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# TRANSFORMING URBAN MOBILITY – A GLOBAL PERSPECTIVE

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PHOTO CREDIT: BENOIT COLIN/WRI



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# THE CHALLENGE & THE OPPORTUNITIES

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## CONGESTION

2-5% cost of GDP  
through traffic  
congestion



## CLIMATE CHANGE

Transport accounts  
for one-quarter of  
global CO<sub>2</sub>  
emissions



## ROAD SAFETY

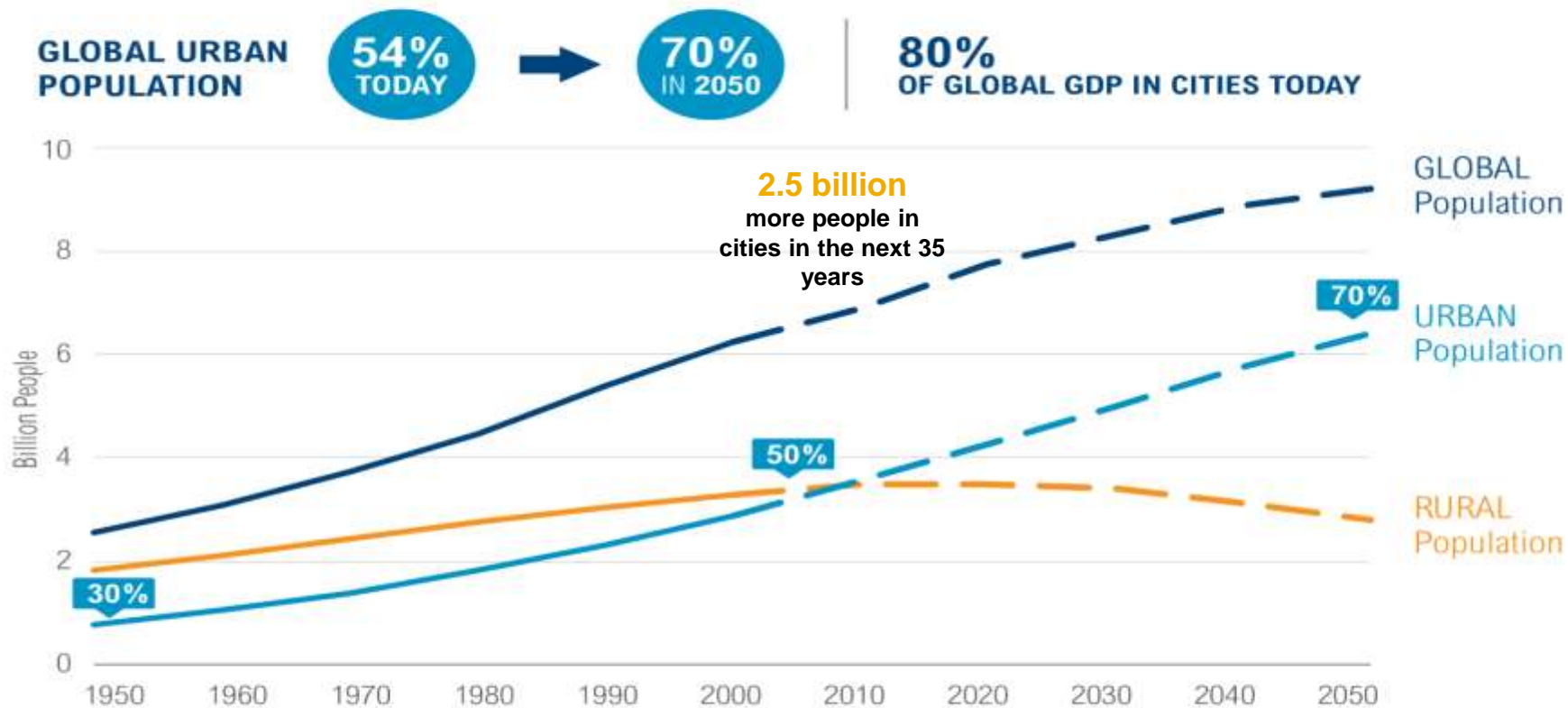
Traffic fatalities  
lead to 1.2 million  
deaths every year  
and many more  
injuries



Outdoor air  
pollution was  
estimated to cause  
3m premature  
deaths worldwide in  
2012

## PUBLIC HEALTH

# IN THE NEXT 35 YEARS, THERE WILL BE 2.5 BILLION MORE PEOPLE IN OUR CITIES



Sources: (1) Population curves: LSE Cities and Oxford Economics based on United Nations World Urbanization Prospects, 2007 Revision and Oxford Economics City 750 database. See Floater, G., Rode, P., Robert, A., Kennedy, C., Hoonweg, D., Slavcheva, R. and Godfrey, N., 2014 (forthcoming). Cities and the New Climate Economy: the transformative role of global urban growth. New Climate Economy contributing paper. LSE Cities, London School of Economics and Political Science.. (2) GDP split estimate from Grubler et al 2007 cited in GEA 2012.



