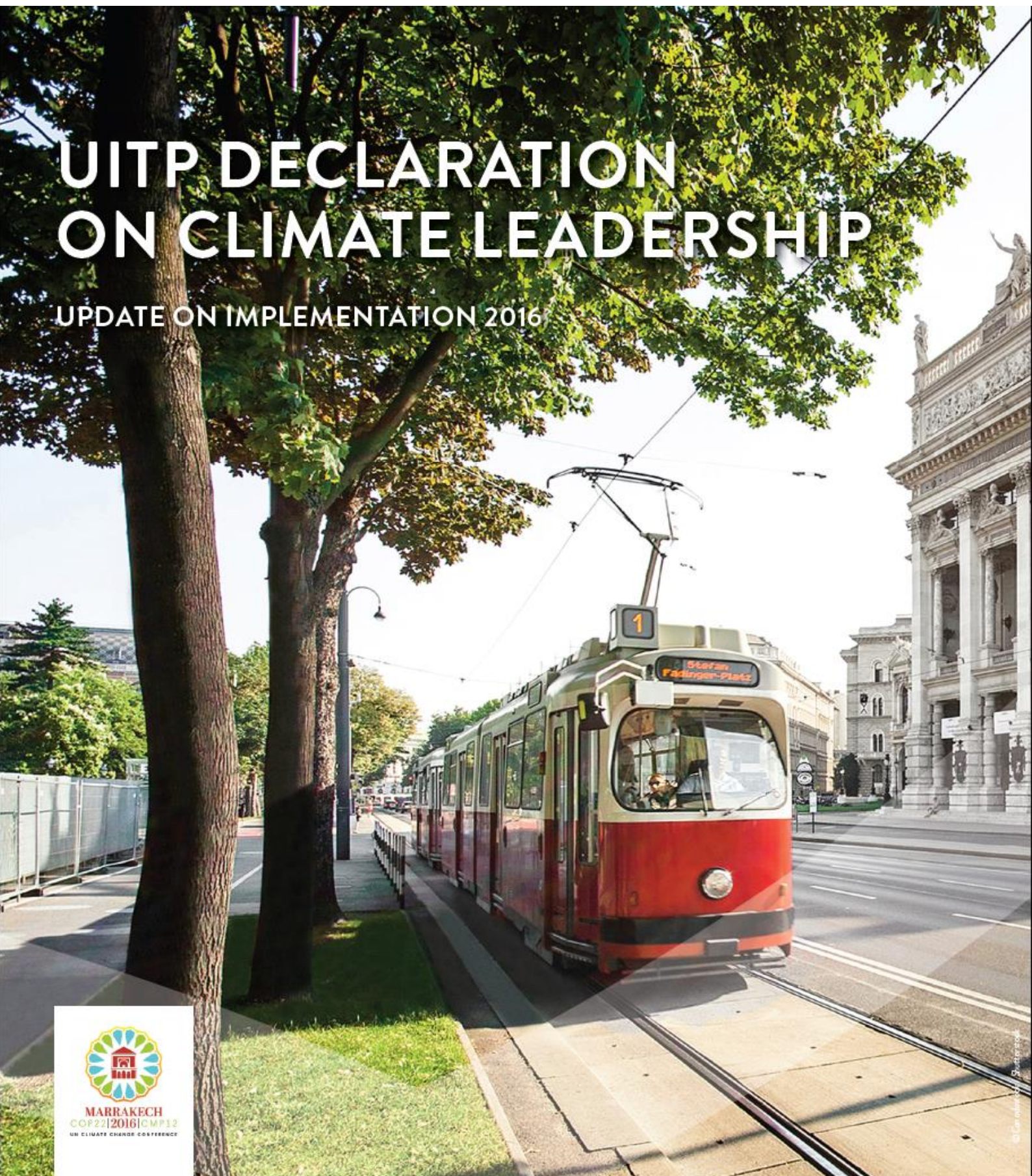




ADVANCING  
PUBLIC  
TRANSPORT

# UITP DECLARATION ON CLIMATE LEADERSHIP

UPDATE ON IMPLEMENTATION 2016



MARRAKECH  
COP22/2016/CMP12  
UN CLIMATE CHANGE CONFERENCE

## Introduction

UITP's Declaration on Climate Leadership demonstrates the public transport sector's commitment to tackling climate change and responding to one of the biggest economic opportunities of the 21<sup>st</sup> century.

Launched at the UN Climate Summit in September 2014 and as part of the Lima Paris Action Agenda (LPAA) at COP 21, the Declaration's goal is to double the market share of public transport by 2025. In doing so, it would allow us to cater for ever increasing demand for urban transport while decreasing per capita urban transport emissions by 25% (global average) which would ensure that we would move the transport sector in the direction of the COP 21 Paris Agreement.

The Declaration was supported by over 350 pledges to climate action from over 110 members of the international public transport community in over 80 global cities. Actions aimed at giving a greater role to public transport in mobility which will help to decrease the regions carbon footprint. Actions also aimed at reducing their corporate carbon footprint.

The Declaration was also a commitment to support governments at all levels to provide them with technical support and capacity building through lessons learned from delivering action on the ground pledged under the Declaration. This is important because many of the post-2020 national climate strategies – Intended Nationally Determined Commitments (INDCs) - are dependant not just on financial support but also technical and capacity building.

Around 70 INDC's have proposed public transport interventions and UITP members will be responsible for their development and delivery. By working in collaboration, UITP can help the provision of technology transfer and capacity building support needed on public transport, notably to developing countries, which is needed to achieve significant progress in implementation and to ensure that these interventions are of quality to raise the level of ambition. This is what the UITP Declaration can do and would help to realise our goal for the sector. Delivering on public transport interventions can take time and action on the INDCs needs to start now if we are to realize the objectives of the Paris Agreement.

## About this Report

For the occasion of COP 22, this report provides an update on implementation so as to provide transparency of action both at the sector level and at the company level. This tracking is overseen by the UITP Sustainable Development Commission which is a panel of global experts on sustainable mobility and acts as the internal UITP governance mechanism for the UITP Declaration. Attached at Annex A is a list of the public transport organisations that put forward actions in support of the UITP Declaration on Climate Leadership at the UN Summit. The inherent challenge in reporting action across a broad number of global public transport organisations is that in some cases it will be difficult to show substantive progress as the commitments were only pledged a short time ago or are scheduled for delivery at a later date. As such, it is not possible to report progress on all actions. In addition, capacity on reporting within the sector needs to be improved and it is for this reason that UITP made a new commitment under the LPAA to enhance the sector's capacity through the UITP Sustainability Charter. Signatories to the Charter – of which there are now 125 UITP member companies<sup>1</sup> – committed to a two year rolling programme where they will develop tools to build capacity of the sector to report non-financial reporting such as CO<sub>2</sub>. This in turn can feed into and support national reporting frameworks, notably linked to the Sustainable Development Goals (SDGs) which includes a specific target on expanding public transport (SDG 11.2). By doing so, national governments can monitor progress against the target and set the right policies for its delivery which will help to realise our goal for the sector.

