



ADVANCING  
PUBLIC  
TRANSPORT



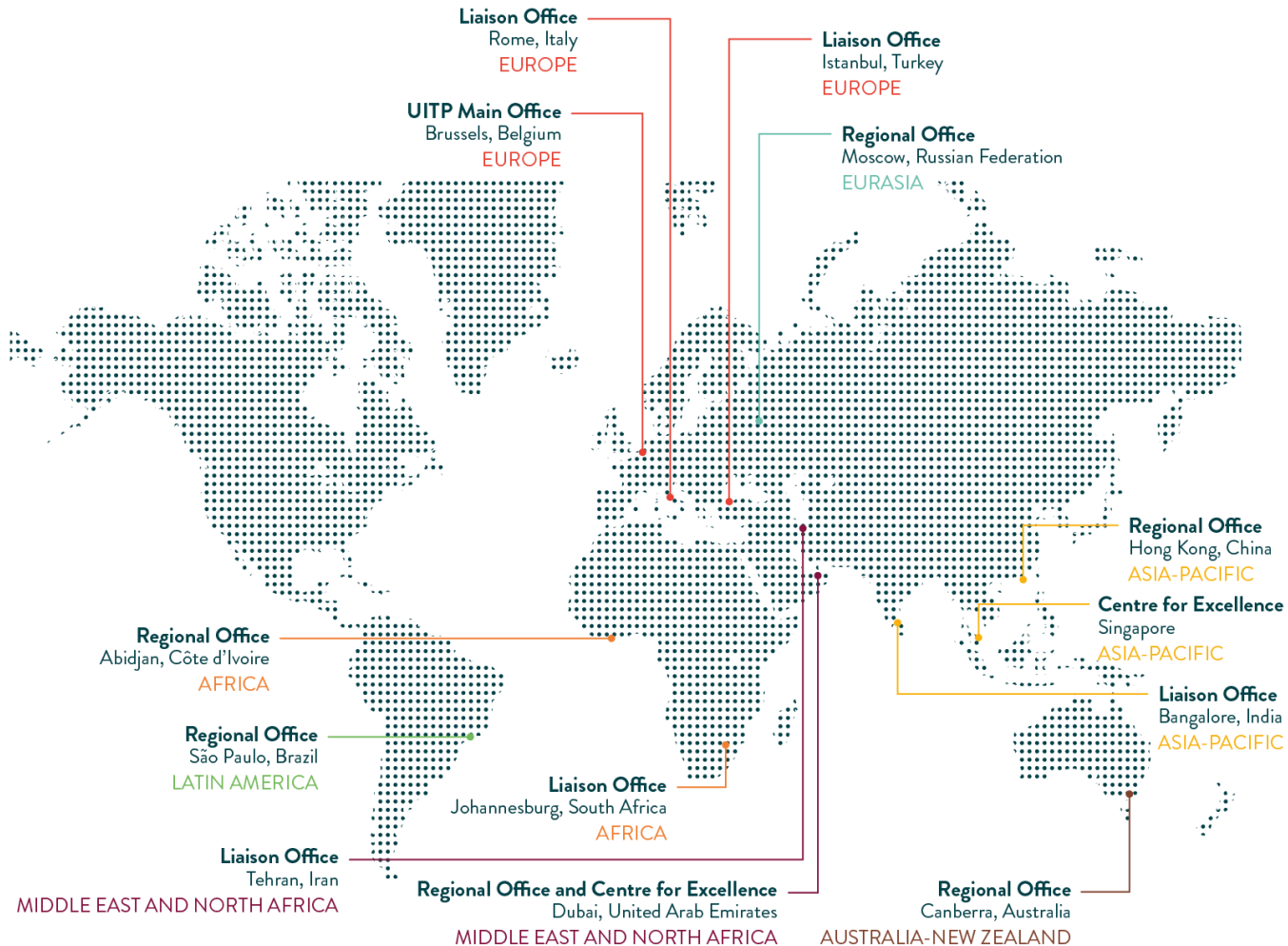
# MODERN PUBLIC TRANSPORT: EVOLVING TRENDS & CHALLENGES

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**International Association of Public Transport  
UITP**

**UNECE/TRANS Working Party on Transport Trends and Economics (WP.5)  
28<sup>th</sup> session | Geneva | 7-9 September 2015**

# UITP: A GLOBAL ASSOCIATION



# UITP: DIVERSE MEMBERSHIP

## 1300+ member companies

- Operators
- Authorities
- Public transport supply and service industry
- Research centers and universities

## 99 countries

Europe: 490 cities involved

Our **mission**: Knowledge | Advocacy | Business

# UN HIGH-LEVEL ADVISORY GROUP ON SUSTAINABLE TRANSPORT

August 2014

UN Secretary-General Ban Ki-moon invites UITP Secretary General Alain Flausch to seat on the **High-level Advisory Group on Sustainable Transport**

September 2014

Climate Summit NYC: **UITP's Declaration of Climate Leadership**

350+ actions pledged

110 public transport organisations

December 2015

**COP21 Paris:** UITP highly involved



# **1. PUBLIC TRANSPORT SECTOR: OVERVIEW & STRATEGY**

# UITP'S PTx2 STRATEGY

→ **Doubling the market share of public transport worldwide by 2025**

→ Galvanise the PT sector (56.8bn journeys/year)

→ Safeguard liveability of cities

→ Five strategic axes:

- Develop visionary **urban governance**
- Create a **favourable business environment**
- Secure **stable funding and investment**
- Focus on **customer needs, lifestyle and innovation**
- Resort to **demand management** measures

**WHERE ARE WE NOW?**

# MCD 2015

# MOBILITY IN CITIES DATABASE

- 60 metropolitan areas worldwide (data for 2012)
- Evolution of urban mobility patterns in the past 20 years
- Comparable data using detailed definitions and harmonisation methods



## JUNE 2015

## MOBILITY IN CITIES DATABASE

### SYNTHESIS REPORT

#### INTRODUCTION

After a period of erosion, public transport is on a growing trend again, particularly in developed economies, where urban sprawl tends to be slowing down. In developing and transition economies, urban mobility demand is pushed up by population and economic growth. This puts public transport networks under pressure; furthermore the share of public transport tends to be declining in those cities, while car ownership is soaring. Overall, public transport growth is the strongest where efforts to increase its supply are matched by policies that manage private vehicle demand and increase urban density.

