

# EMTA Barometer

2019 – Based on 2017 Data

Barometer 2019 – based on 2017 data  
EMTA- European Metropolitan Transport Authorities





# FOREWORD

# EMTA

European Metropolitan Transport Authorities



*“Change is the law of life. And those who look only to the past or present are certain to miss the future.” -John F. Kennedy*

In the preparation of a benchmark tool, especially one that can build on a life time of 15 years like the Barometer no one is particularly keen to absorb countless nuances in definitions or parameters. Those seemed to have been working accurately for years so why bother changing them.

Although in fact quite restricted, the attitude towards the review of some descriptions and parameters launched by the Barometer 2017 proved no exception. Colleagues and experts from EMTA members in charge of data have taken on the challenge to address the re-examined parts of their particular way of data collection to make them compliant with changes presented in the meeting in Amsterdam last November. From

then until May 2019 our colleague Mr. Aldecoa from CRTM Madrid, supervising the Barometer data collection with great devotion, has lived through an amazing process of indulgence, double-checking figures produced by the members to make sure data delivered matches revised definitions and descriptions. I would like to use the opportunity to thank him for his relentless efforts on the Barometer: Muchas Gracias Javier!

In the end it is the key question if EMTA manages to assure an outcome that is truthful and verifiable. Societal change and the impact of ICT and IoT create new challenges on what is needed to know about sustainability, renewable energy use digitalization of user data and impacts on fundamental changes in the responsibilities of transport authorities towards private service providers. The uptake of shared mobility services induces a different type of need of user data. Validation of data requires alertness: we need to consistently review the definitions and collection methods and sources from which data originate.

Methods used to collect data continue to vary, it is clear that EMTA needs to reinvent the Barometer product and the process of achieving it. In the second half of 2019 an attempt will be made to revamp the EMTA Barometer working group. Member experts but also colleagues from the academic sphere shall be invited to rally and examine what performance data is actually useful and important to collect.

After that, obviously, the feasibility of those wants and needs and the methods and tools that could be employed to achieve these objectives will be examined. But first, it is about finding out what data our members, our colleagues in research and you, our readers, consider most useful and necessary to grasp figures that should paint a clear and truthful picture of transport system performance in our European metropolitan areas.

My utter gratitude to everyone that has helped to put this Barometer with 2017 data together. Let's learn from this one and make this release even better in the years to come!

*Ruud van der Ploeg,  
EMTA Secretary general*



<b>GENERAL TERMINOLOGY</b> .....	<b>4</b>
<b>EMTA Barometer</b> .....	<b>8</b>
<b>GENERAL INFORMATION</b> .....	<b>10</b>
1. Public transport authorities’ partners.....	10
2. Description of the PTA <sup>(1)</sup> area surveyed.....	21
3. PTA’s main city shape .....	22
4. PTAs administrative limits .....	24
5. Evolution of population in PTA’s areas .....	25
<b>MOBILITY</b> .....	<b>26</b>
6. Car ownership rate.....	26
7. Modal share in main cities & PTA areas .....	27
8. Urban density and modal split in sustainable transport modes .....	28
<b>SUPPLY</b> .....	<b>30</b>
9. Ratio of stops or stations per 100,000 inhabitants in PTA area.....	30
10. Ratio of length network per 100,000 inhabitants in PTA area.....	31
11. Ratio of length network per PTA surface.....	32
12. Vehicles-km per inhabitant and PTA area .....	33
<b>TRIPS</b> .....	<b>36</b>
13. Public transport demand per inhabitant in PTA areas.....	36
14. Public transport demand trends.....	38
15. Change in population vs transport demand in PTA area .....	39
<b>SERVICE QUALITY</b> .....	<b>40</b>
16. Commercial speed.....	40
<b>FARES</b> .....	<b>42</b>
17. Ticket price for the main city and PTA area .....	42
<b>FINANCIAL</b> .....	<b>44</b>
18. Coverage of operational costs .....	44
19. Cost operation per inhabitant .....	45

# GRAPHICS AND ILLUSTRATIONS

T1.	PTA urban description .....	21
T2.	PTA's main city shape 1.....	22
T3.	PTA's main city shape 2 .....	23
T4.	PTAs administrative limits .....	24
T5.	Evolution of population in PTA's areas between 2013 to 2017 .....	25
T6.	Population in main cities and PTA's areas .....	25
T7.	Car ownership versus modal share of private motorised vehicles in main city.....	26
T8.	Car ownership versus urban density in PTA area.....	26
T9.	Modal share of trips in main city .....	27
T10.	Modal share of trips in PTA area .....	27
T11.	Urban density vs modal split in sustainable transport modes in the main cities .....	28
T12.	Urban density vs modal split in sustainable transport modes in the PTA areas .....	28
T13.	Ratio of stops or stations in PTA area per mode .....	30
T14.	Ratio of length network in PTA area per 100,000 inhabitants in PTA area .....	31
T15.	Ratio of length network per 1,000 km <sup>2</sup> of the PTA area .....	32
T16.	Bus & tram km per PTA area's inhabitant.....	33
T17.	Light rail, metro, commuter train (*) and others transport modes vehicles km per PTA area's inhabitant .....	34
T18.	Number of trips per inhabitant in the public transport .....	37
T19.	Trends public transport demand in millions boarding per year .....	38
T20.	Change in population vs change in transport demand in the PTA's area .....	39
T21.	Commercial speed for transport modes .....	40
T22.	Single trip ticket price (€) .....	42
T23.	Monthly pass ticket price (€).....	42
T24.	Coverage by public subsidies vs coverage by fare revenues per PTA area inhabitants .....	44
T25.	Annual cost of PT operation per inhabitant.....	45



# GENERAL TERMINOLOGY

Within this section, definitions are presented for different terminology used within the current document. Focus lie son those terminologies that require a specific definition in order to enhance comparability between countries.

CONCEPT	DEFINITION
<b>Average number of trips per person / per day</b>	Eurostat: “The average number of trips made by a person from the reference population on an average day”
<b>Car ownership rate</b>	Number of privately owned automobiles in the main city divided by the number of inhabitants of the main city and multiplied with 1000.
<b>Daily journey</b>	The average number of journeys undertaken by an inhabitant of the main city on an average day (total amount of journeys in the main city on an average day divided by the number of inhabitants of the main city)
<b>Dedicated surface infrastructure</b>	Strechtes where tram, bus or both operate on infrastructure that is separated from individual motorvehicle traffic (Shared use with taxis is possible in this category) e.g. dedicated bus lanes. The manner of seperation is irrelevant (e.g. lanes simply drawn, separated pathways, elevated pathways, etc.)
<b>EMTA</b>	European metropolitan transport authorities <a href="https://www.emta.com/">https://www.emta.com/</a>
<b>EUROSTAT</b>	European Statistical Office is a Directorate-General of the <b>European Commission</b> . Its main responsibilities are to provide statistical information to the <b>institutions of the European Union (EU)</b> and to promote the harmonisation of statistical methods across its member <b>states and candidates for accession</b> as well as <b>EFTA countries</b> <a href="http://eurostat.com/">http://eurostat.com/</a>
<b>Fuel type</b>	Eurostat: “The type of fuel (energy carrier) used in a vehicle: petrol, diésel, petrol-hybrid, diésel-hybrid, electric vehicle, LPG, CNG, Hydrogen, other”.
<b>GDP</b>	Gross domestic product (GDP) is a monetary measure of the market value of all the final goods and services produced in a period of time, often annually
<b>Journey</b>	The sum of trips that enable the movement from a meaningful origin (e.g. home) to a specific destination for a meaningful(e.g. office) with a single purpose (e.g. going to work). A journey ends when an acitivity takes place that fulfills a different purpose (e.g. grocery shopping). A stop for grocery shopping concerns a meaningful activity on the way home from the office and splits the movement from the office to home into two journeys (Office-Store and Store-Home) The various trips that compile a journey can each be carried out by a different mode of transportation each.



<b>Light rail</b>	Light rail, light rail transit (LRT), or fast tram is a form of urban rail transit using rolling stock similar to a tramway, but operating at a higher capacity, and often on an exclusive right-of-way
<b>Main city</b>	Most significant city in the PTA area (usually the most populated city; may also be the economically most predominant city)
<b>Main travel mode (motorized vehicles, walking, cycling, ...)</b>	Eurostat: "The travel mode that is identified as the main mode as a result for the longest distance: passenger car (total, as driver, as passenger), taxi (as passenger), van/lorry, motorcycle/moped, bus/coach, tram/metro, train (split up for total, high-speed rail, regular train and urban rail), aviation (total), waterways (total), cycling, walking, as well as the category other".
<b>Metro</b>	Is a type of high-capacity public transport generally found in urban areas. Unlike buses or trams, rapid transit systems are electric railways that operate on an exclusive right-of-way, which cannot be accessed by pedestrians or other vehicles of any sort, and which is often grade separated in tunnels or on elevated railways
<b>Modal share of PT</b>	Percentage of journeys in the main city that include at least one trip on a mode of public transportation (in connection with other modes, if applicable)
<b>Monthly pass</b>	Price of a monthly subscription for adults that allows unrestricted travel in the main city (covering the entire or at least vast majority of the main city)
<b>Network length</b>	Length of the network per mode. If several lines of the same mode of transport run on the same stretch of infrastructure for a particular section, this section of the network may only be counted once in this calculation.
<b>Passenger kilometres per mode per year</b>	Annual distance travelled by passengers per mode. In cases where more than a 20% proportion of a line extends beyond the PTA's jurisdiction, only trips made in entirely in the PTA area are considered here.
<b>Place-km</b>	Place kilometres produced in commercial service (excluding deadhead runs from and to depots). Places are fixed seats (not including folding seats) and the space for standing passengers with one square metre representing space for four standing passengers (4 passengers/m <sup>2</sup> )
<b>PT</b>	Public transport
<b>PTA</b>	Public transport authority
<b>PTA area</b>	The area of competence for which the PTA carries the key responsibilities
<b>Seats-km</b>	Seat kilometres produced in commercial service (excluding deadhead runs from and to depots). Seats thereby only consider fixed seats, not including folding seats.
<b>Single ticket price</b>	Price of a single ticket as offered in vending machines (not considering travel card fares) for travel in the main city. (It is thereby not significant whether this ticket is valid for one journey or a certain time periode).

<b>Soft modes</b>	It refers to walking and cycling
<b>Stage</b>	Eurostat: "Is an uninterrupted movement making use of one transport mode, including any waiting time directly before or during the movement".
<b>Sustainable transport mode</b>	It refers to walking, cycling and public transport
<b>Total amount of other revenues</b>	Other revenues are considered revenues apart from public subsidies or fare revenues. These include: taxes (i.e. versement transport), advertisements, land revenues, rent income.
<b>Total cost of operation</b>	Annual service operation cost of public transport in the PTA area of all services under the jurisdiction of the PTA. Operating costs include expenditure on staff (including social security contributions and pensions), energy expenditure, purchases of external goods and services (including subcontracting), vehicle maintenance expenditure, miscellaneous costs (e.g. rental), financial costs, depreciation expenditure, taxes and duties. Please not include special maintenance or investment programs for infrastructure and vehicles but rather the express the cost connected to the creation of the public transport supply.
<b>Total public subsidy</b>	Annual amount of subsidy provided for Public Transport service provision in the PTA area(service operation related subsidy only)
<b>Total revenue from ticket sales</b>	Annual revenue from ticket sales in the PTA area from all services under the jurisdiction of the PTA.
<b>Travel mode</b>	All general modes of transport used during a trip or journey: air, rail, road and water.
<b>Travel time</b>	Eurostat: "The time spent travelling from the moment of departure to the moment of arrival. The travel time includes the time spent waiting between two successive stages".
<b>Trip</b>	A displacement making use of a single transport mode, including any waiting time directly before the movement. Eurostat: "A trip is defined as change in location made in one or a series of stages. The change of location is not based on the start and end point being different, but on leaving the starting point for a certain amount of time".
<b>Vehicle kilometres</b>	Total distance covered by vehicles of each mode in commercial service annually (excluding deadhead runs from and to depots)



# EMTA Barometer

The EMTA Barometer is an initiative of the European metropolitan transport authorities, <https://www.emta.com/> as a reflection exercise on the mobility generated in the metropolitan areas associated with this organization. A group of 25 European public transport authorities, together with Greater Montreal, annually share more than 200 indicators.

EMTA Barometer analyzes annually the most important indicators in terms of mobility in the associated metropolitan areas, assessing the general trends that are presented annually based on the investments made or the changes in mobility behaviors. In particular, 217 indicators are analyzed, distributed as follows:

- General urban information:	12
- Mobility:	14
- Transport supply:	72
- Transport demand:	32
- Service quality:	32
- Transport fleet:	40
- Other indicators:	2
- Public transport fares:	9
- Financial:	4

For the realization of this report with 2017 data has been provided in a disinterested way by the different transport authorities. In the set of the 26 metropolitan areas there are about 90 million people (88,833,797) with a total GDP of more than one million euros (1,019,904 €).

The set of metropolitan areas move 23,878 million passengers per year in all the metropolitan areas. In a disaggregated way, buses move 42.9% of total mobility; tram 9.91%; light rail 1.70%; metro 29.57%; train 15.25%; and other modes 0.67%.

In terms of the length of the main networks, a total of 43,229 km of streets are used by urban buses; 213,956 km of roads by the metropolitan bus lines; 2,240 km for the tram; 43,429 km for the light rail; 2,102 km of tracks by the metro; 15,322 km by the train (commuter and regional); and 195 km for other transport modes.

About financial terms, the total cost of the transport system amounts to 36,701 million euros; of which 18,494 million are recovered with the rates; and 14,679 million are contributed by the public administrations.

The report is structured in seven chapters. The first one is an introductory one of the demographic and urbanistic situation of the metropolitan associated areas and the following ones gather the main data of mobility, supply, trips, service quality, fares and financial.

You can check all the reports made on the EMTA website <https://www.emta.com/>.



# GENERAL INFORMATION

## 1. Public transport authorities´ partners



Vervoerregio  
Amsterdam

**Vervoerregio Amsterdam  
Amsterdam**

[www.vervoerregio.nl](http://www.vervoerregio.nl)



© Wiebke Wilting; VRA

Vervoerregio Amsterdam is the name of the Transport Authority Amsterdam. As a partnership of 15 municipalities it is the legal entity responsible for commissioning public transport (bus, tram and metro) in the entire Amsterdam area. The organisation continues to work on improving connectivity and multimodal accessibility of the Amsterdam metropolitan region and its inhabitants, to enable quality of life, housing, leisure and employability. Strong focus is put on regional transport and traffic including planning and financing of public infrastructure for all modes on road safety and on smart mobility. Collaboration and co-creation with private and public stakeholders, improving sustainability as well as customer-centric working are key.



**Autoritat del Transport Metropolità (ATM)  
Barcelona**

[www.atm.cat](http://www.atm.cat)



© ATM

The Metropolitan Transport Authority (Autoritat del Transport Metropolità) – ATM – is the territorial mobility authority for the metropolitan area of Barcelona. Its mission is to offer citizens an accessible, sustainable and safe mobility system, through co-operation among the administrations that belong to the consortium. Its principal functions are Financing of the system, Planning (Infrastructure planning, Mobility Master Plan) and the Integrated Fare System in 346 municipalities (Management and common technology) among others. 2016 data: 955,2 million trips per year in public transport services in a network-length of more than 16,000 km.



