

# POLIS

CITIES AND REGIONS FOR TRANSPORT INNOVATION

ANNUAL  
CONFERENCE  
**2024**

27-28 NOVEMBER 2024

KARLSRUHE (DE)



Baden-Württemberg  
Ministry of Transport



Karlsruhe

# (E)Mission: Zero. Modelling the transition towards zero- emission mobility in European cities

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Clean Cities Campaign

*Let's warm up a bit*

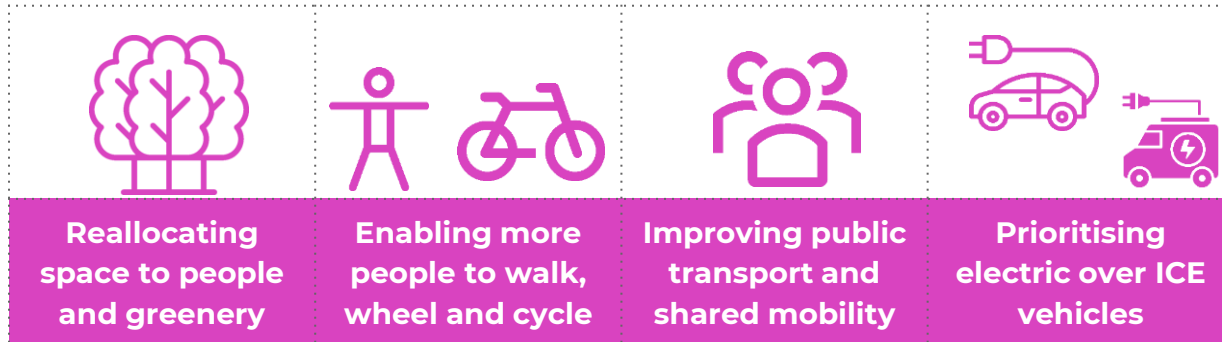


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# Who is Clean Cities?

- We are a European network of **120+ organisations across 20 countries**, united by a vision of **zero-emission urban mobility** by the 2030s.
- **Our mission:** To transform the way we move in cities by influencing decision makers and empowering communities so everyone can enjoy healthy and liveable streets.



# Why this study?

- Better **understand how the transition** to decarbonised urban mobility can be **implemented** in cities within a relatively **short time frame: 2019-2030**
- Show what is **technically feasible**, not necessarily what is politically acceptable or most likely to happen - not a forecast
- **Encourage cities** across Europe **to step up their efforts** to create climate-friendly, people-centred and sustainable transport systems and cities



# A high-level modelling study

- **MOMOS** (Sustainable MObility Model)
- Assessment tool developed by **TRT Trasporti e Territorio**
- Rapid evaluation of transport policies at city level



