



ADVANCING
PUBLIC
TRANSPORT

CLIMATE ACTION WITH PUBLIC TRANSPORT

November 2015





This report aims to provide transparency to UITP efforts linked to the Lima Paris Action Agenda (LPAA) at COP21 and highlight to Parties the opportunities and recommendations to help deliver national commitments on public transport as well as provide inspiration to national decision makers who are yet to identify climate action with public transport.

KEY MESSAGES

National climate commitments to date will not be sufficient to keep global warming to below 2°C. The transport sector is already responsible for 23% of greenhouse gas emissions and urban land transport emissions are set to double by 2050. Any attempt to meet the global goal must address urban transport and scale up ambition with public transport.

The COP21 agreement must recognise the role of non-governmental stakeholders. In support of the Lima Paris Action Agenda at COP21, UITP's Declaration on Climate Leadership shows the public transport sector's commitment to be climate leaders and support our goal to double the market share of public transport by 2025. UITP brings to COP21 a new commitment to action through our Sustainability Charter and examples of implementation from some of the 350 actions pledged at the UN Climate Summit.

There are significant opportunities to scale up action on public transport which will help address the emissions gap and drive economic growth. If we are to make the most of this opportunity, city action must be supported by international agreements and national governments. COP21 should develop supportive policies and incentives so cities have the necessary resources and tools and UNFCCC mechanisms can do that by better accommodating the complexity and character of public transport.

National policy frameworks need to ensure that they are well aligned and support local level action to ensure a strategic approach to urban development. Infrastructure investment should be directed towards compact urban development built around multi-modal public transport. This can make cities more competitive and lower emissions.

National climate policies should advance the “avoid-shift-improve” approach at the local level needed to make our transport systems more sustainable by providing incentives for behavioural change and increase public transport supply and use.

Climate financing will need to allocate a significant share of its funding to support low-carbon public transport and support project development and implementation so that countries and cities can have bankable projects that fit the needs of their citizens. Climate finance will not be enough so national governments need to enhance the capacity of cities to generate and direct financial resources to help raise revenue to invest in public transport and transit oriented development.

These recommendations have proven successful and easily implemented by Parties and would help scale up ambition on climate action and lock us into a sustainable, low carbon economic growth path. UITP can be a catalyst for action and is committed to help Parties deliver on their commitments and raise ambition to help meet the 2°C target.



Swiss Post Ltd

ABOUT UITP

As the passionate champion of sustainable urban mobility, UITP is internationally recognized for its work in advancing the sustainable development and climate policy agenda. It is the only worldwide network that brings together everyone involved in public transport but also a whole range of sustainable transport modes.

Our network extends to more than 1,400 companies, over 16,000 contacts from 96 countries. So whether a public transport authority or operator, a policy decision-maker, a research institute or a company providing public transport-related products or services, UITP brings all the key players needed to scale up public transport and climate action under one roof.

UITP enables public transport professionals to be part of the international discussions on global challenges and bringing action down to the local level. UITP is in an ideal position to support national Governments and local leaders to take better action on public transport through our network by sharing with them our members experience and technical expertise which can help bring inspiration and support better cooperative action at all levels.

UITP is committed to support Parties and can be a catalyst for national climate action, as our members will be an integral part of the contributions of Parties and will enable them to become more ambitious through public transport.



De Lijn - Stefaan Van Hul



iStock/Sharrocks

PUBLIC TRANSPORT COMMITTED TO BE CLIMATE LEADERS

Success at COP21 depends on a shared commitment to action and for all sectors to take a lead on climate action. UITP's members confirmed this leadership at the UN Climate Summit through our Declaration on Climate Leadership.

The Declaration demonstrates the sector's support to double the market share of public transport by 2025 and is a commitment to support cities to enhance, accelerate and ensure the efficiency of urban mobility as well as commit to accelerate and intensify efforts to prepare for and adapt to climate change.

The Declaration also brought together around 350 pledges to scale up efforts and ambition to future action from over 110 public transport organisations. 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. On the occasion of the UN Summit, UITP launched a study which contains an analysis of all the actions pledged in 80 cities around the world. Below is a snap shot of the range of new projects and initiatives to future action pledged and throughout this report are examples of implementation from some of the commitments made at the Summit and represent around a quarter of the actions that were pledged.

CLIMATE SUMMIT 2014 CATALYZING ACTION

UITP DECLARATION ON CLIMATE LEADERSHIP: WORLDWIDE CLIMATE ACTION WITH PUBLIC TRANSPORT



What these examples of implementation show is that the sector has the capacity to report and deliver and that climate action with public transport can transform people's lives and urban environments for the better. It also demonstrates a mobility paradigm focused on people, environment and climate rather than individual vehicle use which can provide an inspiration for national action with public transport.

A NEW COMMITMENT TO ACTION

In September 2015, world leaders committed to a set of Sustainable Development Goals (SDGs) which includes specific targets which ensure that both cities and public transport take prominent roles.

GOAL 11 MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

Target 11. 2 by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

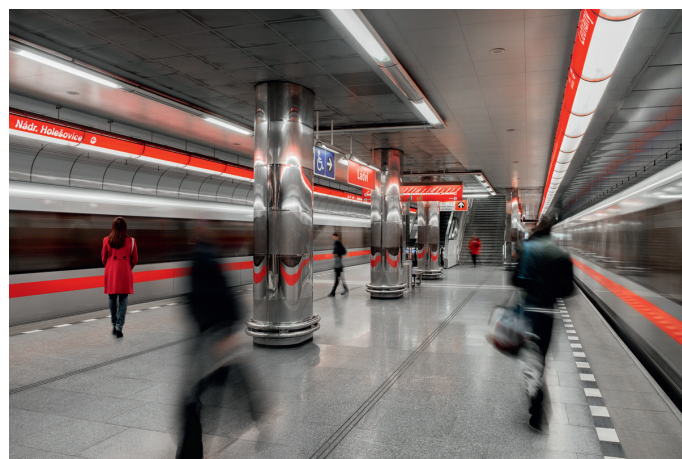
Success at COP21 depends on a shared understanding on the complementarity of sustainable development, economic growth and climate responsibility.

