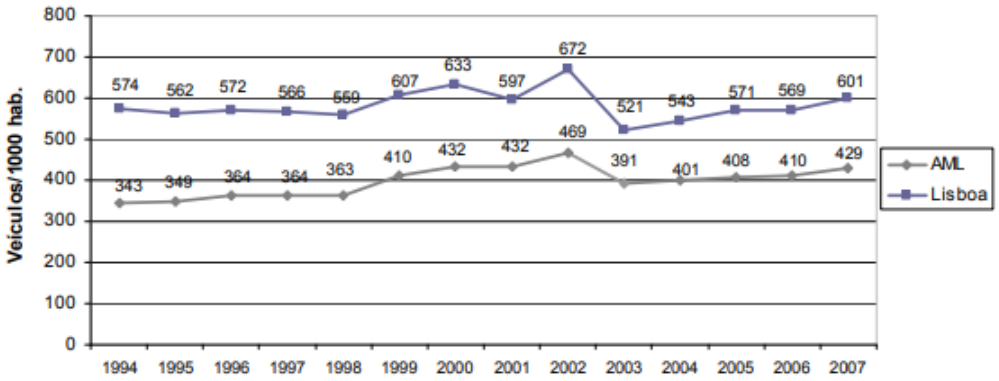
Vehicle Ownership Analysis Based on GDP per Capita in China: 1963–2050. Sustainability 6(8):4877-4899.DOI: 10.3390/su6084877

Chart 1: Car Ownership per Capita



https://www.cbinsights.com/research/transportation-service-smart-commuting/ 2013

Evolução da Taxa de Motorização em Lisboa e na AML



Fonte: Instituto de Seguros de Portugal, 2008

@2015
~ 10 milhões
~ 64% zonas urbanas
~ 4 milhões carros

Índice de motorização
Nacional 400

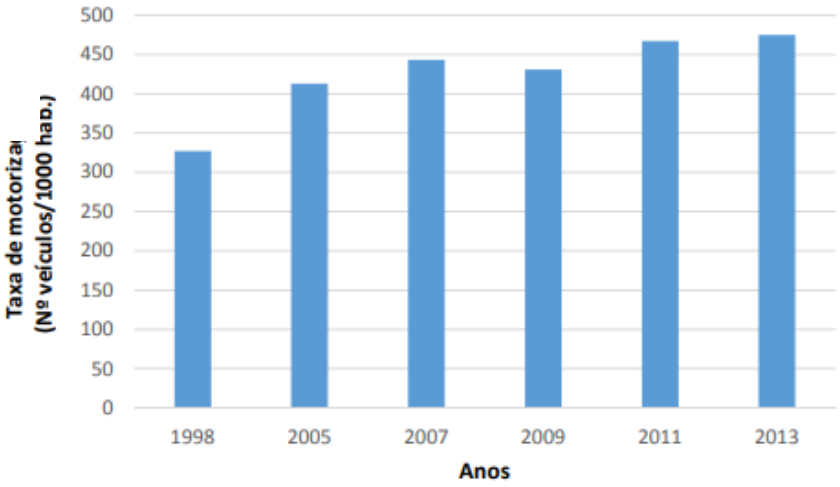
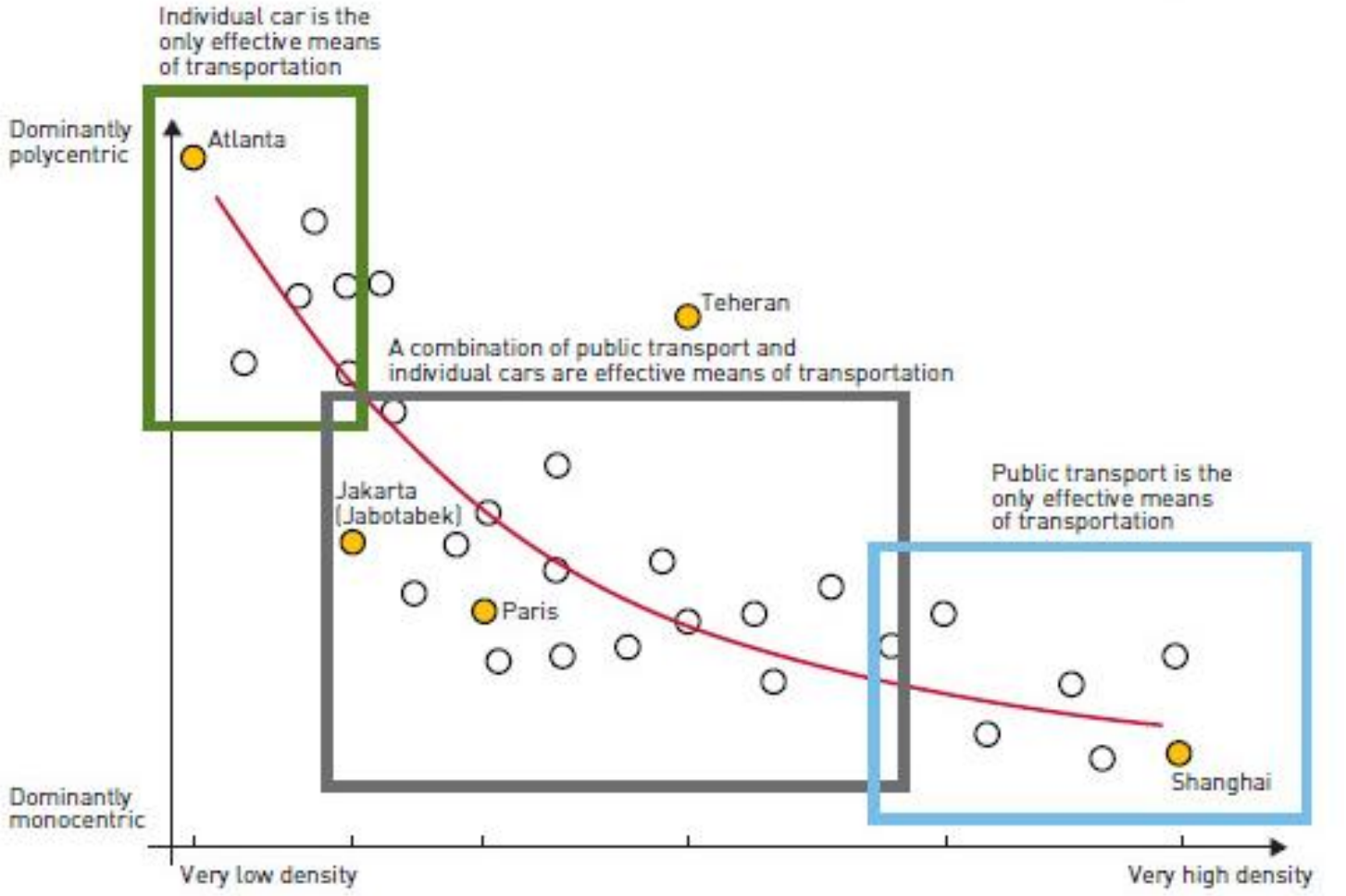


