

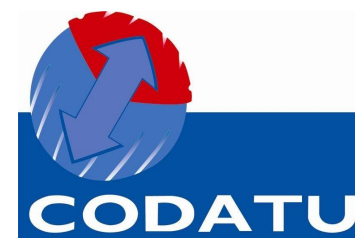


# WHO PAYS WHAT FOR URBAN TRANSPORT?

Handbook of good practices

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**CODATU**

**Transist - 2014**





***"Simplicity is the  
ultimate  
sophistication"***

**Leonardo da Vinci**

# One budget : to optimize costs and revenues...

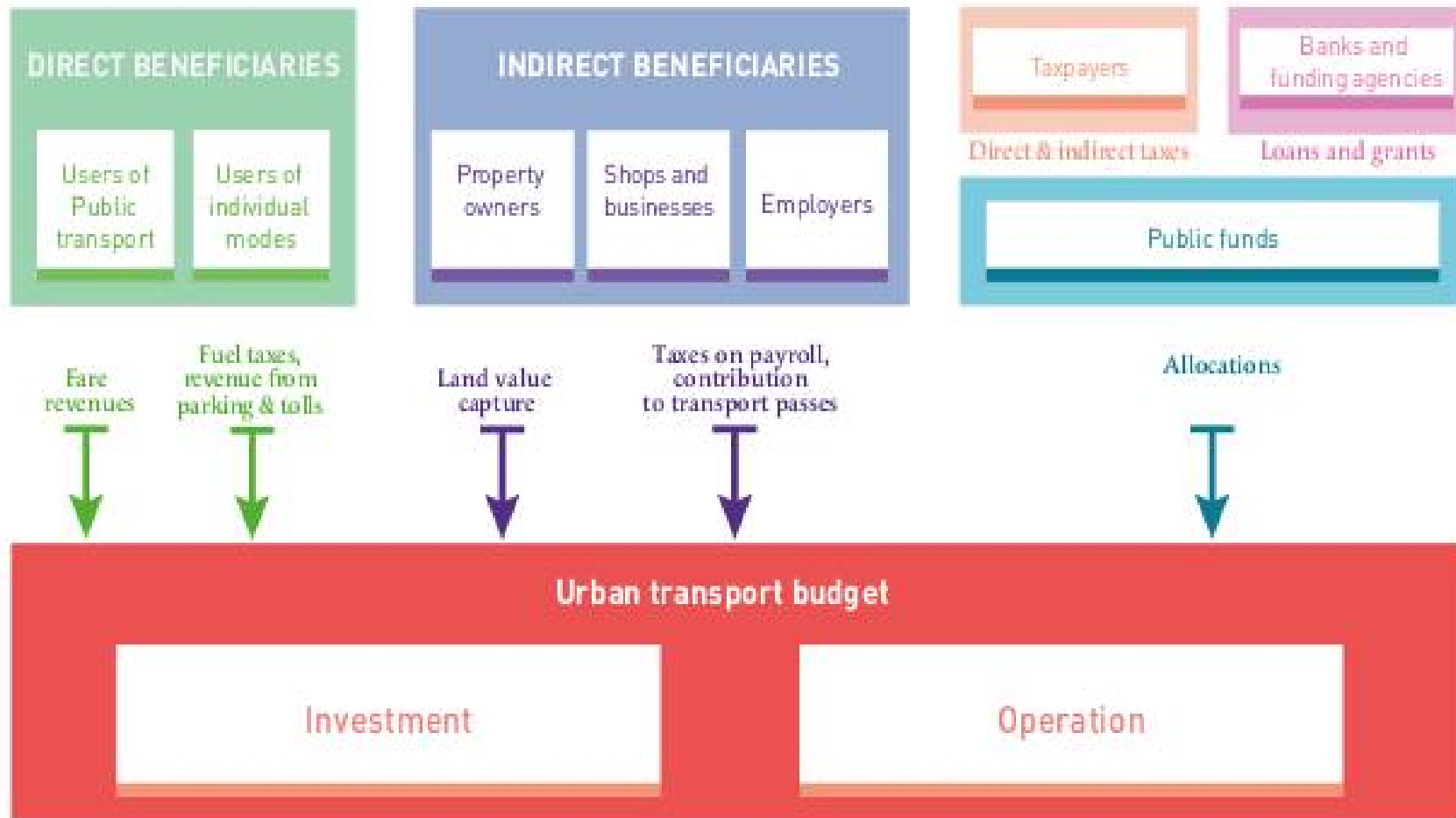


Figure 4 : Funding for public transport

# A Comprehensive policy to cover operation costs...

Fare policy (monthly subscription, social fares, zones, etc.); anti-fraud actions

GDP; urban development ; car restriction policy, attractiveness of urban transport network

$$\frac{\text{Fare revenues}}{\text{Expenditures}} = \frac{\frac{\text{Fare revenues}}{\text{trip}} \times \frac{\text{Trip}}{\text{inhabitant}}}{\frac{\text{costs}}{\text{Operated Km}} \times \frac{\text{operated Km}}{\text{inhabitant}}}$$

Costs per mode: investment; efficiency of operation (energy efficiency x cost of gasoline/electricity; staff efficiency x number of staff )

Structure of network; service frequency

# How much should be invested ?

## The same length of infrastructure in two cities

The Built-up Area of Atlanta and Barcelona Represented at the Same Scale

— 10 km of metro line

### Atlanta:

2.5 million people (1990)  
4,280 km<sup>2</sup> (built-up area)

