

Global  
Experts  
Group  
Meeting



# FOSTERING SUSTAINABLE URBAN MOBILITY SOLUTIONS

Barcelona, 24-25 April 2014



**UN HABITAT**  
FOR A BETTER URBAN FUTURE

With the collaboration of:



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FOSTERING SUSTAINABLE  
URBAN MOBILITY SOLUTIONS



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## 1. BACKGROUND

Urban transport systems worldwide are faced by a multitude of challenges. Among the most visible of these are the traffic gridlocks experienced on city roads and highways all over the world. The prescribed solution to transport problems in most cities has thus been to build more infrastructures for cars, with a limited number of cities improving public transport systems in a sustainable manner. However, a number of negative externalities associated with poor urban transport systems – such as greenhouse gas emissions, noise and air pollution and road traffic accidents – do not necessarily get solved by the construction of new infrastructure.

The development of sustainable urban transport systems requires a conceptual leap. The purpose of ‘transportation’ and ‘mobility’ is to gain access to destinations, activities, services and goods. Thus, access is the ultimate objective of transportation. As a result, urban planning and design should focus on how to bring people and places together by creating cities that focus on accessibility, rather than simply increasing the length of urban transport infrastructure or boosting the movement of people or goods.

Transport and communication systems are the key to the movement of goods, people, information and ideas. They are also an access key to markets, employment, schools, services and land use, both within cities and between cities, and in rural and other remote areas. The transportation sector is a major consumer of non-renewable energy and land, and is also a major contributor to pollution, congestion and accidents. Integrated transport and land-use policy and planning can reduce the ill effects of current transport systems.

People living in poverty, women, children, youth, older persons and people with disabilities are particularly disadvantaged by a lack of accessible, affordable, safe and efficient public transport systems. From this perspective, transport represents one of the many issues which could contribute to overcoming difficulties and inertia that prevent developing countries from breaking the vicious circle of poverty.

It has been increasingly recognized that Electric Vehicles (EV) may provide an opportunity to significantly reduce global Green House Gas emissions. The International Energy Agency “Technology Roadmap” envisions the widespread use of electric vehicles by 2050, contributing a 30% reduction in light duty vehicle carbon dioxide emissions. The high uptake and adoption of electric vehicles depend on a number of factors, for example: advances in vehicle and battery technologies and reduction in costs of vehicles and batteries from economies of production; the availability of charging infrastructure, increased awareness of citizens and incentives provided by governments including city

governments. Increased use of Electric Vehicles is also dependent on transportation “eco-systems” that can integrate Electric Vehicle Technologies as a part of a large transportation system (e.g., short distance shared EV transport to mass transit stations). A proposed UN-Habitat initiative on “Action Platform on Urban Electric Mobility” seeks to provide a platform for Industry, Cities and Financial Institutions to make mutually supportive commitments or “pledges” to increase the uptake of Electric Vehicles in Cities. Barcelona, itself, is amongst the leading cities in the world, which have made significant progress in promoting electric mobility. The EGM provided an opportunity to share experiences on E-mobility. A “Communiqué” promoting e-mobility was issued at the EGM. This also served to support the preparatory discussions for the forthcoming Climate summit in September 2014, including the Abu Dhabi Ascent meeting held from 4-5 May 2014.

UN-Habitat and the SOLUTIONS project, in collaboration with Barcelona City Council, jointly organized the Experts Group Meeting “FOSTERING SUSTAINABLE URBAN MOBILITY SOLUTIONS.” This conference aimed to advance the global agenda on urban mobility and kickstart the engagement of cities in the SOLUTIONS initiative to foster the take-up of urban mobility measures. The UN Human Settlements Programme (UN-Habitat) is mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all, i.e., to find ways to increase urban productivity and improved living and working conditions for urban populations by appropriately meeting transport needs in an economically efficient and environmentally and socially sustainable manner.

UN-Habitat advocates for policies and models to achieve sustainable urban transportation systems across the globe in the context of an overall mission to promote sustainable development of human settlements and the achievement of adequate shelter for all. As part of this effort, UN-Habitat leads the preparatory process for the celebration in 2016 of the Third United Nations Conference on Housing and Sustainable Urban Development (HABITAT III), with the purpose of strengthening, at the highest political level, the global commitment to sustainable urban development through the accelerated implementation of a new “Urban Agenda for the 21st Century.”

The UN Habitat Global Report on Human Settlements 2013 entitled ‘Planning and Design for Sustainable Urban Mobility’ seeks to highlight the transportation challenges experienced in cities all over the world, and identifies examples of good practice from specific cities of how to address such challenges. The report also provides recommendations on how national, provincial and local governments and other stakeholders

can develop more sustainable urban futures through improved planning and design of urban transport systems.

The SOLUTIONS project (Sharing Opportunities for Low carbon Urban transportation) aims to support the exchange on innovative and green urban mobility solutions between cities from Europe, Latin America and the Mediterranean. The project brings together a wealth of experience and technical knowledge from international organizations, consultants, cities, and experts involved in transport issues and solutions. The project's overall objective is to make a substantial contribution to the uptake of innovative and green urban mobility solutions across the world by facilitating dialogue and exchange, promoting successful policy, providing guidance and tailored advice to city officials, and fostering future cooperation on research, development and innovation.

Barcelona, which covers an urban area of 628 km<sup>2</sup> with 3.2 million inhabitants (the Metropolitan Area, AMB), has a common urban land-use plan (PGM, since 1976) and is now developing the first metropolitan mobility plan. The municipality of Barcelona has already approved its new Urban Mobility Plan (PMU) aiming to reduce car traffic in about 30 percent. The municipality of Barcelona is applying a strategy based on the extension and renewal of the public spaces, the improvement of public transport services and the promotion of smart mobility.

<sup>1</sup><http://www.unhabitat.org/content.asp?catid=555&typeid=19&id=12336>

<sup>2</sup>[www.urban-mobility-solutions.eu](http://www.urban-mobility-solutions.eu)

## 2. COMMUNIQUÉ

**Background:** On 24 and 25 April, 70 international experts participated in the Experts Group Meeting "Fostering Sustainable Urban Mobility Solutions". The purpose of the meeting was to advance the global agenda on sustainable urban mobility and promote the adoption of measures by cities to solve problems related to urban transport, such as emissions of greenhouse gases, noise and pollution air and road accidents, not necessarily resolved by the construction of new infrastructure.

The meeting also served to address the problems associated with high consumption of non-renewable energy and land of the transportation sector, so a special section was dedicated to electric mobility. In this sense, and considering that Barcelona is in itself one of the cities in the world that have made significant progress in the promotion of electric mobility, the event has served to bring Barcelona as "an example of best practices to be replicated in other cities".

According to the conclusions of the meeting, the greater uptake of Electric Vehicles provides an opportunity to curb emissions from transport and contribute towards the efforts to keep global temperature increase within the 2 degrees Celsius limit.

Experts have opted to promote the awareness of citizens about the benefits of electric mobility and this kind of discrimination against the most polluting vehicles. Agreed that there are factors that can limit and condition the introduction of electric vehicles such as the costs of vehicles, the autonomy of the batteries, the availability of charging infrastructure.

The Communiqué resultant of the meeting is the fol-

lowing:

1. We, participants (70) in the Experts Group Meeting on "Fostering Sustainable Urban Mobility Solutions" held in Barcelona from 24-25 April 2014 with the aim of sharing recent experiences and approaches on Sustainable Urban Mobility, and developing a broad "road-map" for sustainable urban mobility implementation strategy.

2. The Experts Group Meeting (EGM) comprised experts from national, regional and city governments, international organisations and academia including research and training institutions.

3. We indicate our commitment to contribute to the deliberations and preparations for the Climate Summit in September 2014 and beyond to encourage e-mobility and cleaner technologies across the world together with other measures such as encouraging public transport, better urban planning and street design and integration of different modes of transport to ensure improved accessibility of all urban dwellers to employment opportunities and social services including health and education.

4. In a context where the majority of people now live in cities, and developing countries are urbanizing rapidly, we recognize the need and urgency to respond in a collaborative manner to foster sustainable urban development. Integration of urban land use planning and transport planning is crucial to reduce the demand for transport in cities. Adequate and attractive public street space is a key indicator for quality of life in cities. Increase in car ownership is a growing concern as it constrains public space. In order to improve the quality of public space for citizens, a modal shift towards



sustainable modes as well as alternatives to individual car-ownership are essential ingredients for sustainable urban mobility.

5. We recognise that the transport sector is responsible for negative health impacts related to air quality, noise pollution, and nearly 22% of global energy related CO<sub>2</sub> emissions, of which more than 40% are attributable to urban transport. We also recognise the rising trends in these emissions. On the other hand, we recognize that public transport, walking and cycling must become a priority in cities.

6. The greater uptake of electric mobility, including such as Electric Vehicles for buses and mass transit systems, light duty vehicles including cars and two-wheelers provides an opportunity to curb emissions from transport and contribute towards the efforts to keep global temperature increase within the 2 degrees Celsius limit. The International Energy Agency "Technology Roadmap" envisions the widespread use of electric vehicles by 2050, when such vehicles will contribute to a 30% reduction in light duty vehicle carbon dioxide emissions. (far more than cars, current share low).

7. The phase out of conventionally fuelled vehicle (The uptake of Electric Vehicles) depends on a number of factors, for example, advances in vehicle and battery technologies and reduction in costs of vehicles and batteries from economies of production, the availability of charging infrastructure, increased awareness of citizens and incentives provided by governments including city governments. Increased use of Electric Vehicles is also dependent on transportation "eco-systems" which can integrate Electric Vehicle Technologies as a part of large transportation systems.

Debating electric vehicles must be broader than just replacing cars but must envisage broader business concepts, and pay attention to space allocation in cities.

8. We recognise the importance of clean energy sources for electric vehicles in order to realise the potential of emissions reductions from adopting Electric-Mobility. We also take note of the potential of the Electric Mobility industry by comprising vehicle and battery manufacturers, energy producers and distributors and renewable energy companies in creating new jobs and supporting the growth of a low carbon economy.

9. We recognise that the transition to a future where Electric Mobility is dominant will evolve with greater uptake in the near future possibly focussed on two-wheelers particularly for last-mile connectivity and transitioning to electric cars and bigger vehicles through the uptake initially of hybrid vehicles. We also recognise that "Electric Vehicles" is not the only solution for improving accessibility in urban areas and reducing GHG emissions and local air pollution. Effective Public Transport Systems integrated with walking and non-motorised transport will remain important.

