

POLIS

CITIES AND REGIONS FOR TRANSPORT INNOVATION

ANNUAL
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30 November
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Brussels, Belgium



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SUMP innovation for climate mitigation

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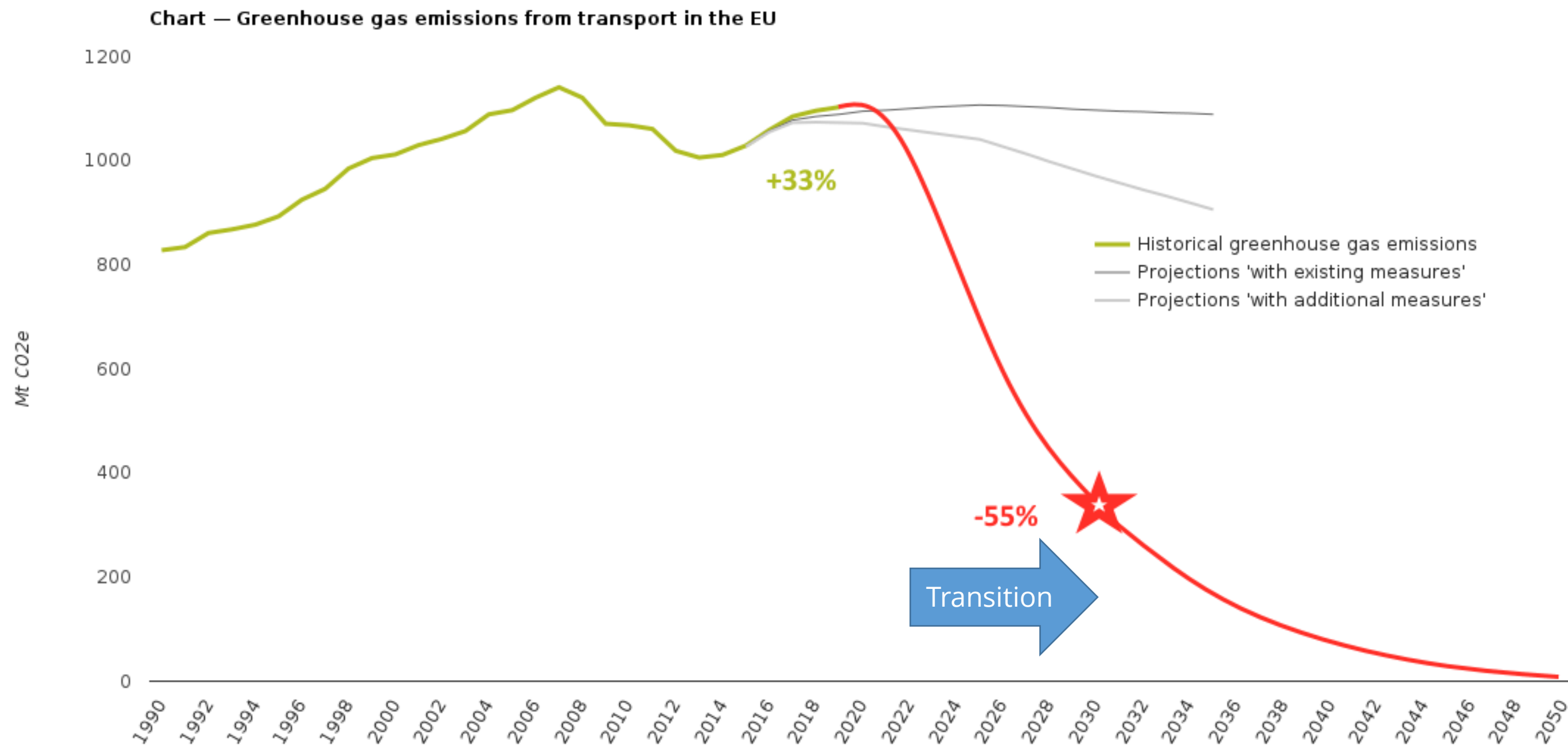
Neri di Volo, EIB/JASPERS

- Main Deficits of SUMP
- Requirements for Sustainable Urban Mobility Planning
- Topic Guide: Decarbonisation of Urban Mobility
- Follow up



