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CITIES AND REGIONS FOR TRANSPORT INNOVATION

Mobility innovation in cities

Avoiding pitfalls, embracing opportunities

Karen Vancluysen, Polis

What is Polis ?

Network

70 European cities & regions

Innovation

Sustainable urban mobility

POLIS GLOBAL PLATFORM

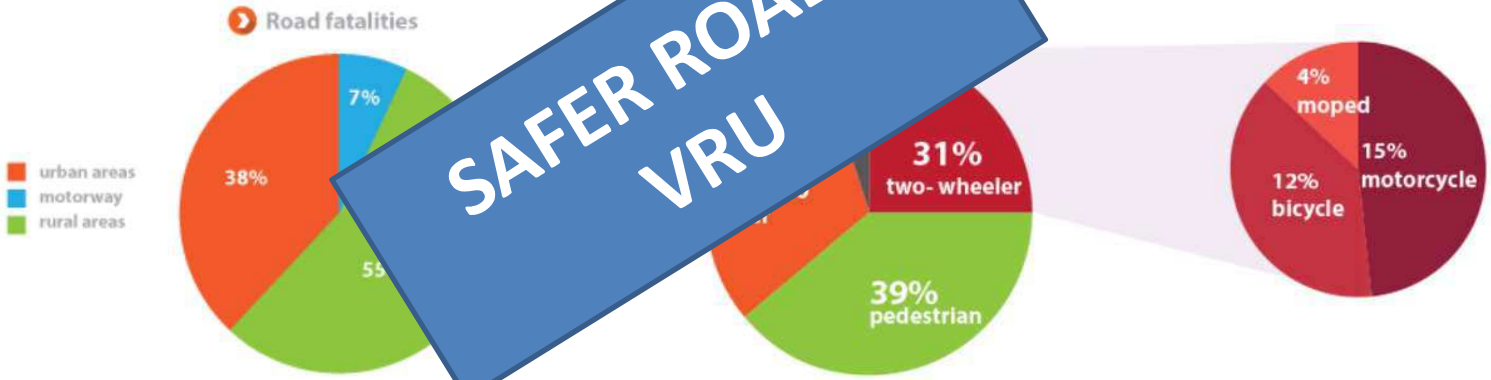
TRANSVERSAL TOPICS

SMART CITIES - SUMP - URBAN FREIGHT

Urban mobility: Main policy challenges & goals

IMPROVE AIR QUALITY

MODAL SHIFT
JOURNEY TIME
RELIABILITY



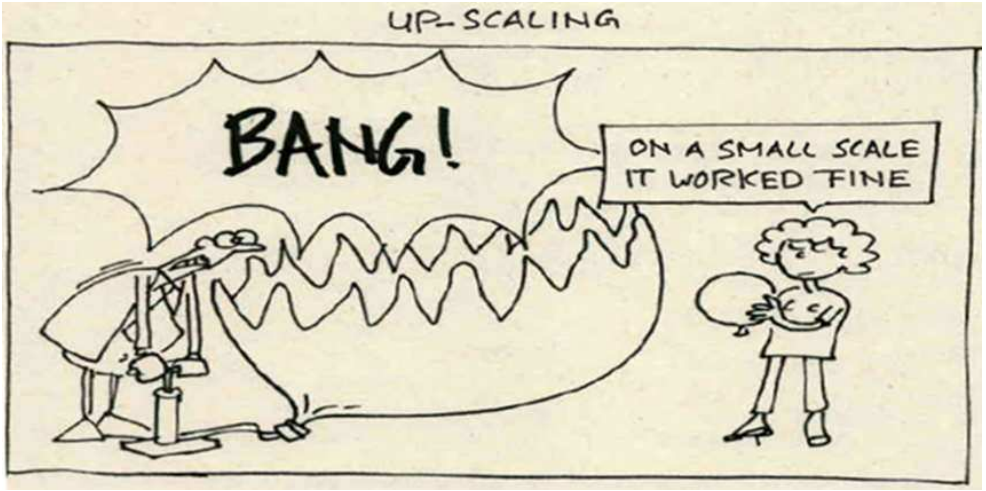
SAFER ROADS
VRU

Integrated Sustainable Urban Mobility Policy

Sustainable - Multimodal - Intermodal - Clean - Safe - Flexible - Affordable - Connected - User-centric - Inclusive - Shared ŭ

Innovation

Not just technology
Disconnect
Pioneers vs followers
Risk
Living labs
Size doesn't matter