10. We take note of initiatives to promote Electric Mobility in Cities such as Barcelona and recommend the replication of such examples in other cities across the world, suitably adapted to suit the respective, geographical and socio-economic contexts and overall strategy of providing mobility solutions in a country.

11. We take note of initiatives to promote shared mobility modes such as car-sharing in Bremen which are able to achieve not only a modal shift but help to reduce the number of cars in cities.

12. We take note and indicate support to the proposed UN-Habitat initiative on 'Action Platform on Urban Electric Mobility' which seeks to provide a platform for Industry, Cities and Financial Institutions to make mutually supportive commitments or "pledges" to increase the uptake of Electric Vehicles in Cities.

In a context where the majority of people now live in cities, and developing countries are urbanizing rapidly, we recognize the need and urgency to respond in a collaborative manner to foster sustainable urban development. Integration of urban land use planning and transport planning is crucial to reduce the demand for transport in cities. Adequate and attractive public street space is a key indicator for quality of life in cities.

### 3. THE UN-HABITAT EXPERTS GROUP MEETING

The EGM “Fostering Sustainable Urban Mobility Solutions” convened 70 experts in the Barcelona City to discuss the different solutions of urban sustainable mobility currently existent in cities around the world, as well as on how to support these efforts and transfer good models to other regions of the world. The debates revolved around the design of socially inclusive public spaces, excellence in public transport, efficient city logistics, promoting new vehicles, fuel switch and electromobility and smart mobility management. Urban Electric Mobility was a topic of special focus in the EGM. Based on experiences shared from the host city, Barcelona, and cases presented by participants coming from different parts of the globe, experts outlined the opportunities and challenges in promoting Urban Electric Mobility, and extracted key arguments to feed the final “Communique” that was issued by this EGM.

The Global Experts Group Meeting is closely linked to the SOLUTIONS City Engagement activities and based on the main messages of the UN Habitat Global Report on Human Settlements: ‘Planning and Design For Sustainable Urban Mobility’ released in 2013. The report provides a comprehensive overview on the developments of urban transport around the world and identifies examples of good practice from specific cities on how to address transportation challenges.

The publication also provides recommendations on how national, provincial and local governments

and other stakeholders can develop more sustainable urban futures through improved planning and design of urban transport systems. The key messages and issues raised within the report were presented and discussed during the workshop in Barcelona. After the presentation and an initial discussion about the report, a roundtable-working group discussed the potential next steps in advancing the urban mobility agendas. This meeting builds upon a number of similar events in New York, London, Oslo, Berlin, Stockholm, Helsinki, Warsaw, Singapore and Medellin.

During the two-day seminar, experts also worked in parallel sessions to address how public transport can provide affordable, accessible and equitable services. They also went through the mechanisms for financing infrastructure and public spaces and integrate urban mobility in wider urban development. In addition, efficient city logistics systems and take-ups of clean vehicles and fuels were showcased to depict the contribution to a low-carbon city, as well as examples of how smart mobility management makes urban transport more efficient. The most important findings were shared at a plenary session and debated among all participants.

This third workshop forms part of a series of five events funded by Barcelona City Council to promote the theme “towards a new urban agenda” and counted with the support of the European Commission and the collaboration of Aigües of Barcelona.



## 4. INTRODUCTION AND OPENING SESSION

The workshop started with a brief welcome from André Dzikus, who recalled that we are on the eve of the Habitat III Conference, an important landmark that will define the type of cities we want for the future: Cities that are compact, less dense and that foster sustainable mobility solution as an integrative part of its design. The international presence of experts coming from different regions of the world – Europe, China, India, Brazil, Zimbabwe – was also highlighted as a positive opportunity to exchange knowledge of practices and promote the replication of the successful examples of sustainable mobility.

Andre Dzikus highlighted the exemplary features of the transport system of the host city, Barcelona, and invited participants to avail the opportunity to learn directly from the current practices developed in this city to promote greener transport alternatives. He also reminded experts about their role in contributing with inputs to the final communiqué, which represents a key advocacy document for the preparatory process and provide guidance to the Climate Summit that will take place in September.

In his opening remarks, Antoni Vives, Deputy Mayor for Urban Habitat in the Barcelona City Council, underscored the revolutionary processes the city is undergoing to introduce e-mobility alternatives and adapt the old public transportation model to better respond to the current needs of the population. The aim is to take a leap forward in terms of adopting cleaner vehicles and enhancing the integration of public transport into the grid of the city. This measure will bring, therefore, better quality of life, create accessibility and foster cycling and pedestrian routes.

The main objectives of the seminar were highlighted by Carmen Sánchez-Miranda, director of the UN-Habitat office in Madrid, who also specified that meeting is a joint initiative with the European Commission SOLUTIONS Project. One of the aims of this encounter, she underpinned, was to advance the Global Agenda on sustainable urban mobility based on the main messages included in the 'Global Report on Human Settlements 2013: Planning and design for urban mobility'. Moreover, the meeting provided an environment to facilitate engagement of leading and taking up cities from Europe, Asia, Latin America and Mediterranean within the Solutions Projects, where they achieved to exchange urban mobility knowledge about issues related to public transport, integrative planning, infrastructure, innovation and connectivity.

Oliver Lah, Project Coordinator of the Wuppertal Institute SOLUTIONS, set the background for the meeting discussions with his presentation 'Sustainable Urban Mobility: approaches for addressing common challenges'. It offered an overview of the main points of

the 'Climate Change: Mitigation Climate Change 2014,' a report launched last week by the Intergovernmental Panel on Climate Change (IPCC), and its relation to urban mobility. One of the key messages that he stressed was that measures to reach the goal of staying at a relatively safe level of climate change – the 2 degree objective – is affordable for countries. Thus, it is a crucial moment to get the politics right to improve actions that can save the planet. That includes changing our main modes of transportation, fostering not only electrical mobility, but a smart new mixture of transport options to reduce CO2 emissions in the cities.

He also presented the role of SOLUTION, a project sponsored by the European Commission, to generate dialogue, contribute to forums, create network opportunities, share experiences and promote successful mobility solutions. It also provides guidance and report on progress in the focus regions of Europe, Asia, Latin America and the Mediterranean region.

In the next 20 to 30 years, the population living in cities will double its sizes, thus this rapid urbanization poses a challenge, but also opens a door for sustainable urban mobility

André Dzikus walked through the key findings and implications of the 'Global Report on Human Settlements 2013: Planning and design for urban mobility', launched last October. The report describes how urban planners during the 20th century have mainly focused on encouraging urban mobility by investing and expanding infrastructures aimed for private cars use. A measure that led to a car dependent society with a very high cost. The cost of urban sprawl, air and noise pollution, congestion, climate change, road traffic and economic and productive time loss.

In the next 20 to 30 years, the population living in cities will double its sizes, thus this rapid urbanization poses a challenge, but also brings opens a door for sustainable urban mobility. Since most of the cities that will host these inhabitants have not been built yet, governments have a chance to plan and design a project that can encompass appropriate mobility solutions adapted to avoid these aforementioned problems. Europe, in the other hand, faces also a new challenge in mobility as its population ages and cities must enhance the accessibility of its public transport to address this need.



The report estimates that the aspiration of owning a personal car will not change in the future, which will total by 2050 an alarming figure of 2.1 billion passenger cars. Consequently, it is urgent to encourage not only more efficient and effective motorized transportation alternatives, such as car sharing systems, electrical vehicles and renewal of the old fleet, but also the promotion of safe cycle lanes, creation of pedestrian routes and implementation of good, affordable and integrative public transportation modes.

There is no right solution that fits all cities. Different approaches should be used according to each metropolis size, history and financial capability. Urban planning and urban mobility plans, however, should be complementary and used as a basis to define the strategy. Getting the layout of the city right from the start, delineating and allocating public spaces and proper road percentage, were also mentioned as key factors to avoid taking further extreme and expensive measures to redesign the city to accommodate new mobility systems through demolition, change in infrastructure and compensation of landowners.

Andreu Ulied, in his presentation, "The Barcelona imagined and built", outlined a historical metamorphosis of the city. From a poor and industrial scenario in the 50s, Barcelona managed to become a dynamic and lively place after the remarkable transformation that took place before the Olympic Games in 1992. He emphasized that different from other European cities, Barcelona and its citizens have a continuous desire to reinvent itself, triggering a recent search for a more ecologically and sustainable quality of life. To achieve this goal, three current actions are taking place: the electrification and introduction of information and communication technology on mobility; the redesign of public spaces to stimulate pedestrian and cycling zones, and the reorganization of the bus network to raise its efficiency and connectivity.

These projects, and the political vision behind it, are very much in line with the planning and design tradition of Barcelona, as well as with the challenges and opportunities to balance social inclusiveness, environmental quality and openness to flows and technologies.

Joan Clos, Executive Director of UN-Habitat, shared his vision of urban mobility through a video call where he accentuated the interlinkage between urban planning and transportation modalities. A new paradigm for cities, especially in this new era of rapid urbanization, is needed as a way to thwart the effects of climate change, reduce the emission of greenhouse gases and transform our cities in places of prosperity and inclusiveness.

Unplanned cities have thwarted the aspiration that people had of the metropolis as a place where they could thrive and develop. With the rise of urban poverty and the spontaneous growth of cities, this vision lost itself in an array of gated communities, sprawling areas and human settlements. Urban transportation cannot be neutral in this setting, and the way urban planners design the mobility system affects directly the quality of life of its inhabitants and their integration with the society.

Clos also emphasized that the barriers of sustainable transport are the same for sustainable urbanization. Meaning that, if cities have a good urbanization plan, they would as well have a good transportation system. When you have a good pattern of public spaces, and a good model of urbanization, with adequate densities, without segregating or specializing zones that require people to move from one place to another, the implementation of sustainable mobility model should not pose any difficulty to be established.



When asked what benefits electrical mobility could bring to the city and the mitigation of climate change, Clos reminded that any sustainable action is necessary to contain the advances of temperature rises and called for more political willingness and incentives to support such initiatives.

Adrià Gomila, Mobility Services Director of the Barcelona City Council, presented the mobility plan based on four axes: safety to reduce accidents; sustainability to diminish environmental impacts; efficiency to optimize city resources and equity to guarantee the right of mobility. The goal is to improve journeys on non-motorized vehicles and on foot, promote the public transport offer, pacify traffic and favor less polluting vehicles.

The 67 actions planned include resolving conflicts between pedestrian and bicycle routes, extending

cycling paths and adding specific parking as well as streamlining and enhancing the connection of the bus network, raising its frequency and giving traffic priority. This plan has undergone a thorough participatory process that took into account the citizens and main stakeholders' concerns and is currently waiting for political approval.

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**André Dzikus.** Coordinator Urban Basic Services Branch, UN-Habitat.

**Oliver Lah.** Project Coordinator, Wuppertal Institute.

**Andreu Ulied.** Partner Director of MCRIT. Member of the Executive Advisory Urban Habitat Council of the City of Barcelona.

**Joan Clos.** Executive Director, UN-Habitat.

**Adrià Gomila.** Mobility Services Director, Barcelona City Council.

## 5. THEMATIC SESSIONS

This Experts Group Meeting encompassed four parallel thematic sessions, totalling a number of 16 presentations. Experts were invited to expose contribution papers and case studies that showcased practical examples of logistics, infrastructure, clean vehicles, exploring the challenges ahead and the setbacks faced so far. It also depicted take-ups in different cities across the globe to foster its replication.

Both days concluded with a debate in plenary to recap the key points identified in every session and to establish a broader understanding of the current needs, practices and the hindrances of sustainable urban mobility across the globe.

### SESSION 1A: EXCELLENCE IN PUBLIC TRANSPORT

Public transport is clearly identified as the backbone for the sustainable mobilization system in the framework of urbanization, and cases where it was integrated in an efficient manner to public planning were analyzed during this session. Experts presented benchmark initiatives carried out in China, Brazil and Spain.

Li Zhenyu, Associate Professor and Low Carbon Urban Transport Specialist in the China Academy of Transportation Sciences - CATS, Ministry of Transport (P.R. China) spoke about the current challenges to address the rapid growth in China. He also referred to the measures taken so far to adapt and create new public transport solutions for this new reality. He also reviewed the main actions to manage urban traffic and shift travel demand from private car to public transport and foster sustainable urban mobility.

Meanwhile, the motorized sector in China is also booming and it is expected to reach 150 million vehicles in 2020. This fact, summed with the fast transformation in the country from rural to urban, has led to a rise in environmental problems, energy shortage and

congestion, which ultimately generates an economic loss.

China has taken this matter very seriously and adopted a package of measures, including planning, national regulation, finance, technology and public participation, to deliver an integrated public transportation system that will benefit especially the low-income residents. A pull and push strategy was adopted to regulate and restrict the use of private cars. A strict action that was compensated with the promotion of public transport measures to motivate people to leave their cars at home. Among its efforts to offer more equitable and efficient system, the government improved the quality of the public service, created new infrastructure and added new modes of public transport (metro lines, BRT, bus systems, water buses and bicycle sharing).

Positive examples of practices from Beijing, Hangzhou, Guangzhou, Lanzhou and Guiyang cities were showcased, illustrating how they obtained a greener and more inclusive sustainable urban mobility.

How the city of Curitiba (Brazil) became a role model for urban planner and developers in the world was presented by Olga Mara Prestes, manager of Urban Mobility, Urbanization of Curitiba S.A - URBS. The bus system of Curitiba, designed as a BRT in the 1970s, responds to long-term structural plan for urban development. Consequently, all decisions related to urban planning take into consideration a growth tripod - street network, public transportation and land network. Ultimately, this means that the local administration promotes dense land use by developing the city alongside existing bus routes, avoiding displacements.

China has adopted a package of measures, including planning, national regulation, finance, technology and public participation, to deliver an integrated public transportation system that will benefit especially the low-income residents.

The system is also punctual, reliable, affordable and the stations designed in a comfortable, safe and accessible way for commuters. The outcome is that 45 percent of the population uses this mode of transportation to circulate in the city during the day. In the past years, the system also started to use hybrid buses and some units were tested running on 100 percent biofuel, obtaining excellent results in terms of economy and reduction of emission. Currently, the city is evaluating the performance of 13 electric vehicles that were incorporated into the system.

The reconstruction of the bus network of Barcelona was explained by Adrià Gomila, Mobility Services Director of the Barcelona City Council. It aimed to simplify its use for commuters, gain efficiency and save resources. In order to achieve this goal, the design of the network became more logical and easier to understand, eliminating the duality between different modes of transport and creating more straight lanes.

It also became faster with the introduction of designated bus lanes, elimination of double stops and priority to traffic lights. Bus stops were also relocated to favor connections with other routes and modes of public transportation. Thanks to the new direct design, buses can complete their journey faster and, therefore, can run more frequently with the same amount of units.

Another Chinese model of excellence and transformation in the public transport arena was brought to this meeting by Gu Kan, Vice Chief Engineer and Chief officer in the Planning Office of Hangzhou City Traffic Planning and Design Institute.

In order to build up a low-carbon transportation in this city, Hangzhou Transport Department decided to prioritize public transit by unifying its system, boosting inner city communication, enhancing informative, smart and slow-moving traffic transportation and ensuring that the implementation relies on technology. This strategy was based on a "five in one" operational structure, integrating buses, taxis, metro, shared bicycles and water buses. The bike sharing system in Hangzhou also plays a vital role to contribute to sustainable mobility. With more than 260.000 daily users, is considered the largest and one of the best in the world. E-mobility has also been introduced to power taxis.

Other measures adopted to lower emissions and alleviate congestion included the traffic regulation of private cars, both by imposing restriction during the rush hours and by controlling the number of vehicles that can be registered on a monthly basis.

Equally important, the Hangzhou city administration prioritizes public transportation through the devotion of a special budget to develop its infrastructure and the dedication of land priority.




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**Li Zhenyu.** Associate Professor, Low Carbon Urban Transport Specialist, China Academy of Transportation Sciences - CATS, Ministry of Transport (P.R. China).

**Olga Mara Prestes.** Manager of Urban Mobility, Urbanization of Curitiba S.A - URBS. Curitiba (Brazil).

**Adrià Gomila.** Mobility Services Director, Barcelona City Council (Spain).

**Gu Kan.** Vice Chief Engineer and Chief officer in Planning Office of Hangzhou City Traffic Planning and Design Institute - HZ-TPDI (China).

## SESSION 1B: SMART MOBILITY: INFRASTRUCTURE AND CITY PLANNING

This session revolved around some innovative aspects related to infrastructure and mobility modes that are taking place in Barcelona and other parts of the world as a measure to hold back environment effects and avoid congestion. A special emphasis was placed on the efforts made to deploy electric vehicles in the city of Barcelona, and the alliances established with the private sector to embark on this initiative. Research and new technology being tested for improving roads and electric vehicle's performance were also depicted during this session.

Manuel Valdés López, Deputy Manager of Infrastructures and Urban Coordination, talked about the new urban electric vehicle technology being employed in the city of Barcelona to improve environmental issues and reduce the number of cars in the city. The public administration helps to foster this process by supplying free energy during this early phase, offering reserved parking to e-mobility and co-sharing the costs for leasing and renting taxi vehicles, for example. They are also testing different modes of e-mobility, such electrical motorcycle and bicycle sharing, acquisition of electric buses for one main line, renting and leasing about 20 taxis and also cargo vehicles. He pointed out, though, at this early stage the city council aims to target operations that they judged feasible, mainly the collective modes of transportation. Electric cars for private ownership were left out of the scheme mainly due to the high cost of vehicles for individual use and the lack of autonomy compared to traditional cars.

Thierry Goger, Secretary-General of the Forum of European Roads Research Centers in Belgium, brought few highlights in the perspective of formal infrastructure. He reminded that during last century governments mainly addressed the increase in mobility and urban sprawl by building new infrastructures that

focused mainly on roads. The efforts to improve public transport have been set aside and currently the rise of environmental problems, the energy scarcity and the saturation of the old infrastructure have imposed a need to rethink this strategy and build a new concept for sustainable mobility. By the same token, the emerging new technologies bring innovative possibilities for the mobility sector, but also poses a challenge for the timespan in planning. Planners must envision these forthcoming advances and incorporate them into the design of new solutions. Otherwise, building structures and mobility solutions will be outdated from the start.

Accessibility for all is also a key element that cannot be forgotten in this new archetype for mobility, as well as a more realistic and rational way of moving ourselves and goods. This concept includes building better, shortening the distances, offering public transport alternatives to citizens, but also promoting behavioral changes to foster "smart travelling".

Research and new studies are currently being conducted to improve traveling conditions and make roads more adaptable, automated and climate change resilient. New groundbreaking answers for speeding up the recharge and giving autonomy to electric vehicles are also in the pipeline. Among these innovations, he highlighted an instant crack repair solution that will allow pavement holes to heal themselves and, thus, contribute to avoiding congestion and disturbance in the traffic due to road maintenance.

### DISCUSSION AND DEBATE

The debate centered in the infrastructure development and image management, taking into account the different perceptions of sustainable modes and the need to change the culture of owning and running a private car for individual use. Since reducing car use is a





very sensitive political matter, ensuring the engagement of politicians to this cause and working with the media to raise awareness about other sustainable modes of transportation are crucial for the promoting this behavioral revolution. They also emphasized that learning is a two-way process, and a city can always take in some examples from other municipalities. The different case studies also highlighted the difficulty to achieve a common consensus when working in a large metropolitan areas with different political districts, remarking that Paris sets a good example of where a good governance model was achieved in terms of urban mobility.

The discussion about the uptake of electric cars in Barcelona brought to the table the challenges

concerning the high cost associated with this transport modality and the importance to bring down the charges by subsidizing this process with public funds. This may seem like a costly initiative at the first hand, but will serve to set the field for the private sector and attract their interest to finance and carry on these actions in the near future.

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**Manuel Valdés López.** Deputy Manager of Infrastructures and Urban Coordination, Barcelona City Council (Spain).

**Thierry Goger.** Secretary-General, Forum of European Roads Research Centers (Belgium).

## SESSION 2A: CITY LOGISTICS: MOBILITY, SUSTAINABILITY AND LIVABILITY

Session 2A shed light on urban freight transportation and city logistics going from a macro perspective, with examples around the globe, to a micro scenario in the city of Zaragoza. In both presentations, however, the challenges and solutions presented were very similar. They relied on the introduction of new technology, but also on the importance of stimulate further dialogue between delivery associations and companies and the local authorities to achieve concerted actions to meet their needs in terms of environmental externalities, congestion and economic activities.

Laetitia Dablanc identified the key issues and challenges in the supply and shipment of goods to and from large urban areas in Europe, Japan, North America, as well as emerging and developing countries. She opened her presentation by underscoring that a recent survey in Paris showed that one million deliveries take place in the city on a daily basis, but only 2 percent of this distribution uses vehicles that incorporate innovative power solutions.

Despite the country context, urban freight around the world manage to work efficiently, even though the essence of their work conveys spending hours on urban roads and traffic. However, to guarantee competitiveness, many companies engage in malpractices, such as the use of old vehicles that pollute more the environment, lack of respect to employment regulations and generation of accidents, just to name a few.

This is a situation that needs to be addressed. Major companies are investigating and testing innovative delivery methods that include opting for electric vehicles and cargo-cycles. Before concluding, she listed 20 potential solutions for cities on how to optimize deliveries and reduce the environmental cost in the cities. Some examples were:

- Consultation, certification and training programs: local authorities should work jointly with the freight companies to establish a framework that can benefit both parties.
- Implementation of Cargo Cycles: very low cost if it's manufactured at the industrial scale and should be electric assisted.
- Establishment of low emissions in urban zones by controlling trucks entrance: to illustrate this action, she mentioned the example of London, where camera surveillance is being used to fine vehicles that are denied access to the city as they do not meet certain criteria, typically pollutant emissions levels.
- Delivery of goods at nighttime and pick up points.

Susana Val, principal investigator for the Transport Research Group and Associate Research Professor, examined the recent measures taken in Zaragoza to improve the freight distribution in this Spanish city. A study was undertaken in 2013 to elaborate a diagnosis of the logistic operation in Zaragoza and propose efficient solutions for improving this service. This initiative represented a joint effort between the public administration and the freight companies and associations.

The main goal was to create dialogue and establish a golden point to resolve the conflicts between the different parties, such as the desire of the city hall to limit the number of cars in the city center against the necessity of the companies to circulate in the urban streets with large trucks to speed up the delivery process.

Through the collection of data and the field observation, the group prioritized six pilots considered feasible to be implemented in a medium-size city such as Zaragoza.



1. Disk parking: This solution is oriented to all kinds of agents delivering freight on a daily or weekly basis in the city.
2. Off peak hours deliveries: This is mainly focused on large surface areas, since they have a high demand of freight management, and a strict delivery schedule.
3. Tram use as distribution platform: The aim of this solution is to minimize the use of pollutant vehicles in the city center; this solution is also combined with clean vehicles from the final tram stop to the retailer.
4. Pick up points or pack stations: Focused on all kinds of agents, but mostly the ones with lower demand. This measure also minimizes the number of shifts to the end user (e.g., e-commerce).
5. Temporary un/loading zones: Oriented to big distribution companies to optimize the un/loading areas by reducing and limiting the time window.
6. Multiuse lane: Directed to all kinds of agents; it permits changing lanes, according to the traffic and the deliveries activities. It generally allows the car park to be utilized during the night, but the lane is available for un/loading activities early in the morning and early in the afternoon, and it is used for traffic the rest of the day.

## DISCUSSION AND DEBATE

The discussion centered on what role the city authorities can play to regulate the appropriate logistic distribution within its boundaries. Participants underscored that local governments must take the lead of these initiatives, as they are the ones with the power to approve the suitable regulation to determine a timeframe for truck's circulations, improve traffic flow and facilitate loading and unloading. Moreover, using information technology and creating direct channels of communication, such as websites, to inform the freight companies about these regulations and changes were also pointed out as a good practice to integrate them and gain their respect.

Lastly, participants mentioned the increase concern about the rising relation between urban freights and street accidents, especially involving cyclists and pedestrians. With the call for more liveable cities and the use of soft transport, these figures may ascend even further if precautions are not taken.

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**Laetitia Dablanc.** Director of Research, French Institute of Science and Technology for Transport, Development and Networks –IFSTTAR (France).

**Karsten Marhold.** Project Officer, Promotion of Operational Links with Integrated services, Association Internationale – Polis. (Denmark).

**Susana Val.** Principal Investigator for the Transport Research Group and Associate Research Professor. Zaragoza Logistics Center (Spain).

## SESSION 2B: INTEGRATED URBAN TRANSPORT PLANNING

Experts gave an overview of urban planning for mobility during this session. They presented cases that showed the optimization of mobility in different European cities through the reorganization of the space, system upgrade and public consultation. They clearly stated the need for a paradigm shift in planning as well as ensuring citizens and other stakeholders' involvement through communications and participatory processes. The challenges of working in a multi-tier government structure and the restitution of a public space from a core urbanized area were other topics exploited during this session.

Bernd Decker, Senior Expert of the Rupprecht Consult GmbH "Sustainable Urban Mobility Plans" in Germany focused on the Sustainable Urban Mobility Planning (SUMP) concept, a participatory tool to call for citizens' inputs on mobility promoted by the European Union. SUMP focuses on planning for the people's needs of urban mobility, enhancing liveability, rather than putting a one-dimensional focus on motorized individual transport.

This new approach allows for a broader interdisciplinary planning, integrating different sectors such as health and the environment into the planning and stimulate the operation of the transport system. It also reflects a common vision supported by a larger constituency, that no longer mirror a strategy focused on cars and traffic, but one that privileges people and places. Particularly since 2009, sustainable urban mobility has been on the top of the agenda of the European Union, culminating in a White Paper from the European Council published in 2011 that examines the possibility to make urban mobility planning mandatory for certain cities. A set of guidelines on how to elaborate and implement this plan, drew from a vast experience in Europe, was published in 2014. Currently, the SOLUTION project is studying the adaptability and transferability of the European experience on SUMP to regions that are facing the challenge of rapid urbanization, especially in Northern Africa and Latin America.

The Hungarian experience was exemplified by László Sándor Kerény, Head of Transport Strategy in the BKK Centre for Budapest Transport, who walked

the participants through the recent developments in the Budapest transport system. One of the central challenges was to overcome the complexity to achieve consensus between the main mayor's office and the 23 other district mayors on a unique mobility plan for the metropolitan area, along with redistributing roles and responsibilities, and ensuring transparency.

The renovation of the transport network in the city called for a reengineering of the system, but also a governance reform that brought more effectiveness to the policy and decision-making process. Some of the actions the city has undergone so far included renewal of the bus fleet, which improved the service and later attracted private investment; stricter control on ticketing to increase revenues without raising the ticket fare; improved accessibility for customer services, fostering dialogue and engagement also through digital communications and social media. Moreover, a framework was designed jointly by urban planners and the mobility sector to establish for the first time an integration between the urban development goals and mobility needs.

Other improvements made in the city concerned the opening of a new metro line and better interconnections between public transport. Various ideas incorporated into these new developments came from the consultation with the public, whose inputs redefined some final projects.

María Sisternas, Project Director of Urban Habitat of the Barcelona City Council, through her presentation "Public space projects: designing spaces for pedestrians and cyclists" depicted the transformation taking place at les Glòries square, which aims to bring back a green zone and leisure area to the city.

This area was conceived as a main transportation hub, linking the three main accesses to the metropolitan areas. However, this efficient transport system for cars also signified the desertification of this zone. The new 12-year revamping project honors the original design for this area as it aims to integrate this transportation node into the grid of the city with the demolition of the viaduct. It will also help to revitalize its nucleus by constructing a new park that will foster cycling and walking activities, as well as invigorate the economic activity in the neighborhood. In order to make this project viable and garner support from the population for these major changes, the city council involved the citizens through a participatory consultation and public communication campaign.

## DISCUSSION AND DEBATE

The discussion focused on the details of the financial support and operations of this vital renovation of the city of Barcelona. Sisternas explained that the project was developed jointly by the mobility and the urban department, with the help of several stakeholders to reach the final criteria. Only with these sets of demands in hand the city council launched the competition to find an architectural solution for it. They have also to demolish some residential building and warehouses and relocate and compensate their owners. Thus, she clarified, the city council found little resistance to this initiative as the action responded to a historical demand of the neighborhood to make the zone greener and a more integral part of the city.

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**Bernd Decker.** Senior Expert, Rupprecht Consult GmbH (Germany).

**László Sándor Kerényi.** Head of Transport Strategy, BKK Centre for Budapest Transport (Hungary).

**María Sisternas.** Project Director of Urban Habitat, Barcelona City Council.



## SESSION 3A – SMART CITY MOBILITY MANAGEMENT

The SOLUTIONS PROJECT includes a specific cluster that searches for “smart” solutions in network and mobility management and devotes itself to identify various Intelligent Transport Systems (ITS) technologies and communications technologies applied to the mobility field. These include cooperative systems, transport and traffic management, congestion alleviation measures, tolling and charging mechanisms, public transport systems and other public and individual user technologies. The idea behind this initiative is to make the best use of the available resources and plan, and implement further developments to public transport management and infrastructure with a focus on the current and future needs.

Florian Keller, Senior Expert, AustriaTech – Federal Agency for Technological Measures, Ltd., summarized some of these smart solutions that came to answer the challenges of sustainable urban mobility. The impact of climate change on transport, urbanization growth, improving urban competition, the rising cost of energy and land use patterns were some of the elements taking place in cities worldwide that need an immediate and careful attention not to get out of hand.

The general trend points out towards a direction where people, not vehicles, become the center of the debate. Where expanding infrastructure no longer represents the ultimate solution, but rather, steps are taken to improve and make these structures more efficient by using ICTs. And, finally, where governments do not wait until a reaction is demanded but rather, use planning and analysis to predict and anticipate the answer for its shortfalls.

Keller also spoke about the concept of “smart mobility center” and their role of providing information and services to users in an integrated manner to make services more efficient and responsive to the needs of users. To achieve its goals, any modern mobility systems should focus on safety and security, accessibility and universal inclusiveness for people in all age groups and economic levels. It should also develop options that are sustainable and resilient, green and innovative, efficient and cost-effective, multi-modal, reliable and connected in real-time. The possibility to collect data and share it publicly represents a key tool for operators to improve the system, but also for users to make a conscious option for the best choice of transport available to them at that moment. Before concluding, Kressler underlined the steps needed to enhance smart mobility. For this, a new perception is called for governments and the private sector to stop acting as two separate groups and start joining efforts and investments to make this reality happen. The promotion of institutional reforms and social change was also called upon as a way to improve the communication channels and the operation towards people. Finally, he underscored that

stakeholders inputs and involvement represents the best path to avoid side effects and possible negative ramifications when planning an developing smart mobility alternatives.

Bernd Decker, Projects Manager, Rupprecht Consult – Forschung & Beratung, contributed with examples of CIVITAS, a flagship initiative of the EU, centered in a network of 220 cities to achieve sustainable urban mobility. This initiative kicked off in 2002 and has 69 demonstration cities committed to introducing ambitious, clean urban transport strategies. To date, 700 measures have been tested, including, transport solutions for high density employment areas, cycling, hybrid-electric articulated buses, electric car-sharing schemes, 100% clean bus fleet, new concepts for urban freight and ITS electronic ticketing. The mix areas and policy fields key to CIVITAS's domains of intervention are mobility management, demand management, clean vehicles, ITS, safety and security, collective transport and less car dependent lifestyle. Last year, integrative planning and civic involvement were also added to the policy field.

### DISCUSSION AND DEBATE

Participants mentioned that the spread of smart phones and wifi connectivity helped to expand even further the possibilities to explore Intelligent Transport System in the way we collect, use and provide data. This management, however, poses a threat to privacy issue that must be studied.

A debate about the willingness to open CIVITAS towards international cooperation and how can other countries can access the fund were mentioned. The internalization of this project is in the agenda setting and CIVITAS has already promoted demonstrations outside Europe. However, there is still no clarity about how to follow these steps towards opening up to other parts of the world. Within the EU there is not a clear direction about the internationalization of this initiative would be.

Participants also reflected about the level of maturity a smart mobility project has to reach to determine when it is ready to be transferred to a new city. It was recalled that mature solutions developed in Europe, for example, may be still innovative for a take-up city. The focus should be placed on finding a right match and overview the whole process once again to consider the differences in the context to verify it a real transfer can take place or not.

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**Florian Kressler.** Senior Expert, AustriaTech – Federal Agency for Technological Measures, Ltd. (Austria).

**Bernd Decker.** European and international transport Projects Manager, Rupprecht Consult – Forschung & Beratung (Germany).

## SESSION 3B – CLEAN VEHICLES

Examples of electric mobility (e-mobility) in Norway, Japan, Spain, China and Germany, and the different technologies associated with it, were analyzed during this session. Experts emphasized that electric vehicles do not represent a silver bullet, but fits into a wider mobility framework that combined offer a better solution to reduce health and environmental side effects produced by traditional means of transport. They also underlined that the deployment of electric mobility is part of a local decision framework. Thus, to work properly, it needs national guidance and support to harvest investment and establish the major necessary infrastructure changes. The initiative held in Bremen was recognized as a good practice to promote better quality of life in the city.

André Dzikus, Coordinator of the Urban Basic Services Branch of UN-Habitat, explained the steps taken to establish an action platform on e-mobility to support this initiative. According to him, having a framework to deploy this e-mobility is important because it is not likely that electric vehicles will become popular spontaneously. Recent studies, however, may contribute to the adoption of e-mobility and help change societal perception towards this new cleaner technology. With more feasible developments and incentives, e-mobility will increase significantly by the year 2050, counting already with the support of many governments and head of states who have pledged to advance these initiatives.

Equally important to the liveability of the cities for the future generations were the advocacy efforts made to include sustainable transport as a specific objective for the Sustainable Development Goals during the post-2015 discussions. The outcome document is still being debated, but it points out that many mobility concerns will appear as crosscutting targets related to health, human settlements and the environment.

A balance between the supply and demand must be met to promote e-mobility around the world, he stressed. And in this case specifically, it seems that governments are most likely to approve policies and create incentives, while manufacturers and power distributors are still cautious and getting geared up to respond to the shortfalls. He mentioned the case of China, where policies and subsidies are in place, but the bottleneck resides in the recharging system.

Dzikus underlined that a series of meetings and events will happen between the EGM and the Climate Summit, which will take place in NY in September. This occasion will represent another opportunity to make an even stronger call for engagement from the vehicle industry and energy producers to support the achievement of at least 30 percent of e-mobility market share. Governments, banks and financial institutions are also going to be invited to commit to this process,

providing the land, facilities and budget necessary for the successes of this initiative.

Hanna Hüging, Research Associate of Wuppertal Institute in Germany, introduced some electric mobility initiatives from around the world, focusing on cases from Asia and Europe. It was mentioned that the concept of electric vehicles is not new; trams and trolleys, for example, have been used for a long time in several worldwide cities. However, the new array of vehicles that use this technology goes beyond these modes of transport, using not only cars, but also motorcycles, vans, bicycles and three wheelers.

The presentation highlighted the use of e-mobility in Norway, a country that has developed one of the most successful initiatives, has the highest market penetration per capita and largest plug-in electric segment market share in the world. The reason for this high uptake comes from the strong governmental framework support to this project by reducing taxes to favor the purchase of EVs, giving free access to bus lanes, offering free parking and providing other incentives.

Although Norway is a special case, other countries and cities have also developed interesting models to encourage the use of EVs:

- In Rotterdam, the Netherlands, the municipality and the private sector tested different models in the city and published its results as a manner to learn more about this system, but also raise awareness. The municipality now wants to reach the goal of 25 percent of EVs by 2014.
- Paris also introduced a car sharing system using EVs in 2011, with dedicated parking spaces and 1,800 vehicles. It is also adopting electric solutions in public transportation.
- China's national mobility program counts with 25 cities that deployed the use of electric vehicles in their public transport system, taxis and municipal cars. One of the cities in this program is Shenzhen, where 1,700 hybrids buses and 100 pure electric buses are operational at the moment. Higher investment costs are covered partly by state and city government funding.
- Barcelona and Nissan are working together to change the taxi fleet in the city. Nissan has developed a special EV-taxi version for the city and will manufacture the cars in Barcelona. Currently around 15 percent of the fleet are hybrid taxis.
- Japan is improving its infrastructure and subsidizing 50 percent of the cost of fast chargers. It also provides incentives for the installation of this charger in places as hotels and supermarkets.



- In UK, a major supplier replaced diesel vans with electrically-assisted cargo-tricycles and electric vans, allocating its good in a micro depot located in the suburbs of the city. The system was tested in a pilot study and proved to be cost competitive to the diesel based system.

In spite of the successful examples of the use of electric vehicles, she accentuated, nonetheless, that e-mobility solutions should be studied carefully before being applied in order to respond to a city's reality and real needs. Whether it can contribute significantly to reduce greenhouse emissions, it will not solve other mobility problems, such as congestion, as it represents a car after all. The cities' strategies need also to have close links with the national framework as a way to ensure support and a financial line to promote bigger developments in this arena.

Michael Glotz-Richter, Senior Project Manager, Senate department for Environment Construction and Transport of Bremen, Germany, presented the case of this city and how it promoted a car-sharing scheme to reclaim street space from parking. Bremen has been the leader of car-sharing since the 1990s. He pointed out a few ingredients to this successful formula: first, the emphasis on preserving the quality of life in the city, to prepare the ground for business and economic activities but also answer to the citizen's needs. Also, Bremen is as cycling city, where one quarter of the transportation is done already through this system. Lastly, the city has just renewed its Sustainable Urban Mobility Plan, using an interesting online tool that provides transparency, but also allows the decision-makers to play with different variables and foresee the consequences.

Although measures have been taken to control car use, Bremen also suffers with the excess of private vehicles on the street, which hinders its effort to improve public transport systems. For example, they need to claim this public space to enlarge sidewalks, install cycling lanes and parking spots and opt for greener solutions. This is a major task and a politically sensitive one, he recalled.

Thus, the car sharing system comes to partially addressing this problem. As he mentioned, changing the private fleet to electric vehicles will help to reduce the city's dependence on oil and aid the environment, but will not help in terms of congestion and parking. The car-sharing system, then, not only provides a transportation choice to the citizens, but helps people to rethink the real need to own a car. Before the system was in place, 50 percent of the population had a private vehicle, but, currently, 37 percent of costumers replaced their private car to use this system. That means an estimate of less than 2,000 private cars in Bremen. The target now for 2020 is reaching 20,000 users and replacing 6,000 cars. "It's all about the quality of life. Why should you own a car when you just want to drive", he concluded.

## DISCUSSION AND DEBATE

The pros and cons of the EVs adoption as a solution in the cities were discussed during this session. There was a concern that EVs do not reduce the number of vehicles in the street, and, therefore, do not contribute to alleviate severe problems such as congestions in the major metropolis. The effort should be put not in car-sharing for personal use, but car-sharing in the sense that several individuals share one single vehicle. It was highlighted, however, that people change their behavior towards the necessity of car when they start to think about paying for time and kilometers for driving a car, which does not happen if you own your private vehicle. Moreover, car-sharing increases the probability of people opting for other modes of transportation.

There is a real need and commitment to phase out the use of conventional cars, whether by adopting new types of clean vehicles, or stimulating the use of public transport. This represents a very tense dialogue and agreement with the industry and politicians, but respects the wishes of the citizenship for better quality of life and environment friendly habitats.

The incentives to use this car-sharing schemes comes from a number of factors. In Paris, for example, a poll revealed that citizens are not too concerned about the environment or cost reasons, but they praise this system for the facility to have a guaranteed reserved parking space. The large role played by granting subsidies and incentives to stimulate e-mobility in cities was also debated and raised the question of what can be an exit strategy to move away from these incentives without hurting the penetration of electric vehicles in these markets.



**Andre Dzikus.** Coordinator of the Urban Basic Services Branch, UN-Habitat.

**Hanna Hüging.** Research Associate, Wuppertal Institute (Germany).

**Michael Glotz-Richter.** Senior Project Manager, Senate department for Environment Construction and Transport of Bremen. (Germany).

## 6. PARALLEL WORKING GROUPS

Two parallel working groups were formed on the 25th of April, one related to the international experiences of the cities participants, and one on fostering e-mobility globally. The first working group was formed by the cities that are part of the SOLUTIONS Projects: Leading Cities and Take-up Cities. While some cities were asked to outline their current

situation and to underline their expectations towards the project, others presented some of their experience and success stories in implementing innovative urban mobility solutions. The second working group was composed of experts that discussed about the role of electric mobility in cities and its applicability in developing and emerging countries.

### WORKING GROUP A: TRANSFERABILITY OF URBAN MOBILITY SOLUTIONS

This session explored the opportunities to transfer sustainable urban mobility solutions in cities in Europe, Asia and Latin America. An exercise took place to find the right criteria and match leading cities to take-up ones. Budapest, Barcelona, Bremen, Curitiba, Hangzhou graded their knowledge, expertise, and condition to share their experience with other cities in matters related to the six SOLUTIONS clusters – public transport, infrastructure, logistics, Integrated planning/Sustainable Urban Mobility Plans, network and mobility management and clean vehicles.

