

Urban and Commuter rail - 2018

Energy efficiency

UITP in nutshell



A WORLD-WIDE ORGANISATION SINCE 1885

1,400

MEMBER COMPANIES

18,000

CONTACT MEMBERS

MEMBERS FROM

96

COUNTRIES

14 LIAISON AND REGIONAL OFFICES ACROSS THE GLOBE

- Operators
- Authorities
- Policy decision-makers
- Academia and researchers
- Suppliers and services



Advocacy



Knowledge



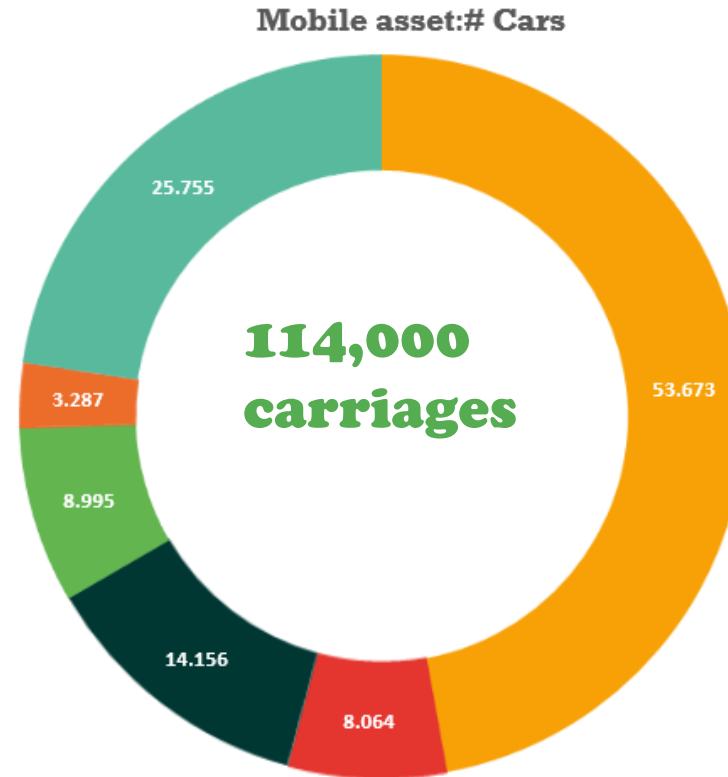
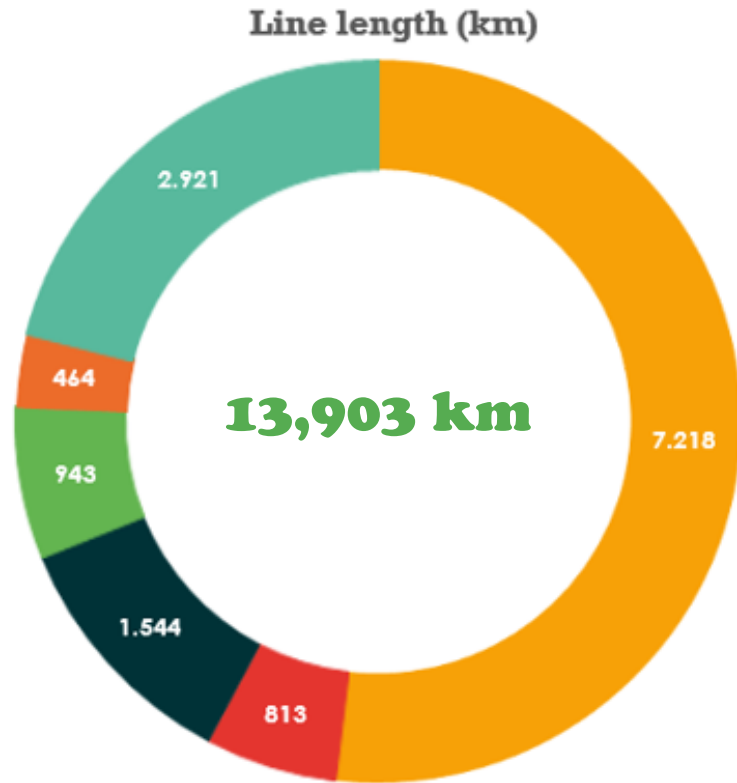
Network