The SDGs have the potential to provide coherence in international efforts but importantly, provides a clear signal to Parties and business where to invest. Implementation of expanding public transport supply, infrastructure as well as use needs to be acted upon at all levels as efforts on the SDGs can also advance efforts on climate action given the huge co-benefits associated with public transport.

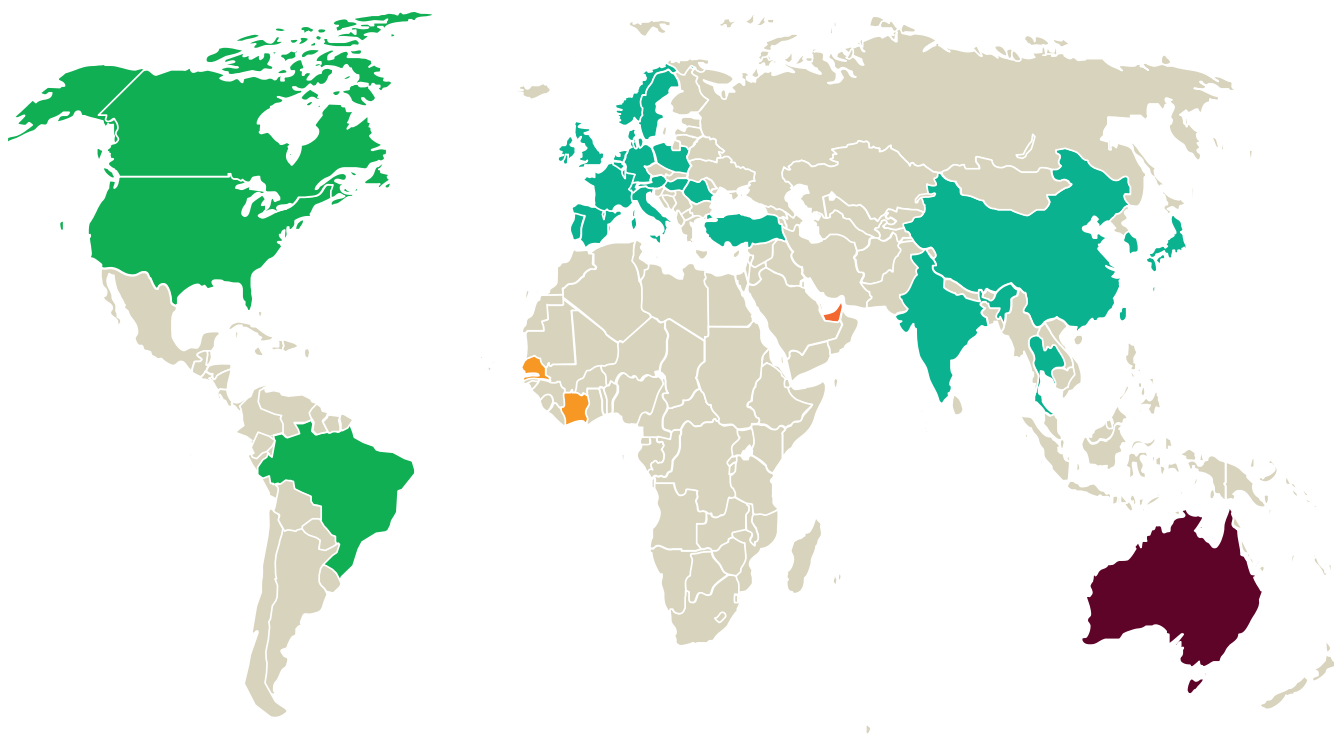
Success at COP21 will also depend on the importance of collaboration and coordination at all levels. To coincide with the launch of the SDGs and in support of the LPAA for transport at COP21, UITP and around 125 of its members around the globe have made a new commitment to enhance reporting against the SDGs, through the UITP Sustainability Charter. Signatories to the Charter commit to a two year rolling programme to work towards these goals and alongside UITP will help develop tools and capacity-building of the sector in order to better report progress against them. This includes sector specific guidance on global sustainability standards such as the UN Global Compact. By doing so, UITP can play a key role in facilitating action by encouraging public transport players to ensure linkages between their business strategies and the SDGs, which includes taking action on climate change (goal 13).

By helping to build capacity within the sector in terms of reporting progress on the goals, notably on expanding public transport, UITP can help national governments to better monitor delivery of the SDGs so that they can set the right policies and allocate resources accordingly for their realisation at the local level.

UITP is also of the view that enabling and encouraging public transport undertakings to report non-financial information (including CO₂ information) as called for by the SDG framework, it will help to drive sustainable business practices in the sector which in turn will drive efficiencies in operations (i.e. lower corporate emissions) and drive innovation which will help them provide better services and customer experience thereby helping to "win over" new customers and convince them to change their mode of transportation to sustainable low carbon public transport. In doing so, this new commitment to action by UITP is a key part of the solutions needed to help scale up ambition on climate action in support of the LPAA for transport at COP 21.