# RISE IN MOTOR VEHICLE USE

**14**  
Trillion of  
annual  
vehicle km

**2000**

**24**  
Trillion of  
annual  
vehicle km

**2015**

**48**  
Trillion of  
annual  
vehicle km

**2050**

# GLOBAL CLIMATE CHANGE TARGETS ARE NOT POSSIBLE WITHOUT THE TRANSFORMATION OF CITIES

**23%** of global GHG  
emissions are from transport

**70%** of GHG emissions  
come from cities



# Nations Unies

## A TURNING POINT ON CLIMATE

Conférence sur les Changements Climatiques

COP21/CMP11

Paris France

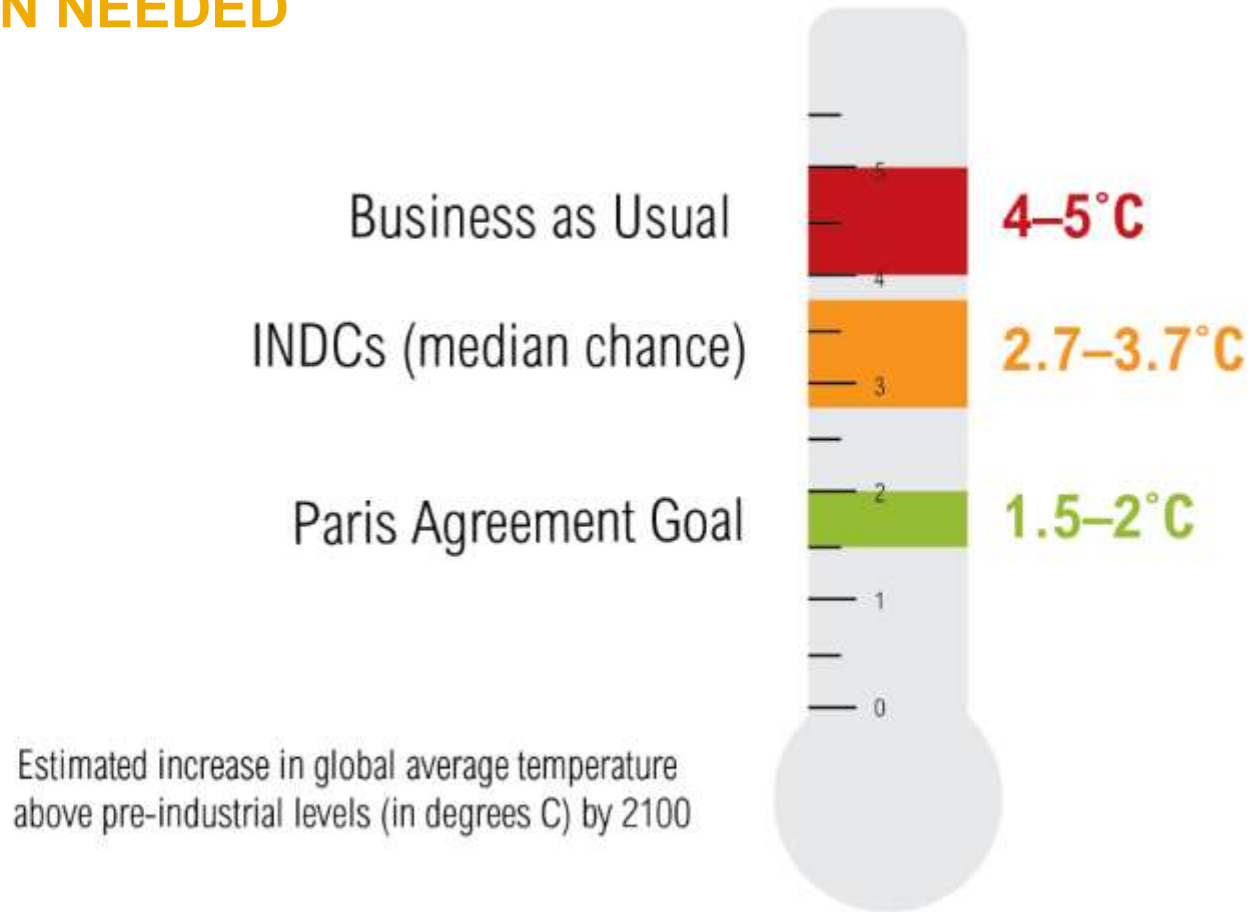


# PARIS AGREEMENT – COP21

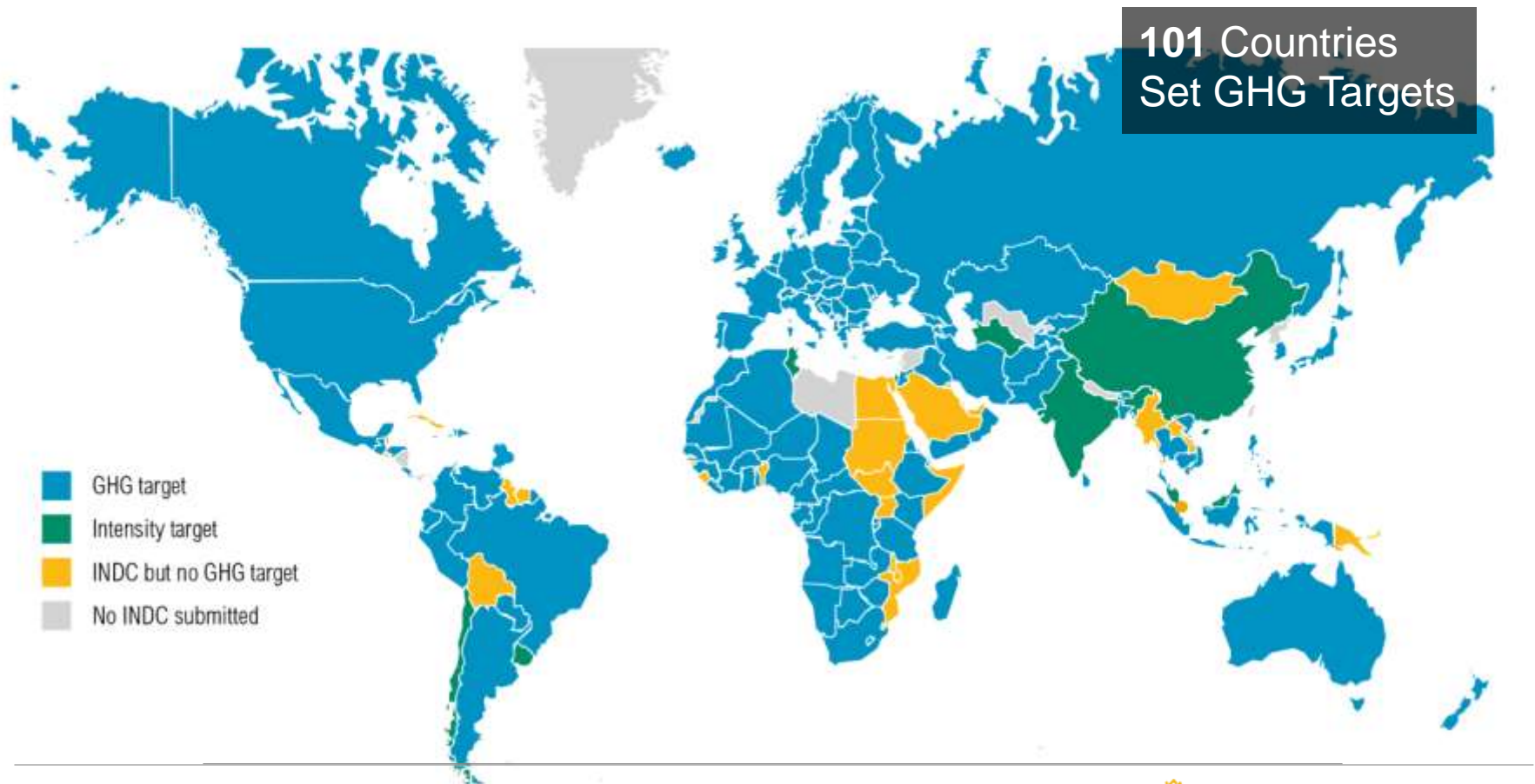




# MORE AMBITION NEEDED

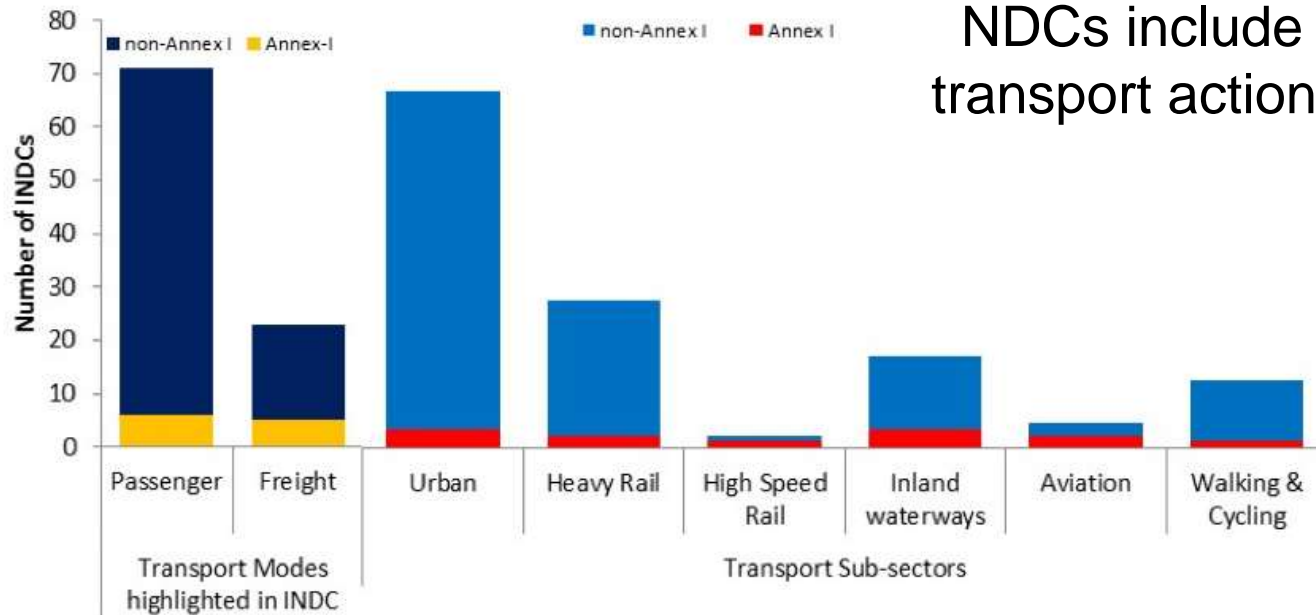


# PROGRESS ON NATIONAL COMMITMENTS?



# TRANSPORT IN CLIMATE COMMITMENTS

101 out of 160  
NDCs include  
transport action!







**Transport is included in SDGs  
in both direct and indirect manner**

### Direct Transport Targets of the Sustainable Development Goals

**3.6** By 2020, halve the number of global deaths and injuries from road traffic accidents

**7.3** By 2030, double the global rate of improvement in energy efficiency

**9.1** Develop quality, reliable, sustainable and resilient infrastructure, ...to support economic development and human well-being, with a focus on affordable and equitable access for all

