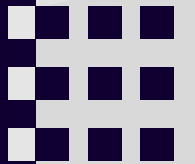


Developing a charging strategy in line with Sustainable Urban Mobility Plan (SUMP) goals

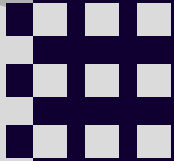
23 September 2022

Henning Günter

Rupprecht Consult – Forschung & Beratung GmbH



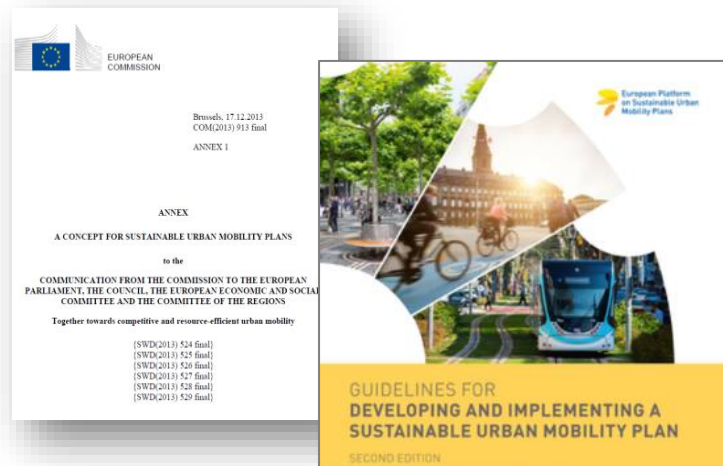
1. SUMP – why is it relevant?



Definition of SUMP

An **integrated, strategic, long-term transport planning** with **clear goals** and **monitoring** that aims at **better accessibility** and **quality of life** for the **functional urban area**.

European policy framework for SUMP



- Urban Mobility Action Plan (2009)
- Transport White Paper (2011)
- Urban Mobility Package COM(2013) 913, Annex 1: Recommendation to develop a SUMP, criteria for the “SUMP”.
- SUMP Guidelines, January 2014/October 2019 (www.eltis.org/mobility-plans)
- Many projects supporting the SUMP (e.g. CH4ALLENGE, SUMP-UP)
- SUMP Coordination Platform Annual SUMP conferences and knowledge base in ELTIS
- It is increasingly seen as a requirement or “competitive advantage” to attract EU funding for urban transport (e.g. in the Structural and Investment Funds, Horizon 2020-CIVITAS, Connecting Europe Facility)

Current planning situations

1

Development of Master Plans

- Development of a Transport/Mobility Master Plan (in progress or completed)
- Measures defined without a comprehensive social and political process
- Without a clear implementation path

2

Major infrastructure projects

- Selected major infrastructure projects (in planning/ implementation process)
- Available funding and political support
- Social and environmental measures are dismissed, e.g. non-motorised mobility

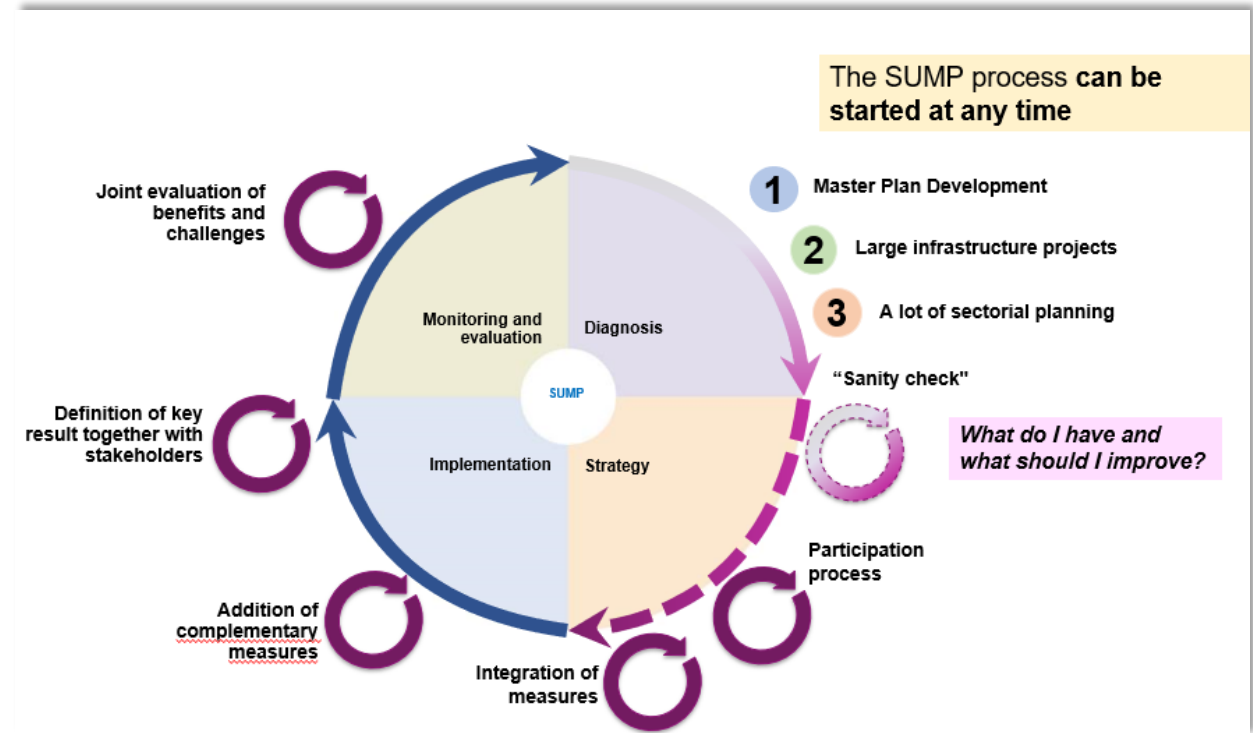
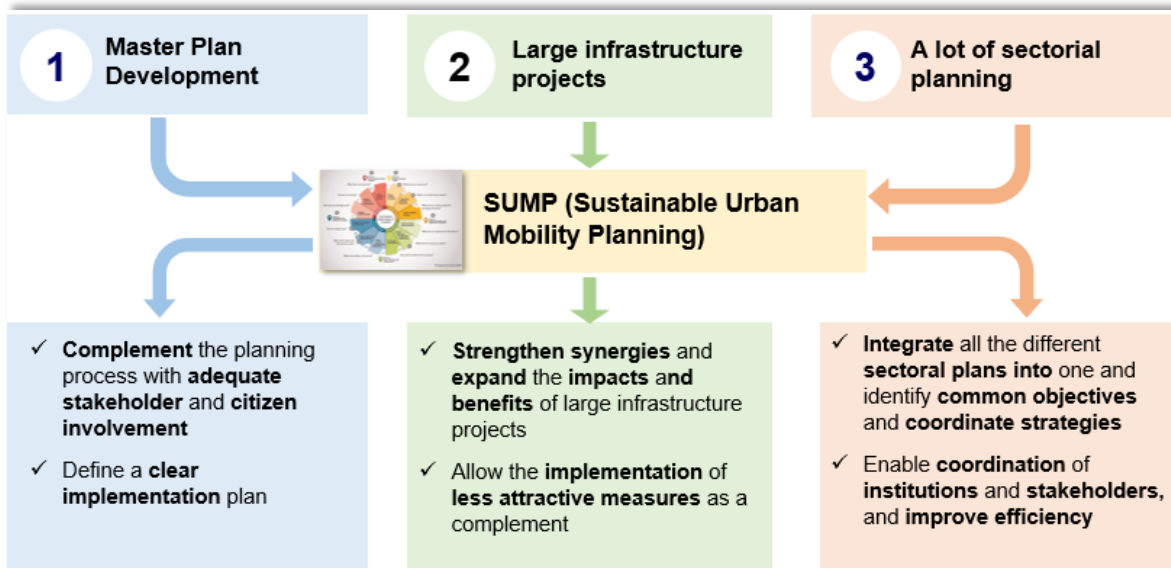
3