## Doubling the Market Share of Public Transport – Where do we stand?

The "PTx2" public transport sector strategy aims at doubling the public transport market share worldwide by 2025 compared to 2005<sup>2</sup>. This ambitious strategy recognises the role public transport plays as the backbone of current and

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<sup>1</sup>A full list of the signatories is available on the UITP website: [here](#)

<sup>2</sup>Data from 2005 indicates that almost half of all trips in cities were made by private motorized modes. PTx2 aims at a more balanced mobility mix and not to reduce the number of trips made by private vehicles but rather to keep it at its current level (about 3.5 billion

future urban and local mobility systems, boosting economic growth and sustainability in cities and regions, and provides guidance on how to successfully develop a sustainable mobility system based on public transport.

This objective can only be reached in those cities in which a series of circumstances coincide (i.e. size and density of cities, lifestyles) and specific policies are developed (i.e. introduction of smart finance mechanisms or mobility demand management measures). Every city around the world is contributing to this global target and the UITP Declaration on Climate Leadership reaffirms the public transport sector's commitment to achieve it in light of the Paris Agreement.

In the build-up to COP 21, UITP made an assessment of where the public transport sector stands mid-way through the 2025 deadline. This assessment has been made using 2012 data collected in 60 metropolitan areas located in both developed and developing countries. As seen in figure 1, though public transport supply has nearly doubled compared to 1995, the growth of mobility demand is such that it puts transport networks under pressure, requiring massive investments. The share of public transport tends to decline in those cities and car ownership explodes. Overall, public transport growth is strongest where efforts to increase its supply are matched with private vehicle demand management and urban densification.

There has been clear progress in some countries and regions towards meeting our goal for the sector. For instance, recent UITP analysis has shown that the use of public transport in the EU has reached its highest level since 2000, with a total of 57.9 billion journeys in 2014<sup>3</sup>. So after a period of erosion, public transport's modal share is on a growing curve again particularly in developed economies, where urban sprawl tends to be slowing down. However, as seen in figure 2, in developing cities mode share of public transport has decreased as the supply of public transport has not matched the growth in population meaning that, globally, many of the mode share gains are offset so that there is still work to do if we are to realise our goal.

UITP will continue to assess where we are in our PTx2 journey but undertaking an annual review is difficult as cities do not report on a regular basis or at all. There is a

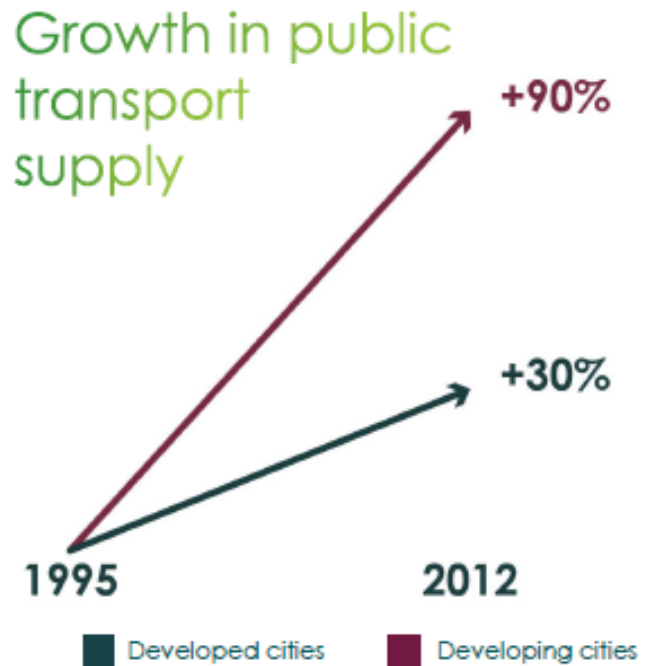


Figure 1: Average evolution of public transport vehicle x km produced

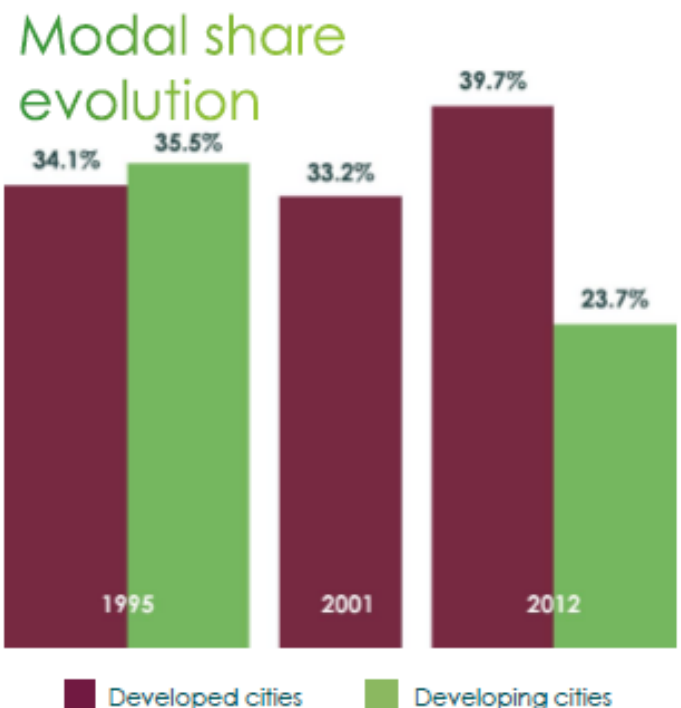


Figure 2: Average share of public transport out of motorised and mechanised trips

trips per day) and to ensure that all extra mobility would be ensured by sustainable modes of transport (mode share: public transport (32%), non-motorized (36%), private motorized (32%))