This report provides information on the evolution of urban mobility patterns in the last 20 years, highlighting new trends and different trajectories for different groups of cities. In particular, it shows which policies undergo strong growth in the modal share of public transport and other sustainable modes. At the mid-term of the UITP strategy of doubling the market share of public transport by 2025, this report will provide support and inspiration to cities gearing themselves towards reaching this ambitious objective. The report also highlights important relationships between the modal share of public transport and the characteristics of the urban transport system.

#### OVERALL URBAN MOBILITY TRENDS

##### URBAN DENSITY

In the second half of the twentieth century urban planning, particularly in developed countries, has focused on private cars as the primary means of transport for residents, leading to urban sprawl, characterised by a

decrease in urban density and longer distances travelled. In the sampled cities within developed countries, this trend, which could be observed until the turn of the new millennium, appears to have been reversed. On average, density in developed cities dropped in 2001, compared with the 1995 figure, but has now increased again, the 2012 figure being on par with the corresponding 1995 value.

Data used in this report were collected for 60 metropolitan areas worldwide for the year 2012. The database covers demography, the economy, urban structure, the number and use of private vehicles (including tax), the road network, public transport networks (infrastructure and rolling stock, supply and demand, farebox revenue), and mobility patterns.

These data were compared to those collected for the years 1995 and 2001, in previous editions of the Mobility in Cities Database, when the same detailed definitions for data and metropolitan areas could be used.

The harmonisation of data between cities and through time was made difficult by the dispersion of sources, the diversity of methodologies, and the limited availability of data. Detailed common definitions were used to provide data of the best possible quality.

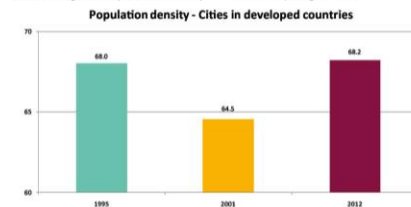
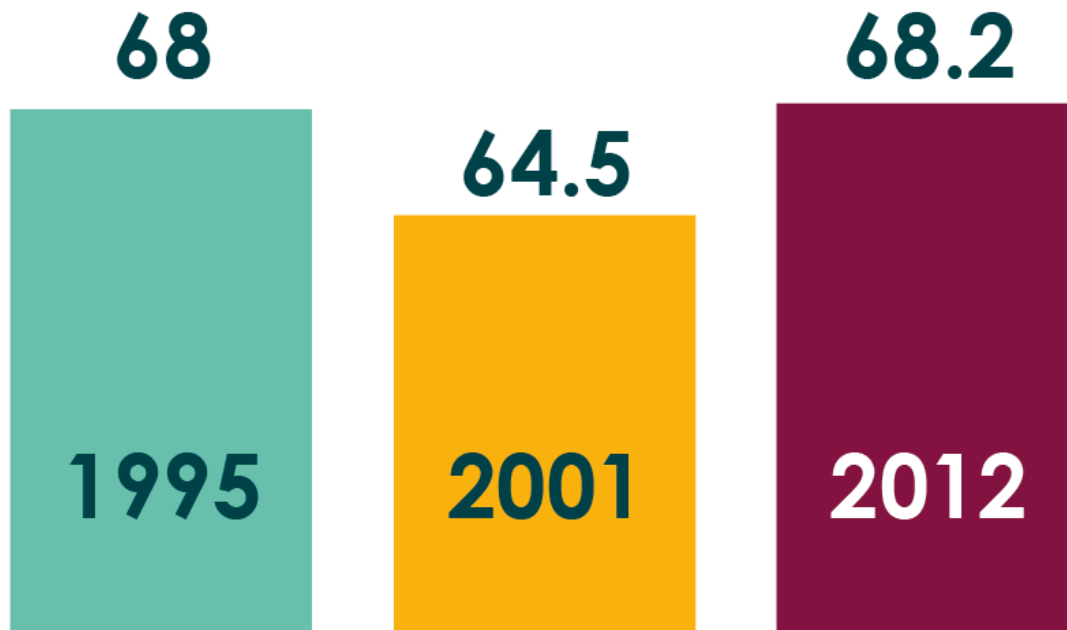


Fig. 1. Average urban density in developed cities - expressed in terms of inhabitants per urban hectare; 20 cities in sample.

# GROWTH IN URBAN DENSITY



Prague	+16%
Vienna	+12%
Oslo	+11%
Munich	+11%
London	+8%

Percentage change 1995-2012

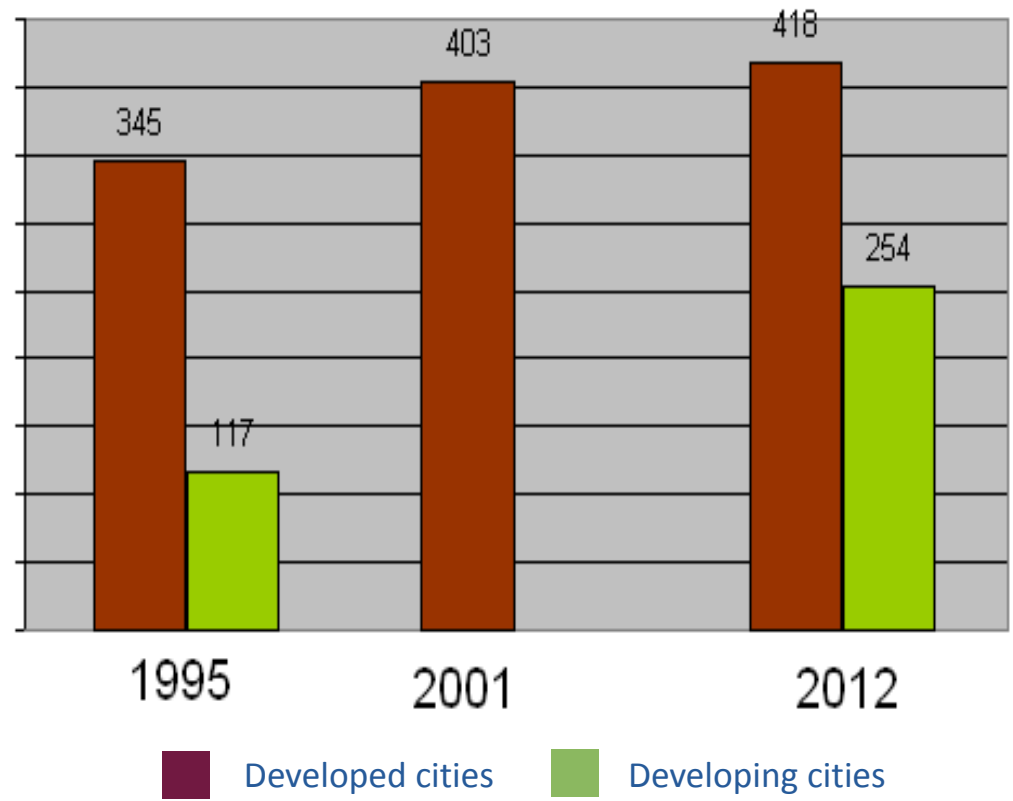
Average number of inhabitants per urban hectare in developed cities