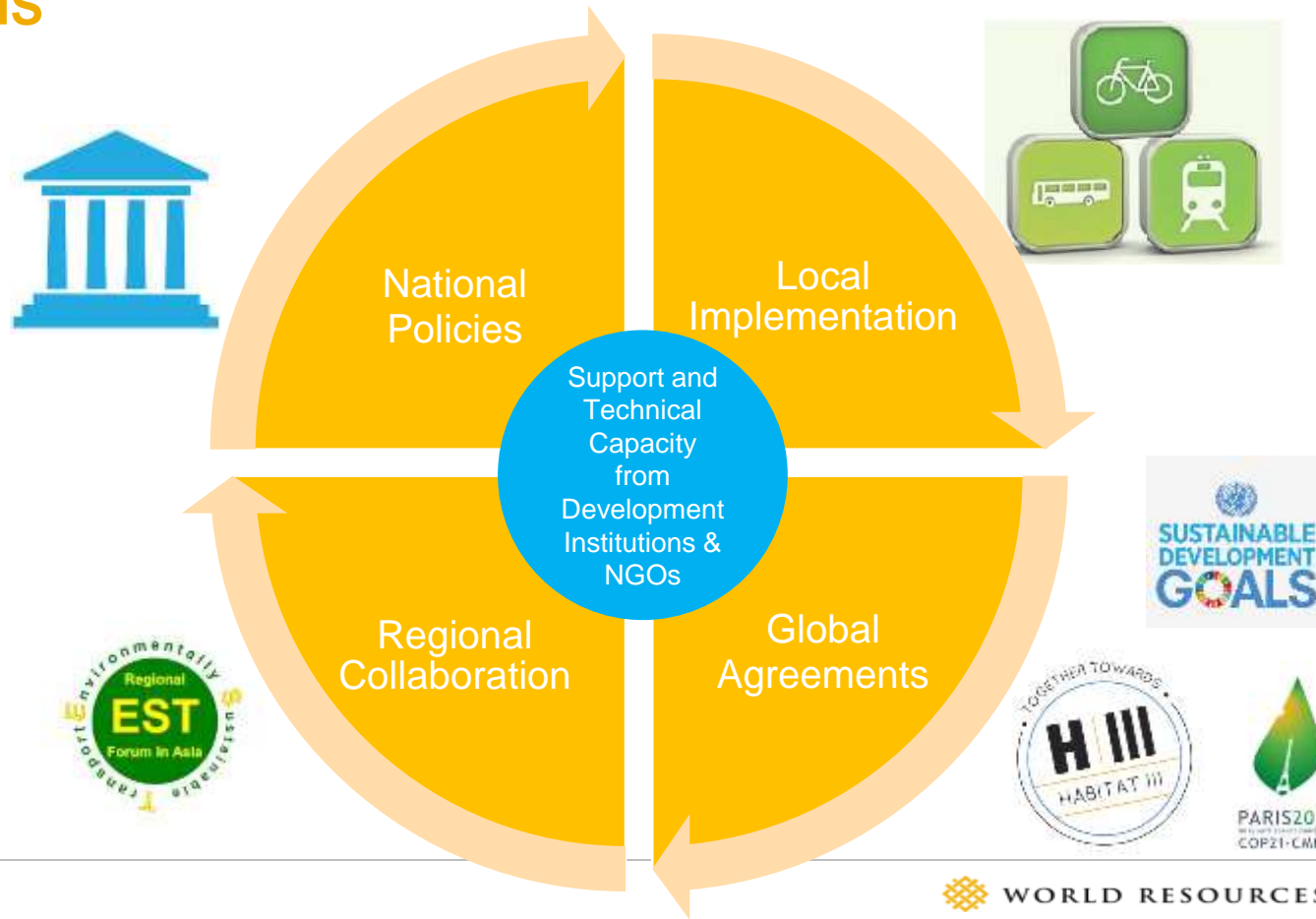
**11.2** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, by expanding public transport, with special attention to the most vulnerable

**12.c** Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances

# HABITAT III – A NEW URBAN AGENDA



# CONNECTING GLOBAL, REGIONAL, NATIONAL, AND LOCAL LEVEL ACTIONS







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# THE OPPORTUNITY TOWARDS REAL TRANSFORMATION

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# IDEAL CONDITIONS FOR TRANSFORMATION (WHAT I WILL NOT TALK ABOUT TODAY)

1. PEOPLE CENTRIC APPROACH & MORE ATTENTION TO URBAN FREIGHT

2. FULL INTEGRATION OF

...MODES,

...OPERATION,

...FINANCES,

...INSTITUTIONAL ARRANGEMENTS

...PLANNING (URBAN & MOBILITY)

...DATA

3. SHIFT IN FINANCES – FROM BROWN TO GREEN & SETTING THE RIGHT PRICE

# 5 ACTIONS TOWARDS SCALING TRANSFORMATION

## 1. MANAGE DEMAND: CONGESTION CHARGE RELOADED

Beijing as Game Changer

Singapore Technology Leapfrog

Sao Paulo's Uber Charge

## 2. REVOLUTIONIZE SUPPLY: PUBLIC TRANSPORT 2.0

On-demand Services: London

## 3. REVOLUTIONIZE SUPPLY: REINVENT CYCLING

Bike Share @ Scale: MoBike goes Global

## 4. NEW SUSTAINABLE MOBILITY

## 5. TOWARDS COMMON ACTION

Protocol for Shared Vehicles

Covenant of Mayors

C40 Clean Bus Declaration

Sustainable Mobility for All





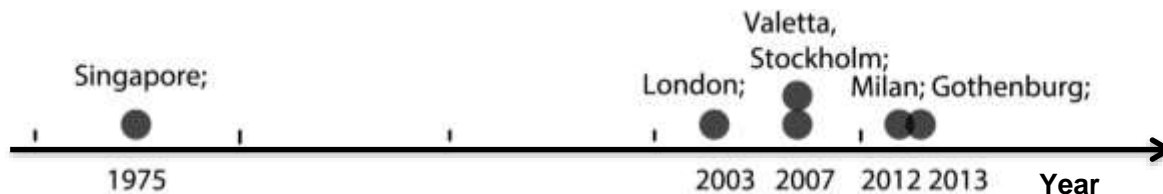


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# MANAGE DEMAND: CONGESTION CHARGE RELOADED

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# CONGESTION PRICING – PROOF OF CONCEPT BUT NO SCALE



# MAJOR CHANGE IN CHINA ANNOUNCED – NEW CHANCE FOR A REVOLUTION?

In the session of the BJPPCC on May 26, 2016, **BMCT** and **BEBP** announced to the public that the schemes for the **LEZ/CC** have been developed and are under further evaluation.



20-50  
RMB/day





# SCENARIO ANALYSIS FOR BEIJING



**CONGESTION CHARGE SCENARIO:**  
CO<sub>2</sub> EMISSION REDUCTION: **14.4%**

# SINGAPORE: CONGESTION CHARGING WITHOUT HEAVY INFRASTRUCTURE



# UBER CHARGE IN SAO PAULO: FIRST STEP TOWARDS NEW CHARGING SCHEME



- **Pay-as-you-drive:** Charging an upfront fee (“credits”) based on mileage estimate for 2-month period, plus a surcharge if credits are exceeded
- **Charge:** 10 centavos (3 cents) per kilometer
- **Creating Competition:** Online public auction to buy credits
- **Data Sharing:** Uber is required to provide the city with its trip data





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# REVOLUTIONIZE SUPPLY: PUBLIC TRANSPORT 2.0

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# ON-DEMAND SERVICES IN LONDON

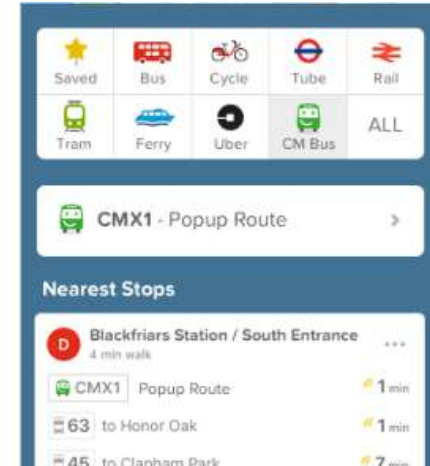


## CMX1 Popup Route - Circulator

- SP Kings Reach Building
- C Blackfriars Station / South Entrance
- J Blackfriars Station / North Entrance
- P The Royal Courts Of Justice
- B Lancaster Place / Somerset House
- N Waterloo Bridge / South Bank
- M Waterloo Road
- SJ Coin Street

## Smart Buses:

- Integrating with app, routing and the city
- Provide real time information of the route, passenger count, and are multimodal-ready!