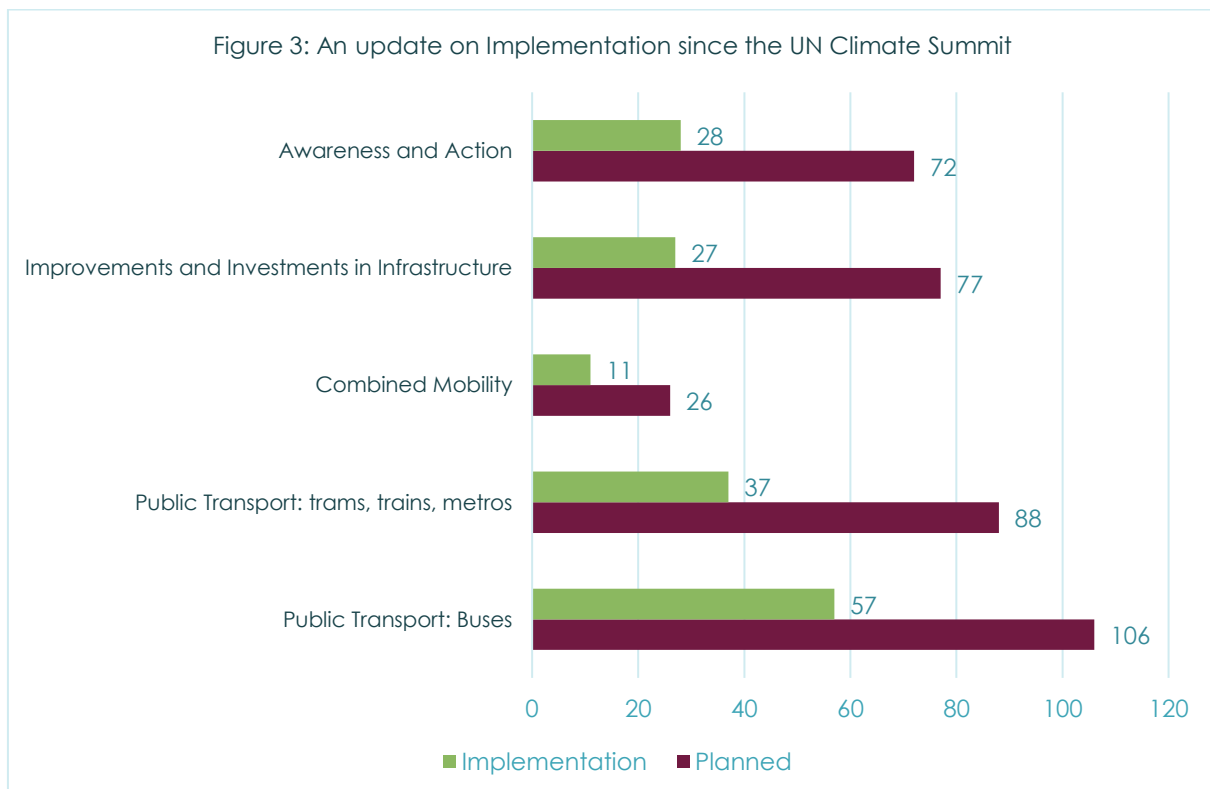
<sup>3</sup> [http://www UITP.org/sites/default/files/cck-focus-papers-files/UITP\\_Statistics\\_PT\\_in\\_EU\\_DEF\\_web.pdf](http://www UITP.org/sites/default/files/cck-focus-papers-files/UITP_Statistics_PT_in_EU_DEF_web.pdf)

clear need to build capacity and UITP will continue to do so with its members and at the national level through the UITP Sustainability Charter. However, it is felt that national mechanisms for monitoring progress and reporting on implementation of SDG 11.2 will help enhance reporting of expanding public transport as advocated by the UITP Declaration.

## More than 350 Climate Actions From Over 110 Public Transport Organisations – Where do we stand?

Examples of implementation could be reported in around 60 cities covering around 45% of the actions pledged. Figure 3 below outlines the progress made in five key clusters:

1. Public transport – buses: initiatives and actions relating to clean fuels and efficiency, including the development of new bus lines and low carbon buses.
2. Public transport – trains, trams and metros: initiatives relating to new lines and train cars as well as initiatives designed to improve vehicle efficiency.
3. Combined mobility: enhancements to walking facilities, car and bike-sharing schemes (including shared transport systems) and cycle lanes and facilities.
4. Improvements and Investment in Infrastructure: initiatives and investments that improve the efficiency of lighting (e.g. LEDs), energy production systems and use of green electricity, energy efficient buildings, stations and green procurement.
5. Awareness and action: stakeholder engagement (internal and external) and development of carbon reduction strategies.



This clustering is consistent with the UITP action plan submitted for the UN Climate Summit and the analysis that UITP undertook at that time<sup>4</sup>. This is done to ensure transparency and consistency of reporting. For the purposes of this report, an action is defined as a specific deliverable in a particular focus area. Projects could include multiple actions,

<sup>4</sup> <http://www.uitp.org/sites/default/files/documents/Advocacy/Climate%20action%20and%20PT.pdf>

for example a new electric bus line would constitute two actions. It should also be noted that multiple actions were committed by some organisations and that reported progress on implementation may not mean full scale adoption but progress towards.

## Public Transport: Buses

As the primary mode of urban public transport in Europe and globally, it is not surprising that this was the area where most pledges were made under the UITP Declaration (106) and where most implementation is being seen (54%). Action can be defined into three broad categories: 1) low carbon vehicles and technology; 2) new bus lines / bus rapid transit (BRT); and 3) cleaner fuels and efficiency. Below is a snapshot of the actions that have been or are being implemented under the UITP Declaration.

### Low carbon vehicles and technology

There is a marked trend in the uptake of low carbon buses, with implementation being seen in around 60% of the actions pledged at the Summit. Notable progress has been made with the electrification of buses and UITP pledged to help further increase the levels of electro mobility in the sector by signing the Paris Declaration on Electro-Mobility and Climate Change at COP 21. Through the Zero Emissions Urban Bus System (Zeeus) project, UITP is supporting the uptake of electric buses across Europe, for example thanks to Zeeus, since April 2015 electric buses have been running on the demonstration line 14 in the City of Munster (Germany) with three fast charging stations primarily powered with green power from a photovoltaics facility.

As of August 2015, Seattle (USA) in addition to the testing of electric buses, new electric trolley buses will use up to 30% less electricity than the current fleet and in Darmstadt (Germany), the city conducted the second testing of electric buses on their line L in July 2015. In Montreal (Canada) 2015 saw their out-of-service testing and in-service testing with passengers has already began helping scale up the electrification of public transport. This project will allow the operator to evaluate and test new technologies in real operating conditions and assess their impact on planning, operations, maintenance, and above all, the improvement of customer service with the objective that by 2025, all new buses will be electric-powered in order to achieve zero GHG emissions. A similar pledge was made in Paris (France) where they have committed to a major technological and ecological change and this year has started a major program of experiments as part of its Bus2025 plan. Since June 2016, the first 100% electric bus line is in operation and by 2025 the goal is to field a 100% ecological fleet in the Paris region consisting of buses running solely on electricity (80%) and buses using renewable gases (20%). The Bus2025 will allow the reduction of the bus fleet greenhouse gas emissions by 80%.