# EVOLUTION OF MOTORISATION

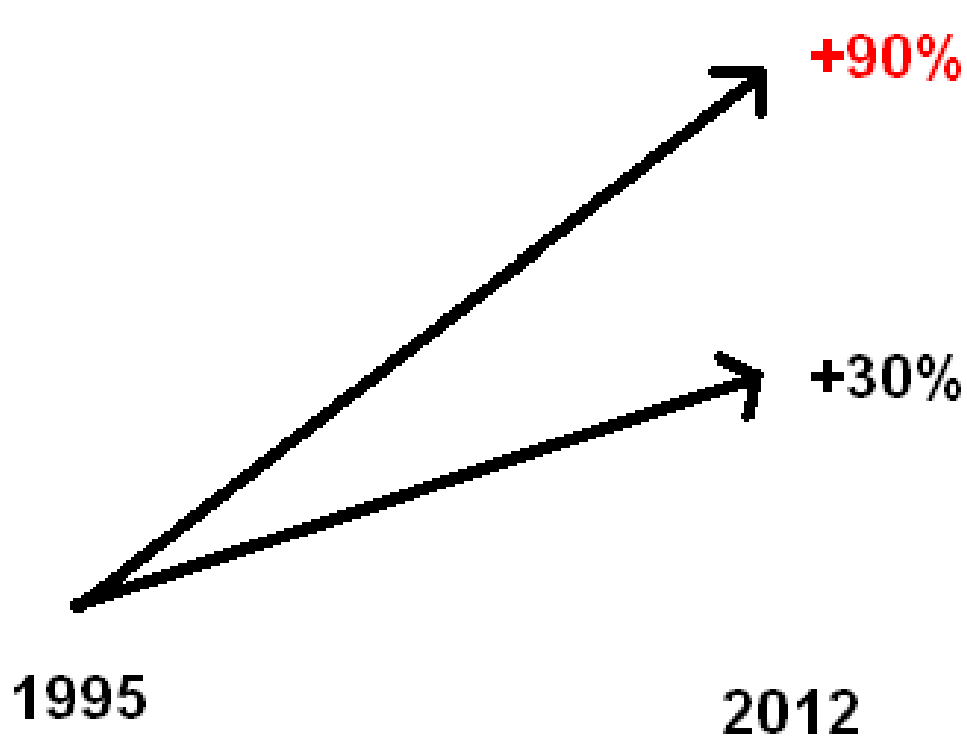
**London -10%**  
**Geneva -8%**  
**Glasgow +27%**  
**Delhi +88%**  
**Beijing +111%**

Percentage change 1995-2012



Average number of cars per 1000 inhabitants

# GROWTH IN PT SUPPLY



Beijing	+367%
Geneva	+48%
Oslo	+38%
London	+37%
Hong Kong	+36%
Paris	+28%

Percentage change 1995-2012

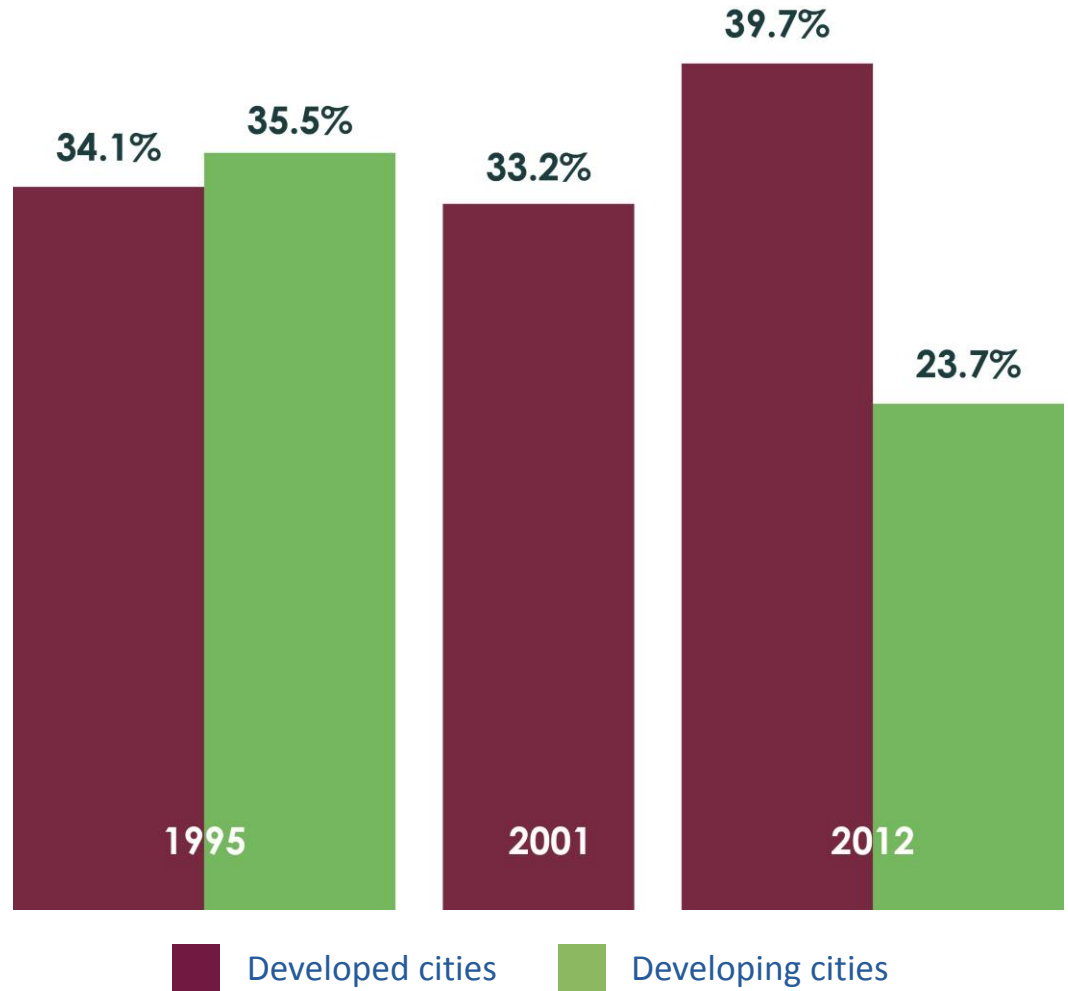
■ Developed cities ■ Developing cities

Average evolution of public transport vehicle x km produced

# MODAL SHARE EVOLUTION

Oslo	+61%
Geneva	+35%
Stockholm	+32%
Singapore	+28%
Vienna	+26%
Paris	+22%
Budapest	-29%
Casablanca	-22%

