International Association of Public Transport
Union Internationale des Transports Publics
Internationaler Verband für öffentliches Verkehrswesen
Unión Internacional de Transporte Público

Towards low / zero-carbon urban mobility in Europe

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Connecting the world of public transport

Lay out UITP Decarbonisation paper

Executive summary

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0 Introduction

Challenges

- Global warming
- Secure energy supply

Solutions

- Energy efficiency and low carbon mobility

UITP supports holistic approach, not just cars

1 Vision

*"In 2025, urban mobility managed to **reduce by 20% its carbon footprint** as the result of clever efforts deployed in **policy and technology** areas.*

***Energy-efficient collective transport has become the preferred choice in urban mobility policy decisions**. Cities are regenerated and densified along major transport corridors. **Most mobility assets are shared instead of owned** by users, and range from conventional public transport to taxi, car-sharing, bike-sharing, and car pooling.*

*Convenient and reliable **lifestyle services** are offered to connected citizens who can easily access a diversified portofolio of integrated mobility services within walking distance from their home, work or places of entertainment.*

*Systems and technologies were developed and improved to achieve **robust, reliable and affordable electrification of most of these shared assets.**"*

2 Our carbon footprint

	2005	2025 BAU	2025 PTx2
Urban mobility (trips/day)	1310 x 10^6	1650 x 10^6 (+ 26%)	
CO_2 equivalent emission (tons)	470 x 10^6	440 x 10^6s (-7%)	380 x 10^6 (-20%)

EU 20/20/20 strategy cannot be achieved *only* by technology

Modal shift *does work* and offers additional benefits

Electricity is not green by nature

PT consumes 60% less energy per p*km as (e-)cars

Can we afford to wait longer?

3 Need to act… Now

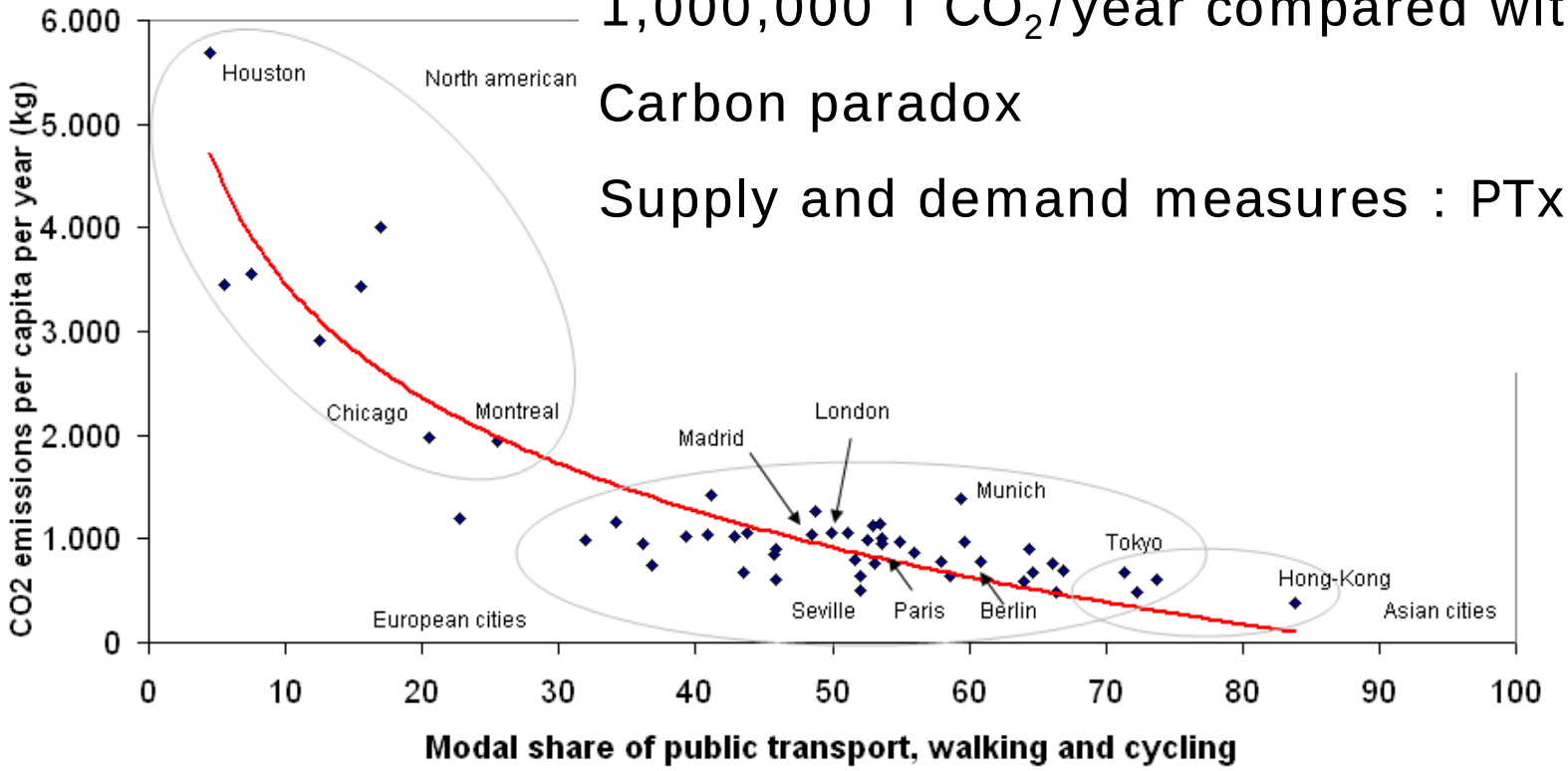
3.1 Modal shift: the best carbon reducing strategy