Two electric buses started running in Helsinki (Finland) at the start of 2016 and at around the same time, the city of Belgrade (Serbia) has reached an agreement to receive five new electric buses. In July 2015, London (UK) announced that two further bus routes will operate entirely with electric buses from autumn this year, lowering carbon emissions and helping to improve London's air quality by reducing 408 tonnes of CO<sub>2</sub> and 10 tonnes of NO<sub>x</sub> per year. The Capital's bus fleet already has over 1,300 hybrid electric buses and over 1,400 older buses have been retrofitted, reducing their emissions by up to 88%. The number of hybrid buses will increase to over 1,700 by 2016 – a figure that represents over 20% of the fleet. By 2016, when all 800 New Routemasters are in passenger service, these state of the art vehicles will reduce CO<sub>2</sub> emissions by 27,500 tonnes a year.

Cologne (Germany) received its first e-bus in November 2015 and also that year, Barcelona (Spain) started experimenting with four pure electric buses and using smart technologies for the benefit of citizens. This approach will see the progressive electrification of the bus fleet, for better efficiency as well as for environmental reasons and their new Orthogonal Bus Network will help to save 5,000 tonnes of CO<sub>2</sub> per year. Tests are also currently under way with three e-Buses in the centre of the city of Hannover (Germany) with a rapid charge facility (within 4 to 6 minutes). New insights can be gained on how economically viable it will be for scaling up and the project is anticipated to save at least 200 tonnes of CO<sub>2</sub> per year.

On June 15, 2015 a new bus service started between Chalmers/Johanneberg Science Park and Lindholmen Science Park in Gothenburg (Sweden). The three demo buses run on renewable electricity and are entirely emission-free. On

board the buses, passengers have free access to the latest technology and the new services tests new in door bus stop systems, traffic management systems, safety concepts and energy supply systems but also open new possibilities for urban planning. Calgary's (Italy) commitment to electrify their bus fleet also took a giant step forward during 2015 following the purchase of 6 full electric trolleybuses, which were delivered by the end of the year and tested no later than February 2016. The testing activities will provide useful data to improve public transport systems: in terms of vehicle performance, comfort, system efficiency, energy consumption, emissions and noise levels. Further upgrading of the fleet now means that Calgary will have one of the youngest and environmentally friendly fleets in Europe.

Significant progress was made in pilot projects on the testing of hydrogen buses. For instance on 18 December 2014, the city of Hamburg's public transport operator launched Europe's very first "innovation line". Low carbon and ultra-low carbon buses are being tested on the bus line 109, used by some 15,000 passengers on a daily basis. With a length of about ten kilometres the route is also well suited for a reliable, largely electric operation with the electric hybrid plug-in and fuel cell application buses. Hamburg's target is to purchase only emission free buses as of 2020. In Oslo (Norway) testing continued throughout 2015 and the city aims to run all its public transport using renewable sources by 2020. In Aberdeen (UK), in the first year the hydrogen bus fleet had travelled 250,000 miles by March 2016.

Since 2015 public transport operator in Flanders (Belgium) is deploying 138 new low floor diesel-electric hybrid buses in 6 Belgian cities and towns: Antwerp, Bruges, Ostend, Ghent, Leuven and Hasselt. Following their deployment 1 in 10 of all buses will be hybrid, helping reduce 3,500 tons of CO<sub>2</sub>. In 2015, the organisation also enhanced its ecodriving program, which contributes to a sustained decrease of its ecological footprint and also participated in two demonstration projects: one in Antwerp involving the operation of 5 hydrogen fuel cell buses and another one in Bruges putting up a testing ground for inductive charging of 9.65 m electric city buses.

Finally, efforts were also made in scaling up the use of hybrid vehicles in Seattle (USA), about 70% of the fleet was either hybrid or electric in the summer of 2015 with the aim of it being 100% in 2018 and in Aberdeen (UK), 15 new hybrid buses entered the fleet which are 30% more efficient than the ones they replaced. What this all shows is that significant progress has been made implementing the commitments pledged in this category under the UITP Declaration.

### New bus lines / BRT

Implementation in this category is around the 60% mark but in reality all public transport authorities and operators are constantly delivering and adapting their bus offer in order to meet citizen's needs. New bus lines will obviously help increase capacity and result in more frequent, more reliable and less crowded buses and streets. For example, by the end of 2014, 40 new bus services were introduced alongside new multimodal initiatives in Singapore and are doubling the number of new bus routes from 40 to 80, from 2015 to 2017. Improved bus services and enhancements on the Greater Bristol Bus Network (UK) will help to reduce emissions by 42,771 tonnes over the lifetime of the project. It is one of a number of sweeping changes to the multi-modal public transport system that aims to reduce by 16% per capita emissions from road transport in the region by 2020. Construction started in early 2015 and services are expected to start in 2017. Other cities such as Helsinki (Finland) are reorganising bus routes in 2016 to help provide a more integrated public transport offer.

BRT helps to improve journey efficiency, often through segregated bus lanes. New BRT projects are under way in many places, notably in Montreal (Canada) where work continues in 2016 on a major 11km bus corridor and starting May 11, 2015, a new bus line (77) serves the city, thus enabling persons with limited mobility to reach their destination more easily. In Latin America, in September 2015, funding had been earmarked for a BRT system in Campinas (Brazil) which will serve 250,000 people each day and in July 2016 a new 26km BRT express corridor was launched in Rio de Janeiro (Brazil). The city will now have three corridors expected to carry approximately 500,000 passengers per day. One of the BRT lines (Transoese) alone is estimated to generate savings of 107,000 tonnes of CO<sub>2</sub> per year.

### Cleaner fuels and efficiency

In addition to the provision of additional supply, public transport organisations are taking steps to increase the efficiency of public transport fuels in around a third of the pledges made. These include the use of renewable fuel derived from

the sugar cane used on BRT corridors in Rio de Janeiro (Brazil). It is 100% renewable and is estimated to reduce emissions by 90% when compared to diesel fuel. In May 2016, Bangalore (India) launched the implementation of an intelligent transport system which will help to improve the operational efficiency of the bus network as well as the wider transport network. In Brisbane (Australia) with a fleet of over 1,100 city route buses, real gains have been made in progressing smart transmission functionality and eco-driving, realising fuel savings of more than 3% with a target of 10% by 2017. In May 2015 Brisbane's buses became 100% low floor and wheelchair accessible, thereby encouraging broader patronage and reducing reliance on private vehicles.

In Brussels (Belgium) during 2015 the bus operator has ramped up its eco-driving programme and has equipped 84% of its bus fleet with an electronic system of on-board indicators. The system gives drivers information about their driving behaviour in 'real time' to help them improve their driving style and it records multiple parameters that allow the organisation to analyse different factors that influence the vehicle consumption. Bus drivers are also given personalized coaching sessions, which started in 2015 and it is expected that all the drivers will have received coaching by 2016. The project's aim is twofold: to increase the passengers comfort and to reduce energy consumption, which has been estimated to reduce it by around 5%, which equates to approximately 700,000 litres of diesel saved per year.