Percentage change 1995-2012



Average share of public transport out of motorised and mechanised trips

# LOCAL PT JOURNEYS (2012)

EU average of 132 journeys per urban inhabitant in 2012

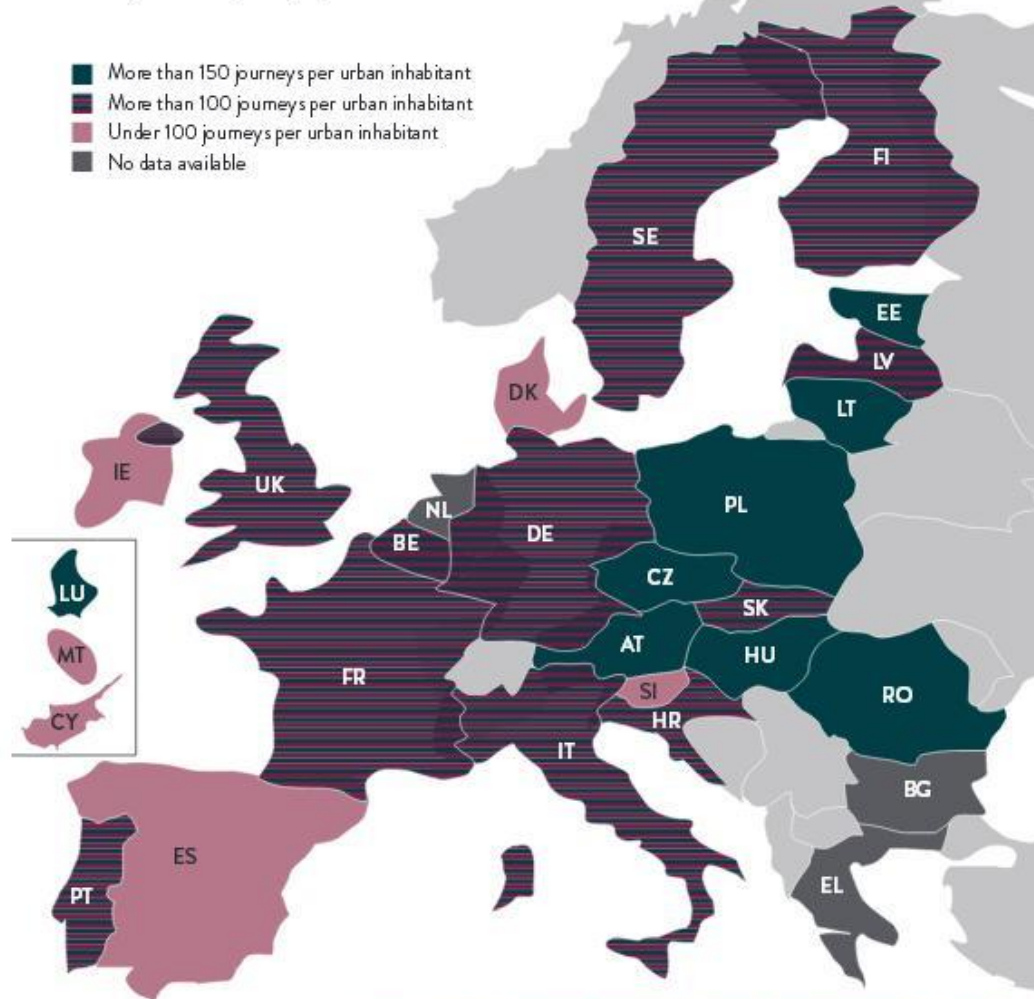


Figure 3 Local public transport journeys by bus, tram, metro, per urban inhabitant in 2012

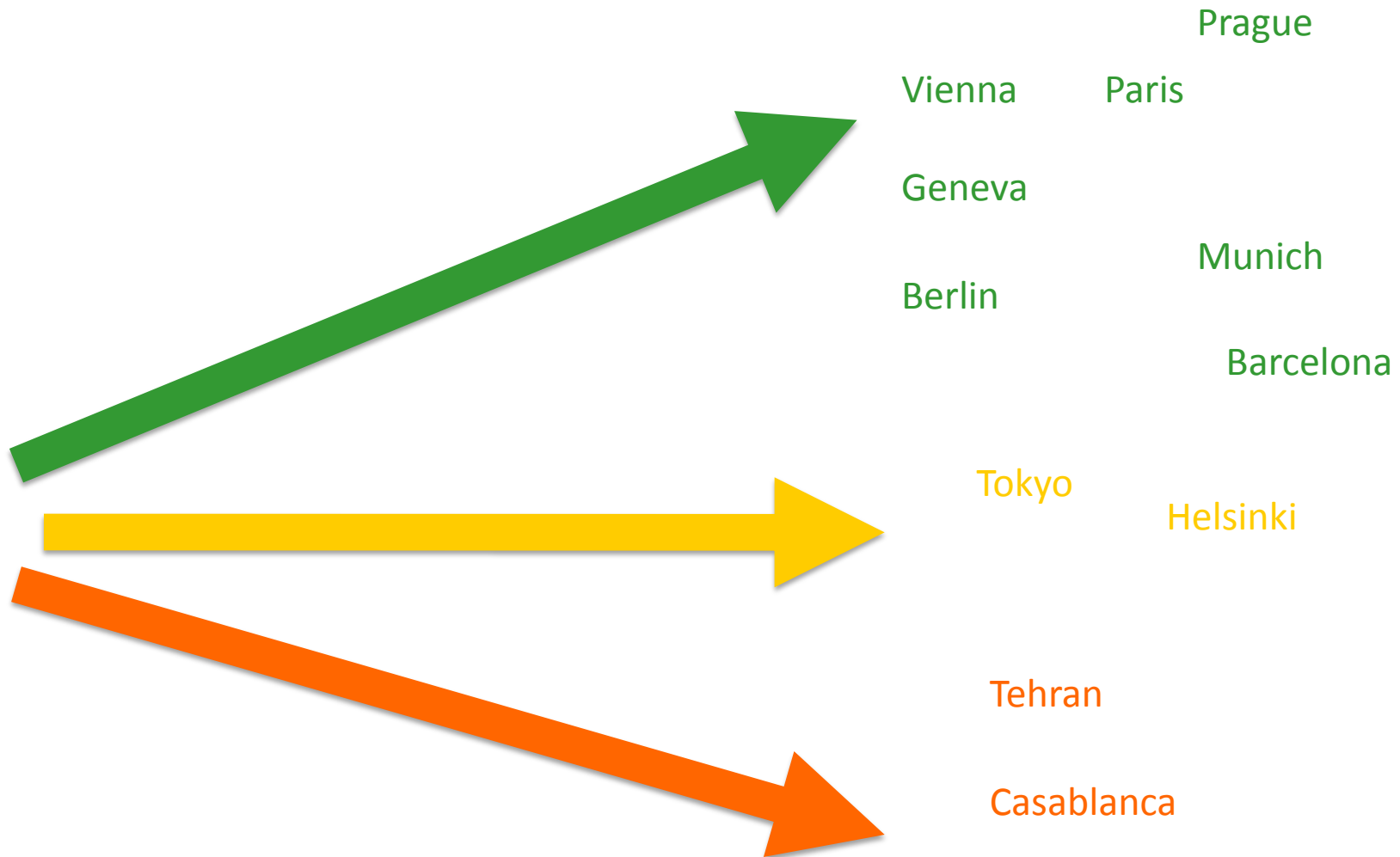
# LOCAL PT JOURNEYS: EVOLUTION (2000-2012)