Lots of sectoral planning

- Poor implementation
- Abundant sectoral plans developed
- Plans with different objectives without integration between them
- Lack of coordination between institutions leading to duplication of efforts

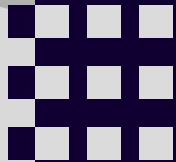
How can SUMP help?

SUMP is based on existing planning practices to initiate integrated planning processes on the local or regional level.



Depending on the local or regional planning status and existing planning documents and sector plans, planning products are developed collaboratively. This could be a new comprehensive planning document (SUMP) or complementary products to already existing plans (e.g. masterplans).

2. How the SUMP principles apply to e-mobility



Essence of SUMP: The eight principles



1 Plan for sustainable mobility in the “functional urban area”



5 Define a long-term vision and a clear implementation plan



2 Cooperate across institutional boundaries



6 Develop all transport modes in an integrated manner



3 Involve citizens and stakeholders



7 Arrange for monitoring and evaluation



4 Assess current and future performance



8 Assure quality

Cooperation across institutional boundaries

Key aspects

- **Cooperate among departments** relevant to mobility (e.g. urban planning, health, environment, economy, social services)
- **Exchange across levels of government** and with transport providers

Benefits

- Helps to **harmonize policies** in related sectors (esp. urban and transport planning)
- **Joint measures** with **pooled resources** and **capacities**



*The Sustainable Urban Mobility Committee in Trujillo, Peru launched officially by the mayor.
(Source: Comus)*

Involvement of citizens and stakeholders

Key aspects

- All concerned stakeholders involved
- Dialogue with citizens
- **Active engagement** throughout the planning process

Benefits

- **Higher acceptance** of planning results
- Minimizes **political risks**
- Helps to consider **all important perspectives**



Presenting the SUMP process to the public. SUMP homepage of Antofagasta, Chile (Source: PMUS Antofagasta website)



The new mayor of Ambato, Ecuador, promoted sustainable mobility as a cornerstone of his campaign and supports SUMP.

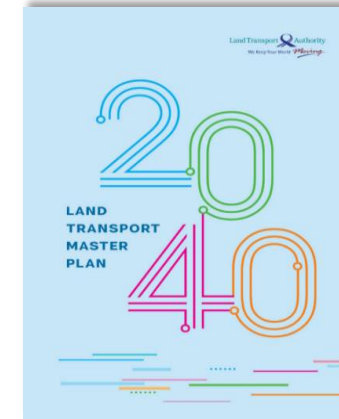
Cooperation across institutional boundaries

Key aspects

- **Well-established vision** with suitable strategic objectives that guide measure selection
- Actions with **agreed budget, responsibilities and timing**

Benefits

- Allows **systematic selection of most effective measures**
- Makes **individual projects more attractive** for external funding
- Facilitates **implementation**



Singapore developed a comprehensive strategy, the “Land Transport Master Plan 2040” that includes long-term perspectives, clear visions and a strategy for urban life in Singapore.
Source: ©Singapore Land Transport Master Plan 2040



45-Minute City with 20-Minute Towns.
A city where you can be anywhere in 45 minutes, using “Walk-Cycle-Ride” modes. In 20 minutes, the nearest neighbourhood centre can be reached by foot, bike or public transport.

Development of all transport modes in an integrated manner

Key aspects

- **Integration** of all transport modes and **prioritization** of sustainable modes
- **Measure packages** (regulation, promotion, taxation, technology, infrastructure)

Benefits

- Effective actions that **achieve shift** to sustainable mobility
- Packaging maximizes **synergies** and increases **acceptability**



Marikina City, Philippines created a comprehensive measure package to promote **cycling** and to improve **road safety**. The city implemented consistent new regulations and traffic rules and organised a bicycle safety campaign including safety education and information. For promoting multimodal mobility, a bicycle parking station was set up at the train station. (Source ©Aldrin B. Plaza, <https://bluprint.onemega.com/make-bike-lanes-work/>)

The SUMP cycle



Examples of roadmaps for transport electrification: E-mobility in SUMP

aachen.de
Die offizielle Webseite der Stadt Aachen

Verkehr & Straße

Sie sind hier: Verkehr - Straße > Verkehrskonzepte > Verkehrsentwicklungsplanung

Verkehrsentwicklungsplanung

BürgerWerkStadt Mobilität

clever mobil mobil

Verkehrsentwicklungsplanung
Bürgerbeteiligung VEP 2015
Mobilitätsstrategie 2030
Verkehr in Aachen #mobilität
Verkehrsentwicklungsplanung
Überblick
Ergebnisse der BürgerWerkStadt Mobilität 2015
Mobilitätsstrategie 2011