SIGNATORIES TO THE UITP SUSTAINABILITY CHARTER



UITP SUSTAINABILITY CHARTER

2015 – 2017

FULL SIGNATORIES

AGENCE METROPOLITAINE DE TRANSPORT
ALCOA WHEEL AND TRANSPORTATION PRODUCTS
ALSTOM TRANSPORT
ANSALDOBREDA
AZIENDA PER LA MOBILITÀ DEL COMUNE DI ROMA S.P.A.
AZIENDA TRASPORTI MILANESI
BANGKOK METRO PUBLIC COMPANY LIMITED
BERLINER VERKEHRSBETRIEBE
BOMBARDIER TRANSPORTATION
BREMER STRAßENBAHN AG
CTM SPA
C.T.P. COMPAGNIA TRASPORTI PUBBLICI S.P.A.
CENTRO
CARRIS - LISBON
CONNEXION HOLDING NV
DRESDNER VERKEHRSBETRIEBE AG

EAST JAPAN RAILWAY COMPANY
EVOBUS GMBH
FERROCARRILS DE LA GENERALITAT VALENCIANA
GOBIERNO VASCO - DPTO VIVIENDA
HAMBURGER HOCHBAHN AG
HTM PERSONEN VERVOER NV
IRISBUS IVECO (SAINT-PRIEST)
JÖNKÖPINGS LÄNSTRAFIK AB
KENTKARK
KEOLIS - SIÈGE SOCIAL
KNOOR-BREMSE AG
KÖLNER VERKEHRS-BETRIEBE AG
LEIPZIGER VERKEHRSBETRIEBE GMBH
LTA SINGAPORE
MAN TRUCK AND BUS AG
MERSEYSIDE PASSENGER TRANSPORT EXECUTIVE - MERSEYTRAVEL
METRO - LISBON
METRO BILBAO SA
MTA NEW YORK CITY TRANSIT
MTR CORPORATION LIMITED
MÜNCHNER VERKEHRSGESELLSCHAFT

NANTES METROPOLE
 POSTAUTO SCHWEIZ AG
 PROVINCE GELDERLAND
 REGIE AUTONOME DES TRANSPORTS PARISIENS
 RHEINBAHN AG
 ROTTERDAMSE ELEKTRISCHE TRAM
 RUTER AS
 SCANIA
 SOCIEDADE DE TRANSPORTES COLECTIVOS DO PORTO SA
 SOCIETE DE TRANSPORT DE MONTREAL
 SOCIETE D'ECONOMIE MIXTE DES TRANSPORTS DE L'AG-
 GLOMERATION GRENOBLOISE
 SOCIETE DES TRANSPORTS INTERCOMMUNAUX DE
 BRUXELLES
 SOLARIS BUS AND COACH S.A.
 STADTWERKE AUGSBURG HOLDING GMBH
 STADTWERKE MÜNCHEN GMBH
 STUTTGARTER STRASSENBAHNEN AG
 SYSTRA
 THE KOWLOON MOTOR BUS CO LTD.
 TORONTO TRANSIT COMMISSION
 TRANSDEV GROUP
 TRANSPORT FOR GREATER MANCHESTER
 TRANSPORT FOR LONDON
 TRANSPORT PUBLICS GENEVOIS
 TRANSPORTS METROPOLITANS DE BARCELONA
 UMBRIA T.P.L. E MOBILITA' S.P.A.
 ÜSTRA HANNOVERSCHE VERKEHRSBETRIEBE
 UTAH TRANSIT AUTHORITY
 VÄSTTRAFIK AB
 VDL BUS AND COACH
 VERKEHRS AKTIENGESELLSCHAFT NÜRNBERG
 VERKEHRSBETRIEBE KARLSRUHE
 VLAAMSE VERVOERMAATSCHAPPIJ VVM DE LIJN
 VOLVO BUS CORPORATION
 WIENER LINIEN GMBH AND CO KG
 WIENER STADTWERKE

PLEDGE SIGNATORIES

AARE SEELAND MOBIL AG
 ABU DHABI DEPARTMENT OF TRANSPORT
 AYUNTAMIENTO DE DONOSTIA - SAN SEBASTIAN
 BANGALORE METROPOLITAN TRANSPORT CORPORATION
 BRISBANE TRANSPORT
 BUNDESVERBAND CARSHARING EV
 BUS ATHA CLIATH - DUBLIN BUS
 CENTRE FOR URBAN TRANSPORT - CEPT UNIVERSITY
 CHANGWON CITY GOVERNMENT
 COMMUNAUTO INC.

CONCESSAO METROVIARIA DO RIO DE JANEIRO
 EUSKO TRENBIDEAK - FERROCARRILES VASCOS SA
 FEDERACAO DAS EMPRESAS DE TRANSPORTES DE PAS-
 SAGEIROS DO ESTADO DO RIO DE JANEIRO
 FERROCARRILS DE LA GENERALITAT DE CATALUNYA
 GREENWHEELS
 GROUPE TEC
 ISTANBUL ULASIM A.S.
 IZMIR METRO TASIMACILIK INSAAT VE SANAYI
 KAYSERI ULASIM TURIZM INSAAT TAAHHUT PROJE MUSA-
 VIRLIK SAN. TIC. AS
 KDR (KEOLIS) VICTORIA PTY LTD
 METRO DE MADRID
 METRO DE MALAGA
 METRO DO PORTO SA
 METROLINX
 METRO-MONDEGO
 MINISTRY OF TRANSPORT - BERMUDA
 NEWTL
 PARSONS BRINCKERHOFF
 REGIONALVERKEHR BERN-SOLOTHURN
 ROADS AND TRANSPORT AUTHORITY
 SCHEIDT AND BACHMANN GMBH
 SHARJAH TRANSPORT
 SOC. D'ECO. MIXTE DES TRANSP. EN COMMUN DE L'AGGLO.
 NANTAISE
 SOCIETE DE TRANSPORT DE LAVAL
 SOCIETE NATIONALE DES CHEMINS DE FER FRANCAIS
 SYND. MIXTE DES TRANSP. POUR LE RHONE ET L'AGGLO.
 LYONNAISE
 TAIPEI RAPID TRANSIT CORPORATION
 THE METRO COMPANY - METROSELSKABET I/S
 TRANS LINK - SOUTH COAST BRITISH COLUMBIA TRANS-
 PORTATION AUTHORITY
 TRANSPOLE - TRANSPORT EN COMMUN DE LA METRO-
 POLE LILLOISE
 TRANSPORTS DE L'AGGLOMERATION DE MONTPELLIER
 TRANSPORTS PUBLICS FRIBOURGEOIS
 VOSSLOH KIEPE GMBH
 YAPI MERKEZI INSAAT VE SANAYI A.S.