Change in local public transport journeys by bus, tram, metro between 2000 and 2012.

\*2001-2012, †2002-2012, ‡2005-2012

# URBAN MOBILITY TRAJECTORIES: PT SUPPLY PER INHABITANT



# SUCCESSFUL MODAL SHIFT: DRIVERS

Vienna

Paris

London

Geneva

Prague

Oslo

Public  
transport  
modal  
share

Public  
transport  
supply per  
inhabitant

Urban  
density

Motorisation

Car use

Strong  
growth

Strong  
growth

Growth

Decrease

Strong  
decrease

# SUCCESSFUL MODAL SHIFT: DRIVERS

Barcelona

Public  
transport  
modal  
share

Public  
transport  
supply per  
inhabitant

Urban  
density

Motorisation

Car use

Berlin

Tokyo

Munich

Helsinki

Stable

Strong  
growth

Stable

Stable

Stable

Increase

Increase



# SUCCESSFUL MODAL SHIFT: DRIVERS

**Tehran**

Public  
transport  
modal  
share

Public  
transport  
supply per  
inhabitant

Urban  
density

Motorisation

Car use

**Casablanca**

**Delhi**

Decrease

Strong  
decrease

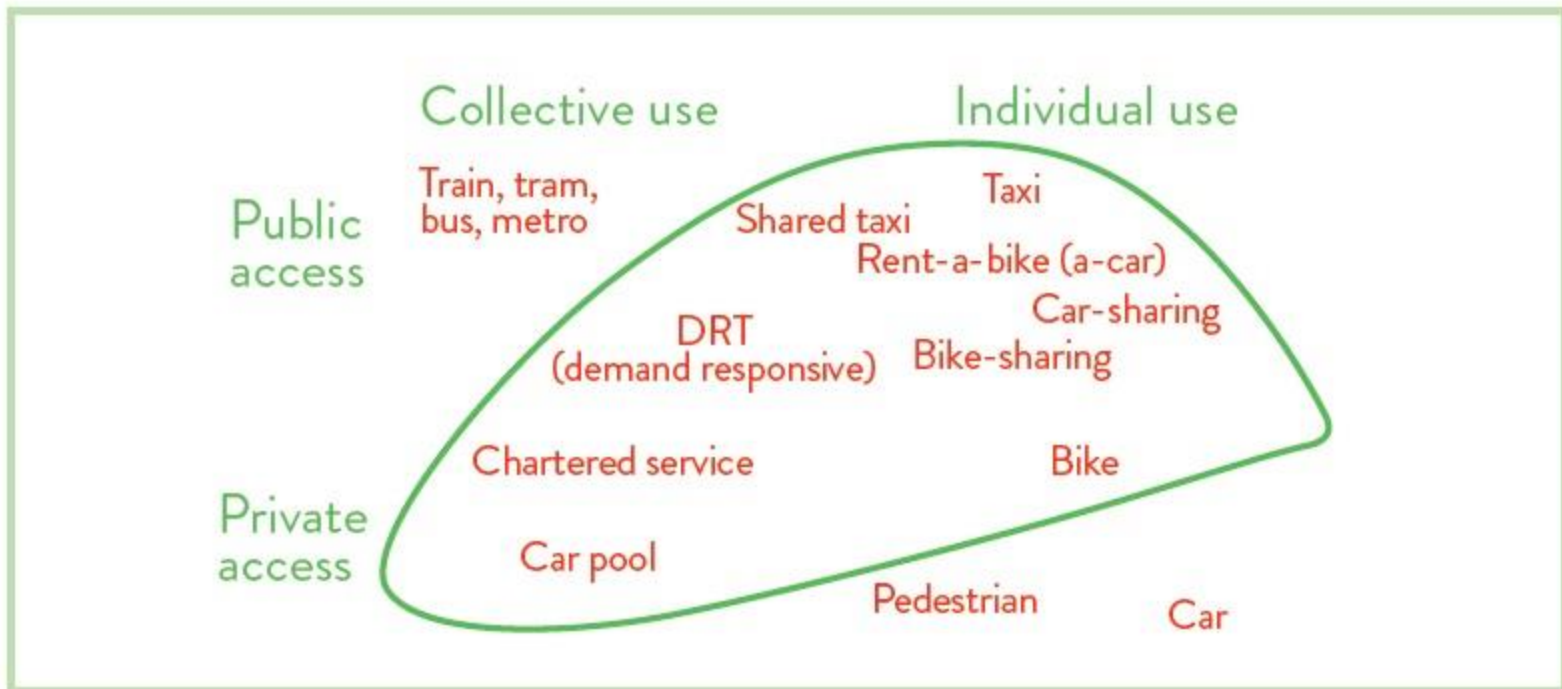
Increase

Strong  
increase

Strong  
increase

# **2. PUBLIC TRANSPORT TRENDS: CHOSEN FINDINGS**

# COMBINED MOBILITY



*COMBINED MOBILITY is public transport in synergy with car-sharing, bike-sharing, taxis, etc.*