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# REVOLUTIONIZE SUPPLY: REINVENTING CYCLING

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# MARKET LEADERS OF BIKESHARING INDUSTRY IN CHINA



**BACKED BY: TENCENT**



**BACKED BY: DIDI, XIAOMI**



## BIKESHARING INDUSTRY IN TIER 1 CITIES

	Beijing	Shanghai	Guangzhou	Shenzhen
Population (Millions)	24.19	21.72	14.04	11.37
Mobike in Circulation	150,000	100,000	100,000	100,000
Ofo in Circulation	150,000	100,000	80,000	80,000

# MOBIKE GOES GLOBAL

- “Uber-for-bikes” service
- Currently active in **100 cities** globally
- More than **5 million** bikes around the world
- Over **100 million** registered users
- Raised **\$600 million** in its latest round of financing in June 2017, bringing the company total funding to more than **\$900 million**.
- Target: To be in **200 cities** by the end of this year





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# NEW MOBILITY – DISRUPTION & INNOVATION

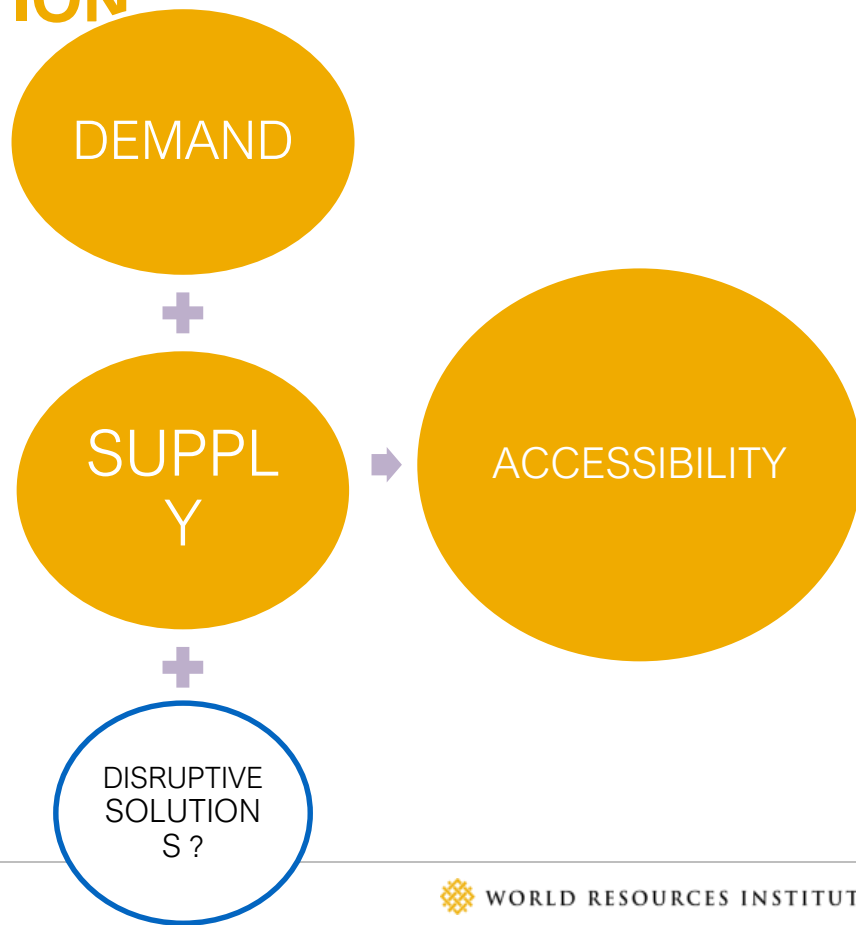
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# INTEGRATION & DISRUPTION

New **players**

New **opportunities**

New **narrative**





# Disruptive Change - Where do people Stay?

	<b>IHG</b> <ul style="list-style-type: none"><li>• 65 years</li><li>• 645K rooms</li><li>• 100 countries</li></ul>
	<b>Hilton</b> <ul style="list-style-type: none"><li>• 93 years</li><li>• 610K rooms</li><li>• 88 countries</li></ul>
	<b>Accor</b> <ul style="list-style-type: none"><li>• 44 years</li><li>• 530K rooms</li><li>• 92 countries</li></ul>

VS


<b>Airbnb</b> <ul style="list-style-type: none"><li>• 4 years</li><li>• 650K rooms</li><li>• 192 countries</li></ul>