## Public Transport: Trains, Trams and Metros

The actions in this category fall into two elements: increasing public transport supply and improved efficiency through technical measures, regenerative braking or eco-driving. Of the 80 or so initiatives pledged at the UN Summit, progress can be seen on around 40% of the actions proposed and below provides a summary of the significant achievements.

### Increased public transport supply – new lines and upgrades

Due to their inherent nature; metros, tram or train lines do not spring up overnight but there has been some notable progress in around half of the actions planned in this category. On September 12 2015, the 7.3-mile Light Rail Transit Project in Portland (USA) opened, connecting communities between downtown Portland and North Clackamas County to the south. The MAX Orange Line presents new sustainability standards for a light rail project, incorporating active transportation amenities and a net zero multi-level Park & Ride facility. More than 300 sustainability-focused practices, considerations and materials were identified and catalogued to help guide the MAX Orange Line project's commitment to sustainability and social benefits. By 2030, it is estimated that the MAX Orange Line will reduce 60,000 miles travelled per weekday by shifting car travel to public transport which will reduce the amount of CO<sub>2</sub> by nearly 60,000 pounds per day and due to better land use patterns CO<sub>2</sub> emissions could be reduced by as much as 114,000 pounds per day.

April 2015 saw the opening of the Prague Metro extension Line A (Czech Republic). Four new stations – Bořislavka, Nádraží Veleslavín, Petřiny and Nemocnice Motol – on more than six kilometre metro route have now come into passenger service. Thanks to the Line A extension project, about 127,000 local people benefit from increased access to urban public transport. Traveling by public transport to Vaclav Havel Airport Prague is now faster and more comfortable. The project also reduces CO<sub>2</sub> emissions from the city's transport network and contributes to lower accident rates. Tyne and Wear (UK) has seen 1.3 million more journeys on their network in 2015 as they progress with renewing assets (programme to be completed in 2021), which will help to avoid 15 million more local car journeys per year. Construction work also started in May 2015 in Casablanca (Morocco) which expects to have 80 additional kilometres of tramlines running by 2022.

In Montreal (Canada) a new commuter train line service opened shortly after the Summit which is part of a wider 2020 plan which will reduce emissions by 300,000 per year. Other projects which will also help to encourage a modal shift includes one in Munich (Germany) where work started in February 2016 on a new 2.7 km tramway which is expected to save 245 tonnes of CO<sub>2</sub> in 2016. In the metropolitan area of Granada (Spain) a light rail line nears completion in 2016 which will cater for an extra four million journeys per year, which will result in a reduction of 15% in car use and 10% fewer emissions.

New extensions were also launched in Bern (Switzerland) at the end of 2015, new stops were added to a 1.2km light rail extension to Altenhagen (Germany) in December 2015 and a new tram route came into operation in January 2016 in Helsinki (Finland) which is the first step in their vision for 2025 which aims to promote public transport as the number one travel choice. In 2016, Stuttgart (Germany) in May opened a 1.1km light rail extension, in Toronto (Canada) in June saw the first extension to its tram network since 2000 and new cars including the expansion of the tram system in Innsbruck (Austria) is all part of their 2020 plans, saving 1,405 tonnes of CO<sub>2</sub> per year.

### Improved efficiency through technical measures, regenerative braking or eco-driving

Around a quarter reported progress on implementation in this category which helps to realise the full carbon benefits of public transport. New train lines typically come with it new, more efficient vehicles for example in Washington (USA), railcars received in 2015 are 30% more efficient at recovering and reusing braking energy. In the UK, a major energy recycling project was launched on the south-western rail franchise, which is the largest in the country, and when fully implemented is expected to save 15 million kWh of electricity per year (conservative estimate), enough to power more than 3,500 UK homes for an entire year.

Real-time information is also helping to improve performance; operational control systems linked to innovative smart tram systems now in operation in Linz (Austria) further improving driving efficiency while reducing 85 tonnes of CO<sub>2</sub> and a 10.2% reduction of energy requirements. In the city of Gdynia (Poland) in April 2015, the city started using new battery hybrid trolley technology which will help to reduce energy consumption by 3%. In Bielefeld (Germany) three inverters and a flywheel accumulator led in 2015 to a saving of more than one gigawatt-hour of energy and their regenerative energy programme allows for energy to be reused in the network, for instance the operation on escalators elsewhere. Similar initiatives in Hong Kong are in operation on the metro and in Brussels (Belgium) it has led to annual savings of 3,060 tonnes of CO<sub>2</sub>. In London (UK), all new trains in 2015 have regenerative braking and on one line, when combined with other technology on trains, signalling and power systems has cut the energy required to run services by 34%. Finally, a new public-private partnership in the European rail sector initiated a call for research projects in 2016 which aims at increasing reliability and punctuality of the sector by 50% by 2020 alongside other measures and another research project, Osiris of which UITP is a partner, was completed in 2015 and aims to enable a reduction in the overall energy consumption of EU urban rail systems by 10% by 2020.

### Combined Mobility

Growing concern for the environment and measures restricting individual car use in towns and cities have bolstered the attractiveness of public transport. But public transport users are also pedestrians, cyclists and motorists. They want to be able to switch easily from one mode of transport to another at any point in their journey, travelling by metro, bus, bicycle, foot, car sharing, carpooling or taxi. Putting combined-mobility at the heart of urban transport systems means taking into account these expectations and improving the overall efficiency of the transport network by providing intermodal transport and last mile connectivity.

Around 40% of the 26 pledges made for the Summit have or are in the process of being implemented. In 2016, a new Munich (Germany) housing development has created an e-mobility service so that its residents can rent electric vehicles for their day-to-day travel needs. In addition, launched in October 2015, the new bike-sharing scheme in the city will contribute to a further reduction of CO<sub>2</sub> of 308 tonnes per year. All these services support the shift towards sustainable mobility behaviour.

The Portland Light Rail (USA) project described above has provided new bike parking spaces and approximately 10 miles of new or replaced sidewalks and eight miles of new or replaced bicycle facility improvements. Other customer-oriented projects included Vienna's (Austria) Smile initiative which ended in May 2015, which resulted in the development and testing of a prototype integrated mobility platform which has integrated a multitude of mobility providers allowing for real time information, booking, ticketing and payment to a single platform. An online survey showed that 48% of users now use public transport more often and 20% now combine a public transport trip with bike sharing more frequently.



