EXPERT PANEL FOR POLLUTING EMISSIONS REDUCTION
EXPAPER

Costi e benefici della transizione alla mobilità urbana sostenibile

Stefano Borgato, Francesca Fermi, Francesco Chirico

TRT Trasporti e Territorio

Consiglio Nazionale delle Ricerche
STEMS

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Objective of the study

To produce a quantified analysis of the costs and benefits of the sustainable urban mobility transition in European cities by 2030 and 2050

eit Urban Mobility

Co-funded by the European Union

Methodology

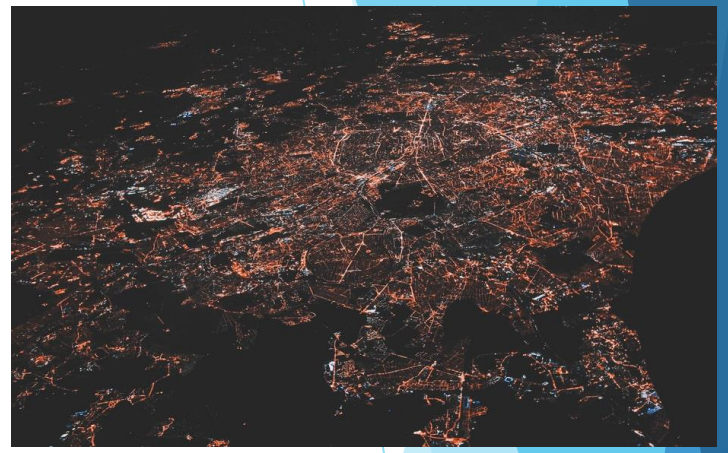
- The objective of the study has been accomplished using the **MOMOS assessment tool** which allowed an evaluation of alternative solutions estimating resources needed and expected impacts.
- **Three potential scenarios** have been applied to **12 City Prototypes**, to take into account differences among cities in their dimension and geographic area:
  - Small, Medium, Large
  - Northern, Central/Western, Southern, Eastern Europe
- The model's output (indicators) have been **generalized at the EU27 level** based on the number of cities, and their population, falling into each one of the 12 prototypes

MOMOS: a strategic model's approach

- **MOMOS** means MOdello per la MObilità Sostenibile (Model for Sustainable Mobility)
- The model does not have the ambition to replace more sophisticated models, but to allow an evaluation of alternative solutions that is **strategic**, **quantitative**, **theoretically sound**, adapted to the **specific context**, possible with **limited resources** and within a **short time frame**.
- It allows for:
  - First reconnaissance between **alternative hypotheses** of intervention
  - Know the orders of magnitude of **resources needed** and expected **impacts**

Input Data: What we fed the model with

- **Urban characteristics** (City type, country, region, population structure/distribution/growth, urban growth, income, economy)
- **Urban mobility characteristic** (Motorization rate/growth, modal split, congestion, traffic flows, share/growth of logistics vehicles, logistic flows)
- **Public transport characteristics** (Ticket price, transport cost, network length, commercial speed, PT offer, PT fleet composition)
- **Park & Ride** (Capacity, network extension, connection frequency, P&R fare)
- **Infrastructure and traffic management** (Paid parking stalls, parking price, prioritized PT lanes, bike lanes, electric/hydrogen charging points)
- **Carsharing & Bike sharing** (Number of users, type of service, fare, number of cars/bikes, electric bike share)
- **Vehicle access** (% of urban areas with limited traffic zones, % of urban areas with pedestrian areas)
- **Traffic calming** (% urban area with traffic calming regulation: 30km/h)



The Sustainable Policy Measures

- Shared Mobility and Demand Management 
- Innovative Services 
- Green PT and Logistics Fleet and Charging Infrastructure 
- Pricing Schemes 
- Transport Infrastructure 
- Traffic Management and Control 

Three Potential Scenarios

Scenario 1

Promote & Regulate

- More sustainable travel **behaviour** through information, regulations, and promotion
- **Incentivization** of innovative and shared mobility services
- **Short/medium** term