© VBB

## Verkehrsverbund Berlin-Brandenburg (VBB) Berlin

[www.vbb.de](http://www.vbb.de)

The Verkehrsverbund Berlin-Brandenburg is the public transport authority covering the federal states of Berlin and Brandenburg – the capital area of Germany. The VBB can trace back its roots as far as to the German Unification Contract in 1990. Feeling the necessity to reconnect Berlin to the surrounding Brandenburg and to create a high-quality public transport were the reasons for introducing the VBB as a common public transport authority. The main tasks of VBB are the co-ordination of the services of around 40 public transport companies and their better connections, the introduction and development of a common fare system and the improvement and quality control of public transport services. Also, the VBB assists the authorities in charge of public transport in planning, tendering and management of regional railway services.



©CTB

## Consortio de Transportes de Bizkaia (CTB) Bilbao

[www.cotrabi.eus](http://www.cotrabi.eus)

It was founded in 1975 as a local entity with its own legal identity and independent of the entities within the consortium. It is made up by the Basque Government, the Biscay Provincial Government, the Bilbao City Council, and other city councils that control areas through which the Bilbao Metropolitan Railway runs. Its work was initially begun with the fundamental objective of building the Bilbao Metro and to manage public transport in Biscay after starting up the underground rail service. For the operation of the Bilbao Metropolitan Railway, the company Metro Bilbao (Bilbao Underground) – a company fully owned by CTB – was created.

After the opening of the Underground, the Consortium began to develop its work as coordinator of public transport in the province of Biscay, and especially of the fare integration policy with zonal unification, common tickets, homogeneous fares and uniformity and technological progress in all transport environments, with the creation of the *Barik Card* being an important milestone. The *Barik Card* is valid for all transport modes in Biscay. Likewise, the CTB is the guarantor of the harmonization of public transport customer service and is responsible for the integral network of public transport offices.



**West Midlands Integrated Transport Authority (WMITA)**  
**Birmingham**  
[www.wmita.org.uk](http://www.wmita.org.uk)



© TfWM

Transport is a key area the Mayor of the West Midlands, Andy Street, has powers and is a lead influence over on behalf of the West Midlands Combined Authority (WMCA). As a result Transport for West Midlands (TfWM) has been set up as part of the WMCA to co-ordinate investment to improve the region's transport infrastructure and create a fully integrated, safe and secure network. It is also responsible for assessing and planning the region's future transport needs so the network can meet the demands of businesses and a growing population. Working in partnership with bus and train operators, TfWM develops integrated and smart ticketing while providing free fares for the elderly and disabled and half price travel for children. Funding is also used to support the Ring and Ride service and provide socially necessary bus services on those routes or at those times that are not commercially viable for the private bus companies.



**Budapesti Közlekedési Központ (BKK)**  
**Budapest**  
[www.bkk.hu](http://www.bkk.hu)

Budapesti Közlekedési Központ (Centre for Budapest Transport) was established by a ruling of the General Assembly of the Municipality of Budapest on the 27th of October, 2010. The main objectives are: prepares and implements the Budapest transport strategy, incorporates sustainability and equality considerations in the operation and development of transport in Budapest; integrates the management and supervision of the Budapest transport sectors, particularly in public and road transport; orders and finances the public services of public and road transport; improves urban transport; supports, enables and assists the proliferation of pedestrian and bicycle transport; creates a balance between the development and operation of the transport system; operates a standard financing scheme; supervises the public and road transport service companies owned by the capital; co-ordinates all investments which involve public and road transport, including those undertaken by local governments or public utilities; and plays an active role in regional transport cooperation.





**Trafikselskabet Movia**  
Copenhagen  
[www.moviatrafik.dk](http://www.moviatrafik.dk)



© MOVIA

Movia is Denmark's largest public traffic authority owned by 45 municipalities and 2 regions on the island of Zealand. We offer more than 400 bus lines, 9 local railway lines and 5 FlexTrafik on-demand responsive services. We advise on and plan public transport, supporting the visions for growth and mobility of our owners. Movia wants public transport to be an attractive, green and friendly option. In accordance with the UN sustainable development goals, we focus on acting to combat climate change and its consequences. One of the solutions being to make it easy for people to travel together with affordable, sustainable and efficient public transport.



**Rhein-Main Verkehrsverbund**  
Frankfurt  
[www.rmv.de](http://www.rmv.de)



©RMV/Helmut Vogler

Rhein-Main-Verkehrsverbund (RMV or Rhine/Main Regional Transport Association) is one of the biggest transport associations in Germany. It coordinates and organizes regional bus and rail transport services across an area of around 14,000 square kilometers. That's around two-thirds of the area of the Federal State of Hesse. With around 2,5 Million passenger per day (around 747 Million per year), RMV is a key contributor to the development of the Rhine/Main area as a pulsating metropolitan region. In RMV applies: one ticket, one tariff, one timetable. In 1995 a uniform tariff system was created from over 100 different tariffs. Transfers between means of transport are possible with one single ticket and because travel times are matched as optimally as possible



**Helsingin Seudun Liikenne**  
Helsinki  
[www.hsl.fi](http://www.hsl.fi)



© HSL-Lauri Eriksson

Helsinki Regional Transport (HSL) is a joint local authority with 7 member municipalities and 1.2 million population. HSL is responsible for the planning and organizing of the public transport in the metropolitan area, and it procures bus, tram, metro, ferry, and commuter train services. HSL also plays a key role in regional transport system planning.



**TRANSPORT  
FOR LONDON**  
EVERY JOURNEY MATTERS

**Transport for London**  
**London**  
[www.tfl.gov.uk](http://www.tfl.gov.uk)



© TfL-Michael Garnett

Transport for London (TfL) is part of the Greater London Authority family led by Mayor of London Sadiq Khan. TfL is the integrated transport authority responsible for delivering the Mayor's aims for transport. It has a key role in shaping what life is like in London, helping to realise the Mayor's vision for a 'City for All Londoners'. TfL manages the city's red route strategic roads and most of London's public transport services, including the London Underground, London Buses, the Docklands Light Railway, London Overground, TfL Rail, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the Emirates Air Line. The quality and accessibility of these services is fundamental to Londoners' quality of life. By improving and expanding public transport, TfL can make people's lives easier and increase the appeal of sustainable travel over private car use.



**Syndicat Mixte des Transports pour le Rhône et  
l'Agglomération Lyonnaise**  
**Lyon**  
[www.sytral.fr](http://www.sytral.fr)

The major objective of the SYTRAL is to provide the best offer transportation for the inhabitants of the department developing the TCL network, cars of the Rhone and Dragonfly and the Optibus Rhône Express and services. His political development of urban and interurban transport is based on the mesh of the territory and the link between different clusters. The main objectives are: explore the possibilities of implementation, identify new equipment requirements and create new lines represent the major activities of SYTRAL and its teams. In time client, projects undertaken by the SYTRAL have a threefold purpose: rebalance modes of travel within the PTU; develop efficient public transportation and clean energy; and develop the space for social cohesion and socio-economic development.



**Conсорcio Regional de Transportes de Madrid  
(CRTM)**  
**Madrid**  
[www.crtm.es](http://www.crtm.es)



©CRTM

The Consorcio Regional de Transportes de Madrid (CRTM) is the Public Transport Authority of the Region of Madrid., CRTM is responsible for providing and managing all public passenger transport services attached to the Madrid Regional Government and to all the municipal councils in the region. Within the scope of the law by which it was created, its principal functions and objectives are as follows: Planning public transport infrastructures, with a particular emphasis on the migration to modal integration; creating an integrated fare system for all transport modes; establishing a stable financing framework; planning services and coordinating the operating programs of all transport modes; controlling and monitoring the financial management of the different operators; and creating a global image for the public transport system by creating a closer relationship with the users.



**Consorcio Transportes de Mallorca (CTM-TIB)  
Mallorca**  
[www.tib.org](http://www.tib.org)



© CTM-tib

CTM (Mallorca Transport Consortium) is Majorca's regional public transport authority, which coordinates the economic, technical and administrative aspects of the service. The main objectives are: planning, setting up and maintaining a common transport system in Majorca by coordinating and interconnecting the different transport operators and services; boosting the use of public transport; setting up an integrated fare system; increasing transport efficiency. Tib is the trademark of the public transport network for all interurban public transport in the Balearic Islands (buses, trains and metro).



**Transport for Greater Manchester (TFGM)  
Manchester**  
[www.tfgm.com](http://www.tfgm.com)



© TfGM

Transport for Greater Manchester is the new name for the organization responsible for implementing local transport policies that affect the ten districts of Greater Manchester. Transport for Greater Manchester is responsible for investments in improving transport services and facilities. It is the executive arm of the Transport for Greater Manchester Committee (the Greater Manchester Passenger Transport Authority between 1974 and 2011) which funds and makes policies for TfGM. The authority is made up of 33 councilors appointed from the ten Greater Manchester districts.



**Autorité régionale de transport métropolitain de  
Montreal (ARTM)  
Montreal**  
[www.artm.quebec](http://www.artm.quebec)

The Autorité régionale de transport métropolitain (ARTM; English: Metropolitan Regional Transportation Authority) is an umbrella organization that manages and integrates road transport and public transportation in Greater Montreal in Quebec, Canada. The organization was created by the Government of Quebec on June 1, 2017, replacing the AMT's former mandate of planning. The ARTM was formerly known as the Agence métropolitaine de transport, which was founded in 1996. The new agency, which has the mandate to plan and integrate public transit in Greater Montreal, was created, along with Exo (public transit), its operating branch, following the disbanding of the AMT. (ARTM is a EMTA valued partner).



©RUTER

**RUTER**  
Oslo  
[www.ruter.no](http://www.ruter.no)

Ruter as is the public transport authority for Oslo and Akershus, Norway. The company, organized as a limited company is responsible for managing, but not operating, public transport in the two counties, including bus, the Oslo Metro, the Oslo Tramway and ferries. It also holds agreements with the Norwegian State Railways for price regulation on commuter trains operating within these two counties. Ruter is responsible for administrating, funding and marketing public transport in Oslo and Akershus. It is owned by the City of Oslo (60%) and Akershus County Municipality (40%), and organized as a limited company.



©IdFM

**Ile-de-France Mobilités**  
Paris & Ile-de-France  
[www.iledefrance-mobilites.fr](http://www.iledefrance-mobilites.fr)

Ile-de-France Mobilités designs, organises and finances the public transport used by residents all across the Greater Paris Region. Ile-de-France Mobilités brings together stakeholders from all over the Greater Paris Region transport system in order to improve the service provided to passengers. Ile-de-France Mobilités defines and drives development and modernisation projects for all modes of transport and outsource operations to transport operators. Ile-de-France Mobilités which encompasses the Greater Paris Region, and the eight departments in the Île-de-France region, thus makes the vision for all public transport in the Greater Paris Region reality. Ile-de-France Mobilités jointly funds infrastructure upgrades to roads and rail, as well as the renovation and purchase of rolling stock. Ile-de-France Mobilités is responsible for the keeping the overall transport costs in the Greater Paris Region in balance and manages an operating budget of some 10 billion euros. Finally, Ile-de-France Mobilités creates and determines price passenger tickets.



©ROPID

**Regional Organizer of Prague Integrated Transport (ROPID)**  
Prague  
[www.ropid.cz](http://www.ropid.cz)

Pražská Integrovaná Doprava (Prague Integrated Transport), PID, is a transport system including metro, trams, railways, city and suburban bus lines, funicular and ferry. This system is gradually integrated by common transport and tariff conditions and by a unified transport solution including coordination of schedules. It is built with the objective to ensure good quality servicing of the territory supporting competitiveness of public transport against individual transport. PID is being coordinated by ROPID (Regional Organizer of Prague Integrated Transport) a specialized organization, responsible for the operation of Prague Integrated Transport, was uncharged by creation and development of the system of Prague Integrated Transport. Its task is organizational and checking. It is responsible for its work towards bodies of the municipality and state authorities, that uncharged it by organization of the transport.



**METROPOOLREGIO**  
**ROTTERDAM DEN HAAG**



© MRDH

**Metropoolregio Rotterdam Den Haag (MRDH)**  
**Rotterdam-The Hague**  
[www.mrdh.nl](http://www.mrdh.nl)

In the southern Randstad (the urban agglomeration of Western Holland) 23 local authorities bundle their forces in the Metropolitan region Rotterdam The Hague (MRDH). The local authorities work together to improve accessibility and strengthen the economic business climate. The MRDH has an approved policy framework for European cooperation and is working on a Roadmap for the implementation of the set-up goals. MRDH has internal working group for preparing policy documents and screening opportunities, and a regional knowledge exchange platform with the 23 municipalities for sharing experience and coordinated actions.



©Hans Geijer/Johnér

**Stockholms Lokaltrafik AB (SL)**  
**Stockholm**  
[www.sl.se](http://www.sl.se)

The Stockholm County Public Transport Administration is the organisation behind Stockholm Public Transport (SL), Waxholmsbolaget and special transport service brands in Stockholm County. SL is the umbrella brand for all our public transport services in the Greater Stockholm area. Our transport contractors operate the services by commission. A specific element of our public transport mission is the special transport service. Special transport services are a supplement for people who are unable to travel on regular public transport. In order for residents and visitors to travel easily between the many archipelago islands and the mainland, Waxholmsbolaget operates public water transport services as well as commuter ferries for shorter routes. We work to build, develop and manage sustainable, modern and accessible public transportation for nearly 2.3 million inhabitants on land and on water. Public transport in Stockholm County should be easily accessible, reliable and environmentally friendly. We collaborate with our transport contractors to make public transportation the obvious choice for the residents of Stockholm County.



**Verband Region Stuttgart (VRS)**  
**Stuttgart**  
[www.region-stuttgart.de](http://www.region-stuttgart.de)

The Verband Region Stuttgart provides a framework for regional co-operation between the capital of the federal state of Baden-Württemberg, the city of Stuttgart, and the surrounding administrative districts of Böblingen, Esslingen, Göppingen, Ludwigsburg, and Rems-Murr-Kreis. Founded in 1994, the Verband Region Stuttgart is the political entity for the Stuttgart Region with its own parliament. The aim is to promote diversity, a high standard of living, mobility, and economic strength. Important responsibilities of the organization are spatial planning, economic development, and public transportation. In this sector, the Verband Region Stuttgart is responsible for the suburban railway system, the new express bus services, as well as the Park & Ride system and regional traffic management. All means of public transport can be used by. The new “polygo” travel card has extended these services by including car sharing, e-mobility, and bike rentals.



**Agenzia della mobilità piemontese (AMP)**  
**Torino**  
[www.mtm.torino.it](http://www.mtm.torino.it)



© AMP

The AMP is the public authority in charge of public transport in the Piedmont Region and in the Turin metropolitan area that aims to improve sustainable mobility by optimizing public transportation service by means of targeted projects aimed at specific passenger needs: planning mobility strategies; improvements in public transportation (infrastructure, rolling stock and fleet monitoring technologies quantity and quality of service, funding for operations, both new and existing and targeted investment); administration of the tariff system; funding mechanisms from the Consortium members; service contracts with the transport operators; publicity; and information to citizens. On November 12th 2015, AMMT changed its name to AMP (Agenzia della mobilità piemontese) and the PTA area was enlarged to the entire Piedmont Region. The number of municipalities changed from 32 to 1.206 while the population changed from 1,5 to more than 4 million inhabitants and the surface changed from 130 to 25.300 square km.