Verkehrs-Entwicklungs-Planung Aachen

Einmalige Bürgerbeteiligung für Mobilitätsstrategie Aachen

SUCCESS CRITERIA 2015

- A municipal electric car community has been established
- 25% of public-sector vehicles in the capital region are electric cars or other types of cars running on green energy
- There are 12,000 electric cars in the capital region, the majority privately owned
- Collaboration has been initiated between public authorities and private operators for planning and roll-out of a cohesive network of charging points for electric cars based on common standards, ease of access and visibility throughout the Region
- The municipalities and the Region have conducted analyses of their own transport requirements in relation to fleet management and rationalisation of operation and optimisation of the public-sector fleet
- The municipalities and the Region are stepping up their demands in relation to the transport operators' carbon emissions

- Municipalities and the Region influence the state to continue making significant investments in framework conditions for transportation to promote climate-friendly transport
- A comprehensive plan has been devised to limit congestion in the capital region

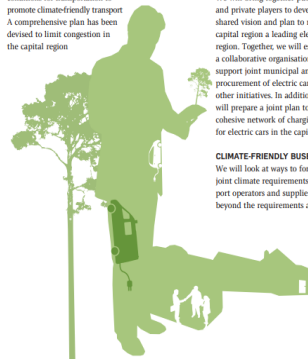
We will:

ELECTRIC CAR REGION
We will bring together public-sector and private players to develop a shared vision and plan to make the capital region a leading electric car region. Together, we will establish a collaborative organisation to support joint municipal and regional procurement of electric cars and other initiatives. In addition, we will prepare a joint plan to expand a cohesive network of charging points for electric cars in the capital region.

CLIMATE-FRIENDLY BUSES
We will look at ways to formulate joint climate requirements for transport operators and suppliers that go beyond the requirements already in

place today. The requirements could, for example, relate to green fuels, transport technologies in the form of electric buses or hybrid buses, requirements concerning driving patterns, fewer buses servicing less popular travel times, etc. Movia, Regional Municipality Council of the capital region and the Capital Region of Denmark will appoint an administrative working group to prepare a proposal for Movia's board, Regional Municipality Council of the capital region and the regional council during 2012.

MOBILITY PLANNING
We will test different methods for more effective mobility planning. In so doing, we will explore the possibilities of initiating a car-pooling project in the capital region. The purpose of the project will be to increase mobility and reduce the need for use of private cars, as well as to test ways afforded by new technology for overcoming the logistical barriers typically associated with carpooling.



18 STRAND 1 QUARTERLY TRIPREPORT

18 STRAND 1 QUARTERLY TRIPREPORT

Ajuntament de Barcelona
Urban Mobility Plan of Barcelona 2013-2018

Study incentives to encourage the use of sustainable vehicles within the municipal area

- Promote the use of sustainable vehicles in the city.
- Reduce emissions in the city (air pollution and noise).

Description:

The transformation of the public municipal fleet, through bids, has permitted to the city of Barcelona to have a large part of its fleet with clean vehicles. For example at the end of the year 2011, it had more than 280 electric vehicles and plug-in hybrids.

The transformation of the fleet of vehicles of municipal services towards more sustainable modes is one step further in the promotion of this new model of mobility.

An Ultra Low Emission Vehicle Delivery Plan for London

Cleaner vehicles for a cleaner city

July 2015

MAYOR OF LONDON



PLAN DE MOVILIDAD URBANA SOSTENIBLE DE LA CIUDAD DE MADRID

PMUS
PLAN DE MOVILIDAD URBANA SOSTENIBLE DE LA CIUDAD DE MADRID

80. DEFINICIÓN DE UN MARCO ESTRATÉGICO DE FOMENTO DE VEHÍCULOS MENOS CONTAMINANTES

El taller realizado por la Mesa de Movilidad sobre la movilidad eléctrica estableció las bases estratégicas en materia de promoción de la movilidad eléctrica en Madrid. El nuevo PCA deberá integrar estas orientaciones entre sus medidas:

- Realización de una Estrategia de Movilidad Eléctrica que como mínimo concrete las siguientes acciones:
 - Mantenimiento e incremento de incentivos existentes, que compensen los mayores costes de adquisición y mantenimiento (desgravación Impuesto de circulación y SER)
 - Aplicación de una política comercial por parte de los fabricantes de automóviles que acerque los precios de inversión y de uso a los estándares de otras tecnologías, así como que de respuesta a los problemas del coste residual y de siniestro total.
 - Habilitación de una red de recarga rápida en gasolineras, centros comerciales y aparcamientos subterráneos.
 - Promoción de nuevos productos para el uso de los aparcamientos como puntos de recarga (tarificación bonificada en los aparcamientos públicos de concesión a los vehículos poco contaminantes)
 - Aprobación de una nueva reglamentación que potencie en las nuevas edificaciones la incorporación de la dotación correspondiente de puntos de recarga eléctrica
- Profundizar en el marco regulatorio de las zonas de bajas emisiones.
- Apoyo a las empresas interesadas en la adquisición y renovación de sus flotas desde un servicio de información y asistencia objetivo y fiable
- Refuerzo al funcionamiento del Foro de Movilidad Eléctrica como marco de trabajo interinstitucional necesario para concretar la Estrategia

Además de las acciones comentadas anteriormente, en el período de aplicación del PMUS, el Ayuntamiento de Madrid, a través de la Agencia de la Energía de la Ciudad de Madrid, impulsará una serie de actuaciones para la incorporación de combustibles y tecnologías menos contaminantes en el parque circulante de la ciudad, entre las que destacan las siguientes:

GMEV
Greater Manchester Electric Vehicle Scheme

Contact Us

Transport for Greater Manchester

Charging your car
Find out more

**Park up, plug in
Go Electric**

Greater Manchester launches electric vehicle c...

Why Electric?
Everything you need to know...

Charging your car
Find out more

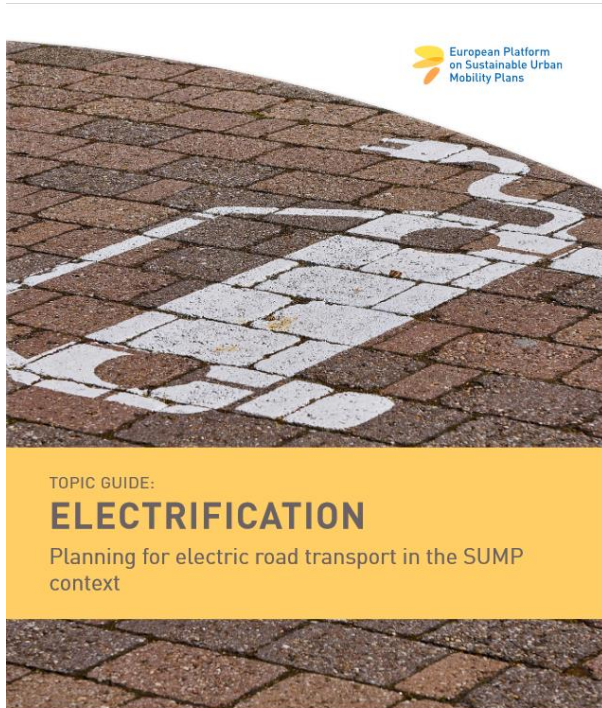
Register
Join the UK's open recharging network. Charge your car is our partner organisation who will take you through the registration process. (Read our privacy statement)

Register for app
The Charge Your Car app is the first of its kind in the world that allows drivers to use charge points.