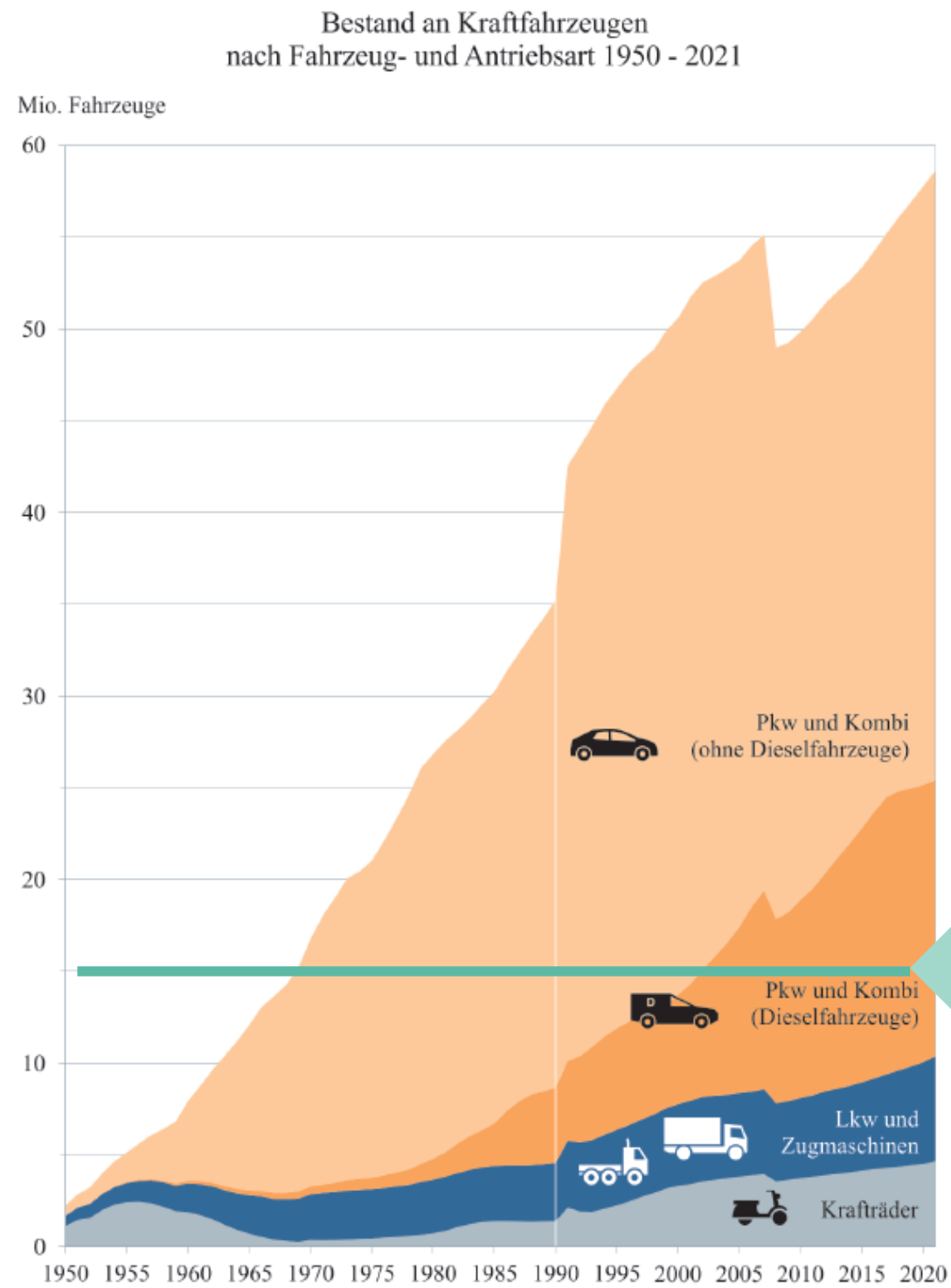


Future pathway needed to achieve climate targets



https://www.eea.europa.eu/data-and-maps/daviz/greenhouse-gas-emissions-from-transport#tab-chart_1

Electric mobility is not sufficient



- Electric mobility is a necessary but not a sufficient condition for climate protection.
- Thus, "traditional transport planning" will continue to play a central role in the medium term.

Goal: 15 million purely electric passenger cars by 2030
= 1/3 of the current fleet.

Quelle: Verkehr in Zahlen 2021/22



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Main Deficits of SUMPs

Study: Climate objectives in Urban Mobility Plans

Study: Infras / EIB:

Overview of Urban Mobility Climate Mitigation Strategies and Climate objectives in Urban Mobility Plans (SUMPs)

Overall objective:

Provide an overview of how European cities address climate change mitigation strategies in transport

Methodology

- Broad screening: 168 SUMPs
- In-depth analysis: 12 SUMPs (potential good practice examples)
- Climate strategies (mainly SECAPs): 23



Download: <http://www.niklas-sieber.de/Publications/2022%20Urban-Climate-Strategies-and-Urban-Mobility-Plans.pdf>

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Conclusion: Analysis of SUMPs

- Climate targets are not clearly defined at the outset: Less than half of SUMPs have **quantitative climate targets** for transport.
- Climate targets are often **not sufficient** to meet Paris goals.
- Impacts of transport measures on GHG emission are often **not quantified**.
- **Monitoring**: Ex-post evaluation of target achievement and implementation of measures is foreseen in less than half of the SUMPs studied.
- **Lack of implementation**, even if ambitious targets exist. Ambitious climate change targets have not been achieved in almost all cases.