# What is new mobility?

Models using **technology** to deliver **transport** in new ways

Reinventing  
ownership  
and delivery

Using data  
and  
connectivity  
in new ways

Developing  
new  
technologies

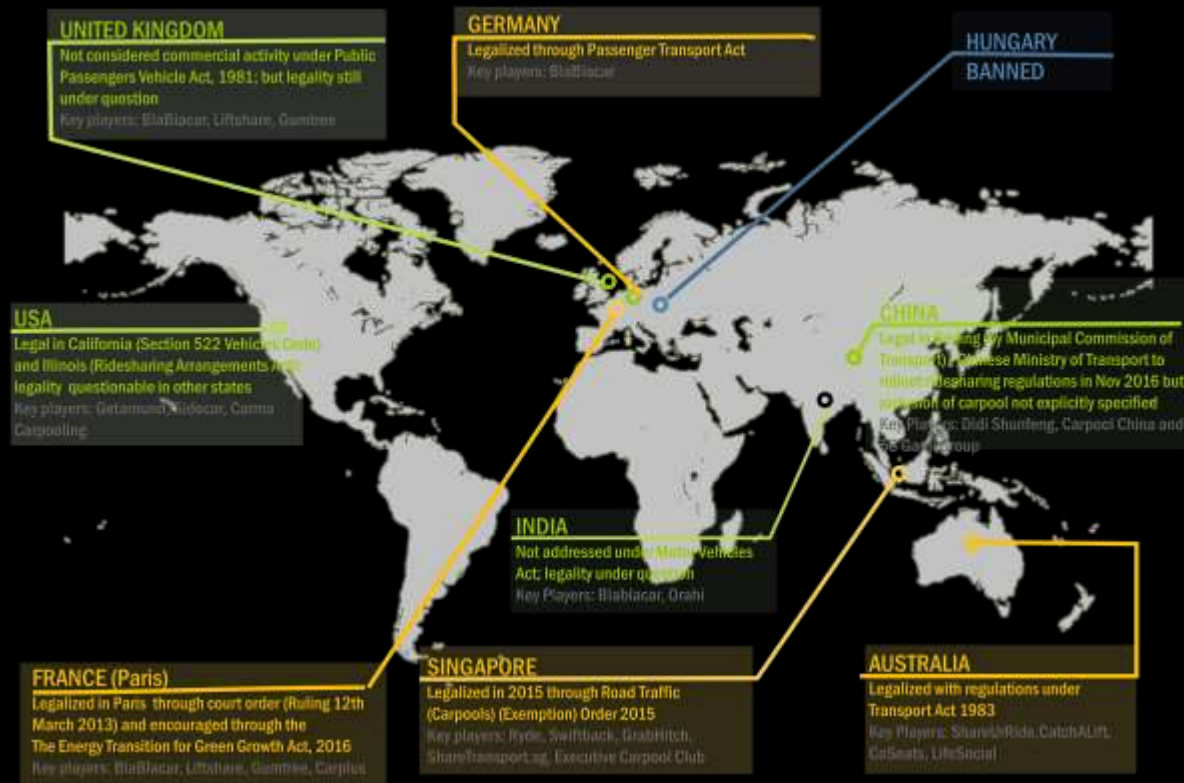
<b>Date</b>	<b>Partnership</b>	<b>Details</b>
Jan 2016	GM – Lyft	\$500 million invested into Lyft
Mar 2016	GM – Cruise Automation	GM buys self driving tech for \$1 billion
May 2016	Toyota – Uber	Toyota bought a stake in Uber
May 2016	Apple – Didi Chuxing	Apple invests \$1 billion in Didi
May 2016	BMW- Scoop	BMW invests undisclosed amount in Scoop
May 2016	Google – Fiat Chrysler	Google to use Fiat cars to run self driving tech
May 2016	Volkswagen - Gett	Volkswagen to invest \$300 million in Gett
Jun 2016	BMW – Intel – Mobileye	Launch autonomous rideshare company in 5 years
Aug 2016	Ford – ZoomCar	Ford Invests \$24 million
Sep 2016	Ola – Mahindra	Mahindra-Ola package for Ola drivers
Sep 2016	Ford – Chariot	Ford buys Chariot in all cash deal



# THE ATTENTION OF REGULATORS

## KEY: STATUS OF GLOBAL CARPOOL REGULATIONS

- Carpooling models are legalized
- Carpooling models legality in question
- Carpooling businesses are illegal





# WHAT DOES IT MEAN FOR CITIES?

Equity

Emissions

Safe access

Congestion

# THE KEY QUESTION

NEW &  
“SEXY”



SUSTAINABLE

# CITIES MUST DEFINE NEEDS AND HAVE TECHNOLOGY DELIVER THE RESULTS



- Welcome implementation of new technology-based mobility services with adequate regulation to ensure they complement public transport



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# TOWARDS COMMON ACTION

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# SHARED MOBILITY PROTOCOL FOR LIVABLE CITIES - DRAFT

PHOTO: JESS KRAFT/SHUTTERSTOCK

# RATIONALE

- **The rise of shared and autonomous travel powered by new technologies presents an unprecedented opportunity to transform cities** to be more sustainable, equitable, and just.
- **Cities are the primary guardians of the public good; they need to be clear about their goals** and directed in their requirements for creating a livable future.
- **The Protocol will help nations meet commitments established in the Paris Agreement, as well as Sustainable Development Goals.**
- **The Protocol complements, extends and strengthens the sustainable city work being undertaken;** will provide firm guidance for the private sector; and can be used by community activists to hold their city to best practice.



# POTENTIAL PARTNER ORGANIZATIONS (CURRENTLY NGO ONLY)



*Robin Chase,  
Founder of  
Zip-Car*



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ITDP  
Institute for Transportation  
& Development Policy



SHARED-USE  
MOBILITY CENTER



# NINE PRINCIPLES

1. **PRIORITIZE PEOPLE OVER VEHICLES:** Cities should prioritize the movement of people and not vehicles by prioritizing walking, cycling, public transit and shared mobility over single occupancy vehicle use.
2. **FAIR USER FEES:** All vehicles should pay their fair share for road use, congestion, and use of curb space.
3. **PROMOTE EQUITY:** Cities should monitor and strive for equitable physical, digital, and financial access to shared transport services.
4. **TRANSITION TO ZEV:** Public transportation and shared use fleets will transition to zero emission vehicles.
5. **POWER WITH RENEWABLES:** Best efforts will be made to power electric vehicles with clean, renewable energy.



## NINE PRINCIPLES (CONT'D)

6. **ENSURE PUBLIC BENEFIT VIA OPEN DATA:** The data infrastructure underpinning shared transport services must enable interoperability, competition and innovation, while delivering privacy, security and accountability.
7. **UBIQUITOUS WIRELESS ACCESS:** Every opportunity to enhance connection and access of vehicles and people to a wireless network should be taken.
8. **AVS SHOULD BE SHARED:** AVs operating in densely populated areas should be part of a shared fleet.
9. **COMPLEMENTARY LAND USE:** Development, building and zoning regulations, parking requirements, and other land use policies will support and incentivize these requirements for a livable, equitable, and sustainable city.