Scenario 2

Plan & Build

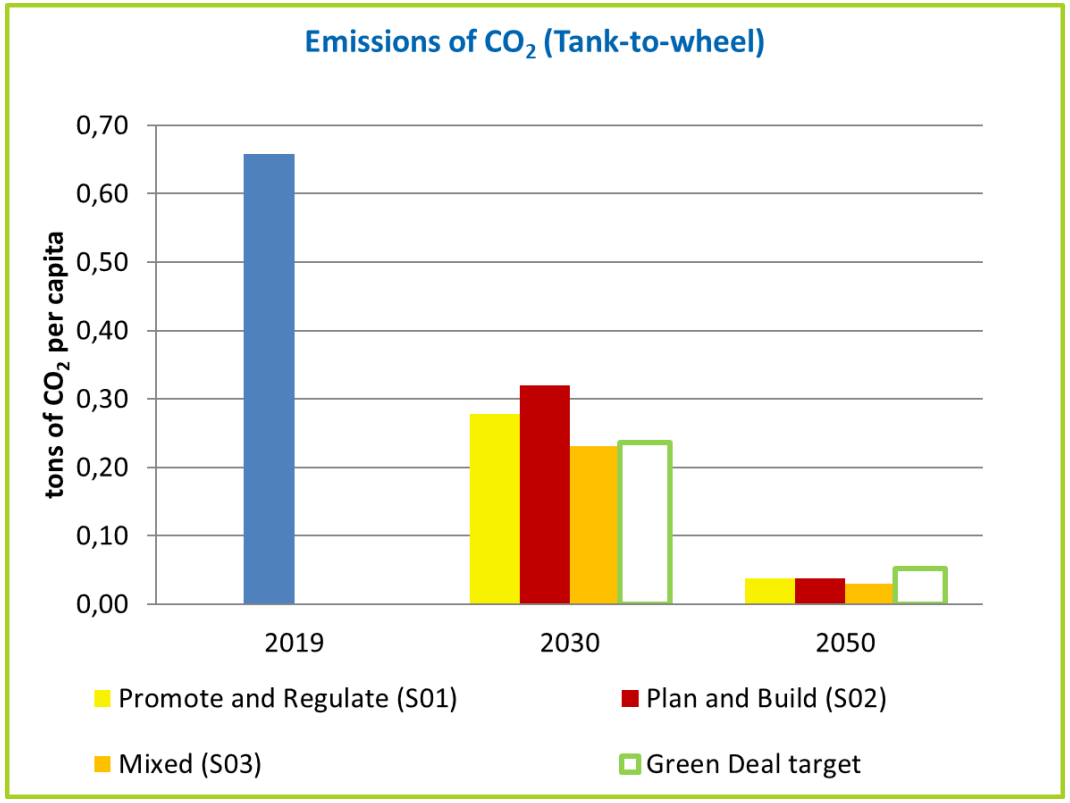
- Focused on **investments** in technology and infrastructure
- Change of the **urban environment**, with focus on public transport.
- **Long** term and more ambitious strategy