Autoritat de Transport  
Metropolità de València



© ATMV

## Autoritat de Transport Metropolità de València (ATMV) Valencia

L'Autoritat de Transport Metropolità de València (ATMV) is a transport authority that covers 60 municipalities of the metropolitan area of València with a population of 1.8 million inhabitants. It was created under Law 13/2016 as a independent body of the Regional Government in order to achieve institutional cooperation and coordinated management of the competencies related to interurban and urban regular public passengers transport.

The main tasks of ATMV are related to planning infrastructures and networks for public transport, development, control and assessment of Mobility Plans, control and management of public service transport contracts, design and approval of the fare system and promotion and information dissemination about sustainable mobility.



©Theo Kust

## Verkehrsverbund Ost-Region (VOR) Vienna [www.vor.at](http://www.vor.at)

Austria's Eastern Region Travel Association (Verkehrsverbund Ost-Region Gesellschaft m.b.H., VOR) offers a coordinated range of public transport options in Austria's eastern region (Vienna, Lower Austria and Burgenland). At the intersection between passengers, transport companies, regional authorities and political bodies, VOR ensures that all current mobility requirements, both in urban and rural areas, are met systematically and with a high standard of quality. As Austria's oldest and largest transport association, VOR has been uniting rail transport operators and bus companies into a transport association for about 3.8 million inhabitants since 1984. The VOR network comprises about 900 lines with roughly 11,500 stops in Vienna, Lower Austria and Burgenland. In 2017, more than 1.06 billion passengers used the public transport services in Austria's eastern region. At the intersection between passengers, transport companies, regional authorities and political bodies, VOR pursues the advancement of the region's mobility services, well beyond the mere organization of public transport. Comprehensive and intermodal mobility as well as efficient and sustainable planning of public transport are among VOR's principal concerns and pursuits. To ensure a wide range of public transport services within the region, VOR orders and appoints, within the scope of public tenders, the necessary bus connections. VOR thereby acts as the principal client of most public transport companies in Vienna, Lower Austria and Burgenland and as the clearing house for the revenue breakdown between VOR partners.



**Susisiekimo Paslaugos (MESP)  
Vilnius**  
[www.vilniustransport.lt](http://www.vilniustransport.lt)



©MESP

Savivaldybės įmonė “Susisiekimo Paslaugos” (Municipal Enterprise Connection Services), commonly referred to as SĮSP, was founded on July 15, 1998, by the decision of Vilnius City Council. It is a local public transport authority responsible for organizing overall public transport in the city and provision of numerous services: maintenance of route network, scheduling, issuing and selling of public transport tickets, ticket inspection, provision of information for passengers, gathering and analysing relevant data, management of parking system, operating a centralized traffic management centre, etc.

The enterprise has been closely working with Vilnius City Administration, and has recently established for itself several pretty ambitious, such as: becoming a regional transport agency, promoting non-polluting modes of transport, increasing usage of public transport as well as creating favourable services for car sharing, cycling, and e-mobility.



PUBLIC TRANSPORT AUTHORITY  
OF WARSAW

**Zarząd Transportu Miejskiego w Warszawie (ZTM)  
Warsaw**  
[www.ztm.waw.pl](http://www.ztm.waw.pl)



©ZTM

Public Transport Authority of Warsaw came into being on the 1st of January 1992 by virtue of resolution of the Council of the Capital City of Warsaw. Its main goals are stated in charter and include organization, management and supervising of Public Transport in the urban complex of Warsaw. 25 years of experience with public transport organization as well as cooperation with executive organs related to local transport in major European metropolis resulted in creating an offer which is still expanding and fully meets the passengers' needs.



## 2. Description of the PTA <sup>(1)</sup> area surveyed

	Authority responsible	Main city population	PTA area population	PTA surface (km <sup>2</sup> )	PTA urbanised surface (km <sup>2</sup> )	PTA urban density (inhabitants /km <sup>2</sup> )	Annual PTA GDP per capita (€)
VRA	Amsterdam	854.047	<b>1.528.535</b>	1.005	806	1.896	35.500 €
ATM	Barcelona	1.620.809	<b>5.671.643</b>	8.810	3.242	1.749	29.678 €
VBB	Berlin	3.613.495	<b>6.117.535</b>	30.545	3.441	1.778	33.632 €
CTB	Bilbao	1.140.662	<b>1.140.662</b>	2.215	235	4.854	30.378 €
TfWM	Birmingham	1.137.123	<b>2.897.303</b>	902	680	4.260	29.900 €
BKK	Budapest	1.749.734	<b>1.749.734</b>	525	358	4.888	23.404 €
MOVIA	Copenhagen	717.698	<b>2.617.968</b>	9.195	1.713	1.528	56.412 €
RMV	Frankfurt	742.175	<b>5.179.242</b>	13.585	2.440	2.122	44.804 €
HSL-HRT	Helsinki	643.272	<b>1.250.001</b>	1.507	411	3.041	58.840 €
TfL	London	8.826.935	<b>8.826.935</b>	1.572	1.042	8.471	52.059 €
SYTRAL	Lyon	655.158	<b>1.354.476</b>	746	360	3.762	57.384 €
CRTM	Madrid	3.182.981	<b>6.507.184</b>	8.028	921	7.068	33.809 €
CTM-TIB	Mallorca	406.492	<b>868.693</b>	3.636	214	4.059	35.036 €
TfGM	Manchester	543.410	<b>2.789.822</b>	1.272	959	2.909	26.921 €
ARTM	Montreal	2.033.189	<b>4.138.254</b>	4.402	1.607	2.575	28.909 €
RUTER	Oslo	673.469	<b>1.287.495</b>	5.005	325	3.962	68.287 €
IDFM	Paris	2.168.500	<b>12.246.200</b>	12.000	2.728	4.489	55.227 €
ROPID	Prague	1.294.000	<b>2.306.000</b>	5.921	755	3.054	23.724 €
MRDH	Rott/Hague <sup>(3)</sup>	638.181	<b>2.347.331</b>	1.258	440	5.335	43.880 €
SL	Stockholm	949.761	<b>2.308.143</b>	6.524	903	2.556	71.860 €
VRS	Stuttgart	632.743	<b>2.522.246</b>	3.011	731	3.450	53.106 €
AMP	Turin	882.523	<b>4.375.865</b>	25.387	1.771	2.471	21.300 €
ATMV	Valencia	787.808	<b>1.798.608</b>	1.551	306	5.878	21.714 €
VOR	Vienna	1.888.776	<b>3.852.119</b>	23.559	14.421	267	41.700 €
MESP	Vilnius	545.280	<b>545.280</b>	401			17.177 €
ZTM	Warsaw	1.764.615	<b>2.606.523</b>	2.676	603	4.323	25.264 €

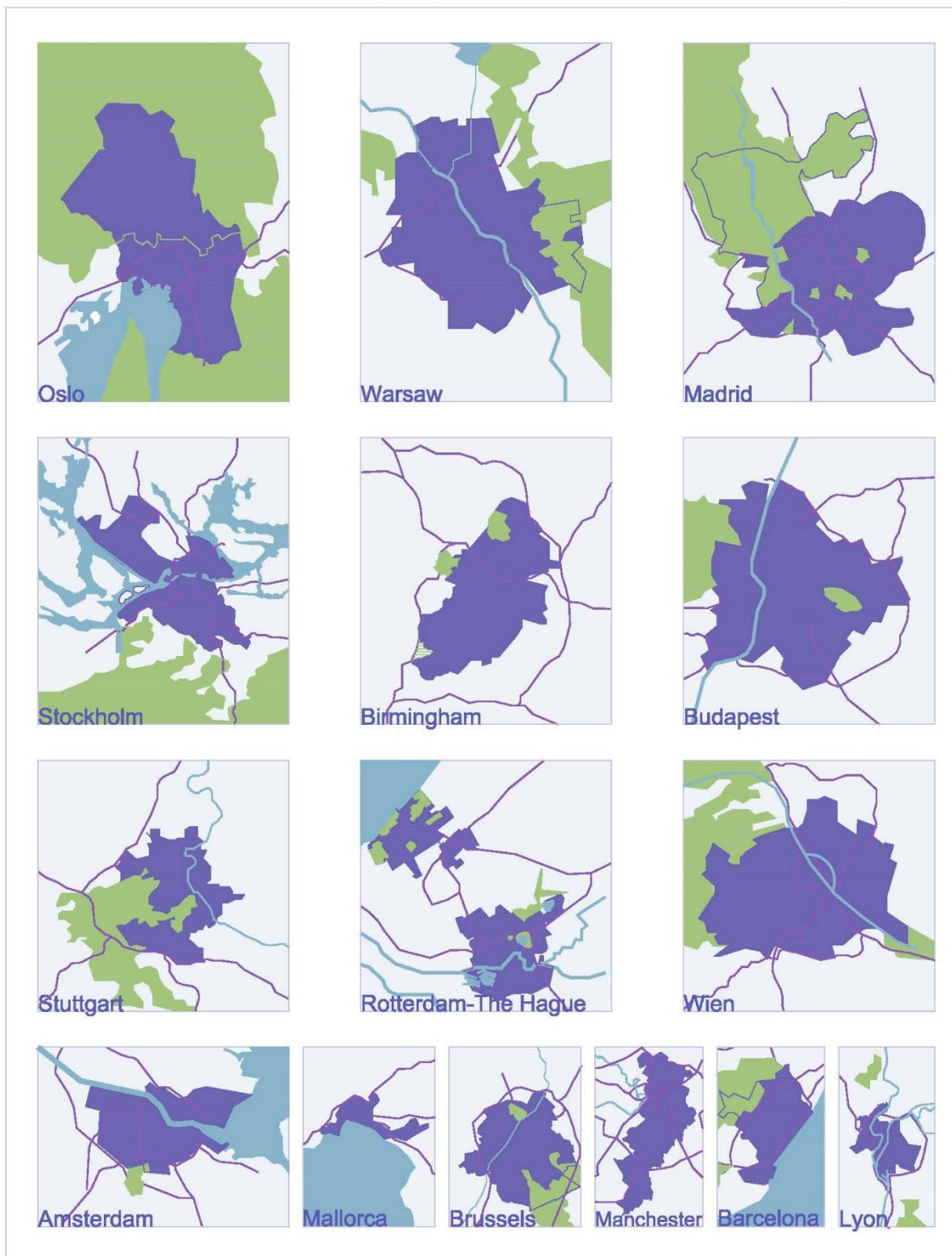
(1) PTA: Public transport authority (2) GDP: Gross domestic product (3) Rotterdam and The Hague have one PTA

### T1. PTA urban description

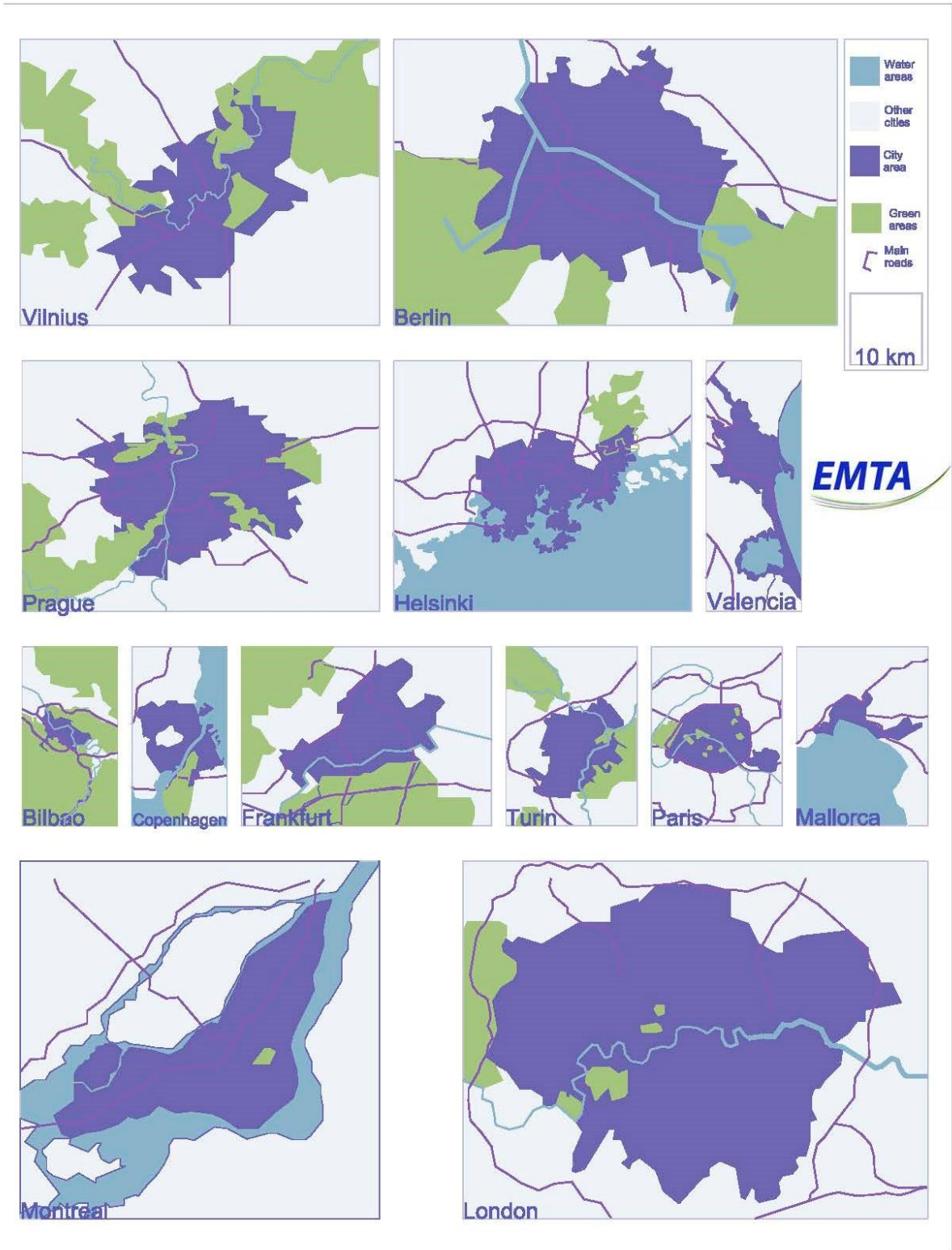
The EMTA Barometer periodically allows a comparison of the public transport system between 26 different European metropolitan transport authorities areas. From the results of this survey, various geographical, demographical, spatial and socio-economic ratios can be drawn that allow us to frame what features of the area might have impacted the mobility in an urban territory. A quick look to authorities as diverse as VBB or AMP with more than 25.000 km<sup>2</sup> of total PTA surface and MESP or BKK with less than 600 km<sup>2</sup>, showcase the extremes of the smallest and largest of cities and PTA features, without any assessment as to the significance of each urban transport network.

The following maps represents main cities limits and the total administrative area of each PTA to be able to locate and understand the values expressed in the current 2017 data Barometer.