ASSOCIATION SIGNATORIES

ASSTRA
 CONSEIL EXECUTIF DES TRANSPORTS URBAINS DE DAKAR
 UNIFE
 UNION AFRICAINE DES TRANSPORTS PUBLICS
 UNION DES TRANSPORTS PUBLICS ET FERROVIAIRES
 UNIUNEA ROMANA DE TRANSPORT PUBLIC
 VERBAND DEUTSCHER VERKEHR SUNTERNEHM

OPPORTUNITY TO SCALE UP AMBITION WITH PUBLIC TRANSPORT

In the build up to COP21, national governments have been communicating their plans for climate action, termed Intended Nationally Determined Contributions (INDCs). Many have said they will be addressing emissions from the transport sector and in some cases have identified public transport interventions as a mitigation source. For example, China proposes a modal shift to public transport to 30% in medium and large cities, Japan's proposed transport measures include promoting modal shift to public transport, Jordan's proposed transport measures include increasing public transport mode share to 25% by 2025 and Benin has pledged to further develop its urban public transport. Many others have pledged urban transport improvements as well as the scaling up of clean public transport vehicles and compact urban development.

These are positive developments because if an ambitious legal agreement is reached at COP21 then these intended contributions will need to be implemented through a range of policy levers and investments, principally driven by national governments. At the same time, not all have identified public transport interventions in their plans and as such, there is considerable scope to scale up climate action with public transport.

While many efforts on climate change focus on improving efficiency through technology, in the transport sector the IEA still predicts urban transport and emissions are still set to double by 2050, despite ongoing vehicle technology and fuel-economy improvements. This is because more than 2 billion private vehicles (not counting two- and three-wheelers) are expected to be on the roads and mainly travelling in our cities.

We should not plan for this future. Already now, congestion and pollution as well as other external costs caused by transport can amount to more than 10% of a country's GDP (UNESCAP et al. 2010). It is therefore in every country's economic self interest that they address today's unsustainable model of urban mobility based on private vehicles. We need a more balanced mobility model in our cities if we are stop damaging our climate, economy and society and the Intergovernmental Panel on Climate Change (IPCC) has said the most effective answer to do this in the transport sector is through more public transport.

CITY OF GOTHENBURG, GOTHENBURG (SWEDEN)

On June 15, 2015 a new bus service started between Chalmers/ Johanneberg Science Park and Lindholmen Science Park. 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.



ElectriCity

SOCIÉTÉ DE TRANSPORT DE MONTRÉAL (STM), MONTREAL (CANADA)

Following this year's out-of-service testing, in-service testing with passengers will shortly begin helping scale up the electrification of public transport. This project will allow STM 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.



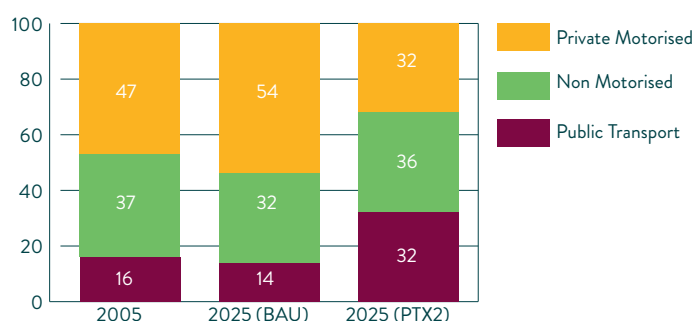
STM

PTX2: ANOTHER FUTURE IS POSSIBLE

UITP has long been advocating the need for more public transport and at the UN Climate Summit; the sector confirmed its commitment to double the market share of public transport by 2025, or achieving PTx2.

The aim is not to reject car usage but limit it by “winning over” new customers and convince them to change their mode of transportation. The result would be a more balanced mobility mix in our cities and would allow us to meet future demand for transport while decoupling it from the growth of its societal and environmental costs.

% OF URBAN TRIPS



In the build up to COP21 and half-way to our 2025 journey, UITP has analysed mobility trends in select metropolitan areas around the world from its extensive Mobility in Cities Database. By comparing the figures from 2012 with 1995, it shows that modal share of public transport is growing, on average, in developed cities. It increased by about 20% on average between 2001 and 2012 in developed cities – a reversal of the previous downturn between 1995 and 2001 – but only in cities that are doing three things: those that are increasing supply (more and bigger tracks, trams, trains...) but also looking after the demand side and improving the integration between spatial planning and public transport. This means pushing policies that control urban sprawl and encourage people to move away from private vehicles and use public transport.