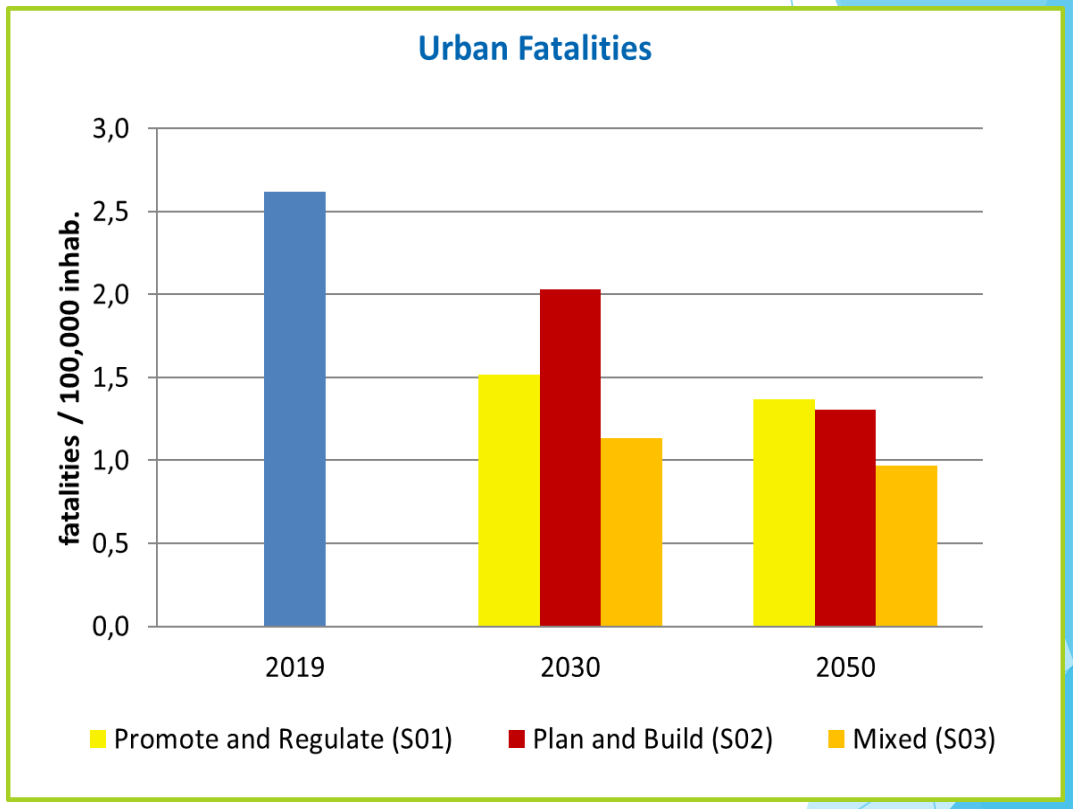
Scenario 3

Mixed

- **Combines** policies from previous two scenarios and intensifies their reach
- Regulations and **behavioural** incentives as well as the provision of **infrastructures** and services