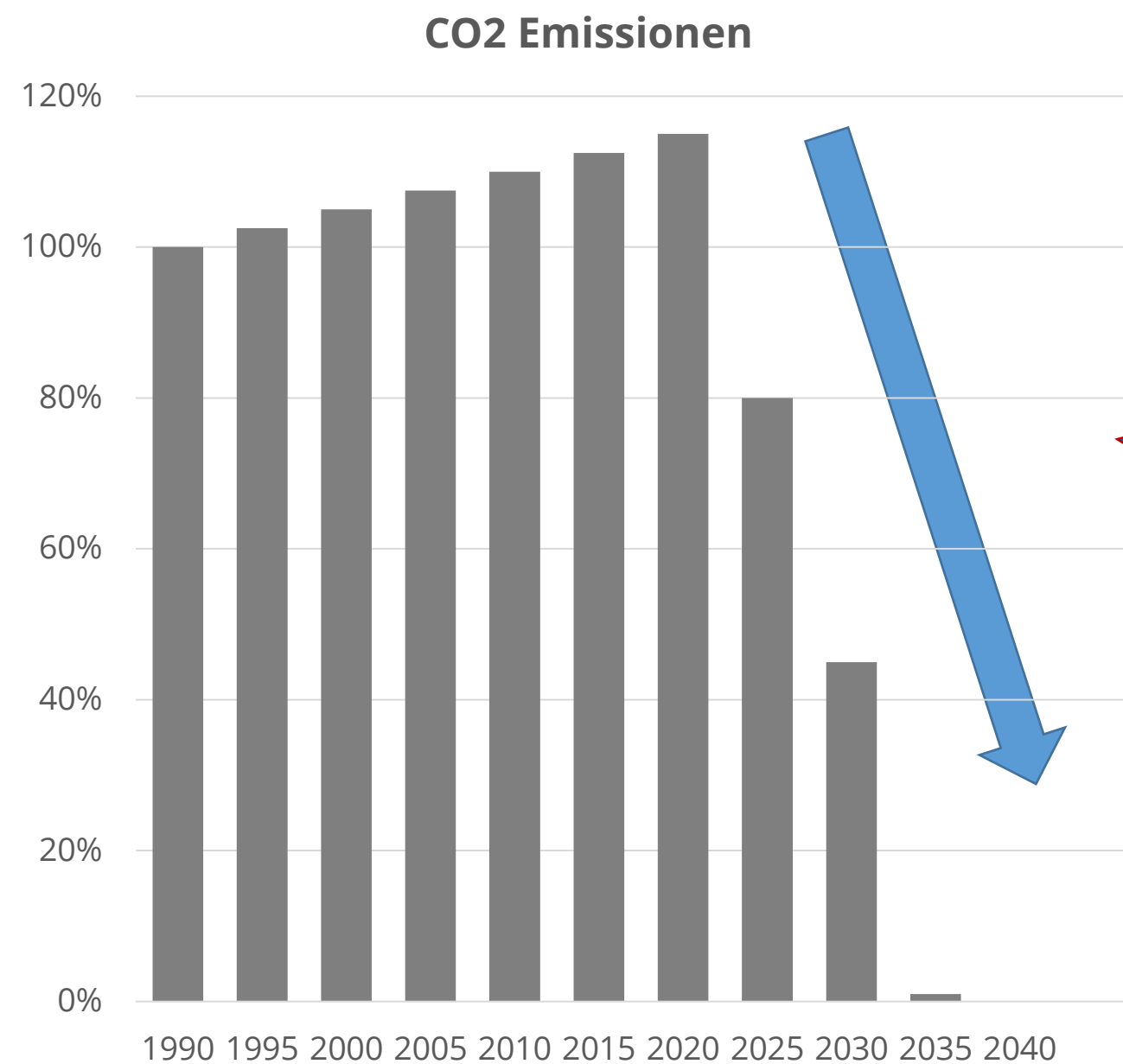
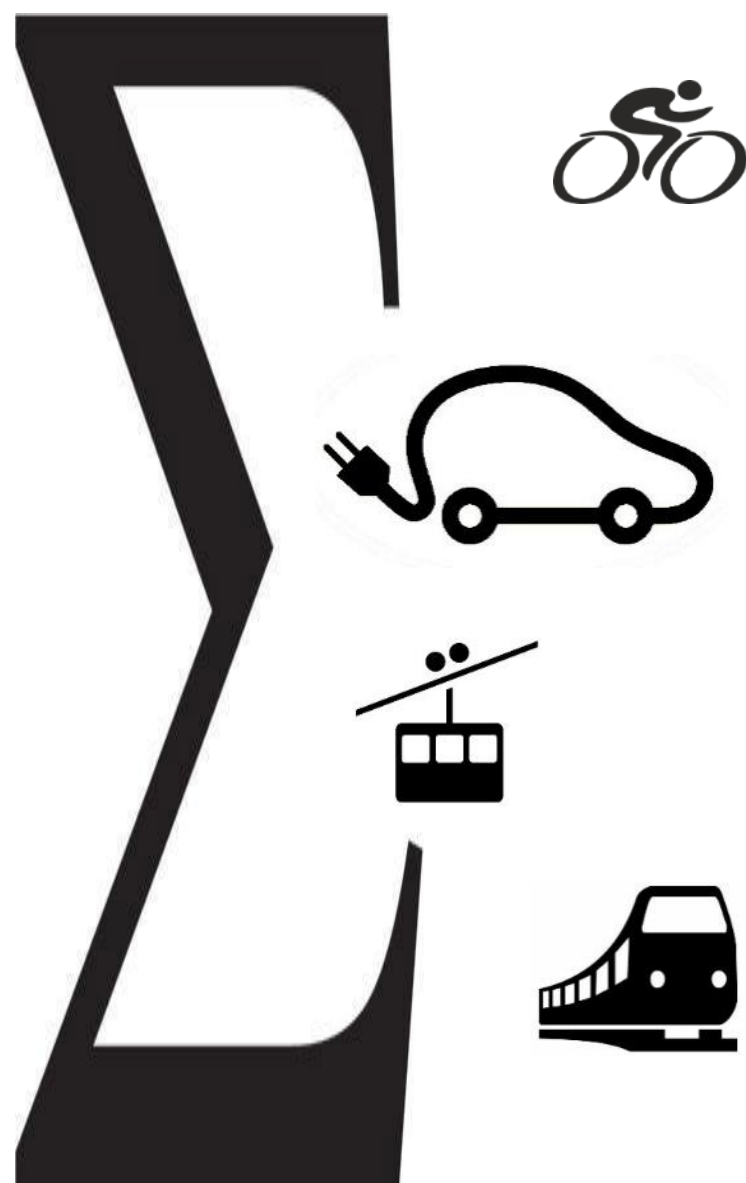