Many cities are leading the way but unfortunately, in developing cities, the share of public transport decreased between 1995 and 2012. Looking ahead, these cities will be the ones where most of the future population growth will occur and where most of the investments will be made as new urban areas double in size by 2050. Again, there is significant potential to scale up ambition as many of the INDCs where

these cities are located have not identified public transport interventions that will be needed to cater for this projected increase in population and development.

Importantly, UITP’s analysis also shows cities which are more compact, denser environments makes public transport, walking and cycling more viable. In the second half of the 20th century urban planning focused largely on private cars and the result was urban sprawl with decreasing urban density. Then this trend started to change around the turn of the century. Now urban density in developed economies is increasing again. For instance, urban density increased by 11% in Munich and Oslo between 1995 and 2012.

The New Climate Economy report showed that more compact urban development built around mass, multi-modal public transport can create cities which are more economically dynamic, healthier and have significantly lower emissions. It could also reduce urban infrastructure capital by more than \$3 trillion USD over the next 15 years.

MODAL SHARE EVOLUTION



Percentage change 1995 - 2012

Average share of public transport out of motorised and mechanised

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

ÜSTRA HANNOVERSCHER VERKEHRSBETRIEB AG, HANNOVER (GERMANY)

Tests are currently under way with three E-Busses in the centre of the city 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 CO₂ per year.



ÜSTRA

METRO VALLEY, PHOENIX, AZ (USA)

The solar photo-voltaic plant at its Light Rail Facility Operations and Maintenance Centre opened in April 2015 and 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.



Metro Valley

JR EAST, CHIBA PREFECTURE (JAPAN)

Operation of its first large-scale solar power generation facility was launched on the grounds of the Keiyo Rolling Stock Center with an output capacity of 1,050kW. The electricity generated is used at the Center and will also help to operate trains, helping reduce CO₂ emissions by about 500 tonnes annually. JR East also started operation of another solar power generation facility on the Joban Line during 2015 and going forward will look establish further facilities on their sites contributing to the wider promotion of renewable energy.

AVOID, SHIFT, IMPROVE CLIMATE ACTION WITH PUBLIC TRANSPORT

More public transport as called for by UITP means fewer transport emissions. Doubling the market share of public transport by 2025, alongside technology improvements would mean that urban transport emissions would be in line with the objectives of the international climate agreement while meeting future demands for transport. This is because public transport forms the foundation to the avoid-shift-improve (ASI) strategy approach which is the tried and tested model to cater for more mobility while reducing emissions from the transport sector.

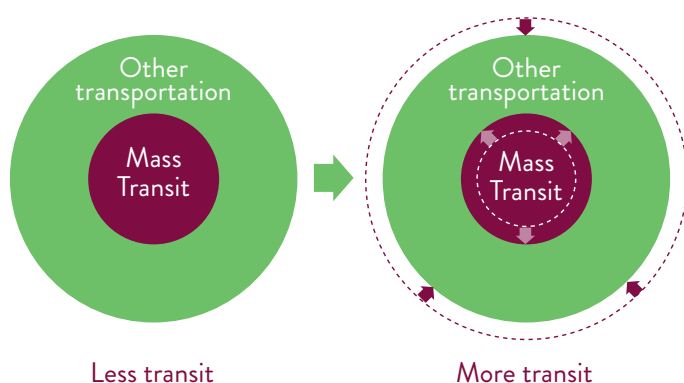
Denser urban environments built around public transport help avoid unnecessary polluting travel, encourages a shift low carbon transport choices such as public transport, walking and cycling while also improving the efficiency of the entire transport system through for instance, reduced congestion.

A forth pillar now needs to be added and that's "scaling up" as there are many real life examples that highlight the effectiveness of multi-modal public transport in reducing regional emissions. By using RATP public transport services in Paris, France, passengers consume on average five times less energy than if travelling by car. In 2011, the use of RATP services saved the emission of 2.7 million tonnes of CO₂ equivalent. Every tonne produced by Rio Metro, Brazil, helps avoid around 5-7.4 tonnes of CO₂ in the wider region and these gains will continue as the public transport network expands. Kings County Metro, Seattle, USA, displaces roughly four times more GHG emissions than it generates - a net displacement of approximately 600,000 metric tons of CO₂ each year and they aim to increase this by at least 5% by the end of 2015.

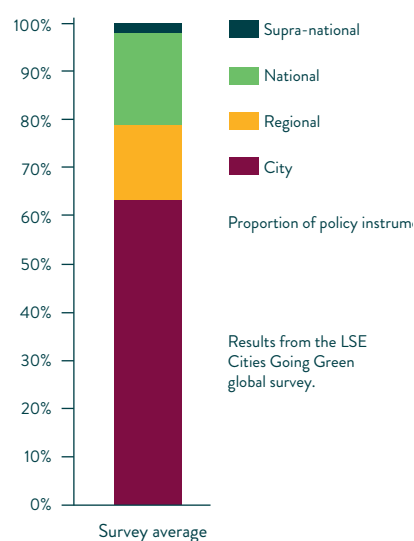
Policies that encourage sustainable urban planning and development at all levels along with increased public transport supply and demand measures becomes critical and this three pronged approach is probably the best real sustainable growth model, mainly because it does not depend on curtailing people's choices but instead offers additional travel choices to citizens enabled by public transport, walking and cycling.