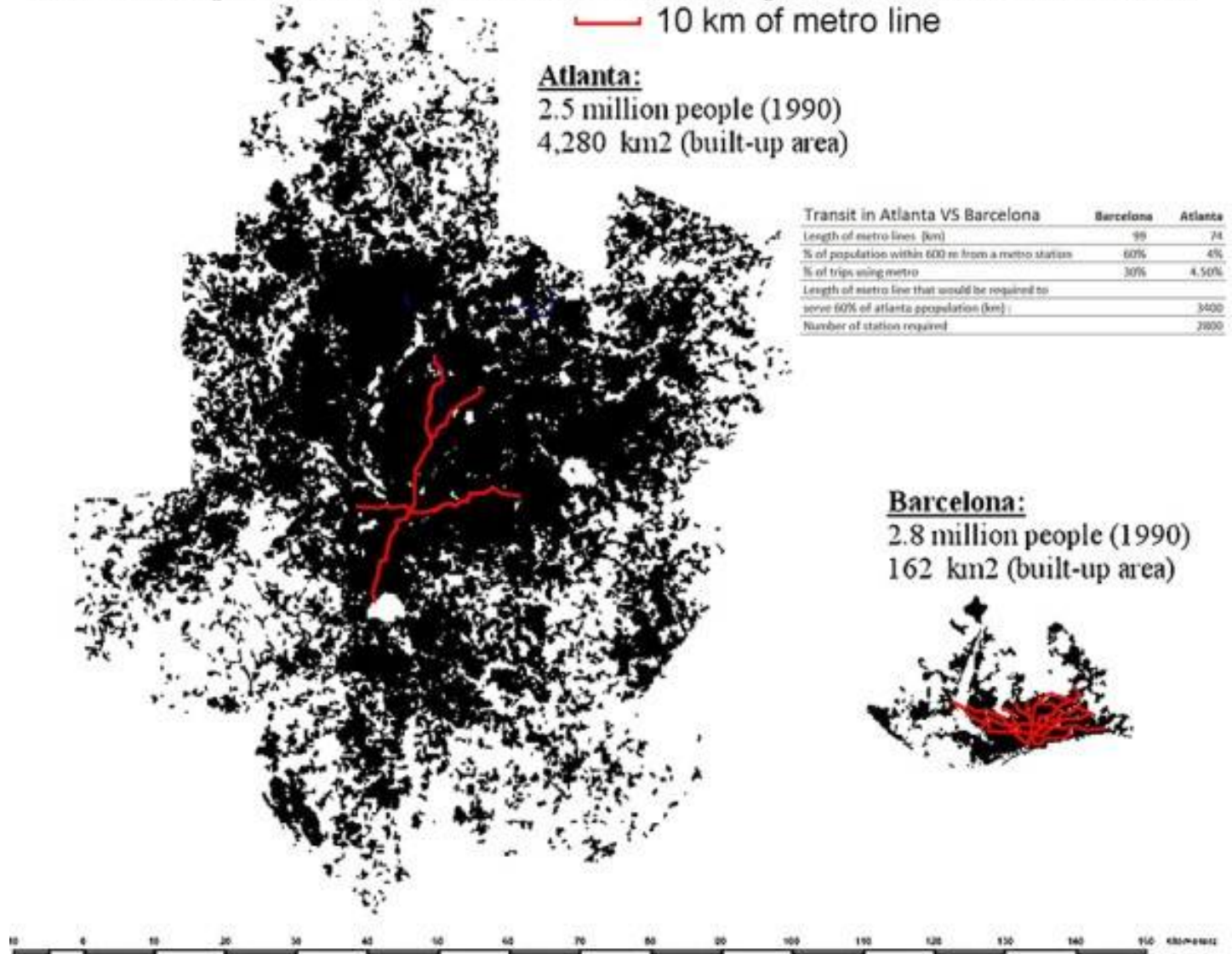
60 % of the population in Barcelona with 99 km of Metro

4 % of the population in Atlanta with 74 km of metro

Transit in Atlanta VS Barcelona	Barcelona	Atlanta
Length of metro lines (km)	99	74
% of population within 600 m from a metro station	60%	4%
% of trips using metro	30%	4.50%
Length of metro line that would be required to serve 60% of atlanta population (km)		3400
Number of station required		2800

### Barcelona:

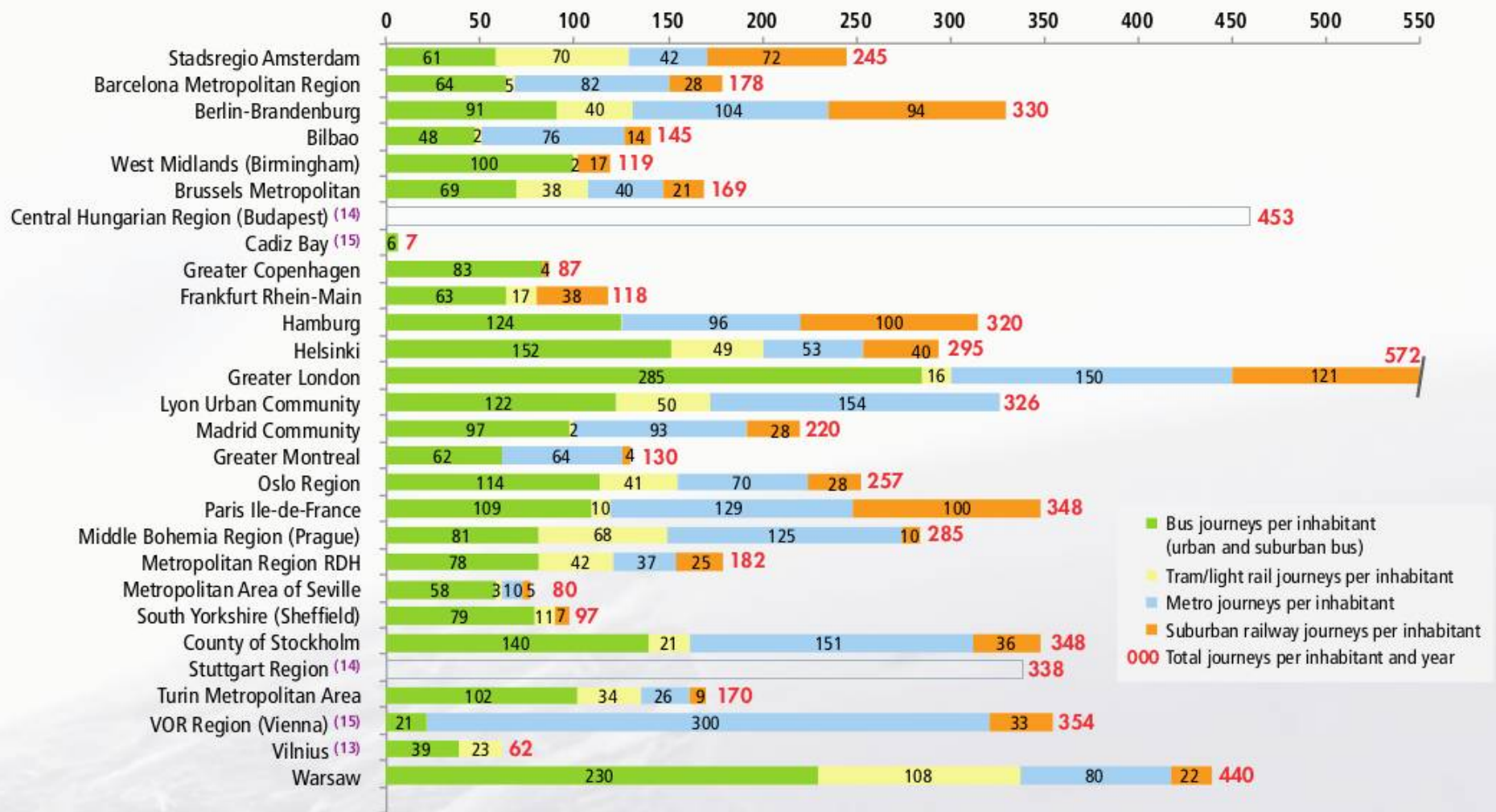
2.8 million people (1990)  
162 km<sup>2</sup> (built-up area)