Political reality: Preference for single measures





Only the total amount of CO₂ reductions counts





Future pathway of Baden-Württemberg



Baden-Württemberg
MINISTERIUM FÜR VERKEHR



Double Public Transport



Each 2nd automobil
with zero emissions



Each 2nd tonne
transported climate neutral



20% less motor vehicles

Climate
Goal
2030
-55% CO2



Each second trip
by walking, cycling or scooter

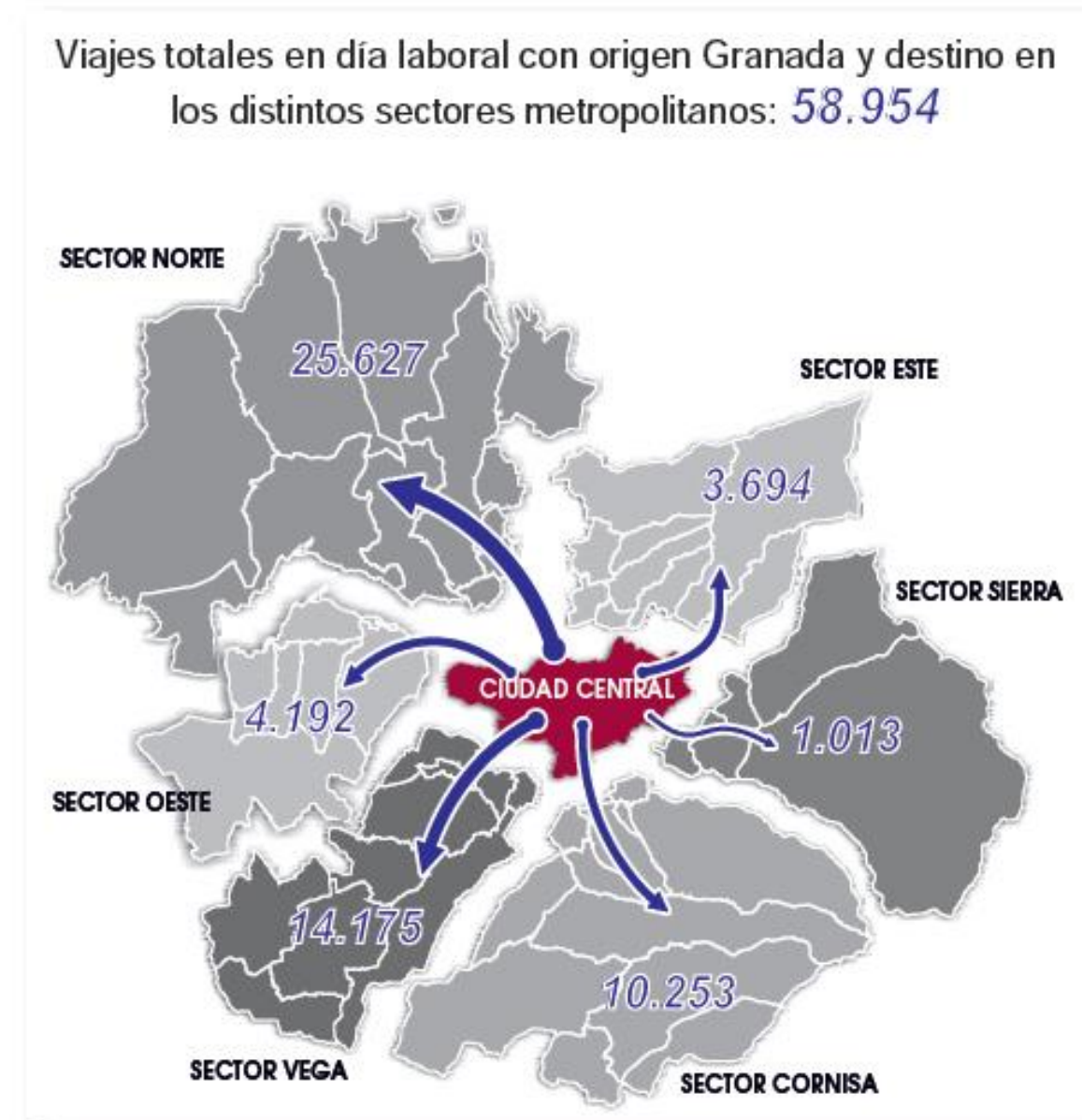
Political preference for Pull Measures



- Push measures that make car traffic unattractive have a low acceptance.
- Improvements in public transport do not automatically lead to a reduction in car traffic; and due to the improved supply of PT services, CO₂ emissions might even increase as a consequence.

No regional scope for SUMPs

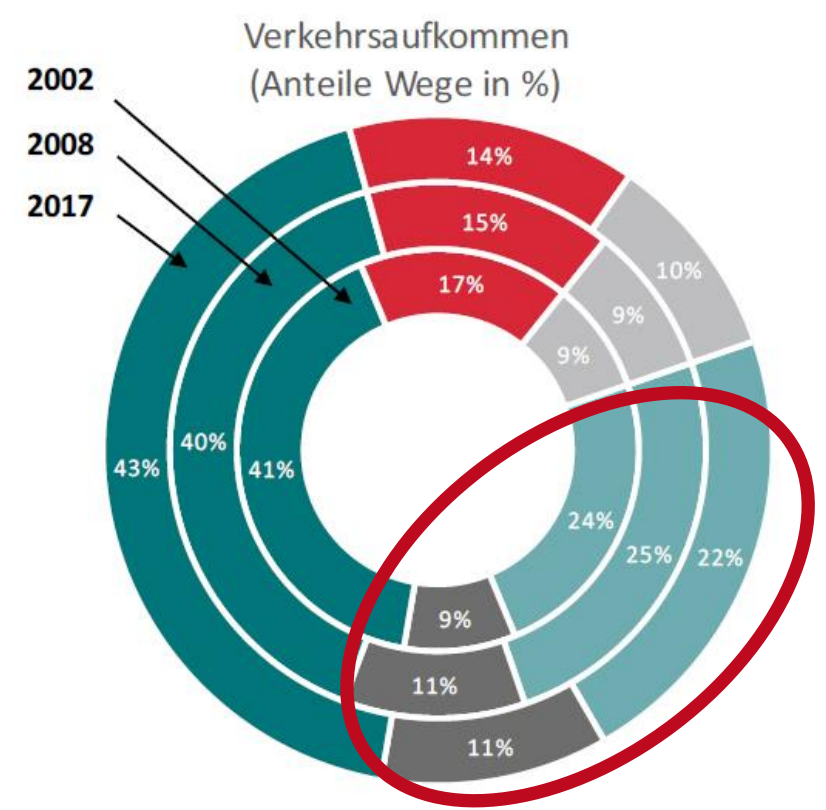
2/3 of Potential SUMPs plan within administrative boundaries of their city