By the end of the year, the West Midlands (UK) will have seen an increase in cycling by more than two million trips per year, and walking trips by more than 10 million alongside enhancements to the public transport network, helping to reduce CO<sub>2</sub> by 10,000 tonnes. By March 2015, their WorkWise Scheme, which provides free travel passes and cycling support for jobseekers has supported more than 14,000 job seekers back to work more than doubling the target set for the programme.

Budapest (Hungary) launched a public bicycle sharing in 2015 and by May that year 1,100 bicycles were available at 76 docking stations throughout the city. The year 2015 also saw Singapore's third intra-town dedicated cycling path network completed. This is just one part of their wider 2030 plan to complement their public transport network which will see the construction of 200km of sheltered walkways by 2018, and a cycling network over 700km in length by 2030. Furthermore Berlin's public transport company (Germany) launched after the Summit an energy efficiency competition in for urban transport systems which has enabled a startup to launch a shared electric scooter scheme which is helping to complement the public transport network and provide the last mile between public transport and home. What this all shows is that public transport is embracing complementary modes of transport in order to provide true eco-urban mobility.

## Improvements and Investments in Infrastructure

Improving the energy efficiency of buildings, stations, lighting, use of on-site renewables and procurements decisions all have strong financial returns so it is of no surprise that around 40% of the actions pledged have started to be implemented. Examples of *on-site renewable projects* include the opening in April 2015 of a solar photo-voltaic plant in Phoenix (USA) at the Light Rail Facility Operations and Maintenance Centre which is comprised of 2,800 solar voltaic panels spanning 1.15 acres, mounted at ground-level and on parking lot shade canopies. It is capable of generating 1.3 million Kilowatt-hours (kWh), or enough electricity to power 123 homes, saving around 900 tonnes of greenhouse gases annually. In Japan, the rail operator has launched the operation of its first large-scale solar power generation facility on the grounds of the Keiyo Rolling Stock Centre with an output capacity of 1,050kW. The electricity generated is used at the Centre and will also help to operate trains, reducing CO<sub>2</sub> emissions by about 500 tonnes annually and they also started operation of another solar power generation facility on the Joban Line during 2015. Wind turbines have been installed in places such as Manchester (UK) capable of generating 25,000 kWh, a CHP plant in Brussels (Belgium) is saving around 450 tonnes of CO<sub>2</sub> per year and photovoltaics installed at a green station in Bielefeld (Holland) is saving 68 tonnes per year. Furthermore in Karlsruhe (Germany) a new combined heat and power plant began operation in October 2015 at the operator's western depot and is able to provide electrical power of up to 600 kW, with the utilisation of up to 550 kW of heat. In this way, around 75% and 55% respectively of the organisation's power and heat needs will be realised from this renewable source.

With respect to *lighting*, in 2015 Seattle (USA) reported it had upgraded the lighting at all five downtown transit tunnel stations reducing electricity use by 71%, Rotterdam (Holland) has reported similar figures at their station offices and Washington (USA) also reported similar figures through their lighting upgrades which commenced at the start of 2015, which is part of their wider plans to replace 13,500 light fixtures with high-efficiency light-emitting diode (LED) lights. The project is expected to save more than 15 million kWh in energy per year, reducing carbon emissions by over 10,000 tonnes annually. In April 2015, New York (USA) announced the completion of its largest-ever energy-efficiency project, which will save \$2.5 million in annual energy costs at Grand Central Terminal. The upgrades will reduce emissions by more than 11,200 tons a year. In Paris (France), the operator is installing LED lighting in all the 366 metro and RER stations and aims to replace 250,000 light points through 2016 which will help to save 8,000 tons of CO<sub>2</sub>. All of which will ensure a better customer experience through the enhancement of stations. Finally, in London (UK), continues to upgrade their road *street lighting* to the latest greenest standard which aims to cut CO<sub>2</sub> emissions by 9,700 tonnes.

On *green procurement*, six major UITP companies of the railway sector officially launched the Railsponsible initiative in March 2015. This new global initiative is focused on improving sustainability and transparency throughout the entire rail procurement supply chain through sharing best practices and processes, driving a common understanding across the industry, and to use and share common tools, creating efficiencies and driving down supply chain emissions.

Lastly concerning *office and station enhancements* which incorporates a variety of energy efficiency improvements, efforts in Hong Kong are expected to save 30,000 tonnes of CO<sub>2</sub> in the coming years as more of their properties and stations receive the highest level of environmental standards, for instance three properties and stations received a provisional assessment of BREAM Plus Gold in 2015. Gothenburg's public transport operator (Sweden) goal is to reduce energy consumption by 25% by 2025 and during 2015 seven of their terminal buildings have reached high levels of environmental certification as recognized by the Sweden Green Building Council. The goal is that all buildings will be certified by 2016. The Stinson bus garage in Quebec (Canada) received the first of its type LEED Gold certification. The heat recovery system generates annual energy savings of nearly \$1 million annually which also represents a 60% reduction in emissions. In New York (USA), in June 2016 the Fulton Centre was the first subway hub to receive a LEED rating for sustainability and design achieving 25% energy savings. Other notable examples of buildings receiving the highest levels of environmental standards from last year occurred in Washington and Seattle (both USA) and in Tyne and Wear (UK), plans for new efficient interchange were given the go-ahead at the end of 2015 which will not only enhance access, provide a better visitor experience but will harness regeneration in other parts of the town.

## Awareness and Action

The final cluster focuses on raising awareness and communication with stakeholders – be they internal stakeholders such as staff but also external stakeholders such as members of the public. This section also looks at the development of long-term carbon strategies and many have started to be implemented as noted by the actions above. It should however be recognised that not all organisations have set themselves corporate performance targets such as Manchester's (UK) goal to become zero carbon by 2033 or targets aimed to reduce specific emission per passenger km, for example in Hong Kong the target set is 21% by 2020, in Montreal (Canada) the goal is a 20% fall by 2020 and in London (UK), public transport authority has a stretch target to reduce CO<sub>2</sub> per passenger km from their network and fleet by 40% by 2025.

At the same time, new initiatives are being launched to enhance the efficiency of public transport systems such as in Belgrade (Serbia), the city in 2015 started examining a range of scenarios to enhance the efficiency of the public transport and develop mobile ticketing. In addition, through the Vivapolis Charter, the international private public transport operator has shared their expertise to the planning of the high service bus service in Bogota (Colombia) which help to reduce emissions by 280,000 tonnes of CO<sub>2</sub> since the Summit. Notably, public transport organisations are increasingly being highlighted as driving innovation towards greater environmental sustainability as recognised when the Utah (USA) transport authority received a Green Business Award in 2015.