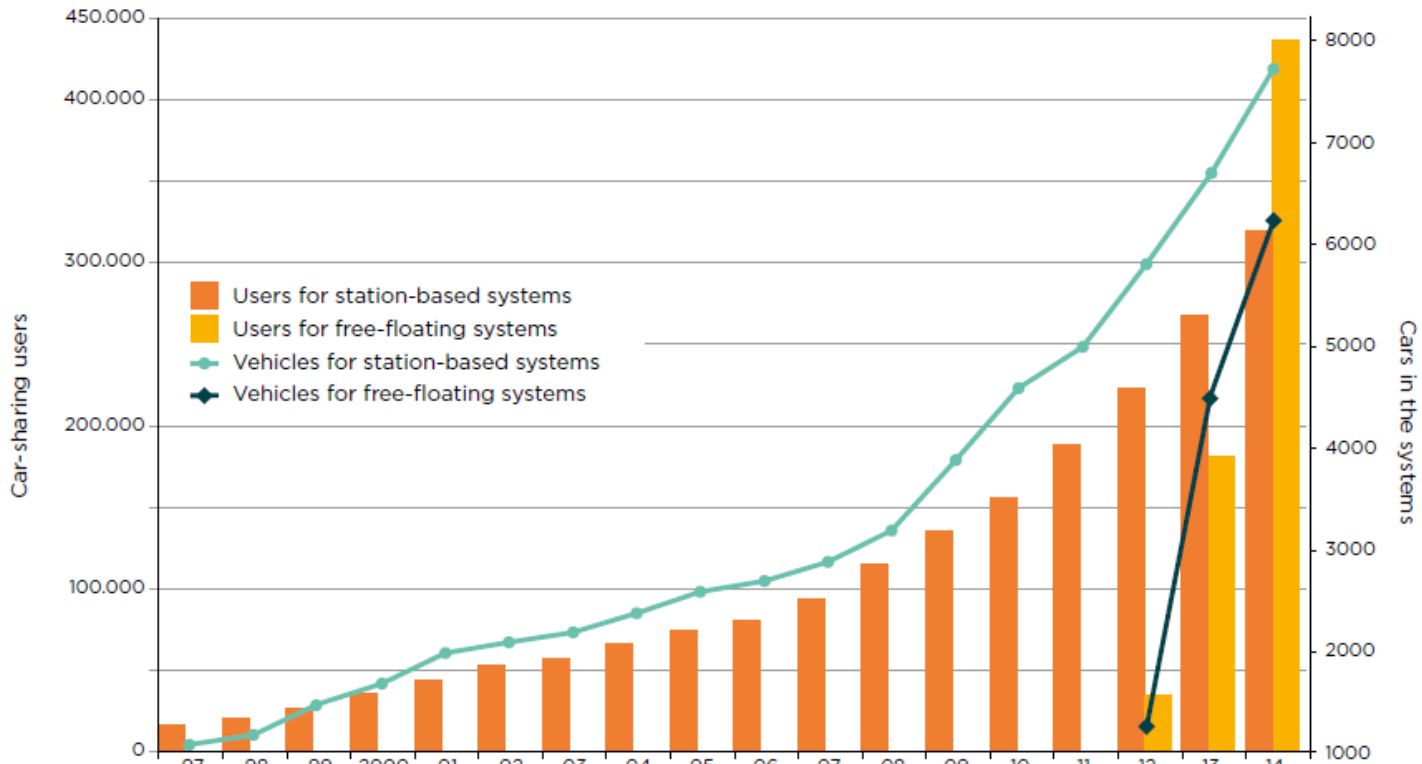
# Car-sharing

and public transport: an evolving interaction

“One car-sharing car replaces up to 12 privately owned cars.”

**FIGURE 7: CAR-SHARING DEVELOPMENT IN GERMANY IN THE LAST YEARS**

Source: BCS Germany (Bundesverband Car Sharing)



# RESTRUCTURING: OPERATOR'S SIDE

Traditional public transport industry vs. **newcomers** and large transnational passenger transport operators

Liberalisation encouraged **new entrants** to develop a mix of improved service quality and better price (**contracting**)