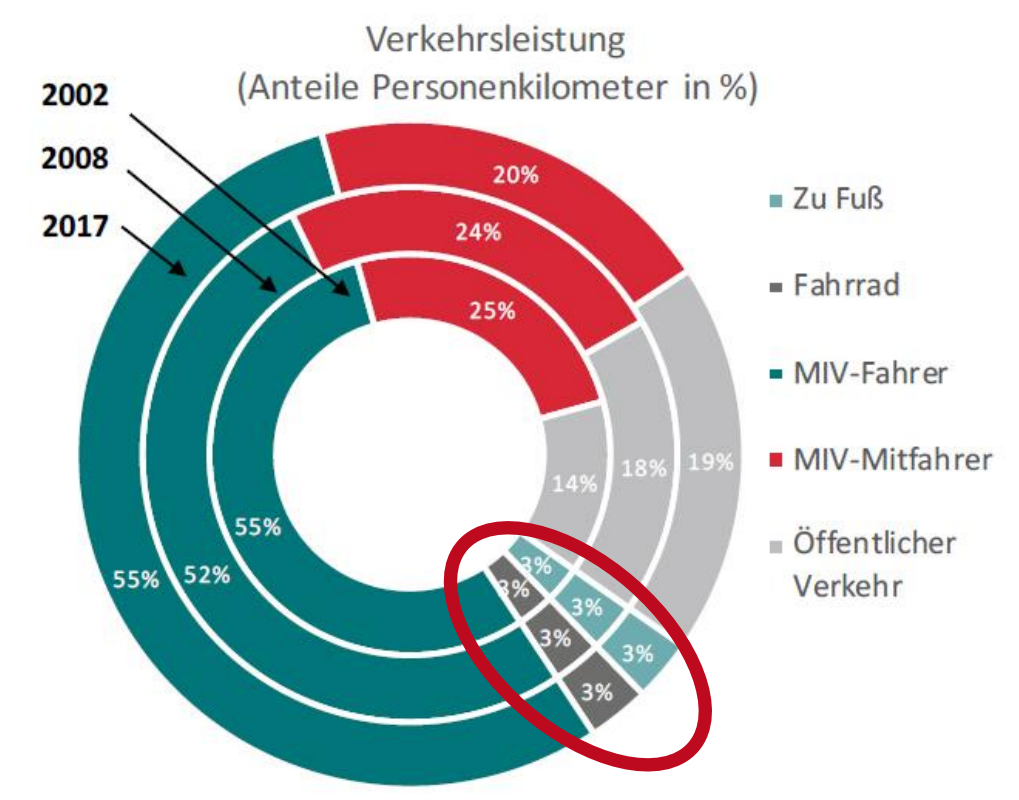


Overestimation of impacts from non-motorised transport (Example Germany)

Number of Trips



Transport Volume (Passenger km)



Quelle: Wuppertal Institut 2020

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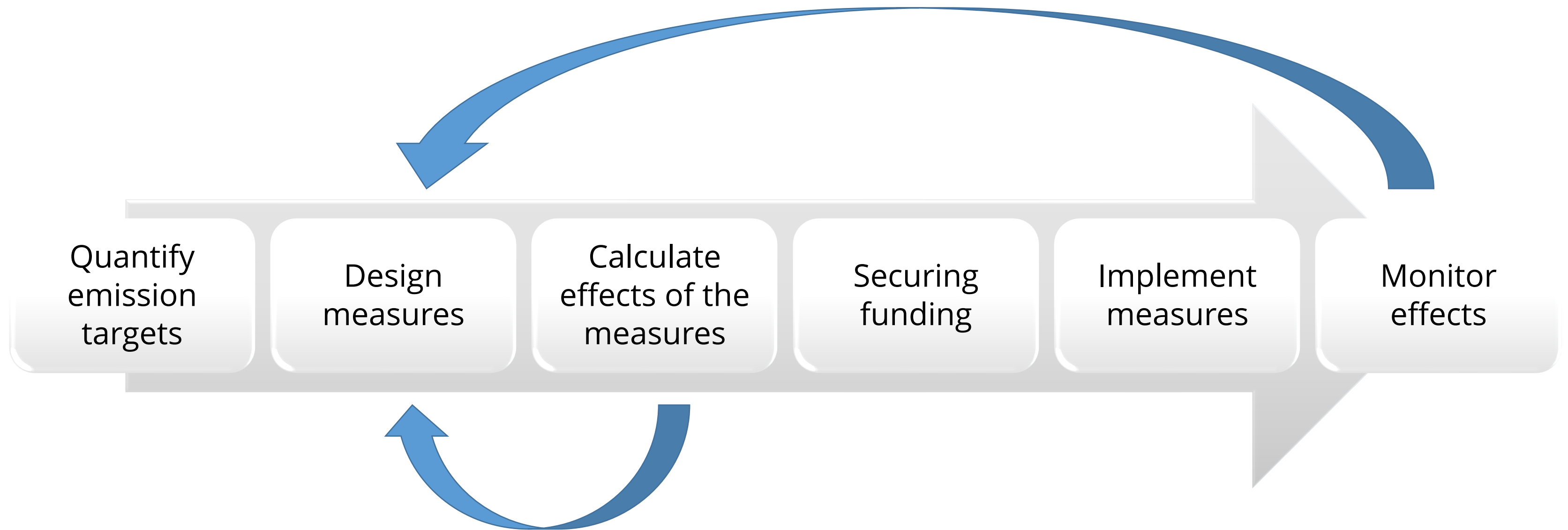
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Requirements for Sustainable Urban Mobility Planning



Reversal of planning procedures through backcasting

- Previous practice: trend extrapolation
- Future practice backcasting: set maximum emission quantity as target value



Main Principles

Principle: Compliance with climate targets in transport

Motto: Paris also applies our community in transport

Design measures according to the targets

Calculate effects of measures on CO2 emissions

Sum of all measures meet climate targets

Investment planning (short + medium + long term)

Reserve necessary funds for future budgets

Implementation planning

Schedule, costs, responsibilities

Plan monitoring

Define procedure if targets are not met

Reconsider Scenarios

Previously: BAU (Business as Usual), Automobil, Ecology, Moderate Scenario

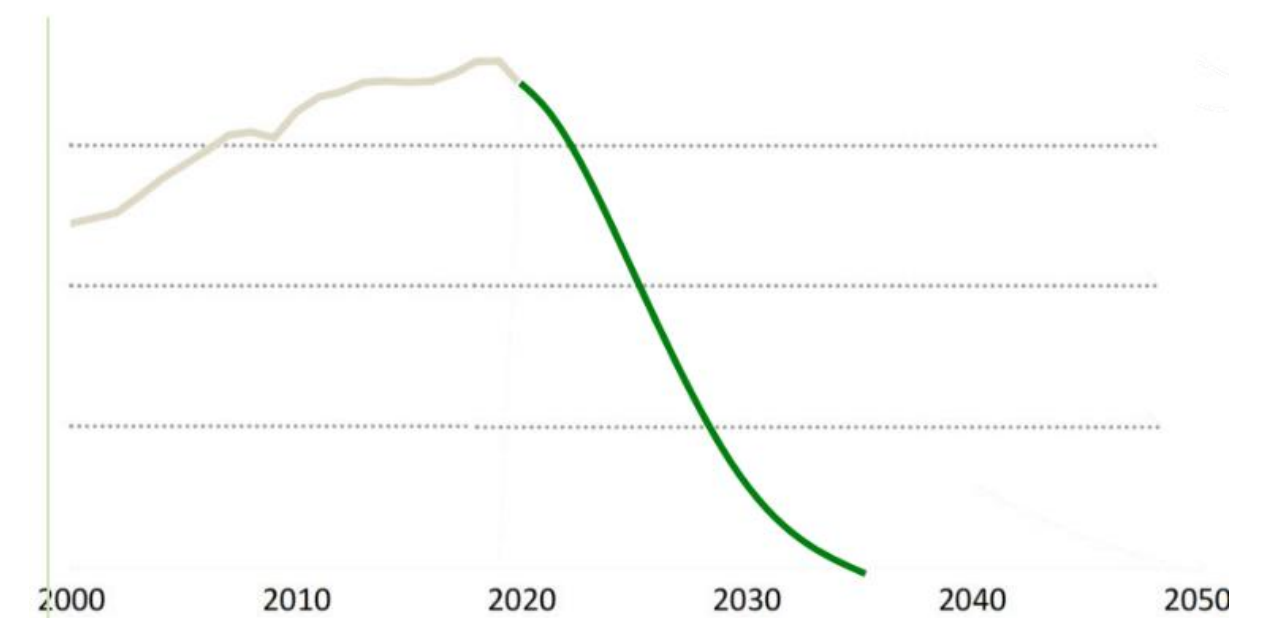
Most important question:

Which infrastructural measures can best reduce CO2 emissions to the required level.