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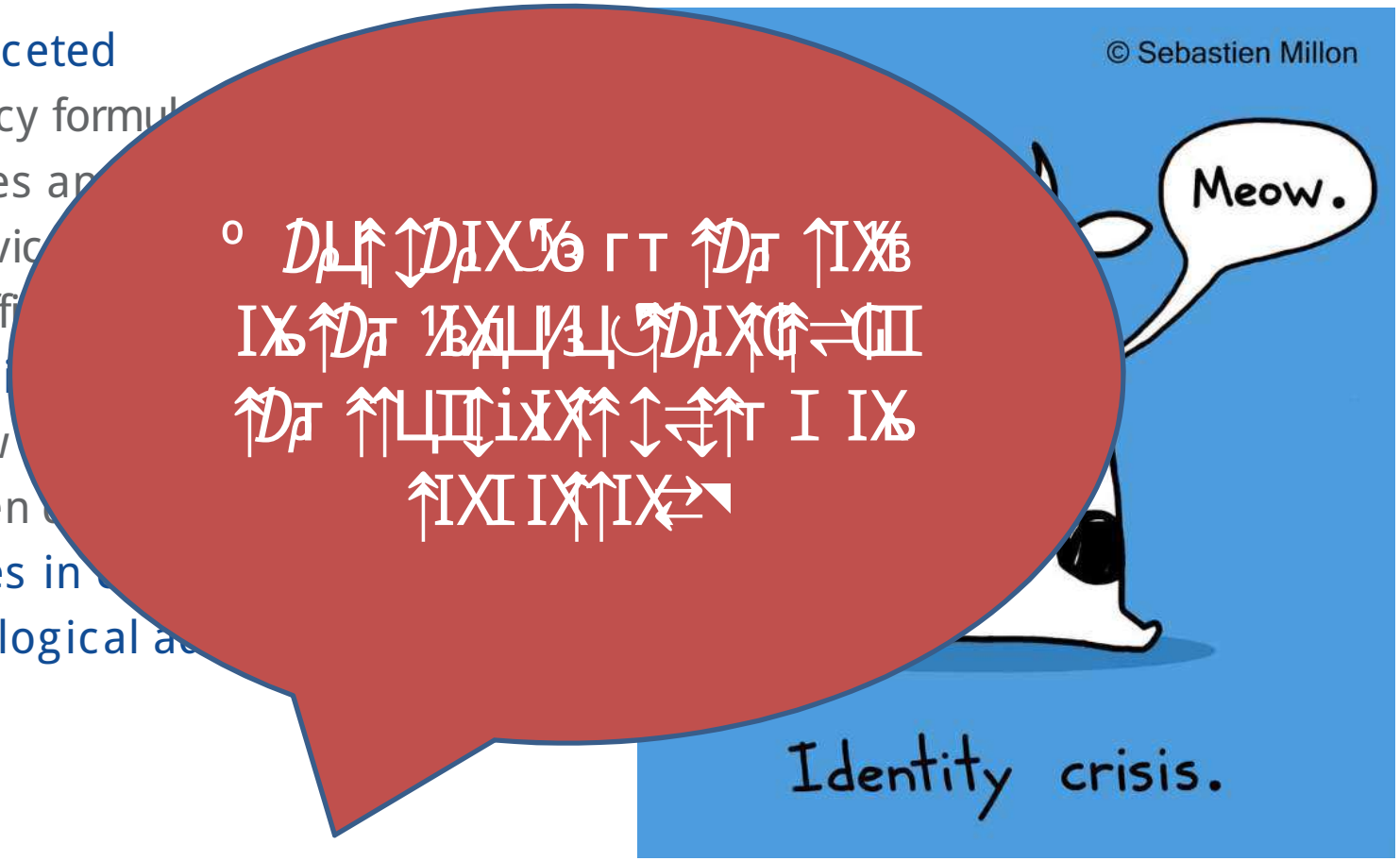
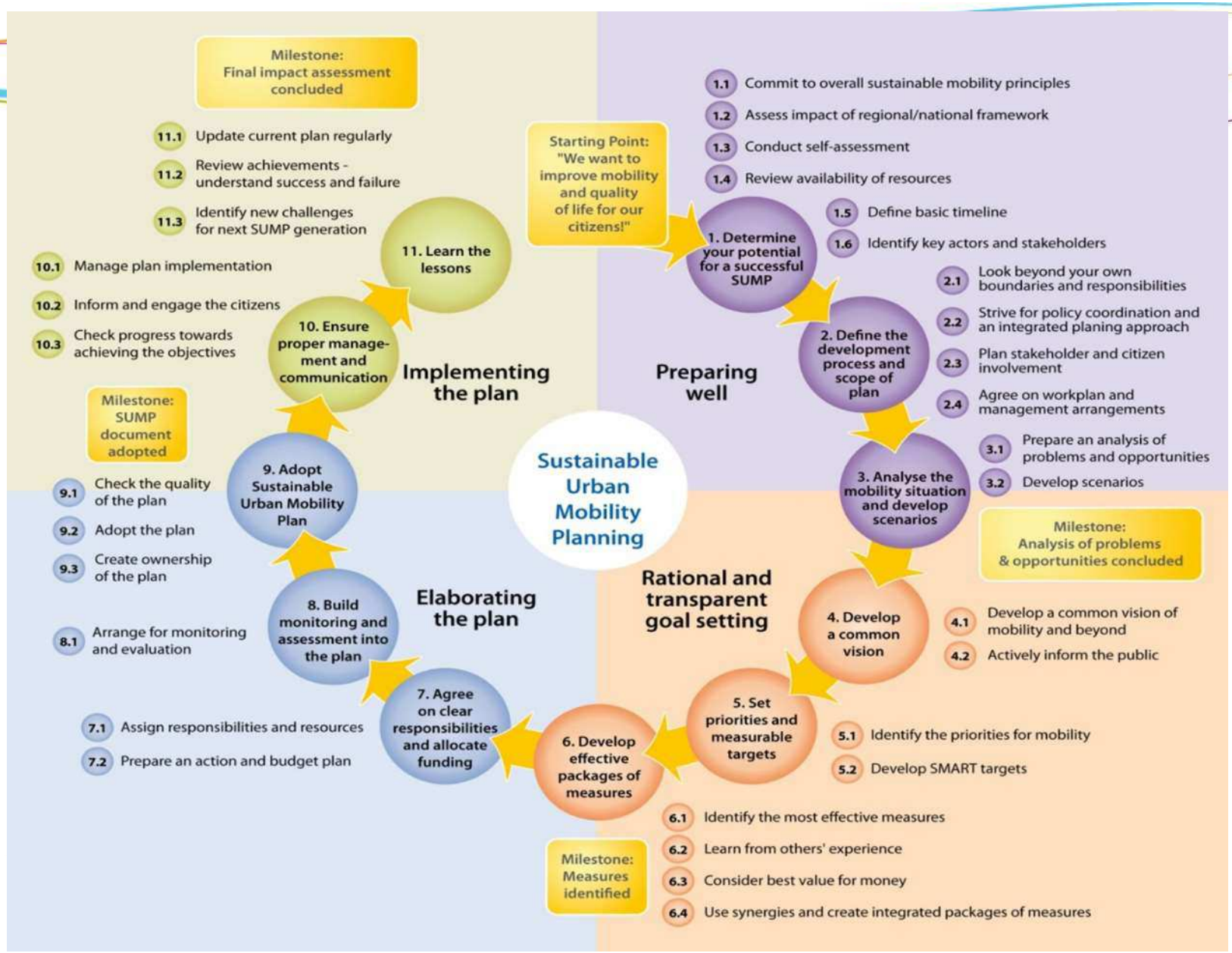
Changing role of the local authority

- Multi-faceted
  - Policy formul
  - Rules an
  - Servic
  - Traffi
- Expandi
  - New
  - Open
- Changes in
- Technological a



Integrated planning framework for innovation



Long-term vision... and recovering from past mistakes!

Brussels

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Long-term vision... and recovering from past mistakes!

Madrid

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Long-term vision... and recovering from past mistakes!