**Big data**: a source of efficiency gains, new services, integration, a better understanding of travellers

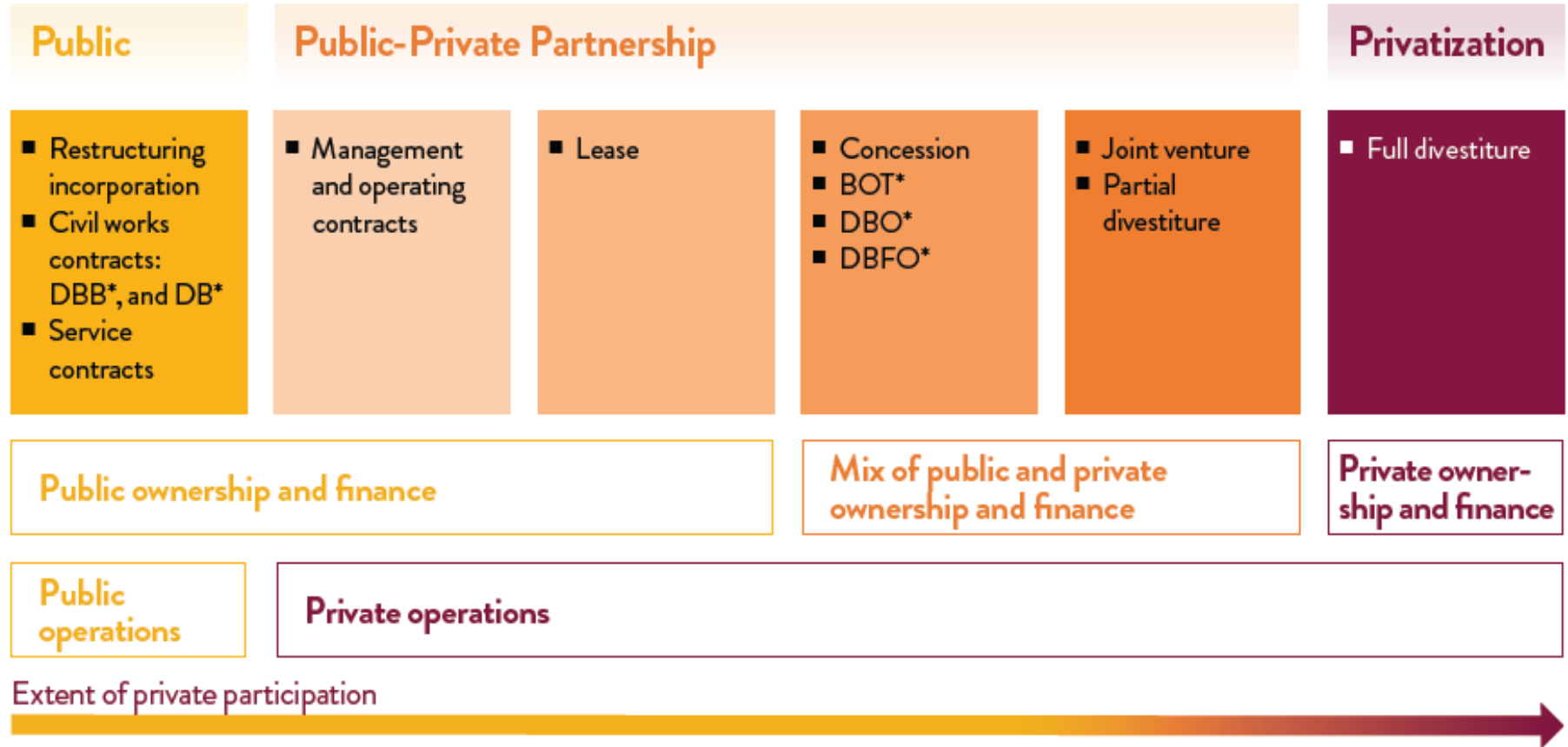
**Individualised information** on customers by operators

# TRENDS IN FUNDING: PT FINANCING MODEL

- **Fares** are becoming **more sophisticated**
- Development of **commercial revenue**
- Private sector taking the lead through **PPPs**
- Contribution of direct and indirect **beneficiaries** (e.g. land value capture)

# PPPs MODELS

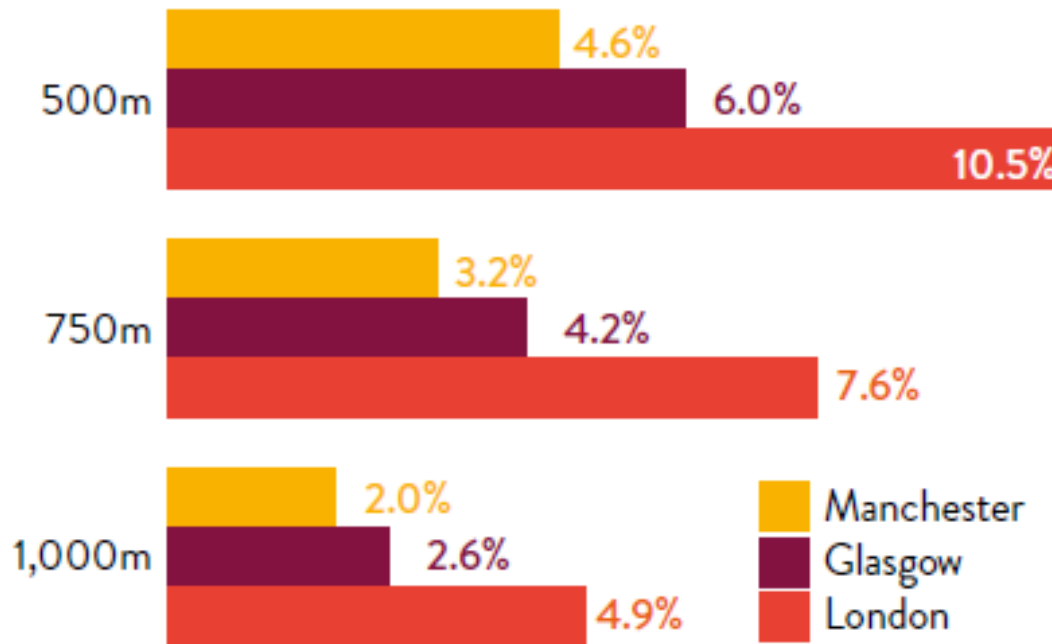
**FIGURE 10: SPECTRUM OF DIFFERENT PUBLIC PRIVATE PARTNERSHIP MODELS** Source: World Economic Forum, 2014



\* DBB: Design-Bid-Build, DB: Design-Build, BOT: Build-Operate-Transfer, DBO: Design, Build, Operate, DBFO: Design-Build-Finance-Operate

# COMMERCIAL PROPERTY DEVELOPMENT

**FIGURE 11: RANGE OF UK PROPERTY PREMIUMS COMPARED TO STATION DISTANCE** Source: Nationwide, 2014



*Land lies at the heart of the most successful urban transport networks.*



# UITP FINANCING TOOLBOX



HOME

ABOUT

BENEFITS

RECOMMENDATIONS

TOOLS & PROJECTS

AWARDS

ALL TOGETHER

FRIENDS

## WHAT CAN I DO ?

- > Policy makers
- > Transport community

## SCENARIOS 2025

## FINANCING TOOLBOX

REVENUE STRATEGY

EARMARKING

COST MANAGEMENT

NEW PARTNERSHIP

## PUBLIC TRANSPORT FINANCING

Ensuring adequate funding for public transport is crucial in a context of growing demand and increasing quality expectations from customers. However, there is rising tension between the costs incurred by these trends and the traditional revenue streams for public transport.

Doubling the market share of public transport worldwide critically relies on the capacity of the sector to combine considerations on funding with the development of a new business model and the integration of public transport with other urban policies.

There is, indeed, no silver bullet for the funding of public transport and successful approaches combine the development of a proper revenue strategy, the earmarking of local charges for public transport, and the establishment of partnerships with private investors.