Results of the study – Environment & Safety

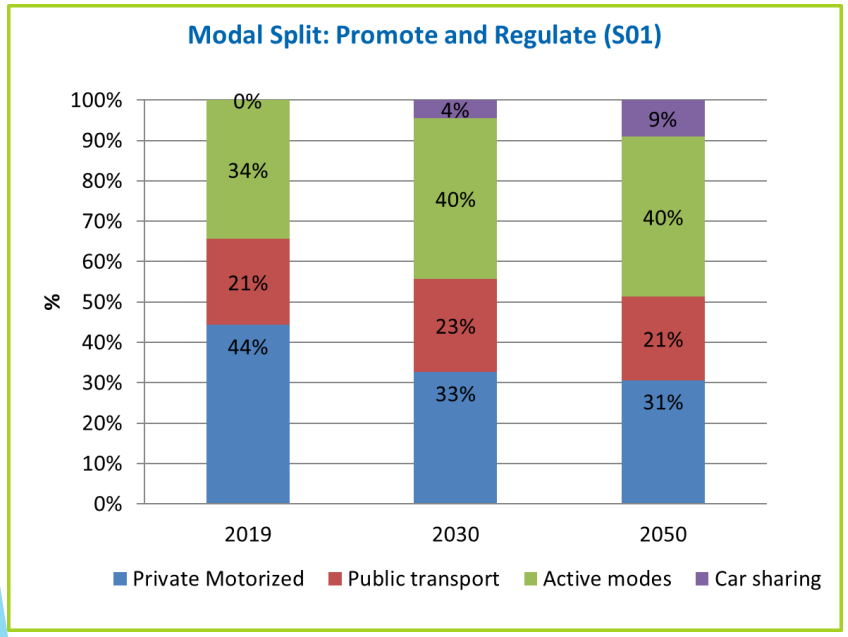


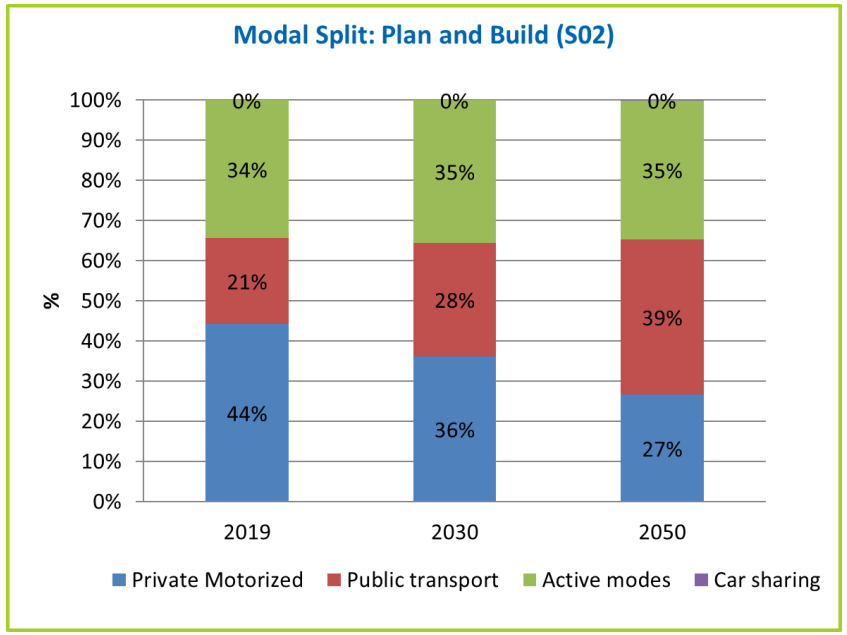


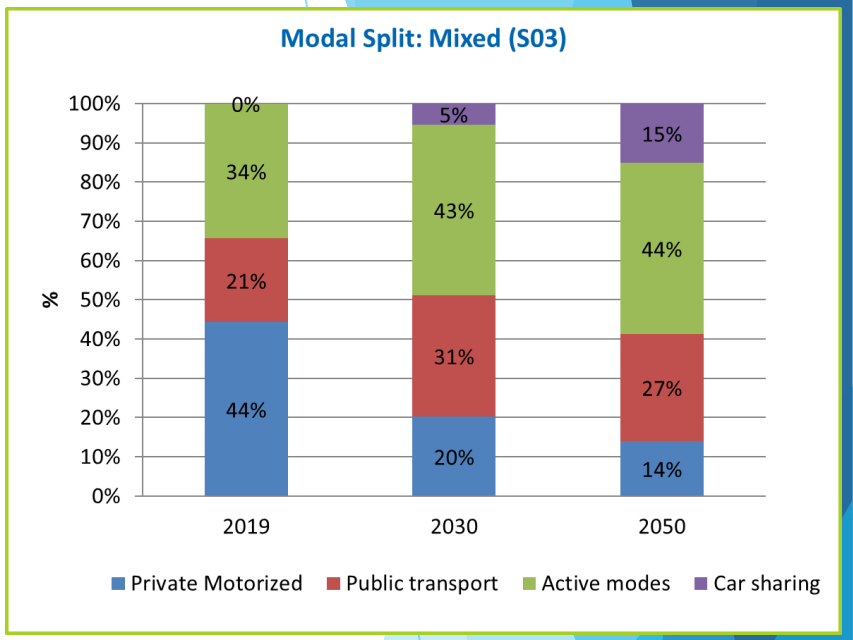
Green Deal Target reached by all three scenarios in 2050. Only by Scenario 3 in 2030.