TOTAL REGIONAL GHG EMISSIONS

T. Papandreou (LA Metro)



PROPORTION OF POLICY INSTRUMENTS



CENTRO, WEST MIDLANDS (UK)

Smart Network, Smarter Choices scheme is a commitment to carrying out a wide range of sustainable travel schemes along 10 key corridors in the West Midlands which will see CO₂ emissions fall by around 10,000 tonnes in the final year of the programme (2016). These physical improvements are backed by tailored support for local residents to enable them to make smarter, greener travel choices. Centro's WorkWise scheme, provides free travel passes for the unemployed travelling to interviews or starting new jobs. By March 2015 WorkWise had supported more than 14,000 job seekers back into work more than doubling the target for the three year programme.

LAND TRANSPORT AUTHORITY (LTA), (SINGAPORE)

The Travel Smart Programme 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 Smart

SCALING UP AMBITION ON PUBLIC TRANSPORT BY ENABLING LOCAL LEVEL ACTION

UITP calls on all Parties that have not already done so to ensure that public transport plays a key role in their INDCs and that UNFCCC mechanisms better accommodate the complexity and character of public transport. If Parties are to deliver on their commitments, supportive policies will need to be in place to boost supply, control private car use and increase urban density around public transport. As highlighted in the results of the LSE global survey, although the city authority holds the majority of policy levers, international, national and regional levels of government can also influence local action on public transport.

If the COP 21 agreement and Parties are to realise the full potential of public transport interventions they will need to empower cities. Doing so will make a massive difference to meeting the 2 degree goal and the post 2015 Sustainable Development Agenda, which UITP is committed to support. Below are 4 sets of recommendations that would enable this and while not an exhaustive list, these actions have proven successful and easily implemented by Parties.

Rewards (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.



Flickr - Florian Bugiel

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA), WASHINGTON (USA)

At the start of 2015, WMATA completed the first set of installations of their initiative to replace 13,500 light fixtures with high-efficiency light-emitting diode (LED) lights. The project is expected to save Metro more than 15 million KWh in energy per year, reducing carbon emissions by over 10,000 tonnes of CO₂ annually. It also helps demonstrate that WMATA can successfully use the energy savings to finance infrastructure investments that radically improve customer experience.

RECOMMENDATION 1 AN AMBITIOUS INTERNATIONAL CLIMATE AGREEMENT AT COP21

One of the most obvious policy mechanisms at the international level to address climate action will be agreeing new UNFCCC mechanisms at COP21 in Paris. Such an agreement can send a clear signal to the market where to invest, notably at the local level with public transport and below are some elements that could feature in the agreement. Naturally, an international agreement will contain many other provisions but if it were to include these elements linked to it, it would enable enhanced implementation on public transport.

- INDCs from Parties to the UNFCCC should provide the foundation of future climate action to 2025 or 2030 and be gradually strengthened to meet the agreed objective of the long-term 2°C goal.
- Policies at all levels as well as UNFCCC mechanisms should promote the “avoid-shift-improve” approach to transport with public transport at its core.
- All parties to include transport in their INDCs and a full spectrum of interventions on public transport in order to meet their reduction goals.
- UNFCCC mechanisms to provide enabling frameworks and technical assistance in support of Parties efforts to address transport emissions by helping to develop bankable public transport projects aimed at citizens needs.
- The Green Climate Fund (GCF) be fully mobilised and funding is proportionate to the emissions of each sector. The GCF should start by earmarking 23% of its annual budget to address transport emissions and enhance sustainable urban public transport by taking into account co-benefits and not simply evaluate savings based on cost.
- Non-state actors such as UITP and its members should be recognised in the new accord through the LPAA bearing in mind that their actions will form an integral part of the contributions of Parties delivery of their INDCs.
- Enable the integration of sustainable urban mobility planning (SUMP) with Nationally Appropriate Mitigation Action development.
- Establish a robust transparency and accountability framework to enable the tracking of progress against INDCs. Such rules should allow for a consistent approach for accounting and reporting emissions at all levels and is appropriate for all sectors and one that recognises full climate benefits of public transport.

TRANSPORTS METROPOLITANS DE BARCELONA (TMB) BARCELONA (SPAIN)

In 2015, Barcelona 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 which will help to save 5,000 tonnes of CO₂ per year



Flickr/TMB

METROPOLITAN TRANSPORTATION AUTHORITY (MTA), NEW YORK (USA)

In April 2015, the MTA 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 - the equivalent of removing roughly 2,140 cars from the road. More than 750,000 people who pass through Grand Central daily will benefit from improved air quality and better climate control.



Flickr/Jeffrey Zeldman

RECOMMENDATION 2 STRONGER NATIONAL POLICIES SUPPORTING THE LOCAL LEVEL

Governments need to recognize the importance of urban mobility issues and ensure that they are high up on the policy agenda. Countries can enable local level action by enhancing better coordination and developing supportive frameworks between all levels of government and policies. Some quick win solutions have proved to be successful and UITP encouraged Parties to:

- Provide provisions for regulatory measures and incentives that will help drive emission reductions and behaviour at the local level, such as new vehicle carbon dioxide emissions standards or import restrictions based on vehicle age as proposed by Gabon.
- Develop a national legal and regulatory framework for urban land transport that is transparent, viable and stable. Clear roles and responsibilities need to be defined for each stakeholder in the mobility supply chain in order to deliver real results on the ground. As such, competence to plan/organise should be matched by competence to generate adequate funding.
- Develop national urbanisation frameworks in cooperation with city authorities that promote compact urban development built around public transport which will translate into lower level of emissions in the land transport sector by combating urban sprawl. These national frameworks should be linked to financial investment and economic growth strategies encouraging transit oriented development with a clear strong incentive for urban public transport. Ethiopia's INDC proposes compact urban development as a means to mitigate emissions from the transport sector.
- Encourage local authorities to develop low emissions urban development strategies which will help complement national urbanisation and climate frameworks which support the objectives of COP21. The Compact of Mayor's initiative and UITP's Declaration on Climate Leadership can be used to facilitate this.
- Encourage and support local authorities to develop SUMP's based on public transport, walking and cycling that fit their local circumstances and ensure that finances are available to ensure their development and realisation, as is the case in Brazil.
- Develop policies that support and incentivise local authorities to reduce their operational emissions and purchase low carbon public transport vehicles, a good example is the UK's Green Bus Fund.
- Develop public awareness campaigns that promote sustainable