Paris

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Citizens First! … ? … !

User-centric?

Yes, but…

And also…

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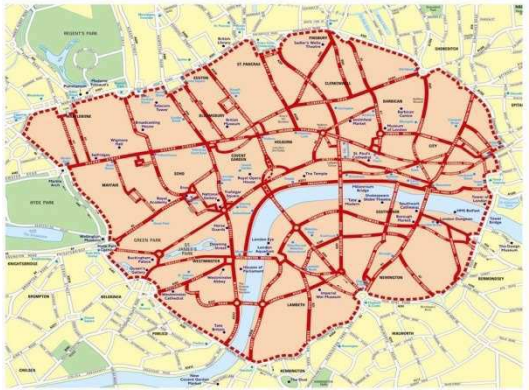
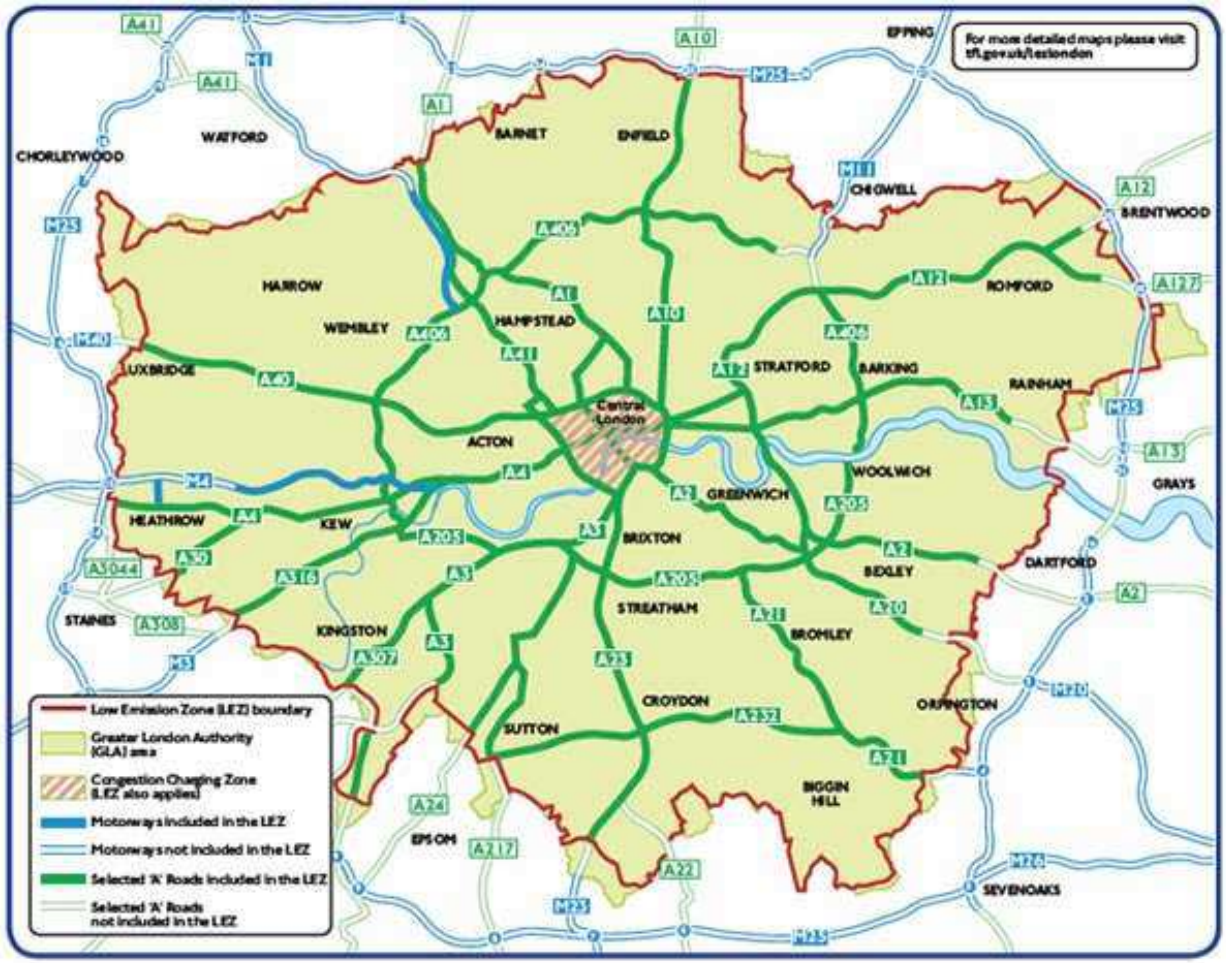
Regulating access





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Circulation plan Gent

Main driver: air quality and quality of life

Results after one year:

- 22/29 hotspots show improved air quality
- 12% reduction in car use
- 25% more cyclists
- 8% more PT users
- reduction of accidents with 1/3
- redirected car traffic increases travel time on ring road with only 3 minutes
- no more trafic jams in city centre
- 55% of citizens happy, 35% against

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City logistics

SULPs

Public - private cooperation

Data sharing

Consolidation

Recognition schemes

Clean urban freight vehicles

Dynamic use of urban space

Towards participatory planning & co-creation

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Towards evidence-based decision making

Knowledge = power!

Assessing the congestion reduction potential of cycling and walking

- Multimodal impact assessment tool
- Improved transport modelling software

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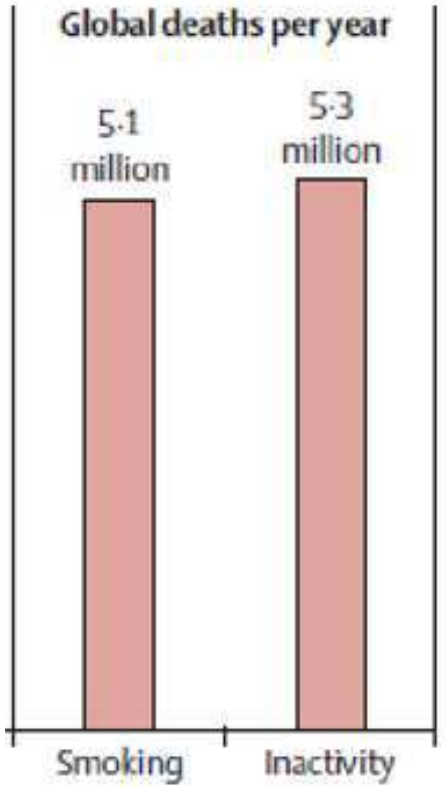
flow

It's good for you too!