# COVENANT OF MAYORS



# COVENANT OF MAYORS

- Pledge to reduce CO<sub>2</sub> emissions by **at least 40%** by **2030**
- **7,000+** Signatories
- **230,000,000+** Citizens
- **5,100+** Action Plans Developed

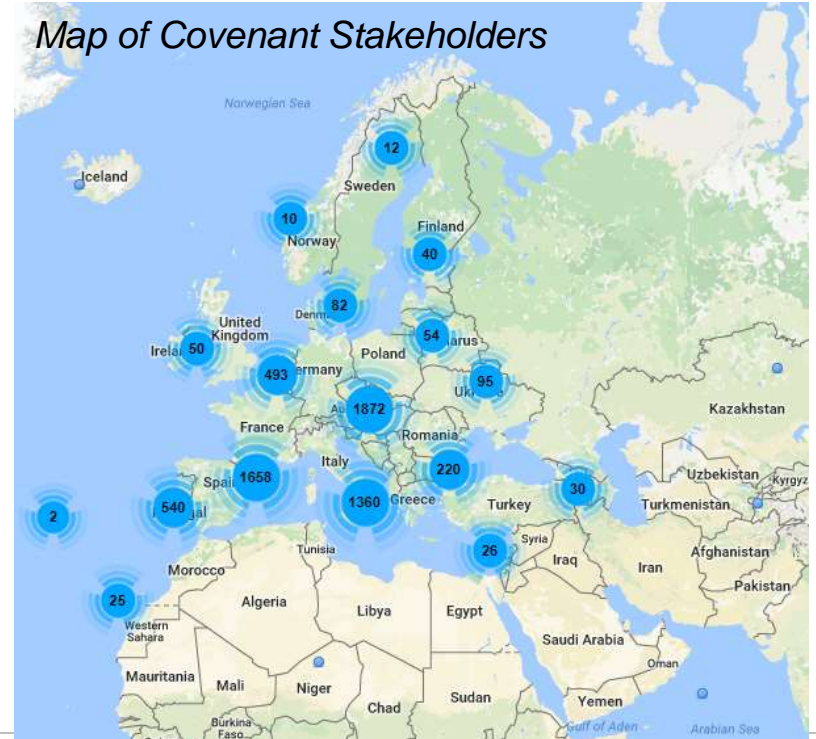
As of **2015**:

- **-23%** GHG emissions
- **-14%** energy consumption
- **x4** share of renewable energy sources in final energy consumption
- **x3** local renewable energy production