### 3. PTA's main city shape

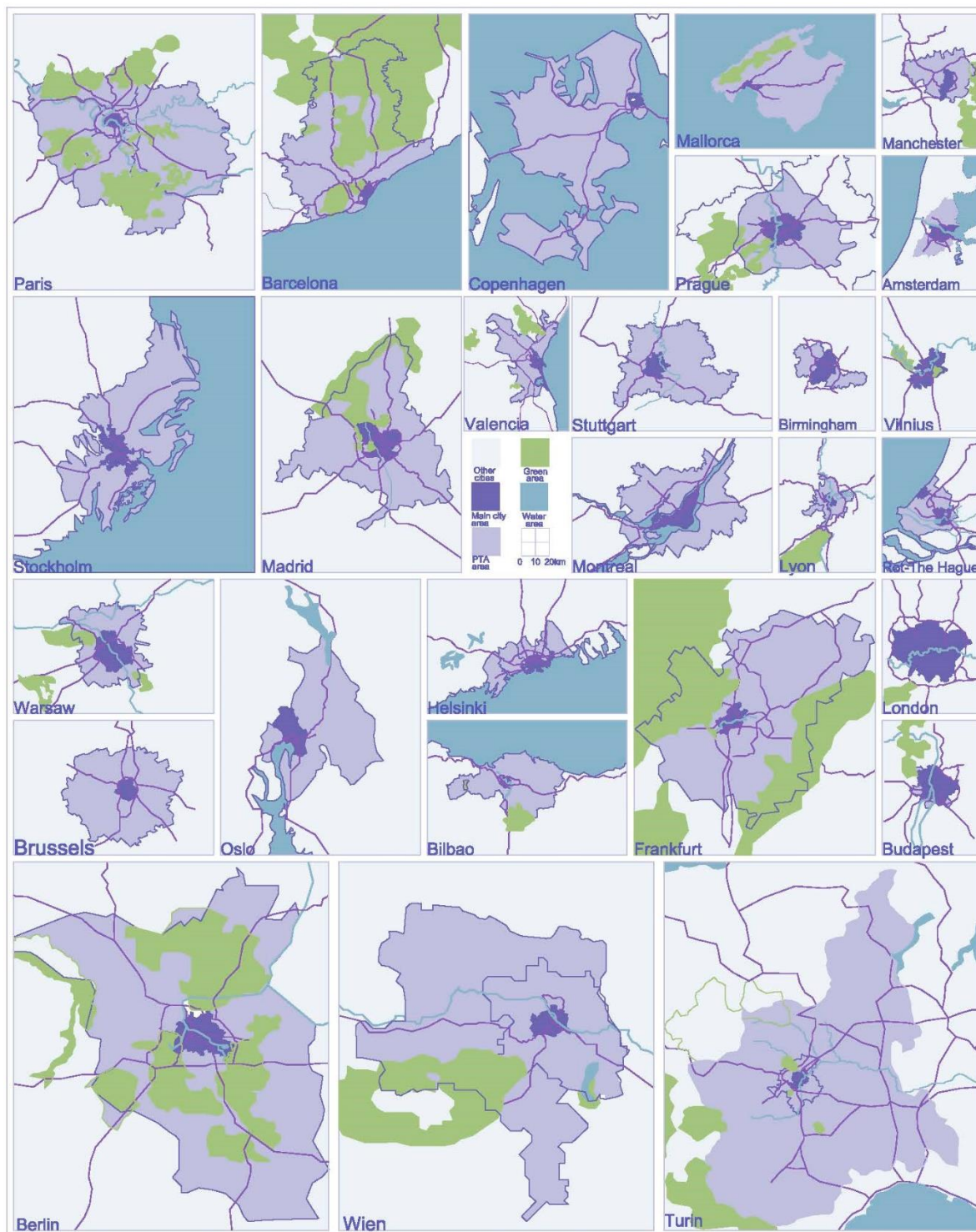


T2. PTA's main city shape 1



T3. PTA's main city shape 2

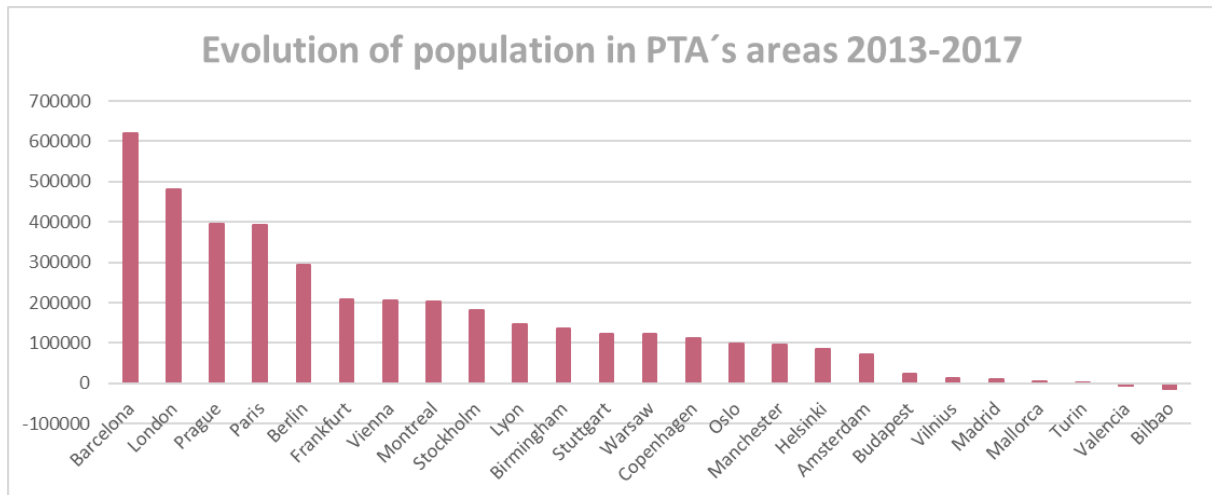
## 4. PTAs administrative limits



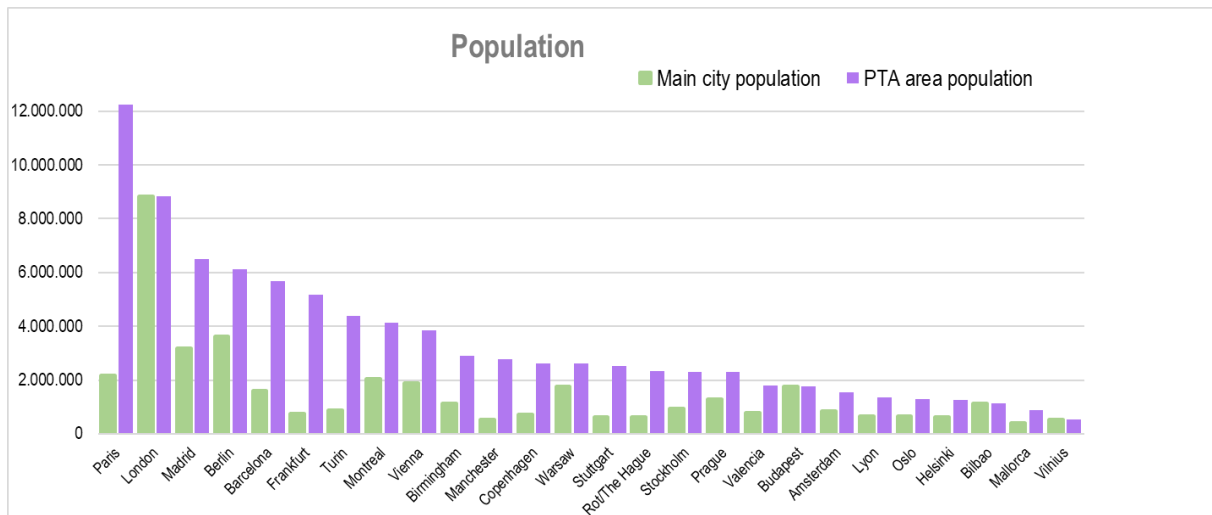
T4. PTAs administrative limits

## 5. Evolution of population in PTA's areas

The average authority population of cities is around 1.51 million inhabitants and 3.4 million for the PTA area. Regarding the average area for the main cities is 346 km<sup>2</sup> and 6,740 km<sup>2</sup> for the PTA area, with an urbanized PTA area of 1,653 km<sup>2</sup> that represents a 24% of the total PTA surface. In the case of the main cities, this percentage has risen up to 66% of the total surface. Finally, the average authority GDP in PTA area has increased from 37,715 € in 2016 to 39,227 € in 2017 in the PTA area (+4%). ATM (Barcelona) has expanded the scope of the metropolitan area considerably (172%) explaining the growth of included population within the PTA area with 13,6%.



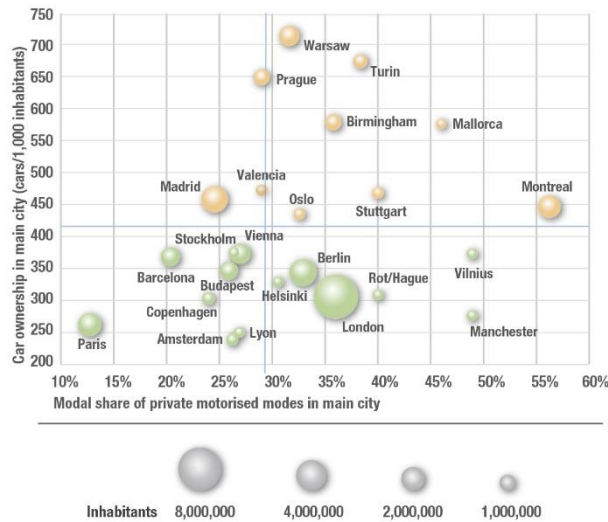
T5. Evolution of population in PTA's areas between 2013 to 2017



T6. Population in main cities and PTA's areas

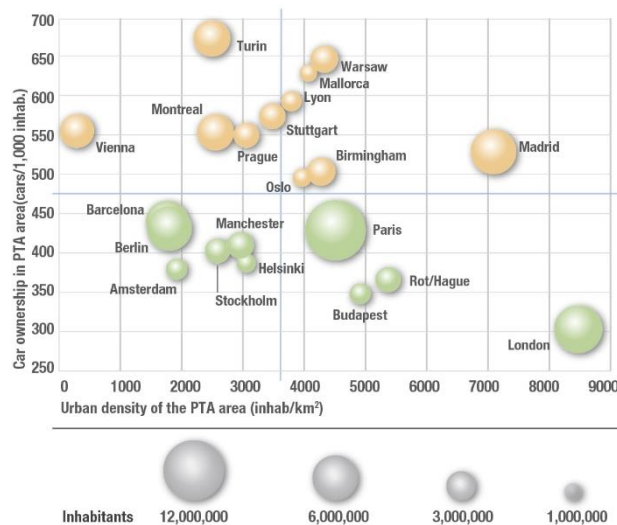
## 6. Car ownership rate

The first image represents the relation between car ownership in main city and modal share of private motorised modes also in the main city. In this graph the size of the balls represents the inhabitants in the main city and the colour represents those cities that are below or over the average. Comparing with previous years, an important tendency can be clearly identified: the rate of ownership of the private car continuous to decline slowly in main cities, 414 cars ownership per 1,000 inhabitants.



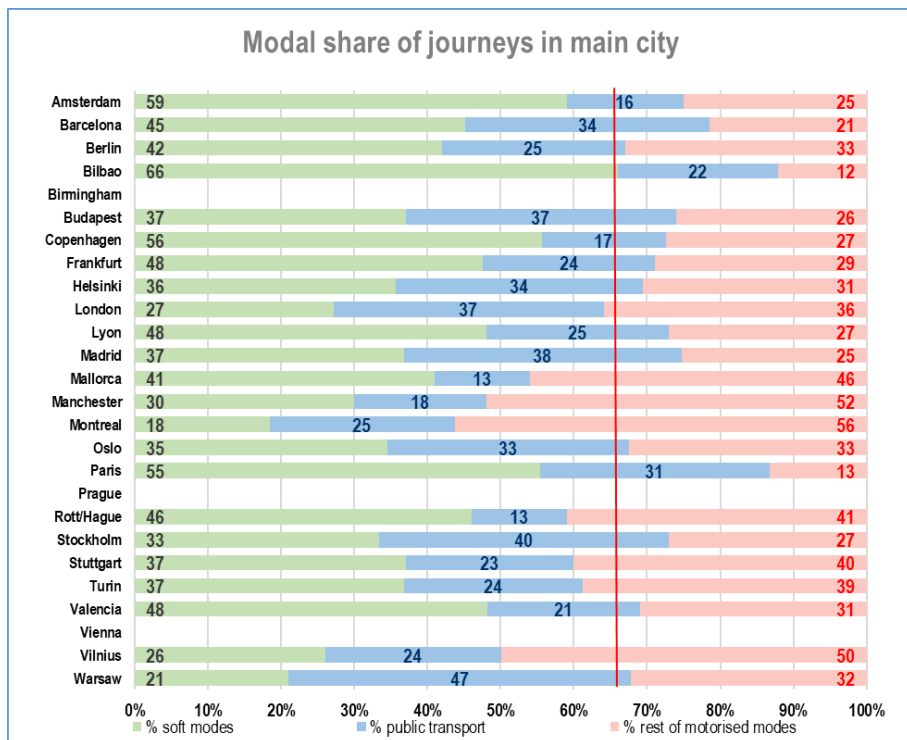
T7. Car ownership versus modal share of private motorised vehicles in main city

In this image is represented the relation between car ownership in the PTA area, expressed as cars per 1,000 inhabitants and urbanized PTA area density. The size of the balls represents the population in the PTA area. The average density of both cities (8,250 inhabitants/km<sup>2</sup>) and their PTA areas (3,760 inhabitants/km<sup>2</sup>) continues to grow. Three PTA areas (Madrid, Mallorca and London) harbour more than 7,000 inhabitants/km<sup>2</sup> (urbanized PTA area/population), having double the density of an average PTA. For most cities the car ownership rate moves within a margin of between 350 and 550 cars /1,000 inhabitants, least Mallorca, Turin and Warsaw that exceed 600.