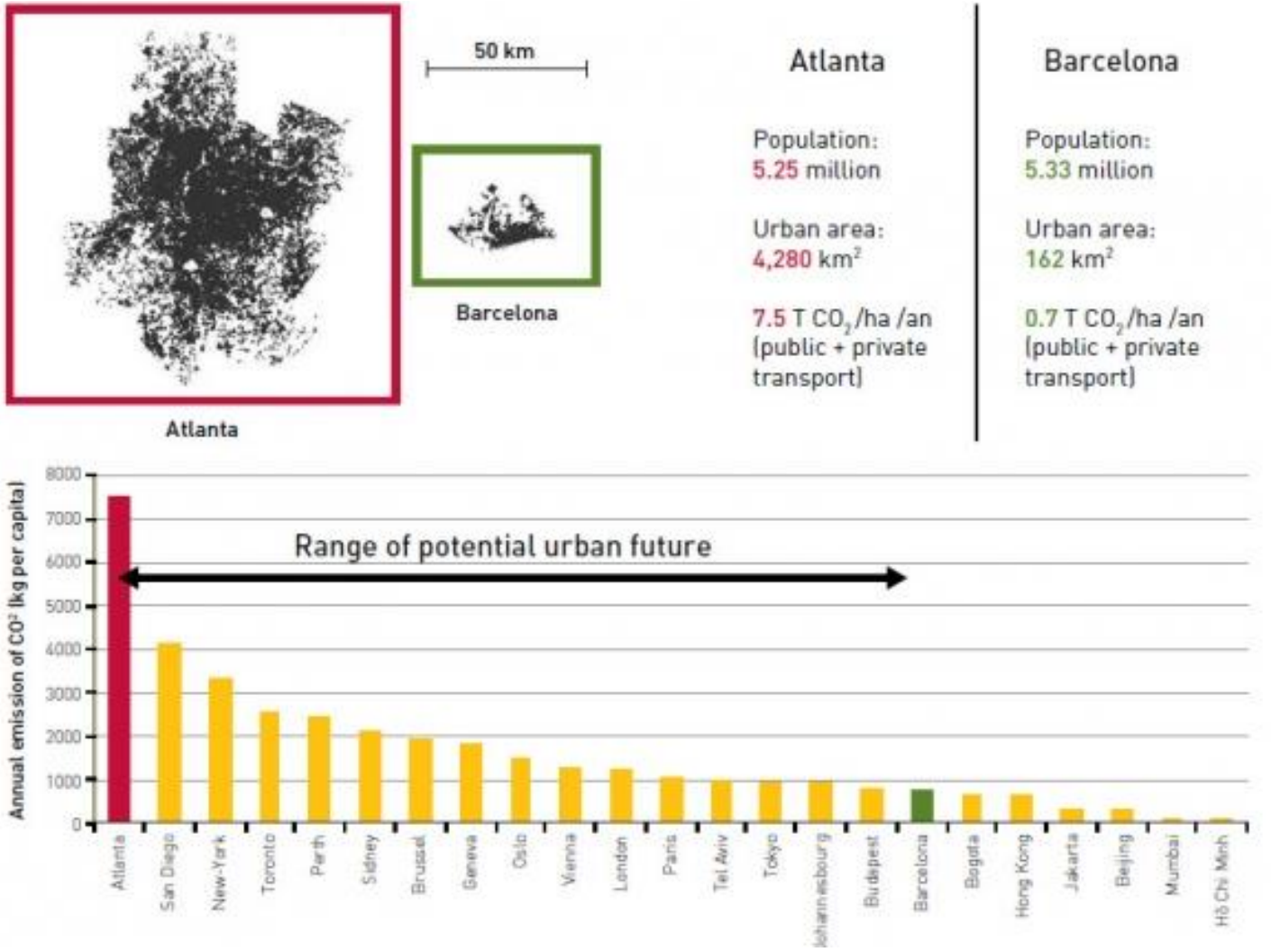
Figura 5 – **Taxa de Motorização.**

Fonte: AML, 2001 e 2016

Relationship between spatial structure and the effectiveness of public transportation