# How much should be fund ?

## How many trips per inhabitant per year ?

Public transport demand per inhabitant (Journeys in PT per mode and inhabitant in 2012)



# 1. The farebox !

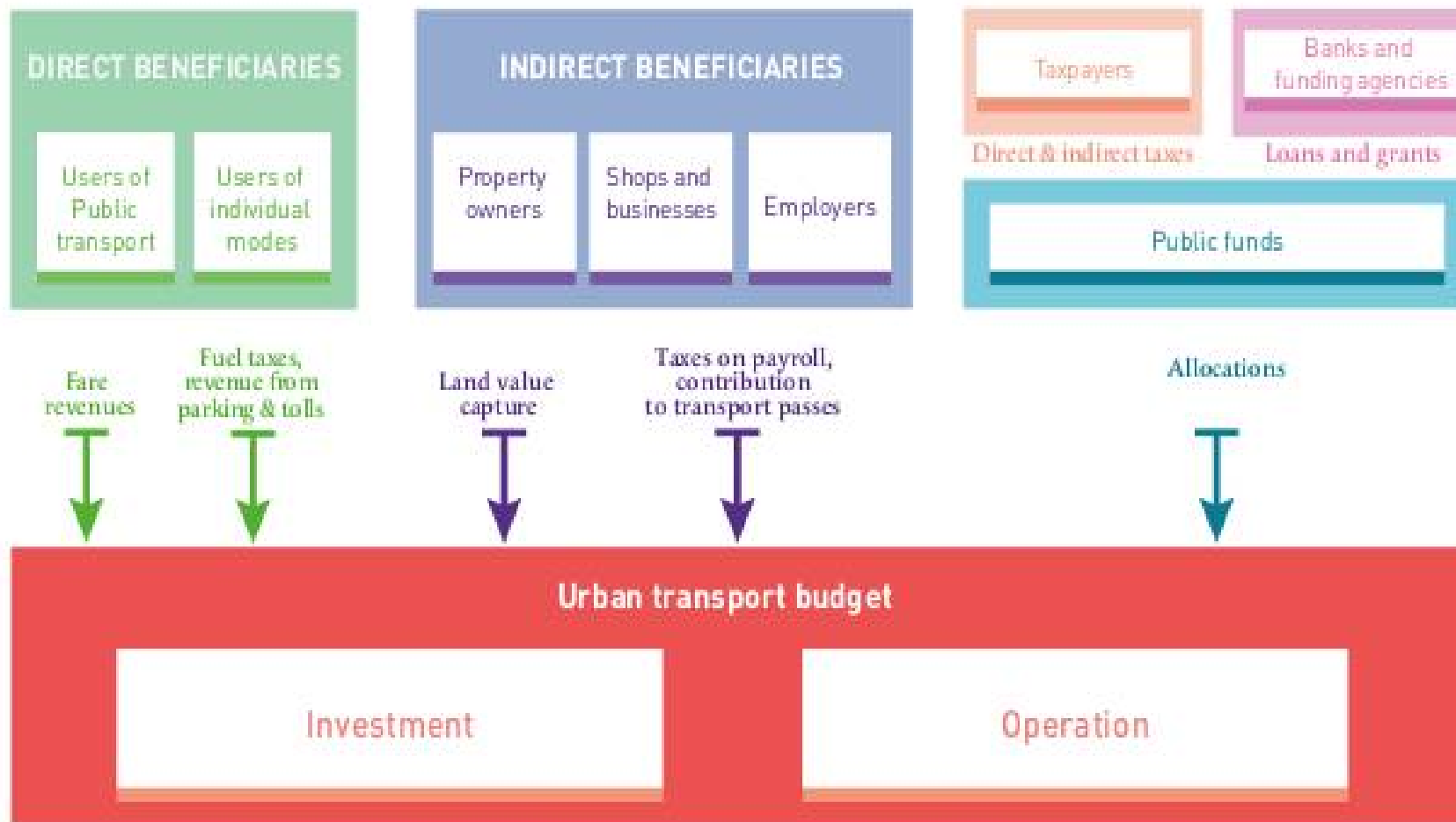
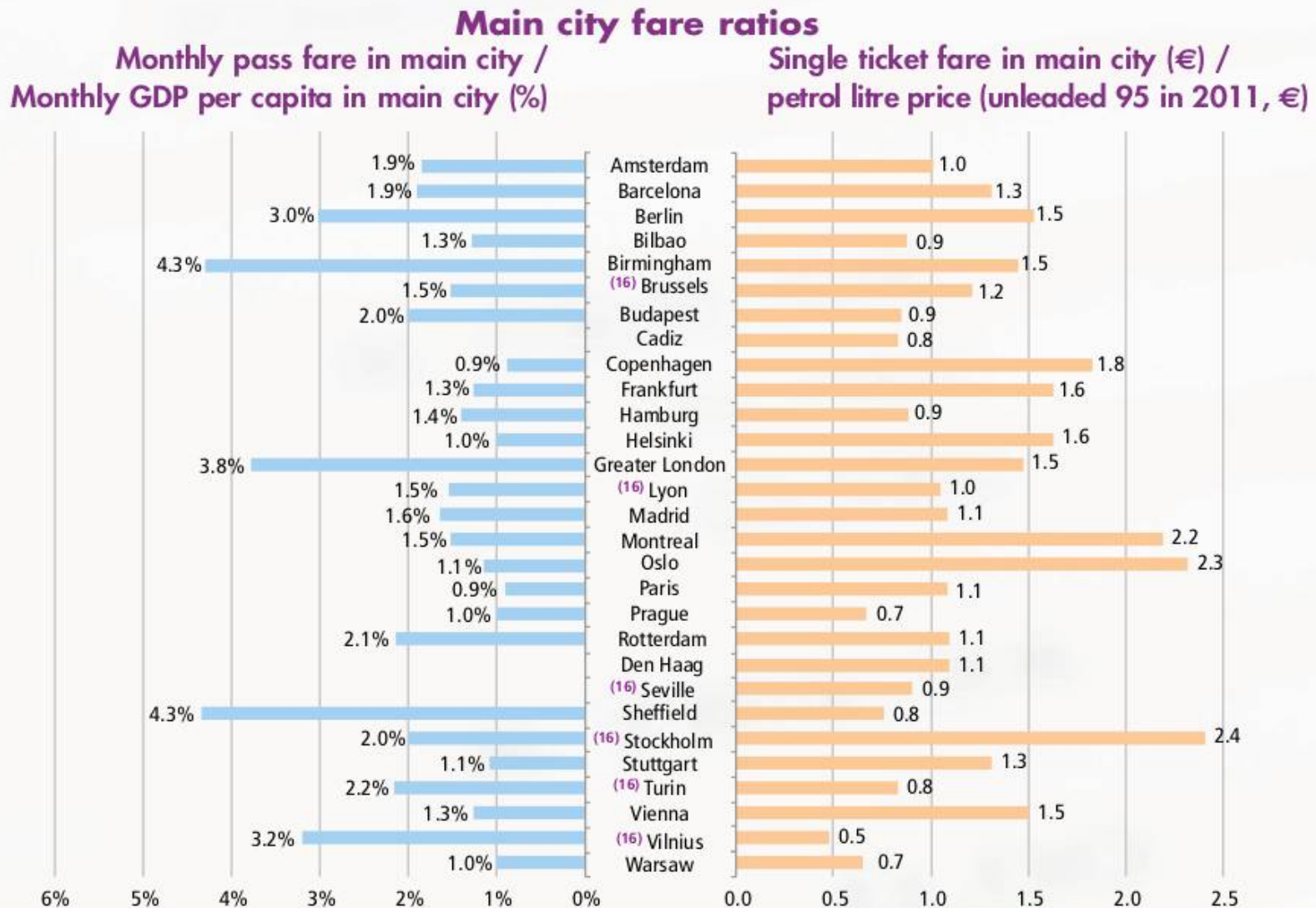