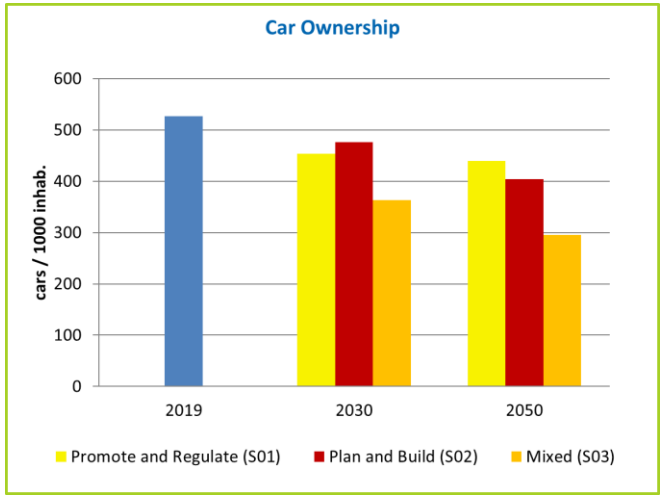
Urban Fatalities: between -48% and -63% in 2050

Results of the study - Transport







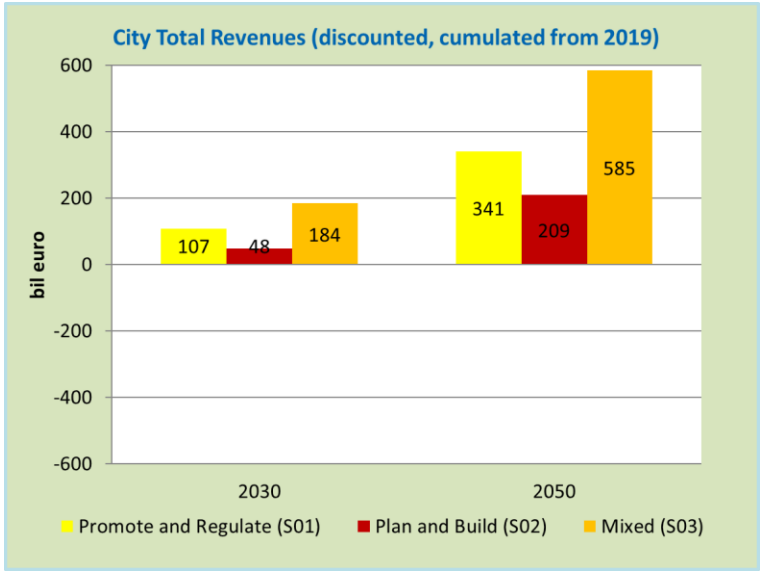


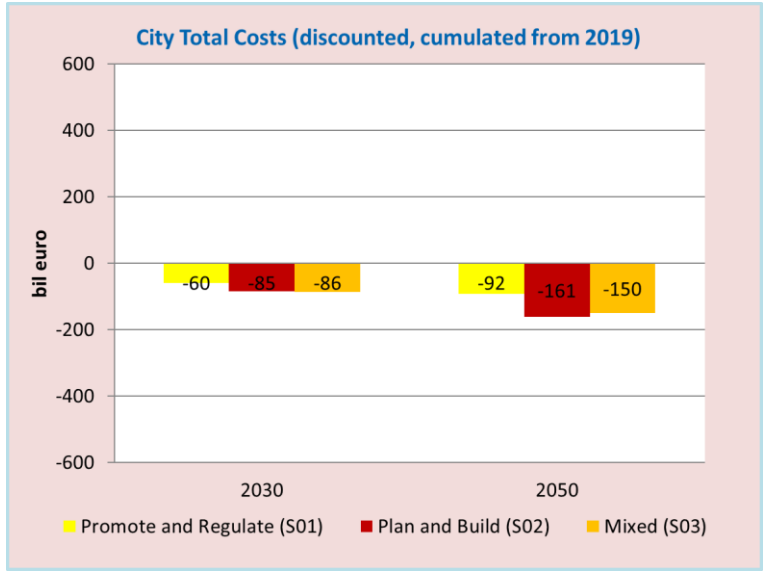
In *Scenario 1*, **Car sharing** and **active modes** will increase at the expenses of private vehicles