Stockholm
Capital of Sweden

Clean vehicles in Stockholm

Integration of e-mobility strategies in SUMP



https://www.eltis.org/sites/default/files/electrification_planning_for_electric_road_transport_in_the_sump_context.pdf



Horizontal:

- Integration of e-mobility and charging goals in other city & sectoral strategies, e.g. neighbourhood planning & land-use development, parking strategies, ...

Modal:

- E-mobility is multimodal with public transport as the backbone
- Targets for share of electric travelling
- Targets for interoperable charging based on open standards

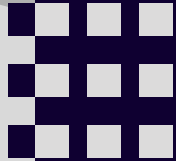
Sectoral:

- Grid infrastructure planning; charging infrastructure development
- Need for cooperation with stakeholders incl. urban logistics, freight, captive fleets, etc.

Societal:

- Inclusion of e-mobility in SUMP requires public participation, e.g. enable citizens to submit requests for charging points
- Ensure accessibility and gender inclusivity

3. SUMP-based suggestions for developing charging strategies



Get your priorities right: what do you want to solve?

E-mobility is not just about cars...

It is part of the mobility ecosystem of urban areas



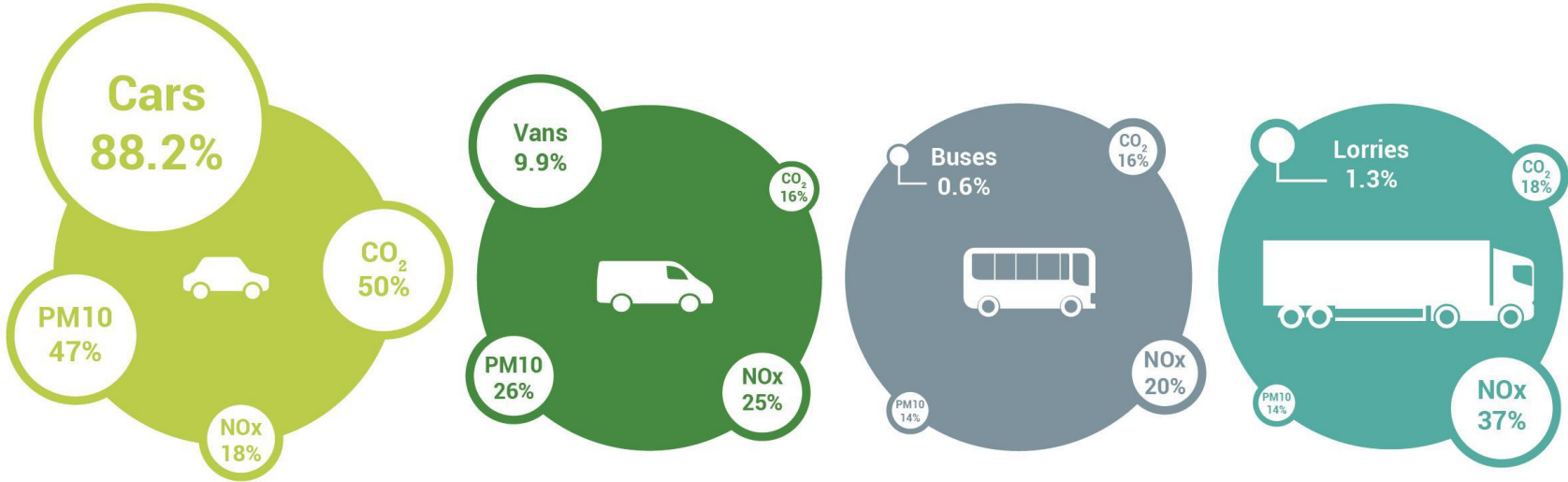
Maximise impact and efficiency

Focus on heavy-duty vehicles:

- Fleets that are the **most polluting ones** (buses, trucks)
- Fleets which **cover long distances per day**
- **Direct decision by the public local authorities**
- **Big impact** of the electrification of these fleets (compared to cars)