Figure 4 : Funding for public transport

# Direct users: what level of tariffs?



(16) GDP figure corresponds to PTA area value



# Tariff structures: examples for discussion



## Incentives to use urban transport

**Tallinn (420 000 inh., Estonia):** urban transport is free for local inhabitants and students

## Social considerations

**Strasbourg (450 000 inhab., France):** tariff depends on household revenues

**Geographical cross-subsidies:** one zone (ex. **Izmir**) or tariff by zones (ex. **Jakarta, Paris**)?

## 2. Private car users: reduce traffic + increase revenue

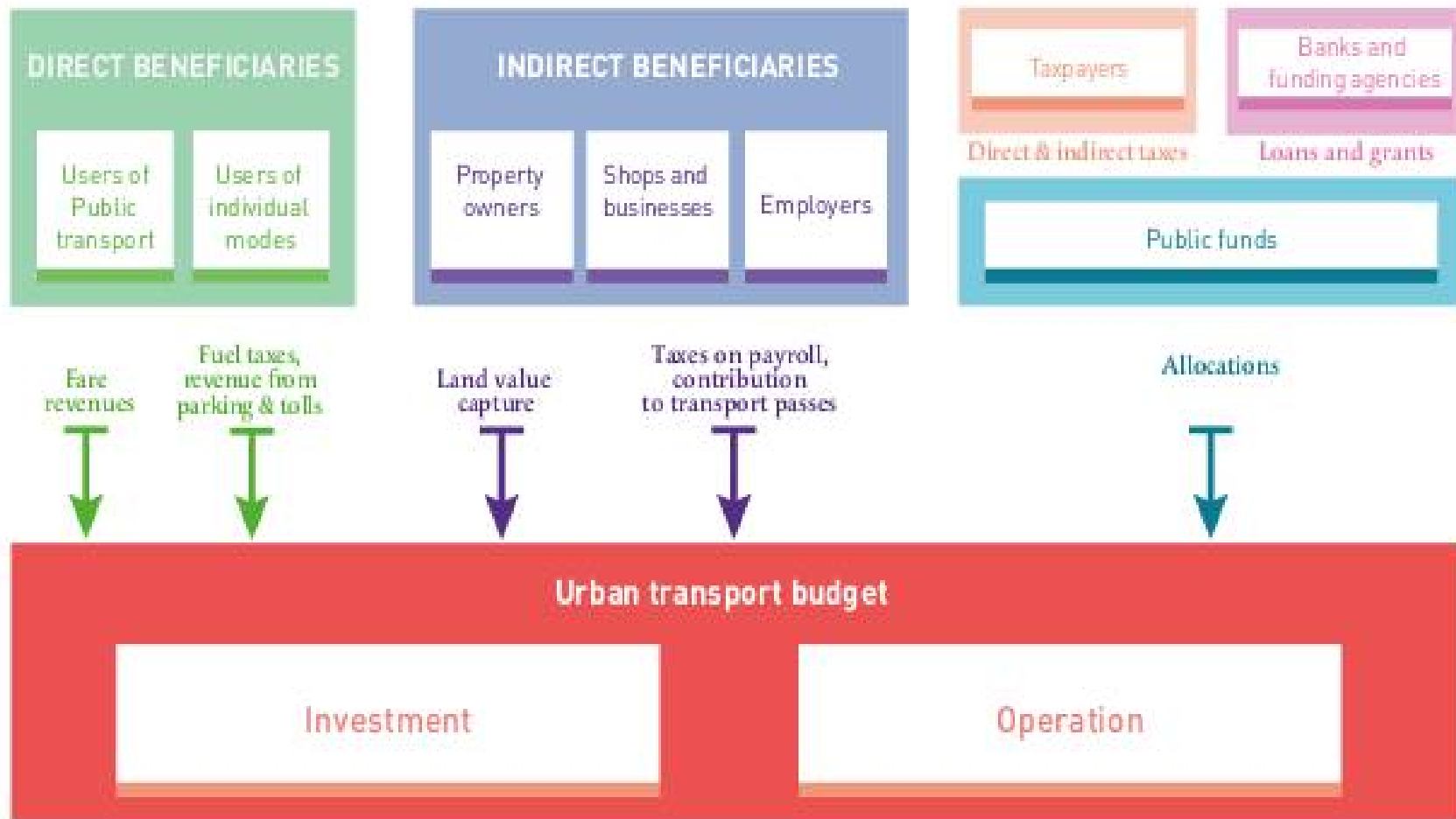


Figure 4 : Funding for public transport

# Taxes on private vehicle ownership

The first objective is to limit car ownership, hence limit congestion and future investment needs

• **Taxes** : Japan, Danemark (equal to the price)

• **Quotas**:

- **Singapour** / 1990 / auctions/ certificate valid for 10 years
- **Shanghai** / 1994 / auctions / 11000 plates awarded in april 2013 / average price 10 000 € (price is caped)
- **Beijing** / monthly lottery: 20 000 new plates/month



# Fuel taxes: everywhere, but not always earmarked for urban transport

**California** : 70% of fuel taxes for transport – out of which 90 % for road maintenance ; 10% for collective transports

**Colombia** : additional tax on fuel -> up to 250 M € /year ; investment of the three first Transmilenio lines was partially financed through this tax