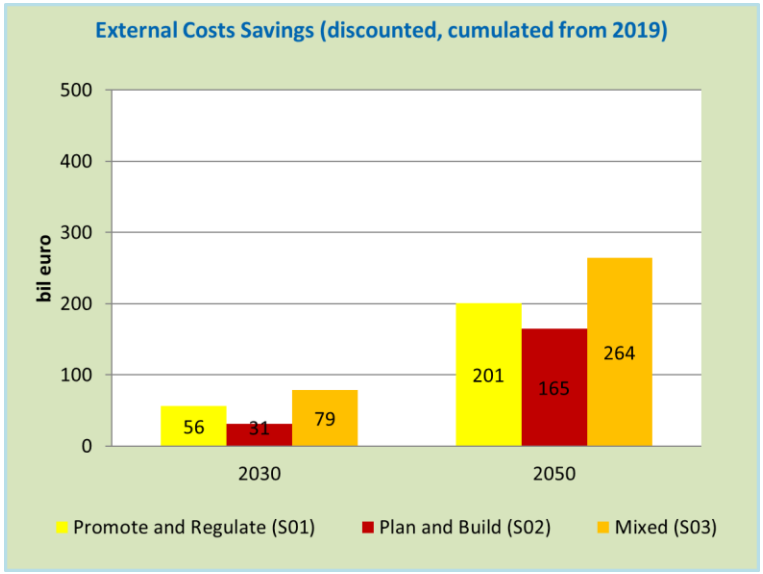
In *Scenario 2*, strong growth of **public transport**

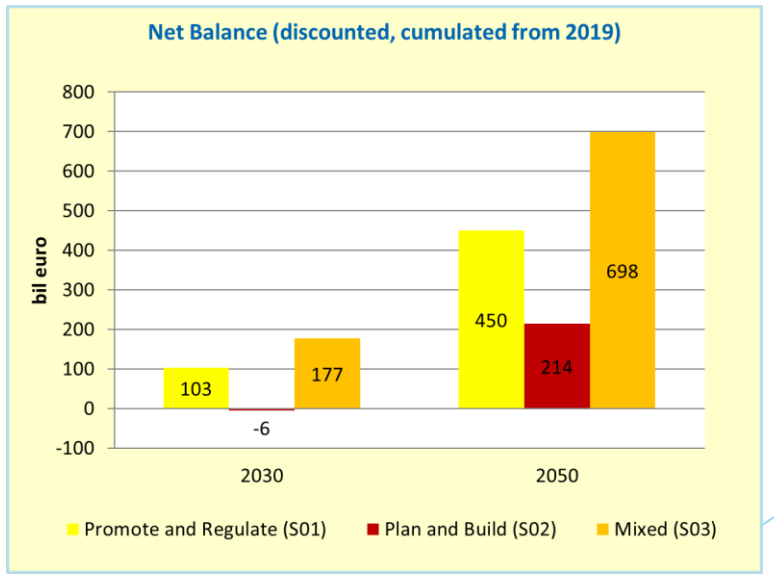
Car Ownership: -30% in 2030,
- 44% in 2050 (*Scenario 3*)