## THE TOOLBOX

The purpose of the public transport Financing Toolbox is to provide inspiration on innovative revenue sources, critical analysis of existing and emerging practices, best practice case studies,

## Revenue strategy

Optimizing cost coverage through fare and product differentiation, fare adjustment, and exploitation of assets and know-how

## Earmarking

Channeling towards public transport revenues from charges to those who cause or benefit from urban transport externalities

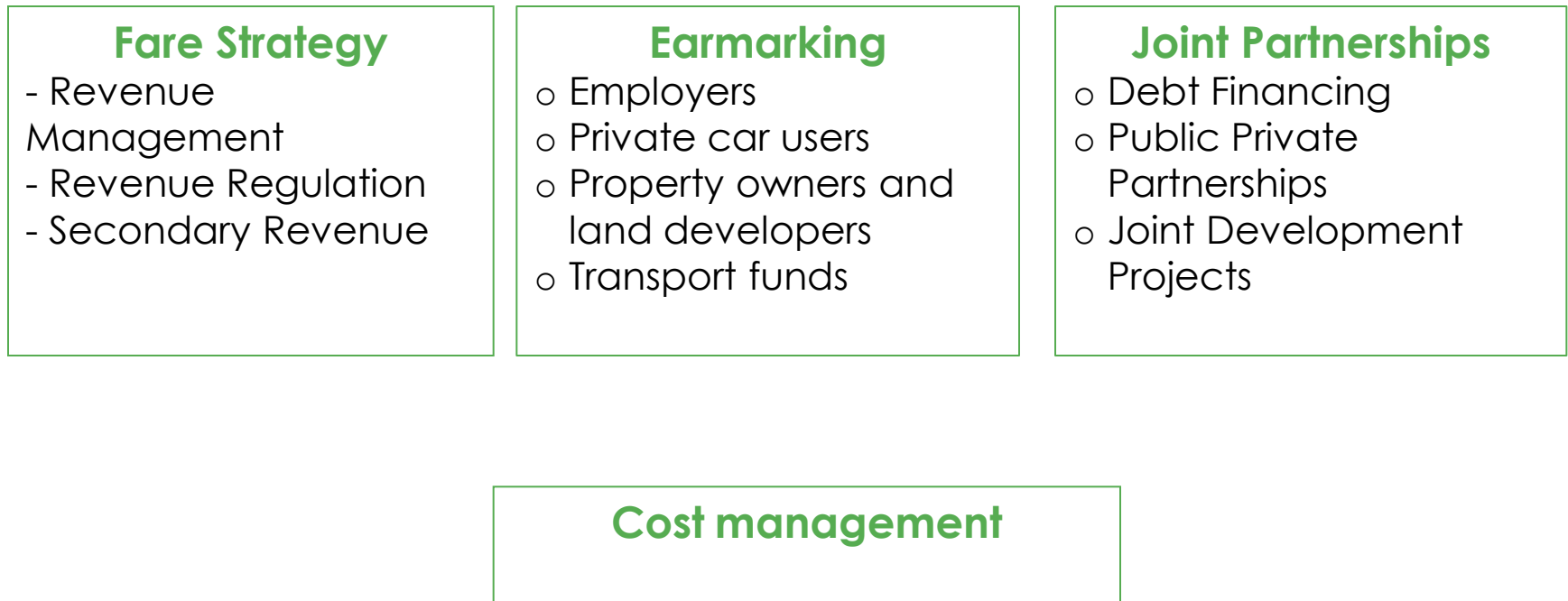
## New partnerships

Devising mutually beneficial partnerships with banks, private investors, urban developers and the business community

<http://growpublictransport.org/tools-and-case-studies/financing-toolbox/>

# UITP FINANCING TOOLBOX

## FINANCING TOOLBOX



# **3. STANDARDIZATION: CASE OF TICKETING**

# WHY DO WE NEED PAN-EUROPEAN TICKETING SCHEMES?

- Deregulation and competition
- Passengers are increasingly left to consult several operators rather than one
- The deregulated airline industry: strong alliances and an abundance of price comparison websites
- The rail market: lack of the basic standardization and interfaces
- It is just too complicated to go by rail!

# WHAT IS THE ISSUE?

- Local public transport is a local responsibility all over Europe. Each city or region has it's own information and ticketing system
- The Ticketing industry lives well with it!
- The bulk of PT ridership is local; Is the market for national or pan-European solutions large enough? Is there a business case?
- And there is still strong resistance against Open data within our sector...

# COLLABORATIVE TICKETING INITIATIVES

- **STA-"Smart Ticketing Alliance". Non-commercial cooperative body for standardisation and interoperability: IT, Calypso, VDV e-TS and AFIMB**
- **The White paper, Shift2Rail IP4, and EP 4<sup>th</sup> Railway package initiatives, all focus on establishing a pan-European ticketing and information system by 2020.**
- **Important ongoing work in IT2Rail project and FSM project. Roadmap advice from AWT and Transforum.**
- OMTA-"Open Mobile Ticketing Alliance" (LTA Singapore; Scheidt & Bachmann, Thales, VeriFone Mobile Money, Nokia).
- OSPT-Cipurse-"Open standard" (Infineon G&D mfl industry actors)
- ETC-"European Travellers Club". Account-Based Travelling across Europe (VDV, UL, NXP, Trans Link).
- FSM "Full service Model"- railway companies with DB in lead.
- ASCAN in Sweden (Cubic customers; vendor specific interoperability).
- iPSI "Interoperable Product Service" in Germany: a solution that ties together the app-based ticket and info solutions and allows the sale of each other's tickets.

# 4. CONCLUSIONS

# WE NEED A MIX OF SOLUTIONS

- Increase in public transport supply **necessary but not sufficient** to improve modal share
- It must be **complemented by policies** that manage the demand for private vehicle travel (e.g. parking restrictions, congestion charging)
- It must encompass **integrated urban planning** and design aimed at increasing density and reducing urban sprawl



# UNECE: CALL FOR ACTION

**UITP calls for the support of government at all level to develop attractive and efficient public transport!**

- **Earmark more resources** for the development of sustainable urban mobility
- Use **contracting/tendering** with operators as proactive tools towards gradual decarbonisation
- Use life-cycle **carbon footprint analysis** to select optimal transport infrastructure projects
- Raise effectiveness and **utilization** of PT infrastructure and projects (CoA report 2014)

# UNECE SECRETARIAT: CALL FOR ACTION

**UITP is eager in the exchange of ideas and practices  
within the UNECE framework!**

- UITP-UNECE joint urban mobility events and technical visits
- Common position papers and publications (statistics; best practices analyses and dissemination; guidelines)
- UITP's expertise support to various UN and UNECE's working groups and initiatives (e.g. THE PEP, post 2015-SDGs)
- UITP's permanent support to a potential Working Group on Urban Mobility (information exchange, joint projects)

# Thank you for your attention!



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