The Lancet 2012

© EHFG 2014 - Floris Oudshoorn - ComicHouse.nl

- Quantifying health benefits of active travel
- Addressing multiple societal challenges: air quality, congestion, inactivity, obesity
- Unlock investment in active travel across policy domains

HEAT
Health economic assessment tool

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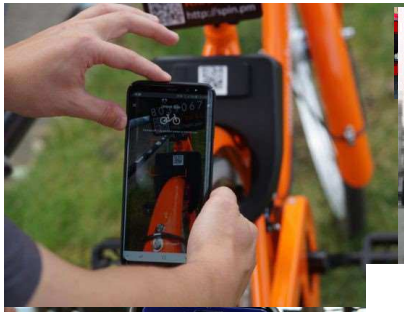
Innovation or Disruption? Or both?



Data

- Growth in connected mobility
- Local authorities no longer primary data holders
- Openness and data sharing needed
- Actual impact of traffic interventions and different mobility services
- Data-driven, more informed and evidence-based decision making

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Open transport data

- Growing momentum
- Most transport authorities committed
  - Where technically, legally and financially viable
  - Transport authority not always owner of data
  - Systems not designed for publishing data

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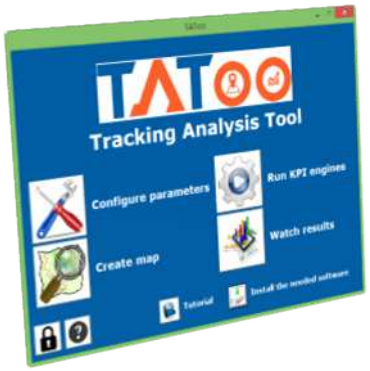
Engaging with the citizen

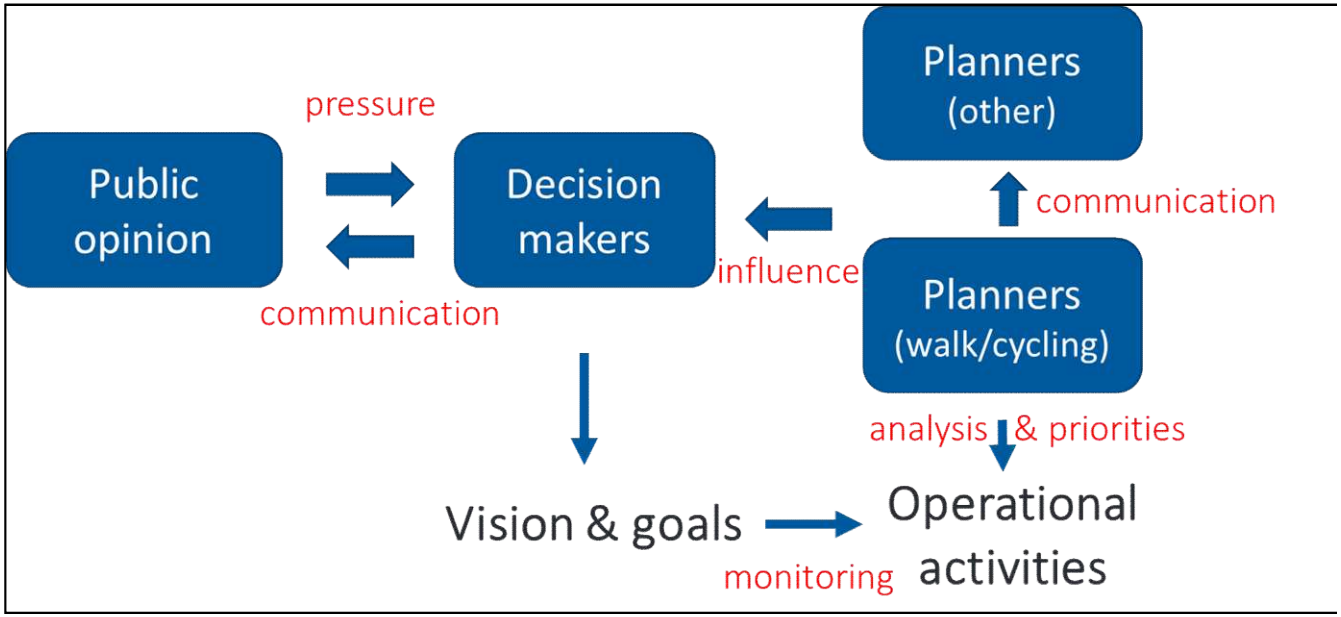
Tracking apps

- reward sustainable behaviour
- inform policy



TATOO INDICATORS

- User volumes per street and node
- Average speeds
- Congestion and level of service
- Waiting times
- Origin-Destination matrices



TRACE
WALKING AND CYCLING TRACKING SERVICES

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Data analysis

Brussels `Ping if you care_

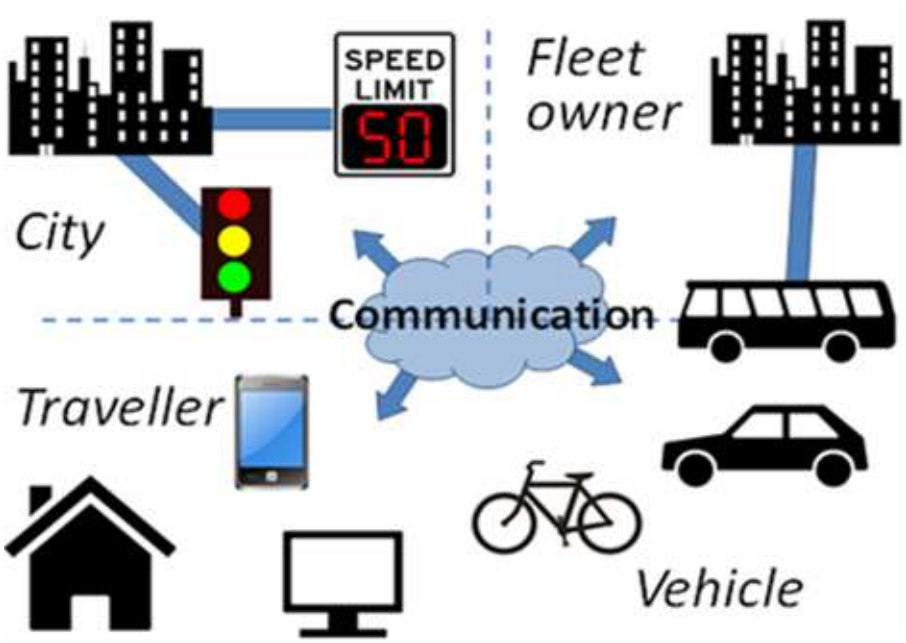
- Report issues, suggest improvements, identify black spots
- Actively engage citizens in city planning
- Visualise cycled routes