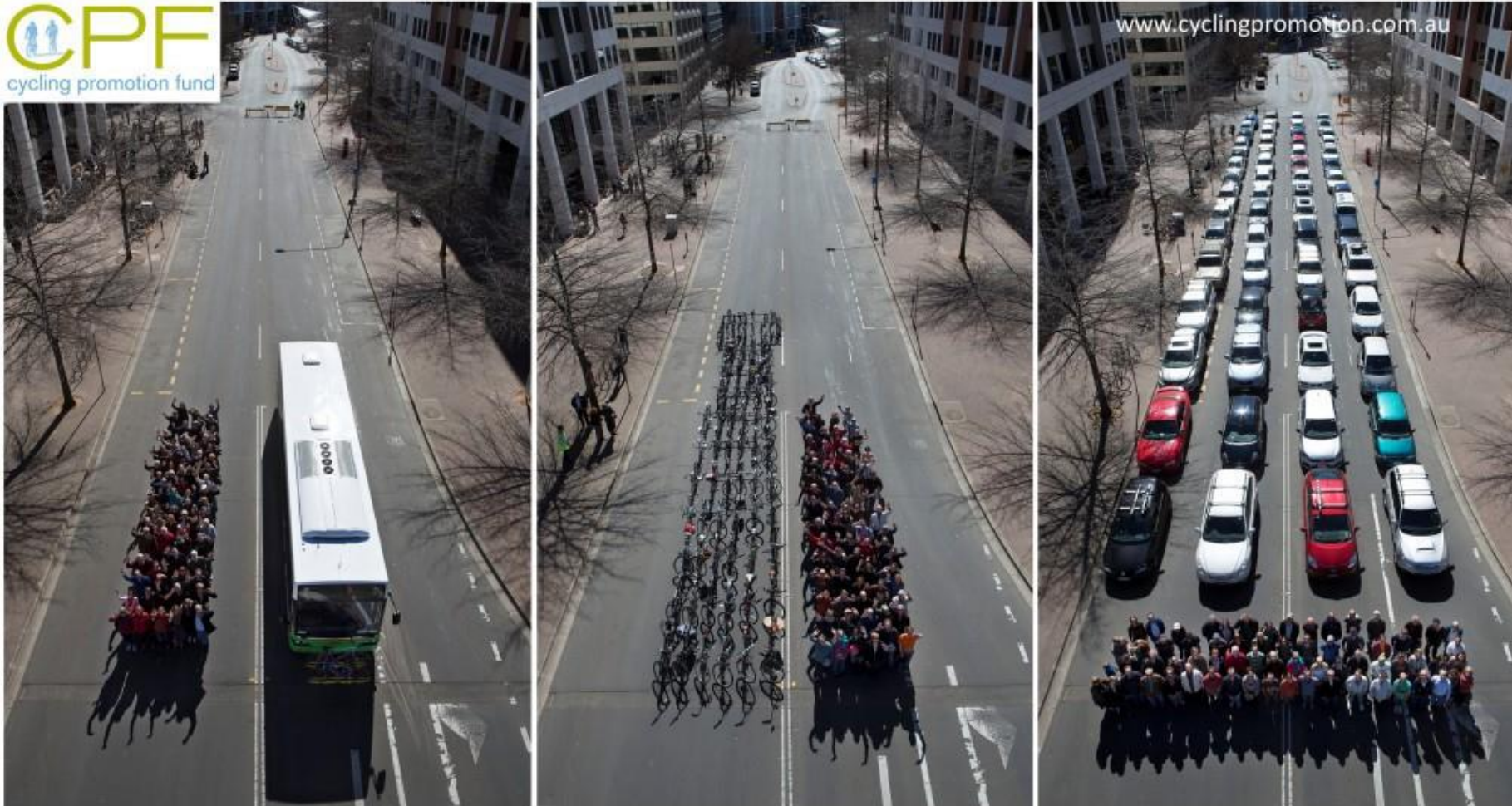
Proportion of vehicles in traffic and emissions



Source: Transport Decarbonisation Alliance

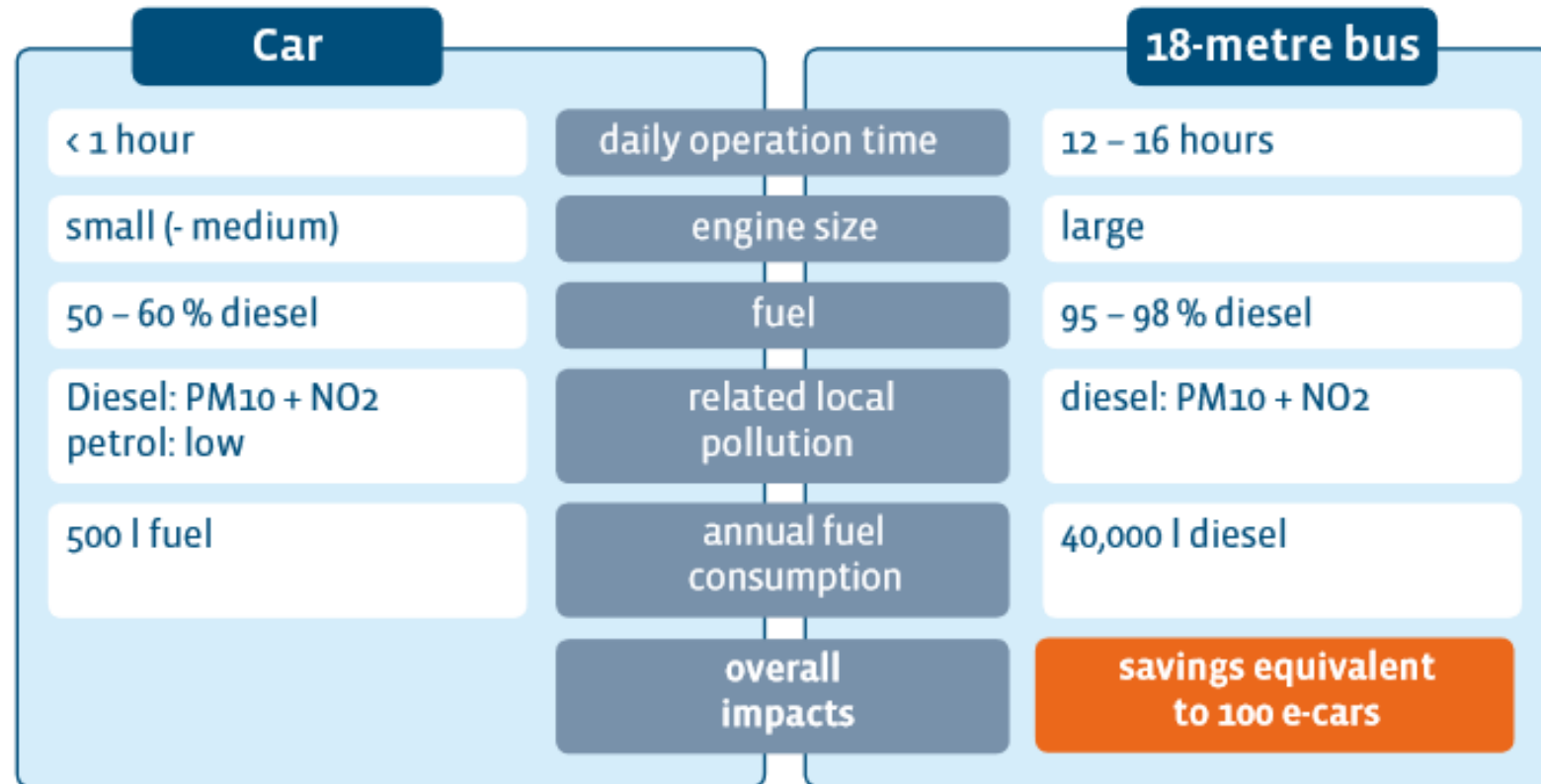
E-mobility implementation: how to get it right?

Align to your vision for sustainable urban mobility!



The ELIPTIC Factor 100 Campaign

Why it is so important to focus more on the electrification of public transport?