**Germany**: Bayern finance the rail with fuel taxes transferred by federal level

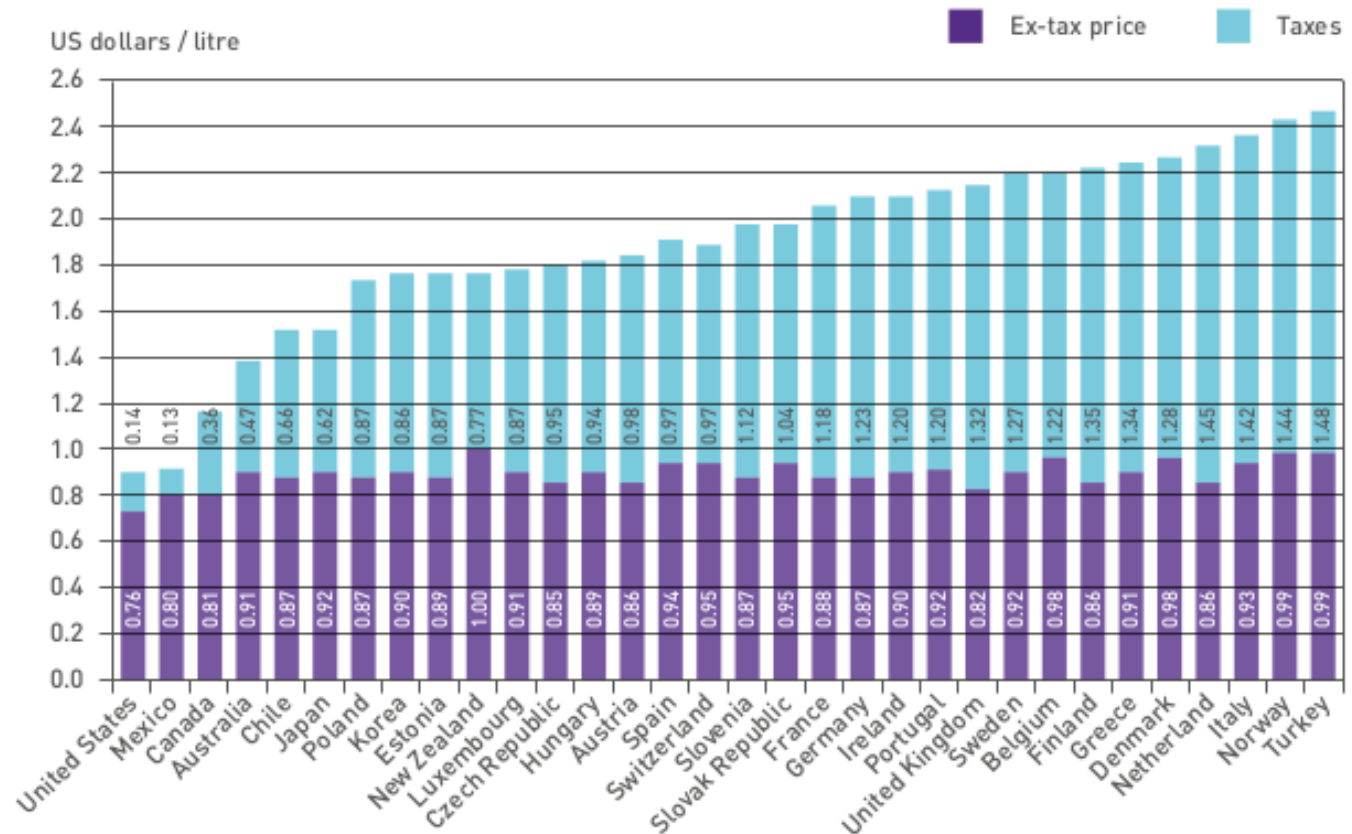


Figure 10 : Unleaded gasoline prices (1st quarter of 2014)

# Urban Tolls: double benefit = funding urban transport + encouraging modal shift

- **Fund the maintenance of an infrastructure**

**San Francisco bridges** : about 625 MUSD in 2012, mainly for maintenance and rehabilitation

**Seoul Namsan tunnels**

- **Congestion charging and modal shift**

**London**: 160 M € of net revenues for TfL

**Singapour** : 57 M € of net revenues, non ear-marked for transport



## Parking fees and fines: also two functions

**San Francisco** (4,5 inhab., USA)  
263 M USD in 2012, i.e. 1/3 of San  
Francisco Municipal Transport  
Authority budget