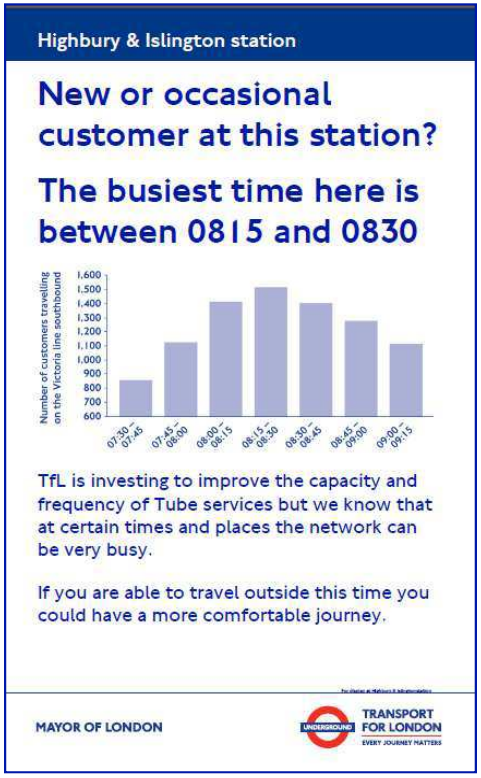
Manchester CityVerve

- Sensor-enabled bike lights
- Data on road surface quality, near misses, traffic incidents, routes

Source: Bikecitizens, TfGM

Data analysis





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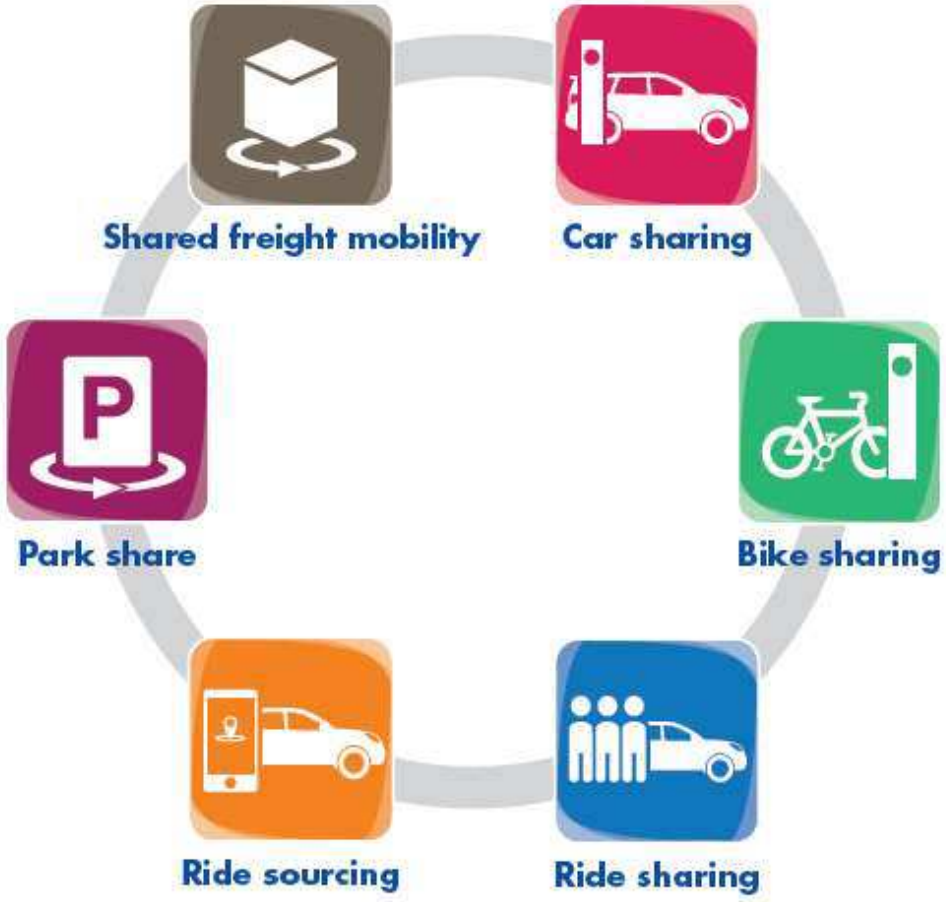
Source: Simon Reed, TfL presentation, EC stand, ITS Congress 2015, Bordeaux

Shared mobility services

- Lack of data on actual impact
- To be integrated with and used as complement to public transport
- Manage urban space
- PPPs and dialogue



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Sharing Cities: Milan

- Strong municipal commitment
- 5 carsharing operators
  - City, metropolitarea, wider region
  - From round-trip to free-floating
  - Residents, commuters, tourists
  - E-car sharing
- Scooter and bike sharing
- Congestion charge
  - Promotion of shared mobility services as alternative to private car use
  - Clear and efficient regulations and incentives