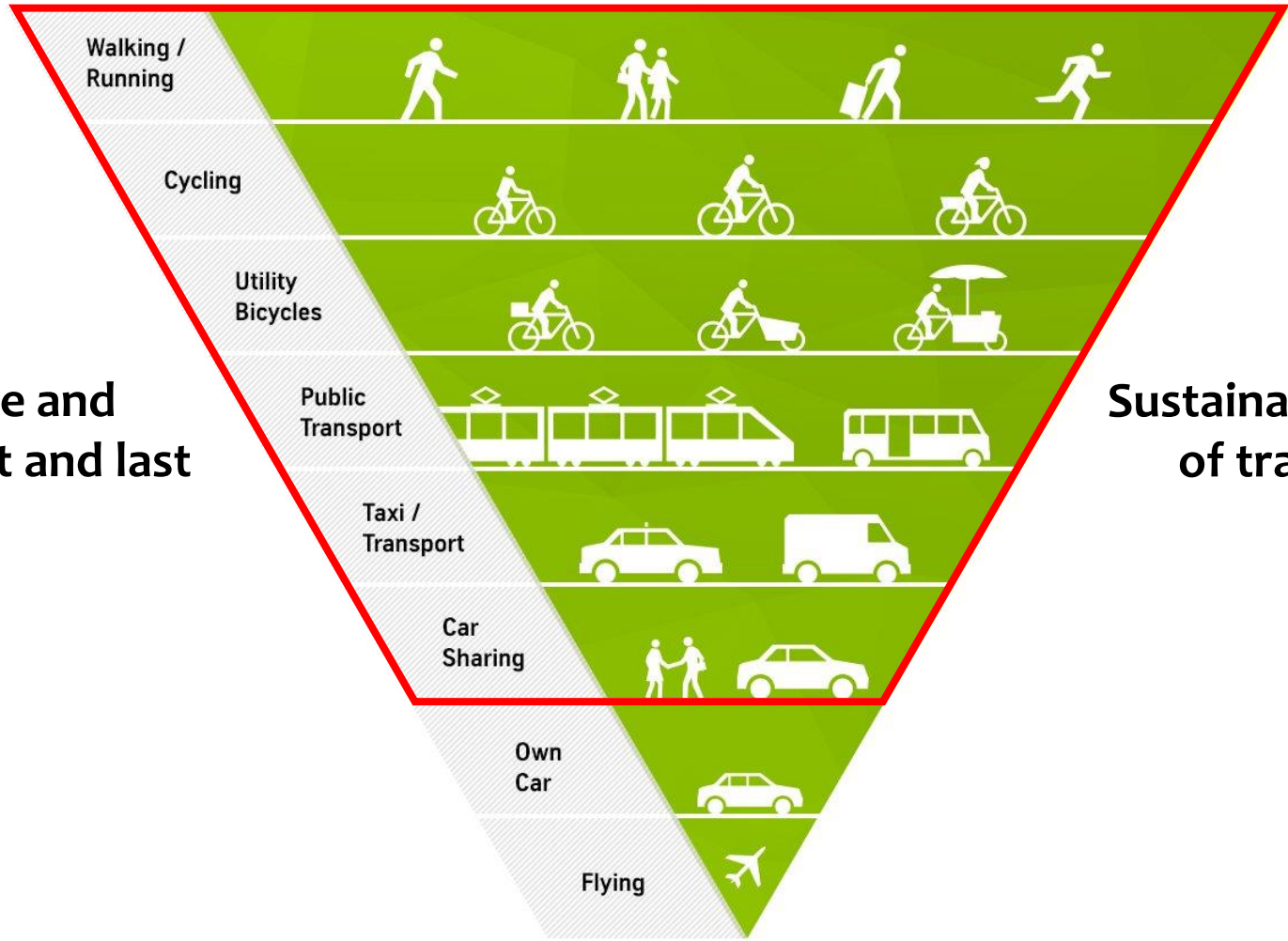
https://eliptic-project.eu/sites/default/files/Faktor100_Folder_EN_RZ3__o.pdf

Coaster from the "factor 100" campaign of the European H2020 ELIPTIC project.

Enable intermodal (e-)mobility trip chains based on strong public transport backbones

Decarbonisation of mobility – how do we achieve CO2-neutrality in our cities?

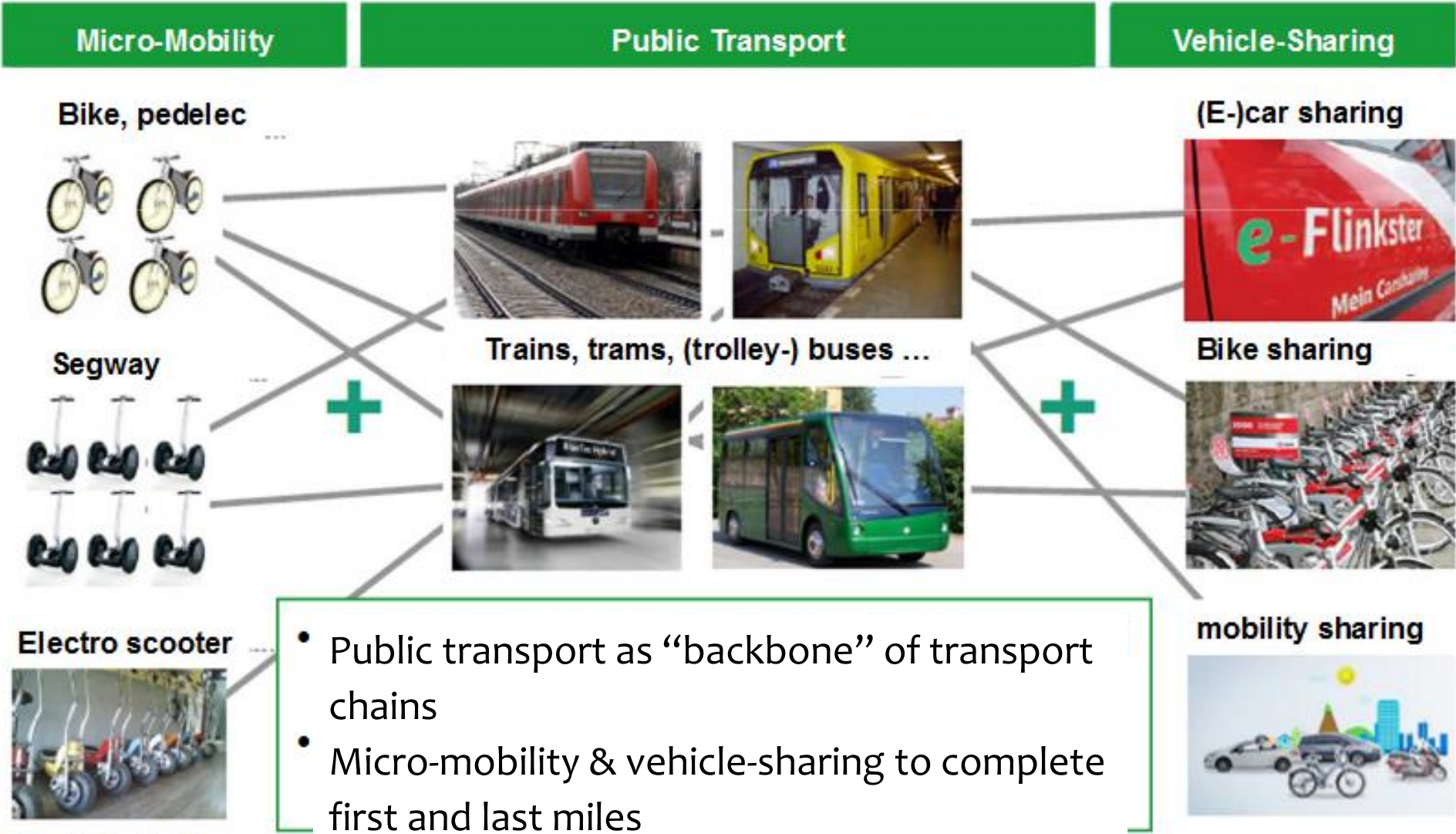
Public transport as backbone and connecting element for the first and last mile