Progress has been made on around a fifth of the *staff engagement programmes* have been undertaken (in addition to programmes such as eco-driving) which can play an important role in addition to technical enhancements. It is generally accepted that around 10-40% of an organisation's energy is wasted due to staff behaviour and is generally seen as a quick win solution to both reducing costs and emissions. Initiatives such as energy challenges in depots and stations in Brussels (Belgium) has helped to save €50,000 in energy costs and in the Greater Toronto and Hamilton Area (Canada) the company is already saving an estimated \$1.5 million annually through staff engagement programmes initiated in 2015.

Progress has been made on around a third of the *external engagement programmes* and this comes in a variety of forms such as when defining material cooperate priorities, informing customers of latest developments or engaging with children and parents on the benefits of public transport and sustainable travel choices, as they have done in cities such as Manchester (UK) and Munich (Germany).

In addition to some of the initiatives outlined above, notable actions that occurred in 2015 and 2016 were in Laval (Canada) where the public transport undertaking re-launched an initiative which encourages citizens to use public transport on smog days during the summer when levels go below acceptable limits. By providing incentives to use public transport, it could prompt 1,500 motorists to get off the roads in a single day. In addition, in Bangalore (India), the operator has again over the past couple of years engaged the community of the benefits of public transport during World Environment Day.

Other examples can be seen in Singapore in 2015 which saw their Travel Smart Programme extended which aims to reduce/shift the morning peak hour demand and encourage a shift to sustainable transport alternatives through encouraging commuters to flexi-travel: re-time their trips to off-peak periods, re-mode to more sustainable modes (public transport, cycling and walking), and to reduce travel demand altogether. The scheme has 3 segments: Travel Smart Network (TSN), Travel SmartRewards (TSR) and Free Pre-Peak Travel (FPPT). TSR and FPPT target individual commuters with incentives to travel out of the peak period while TSN targets employers as they play a pivotal role in enabling shifts in the travel patterns of their employees. By using a comprehensive suite of innovative demand-side initiatives for both individuals and companies, the scheme targets to yield both individual and larger economic benefits and will help tackle congestion during the morning peak hour in Singapore which in turn helps reduce emissions and improve resource efficiency.

In addition, the Polish rail operator controlling over 70% of the regional market in Kujawsko-Pomorskievoivodeship, in February 2015 launched a targeted promotional campaign aimed at encouraging motorists to use rail travel instead of private cars. During a specified week, any person who applied with a valid car registration was able to buy a five-day ticket on any route for only PLN 1 (EUR 0.24). The scheme showed that 13% of all passengers during the week benefitted from the promotion. Of these passengers, 62% were using trains for the first time, encouraging private motorists to switch to rail or bus travel maximises the environmental benefits of public transport options.

Finally, in New York (USA), public transport authority offered it's first-ever "Green Bonds" to the public in a two-day order period on 17 February 2015. The bonds' proceeds of \$500 million will pay for continuing work on infrastructure renewal and upgrade projects on New York City Transit, Long Island Rail Road and Metro-North Railroad. In addition, to mark the start of the Climate Week in September 2015, a million Metro Cards were issued with a green front face and a green message on the back reminding customers that they are helping to address climate change by taking public transport and asking how else they can incorporate greener efforts into their everyday lives.

## Conclusions

Public transport undertakings need to expand their service offer and are already taking significant steps to reduce emissions from the transport sector. It is clear that investing in public transport networks makes sense.

Public transport is central to *avoiding* or reducing trips, *shifting* to more environmentally-friendly modes of transport and *improving* the efficiency of all modes of transport while at the same time making great efforts to improve its already excellent carbon performance

What these pledges and climate commitments shows that public transport systems are the backbone of sustainable, urban low carbon transport. What is also important is that the experience and knowledge of implementing the actions outlined above can play a key role in supporting the implementation of national pledges on public transport. As such, UITP is in a primary position to support the implementation of national pledges and ensure the quality and scale needed to fight climate change and deliver a better, more sustainable future for all in support of the Paris Agreement and post-2015 Agenda.

## Annex A

### Organisations that participated in the UITP Declaration at the UN Climate Summit:

#### ARGENTINA

- ENTE DE LA MOVILIDAD DE ROSARIO

#### AUSTRALIA

- BRISBANE TRANSPORT

#### AUSTRIA

- GRAZ KÖFLACHER BAHN UND BUSBETRIEB (GKB)
- INNSBRUCKER VERKEHRSBETRIEBE UND STUBAITALBAHN GMBH (IVB)
- LINZ LINIEN GMBH FÜR ÖFFENTLICHEN PERSONENNAHVERKEH
- WIENER LINIEN GMBH & CO KG

#### BELGIUM

- SOCIETE DES TRANSPORTS INTERCOMMUNAUX DE BRUXELLES (STIB/MIVB)
- ASSOCIATION OF THE EUROPEAN RAIL INDUSTRY (UNIFE)
- VAN HOOL NV
- VLAAMSE VERVOERMAATSCHAPPIJ VVM DE LIJN

#### BOLIVIA

- MINISTERIO DE OBRAS PUBLICAS SERVICIOS Y VIVENDA

#### BRAZIL

- ASSOCIACAO NACIONAL DOS TRANSPORTADORES DE PASSAGEIROS SOBRE TRILHOS (ANTPRILHOS)
- COMPANHIA DO METROPOLITANO DE SAO PAULO - METRO
- CONCESSAO METROVIARIA DO RIO DE JANEIRO SA (METRO RIO)
- CONSORCIO METROPOLITANO DE TRANSPORTES - AUTOPASS (CMT - AUTOPASS)
- ELEKTRO
- EMPRESA MUNICIPAL DE DESENVOLVIMENTO DE CAMPINAS SA (EMDEC)
- FEDERACAO DAS EMPRESAS DE TRANSPORTES DE PASSAGEIROS DO ESTADO DO RIO DE JANEIRO (FETRANSPOR)
- GRUPO CCR S/A
- INSTITUTE FOR TRANSPORTATION & DEVELOPMENT POLICY (ITDP)/BRT TRANSOESTE
- MINISTERIO DAS CIDADES - SECRETARIA NACIONAL DE TRANSPORTE E DA MOBILIDADE URBANA
- SISTEMA DE TREN ELECTRICO URBANO (SITEUR)

#### BULGARIA

- STOLICHEN ELEKTROTRANSPORT PLS

#### CANADA

- AGENCE METROPOLITAINE DE TRANSPORT (AMT)
- SOCIETE DE TRANSPORT DE LAVAL (STL)
- SOCIÉTÉ DE TRANSPORT DE MONTRÉAL (STM)
- TORONTO TRANSIT COMMISSION (TTC)

- METROLINX  
18

#### CHINA

- MASS TRANSIT RAILWAY CORPORATION LIMITED (MTRC)