Modal shift to “Sustainable alliance”

A city of 400,000 inhab. with good PT saves 1,000,000 T CO_2/year compared with poor PT

Carbon paradox

Supply and demand measures : PTx2 pillars



3 Need to act... Now

3.2 Traffic management

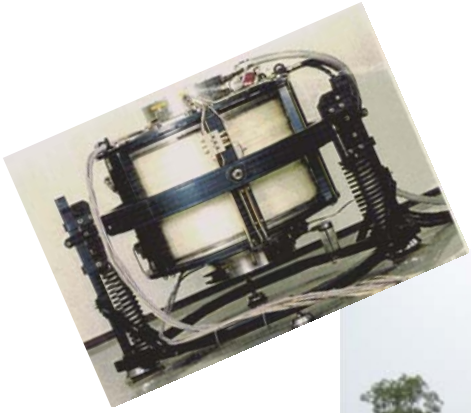
Crucial role of local authorities : offer better operating conditions

Traffic management : +5km/h av. speed > - 20% emissions

3 Need to act... Now
3.3 Decarbonising urban public transport

Smart energy use in vehicles

R&D, demonstration: traction efficiency, energy recuperation and storage, weight reduction, auxiliary equipment (A/C etc.)



3 Need to act... Now

3.3 Decarbonising urban public transport

Buses

Still 50-60% PT supply

95% running on fossil energy

Electrification efforts and maturity: a long way to go

2nd generation Bio-fuels

High acquisition costs; uncertain LCC

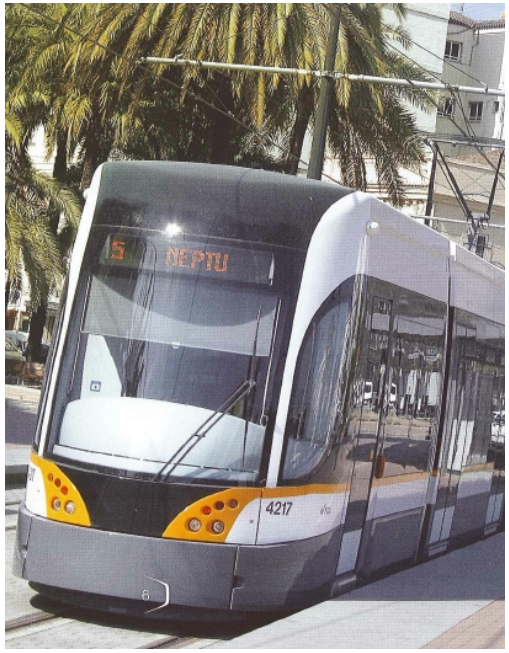
3 Need to act... Now
3.3 Decarbonising urban public transport

Rail transport

Nearly 100% electric in urban areas

22% decrease specific consumption in last decade

Further potential



3 Need to act... Now
3.3 Decarbonising urban public transport

Combined mobility fleets

Taxis and car sharing as ideal captive fleets

Dedicated access to recharging facilities

3 Need to act... Now
3.3 Decarbonising urban public transport

Infrastructure and operation issues

Eco-driving : 5-10% emission savings

Maintenance/stabling facilities: potential for renewable electricity production

4 Conclusions

PT has been providing CO_2-efficient mobility for decades

Low CO_2 mobility needs holistic “Avoid/Shift/Improve” policy mix

Modal shift is vital to reach 20/20/20 policy targets

Investing in PT brings additional benefits

Individual e-mobility does not solve congestion. A green traffic jam is still a traffic jam

Further electrification of PT in combination with green energy will further improve the situation

Any decarbonisation strategy will be very expensive

5 Recommendations

Ensure prices are fair and reflect true cost of transport to society

Act as enabler and facilitate massive investment required

Earmark resources for development of sustainable urban mobility

Support R&D programmes

Use contracts with operators as proactive tools towards gradual decarbonisation

Create incentives for purchase of renewable electricity

Create incentives for eco driving programme

Use life-cycle carbon footprint analysis to select transport infra projects

For specific recommendations to EU institutions, see adapted paper