**Nantes** (0,4 M. inhab., France) 4,5 M  
€ net revenues / year

**Sydney, Perth and Melbourne**  
(Australia): 74 M € revenues in  
2010-11

**Nottingham** (0,7 M.  
inhab., England) : *workplace levy* -  
16 M € /year



### 3. Indirect beneficiaries: employers' contribution

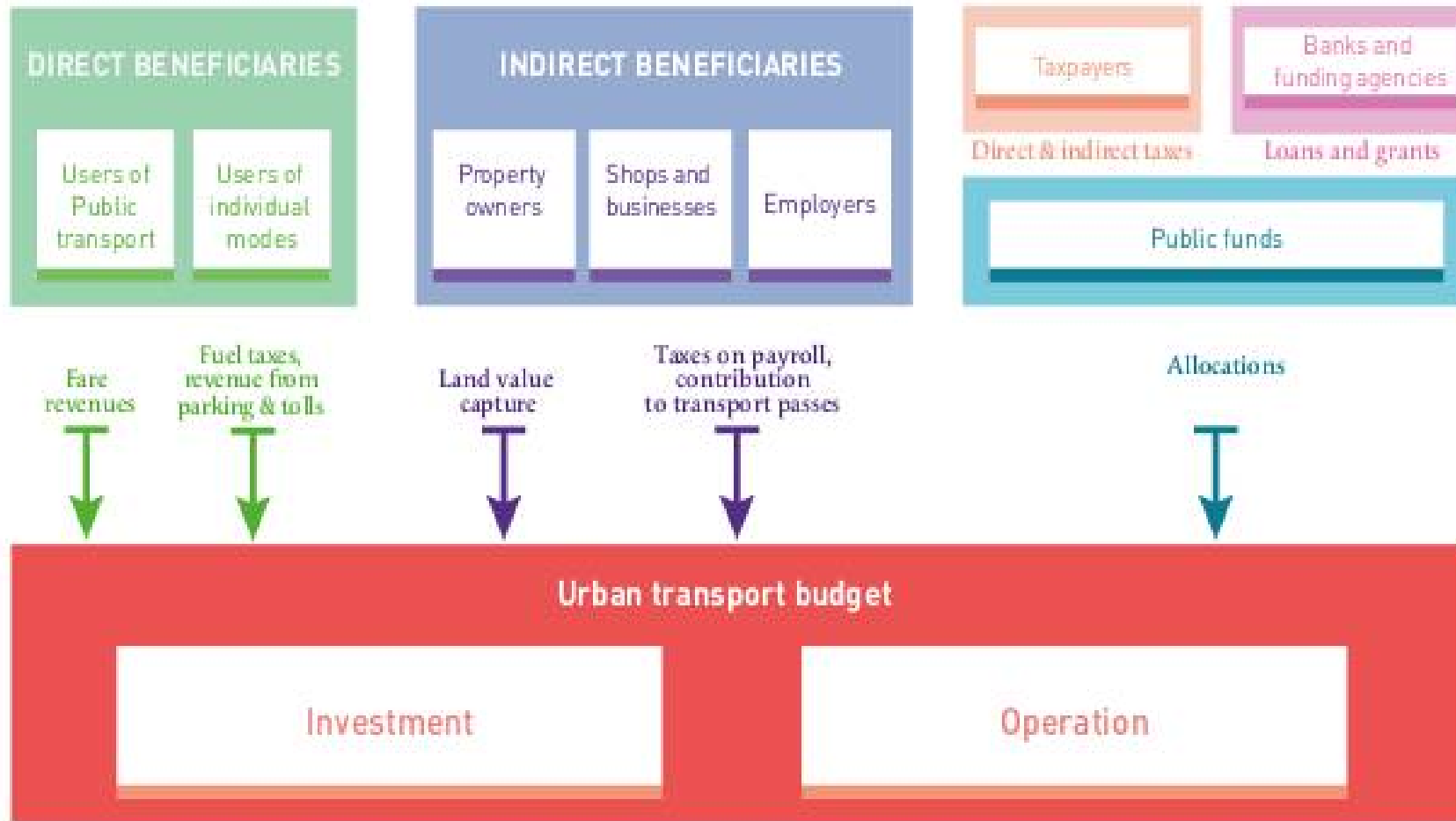


Figure 4 : Funding for public transport

# Employers' contributions : Mandatory tax based on pay roll

**France:** the « **Versement transport** » covers about 40% of O&M costs of collective urban transport

- since 1970, for entreprises over 9 employees,
- 1 to 2 % of payroll, ie 6 to 7 billions €/year



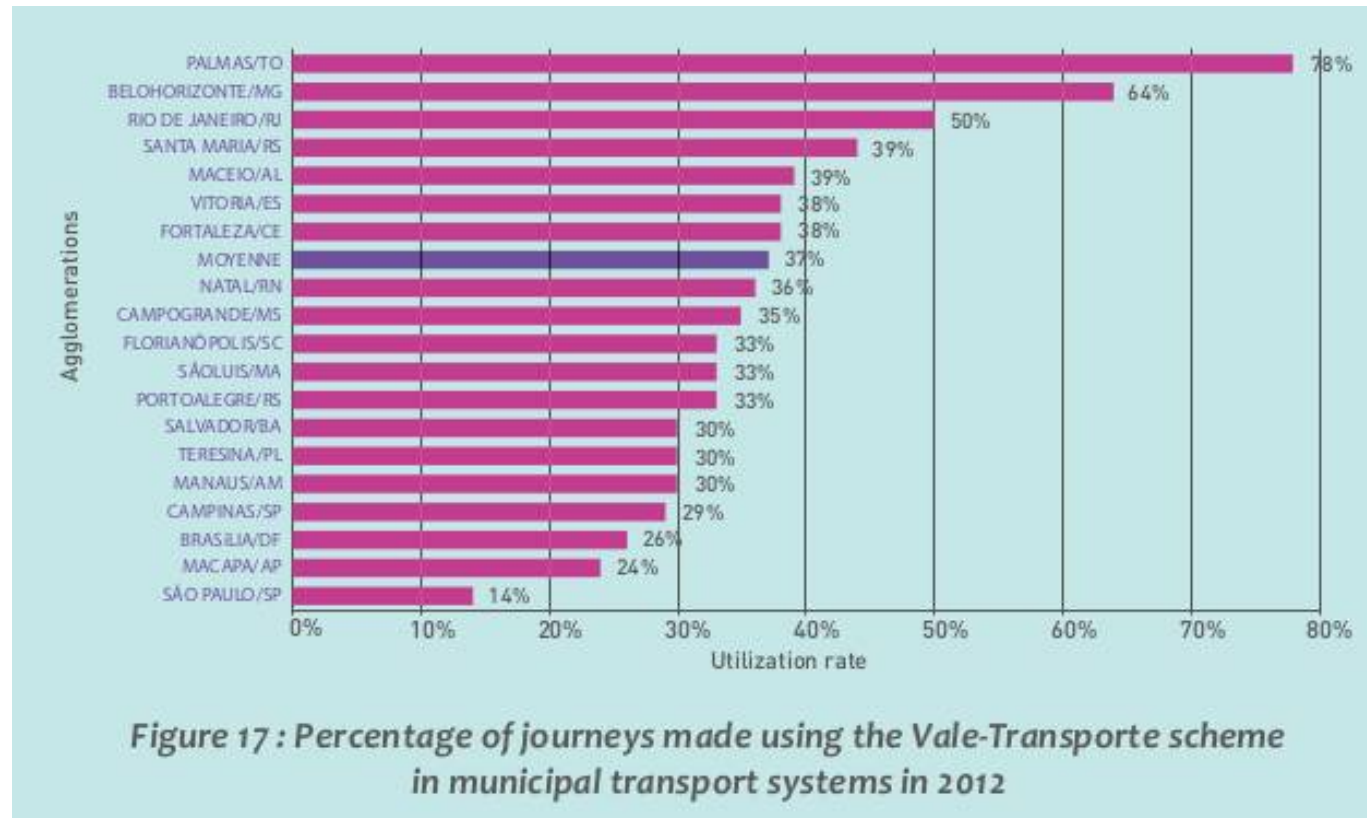
Figure 15 : Lyon Transport Authority (SYTRAL)'s income : 761,1 M€ (2013)<sup>8</sup>



# Employers' contributions : direct financial support for employees

**Brazil:** the « **Vale Transporte** » benefits to 40 % of collective transport users if fares exceeds 6% of their salary

The employer buys public transport vouchers from the transport authority and tops-up the employee's electronic transit pass.