Framework condition: Climate targets are achieved in all scenarios.

Criteria for evaluation:

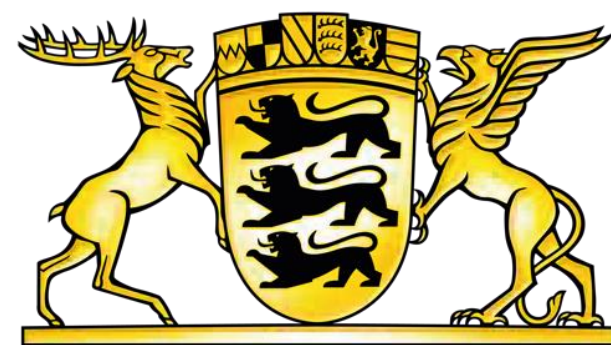
- Cost efficiency = € / tonne CO2
- Road safety
- Environmental impact (pollutants, noise)
- Urban quality of life
- Social justice
- Acceptance



Pilot in Baden-Württemberg (Germany)

Climate Mobility Planning

- **Pilotphase with 6 local authorities:** Stuttgart, Heidelberg, Freiburg, Offenburg, LK Ludwigsburg, Gemeindeverband Mittleres Schussental
- **Goal:** model testing and optimisation of the instrument, development of guidelines and working aids
- **Climate impact:** Measures of the Climate Mobility Plan achieve a reduction of CO2 emissions by at least **55 % by 2030** (compared to 1990).
- **Funding:** 50% of personnel costs, 75% of material costs



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TOPIC GUIDE: DECARBONISATION OF URBAN MOBILITY

Practical guidance for planners and decision-makers responsible for tackling climate change and for developing transport plans

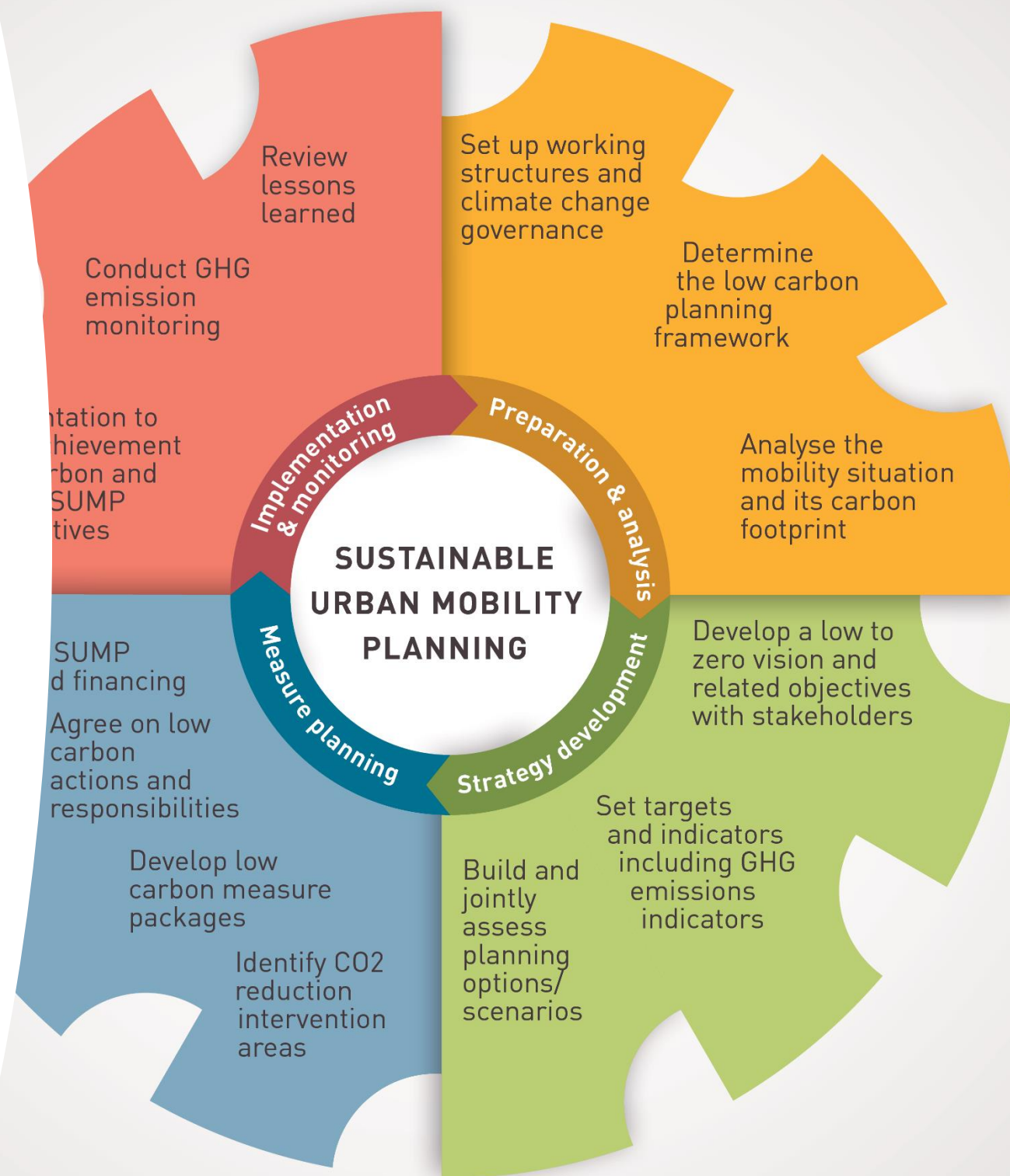
- Independent guide
- City and application examples
- Methodological recommendations
- Calculation of GHG emissions
- Tools



TOPIC GUIDE:

DECARBONISATION OF URBAN MOBILITY

Sustainable urban mobility planning steps a sustainable and low-carbon-city



SUMP concept provides the short- to medium-term planning and implementation framework to reduce the carbon footprint of urban mobility.