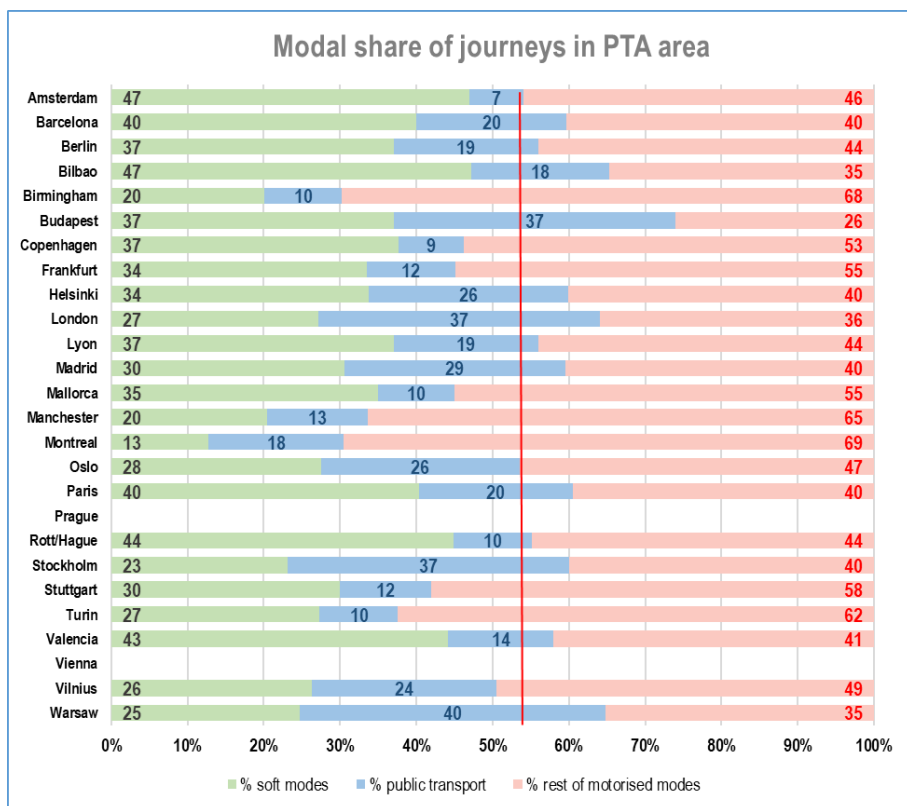


T8. Car ownership versus urban density in PTA area

## 7. Modal share in main cities & PTA areas



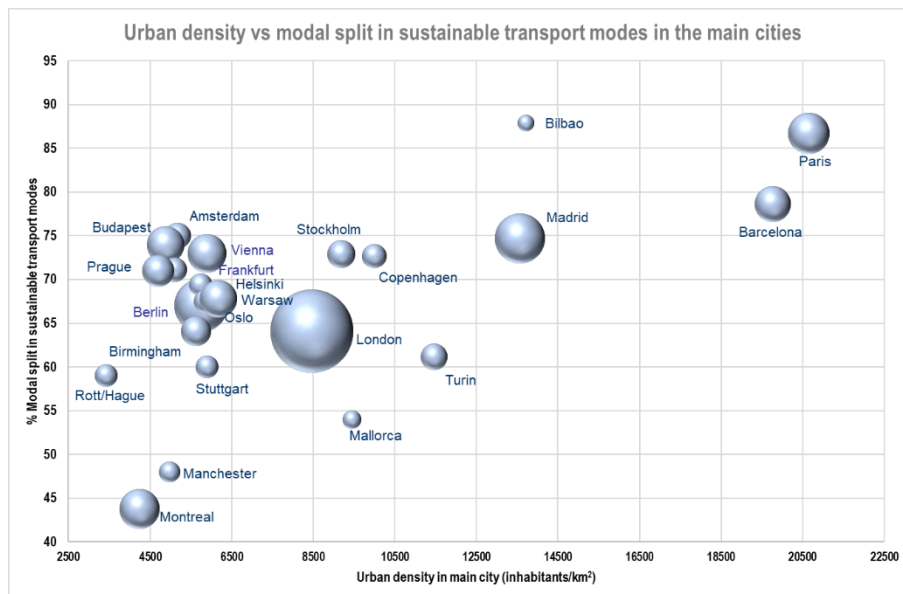
T9. Modal share of trips in main city



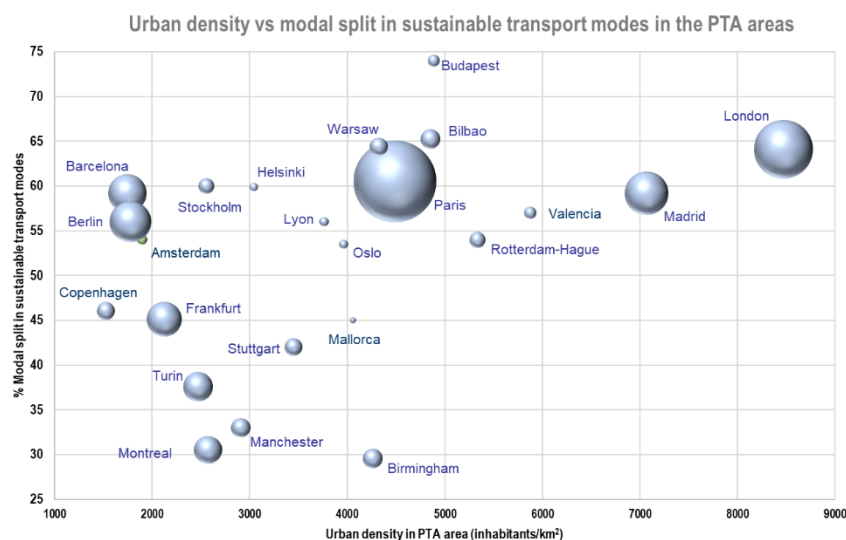
T10. Modal share of trips in PTA area

## 8. Urban density and modal split in sustainable transport modes

The following graphic displays the share of total daily journeys by sustainable transport modes – walking, cycling and public transport- explained by urban population density (urbanised area). The size of the balls represents as well the main city population in T10 and PTA population in T11.



T11. Urban density vs modal split in sustainable transport modes in the main cities



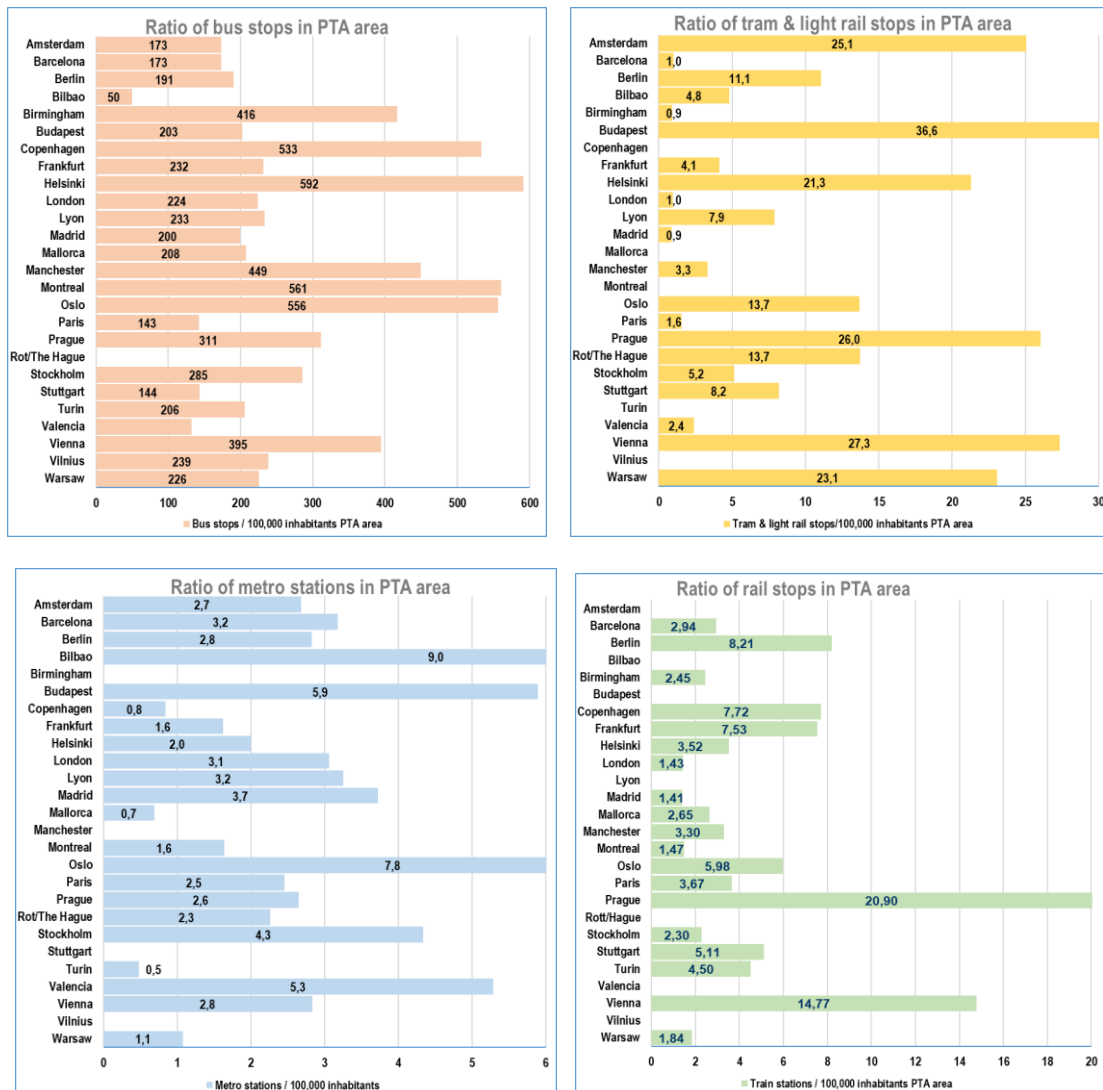
T12. Urban density vs modal split in sustainable transport modes in the PTA areas





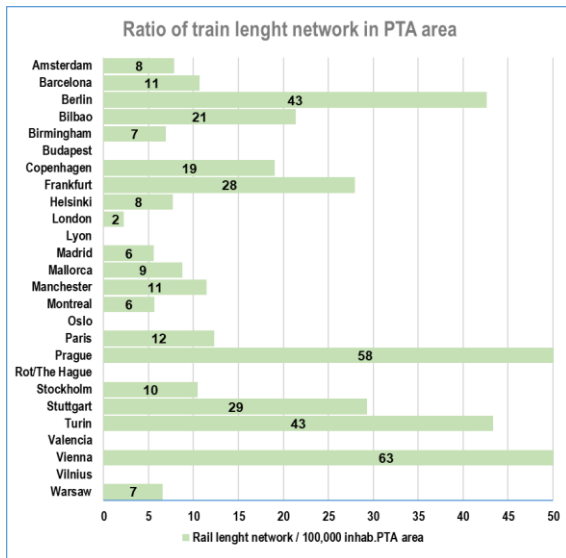
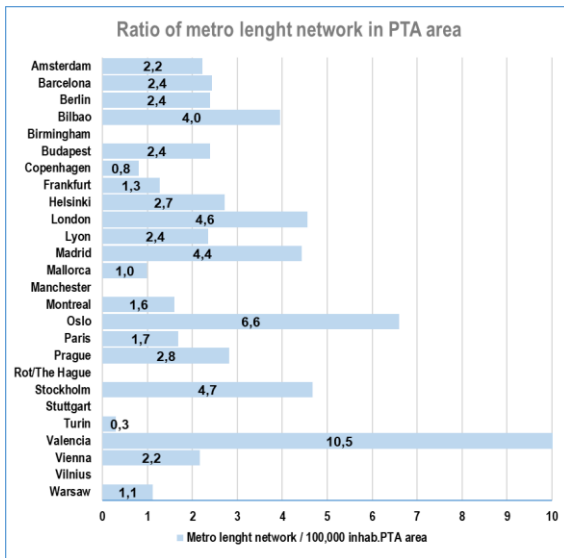
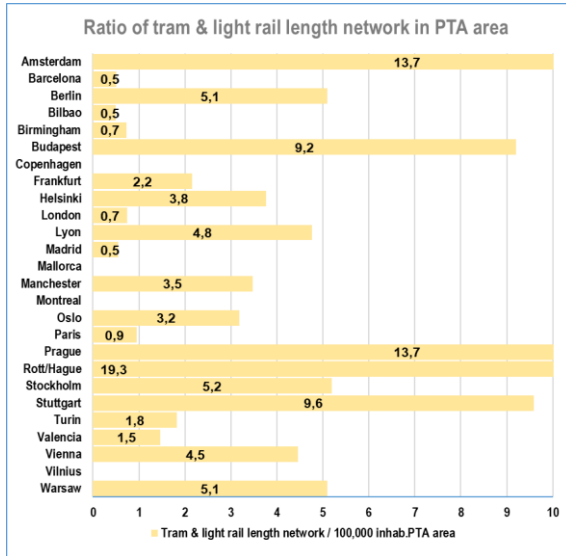
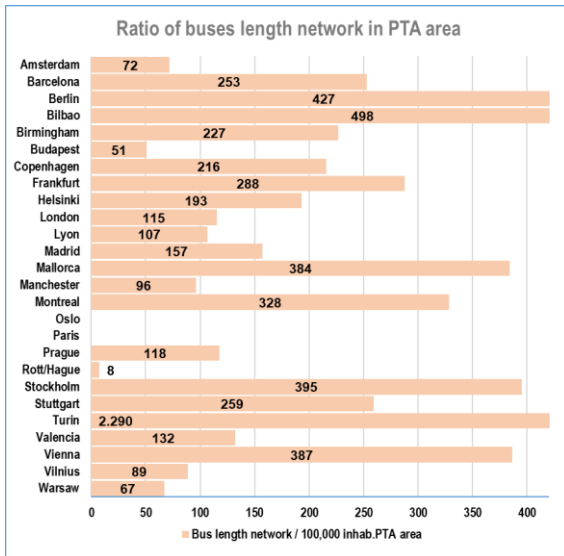
## 9. Ratio of stops or stations per 100,000 inhabitants in PTA area

The Nordic PTAs (Copenhagen, Helsinki and Oslo) with Montreal have the highest number of bus and tram stops per 1,000 inhabitants (>500).



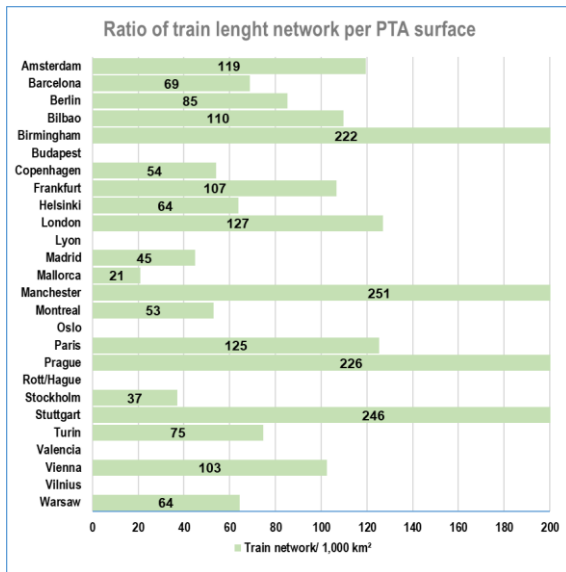
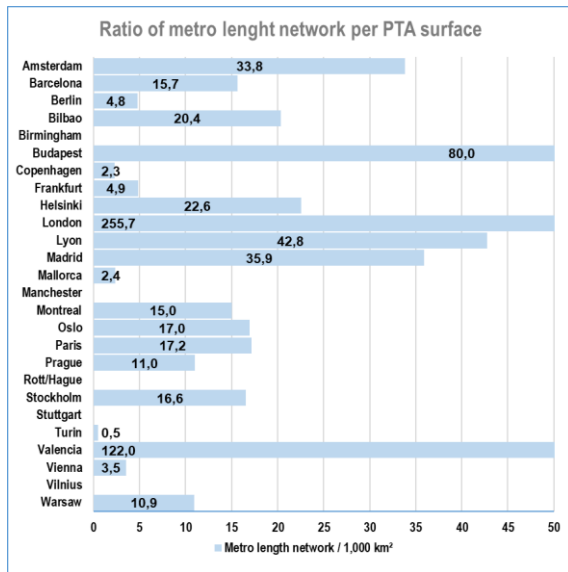
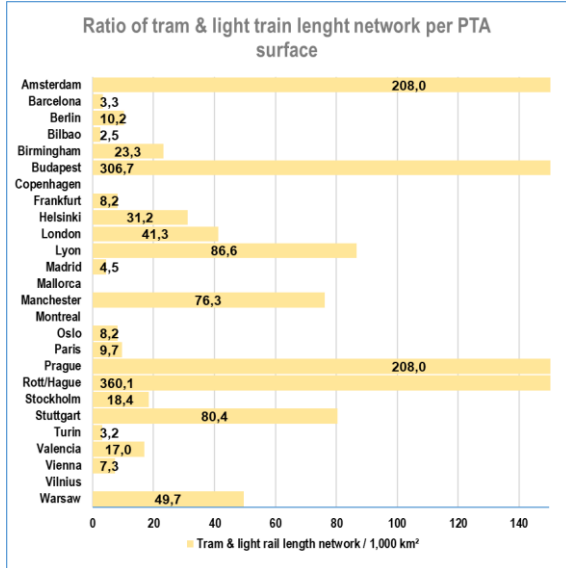
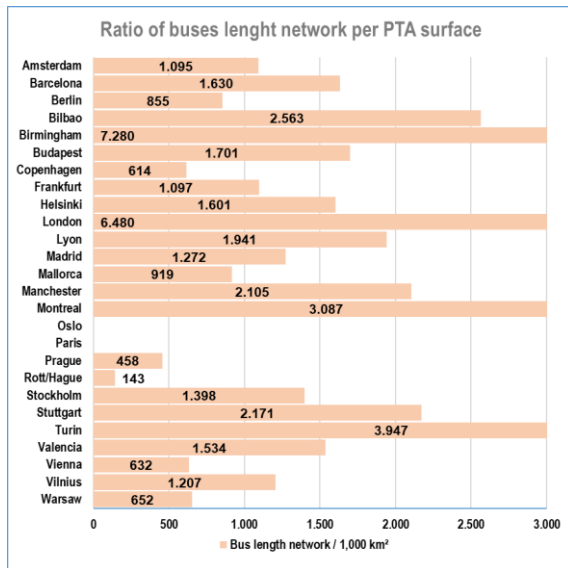
T13. Ratio of stops or stations in PTA area per mode