## 4. Indirect beneficiaries: property owners' contribution

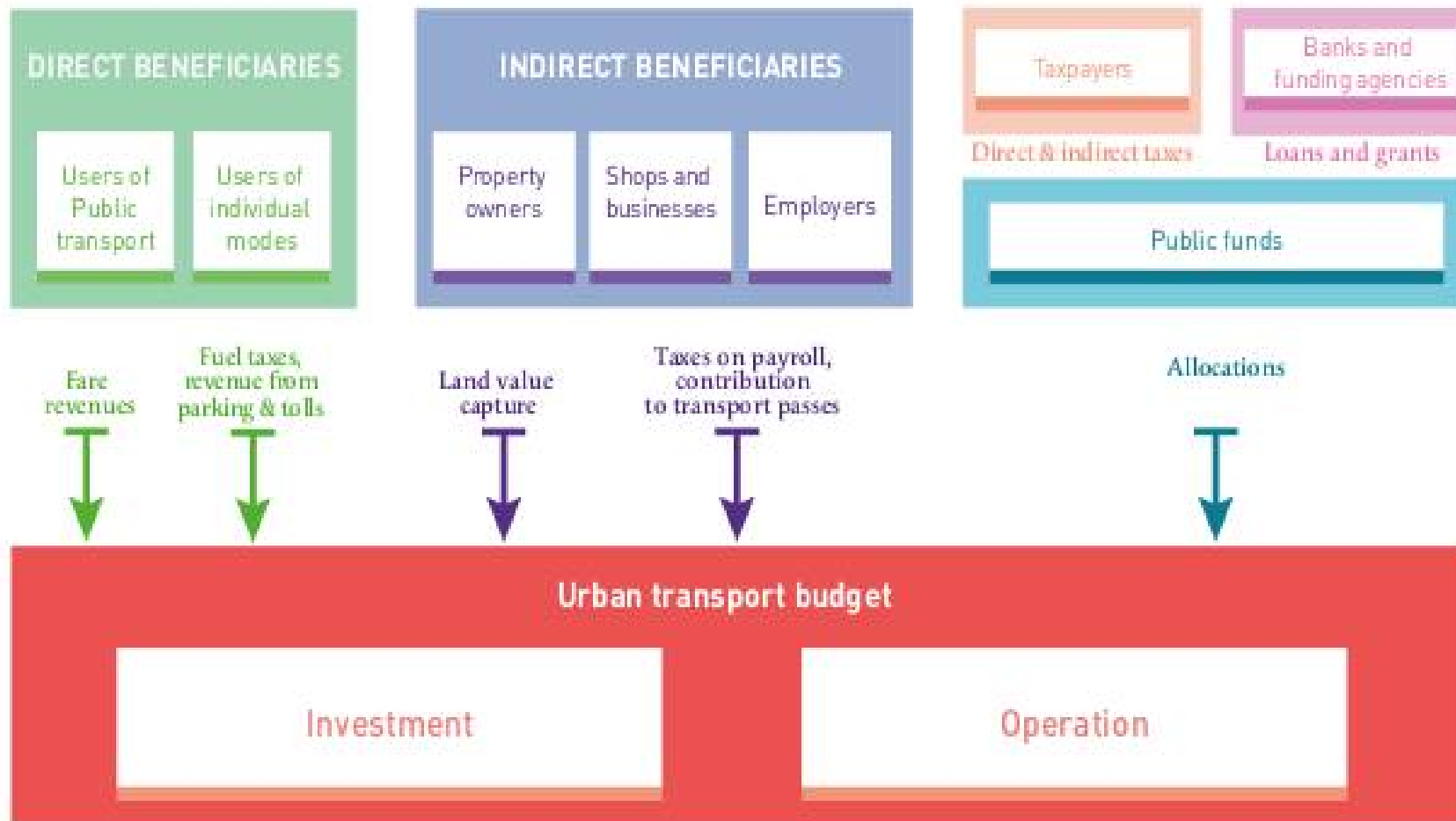


Figure 4 : Funding for public transport

# Land value capture for extensions: reselling land for new urban developments

## **Agguas Claras in Brazil (a « new city » close to Brasilia, 2,8 M inhab.):**

85 % of the metro costs have been covered by the selling of land - ie nearly 500 M €. Today 135 000 inhab.



**Copenhagen (2 M inhab., Denmark) and Orestad neighborhood:** €850 million, 60 % of metro investment has been covered by the reselling of lands and land taxes - although with some difficulties because of the crisis and cost overruns



# Land value capture : making property developers pay through taxes around new stations in urbanized areas (win-win)

**Dublin (Ireland) tramway:** an additional tax for « land added value » (between 250 and 600 000 €/ha), has been used to finance investment.

**Transit Oriented Development:** new constructions generate new fiscal revenues, ear-marked for a transport investment

**San Francisco:** « Transit Impact Development Fees » created in 1981 for any new business building (adapted in 2012) - 1,4 Bn USD over 20 years



# Land value capture for extensions: reselling rights to build for densification

**Ceritificates of Potential Additional Construction rights (CEPAC) in Brazil:**  
to increase the land occupancy coefficients

**Agua Espraiada :**  
about 375 M € have been « collected » through the selling of CEPAC - out of which 160 M € for transport (metro and BRT)

## CEPAC que negócio é esse?

- 1 CEPAC é a sigla para descrever **Certificados de Potencial Adicional de Construção**, títulos usados para financiar Operações Urbanas Consorciadas que recuperam áreas degradadas nas cidades
- 2 **Potencial de construção** é a quantidade de metros quadrados que se pode construir em determinado terreno, representada nos andares e na altura do prédio e metragem. A Lei que cria a **Operação Urbana Porto Maravilha** define um aumento do potencial de construção, que varia em função do setor (conforme mapa abaixo). Para utilizar o **Potencial Adicional de Construção** os interessados devem comprar **Cepacs**
- 3 O dinheiro da venda dos Cepacs paga todas as obras e serviços da Operação Urbana Porto Maravilha nos 5 milhões de m<sup>2</sup>. Com isso, **o município não desembolsa dinheiro para as obras e ainda economiza nos serviços públicos**
- 4 A quantidade de Cepacs de cada empreendimento varia com a localização do projeto e o tipo de utilização. **Para imóveis residenciais são necessários menos Cepacs do que para não-residenciais**. Em determinadas áreas, a diferença pode variar em até 50% na quantidade. Com isso, há o estímulo a uma ocupação mista e ao aumento do número de moradores
- 5 **As áreas preservadas, de morro e franja de morro não podem sofrer modificação**, ou seja, não têm potencial adicional de construção. A altura dos prédios é limitada e não altera o projeto Sagas, que preserva os patrimônios arquitetônico e cultural dos bairros da Saúde, Gamboa e Santo Cristo.

No site [www.portomaravilha.com.br/cepac](http://www.portomaravilha.com.br/cepac) é possível calcular o número de Cepacs necessários para a execução de determinado projeto, de acordo com a sua localização e uso (misto, residencial ou comercial)