Metros - 2018



➤ 2018 : 182 NETWORKS



642 lines

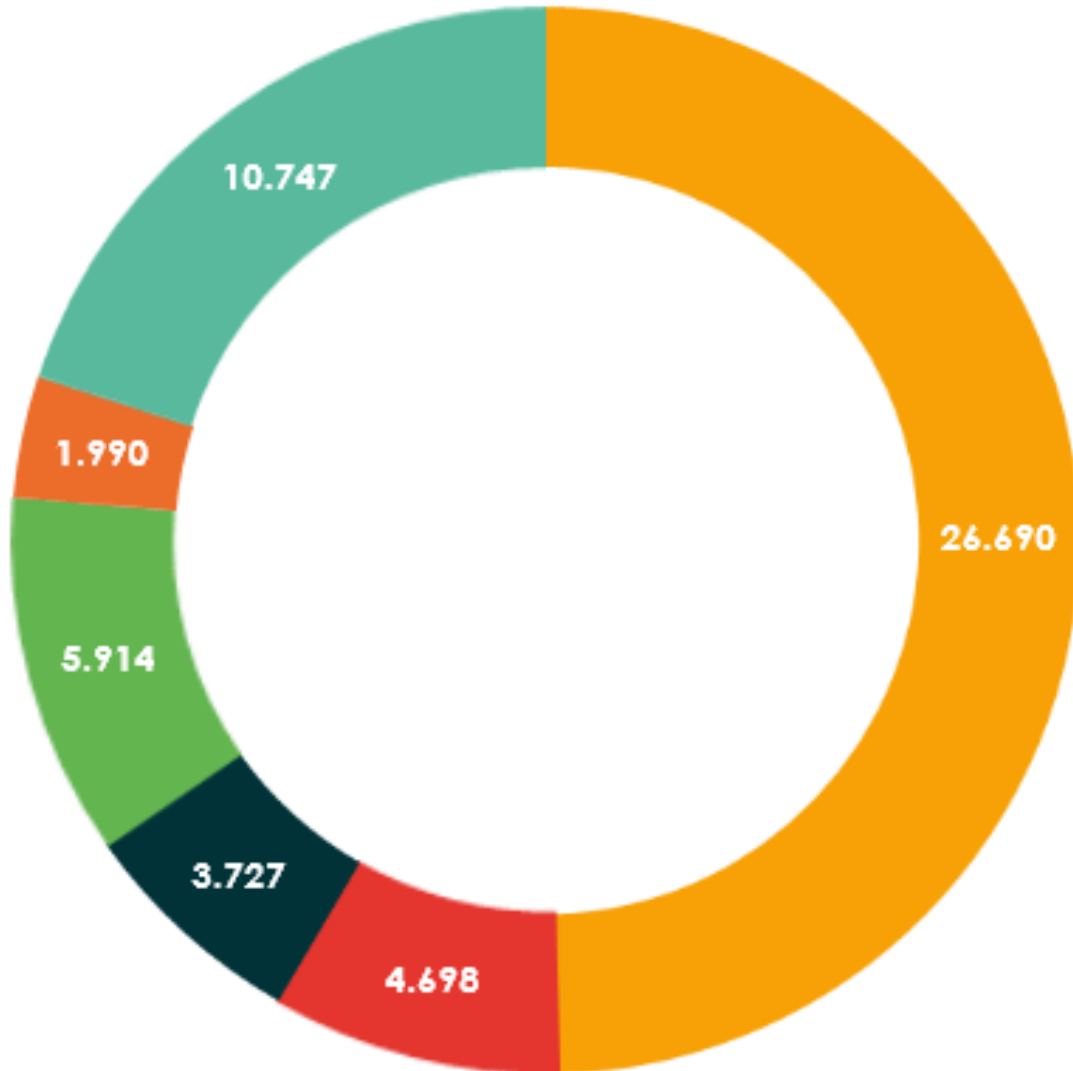
11,084 stations

Metros are located in:

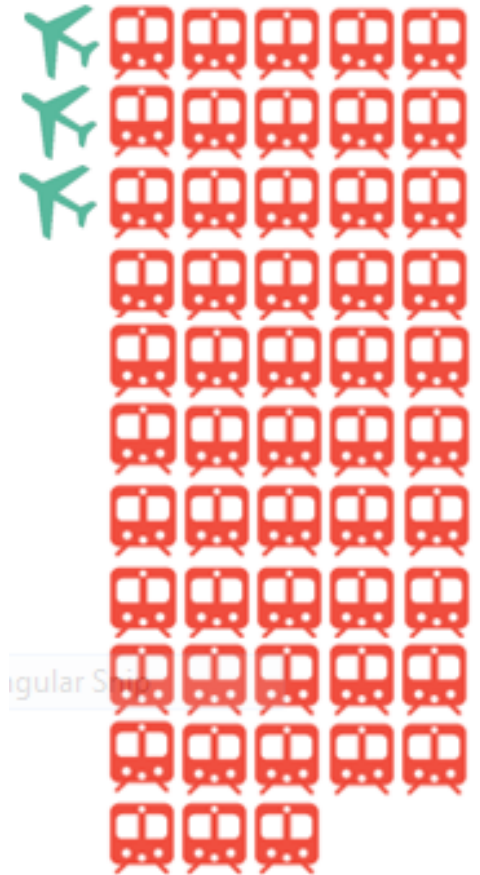
- **Asia-Pacific (73)**
- **Europe (46)**
- **Latin America (19)**
- **North America (17)**
- **Eurasia (16)**
- **MENA (11)**

➤ RIDERSHIP P.A. : 53,768 MILLION

Ridership (m. passengers)



- Asia Pacific
- Eurasia
- North America
- Latin America
- MENA
- Europe



Regular Service





COMMUTER RAILWAYS - 2018





COMMUTER (REGIONAL) RAILWAYS

Europe + CH + NO

- 28 countries
- 217 TOCs
- Yearly ridership **8,900 m.**
30% growth over 10y
- Network 230,000 km
- 27,700 stations
- Av trip dist : 24,5 km

Rest of the world (2017 data)

- 29 countries / 150 metrop. areas
- 127 TOCs
- Yearly ridership is **24,676 m.**
- Network 148,800 km
- 16,100 stations
- Av trip dist :
 - ~30-40 km (USA, Israel, Ukraine, Algeria, Russia, India)
 - ~12-20 km (Argentina, South Korea, Japan, Australia, New Zealand)

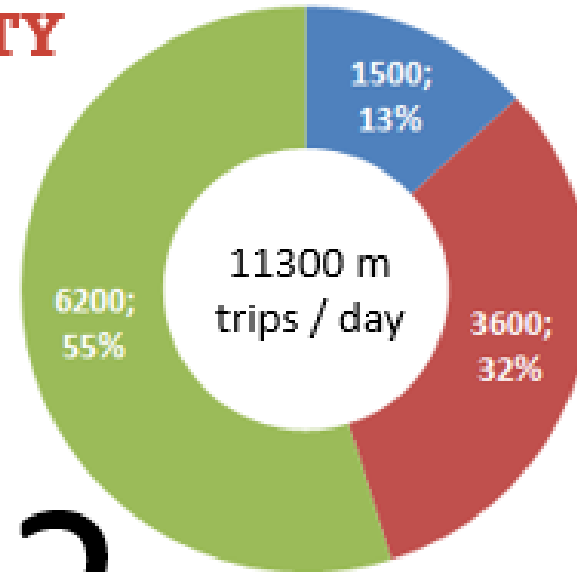
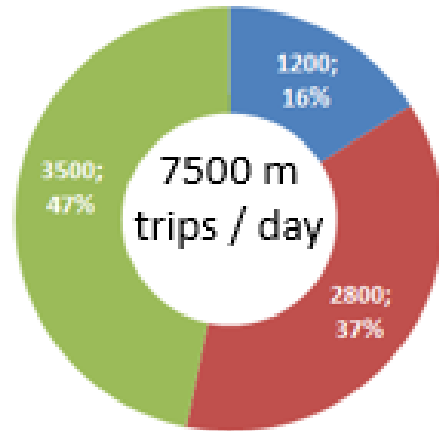
UITP Strategy PTx2