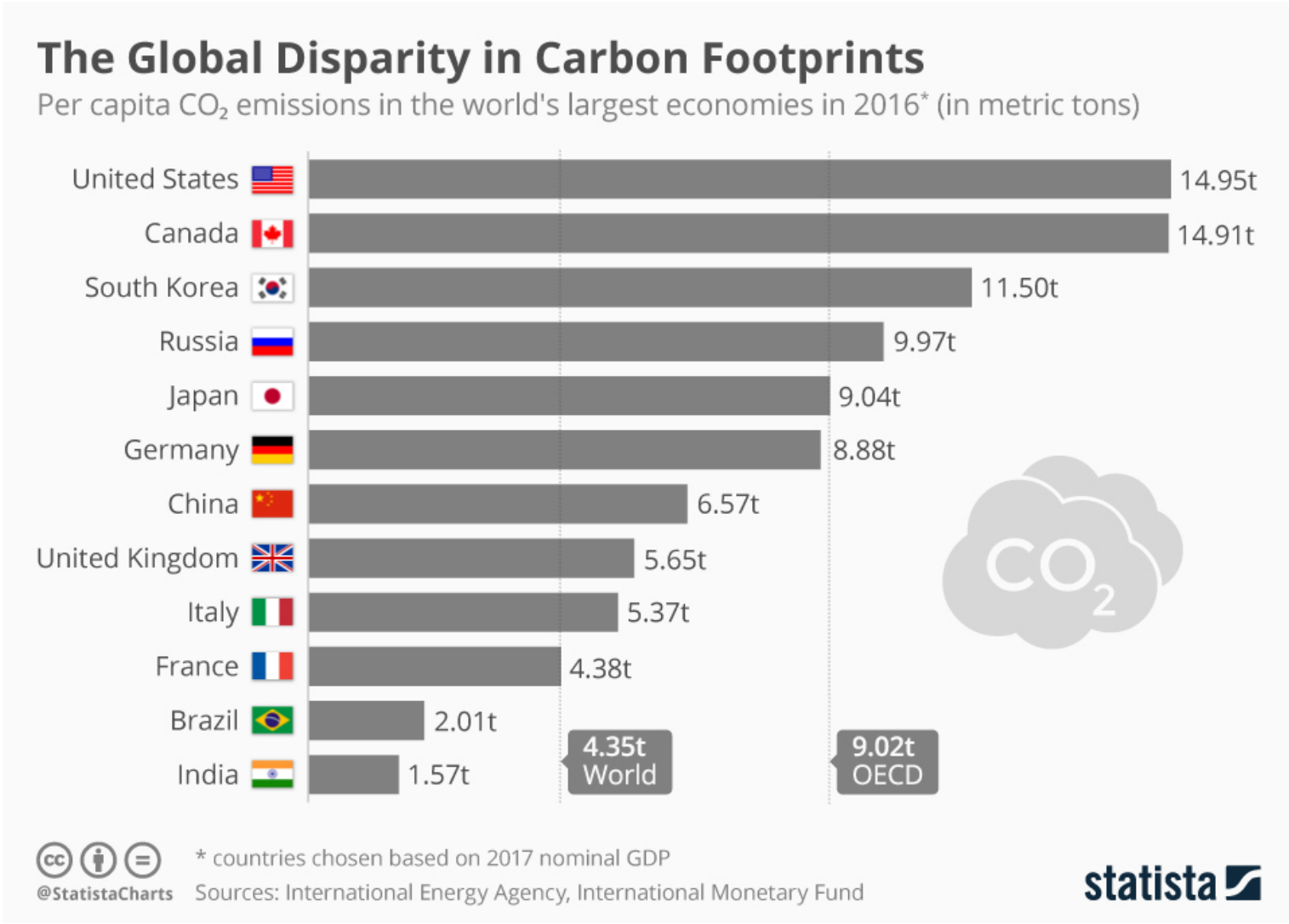


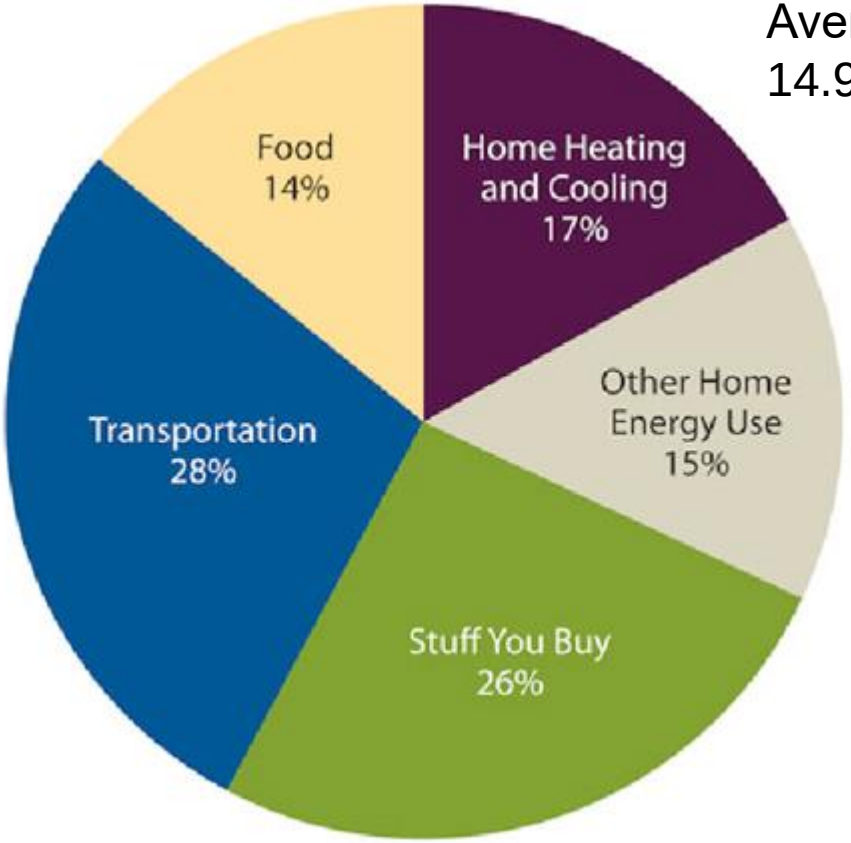
Source: Bertau and Malpezzi, 2003.



Source: Adapted from Newman and Kenworthy, 1999

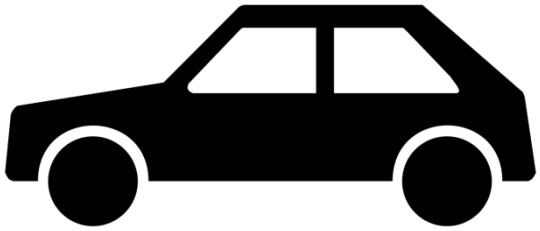
CURRENT AND ALTERNATIVE CARBOON FOOTPRINT MOBILITY/MINDSET


The Global Disparity in Carbon Footprints
Per capita CO_2 emissions in the world's largest economies in 2016* (in metric tons)
United States 14.95t
Canada 14.91t
South Korea 11.50t
Russia 9.97t
Japan 9.04t
Germany 8.88t
China 6.57t
United Kingdom 5.65t
Italy 5.37t
France 4.38t
Brazil 2.01t
India 1.57t
4.35t World