Sustainable modes of transport

© Bicycle Innovation Lab, Copenhagen, DK

E-mobility chains



Source: Spath, IAO, 2011

Development of e-mobility hubs



An opportunity to transform the mobility system

Example: Arnhem (NL) - Sustainability & multimodality

- An **all-in-one combination** for the fast-charging of electrical vehicles, powered by the local trolley-tram network
- **Reduces operational costs and energy losses**
- Exploit synergies in the usage of existent infrastructure, while **promoting multi-modality and decarbonisation.**

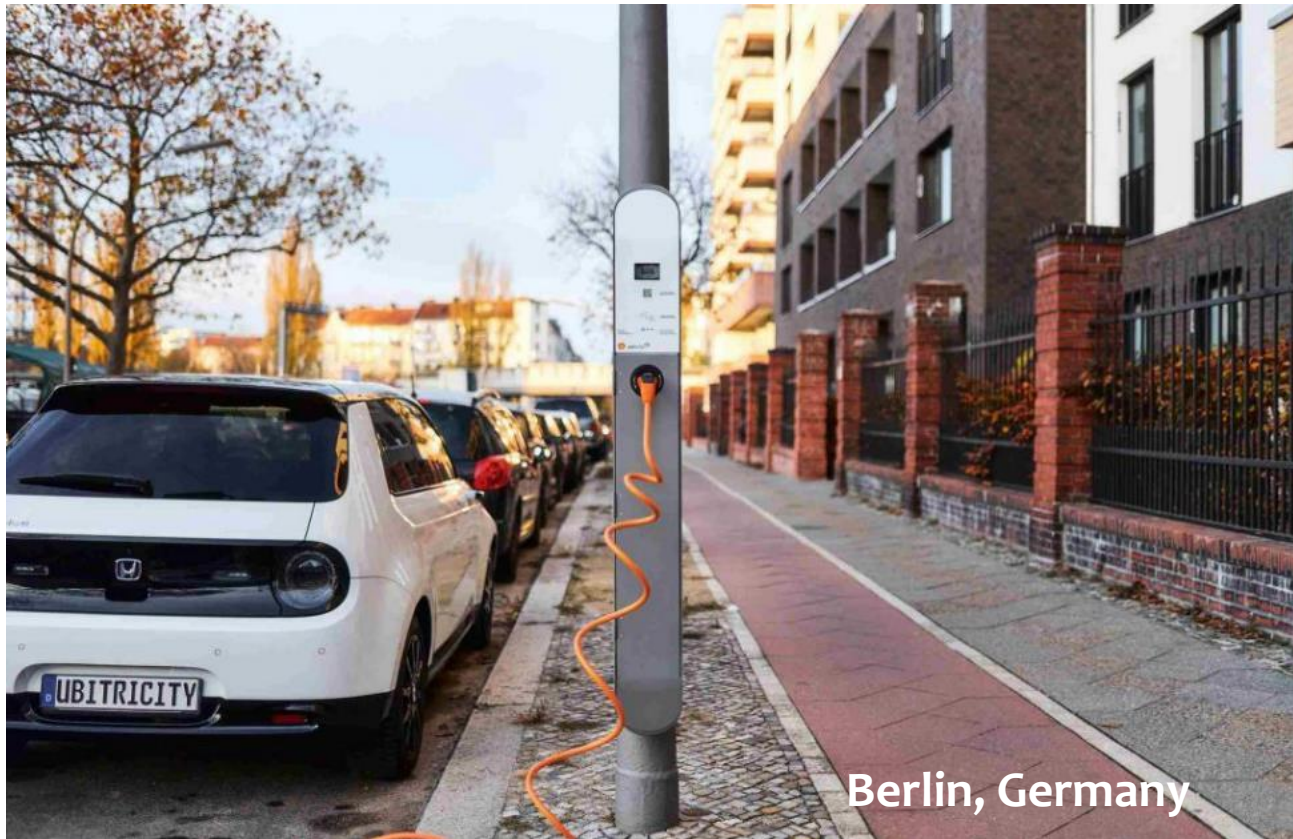


©VenemaTech
<https://venematech.nl/e-autos/vehicle-fast-charger/>

Urban mobility planning, parking and charging strategies need to be closely aligned

Management of public space

Integration with existing urban furniture



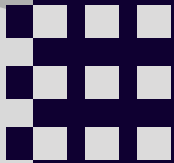
Management of public space



No curbside occupancy = Safer streets for all citizens, including people with disabilities