PTX2 STRATEGY

GROW with **PUBLIC TRANSPORT** 2025=PTx2

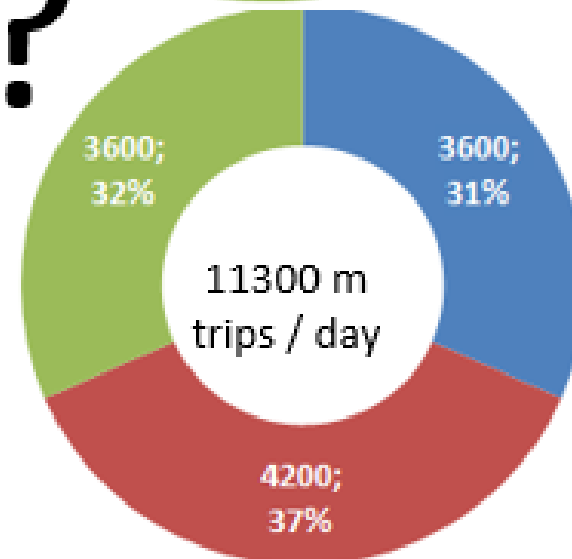
WORLD URBAN MOBILITY 2005 – 2025 SCENARIOS +50%



BAU

DOES IT HAVE TO BE?
RESIGNATION?

?



PTX2

ECO-FREAKS ?
UITP TALIBANS ?