# Four scenarios and five cities

Scenario 1 *Active and collective*

Scenario 2 *All-electric*

Scenario 3 *Everything all at once*

Scenario 4 *(E)Mission: Zero*

Brussels



Madrid



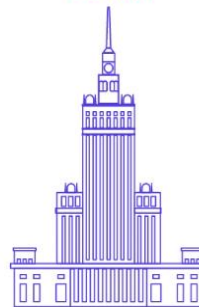
Greater Manchester



Milan



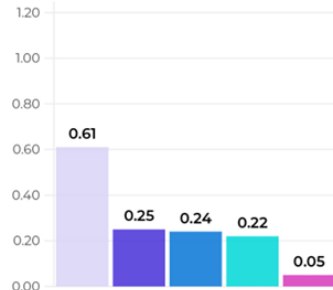
Warsaw



# Up to 90+% reduction in GHG emissions by 2030s

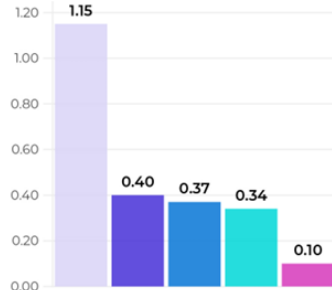
Brussels

Per capita t CO<sub>2</sub>-eq



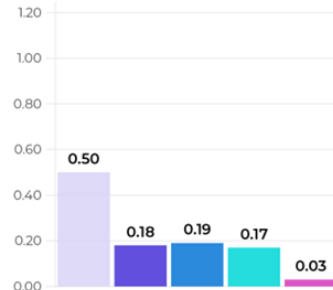
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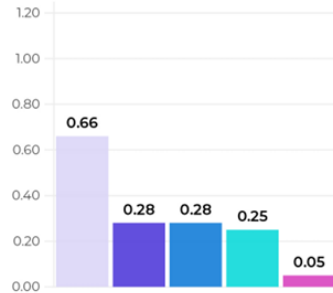
Madrid

Per capita t CO<sub>2</sub>-eq



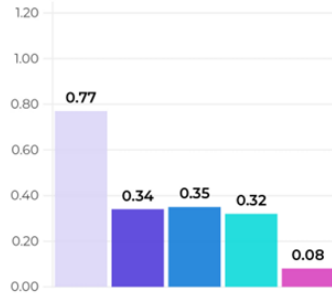
Milan

Per capita t CO<sub>2</sub>-eq



Warsaw

Per capita t CO<sub>2</sub>-eq



Key

- Baseline (2019)
- Active and collective
- All-electric
- Everything all at once
- (E)Mission: Zero

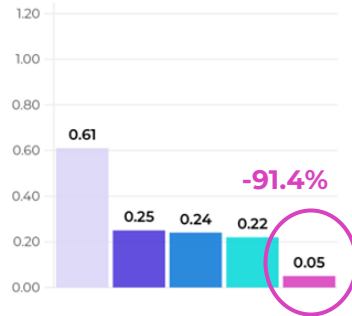
**Per capita GHG emissions (tank-to-wheel) from urban transport by city and scenario**



# Up to 90+% reduction in GHG emissions by 2030s

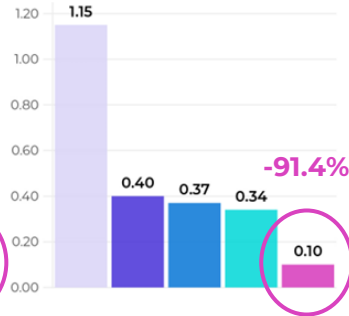
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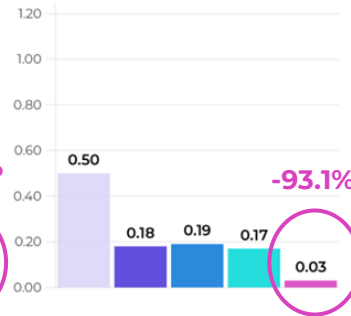
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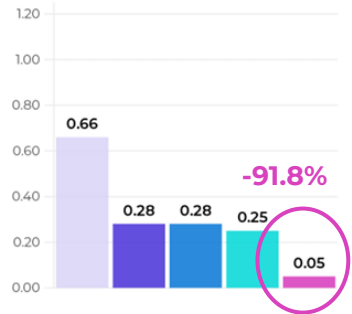
Madrid

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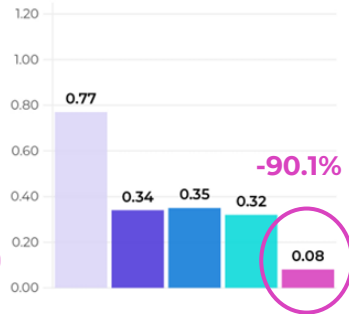
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Warsaw

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Per capita GHG emissions (tank-to-wheel) from urban transport by city and scenario