#### COLOMBIA

- EMPRESA DE TRANSPORTE DEL TERCER MILENIO TRANSMILENIO S.A.
- SOCIEDAD INTERNACIONAL DE TRANSPORTE MASIVO (CIUDAD MOVIL SA)

#### CZECH REPUBLIC

- DOPRAVNI PODNIK HLM PRAHA AS (DP PRAHA)

#### DENMARK

- CITY OF COPENHAGEN
- MOVIA PUBLIC TRANSPORT - TRAFIKSELSKABET MOVIA

#### FINLAND

- HELSINKI REGIONAL TRANSPORT (HSL)

#### FRANCE

- RÉGIE AUTONOME DES TRANSPORTS PARISIENS (RATP GROUP)
- SOCIETE NATIONALE DES CHEMINS DE FER FRANCAIS (SNCF)
- SYSTRA
- TRANSDEV GROUP

#### GERMANY

- BERLINER VERKEHRSBETRIEBE (BVG)
- BOCHUM-GELSENKIRCHENER STRASSENBAHNEN AG (BOGESTRA)
- BOMBARDIER TRANSPORTATION
- BREMER STRAßENBAHN AG (BSAG)
- BUNDESVERBAND CARSHARING E.V (BCS)
- DRESDNER VERKEHRSBETRIEBE AG (DVB)
- HAFTPFLICHTGEMEINSCHAFT DEUTSCHER NAHVERKEHRS- UND VERSORGUNGSUNTERNEHMEN (HDN)
- HAMBURG PORT AUTHORITY
- HAMBURGER HOCHBAHN AG (HHA)
- HEAG KONZERN-MOBILIO GMBH
- HÖFT & WESSEL - ALMEX AG
- KASSELER VERKEHRS- UND VERSORGUNGS-GMBH (KVVKS)
- KNORR-BREMSE
- KÖLNER VERKEHRS-BETRIEBE AG (KVB)
- LEIPZIGER VERKEHRSBETRIEBE GMBH (LVB)
- MAGDEBURGER VERKEHRSBETRIEBE GmbH (MVB)
- MOBIEL
- MÜNCHNER VERKEHRSGESELLSCHAFT (MVG)
- STADTWERKE MÜNSTER GMBH (SWMS)

- STADTWERKE OSNABRÜCK AG VERKEHRSBETRIEBE
- STUTTGARTER STRASSENBAHNEN AG (SSB)
- ÜSTRA HANNOVERSCHE VERKEHRSBETRIEBE AG
- VERKEHRS- UND TARIFVERBUND STUTTGART GmbH (VVS)
- VERKEHRSVERBUND OBERELBE GmbH (VVO)

#### **HOLLAND**

- CONNEKT
- PROVINCIE GELDERLAND
- ROTTERDAMSE ELEKTRISCHE TRAM (RET)

#### **HUNGARY**

- BUDAPESTI KÖZLEKEDÉSI KÖZPONT (BKK)

#### **INDIA**

- BANGALORE METROPOLITAN TRANSPORT CORPORATION (BMTCL)

#### **IRELAND**

- RAILWAY PROCUREMENT AGENCY (RPA)

#### **ITALY**

- AZIENDA TRASPORTI BERGAMO SERVIZI S.P.A. (ATB SERVIZI)
- CONSORZIO TRASPORTI E MOBILITÀ CAGLIARI S.P.A. (CTM)
- ASSOCIAZIONE TRASPORTI (ASSTRA)

#### **JAPAN**

- EAST JAPAN RAILWAY COMPANY (JR EAST)

#### **LEBANON**

- TEAM INTERNATIONAL

#### **LIECHTENSTEIN**

- VERKEHRSBETRIEB LIECHTENSTEINMOBIL (LIEMOBIL)

#### **LUXEMBOURG**

- SALES-LENTZ AUTOCAR SA. (SLA)

#### **MEXICO**

- DINA CAMIONES
- SISTEMA DE TREN ELECTRICO URBANO (SITEUR)

#### **MOROCCO**

- CASABLANCA TRANSPORT SA (CASA TRANSPORT)

#### **NORWAY**

- RUTER AS

#### **POLAND**

- PRZEDSIĘBIORSTWO KOMUNIKACJI TROLEJBUSOWEJ SP.ZO.O (PKT)

#### **PORTUGAL**

- CARRIS - LISBON
- METROPOLITANO DE LISBOA

#### **ROMANIA**

- SOCIETATEA DE TRANSPORT PUBLIC ALBA IULIA (STP SA)

#### **RUSSIA**

- MOSCOW METRO

- SAINT PETERSBURG METRO
- TRANS-ALFA ELECTRO

#### **SENEGAL**

- CONSEIL EXECUTIF DES TRANSPORTS URBAINS DE DAKAR (CETUD)

#### **SERBIA**

- GSP BEOGRAD-CITY PUBLIC TRANSPORT COMPANY

#### **SINGAPORE**

- LAND TRANSPORT AUTHORITY (LTA)

#### **SPAIN**

- CONSORCIO DE TRANSPORTE METROPOLITANO AREA DE GRANADA (CTAG)
- FERROCARRILS DE LA GENERALITAT DE CATALUNYA (FGC)
- TRANSPORTS METROPOLITANS DE BARCELONA (TMB)

#### **SWEDEN**

- CITY OF GOTHENBURG
- X2 KOLLEKTIVTRAFIK AB
- VÄSTTRAFIK AB

#### **SWITZERLAND**

- BERNMobil - STÄDTISCHE VERKEHRSBETRIEBE BERN (SVB)
- REGIONALVERKEHR BERN-SOLOTHURN (RBS)
- TRANSPORTS PUBLICS FRIBOURGEOIS (TPF)

#### **UNITED KINGDOM**

- ABERDEEN CITY COUNCIL - ABERDEEN HYDROGEN BUS PROJECT
- ARRIVA
- CENTRO
- GO-AHEAD GROUP
- LOTHIAN BUSES
- NEXUS
- RAIL SAFETY AND STANDARDS BOARD (RSSB)
- STAGECOACH GROUP
- TRANSPORT FOR GREATER MANCHESTER (TFGM)
- TRANSPORT FOR LONDON (TFL)
- WEST OF ENGLAND LOCAL ENTERPRISE PARTNERSHIP

#### **UNITED STATES OF AMERICA**

- AMERICAN PUBLIC TRANSPORTATION ASSOCIATION (APTA)
- KING COUNTY METRO
- METROPOLITAN TRANSPORTATION AUTHORITY (MTA)
- SAP AMERICA INC
- TRIMET
- UTAH TRANSIT AUTHORITY
- VALLEY METRO
- WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)



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This is an official **Report** of UITP, the International Association of Public Transport. UITP has over 1,400 members in 96 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport world-wide.

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