transport choices and explicitly recognise the importance of cities and sustainable transport. Inspiration can be taken from UITP's Global Mobility Week Campaign held during 16-22 September 2015. In total 137 UITP members participated in 46 countries across 5 continents, helping raise awareness of the importance of public transport in the changing urban mobility landscape.



TRANSPORT FOR LONDON (TFL), LONDON (UK)

In July 2015, TfL announced that two further bus routes will operate entirely with electric buses from autumn next year, lowering carbon emissions and helping to improve London's air quality by reducing 408 tonnes of CO₂ and 10 tonnes of NO_x 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 CO₂ emissions by 27,500 tonnes a year.



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BOMBARDIER TRANSPORTATION, ALSTOM TRANSPORT, DEUTSCHE BAHN, KNORR BREMSE & SNCF

The 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.

BRISBANE TRANSPORT, QUEENSLAND (AUSTRALIA)

With a fleet of over 1100 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 Transport's buses became 100% low floor and wheelchair accessible, thereby encouraging broader patronage and reducing reliance on private vehicles.

MÜNCHNER VERKEHRSGESELLSCHAFT MBH (MVG), MUNICH (GERMANY)

Munich's bike-sharing system will see 1,200 rental bikes made available across 125 locations from October 2015 onwards. The bicycles will have a 'high quality' design and docking stations and will be primarily positioned near tram stops and metro stations. This is an essential addition to the public transport system, improving the mobility in the city, and above all improving quality of life which will help reduce emissions by 308 tonnes of CO₂ a year.



MVG

RECOMMENDATION 3 DEVELOPING STRONGER LOCAL INSTITUTIONS

Coordinated effort at the local level is only possible if local authorities have the capability to address local level problems enabled by national efforts. UITP therefore encourages Parties to:

- Establish city and regional authorities tasked with integrating, regulating and financing urban public transport and providing them with the power to plan/organise and the competence to generate adequate funding for transport services. Dubai for example has established an authority covering all modes of transport, both collective and individual.
- Ensure a shift from isolated decision-making to integrated mobility management at all levels by supporting national-local coordinating authorities.
- Enable local authorities to implement transport demand management techniques alongside increased public transport supply, and ensure that projects are centred on traffic restraint and the greater use of public transport.
- Enhance research and development at the national and international level and support the use of ICT towards sustainable urban mobility on public transport as well as building capacity and technical assistance more widely at the local level.
- Support local governments and other stakeholders (including public transport undertakings) to report against national targets and international goals such as the SDGs. UITP's new Sustainability Charter commitment for COP21 will play a crucial role in facilitating this.

TRIMET, PORTLAND, (USA)

The 7.3-mile Portland-Milwaukie Light Rail Transit Project opened September 12th, 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 cataloged to help guide the MAX Orange Line project's commitment to sustainability and social benefit. The project has provided 446 new bike parking spaces and approximately 10 miles of new or replaced sidewalks and eight miles of new or replaced bicycle facility improvements. 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 CO₂ by nearly 60,000 pounds per day and due to better land use patterns CO₂ emissions could be reduced by as much as 114,000 pounds per day.



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TORONTO TRANSIT COMMISSION (TTC), TORONTO (CANADA)

TTC's Five-Year Corporate Plan covering the period 2013-2017 sets out the organization's priorities and commitments that support its vision towards a transit system that makes Toronto proud. A core part of TTC's plan is to integrate and balance the economic, social and environmental needs of its customers, employees and the community. In 2015, the TTC published its first Sustainability Report. The report is seen as a key step to closer alignment between sustainability and business efforts that will help drive business performance in future years. Through the provision of better transport services, the TTC is helping reduce emissions from the wider Toronto region saving around 693,000 tonnes of carbon dioxide equivalent.



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DE LIJN, FLANDERS, (BELGIUM)

In 2015 public transport operator 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 De Lijn buses will be hybrid, helping reduce 3,500 tons of CO₂. In 2015 De Lijn 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.



De Lijn - Stefaan Van Hul

DOPRAVNÍ PODNIK HLM PRAHA AS, PRAGUE (CZECH REPUBLIC)

April 2015 saw the opening of the Prague Metro extension Line A. Four new stations – Bořislavka, Nádraží Veleslavín, Petřiny and Nemocnice Motol – on more than 6 kilometres 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 CO₂ emissions from the city's transport network and contributes to lower accident rates.