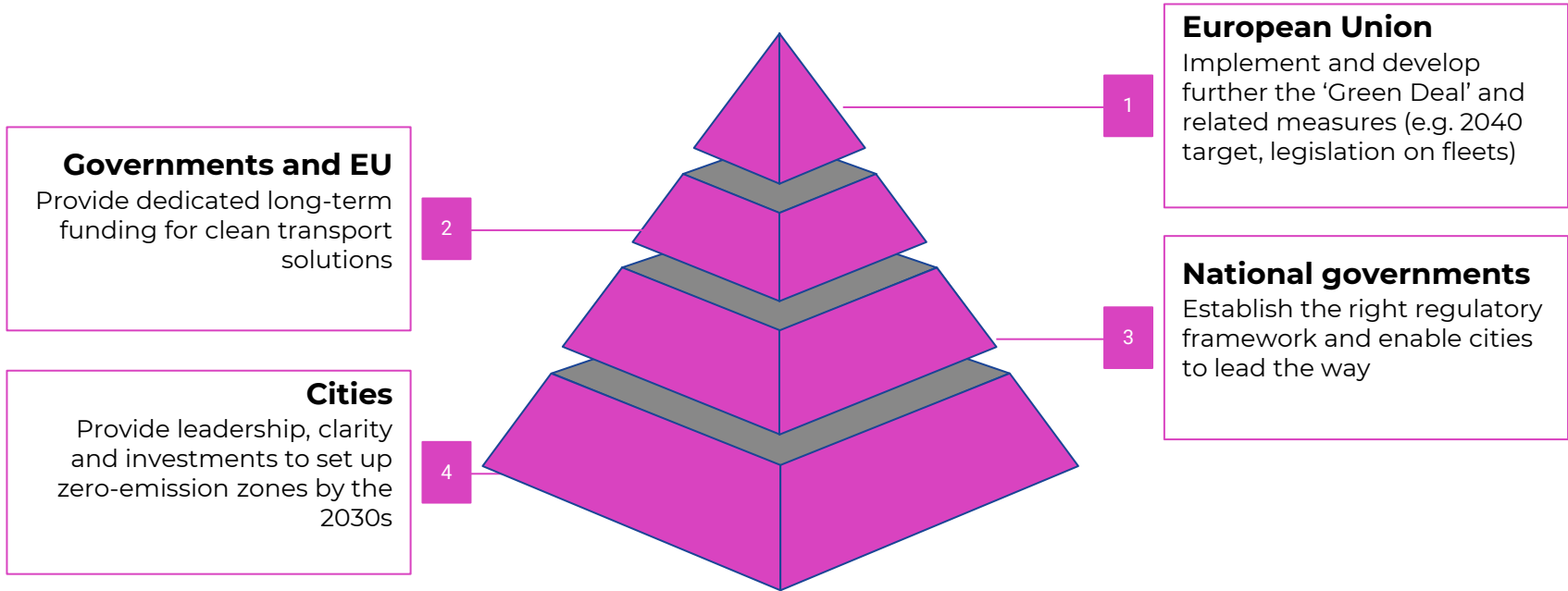
# Win-win: The (co-)benefits

- **Substantial environmental, health and energy benefits:** Reduced air pollution, noise reduction, energy consumption and increased road safety
- **Stable climate, cleaner air:** All scenarios lead to strong reduction in NO<sub>x</sub> (-84% to -94%) and PM<sub>2.5</sub> (-33% to -66%) emissions from transport
- The measures **'pay for themselves'**: When monetised, the benefits outweigh the costs of the transition to users, cities and companies in almost all scenarios and cities
- **More ambitious, more benefits:** The most ambitious scenario generates the highest net benefits

# Highly ambitious but possible

- Current levels of ambition are insufficient, but **close to zero emissions** (-90%+ TTW) can be achieved by 2030 in all cities **with the right policies**
- Focus on either electrification or shift to alternative modes alone is not enough, **we need both** & some reduction in demand
- **'Stick' / push measures** to discourage (ICE) car use are needed
- Plenty of co-benefits **go hand in hand** with climate protection: air quality, noise pollution, road safety - **measures 'pay for themselves'**

# A joint effort is needed at all policy levels



# Thank you!

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[jens.mueller@cleancitiescampaign.org](mailto:jens.mueller@cleancitiescampaign.org)

Find out more about our  
(E)Mission: Zero study:

