India needs sustainable electro-mobility to decarbonise transport:

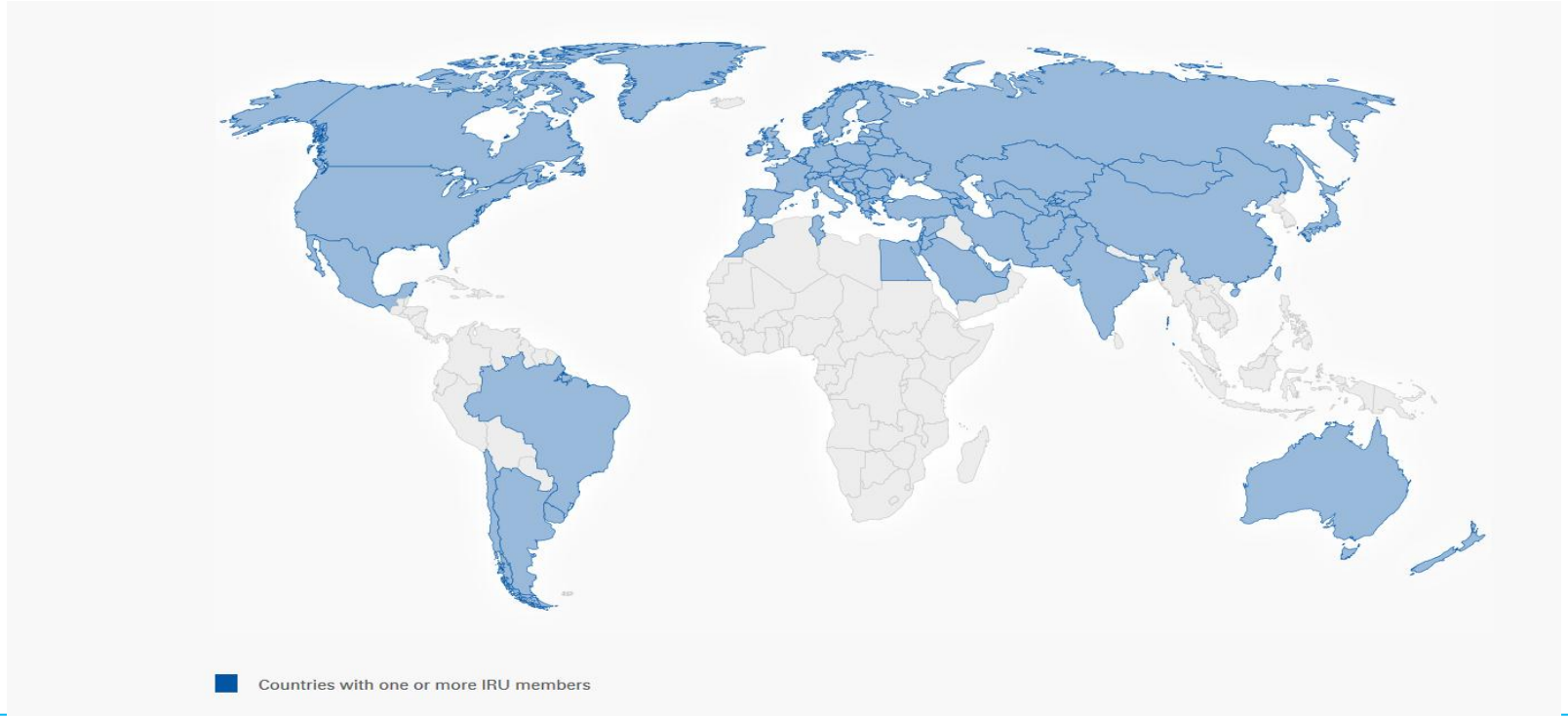
way forward by IRU-led All India
Smart Move High Level Group

10 November 2016
Gujarat

Evolution of IRU membership

1948: 8 Founding Member Countries

2016: present in over 100 countries



This is the IRU

Freight Transport Council

Passenger Transport Council

Taxi Group

IRU Global

IRU activity extends across Africa, the Americas, Europe, the Middle East and Region, as well as Asia Pacific and Eurasia.

Globally, our mission is to promote initiatives around mobility, safety, community and sustainability, as well as assisting members in implementing UN road transport conventions.

Training – the IRU Academy

The IRU Academy is the world's leading professional road transport training organisation.

The IRU Academy is the only global body dedicated to road transport training (taxis, bus and truck) with internationally recognised courses (crash prevention, eco-driving etc.).

The Academy is partnering with leading companies and training institutes, to jointly develop training curricula.

Innovation and Services

It is IRU's vocation to lead road transport into the future. Our focus on innovation is not limited to providing new services to taxi operators, but fostering ways to make our entire industry work smarter.

An Innovation Department is in place, as well as a dedicated **Mobility Innovation Task Force, composed of IRU members' experts, focusing on new mobility and business concepts, and enabling technologies.**

The Task Force currently focuses on:

- ✓ Electric mobility
- ✓ Digital platforms and aggregators
- ✓ Automated driving
- ✓ Mobility-as-a-service

Four global sustainable development pillars

UN 2030 Sustainable Development Agenda

- 7 out of 17 SDGs address directly or indirectly mobility and transport

Paris Climate Change Agreement

- Strengthening collective response to climate change threat

New Urban Agenda

- Transformation in mobility policy

Public-Private Partnership

- SDG 17 and 2015 Addis Ababa Action Agenda provide a basis for PPP

Sustainable transport - key contributor to SDGs

Paradigm shift needed

- A focus on people and their quality of life - access *through* transport

Prioritising door-to-door collective public transport

Key role of private transport

Setting clear policy and business targets for growth of public transport

Decarbonising Transport

A pathway towards providing carbon-neutral mobility.


You are not
stuck in traffic.
You are traffic.
Bus & Coach
smart move
make the
smart move!
www.busandcoach.travel
RVBW.ch
RVBW

buses and coaches in today's transport system

Smart Move vision

Backbone of the collective mobility chain

Safe, clean, affordable, efficient, user-friendly

Bus & Coach smart move

Factshe

nd coaches are the backbone of a safe, en… entally-friendly, affordable, user-friendly and efficient public transport system. As such, they constitute an optimal response to current and future mobility and travel challenges. Placing buses and coaches at the centre of the political debate and facilitating their use is the smartest way to achieve sustainable mobility for all.

www.busandcoach.travel

Smart Move vision

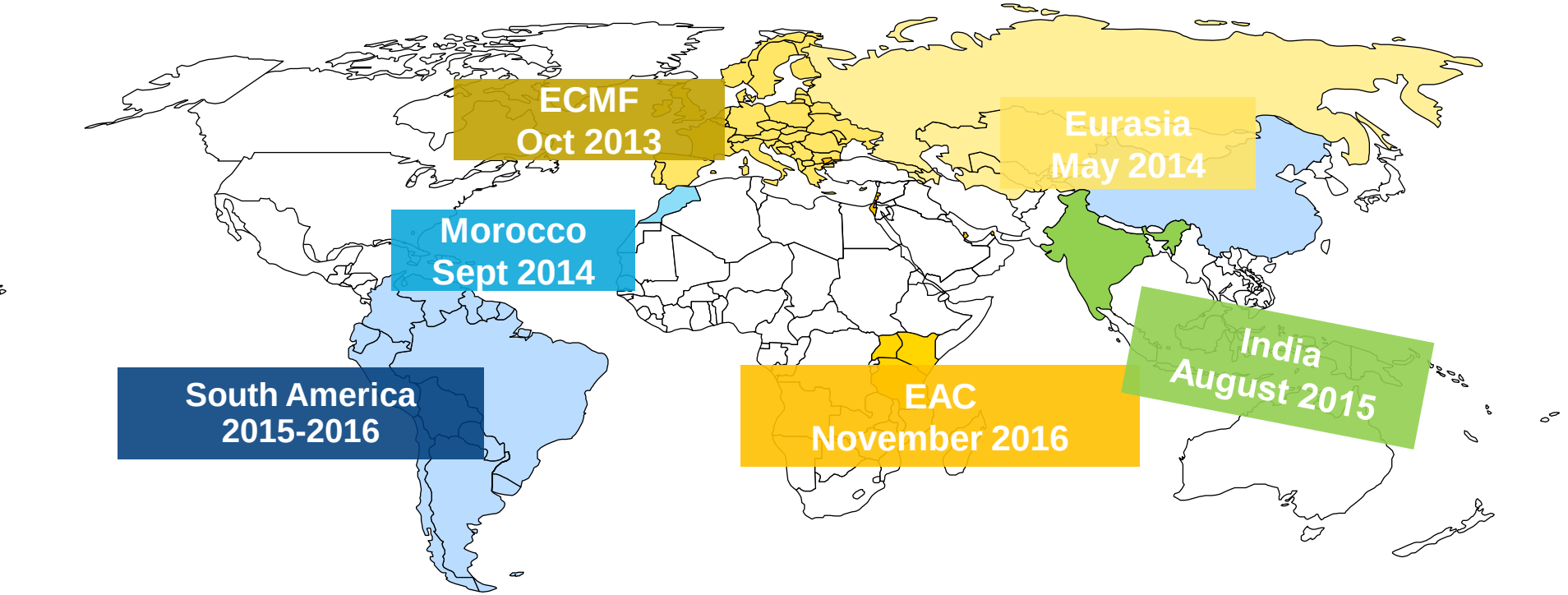
Collective land transport is the backbone of sustainable, seamless, affordable and inclusive mobility for all

Buses, coaches and taxis are the most dynamic part of the door-to-door mobility chain, and the closest competitor of the private car

Setting a mobilising policy objective of doubling the use and modal share of collective transport, in particular by bus, coach and taxi, is key

From a shared vision towards a structured implementation, backed by a coherent governance plan and a dedicated funding instrument

Smart Move High Level Groups



All India Smart Move High Level Group

“Working out a common vision and recommendations for the development of an efficient, safe and affordable bus, coach and taxi mobility system in India”

Members

All-India Smart Move High Level Group

IRU

UN HABITAT FOR A BETTER URBAN FUTURE

Association of State Road Transport Undertakings ASRTU

CLEAN AIR ASIA

International Transport Forum

ebtc European Business and Technology Centre

AITD

IRF India Chapter

NITI Aayog (National Institution for Transforming India) Government of India

ASSOCIATION OF RADIO TAXIS

teri

PURPLE HOLIDAYS | INTERCITY | CITY BUS | RENTALS

KPIT

INSTITUTE OF URBAN TRANSPORT (INDIA)

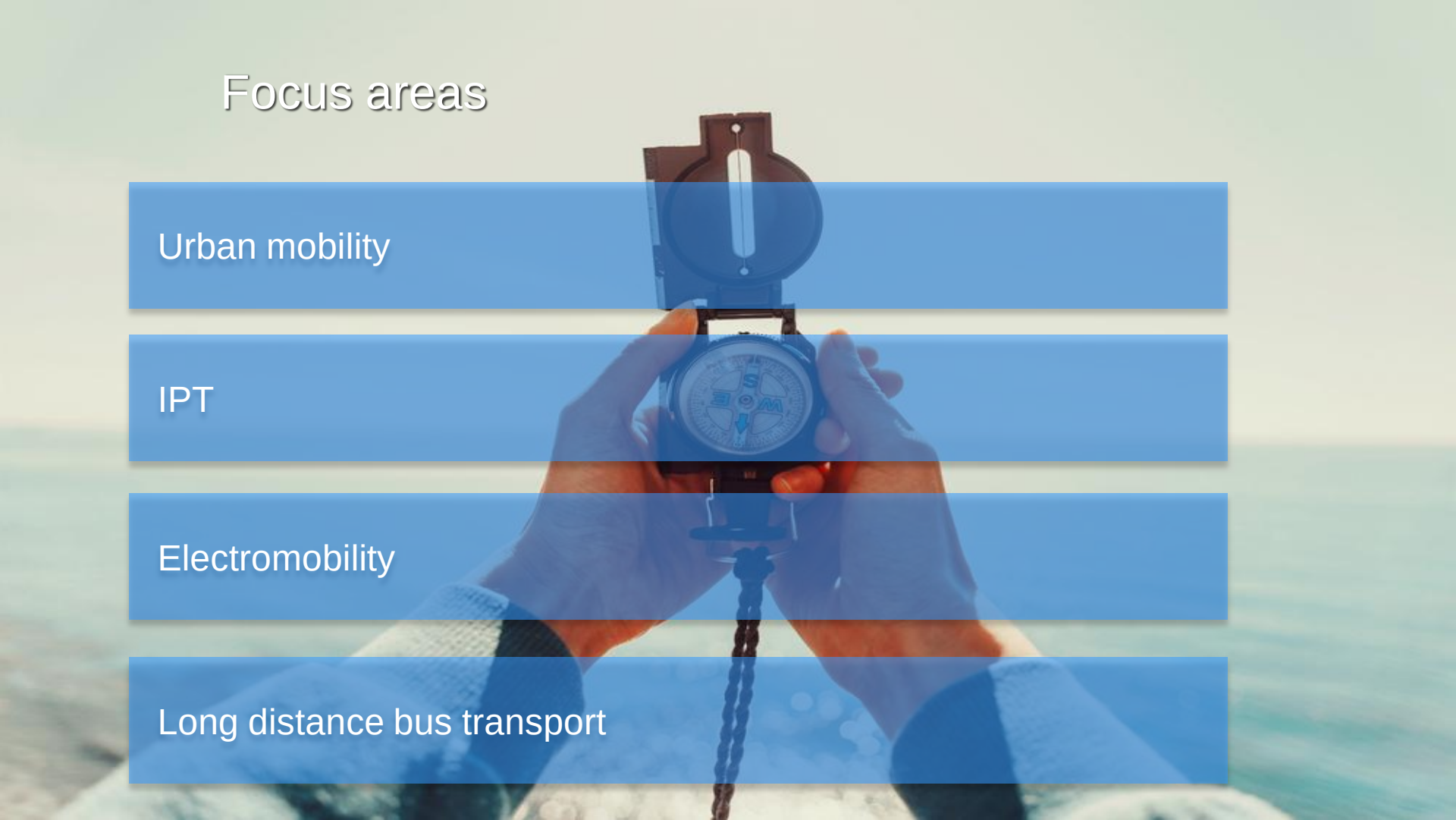
WRI INDIA

ITDP Institute for Transportation & Development Policy

VOLVO

MERU

Focus areas



- Urban mobility
- IPT
- Electromobility
- Long distance bus transport

IRU-led All India Smart Move High Level Group report on Electromobility

UN HABITAT
FOR A BETTER URBAN FUTURE

Urban Electric Mobility Initiative (UEMI)

www.uemi.net

http://urban-mobility-solutions.eu/

This project is funded by the Seventh Framework Programme (FP7) of the European Commission.

Urban Electric Mobility Initiative (UEMI)

Initiated by UN Habitat and SOLUTIONS the **Urban Electric Mobility Vehicles Initiative (UEMI)** aims to:

- Decreasing urban CO_2 emissions by increasing the market share of electric vehicles in cities to 30% of annual vehicle sales (incl. LDV and motorized 2-3 wheelers)
- Integrate electric mobility into a wider concept of sustainable urban transport that achieves a 30% reduction of GHG emissions in urban areas by 2030
- The UEMI was launched at the UN Climate

Eltis, UN

secretariat@uemi.net

UEMI Partners and Actions

The UEMI is an international partnership that supports:

- Deployment of electric mobility and sustainable transport by:
  - Preparing Feasibility studies
  - Knowledge sharing events
  - Development of project proposals
  - Identify key innovations and examine transferability
- For selected cities implementation concepts are being developed, including:
  - Technical and political feasibility
  - Finance (scalable projects, starting with pilots)
  - Integration in existing activities (added value of the

UEMI: An integrated approach to e-mobility

E-mobility as part of a balanced sustainable urban mobility concept

Avoid: reduce travel activity or reduce growth in activity

Shift**:** change travel structure through shifts to different modes of travel

Improve: lower vehicle energy intensity and reduce fuel carbon intensity

Potential of an integrated approach

- higher level of socio-economic and cost effectiveness
- co-benefits, such as air quality, traffic congestion, safety and overall societal mobility

Key factors for low-carbon e-mobility

- Currently the well-to-wheel carbon intensity varies greatly among countries/regions.
- When electricity and hydrogen in plug-in and fuel cell vehicles reach a substantial market share, they can serve strongly to decrease the average LDV fuel carbon intensity **after 2035**

Source: IEA

Different options for e-mobility

E-mobility for car-sharing and public transport fleets

- Public procurement as enabler
- Direct control or indirect through contracts
- Leadership role and test-bed for good practice

Source: Eltis

Different options for e-mobility

Low carbon taxi fleets

- E-tricycles in Manila (locally produced e-trikes)
- Electric taxis in Shenzhen (entire taxi fleet to be electric by 2016)

Source: ADB 2011

Different options for e-mobility

Electric two-wheelers

- Rapid growth of electric two-wheelers in particular in China driven by regulation
- At the peak there were over 150 million electric two-wheelers on the road in China
- Growing safety issues: the Black Death”
- Now electric scooters are going to be banned in many cities for safety reasons

Source: ADB 2011

Different options for e-mobility

Basic requirements

- Standardised charging infrastructure
- Battery costs (currently $485/kW/h) and materials
- Battery replacement and recycing

Source: Eltis

A balanced approach is vital for success

- **Stronger shifts to low-carbon modes**, such as public transport and non-motorized trasport would require less effort with regard to low-carbon technology and fuel uptake
- If **travel demand** is lower, fuel and technology switch targets are easier to achieve
- A balanced approach inludes: reduction of travel demand and foster modal shifts (Avoid/Shift) AND improvements in vehicle technology and fuels (Improve)

Source: Eltis

Knowledge sharing and training

City Engagement Kick-off:
- **Thematic cluster session**
- **Twinning session**

Paris

Brussels

SUMP Training event (SOLUTIONS/ TIDE/CH4LLENGE)
EV-workshop (UEMI/SOLUTIONS)

Barcelona

Mexico City

CITS
Trainings:
- **City logistics**
- **Integrated Transport Systems / Public Biking Systems**
- **Public Tr**

Rio

Casablanca

CIVITAS Forum
Trainings:
- **Transport infrastructure**
- **SUMP**
- **Public Transport**

Istanbul

CODATU
Trainings:
- **Clean vehicles**
- **SUMP**
- **City logistics**

Chengdu

Michelin Challenge Bibendum
Trainings:
- **Network Management**
- **Clean Vehicles**
- **Public Transport**

Webinars & eLearning:
- **Over 1800 participants of eLearning courses and webinars**

Take-up cities

Belo Horizonte, Brazil

Belo Horizonte, situated in the state of Minas Gerais in the south-eastern region of Brazil, is one of Brazil's most populous cities with around 5 million inhabitants.

León, Mexico

León is located in Guanajuato state of Mexico, with a population of 1.4 million.

Guiyang, China

Guiyang, situated in the Guizhou province in Southwest China, has a population of 4.4 million.

Kocaeli, Turkey

Kocaeli province lies in Marmara region of Turkey with an urban population of 1.6 million.

Kochi, India

Kochi, situated on the west coast of India in the state of Kerala, is a densely populated city with a population of 2.1 million.

City actions

Recent updates from take-up cities

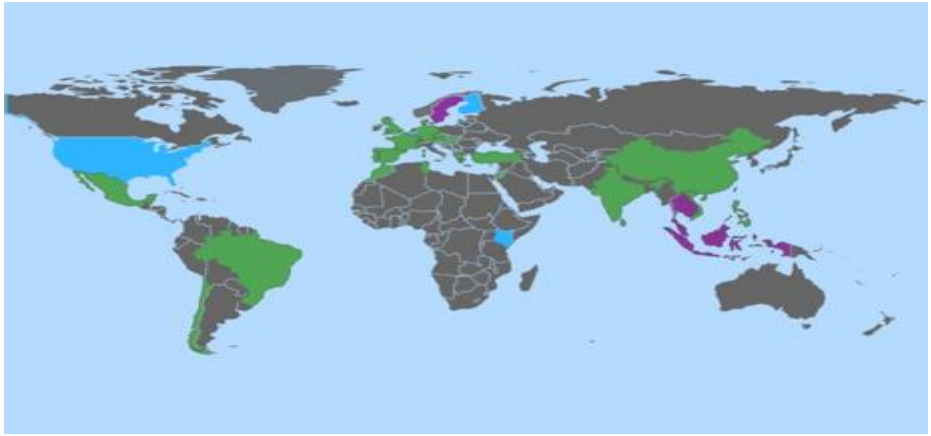
Belo-Horizonte, Brazil:

- The pilot project in Belo Horizonte started with a speed limit (30 km/h) zone

Join the partnership!

www.uemi.net

www.urban-mobility-solutions.eu



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