Covenant of Mayors  
for Climate & Energy

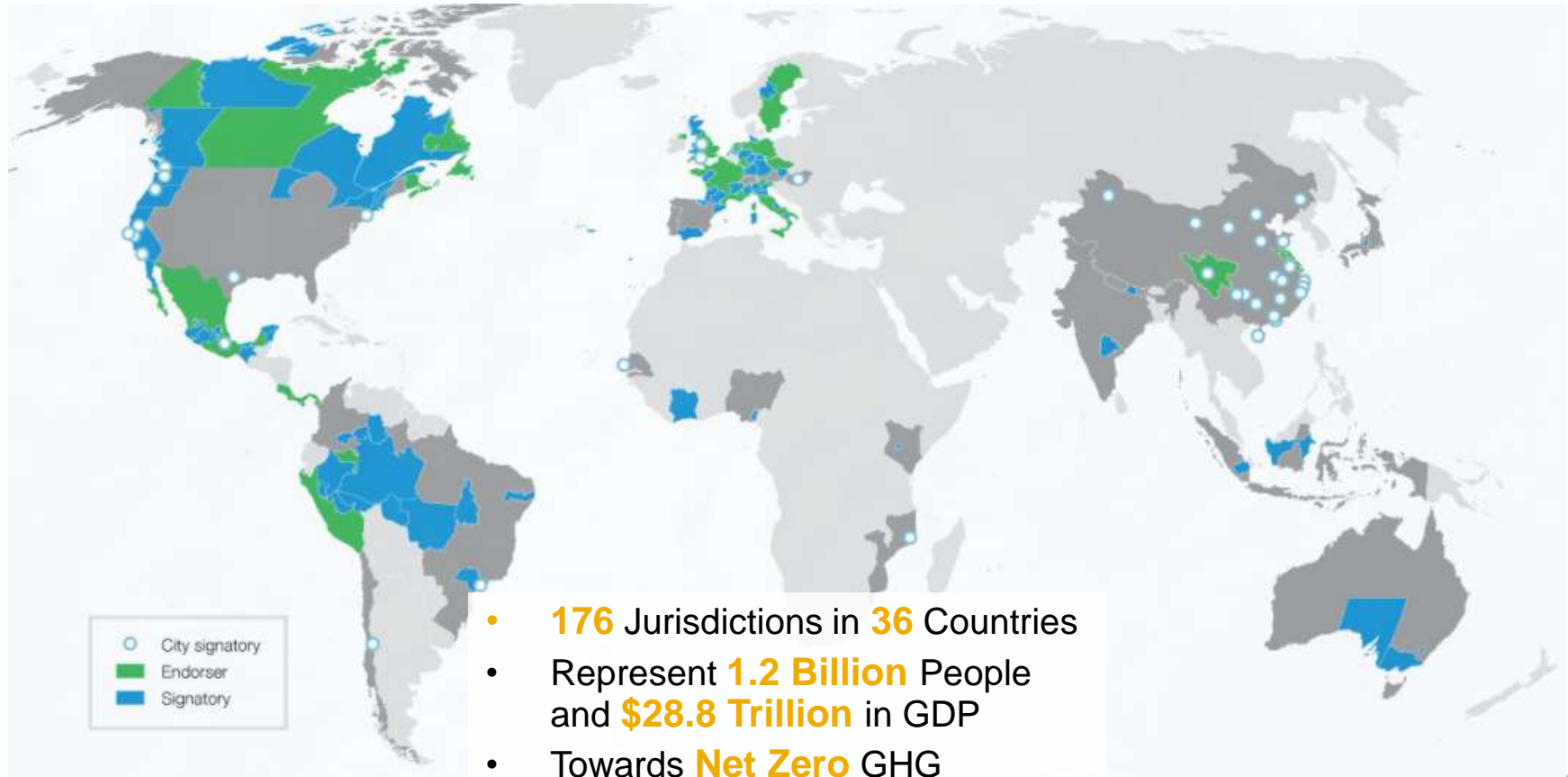
*Map of Covenant Stakeholders*



# THE UNDER2 COALITION



Subnational Global Climate  
Leadership Memorandum of  
Understanding



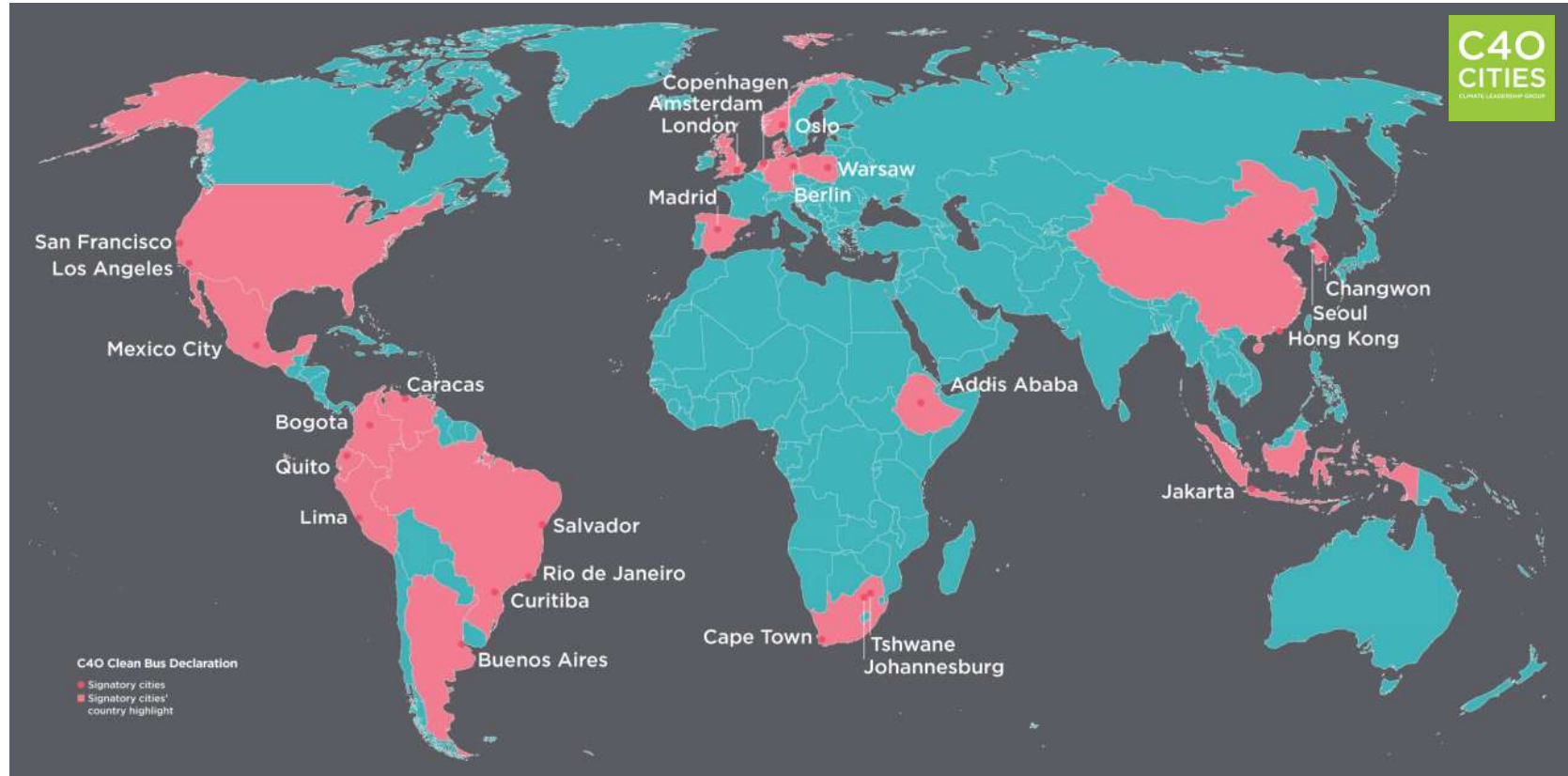


# C40 CLEAN BUS DECLARATION

“Cities of the Low Emission Vehicles Network collectively forged an international Declaration on Clean Buses, demonstrating a commitment by signatory C40 cities **to reducing emissions and improving air quality by incorporating low- and zero-emission buses in their fleets**. The Declaration is a call to global manufacturers, public transport operators, leasing companies, multilateral development banks, and other funding agencies to support city ambitions to decarbonize urban mass transport.”



## 26 C40 SIGNATORY CITIES REPRESENT OVER 165 MILLION URBAN CITIZENS ACROSS 20 COUNTRIES





# To facilitate **Sustainable Mobility for All** through four objectives:



# DRIVERS TOWARDS COMMON ACTION

1. GROWING IMPORTANCE OF NON-STATE ACTORS TO TACKLE CLIMATE CHANGE
2. NEW COALITION ALLOWS TO SET STANDARDS & INFLUENCE LEGISLATION & ENBALING CONDITIONS – RECLAIMING NEGOTIATION POWER
3. STRENGTHENING VISIBILITY & INFLUENCE ON NATIONAL AND INTERNATIONAL LEVEL
4. EXCHANGING KNOWLEDGE AND INFORMATION
5. TOWARDS COMMON PROCUREMENT?

**CHALLENGE – MANY INTERNATIONAL INITIATIVES – NEED FOR GUIDANCE**



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EMBARQ

# THANK YOU

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