## 10. Ratio of length network per 100,000 inhabitants in PTA area



T14. Ratio of length network in PTA area per 100,000 inhabitants in PTA area

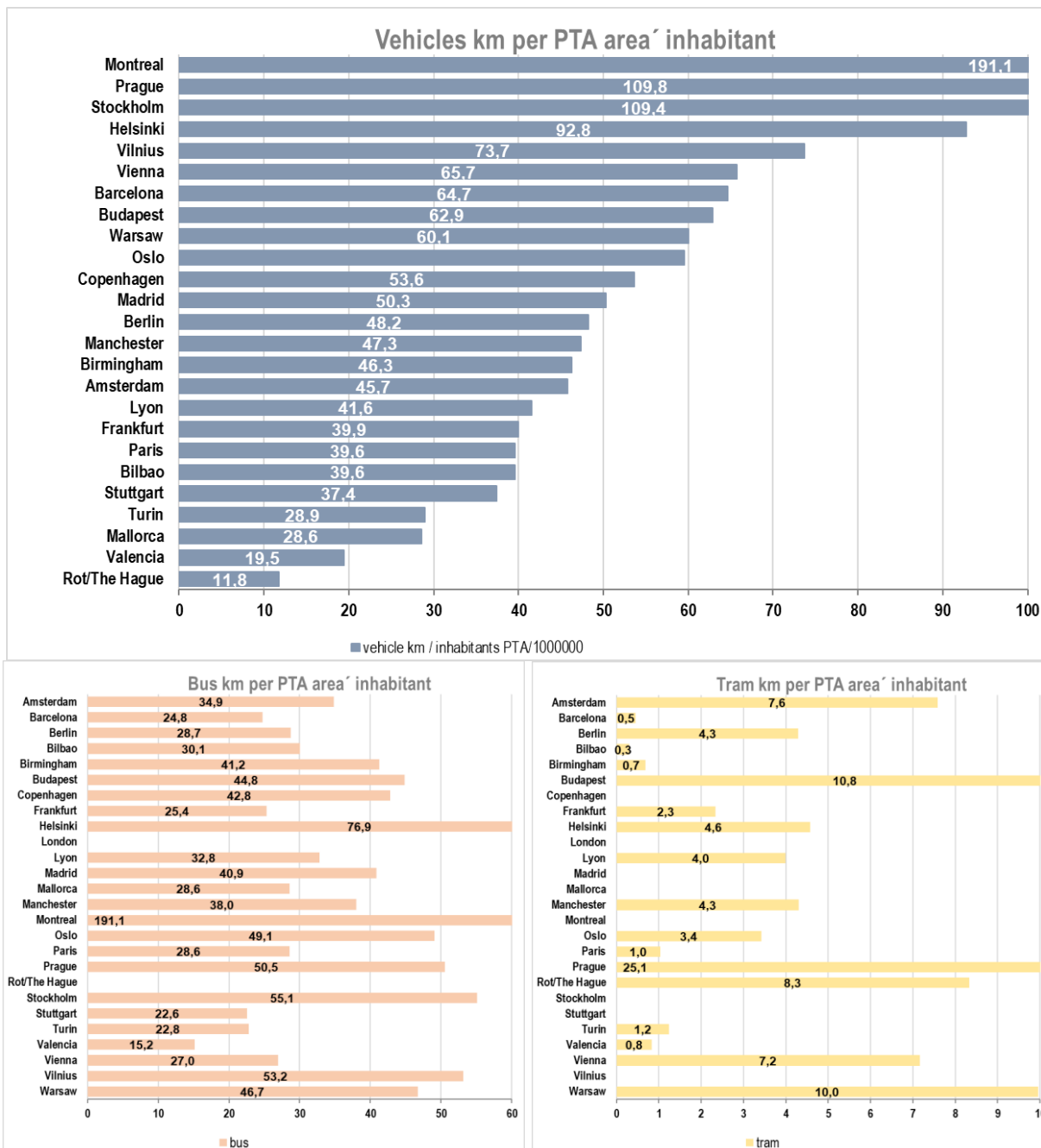
# 11. Ratio of length network per PTA surface



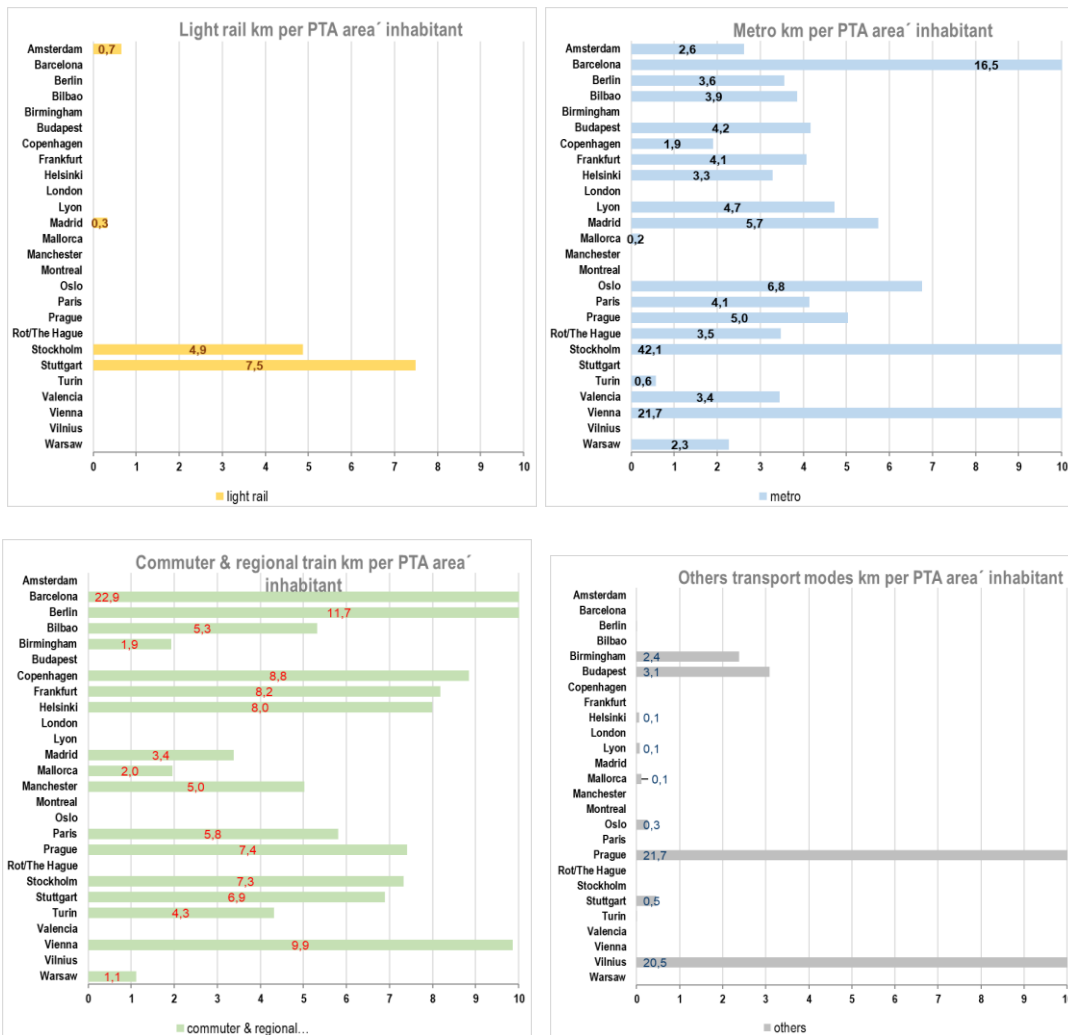
T15. Ratio of length network per 1,000 km² of the PTA area

## 12. Vehicles-km per inhabitant and PTA area

The average number of bus-km per one million inhabitants is 43.8, nine times more than the number of tram-km per inhabitant, 5.3. Only Helsinki, Montreal, Prague, Stockholm and Vilnius are above 50 bus-km per inhabitant.



T16. Bus & tram km per PTA area inhabitant



T17. Light rail, metro, commuter train (\*) and others transport modes vehicles km per PTA area inhabitant

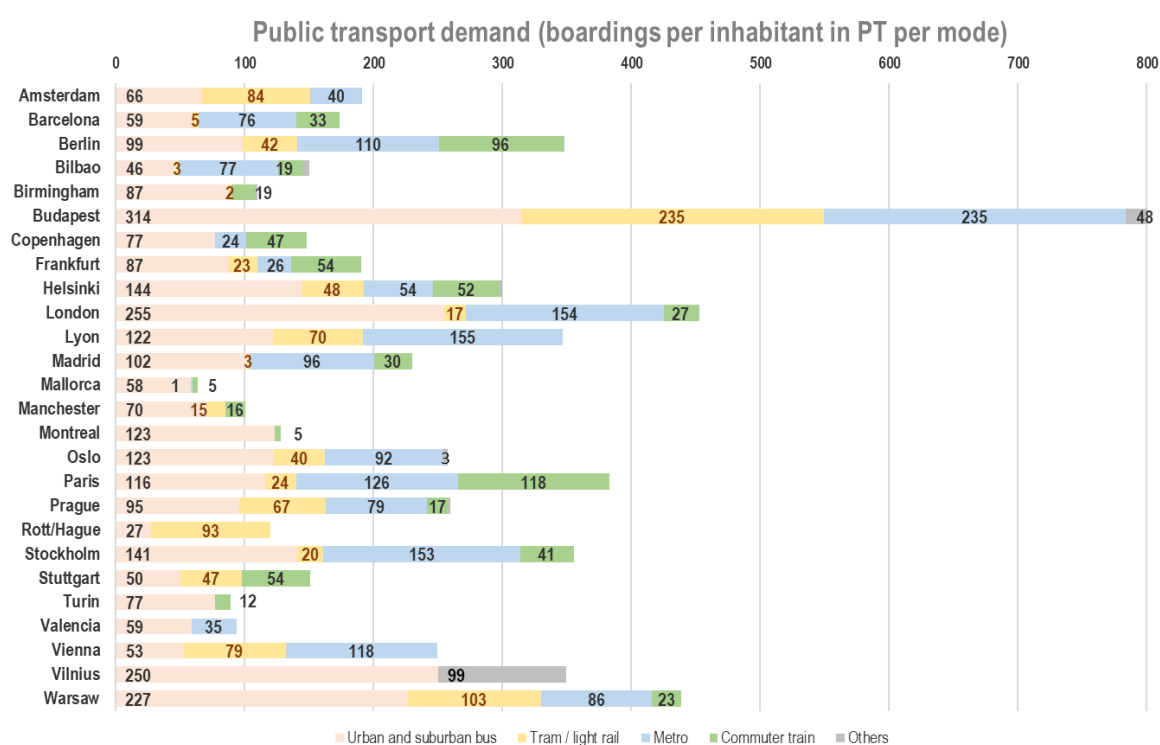
In relation with rail services, metro and commuter train has a similar average authority of 7.4 vehicles-km per one million inhabitants. Remarkable is the high ratio of metro that Barcelona, Stockholm and Vienna have and that some PTA's have not contributed values for the commuter train service because they lack the legal capacity for planning and operation and do not have data available (\*) or in the case of Manchester the value for metro vehicles km is linked to tram and light trains.

Light rails are not relevant in EMTA countries for the moment compared to trams. Only Stockholm and Stuttgart bet on light rail as transport mode instead of tram. In the case of Birmingham the data for "others" is referred to the airport people mover; trolley for Budapest, Stuttgart and Vilnius; and ferry for Prague.