Following this criteria, a partnership was established between León (México) and Curitiba (Brazil); Budapest (Hungary) and Kocaeli (Turkey), Belo Horizonte (Brazil) and Bremen (Germany), Guiyang (China) and Barcelona (Spain), who will work together to set common milestones for the next two years. A period where they will jointly devote efforts to nail down the priorities, write a strategic plan and kick off the implementation process.

Bernard Gyergyay, Transport Planner, Rupprecht-consult, explained the methodology developed by the SOLUTIONS project, a step-by-step approach on how communication can be established between cities for the next two years in order to assess the context and

determine how and when the transferability will take place.

A special attention was given to stakeholders' involvement and to the fact that transferability does not imply copying one solution from one city and imposing it to another. Particularities about the context should be taken into consideration, as well as a thorough assessment of the opportunities and barriers that exist, which can facilitate or hinder the effort to adapt the leading city experience. In all the cases, take-up cities always have the final word about the transferability, judging if the changes made to the original project are suitable or not for their reality.

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**Fernando Páez.** Director of Integrated Transport Systems, Mexico's Network of Cities program – ctsEMBARQ (Mexico).

**Daniela Facchini.** Projects and Operations Director. Brazil's Network of Cities program - EMBARQ (Brazil).

**Li Zhenyu.** Associate professor, Low Carbon Urban Transport Specialist, China Academy of Transportation Sciences -CATS, Ministry Of Transport (China).

**Tekir Arzu.** Director, Turkey's Network of Cities program EMBARQ (Turkey).

**Bernard Gyergyay.** Transport Planner, Rupprecht-consult (Germany).

### WORKING GROUP B: FOSTERING E-MOBILITY GLOBALLY

Under this session, participants discussed the role of electric mobility in cities and its applicability in developing and emerging countries.

Tali Trigg, Energy and Transport Analyst at the International Energy Agency –(IEA) acted as a moderator, but also contributed to the debate by sharing the key findings of the IEA's report "Global EV Outlook" released in April 2013. His aim was to answer the questions: What is the state of progress for vehicle electrification today, what should it be, and how does it impact the overall effort for decarbonization? He emphasized the need to discuss electric vehicle in a broader context, and not just for the sake of it.

The use of electric vehicles, and other clean alternatives that help to diversify the market, will help to save money in the long-run and contribute to mitigate the negative environmental effect in air and noise pollution. EV does not represent a silver bullet and is not going to solve all mobility problems in a city. Yet it can play a big role to support a more sustainable urban mobility.

This diversity can be noticed in the vehicle's design and will provoke a change in people's mentality when choosing a personal car. New models are no longer big and heavy, but rather compact and lighter to save energy. In China, for example, the dominant case of EV take-up concentrates in two and three wheelers,

whether in other parts of the world the solution lies in small, affordable, flexible, city-range vehicles.

Examples of car sharing using this technology were given as a way to prevent consumers to buy new vehicles, and a pledge made by 16 countries at the Clean Energy Ministerial in 2010 was also noted as a positive initiative to facilitate the global deployment of 20 million EVs by 2020. Although, this figure will only represent 2 percent of cars worldwide, governments, the private sector, suppliers and other stakeholders involved should make a combined effort to contribute and surpass this goal. The planet can no longer afford to wait until all the drawbacks related to this technology are completely solved in order to take the first steps towards achieving a cleaner transport alternative, he urged.

This initiative will also encourage the development of national deployment goals, as well as best practices and policies; lead a network of cities to share experiences and lessons learned from early EV deployment in urban areas and regions; engage private-sector stakeholders to better align expectations, discuss the respective roles of industry and government and focus on the benefits of continued investments in EV techno.

The electric mobility program in the city of Barcelona was presented by Ángel López, from the Barcelona City Council. Barcelona is committed to e-mobility as one of the main forces for sustainability, innovation and quality of life. He insisted that all the stakeholders should get together to find solutions to improve the car's performance and lower its cost for the final consumer. EV will not represent a mobility answer for all citizens and this transport alternative should be played smartly to target the most likely sectors that will benefit from its use. In the case of Barcelona, they are starting out with incentives to change the taxi fleet and the public services, trying to establish business solutions – including manufacturers and suppliers – that will make this process more efficient and affordable.

Addressing this need, the public-private LIVE Platform was created in 2009 to reach the involvement of all the agencies in the city and in Catalonia to develop pilot projects on taxi fleets and motorcycles on public services. The aim of the LIVE project is to define the Strategic Plan for the Implementation of the Electric Vehicle and coordinate all the actions included in the plan, to position Barcelona, with its economic and industrial assets, as a worldwide center of excellence in the introduction and development of this technology and give support to the related industry. Within the platform, they work with five working teams to advance matters related to the legal framework, infrastructure, industrial innovation and transformation, fleet and knowledge collaboration with the city and the industry.

Rakesh Ranjan, Adviser of Housing and Urban Affairs and Plan Coordination and Management Division

of the Planning Commission in India, brought the perspective of an emerging economy to this debate and shed some light on the developments in India on sustainable mobility. He highlighted that different from Europe, most developing countries are still in an early phase to establish an appropriate transport system in their countries, which makes the debate about electric vehicles not as intensive as in other parts of the world. Nonetheless, he highlighted that governments are ready and willing to learn about innovative complementary actions that can be replicated in their large metropolis as well.

As a country that is facing rapid urbanization, India is seeking alternatives to battle the problems related to the increased need of mobility. In the past years, the government has invested largely in urban rail powered by electricity, as well as public buses, which have led to a significant modal shift away from fossil fuel vehicles. However, the increase in urban population and the aspiration to own a car still poses a threat to the desired mobility model.

The main concern in India related to any type of transport is affordability. Therefore, Ranjan highlighted that Indians are willing to embrace this change as long as they are reasonably priced. The relevant policy stand in India in the current plan is as follows:

- i) India would continue to invest in expansion of electric powered rail based urban transport system in its big cities where the size and density of population would support such huge capital investment.
- ii) India would encourage creation of Bus Rapid Transit Systems, especially as ring roads or in part of cities where new expansion is taking place. 13 BRT projects are under implementation. While the BRT system in the densest part of the city as in Delhi has not been a success, important lessons have been learnt.
- iii) While in the current phase, BRT projects would be using fossil fuel based buses, it would explore e-buses once BRT corridors are created.
- iv) Ensuring last mile connectivity has been recognized as a key strategy for modal shift away from personal vehicle. Use of e-mobility for shorter trips is likely to get popular.
- v) Recognizing the importance of e-mobility, India has formulated National Electric Mobility Mission Plan 2020. However, the challenge is to stimulate demand of such vehicles.
- vi) Under its various programs: (Jawaharlal Nehru National Urban Renewal Mission, National Mission on sustainable Habitat etc.) the country would continue to incentivize the adoption of such vehicles.

Antoine Feral, Public Affairs Manager at the Prospective and Sustainable development department in Michelin, presented the view of the industry in this field. He underscored that the priority for the sector is achieving a vehicle that consumes less energy and reduce the emission of greenhouse gas, but also to improve its functionality and make cars that are lighter, smaller and specific modeled for the city use. That can mean electric vehicles or others powered by different options of clean energy source, as in the case of Brazil and biofuels. According to him, the first wave of electrification is ready and depends on the determination of cities, car makers, suppliers, local governance and international organizations to cooperate and achieve this goal, bearing in mind the need to produce vehicles that are small, affordable, flexible and city range. Michelin also supports the Challenge Bibendum, a meeting place that brings together political, industry, scientific, and media representatives to discuss the challenges of and solutions for sustainable road mobility. The next edition will take place in Chengdu, China in November 2014.

The intention of the Challenge Bibendum is to demonstrate that progress really is being made in mobility, the challenges we still face in terms of energy, the environment, safety, and widespread access to effective mobility, and to showcase concrete solutions from different places in the world.

Electric vehicles are also cars and, therefore, add to the congestion of the city.

According to the experts, the best solution for sustainable mobility is stimulating cycling, walking and public transport.

## DISCUSSION AND DEBATE

The debate started by analyzing the most significant changes in the e-mobility discussions from five years ago. Experts agreed that mainly electric projects have moved from the demonstration phase to the take the actual streets, broadening also its inclusiveness in different modes of transportation and moving from a focus on private cars to other types of vehicles, such as two and three wheelers.

The concern about the lack of significant reduction of car ownership in cities where car sharing were implemented was also raised. The example of Paris was again used, first to remind that about 50 percent of the population does not own a car and. Secondly, that car-sharing represents an expensive but punctual alternative of transportation for commuters. Currently, half of Parisians still own a car; yet one generation from now this number could diminish thanks to this system,

as residents may find the public options of mobility in the city sufficiently suitable to them. Equally, the distribution model must change to fit the new urban reality. The EV technology is still not viable for big lorries, as it requires too much energy to move. One of the ideas is to establish warehouses in the periurban areas, where small electric vans can be loaded and help deliver the goods in the inner city. These are two examples of how the challenges posed by the adoption of electric vehicles represents an opportunity to rethink the business model and change social and economic behaviors.

In Barcelona, the city council is trying to stimulate some further actions to sensitize the citizens about the benefits of EV, as, for example, adopting these cars in driving schools to show right from the start the advantages of driving a clean vehicle.

Participants also questioned the use of coal-based and nuclear energy to produce electricity to move these cars, which could hinder efforts to promote this clean alternative. They advocated for the need to explore other energy alternatives – such as hydrogen, wind, hydraulic, biofuels- to decarbonize the transport and the power sector. However, rather than seeing this search for cleaner energy sources as an argument against electric vehicles, they recalled that the cost-effectiveness to wait might be higher for the environment, cities and the quality of life than to adopt the EV solution right now. Barcelona is a living proof of this reality, given that since the city adopted hybrid buses it has reduced its greenhouse gas emissions by 30 percent. There is also an efficiency of the system that should be added to the equation, pointing out that, in the case of Spain, windmills are disconnected during the night because there is no demand for this energy after the regular working hours. Thus, this type of energy source could be perfectly used to recharge electric vehicles during the night.

A relative emphasis was also placed on the need to accentuate that electric vehicles are also cars and, therefore, add to the congestion of the city. According to the experts, the best solution for sustainable mobility is stimulating cycling, walking and public transport.

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**Tali Trigg.** Energy and Transport Analyst, International Energy Agency –(IEA).