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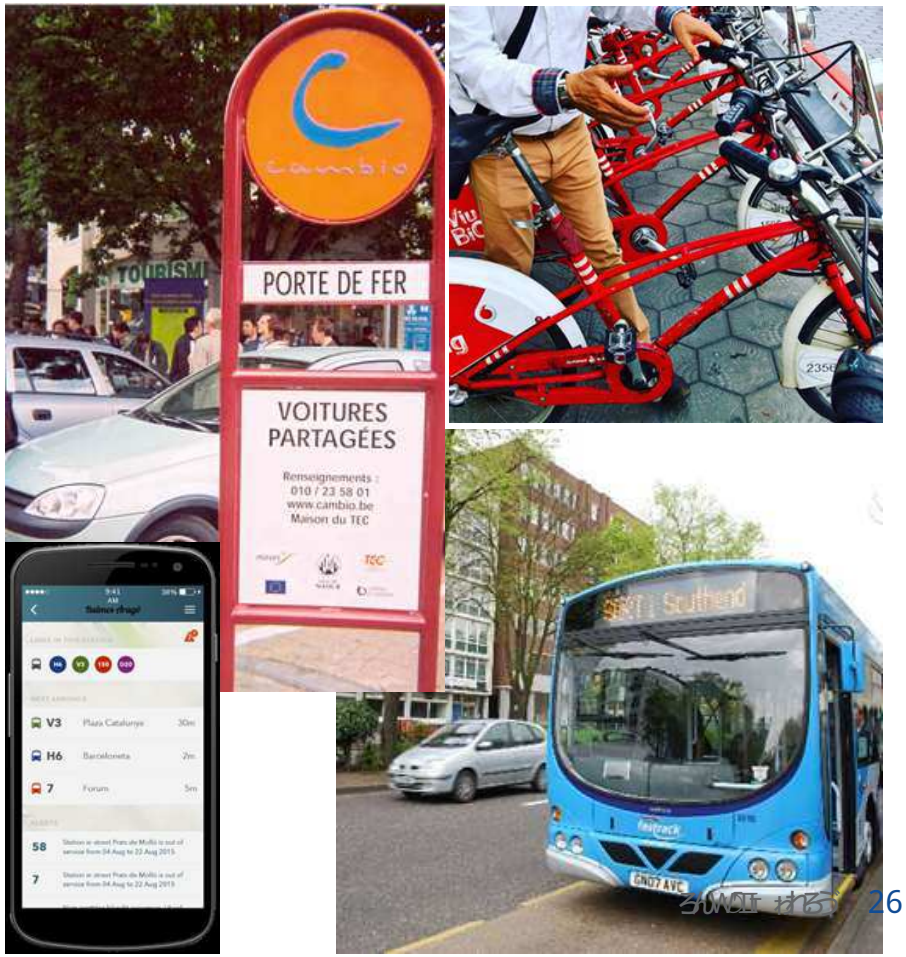
Mobility as a Service

- Integrated travel information, planning & payment platform offering both public and private mobility services
- Precondition: open access to data about the transport services
  - service routes, passenger counts, distance travelled, schedules, real-time information and fare data



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Potential MaaS benefits

- Promoting sustainable travel, especially giving up the car
- Improving efficiency of existing transport services
- Leveraging personalized approach to develop inclusive systems
- Enhancing access to transport services and offering choices to users

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Risks of a purely commercial MaaS approach

- Dis-incentivising sustainable trips
- Higher costs for user or transport provider and unequal services
- Disconnect between user, transport provider and transport authority

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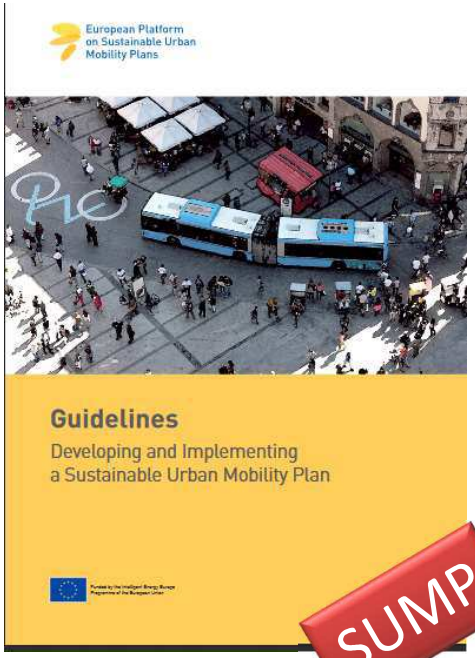
EVs: Part of several coinciding transitions



SUMP

SEAP

Air Quality Action Plan

Rotterdam elektrisch

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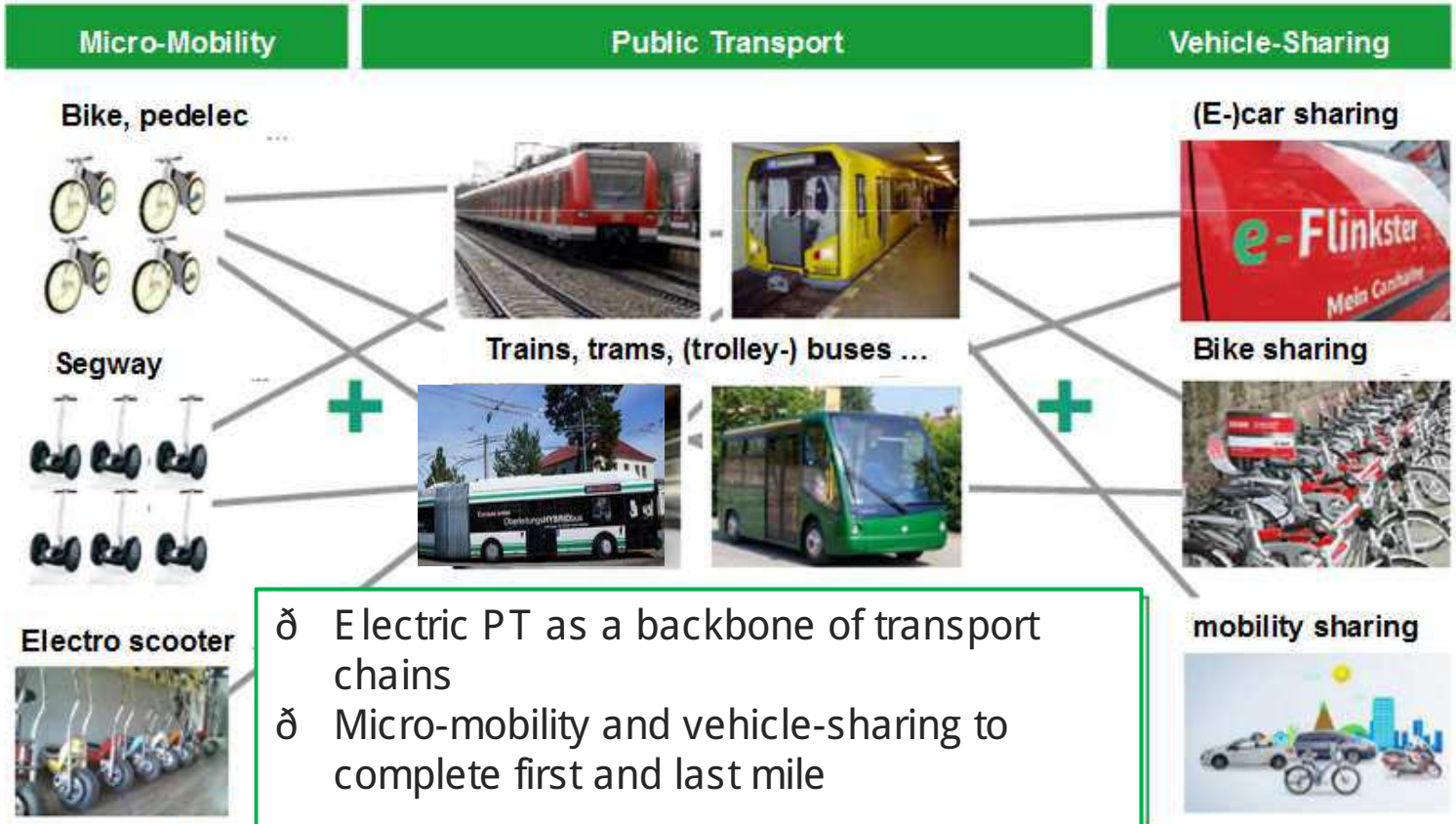
Electromobility: Multi-faceted transition