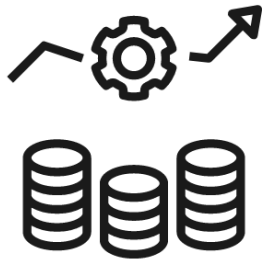
Results of the study - Economic







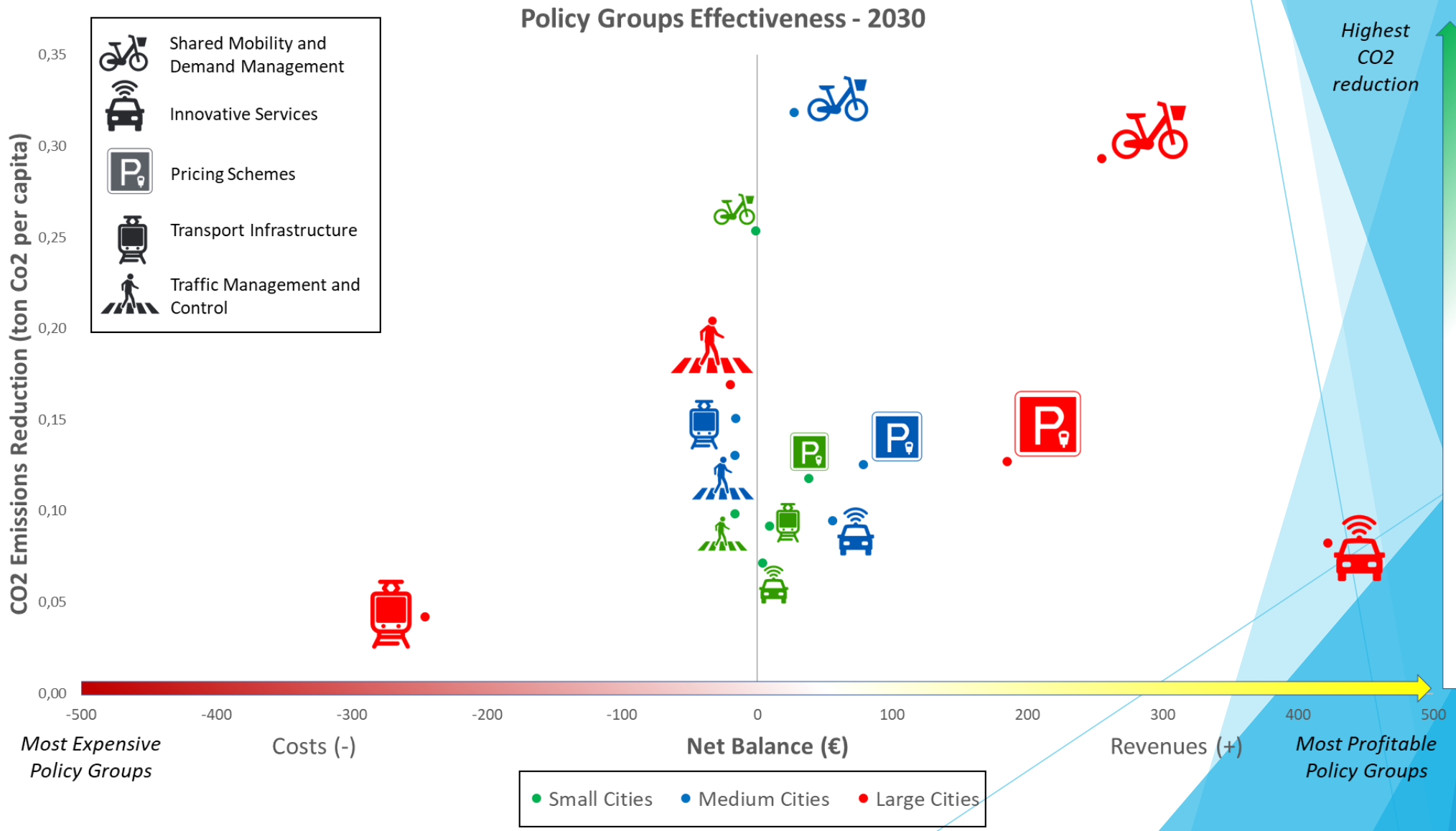




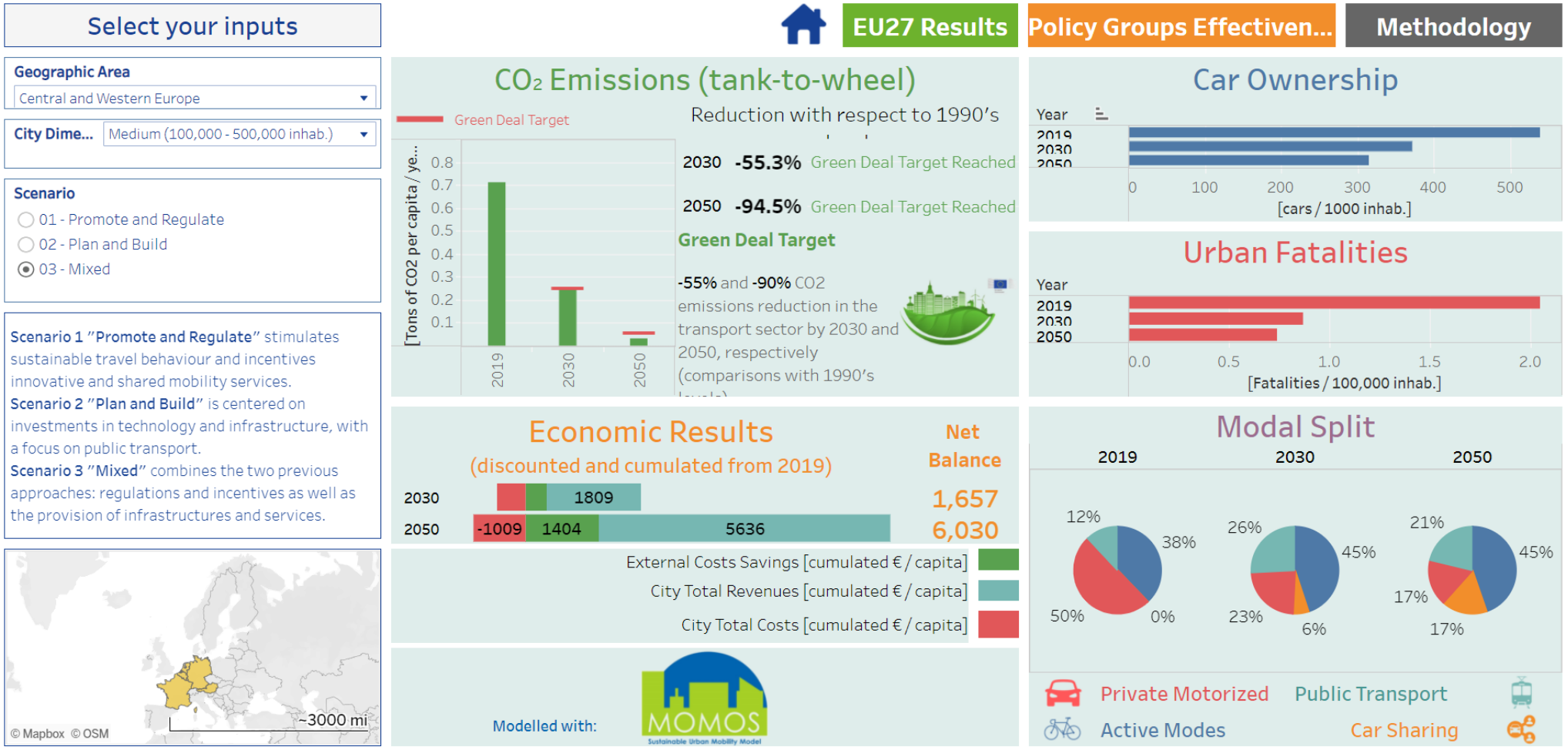
Scenario 1 and *Scenario 3* have **positive net balances** for all protypes. Benefits of *Scenario 2* kick-in in the longer term

On average, scenarios will bring between 40-130 €/capita per year of **net benefits** until 2050.

Policy Effectiveness



The *Interactive Tool* to navigate the results



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Grazie per l'attenzione!

Stefano Borgato
borgato@trt.it

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