Weave climate change mitigation strategies into the SUMP process.

As cities are at very different starting points, there is no single ideal way to tackle this.





Modelling

Measure packages

Importance of the regional scale

Data

Appraisal and evaluation of the impact of measures

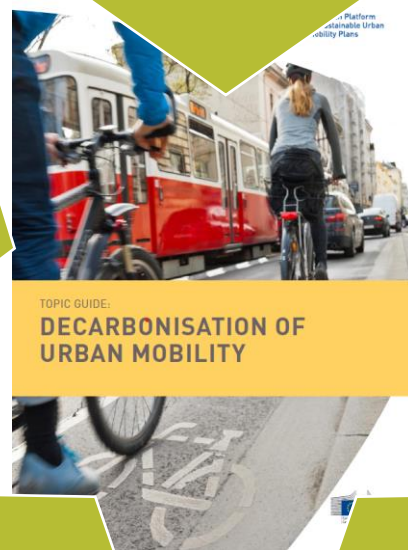
Acceptance and feasibility of measures

Three stakeholder workshops

- Data and calculation methods
- Measures
- Governance and Monitoring

Guide will shortly be published on Eltis

Consultation of the Steering Committee
EIB/JASPERS and EU DGs (Transport, Climate)



Introduction of the draft guide at the Urban Mobility Days in Brno, 20-21.09.2022

Open consultation with 140 participants



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Reviewers

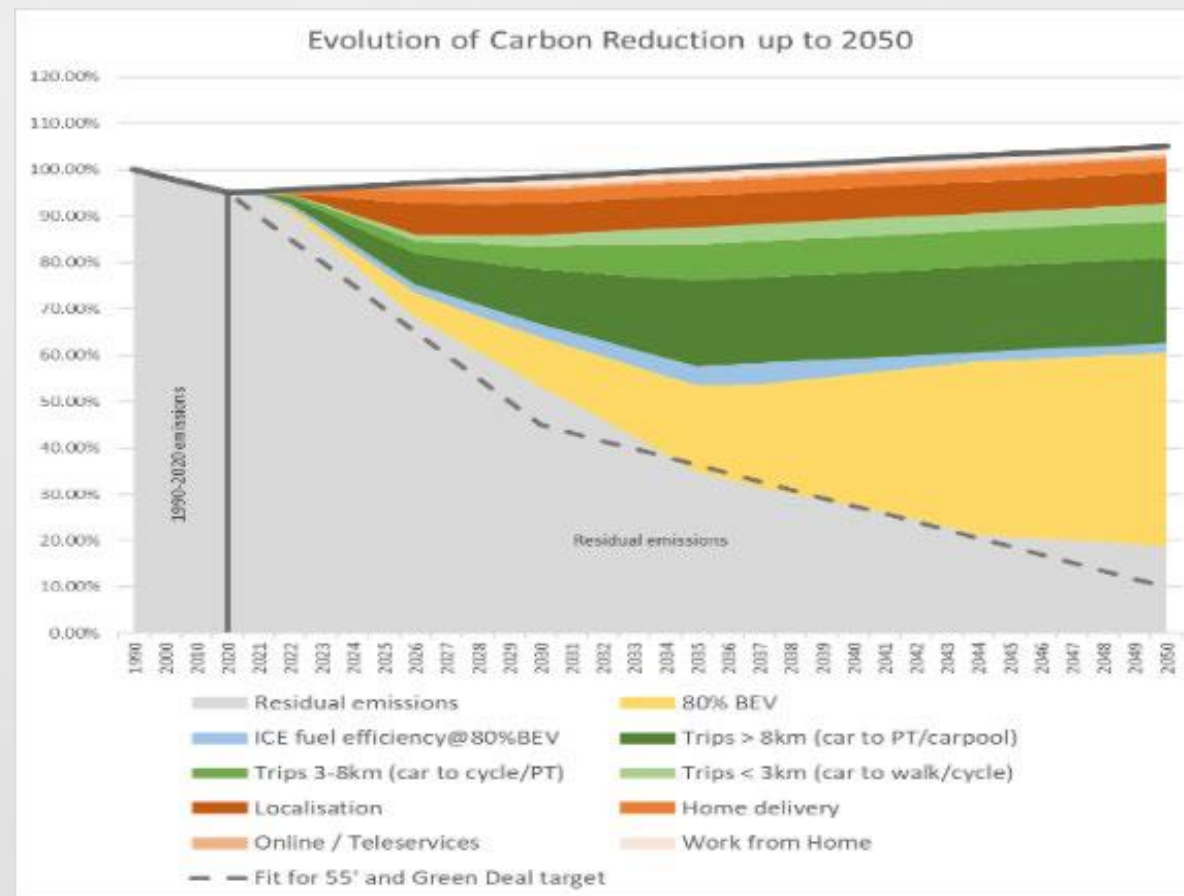
Piotr Rapacz (DG MOVE), Carlo De Grandis (DG CLIMA)

- 1. Planning Urban Mobility
Decarbonisation**
- 2. Path to Decarbonisation of
Urban Mobility**
- 3. SUMP Steps for Climate
Change Mitigation Planning**
- 4. Portfolio of Effective Measures
and their Potential Contribution
to Mitigation**
- 5. Climate Risks of Transport**
- 6. List of References**
- 7. Annexes**