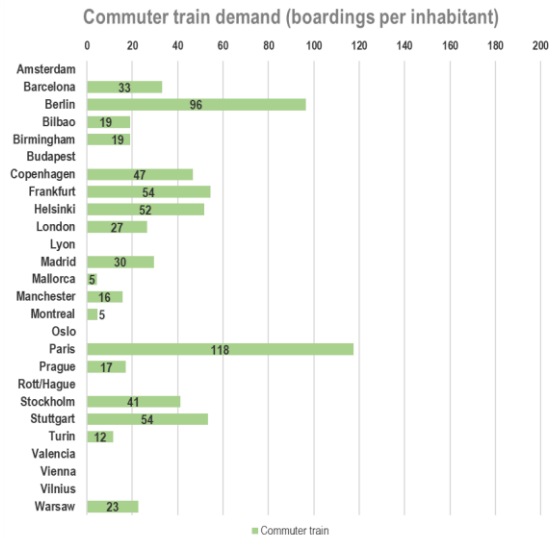
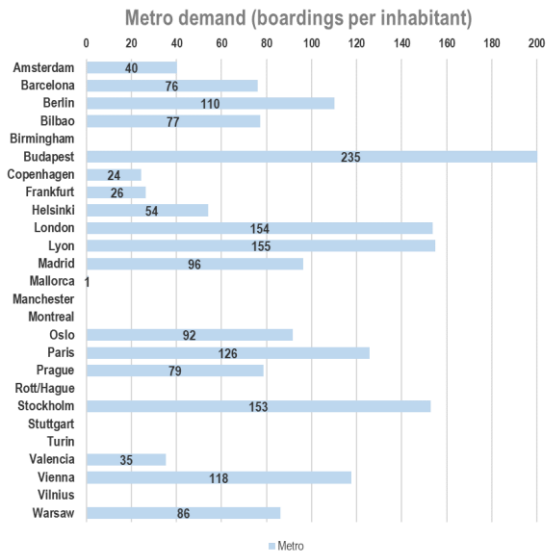
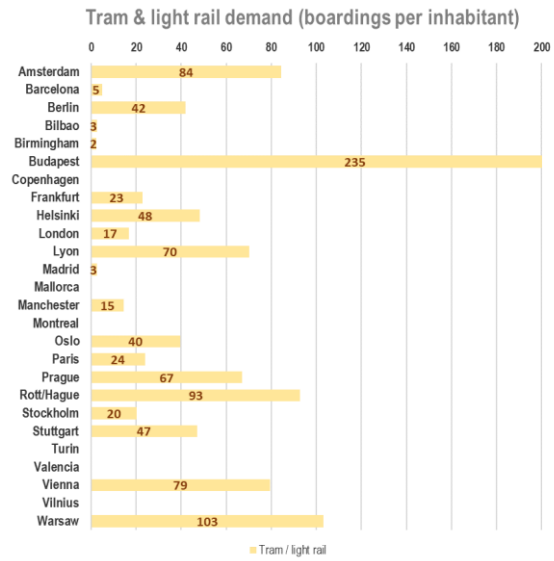
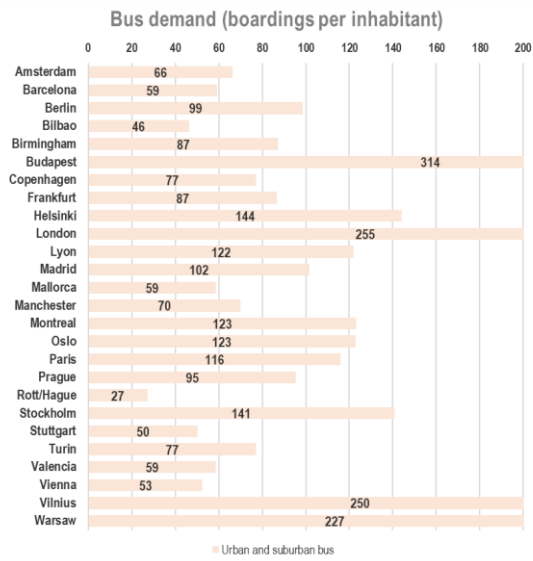
## 13. Public transport demand per inhabitant in PTA areas

Regarding the public transport demand, 2017 had an increase in the use of PT in comparison with the last years with 346 boardings per inhabitant: in 2013 the average authority was 320; 330 in 2014; 304 in 2015 and 246 boardings per inhabitant in 2016 were made. The bus being the most used transport mode (113 boardings per inhabitant, 107 in 2016) followed by the metro (91 boardings per inhabitant, 92 in 2016). In the case of Budapest, the high numbers are due to the fact that BKK is accountable for only PT services within the city borders of Budapest whilst boardings in this figure include both local journeys from citizens on top of commuter trips from outside services into the city. Hence, the city population produces a lower denominator.



T18. Public transport demand



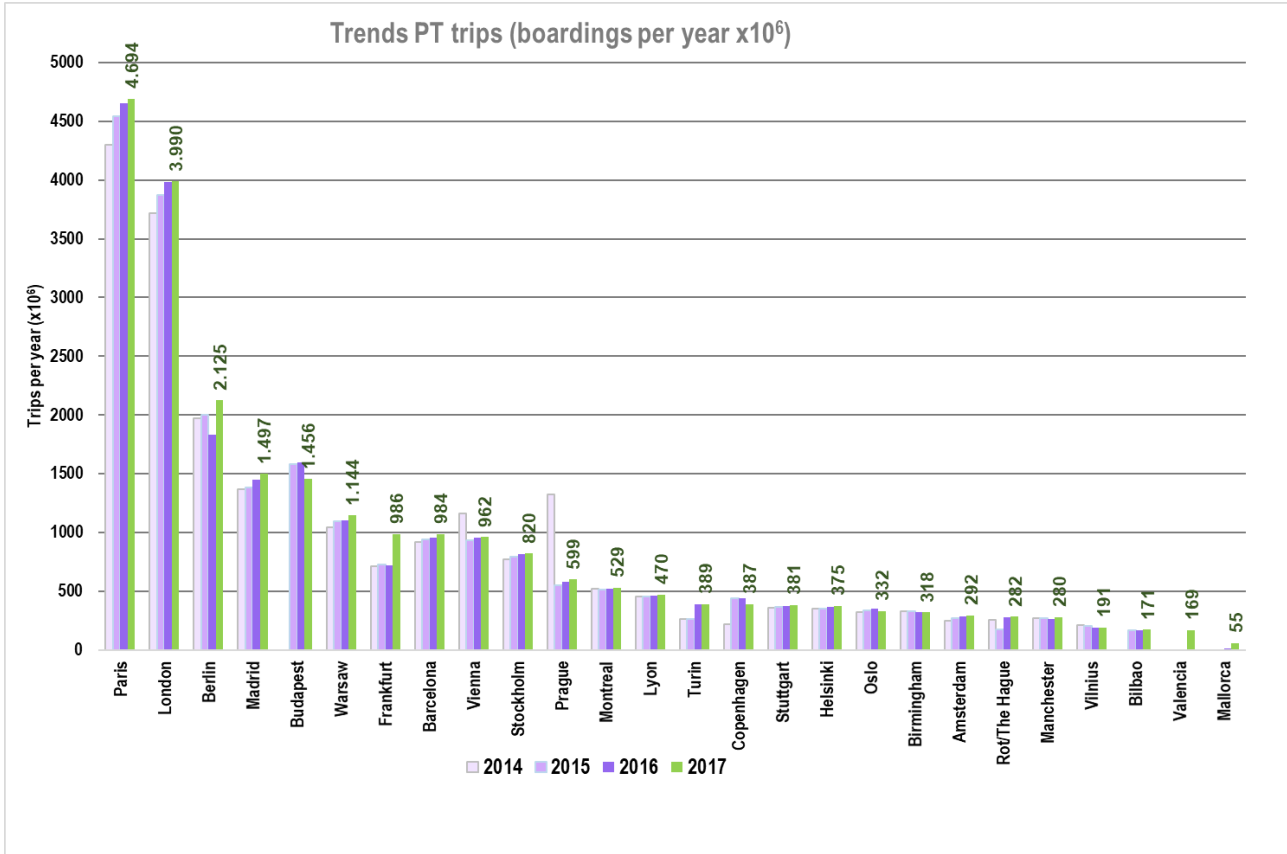


T19. Number of trips per inhabitant in the public transport

In certain PTAs, as the case of Turin, the value for metro and tram demand is 0 because they have provided a single value for urban bus, metro and tram.

## 14. Public transport demand trends

Public transport demand trends have evolved differently over the last years. Overall, in 2017 it shows an increase in public transport demand for all PTA areas. In the graphic below we can distinguish three important groups: more than 2,000 millions trips per year for Berlin, Paris and London; more than 1,000 millions trips per year for Madrid, Budapest and Warsaw; and below 1,000 millions for the rest of the PTAs.

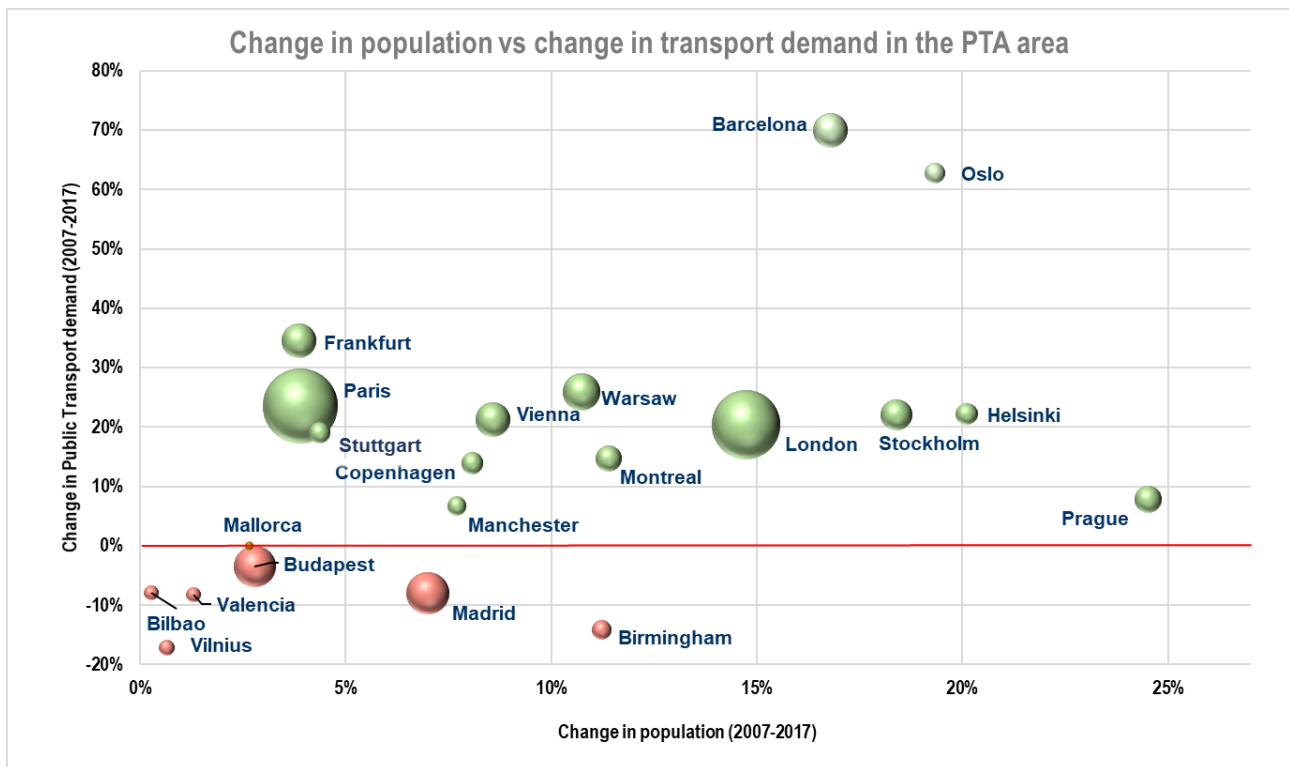


T20. Trends public transport demand in millions boarding per year

## 15. Change in population vs transport demand in PTA area

The following graphic represents the change in the number of inhabitants in the PTA areas between 2007 and 2017 with respect to the change in the number of total journeys undertaken by public transport. The size of the balls represents the total transport demand of each PTA. The red color is for those PTAs that have lost demand in 2017 respect ten years ago.

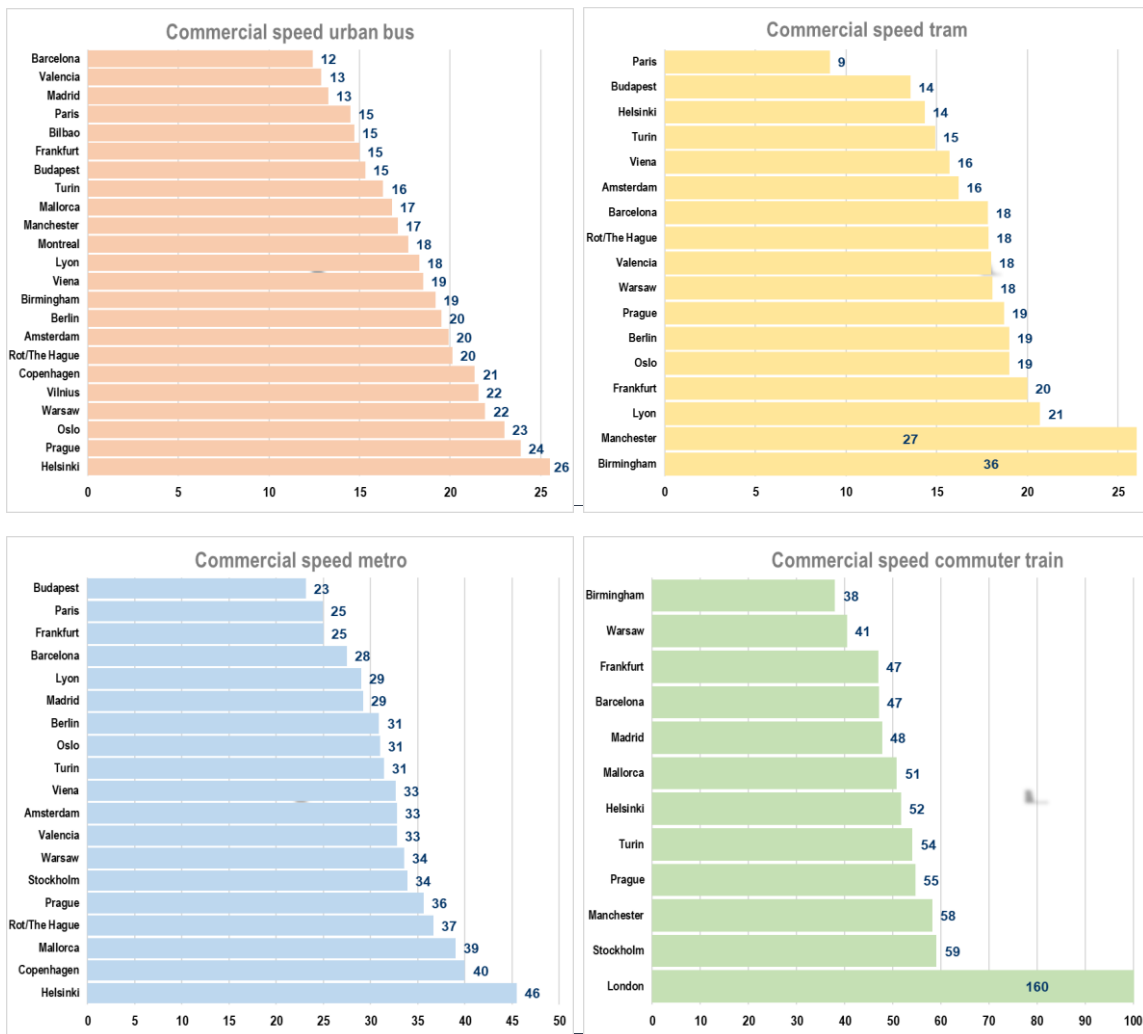
As we have seen before, the trend continues upward, most of the PTAs have increased the public transport demand in the last 10 years and Barcelona and Oslo have seen an increase in demand of more than 60% in this period. In this last ten years, the PTA areas studied have increased to an average authority of 16% in public transport demand with only an average authority of 9% growth of population. This means that the number of journeys by public transport increased as relative more than the population in PTA areas.