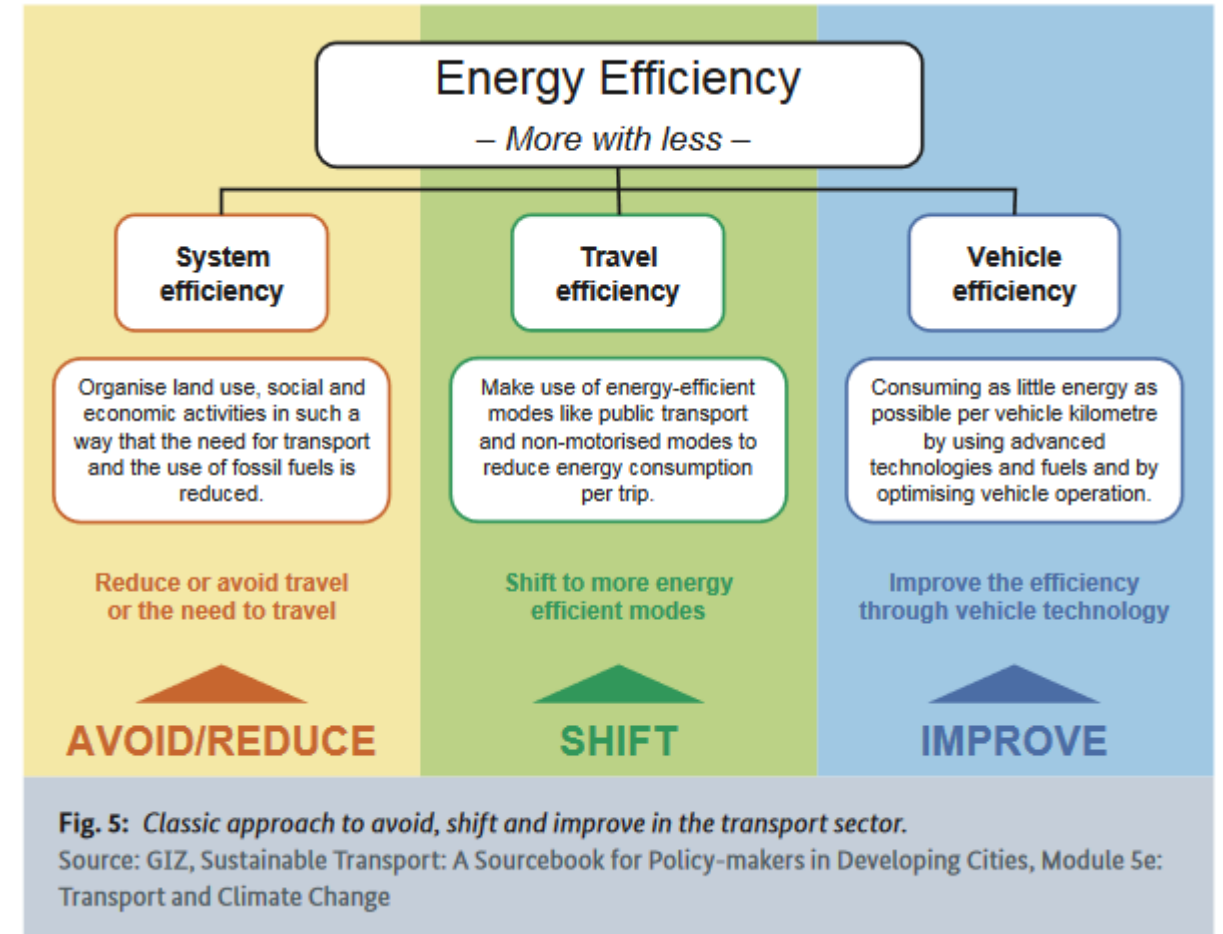
Conclusions



Conclusions

- **Space distribution:** an electric car consumes as much space as a conventional one
- **Congestion:** all cars consume roughly the same space - a simple shift from conventional to electric cars will only result in “cleaner” congestion
- **Safety:** improving road safety and addressing vulnerable road users requires more than just the electrification of cars

The larger goal needs to be to move towards a higher amount of **shared fleets** that is much more effectively used and away from privately-owned vehicles



Support to the implementation of SUMP in Latin America

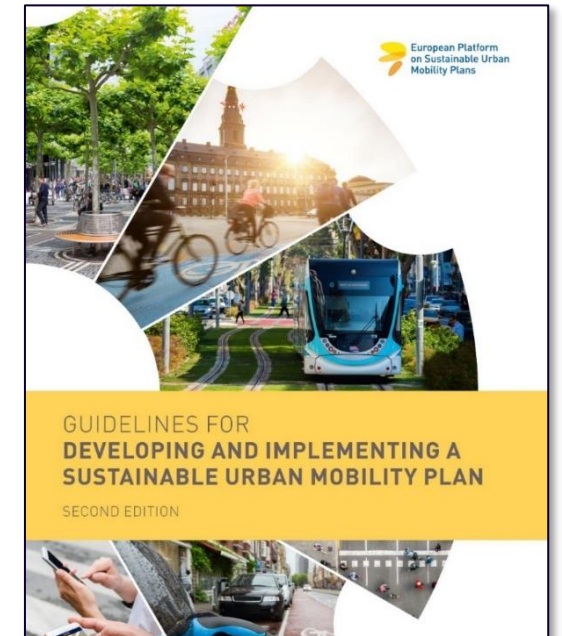


© Rupprecht Consult, Susanne Böhler

SUMPs for Latin America

EUROCLIMA+ is a regional cooperation programme that fosters climate-resilient and sustainable development in 18 countries in Latin America. Its targets currently are focused to provide technical and financial support for the development and implementation of climate change adaptation and mitigation policies while facilitating policy dialogue and climate action. In this framework, this project is aimed to provide support for the development of sustainable urban mobility in Latin America through direct support to Latin American partners and GIZ in the development of the EUROCLIMA+ Sustainable Urban Mobility Plans (SUMPs) in three pilot cities.

These are Ambato (Ecuador), Antofagasta (Chile) and Guadalajara (Mexico), as well as to the EUROCLIMA+/MobiliseYourCity regional Community of Practice (CoP). It includes the provision of specific advice for the structuring of the SUMP development, preparation and approval, as well as capacity development, knowledge exchange and good practice dissemination.



Support to the implementation of SUMP in Latin America



Actualización del Plan Maestro de Transporte y Movilidad de Ambato

Implementado por



Plan de Fortalecimiento de la Movilidad Sustentable en la Ciudad de Antofagasta

Implementado por



Análisis de desplazamientos metropolitanos en el Área Metropolitana de Guadalajara

Implementado por



Source: Euroclima+ website

Thank you for your attention!

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