Use existing electric PT as backbone



- Electric PT as a backbone of transport chains
- Micro-mobility and vehicle-sharing to complete first and last mile

Source: Spath, IAO, 2011

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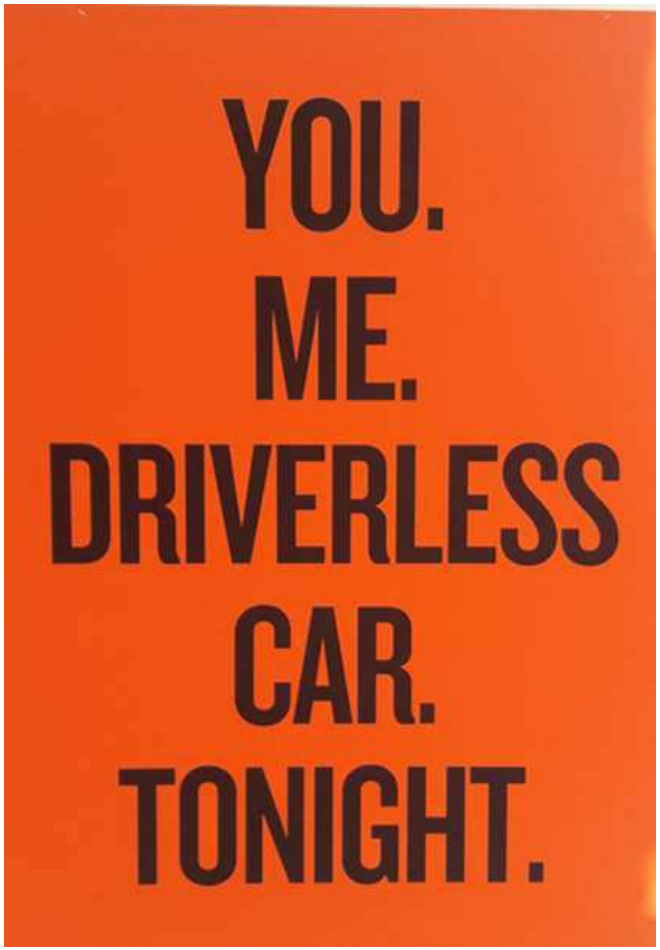
Automation in cities and regions

Optimism bias

ů yet many uncertainties about when AVs will arrive, in what form and with which impact



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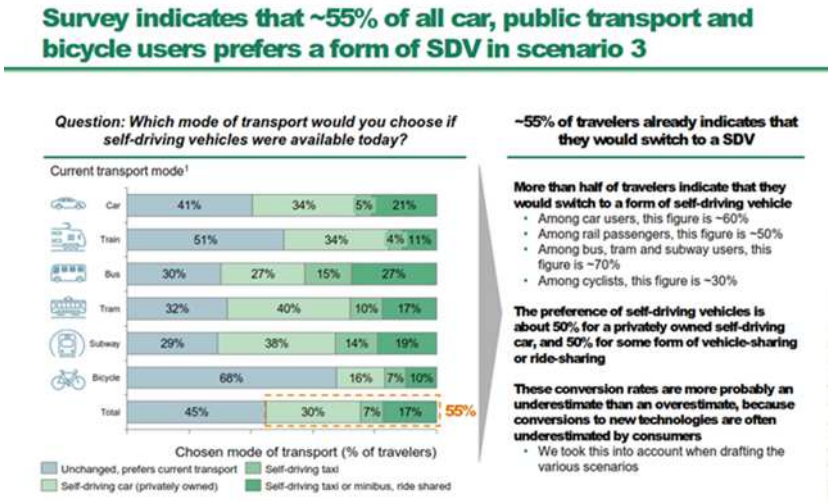
AVs: Possible outcomes for cities

- Travel behaviour
  - Reduction in private car ownership
  - More motorised trips
- Spatial
  - More public space created by redundancy of parking
  - Urban sprawl and longer commuting
- Social
  - Enhance transport provision to persons with limited transport access
  - Increased social division and inequality



Impact of self-driving vehicles on the city of Amsterdam, Study commissioned by the city of Amsterdam