T21. *Change in population vs change in transport demand in the PTA area*

## 16. Commercial speed

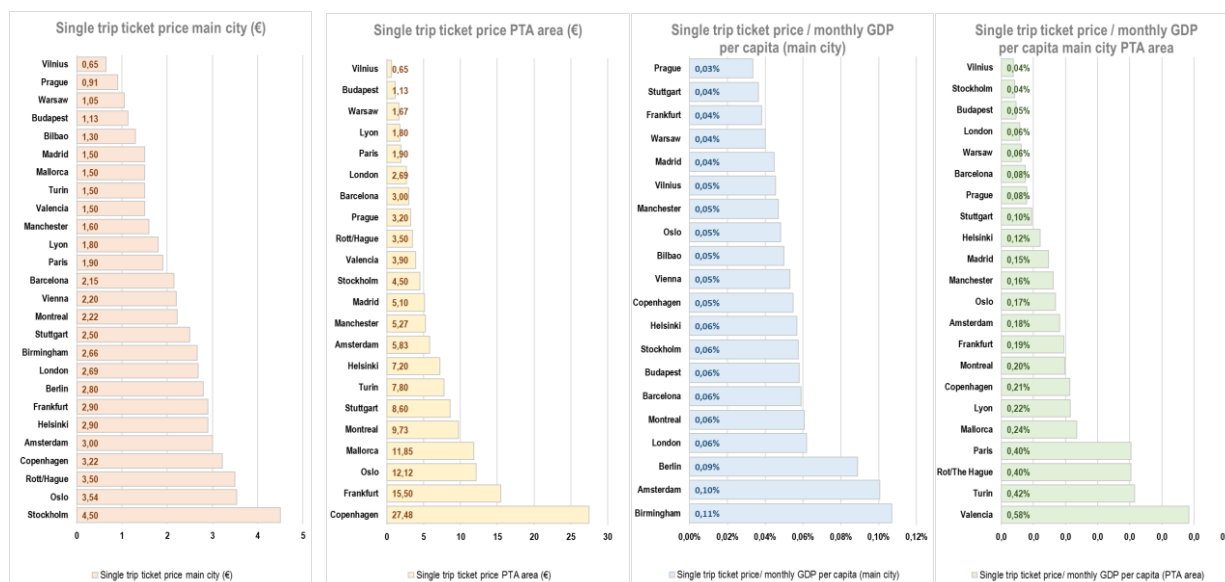
The commercial speed for the public transport is one of the main issues that the planners have to deal with it in the urban areas. The average overall speed for the urban bus and the tram is about 18 km/h and for the suburban buses the average has risen to 28 km/h. The same happened with the metro and the commuter train. The metro runs at 32 km/h in average authority and the commuter train has risen to 59 km/h. With growth of traffic and congestion in cities, many of the authorities by investments in bus lanes, bus ways and priority at traffic lights manage to retain or even improve the average speed of bus and trams.



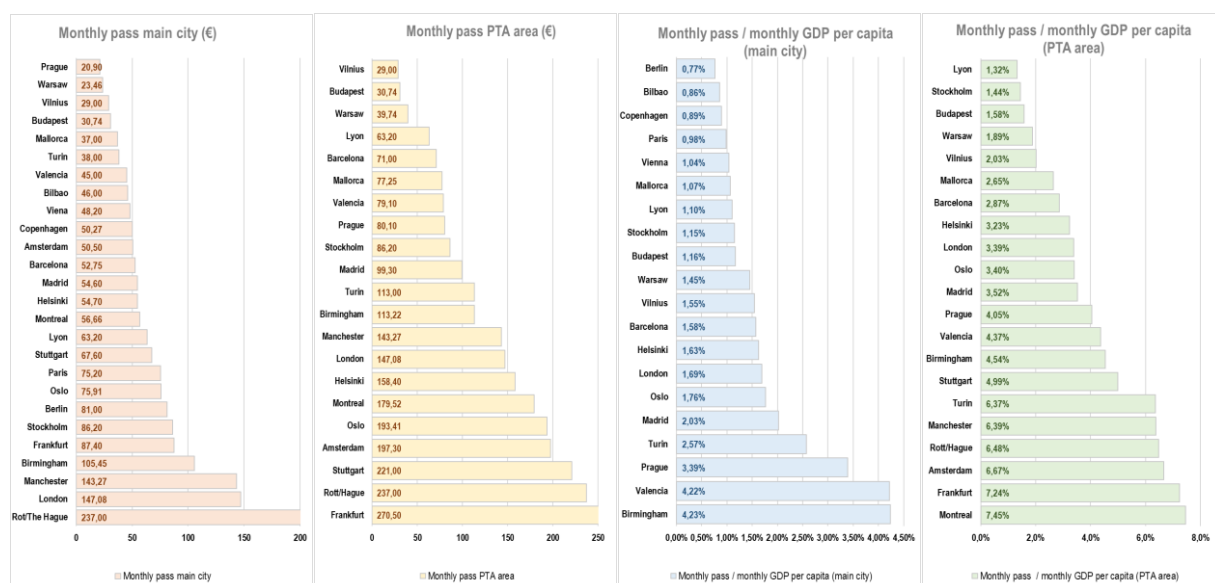
T22. Commercial speed for transport modes



## 17. Ticket price for the main city and PTA area



T23. Single trip ticket price (€)



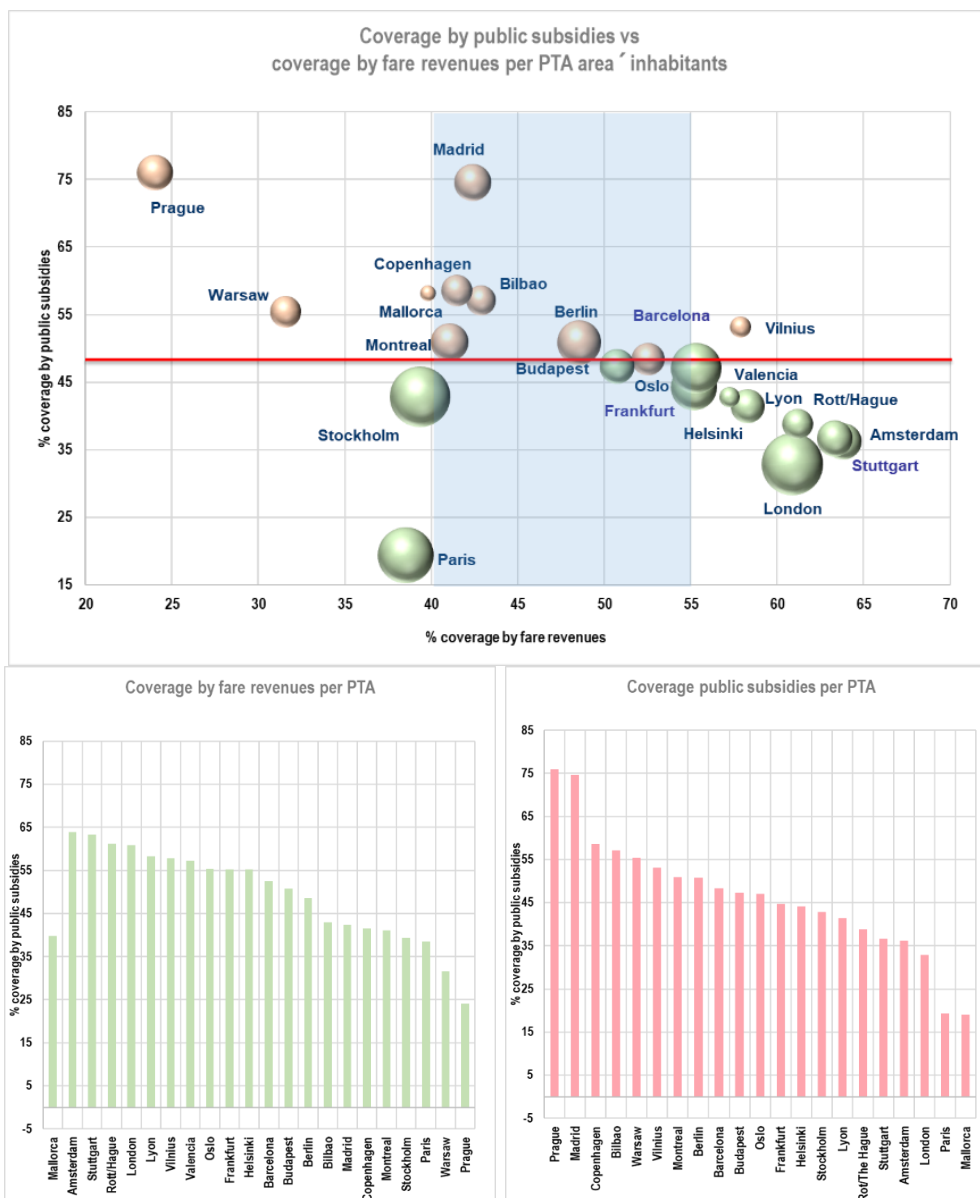
T24. Monthly pass ticket price (€)

The average authority price for the single ticket in 2017 is 2,20 € and 6,35 € in the PTA area. For the monthly pass, the average authority fare is 69 € for the main city and 120 € for the PTA area.



## 18. Coverage of operational costs

The size of each ball in the diagram below represents the relative volume of the annual cost of operations of public transport divided by the population of the PTA area (costs/total inhabitants). The ratio of the annual operational average authority costs per inhabitant for the PTA areas amounts to around 387 €. The PTAs of Paris Île-de-France, Greater London and Stockholm have the highest ratio (more than twice the average authority) and Mallorca the lowest (27 € per inhabitant per year). Most of the cities have a cost-coverage ratio for fare revenues within a margin of 40 - 60% and a public subsidies coverage ratio of 45% as average authority. Mallorca and Paris Ile de France has the lowest coverage by public subsidies (19%) but Paris has an special coverage of operational costs that partly comes from the “versement transport” (a hypothecated local tax levied on the total gross salaries of all employees of companies larger than 11 employees). Prague and Madrid have the highest coverage by public subsidies with a 75%, to be partly explained by the fact that in the case of Prague also has the lowest fares of all PTA’s.

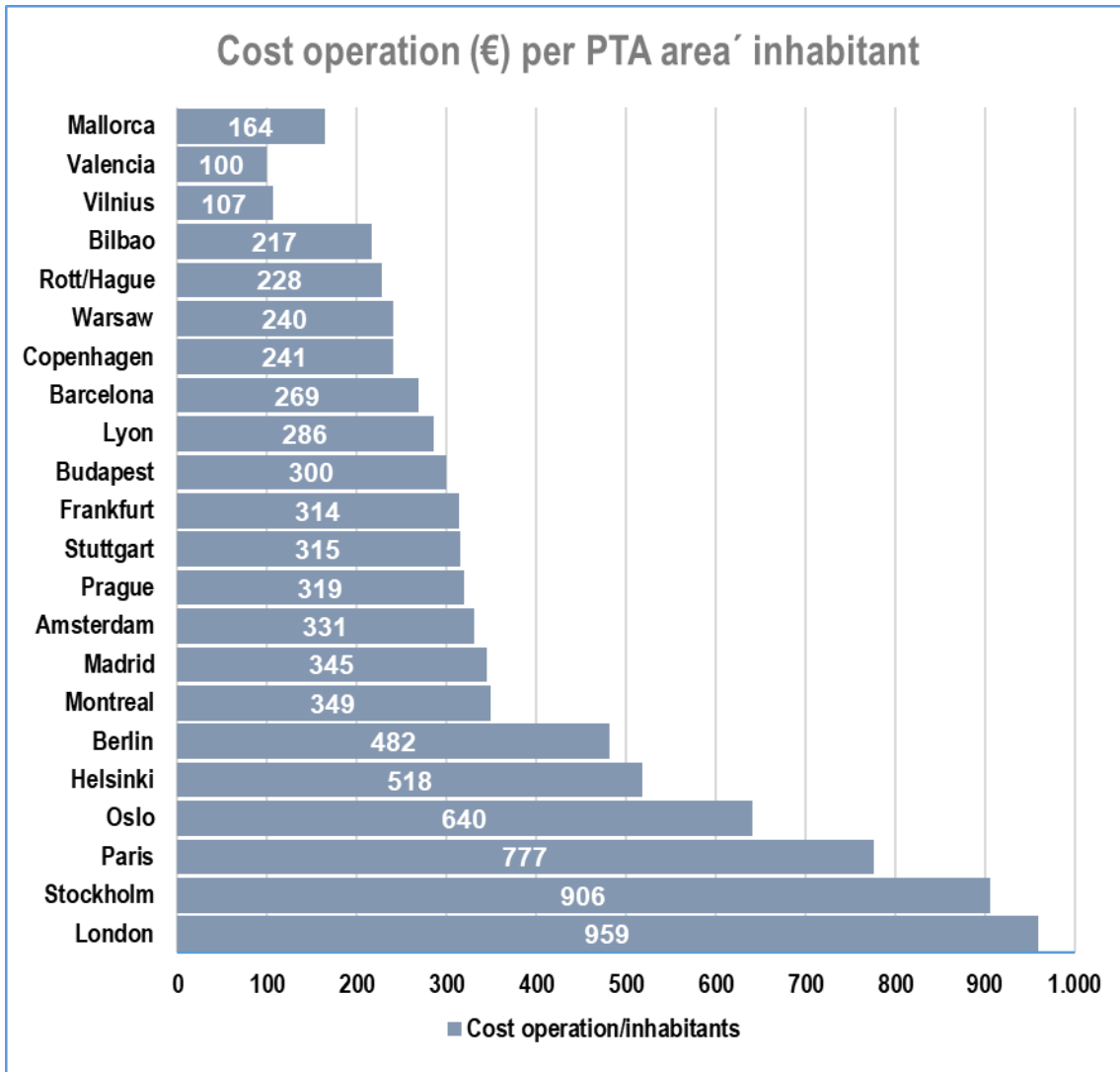


T25. Coverage by public subsidies vs coverage by fare revenues per PTA area inhabitants



## 19. Cost operation per inhabitant

As we have seen in previous chapters, the EMTA PTAs expenses level for operations oscillates from Mallorca (27 € per year per inhabitant) to Greater London that needed 959 € per year per head for subsidizing the public transport system but we have to sign that in Greater London a 30% from the total number of boardings are done by non-residents users.



T26. Annual cost of PT operation per inhabitant

## Public transport authorities' partners



Vervoerregio  
Amsterdam (VRA)



Autoritat del Transport  
Metropolità (ATM) Barcelona



Verkehrsverbund Berlin-  
Brandenburg (VBB)



Consorcio de Transportes de  
Bizkaia (CTB) Bilbao



Transport for  
West Midlands



Budapesti Közlekedési  
Központ (BKK) Budapest



Trafikselskabet Movia  
Copenhagen



Rhein-Main Verkehrsverbund  
Frankfurt



Helsingin Seudun Liikenne  
Helsinki



Transport for London



Syndicat Mixte des  
Transports pour le Rhône et  
l'Agglomération Lyonnaise



Consorcio Regional de  
Transportes de Madrid (CRTM)



Consorci Transports  
Mallorca



Transport for Greater  
Manchester (TFGM)



Autorité régionale de transport  
métropolitain de Montréal  
(ARTM)



RUTER Oslo



Ile-de-France Mobilités Paris &  
Ile-de-France



Regional Organizer of Prague  
Integrated Transport (ROPID)



Metropoolregio Rotterdam Den  
Haag (MRDH)



Stockholms Lokaltrafik AB  
Stockholm (SL)



Verband Region Stuttgart  
(VRS)



Agenzia della mobilità  
piemontese (AMP) Torino



Autoritat de Transport  
Metropolità de València  
(ATMV)



Verkehrsverbund Ost-Region  
Wien (VOR)



Susisiekimo Paslaugos (MESP)  
Vilnius



Zarząd Transportu Miejskiego  
Warszawie (ZTM) Warsaw



EMTA – European Metropolitan Transport Authorities

EMTA c/o STIF  
41 avenue de Châteaudun  
F-75009 PARIS  
[contact@emta.com](mailto:contact@emta.com)

The EMTA Barometer is produced by  
Consorcio Transportes Madrid



© EMTA June 2019