ENERGY EFFICIENCY GROW
with PUBLIC TRANSPORT
Grow with public transport

CITIES GROW GREENER
with PUBLIC TRANSPORT
Grow with public transport

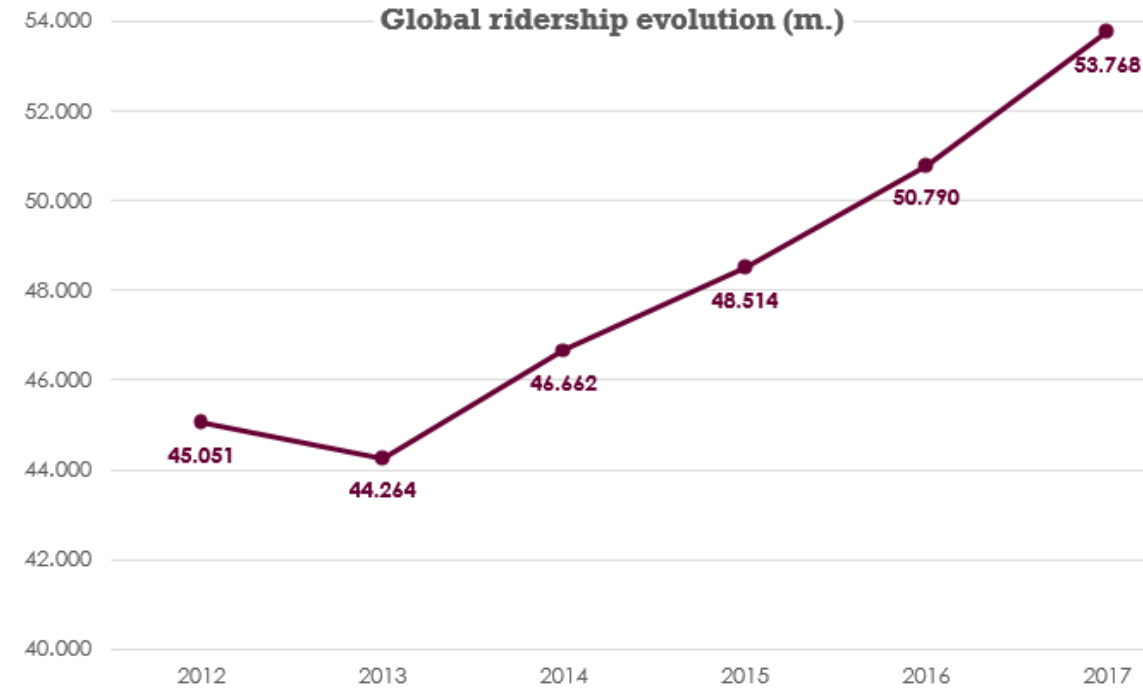
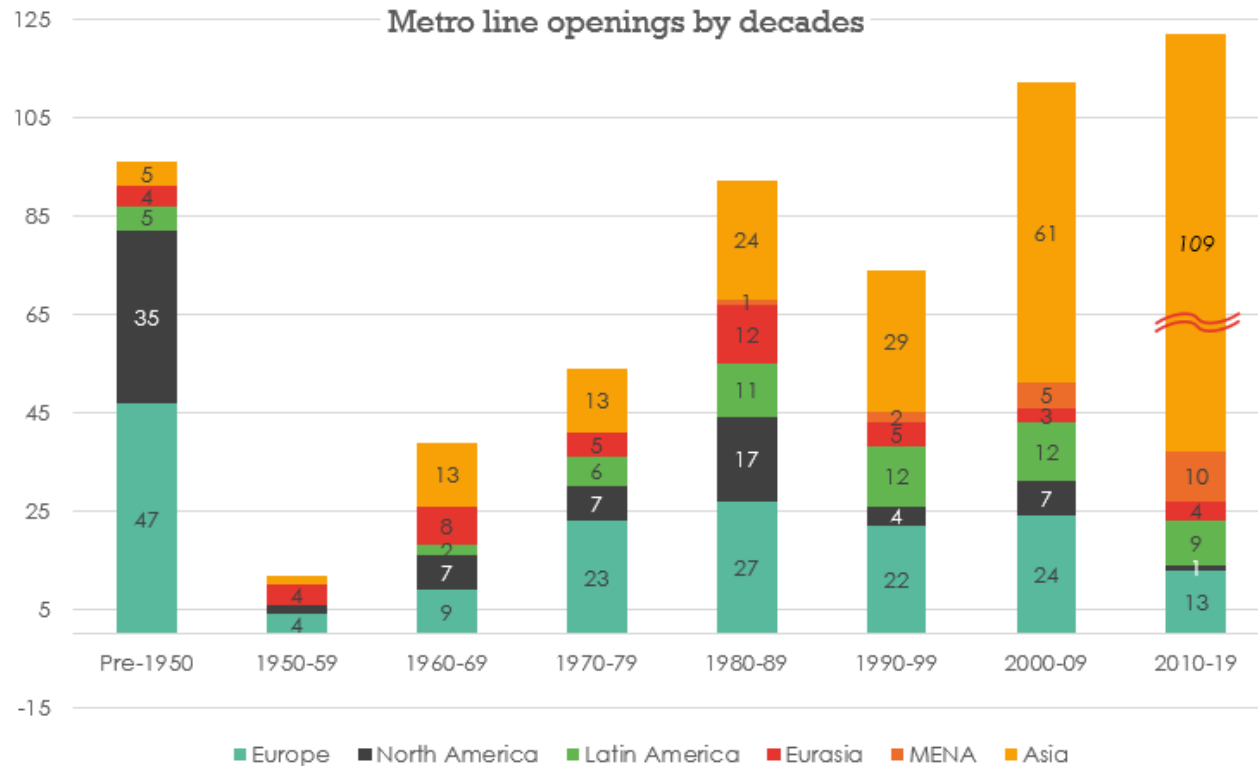
GROW COMPETITIVE
with PUBLIC TRANSPORT
Grow with public transport

GROW INNOVATIVE
with PUBLIC TRANSPORT
Grow with public transport





GROWTH GROWTH GROWTH



➤ CHALLENGES

- Crowdedness - capacity
- Time to market : 10 y. planning horizon
- Financial burden
- Seamless mobility solution : rail +++++.....
- Staff shortage

- Digitalisation, a key help factor

- Energy efficiency??



UITP, rail and energy efficiency



➤ KEY FINDINGS ENERGY CONSUMPTION

Movement = 80% vs. Stations = 20% of tot. consumption

- Av. Consumption: 2,5-3,5 kWh per metro car / LRV
- Traction consumption decreases in last decade
- Total consumption increases : auxiliaries and comfort features

Dense traffic / short lines >> system optimisation

- Energy efficient time-tabling
- Eco-driving
- ATO – Full automation
- Improvement in traction from manufacturers (S²R IP1)
- At train level : Challenge : energy efficient HVAC



QUESTIONS?



THANK YOU!



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