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RECOMMENDATION 4 BRIDGE THE FINANCE GAP

Today's investment choices will have huge implications for the future emissions trajectory. There remains a gap between our current level of investment and what needs to be done. However, if we make the right investment choices now with public transport we can lock ourselves into a low carbon development path for years to come. Therefore, a number of fiscal measures can and have been taken in countries around the world to help bridge the local level finance gap and UITP encourages Parties to:

- Remove fossil fuel subsidies - which is a \$5.3tn subsidy estimated for 2015 - and be used in part for climate finance.
- Consider the introduction of new pricing mechanisms such as fuel and carbon taxes, internal carbon pricing or road charging schemes to help raise revenue for public transport and transit oriented development. Quebec's Cap and Trade system is an example of how to raise much needed revenue for climate action with public transport.
- Introduce innovative approaches (e.g. land value capture, green bonds, transit-oriented development grants etc) that support investments in public transport services, infrastructure and development as they have done in Hong Kong.
- To attract private financing, businesses, industry as well as countries and cities should work together to develop bankable public transport projects that fit the needs of citizens. Typically, the ability of cities to develop such projects is determined at the national level and public funding should be used in order to attract private investment.
- Enable cities greater access to the GDP and taxes that they generate as well as redirecting existing national infrastructure funding that will encourage denser, compact cities built around public transport.
- Enhance the credit worthiness of cities through national and international facilities; building on existing initiatives such as the World Bank's to help scale up ambition on public transport.
- International and national development banks should commit to a uniform vision and roadmap so that all future investment in the transport sector will be geared towards low carbon sustainable investments, like public transport and earmark further funding for sustainable transport, like the eight largest developments had done at Rio+20.

HAMBURGER HOCHBAHN AG, HAMBURG (GERMANY)

On 18 December 2014, the city'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.

VÄSTTRAFIK, GOTHENBURG (SWEDEN)

Västtrafik 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 in an effort to enhance the sustainability of their operations.



ElectriCity

CTM. SPA, CALGARI (ITALY)

CTM's commitment to electrify their bus fleet took a giant step forward during the year following the purchase of 6 full electric trolleybuses, which are due to be delivered by the end of 2015 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, energy consumption, emissions and noise levels. Further upgrading of the fleet during the year now means that CTM will have one of the youngest and environmentally friendly fleets in Europe.

RÉGIE AUTONOME DES TRANSPORTS PARISIENS (RATP), PARIS (FRANCE)

RATP is committed to a major technological and ecological change and this year has started a major program of experiments as part of its Bus 2025 plan. RATP and the STIF transport authority will present to the public at COP 21 the first 100% electric standard buses tested in 2016 in its network. By 2025, RATP aims 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 RATP bus fleet greenhouse gas emissions by 80%.



Verkehrsbetriebe Karlsruhe GmbH (VBK)

ARRIVA

Arriva RP (Rail Poland) operates ten railway lines, controlling over 70% of the regional market in Kujawsko-Pomorskie voivodeship. In February 2015, Arriva RP 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 Arriva 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 Arriva RP trains for the first time. Encouraging private motorists to switch to rail or bus travel maximises the environmental benefits of public transport options.



Arriva

VERKEHRSBETRIEBE KARLSRUHE/VBK, KARLSRUHE (GERMANY)

A new combined heat and power plant is being installed and set to be operational in late October at the VBK's western depot where it undertakes the servicing, maintenance and repair of its motor vehicles and rolling stock. This modern, highly efficient combined heat and power plant will be driven by power demand on the basis of the VBK's own on-site requirements and will be 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 VBK's power and heat needs will be realised from this renewable source.



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SOCIÉTÉ DES TRANSPORTS INTERCOMMUNAU-NAUX DE BRUXELLES (STIB), BRUSSELS (BELGIUM)

During 2015, the STIB 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 STIB to analyze 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 liters of diesel saved per year.



STIB

Decarbonising the economy with public transport can be a key job creator, the sector directly employing 7.3 million people and by doubling the market share a further 7 million green jobs can be created, directly contributing to national economies. Investments can also create markets and jobs in other areas of the economy as public transport creates from 50% to 100% (i.e. twice) more jobs per Euro invested than in other areas, such as roads.

External costs impacting business and society can be reduced as the cost of urban transportation for the community is 50% lower (as % of urban GDP) in cities with higher shares of public transport, walking and cycling. As such a high shift scenario to public transport could save over \$100tn in public and private capital; and operational costs.

The economic returns of Johannesburg's Bus Rapid Transit system in its first phase were close to US\$900 million according to the New Climate Economy.



Flickr/flowcomm

CONCLUSIONS

There are compelling reasons for climate action with public transport but also clear economic reasons. UITP's Declaration on Climate Leadership makes clear that tackling climate change with public transport is the biggest economic opportunity of the 21st century. This is because capital investment in public transport sparks a chain reaction in economic activity up to three of four times the initial investment, enabling and promoting urban densification and greater urban productivity.

Cities like Copenhagen, Hong Kong and Stockholm, as highlighted by the New Climate Economy, show that it is possible to half their emissions per capita while doubling their economies, thanks primarily to their continued investment in public transport, walking and cycling while also making use of density, land-use and parking regulation.

Opportunities exist to double the market share of public transport by 2025 over the coming years as the world will need to invest around \$90 trillion in sustainable infrastructure assets, more than twice the current stock of global public capital. Where these investments are made, and their scale and quality, is crucial to both sustainable development and managing climate change. But many, or even most, of



those opportunities will be lost if we hesitate. There is a danger that high-carbon, polluting, wasteful and long-lasting structures will be locked-in to a high carbon future but if we expand urban public transport we can realize a low carbon, better economic development path for years to come.

There are compelling economic reason for investing in public transport for climate action as it can act as an economic stimulus for both developed and developing economies. Through the UITP Declaration on Climate Leadership, the international public transport community is committed to provide better mobility for all, support Parties deliver on their commitments as well as help scale up ambition on climate action and encourage Parties that have not already done so, propose interventions on public transport in their INDCs. In doing so, we can realise the biggest economic opportunity of the 21st century and deliver on our common vision of the future in order to make cities and human settlements low carbon but also inclusive, safe, resilient and sustainable as envisaged in the post-2015 agenda and COP 21.

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