**Philippe Crist.** Research Center Administrator, International Transport Forum (ITF).

**Ángel López.** Barcelona City Council.

**Rogers Kisambira.** Civil Engineer, Ministry of Works and Transport (Uganda).

**Antoine Feral.** Public Affairs Manager - Prospective and Sustainable development department, Michelin.

**Rakesh Ranjan,** Adviser, Housing and Urban Affairs & Plan Coordination and Management Division. Planning Commission (India).



## 7. COMMUNIQUÉ DISCUSSION

The meeting centered on the broader theme of urban mobility solutions, including discussions about infrastructure and city planning and analysis of take-up initiatives around the planet. The final communiqué, however, gives a special emphasis on electric mobility, a relevant topic that will be further examined at the preparatory discussions for the forthcoming Climate Summit in September 2014, including the Abu Dhabi Ascent meeting to be held from 4-5 May 2014.

Experts had an opportunity to comment about the final drafts and suggest adjustments to reflect the advances and concerns in this field, as well as call for more support to the initiatives related to urban sustainable transport that mitigate climate changes and promote quality of life. Participants observed that the following points should be clarified or further examined:

- Send a key message about the importance of walking and cycling and the integration of these activities with public transport.
- Emphasize the intrinsic relation between urban planning and urban mobility strategies to foster sustainable mobility in cities.
- Change the “great uptake in electric vehicles” to the “great uptake in e-mobility” to encompass other alternative modes of transport – buses, tricycles, bicycles, motorcycles- more adequate to other parts of the world.
- Diversify the reasons for supporting e-mobility to accentuate the health benefits come with the reduction of air and noise pollution.
- Underscore that the introduction of electric cars does not mean replacing one vehicle for another. Outline the benefits that this new technology may bring to cities.
- Use street space as a key indicator of quality of life in cities, for which the following sentence was proposed: “increased car ownership is a growing problem as public street space is limited. In order to improve the quality of public space for citizens, a modal shift towards sustainable modes, combined with alternatives to individual car-ownership, are essential ingredients for sustainable urban mobility”.
- Acknowledge the value of car-sharing initiatives, such as the one carried out in Bremen, which was able to achieve not only a modal shift but helped to reduce cars in cities.
- Recognize that public transport must be a priority for cities.
- Indicate that the deployment of electric vehicles should be associated with clean energy production and energy efficiency.
- Associate sustainable mobility with other sources of clean energy used in other parts of the world, such as biofuels, hybrids, solar.
- Highlight that sustainable urban mobility will generate new jobs.
- Encourage the industry to downsize cars and consumers to accept that smaller and more flexible cars are the most adequate for city use.



## 8. CLOSING REMARKS



Three important experiences were underlined by André Dzikus during his closing remarks. The first was the opportunity for experts to explore the issues on sustainable urban mobility in the backdrop of the several innovative initiatives currently taking place in Barcelona and the passion and the motivation the city shows in being a leader and, taking action and committing to innovation and reinventing itself.

Another real inspiration came from a joint effort from all parties – pedestrians, taxi associations, public transport managers, cyclists – to discuss solutions that address the city needs. He also recognized the opportunity this meeting offered to establish partnerships between cities and he called for an up-scaling of these alliances to improve the diversity of ideas and solutions.

At last, he thanked the wisdom, intellectual capital and leadership in the sector brought from experts coming from all over the world, who committed fully to this initiative, and especially, offered important contributions to the debate about electric mobility.

Reflected in the final communiqué, their insights will be taken to the Climate Summit in New York, where an e-mobility initiative will be presented as part of a broader sustainable urban mobility strategy.

Andreu Ulied, Partner Director of MCRIT and member of the Executive Advisory Urban Habitat Council of the City of Barcelona, closed the meeting by associating some messages from old urban planning books to the risk experts should take when stimulating new technologies in urban mobility. First, what was considered extremist in the past may pass as common sense today. By the same token, many infrastructure decisions that were once considered disasters are no longer perceived in this way. Many changes just need more time to be accepted and/or adjusted to its reality.

Finally, he estimated that in the new future, urban mobility will be managed collectively, in a real merged effort between public and private sectors, ending with the current association of good and bad services that different societies attribute to private or public management in different parts of the world.

## ANNEX 1: FINAL LIST OF PARTICIPANTS

## PANELISTS AND SPEAKERS

- **Arioli, Magdala.** Brazil's Network of Cities Programme - EMBARQ. Transport and Weather Projects Coordinator (Brazil).
- **Arsénio, Elisabete.** LNEC I.P. Transport Department. Senior Researcher (Portugal).
- **Arzu, Tekir.** Turkey's Network of Cities Programme - EMBARQ. Director (Turkey).
- **Bigas Serragolla, Joan Manuel.** Transport and Mobility Technical Services of the Barcelona Metropolitan Area. Director (Spain).
- **Brau, Lluís.** Federación Iberoamericana de Urbanistas - FIU. Director (Spain).
- **Chesterton, Venn.** Transport and Travel Research - TTR. Principal Consultant (United Kingdom).
- **Çigdem, Öztas.** Turkey's Network of Cities Programme - EMBARQ. Urban Planner (Turkey).
- **Cintra do Amaral, Marcelo.** Belo Horizonte Transport and Transit Enterprise - BHTRANS. Sustainable Policies Coordinator (Brazil).
- **Crist, Philippe.** International Transport Forum - ITF. Research Centre Administrator (France).
- **Da Silva Junior, Roberto Gregorio.** Urbanization of Curitiba S.A. - URBS. President (Brazil).
- **Dablanc, Laetitia.** French Institute of Science and Technology for Transport, Development and Networks - IFSTTAR. Director of Research (France).
- **Decker, Bernd.** Rupperecht Consult GmbH. Senior Expert (Germany).
- **Demirel, Abdulmuttalip.** Kocaeli Metropolitan Municipality. Head of Transportation Department (Turkey).
- **Doran, Emilie.** ICLEI European Secretariat GmbH. Officer of Communications and Member Relations (Germany).
- **Dudás, Mária.** BKK Centre for Budapest Transport. Project Manager (Hungary).
- **Facchini, Daniela.** Brazil's Network of Cities Programme - EMBARQ. Projects and Operations Director (Brazil).
- **Feral, Antoine.** Michelin. Public Affairs Manager (France).
- **Glott-Richter, Michael.** Senate Department for Environment, Construction and Transport of Bremen. Senior Project Manager (Germany).
- **Gomila, Adrià.** Barcelona City Council. Mobility Services Director (Spain).
- **Goger, Thierry.** Forum of European National Roads Research Centres - FEHRL. Secretary General (Belgium).
- **Gu, Kan.** Office of Hangzhou City Traffic Planning and Design Institute - HZ-TPDI. Vice Chief Engineer and Chief Officer in Planning (China).
- **Gyergyay, Bernard.** Rupperecht Consult GmbH. Transport Planner (Germany).
- **Haon, Sylvain.** Promotion of Operational Links with Integrated Services, Association Internationale - POLIS. Secretary General (Belgium).
- **Hüging, Hanna.** Wuppertal Institut. Research Associate (Germany).
- **Jones, Samantha.** Transport and Travel Research - TTR. Senior Consultant (United Kingdom).
- **Kerényi, László Sándor.** BKK Centre for Budapest Transport. Head of Transport Strategy (Hungary).
- **Kisambira, Rogers.** Ministry of Works and Transport. Civil Engineer (Uganda).
- **Kressler, Florian.** AustriaTech - Federal Agency for Technological Measures, Ltd. Senior Expert (Austria).
- **Lah, Oliver.** Wuppertal Institut. Project Coordinator SOLUTIONS (Germany).
- **Leite, Kátia.** Belo Horizonte Transport and Transit Enterprise BHTRANS. Coordination and Strategic Planning Manager (Brazil).
- **Li, Zhenyu.** Low Carbon Urban Transport Specialist, China Academy of Transportation Sciences - CATS, Ministry of Transport. Assistant Professor (China).
- **López, Ángel.** Barcelona City Council. Director of Mobility Services (Spain).
- **López Cepeda, Arnoldo.** Municipality of León. Mobility Director General (Mexico).
- **Marhold, Karsten.** Promotion of Operational Links with Integrated Services, Association Internationale - POLIS. Project Officer (Belgium).
- **Mátrai, Tamás.** BKK Centre for Budapest Transport. Project Manager (Hungary).
- **Mensión, Josep.** Central Services Manager and Deputy Bus & Leisure Transport General Manager. Barcelona (Spain).



- **Morales, Josep Manuel.** Centre for Supporting Barcelona TMB Bus Network. Director (Spain).
- **Odeck, Denis.** Kenya National Highways Authority. Regional Manager (Kenya).
- **Páez, Fernando.** Mexico's Network of Cities Programme - ctsEMBARQ. Director of Transport Systems (Mexico).
- **Parra, Laura.** Study and Experimentation in Public Works Centre - CEDEX. Construction and Environment Program Coordinator (Spain).
- **Piqué, Josep Maria.** Siemens Catalonia .Regional Delegate (Spain).
- **Prestes, Olga Mara.** Urbanization of Curitiba S.A. - URBS. Manager of the Urban Mobility (Brazil).
- **Ranjan, Rakesh.** Housing and Urban Affairs Division and Plan Coordination Division. Advisor in Planning Commission (India).
- **Rizet, Christophe.** French Institute of Science and Technology for Transport, Development and Networks - IFSTTAR. Director of Research (France).
- **Schreck, Benjamin.** Federal Highway Research Institute - BAST (Germany). Highway Design, Traffic Flow and Traffic Control (Germany).
- **Seibt, Claus.** Wuppertal Institut. Programme Director Sustainable Transport and Mobility Services (Germany).
- **Sisternas, Maria.** Barcelona City Council. Project Director of Urban Habitat (Spain).
- **Sdoukopoulos, Lefteris.** Hellenic Institute of Transport - HIT/CERTH. Research Associate (Greece).
- **Skladana, Pavlina.** Transport Research Centre - CDV. Researcher (Czech Republic).
- **Tali, Trigg.** International Energy Agency - IEA. Energy and Transport Analyst (France).
- **Tiana, Xavier.** Transport and Mobility Technical Services of the Barcelona Metropolitan Area. International Relations Director (Spain).
- **Ulied, Andreu.** Member of the Executive Advisory Urban Habitat Council of the City of Barcelona. Partner Director of MCRIT (Spain).
- **Val, Susana.** Fundación Zaragoza Logistics Centre. Principal Investigator for the Transport Research Group and Associate Research Professor (Spain).
- **Valdés, Manuel.** Barcelona City Council. Deputy Manager of Infrastructures and Urban Coordination (Spain).
- **Vargas Molina, Roberto Abraham.** Municipality of León. Technical Mobility Specialist (Mexico).
- **Vives, Antoni.** Barcelona City Council. Deputy Mayor for Urban Habitat (Spain).
- **Wang, Yijun.** Office of Hangzhou City Traffic Planning and Design Institute - HZ-TPDI. (China).
- **Yilmaz, Övünç.** Kocaeli Metropolitan Municipality. Advisor of Transportation Department (Turkey).

## UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME (UN-HABITAT)

- **Dzikus, Andre.** UN-HABITAT. Coordinator of the Urban Basic Services Branch.
- **Bhattacharjee, Debashish.** UN-HABITAT. Human Settlements Officer - Lead, Urban Mobility. Urban Basic Services Branch.
- **Muchibwa, Priscilla.** UN-HABITAT. Urban Management Specialist
- **Lenz, Annika.** UN-HABITAT. Liaison Officer (Belgium).
- **Sánchez-Miranda Gallego, Carmen.** UN-HABITAT. Head of Office (Spain).
- **Malbrand, Anaïs.** UN-HABITAT. Consultant (Spain).
- **Pardo Díaz, Joaquín.** UN-HABITAT. Consultant (Spain).
- **Sánchez Rosales, César.** UN-HABITAT. Intern (Spain).

## ANNEX 2: PROGRAMME

THURSDAY, 24<sup>th</sup> APRIL 2014**8.30-9.00 Registration****9.00-9.30 Welcoming remarks**

- André Dzikus. Coordinator Urban Basic Services Branch, UN-Habitat
- Antoni Vives. Deputy Mayor for Urban Habitat. Barcelona City Council.

**9.30-9.50 Introduction**

Carmen Sánchez-Miranda. "Objectives and Expected Outcomes of the Experts Group Meeting". UN-Habitat Office in Spain.

**9.50-10.45 Sustainable Urban Mobility: approaches for addressing common challenges**

- André Dzikus. "Findings and implications of the 'Global Report on Human Settlements 2013: Planning and design for urban mobility' ". Coordinator Urban Basic Services Branch, UN-Habitat.
- Oliver Lah. "From plan to actions –Transferring sustainable urban mobility measures – the SOLUTIONS project". Project Coordinator, Wuppertal Institute.
- Andreu Ulied. "The Barcelona imagined and built". Partner Director of MCRIT. Member of the Executive Advisory Urban Habitat Council of the City of Barcelona.
- Joan Clos. Executive Director, UN-Habitat.
- Adrià Gomila. "The Barcelona urban mobility". Mobility Services Director, Barcelona City Council.

**10.45-11.00 Coffee break****11.00-14.00 Thematic Break-Out Sessions (parallel meetings)****11.00-12.30 SESSION 1:****Room A – EXCELLENCE IN PUBLIC TRANSPORT**

*Moderator:* Sylvain Haon. Secretary General, Promotion of Operational Links with Integrated services, Association Internationale - Polis

- Li Zhenyu. "Excellence in public transport, experiences from China". Associate Professor, Low Carbon Urban Transport Specialist, China Academy of Transportation Sciences - CATS, Ministry of Transport (P.R. China).
- Olga Mara Prestes. "Excellence in public transport, experiences from Curitiba". Manager of Urban Mobility, Urbanization of Curitiba S.A - URBS. Curitiba (Brazil).
- Adrià Gomila. "Restructuring of the bus network of Barcelona". Mobility Services Director, Barcelona City Council (Spain).
- Gu Kan. "Public transport in Hangzhou". Vice Chief Engineer and Chief officer in Planning Office of Hangzhou City Traffic Planning and Design Institute - HZ-TPDI (China).

**Room B – SMART MOBILITY: INFRASTRUCTURE AND CITY PLANNING**

*Moderator:* Samantha Jones. Senior Consultant, Transport & Travel Research Ltd- TTR (United Kingdom).

- Manuel Valdés López. "Cost-benefit assessments for infrastructure projects. New urban mobility technologies". Deputy Manager of Infrastructures and Urban Coordination, Barcelona City Council (Spain).
- Thierry Goger. "Innovative transport infrastructure development". Secretary-General, Forum of European Roads Research Centers (Belgium).

*Debate***12.35-14.05 SESSION 2:****Room A – CITY LOGISTICS: MOBILITY, SUSTAINABILITY AND LIVABILITY**

Moderator: Christophe Rizet. Director of research, French Institute of Science and Technology for Transport, Development and Networks –IFSTTAR (France).

- Laetitia Dablanc. “Urban logistics, concepts and reality”. Director of Research, French Institute of Science and Technology for Transport, Development and Networks –IFSTTAR (France).
- Karsten Marhold. “Experiences from Denmark”. Project Officer, Promotion of Operational Links with Integrated services, Association Internationale – Polis. (Denmark).
- Susana Val. “Urban logistics – experiences from Spain”. Principal Investigator for the Transport Research Group and Associate Research Professor. Zaragoza Logistics Center (Spain).

*Debate***Room B – INTEGRATED URBAN TRANSPORT PLANNING**

Moderator: Annika Lenz. Liason Officer at UN-Habitat Brussels.

- Bernd Decker. “Sustainable Urban Mobility Plans”. Senior Expert, Rupprecht Consult GmbH (Germany).
- László Sándor Kerényi. “Transit Oriented Development”. Head of Transport Strategy, BKK Centre for Budapest Transport (Hungary).
- María Sisternas. “Public space projects: designing spaces for pedestrians and cyclists”. Project Director of Urban Habitat, Barcelona City Council.

*Debate***14.05-15.00 Lunch****15.00-16.30 SESSION 3:****Room A – SMART CITY MOBILITY MANAGEMENT**

Moderator: Lefteris Sdoukopoulos. Research Associate, Hellenic Institute of Transport, HIT/CERTH (Greece).

- Florian Kressler. “Smart Mobility”. Senior Expert, AustriaTech – Federal Agency for Technological Measures, Ltd. (Austria).
- Bernd Decker. “Mobility management in Europe – examples from CIVITAS Dynamo”. European and international transport Projects Manager, Rupprecht Consult – Forschung & Beratung (Germany).

**Room B – CLEAN VEHICLES**

Moderator: Philippe Crist. Research Center Administrator, International Transport Forum (ITF).

- Andre Dzikus. “Introducing the plans for an Action Platform on E-mobility”. Coordinator of the Urban Basic Services Branch, UN-Habitat.
- Hanna Hüging. “Electro mobility initiatives around the world”. Research Associate,

Wuppertal Institute (Germany).

- Michael Glotz-Richter. "Bremen – how a city promotes Car-Sharing to reclaim street space from parking". Senior Project Manager, Senate department for Environment Construction and Transport of Bremen. (Germany).

*Debate*

**16.30-16.45 Coffee Break**

**16.45-17.15 Plenary**

*Moderator:* Oliver Lah. Project coordinator, Wuppertal Institute (Germany).

Thematic experts report from the parallel sessions.

**17.15-17.30 Conclusions and recap for next day**

**19.00-20.00 Walking touristic tour of Barcelona (optional)**

**20.00 Welcome cocktail hosted by the Barcelona City Council**

## FRIDAY, 25<sup>th</sup> APRIL 2014

**9.00-11:30 Parallel Working groups**

### Room A. TRANSFERABILITY OF URBAN MOBILITY SOLUTIONS

This session will explore the opportunities to transfer sustainable urban mobility solutions in cities in Europe, Asia and Latin America.

*Moderator:* Oliver Lah. Project coordinator, Wuppertal Institute (Germany).

- Fernando Páez. "Take-up of urban mobility solutions in León". Director of Integrated Transport Systems, Mexico's Network of Cities program – ctsEMBARQ (Mexico).
- Daniela Facchini. "Take-up of urban mobility solutions in Belo-Horizonte". Projects and Operations Director. Brazil's Network of Cities program - EMBARQ (Brazil).
- Li Zhenyu. "Take-up of urban mobility solutions in Guiyang". Associate professor, Low Carbon Urban Transport Specialist, China Academy of Transportation Sciences -CATS, Ministry Of Transport (China).
- Tekir Arzu. "Take-up of urban mobility solutions in Kocaeli". Director, Turkey's Network of Cities program EMBARQ (Turkey).
- Bernard Gyergyay. Transport Planner, Rupprecht-consult (Germany).

### Room B. FOSTERING E-MOBILITY GLOBALLY

Discussion on the role of electric mobility in cities and the applicability to developing and emerging countries.

*Moderator:* Tali Trigg. Energy and Transport Analyst, International Energy Agency –(IEA).

- Tali Trigg. Energy and Transport Analyst, International Energy Agency –(IEA).
- Philippe Crist. Research Center Administrator, International Transport Forum (ITF).
- Ángel López. Barcelona City Council.
- Rogers Kisambira. Civil Engineer, Ministry of Works and Transport (Uganda).
- Antoine Feral. Public Affairs Manager - Prospective and Sustainable development department, Michelin.
- Rakesh Ranjan. Adviser, Housing and Urban Affairs & Plan Coordination and Management Division. Planning Commission (India).

**11.30-11.45 Coffee Break****11.45-12.45 Conclusions from the working groups and Final Remarks**

- Debashish Bhattacharjee. Human Settlements Officer - Lead, Urban Mobility. Urban Basic Services Branch, UN-HABITAT, "Presentation and discussion of Draft Communiqué on Urban Electric Mobility".
- Oliver Lah. Project coordinator, Wuppertal Institute, "Uptake of urban mobility solutions in Europe, Asia, Latin America and Africa".

**12.45-13.15 Closing Session**

- André Dzikus. Coordinator Urban Basic Services Branch, UN-Habitat.
- Andreu Ulied. Partner Director of MCRIT. Member of the Executive Advisory Urban Habitat Council of the City of Barcelona.

**13.15-13.30 Photo Group****13.30-15.00 Lunch (Venue: Hotel Silken Diagonal Barcelona)****15.00-17.00 Site visit:**

- Josep Mención. Central Services Manager and Deputy Bus & Leisure Transport General Manager.

Guide visit to the Operating Triangle Business Center and technical visit to the Regulatory Centre of the Barcelona Metropolitan Transport.

- Josep Mención. Central Services Manager and Deputy Bus & Leisure Transport General Manager.
- Josep Manel Morales. Director, Centre for Supporting TMB Bus Network, Barcelona.

Return to Agbar Tower







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