9.02t OECD
CO_2
* countries chosen based on 2017 nominal GDP
@StatistaCharts
Sources: International Energy Agency, International Monetary Fund
statista



Average american….
14.95 tonCO_{2eq}/ano

Lets look to your daily routines (weekdays):

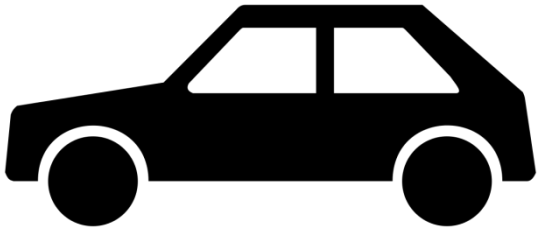


5 days*20 km*2 roundtrip = 200 km car/week

TTW 100g/pkm (1 person)

48week*200 km/week*100g/pkm = 1 ton/year

Lets look to your daily routines (weekends):



200 km car/weekend

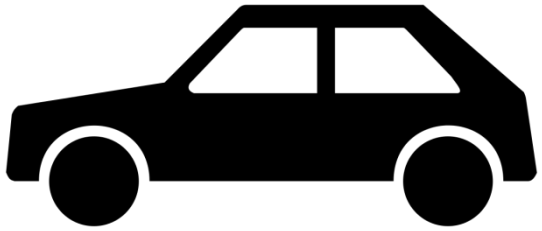
4week/month*12month/year*50g/km*200km/week = 0.48 ton/year

Lets look to your getaways:

4000 km airplane/roundtrip/year

139 g/pkm

4000 km/year*139 g/pkm = 0.56 ton/year



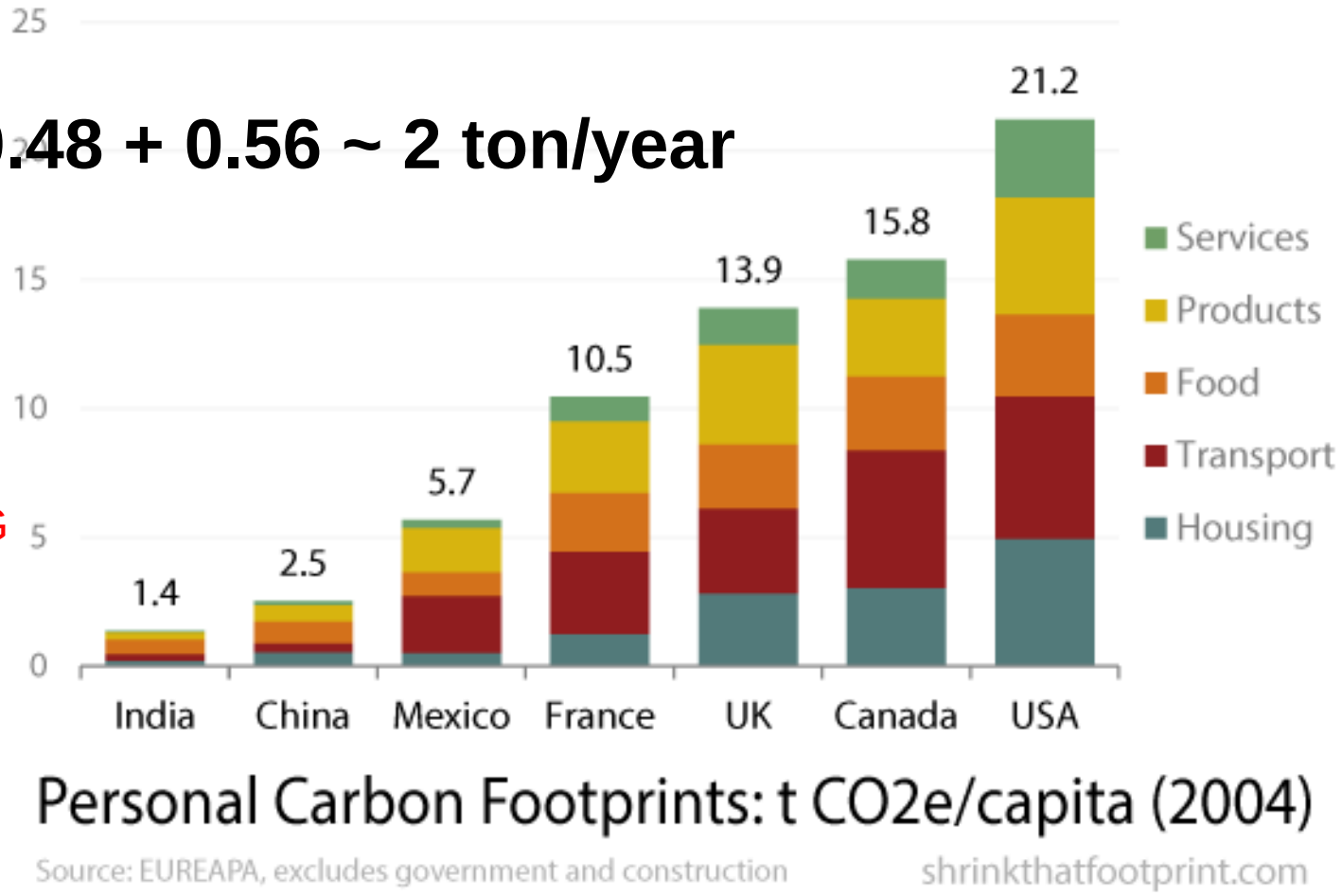
200 km car renting/week vacations

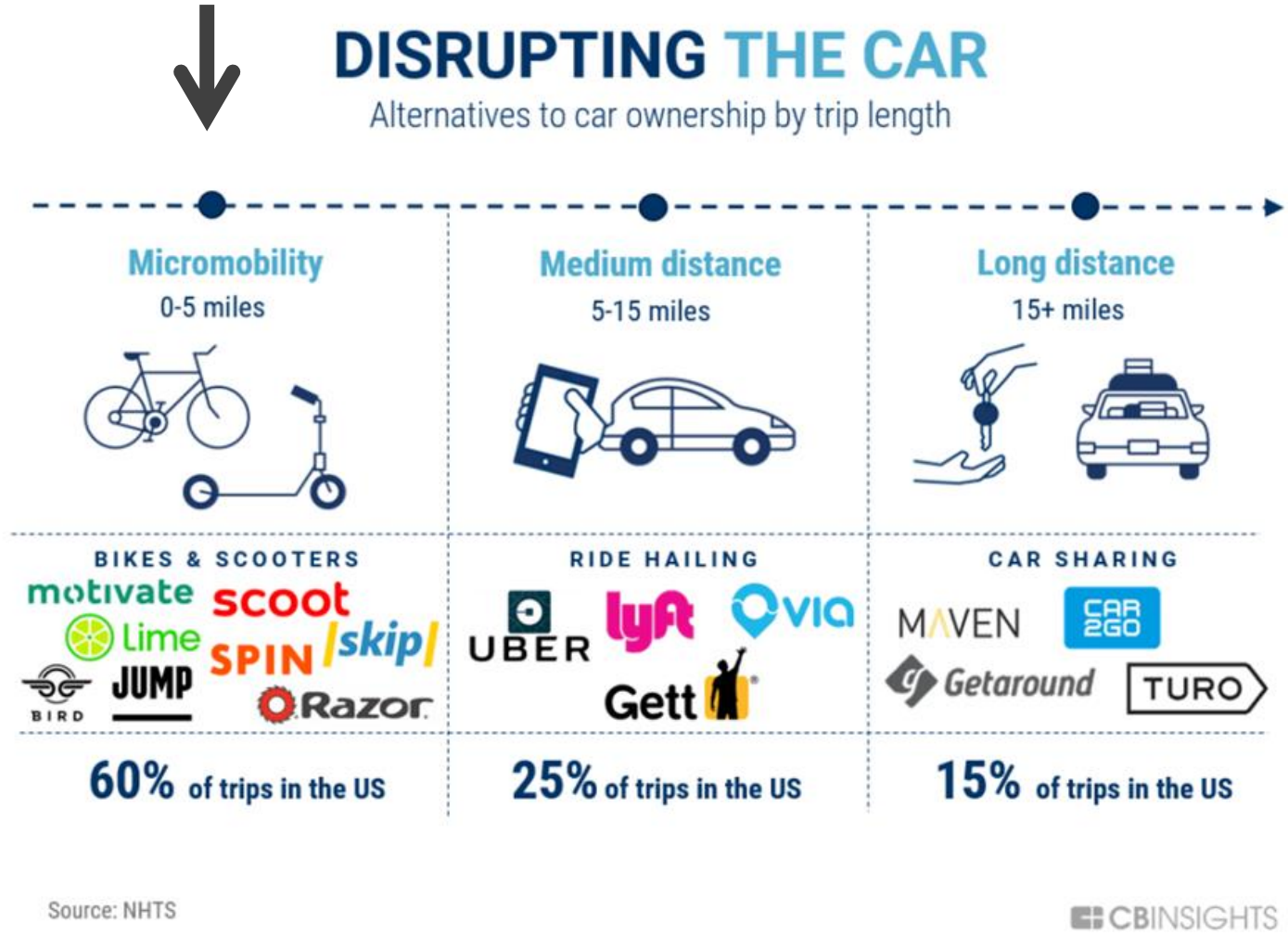
Included already in weekend

Mobility alone:

1.0 + 0.48 + 0.56 ~ 2 ton/year

COMMUTING




DISRUPTING THE CAR
Alternatives to car ownership by trip length
Micromobility
0-5 miles
Medium distance
5-15 miles
Long distance
15+ miles
BIKES & SCOOTERS
motivate
scoot
Lime
SPIN
/skip/
BIRD
JUMP
Razor
RIDE HAILING
UBER
lyft
VIA
Gett
CAR SHARING
MAVEN
CAR 2GO
Getaround
TURO
60% of trips in the US
25% of trips in the US
15% of trips in the US
Source: NHTS
CBINSIGHTS

…..8 km….24 km…..

Timeline Disrupting the car in Lisbon!

Lisbon

October 2017

Feb 2019

Sep 2018

Apr 2019

Hive, Bungo, Iomo,Voi,Tier, Flash, Wind, Bird

(750 EV bikes)

140 stations, 1410 bikes

~ 2000 bike

~ 2000 scooter

Disrupting the car in Lisbon city!

Lisbon

Shared active modes

$$\frac{4000}{500000}$$ ~ 2000 bike ~ 2000 scooter $$\frac{8}{1000}$$

Private cars $$\sim\frac{600}{1000}$$

Timeline Disrupting the car in Lisbon!