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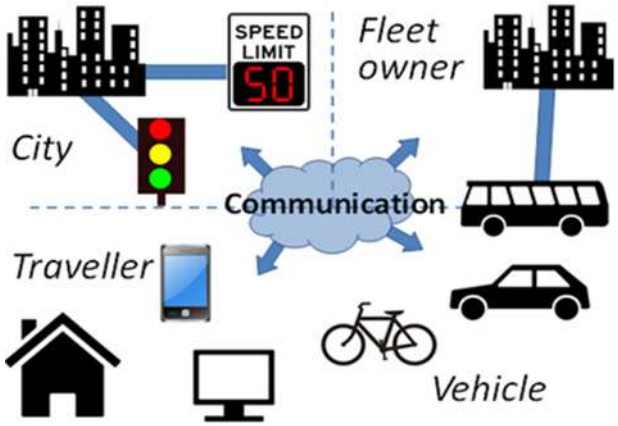
AVs: Possible outcomes for cities

- Road safety
  - (i) driver distraction reduction; (ii) road rules compliance
  - (i) Interaction with VRUs; (ii) technology infallibility
- Traffic management/efficiency
  - C-ITS: richer data for traffic and asset management; improved vehicle control
  - Improved traffic efficiency leads to more vehicles
- Infrastructure
  - If significant investments: new business models



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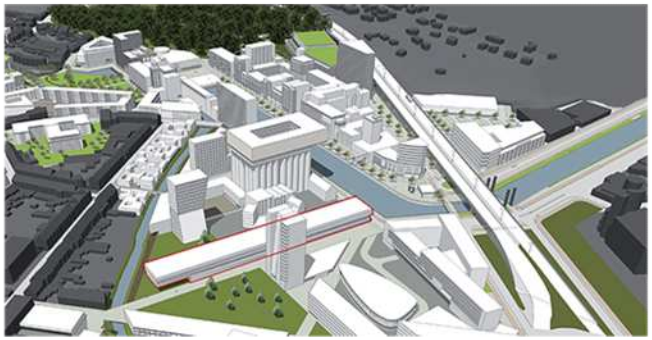
AVs: Key issues for cities

Policy, planning & urban development



Holistic approach to AVs

Personal security & safety

Tackling predicted growth in trips/km driven

Managing change

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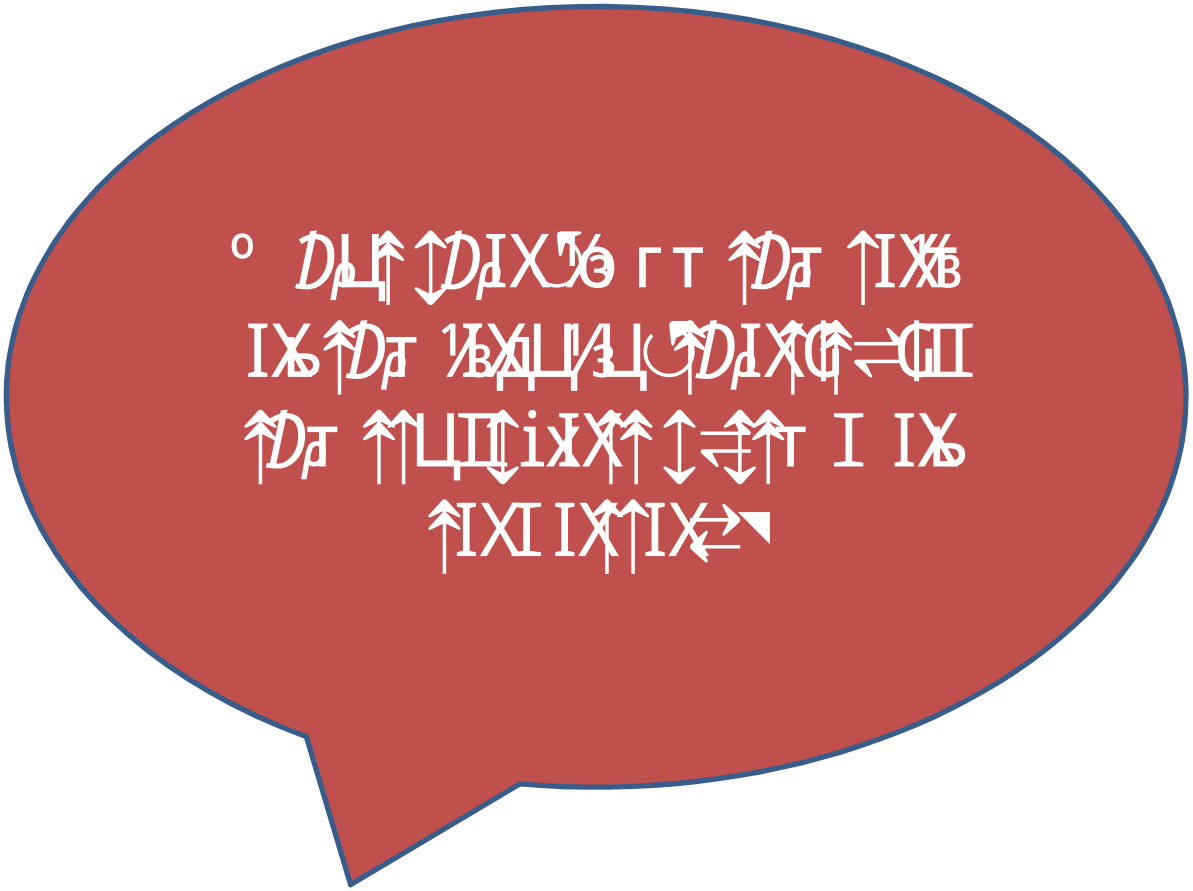
So...



Regulate to innovate!

Thank you!

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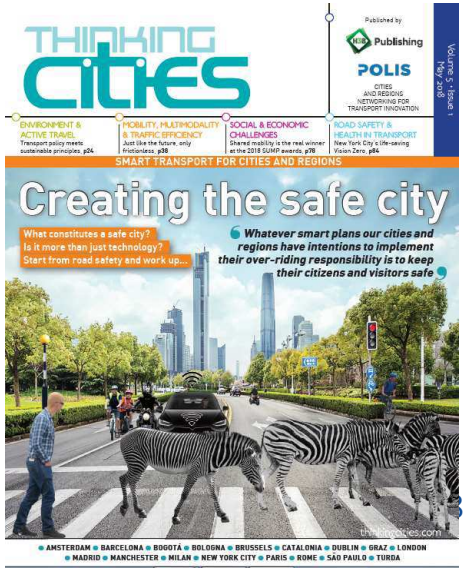
22-23 November 2018, Manchester

Innovation in Transport for Sustainable Cities and Regions



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