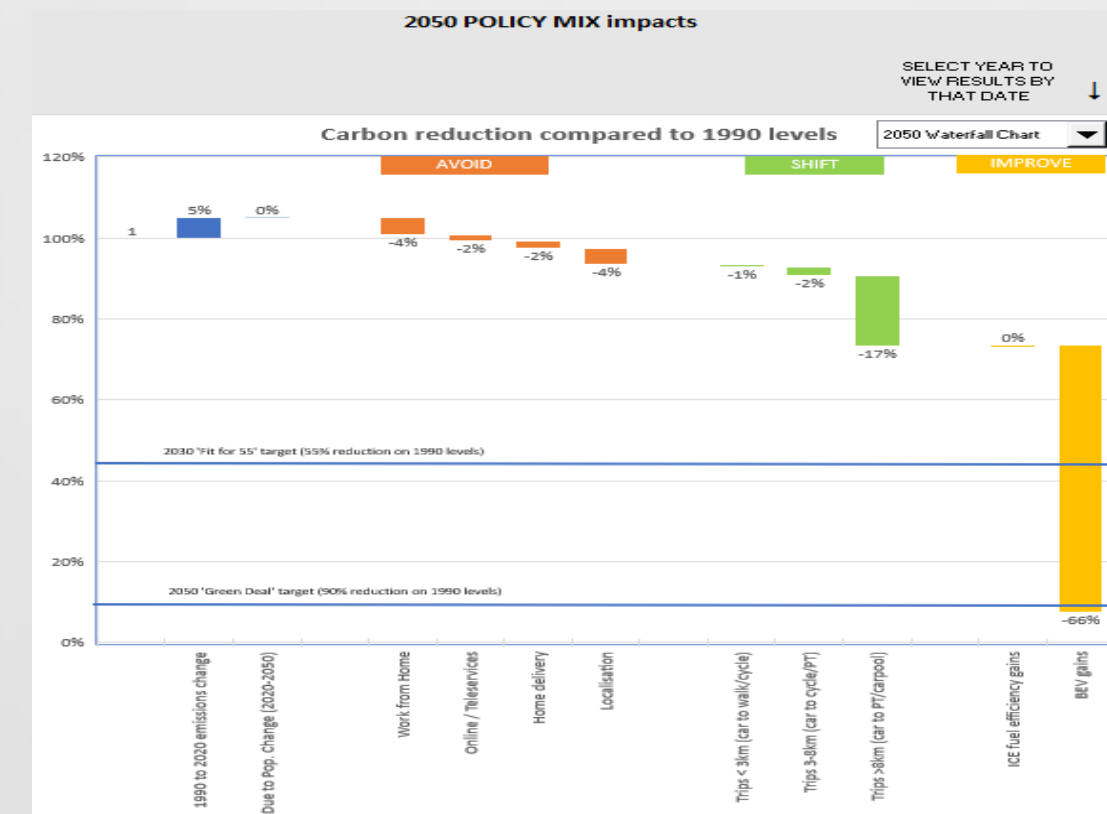
The Path to Decarbonisation of Urban Mobility

Appendix 6: The Carbon Zero Strategy Analysis Support Tool

- ✓ Establishing **good baseline** (travel patterns, energy grid mixes...)



- ✓ A basis for **analyzing different strategy mixes**



- ✓ Identifying **effective/feasible strategy components**, and/or barriers/challenges for upcoming SUMP



Planning Urban Mobility Decarbonisation

“A shift (of) the existing paradigm of incremental change to fundamental transformation is needed.”
Sustainable and Smart Mobility Strategy, 2020

- ✓ CO2 emissions directly linked to trip number, length & vehicles emission rates
- ✓ Mix of different strategies for a common goal
- ✓ Carbon transition strategy through different SUMP cycles
- ✓ “Vision & validate”
- ✓ Together with other key objectives

ASI Principles

1. **AVOID**
unnecessary traffic
/Reduce need for
long-distance travel
2. **SHIFT** traffic to
more
environmentally
friendly modes and
decarbonizing all
mode
3. **IMPROVE** the
remaining traffic

Need for
Integrated
Planning

Portfolio of effective measures

Types of actions

Categories	ASI - Relevance		
	Avoid	Shift	Impro
Cross-sectoral, Spatial and Sectoral Planning			
Integrated land use and urban planning	●	●	
Develop land use planning regulation		●	●
Sustainable Urban Mobility Plans (SUMPs)	●	●	●
Sustainable Urban Logistics Plans (SULPs)		●	●
Transit Oriented Development		●	
Policy & regulatory			
Urban vehicle access regulation – city toll, distinguished between emission categories	●	●	●
Parking policy prioritised for emission free vehicles	●	●	●
Parking price increase for fossil cars	●	●	●
Teleworking Incentives for local employees	●		
Educational/Capacity building			
Car-free Sundays	●	●	
Mobility consultancy (e.g. for new residents)	●	●	
Financial/Fiscal			
Congestion pricing schemes	●	●	
Provide support schemes for smart bilateral charging at home / at work, roadside, in order to use only decarbonised energy and to maximise renewables uptake.			●
Increase parking fees	●	●	●
Mobility Services			
Revise/Adjust time tables and increase frequency of regional/metropolitan/urban public transport services		●	
Smart cards for public transport- integrated/ smart/ multimodal ticketing	●	●	
MaaS at local/regional level (possibly as a subsidiary of the local transport authority/operator)		●	
Real time public transport information		●	
Mobile Assets			
Acquisition of new, mostly electric, public transport rolling stock to intensify services		●	●
Ban diesel fuel taxis and buses from 2025/2030			●
Request/promote low/zero emission taxi and Uber fleets			●

Infrastructure new/extension			
Develop new urban and suburban rail infrastructure/RER/subway/tram/BRT lines etc.		●	
Develop smart mobility hubs around rail, metro, tram or appropriate BRT stops		●	
Park & Ride facilities at all appropriate heavy rail, tram, BRT etc. stops at the entrance to the core city and outside		●	
Develop road-side e-charging infrastructure with sufficient charging space		●	
Improve cycling, walking and micromobility infrastructure (including associated services)		●	
Integrate renewable energy sources (e.g. solar roads, solar roofs for roads, PV-integrated noise barriers, ...)			●

Full benefits only achieved when set of complementary actions foreseen in the plan are implemented



Follow up

- 1) EIB/JASPERS excel based calculation tool to be used for SUMP based calculation
- 2) Default values for the Carbon Zero Strategy Support Tool for all EU countries
- 3) Short explanation over type of action plus an initial number of reference cases with detailed explanation
- 4) Steady increase of the number of reference cases , based on Cities Mission cases and other examples



Thank you for your attention!

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