Lisbon

2019

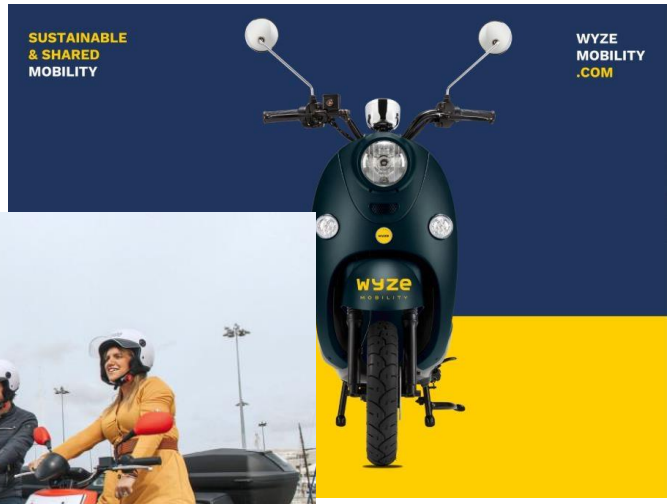
150 e-bikes

Shared motorbikes

2017

E-coltra

Pt Wyze (60+200) e-scooters

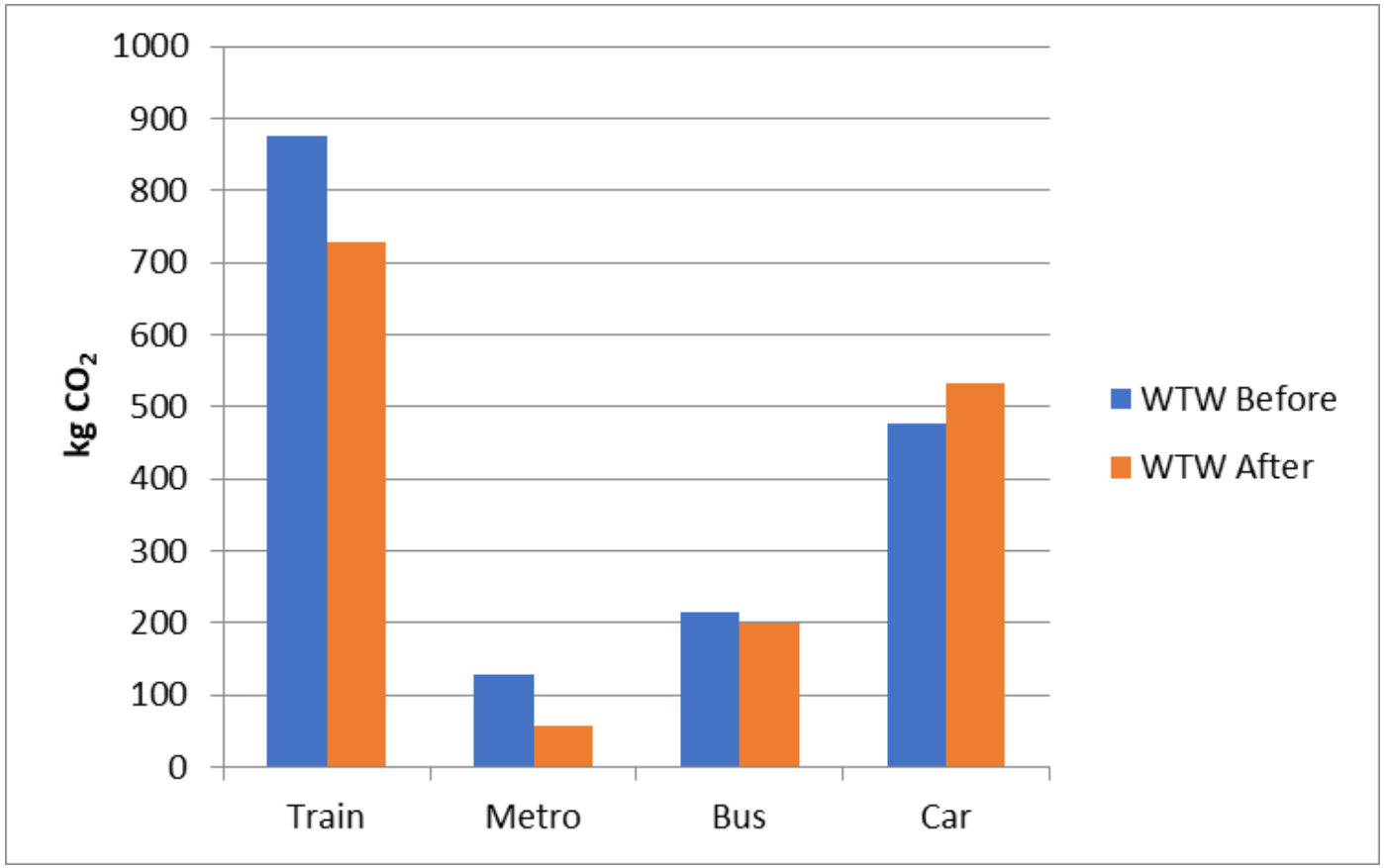


2019

acciona

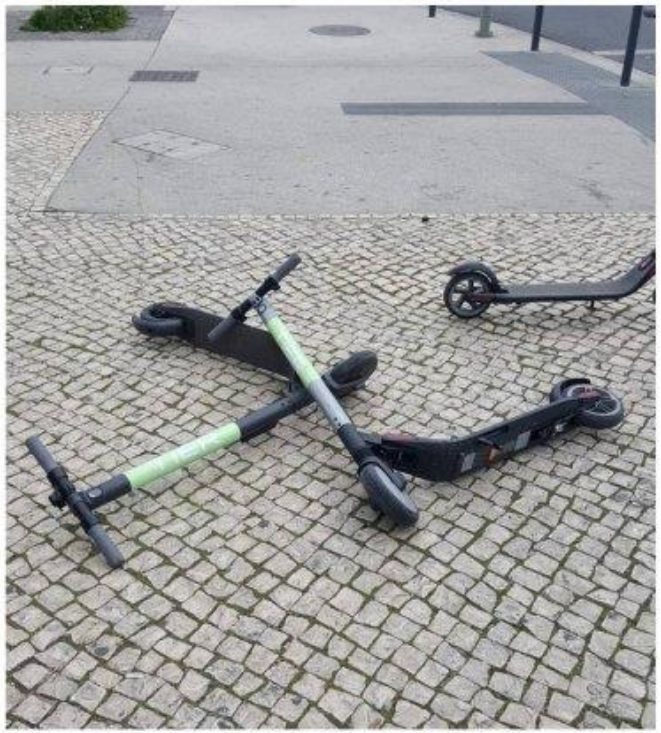
Lisbon

Early stage evaluation (3 month experience Surveys, per month values) not conclusive