# Integration of transport and « real estate » or commercial activities

## The case of Hong Kong MRT

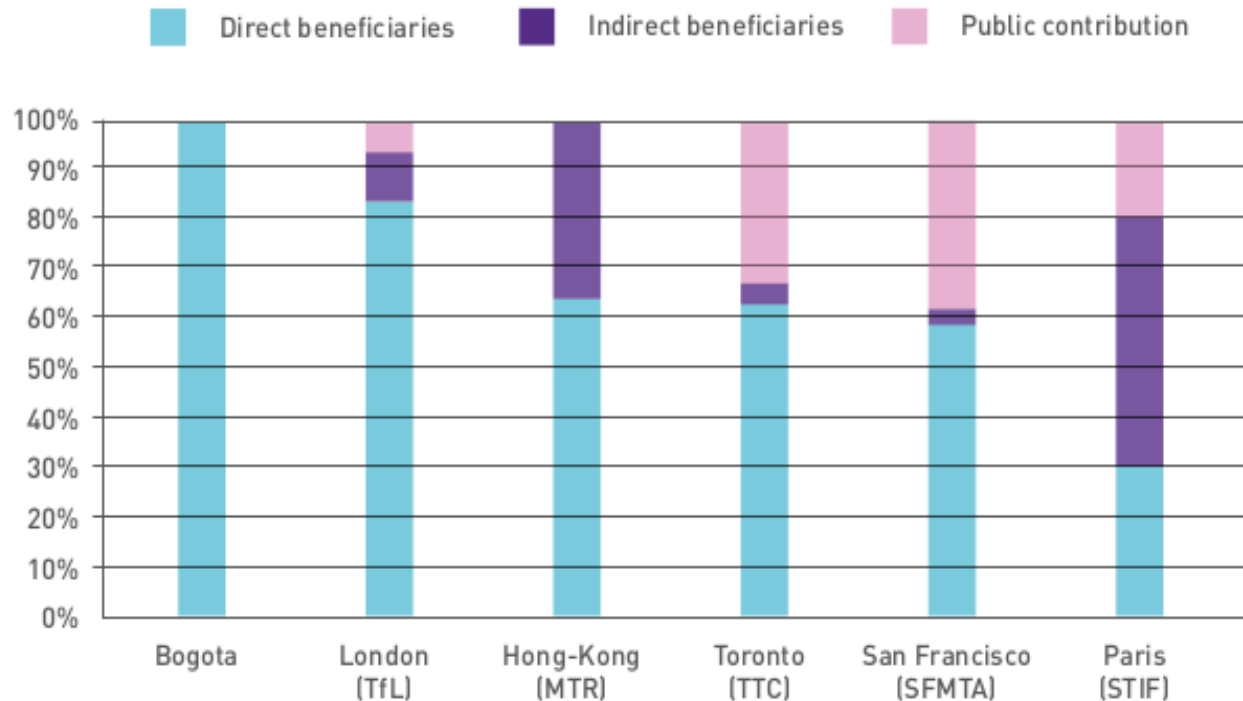
1/ Property transactions around stations and depots  
2/ Selling or renting of residential or commercial buildings: the management of a « portfolio » of 13 malls, 90 000 housing units, 5 commercial buildings cross-subsidizes transport activities



## Japan Railway companies

25 % of their revenues is coming from commercial activities managed within the stations

# Conclusion : do the right mix !



Toronto : 1,146 M€  
SFMTA : 568 M€  
STIF : 8,608 M€  
TFL : 4,181 M€  
LTA : 444 M€  
MTR : 2,157 M€

Figure 27: Different funding arrangements for operations in 2012

**3 kind of actions :**  
**Cost reduction + Optimised revenues + Additional revenues**

**Many options !**

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**For more information...  
Or other examples to add !**

**[jallaire\[a\]codatu.org](mailto:jallaire[a]codatu.org)**



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## 5. Others: climate funds?

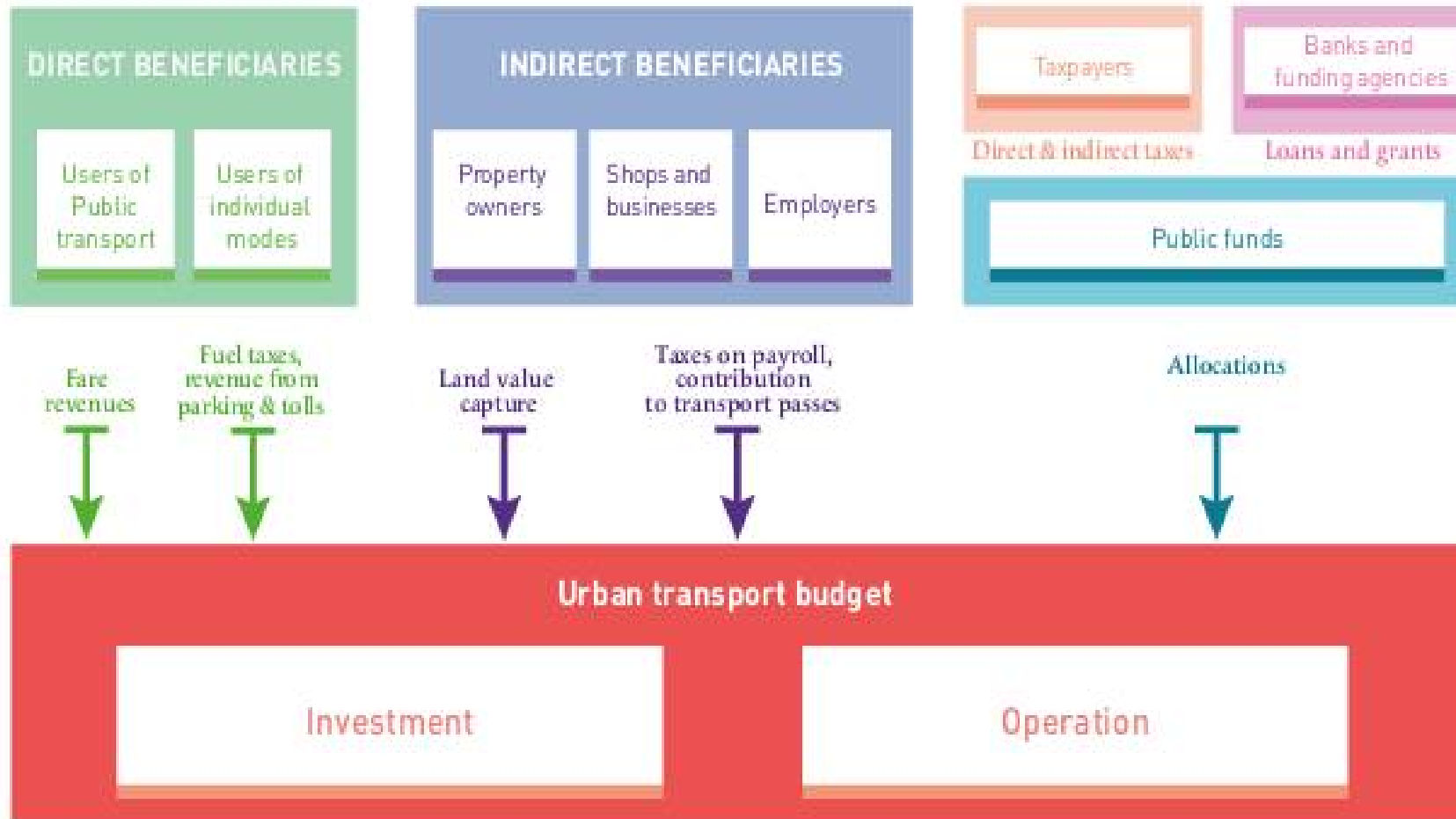


Figure 4 : Funding for public transport

# What is next after CDM ?

## Clean Development Mechanisms

► Not appropriate to fund transport projects.

## NAMAs ?

Climate funds :  
Global Environment Facility, Clean Technology Fund, Green Climate Fund ...



# Hope to see you during the next CODATU Conference ?



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THE ROLE OF URBAN TRANSPORT POLICIES IN  
DEVELOPING COUNTRIES AND EMERGING ECONOMIES**

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