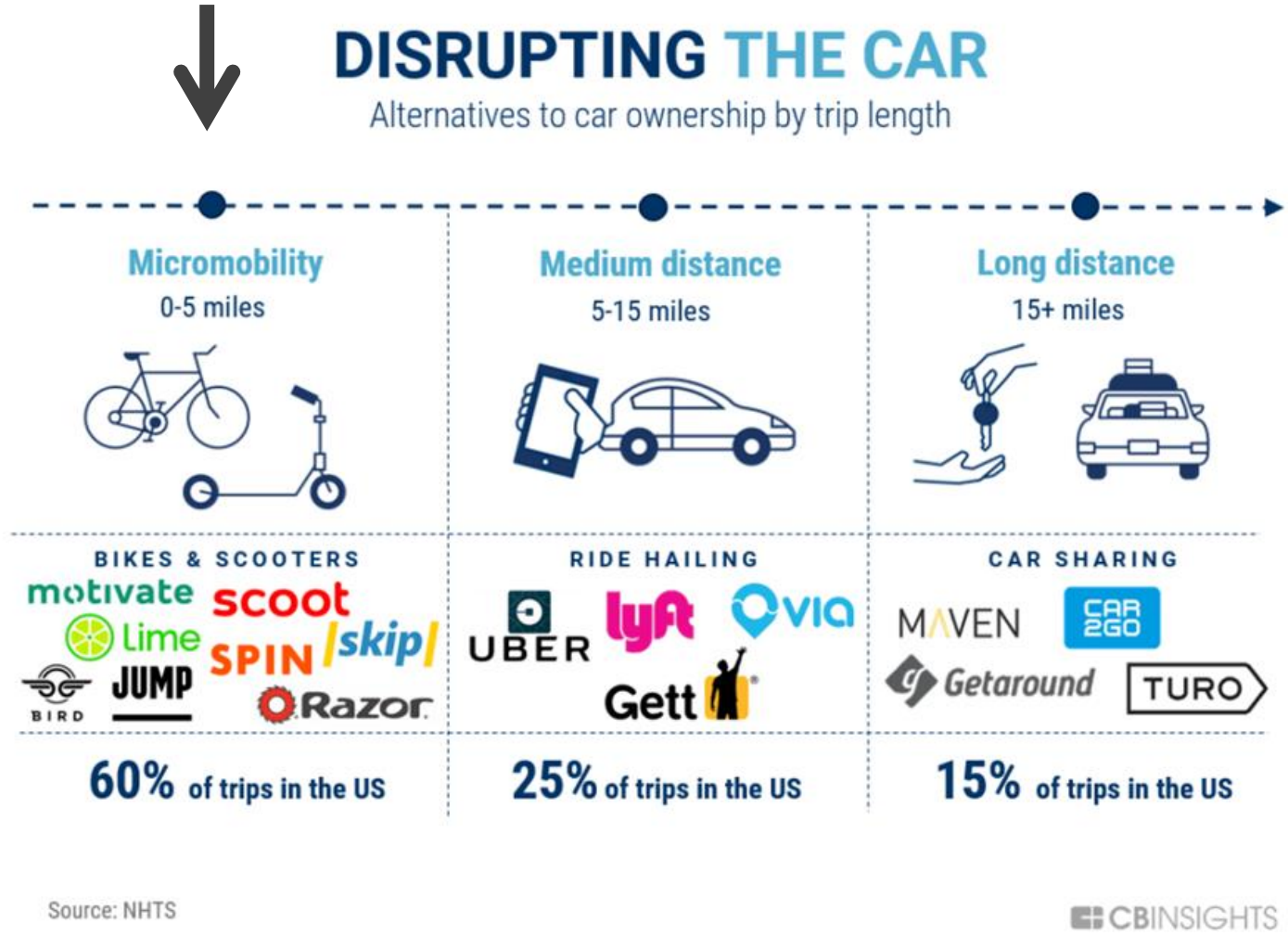
MOBILITY/MINDSET

Lisbon



Lisbon

October 2017: 1st year: 136 accidents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60% of trips in the US
25% of trips in the US
15% of trips in the US
Source: NHTS
CBINSIGHTS

…..8 km….24 km…..

INSTITUTO DOM LUIZ

FCT Fundação para a Ciência e a Tecnologia

Ciências ULisboa

There is a need to quantify the impact of this “disrupting the car” phenomena…..

Car pooling:


VAI AO CONCERTO COM
O VIA VERDE BOLEIAS
E A WORTEN
ED SHEERAN
BOLEIAS
VIA VERDE
BOLEIAS
worten

- ✓ **Low density+high GDP+mindset = high vehicle ownership and use;**

- ✓ **Variability across world cities, but overall 30% share energy/CO_2.**

✓ **Reduce carboon footprint/MINDSET**

- ✓ **Initial disrupting car system behaviour worse**
- ✓ **Sharing MOBILITY/MINDSET**