

A blurred background image of a city street. In the center, a yellow taxi cab is visible, moving from left to right. The background is out of focus, showing other vehicles and city buildings. The overall color palette is dominated by the yellow of the taxi and the blue and grey tones of the city.

**PARATRANSIT / POPULAR
TRANSPORTATION**

DAY

Transforming Transportation 2024

SESSION THREE:
**Expanding Data and Tech for Finance and
Climate in Popular Transportation**

Paratransit / Popular Transportation Day
at Transforming Transportation 2024

Thursday, March 21, 2024

**SESSION THREE | Paratransit / Popular Transportation Day:
Expanding Data and Tech for Finance and Climate in Popular Transportation**

Measuring the Impacts of Decarbonisation Policies

Stephen Perkins

Head of Research and Policy Analysis at International Transport Forum (ITF)

Thursday, March 21, 2024 | World Bank Headquarters, Washington D.C.

Measuring the impacts of decarbonisation policies

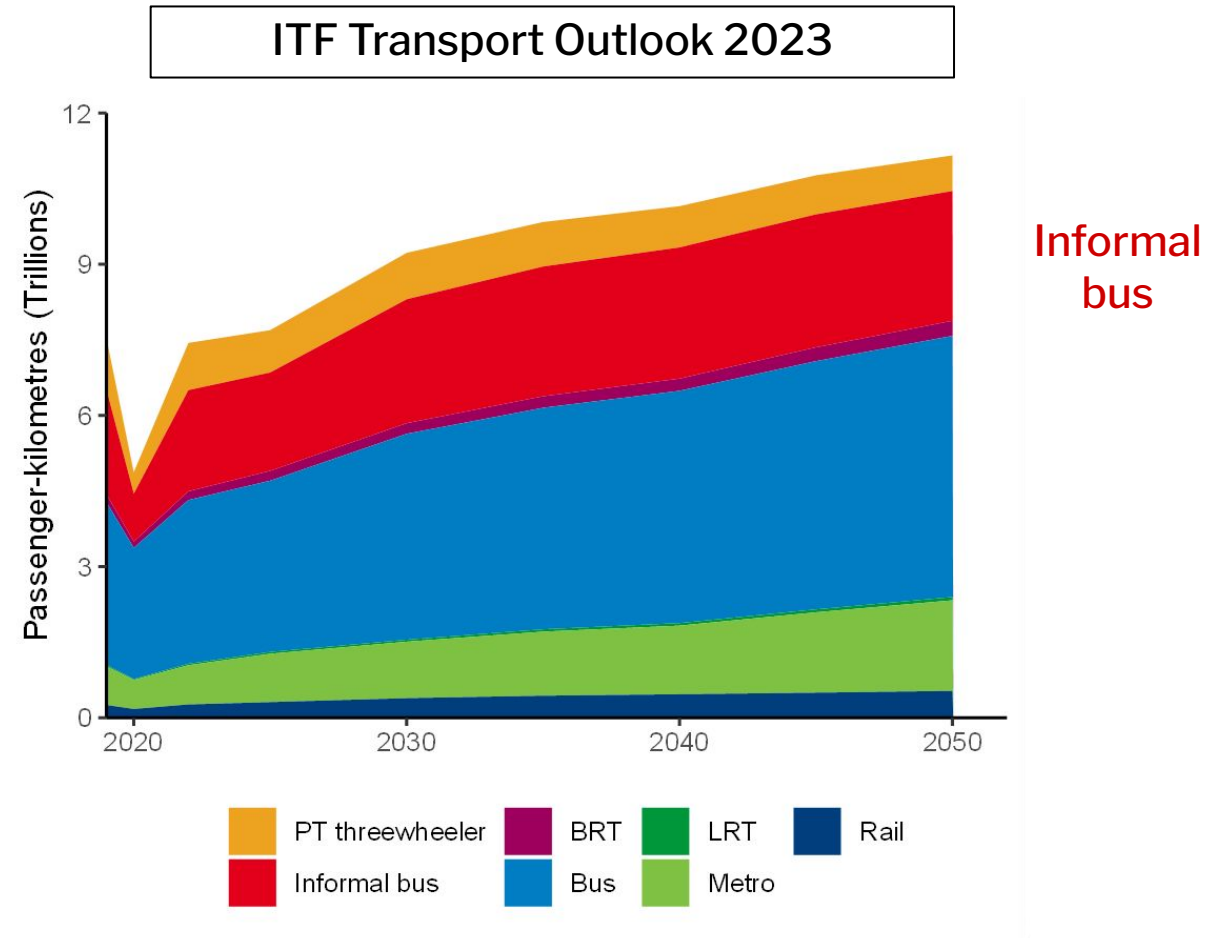
Transforming Transport : Paratransit Day

March 21, 2024

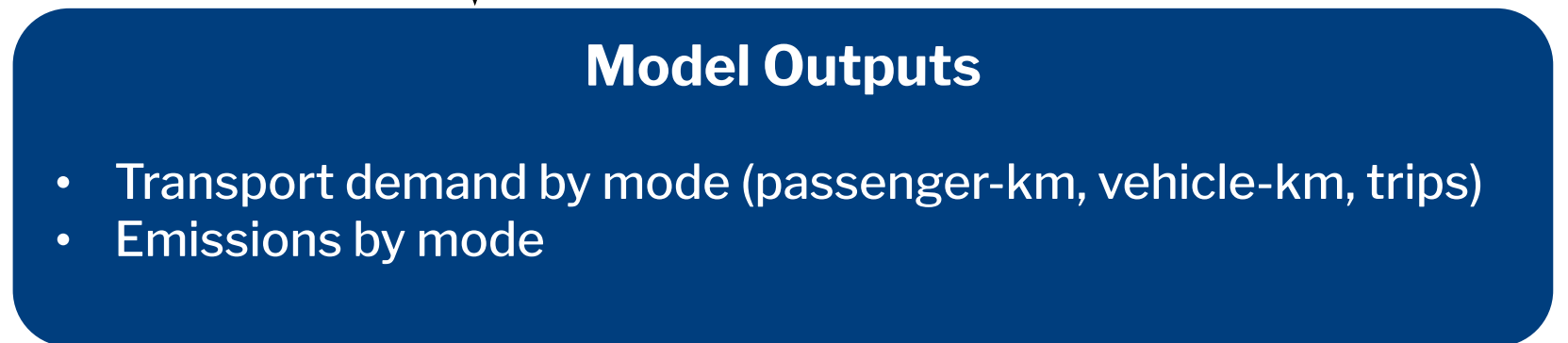
Public transport demand by mode under a High Ambition Scenario

Informal modes will continue to play a major role in global urban mobility, and are expected to meet between 16% and 23% of demand in some regions

Measures to reduce transport emissions in urban areas must consider the efficiency of informal vehicles

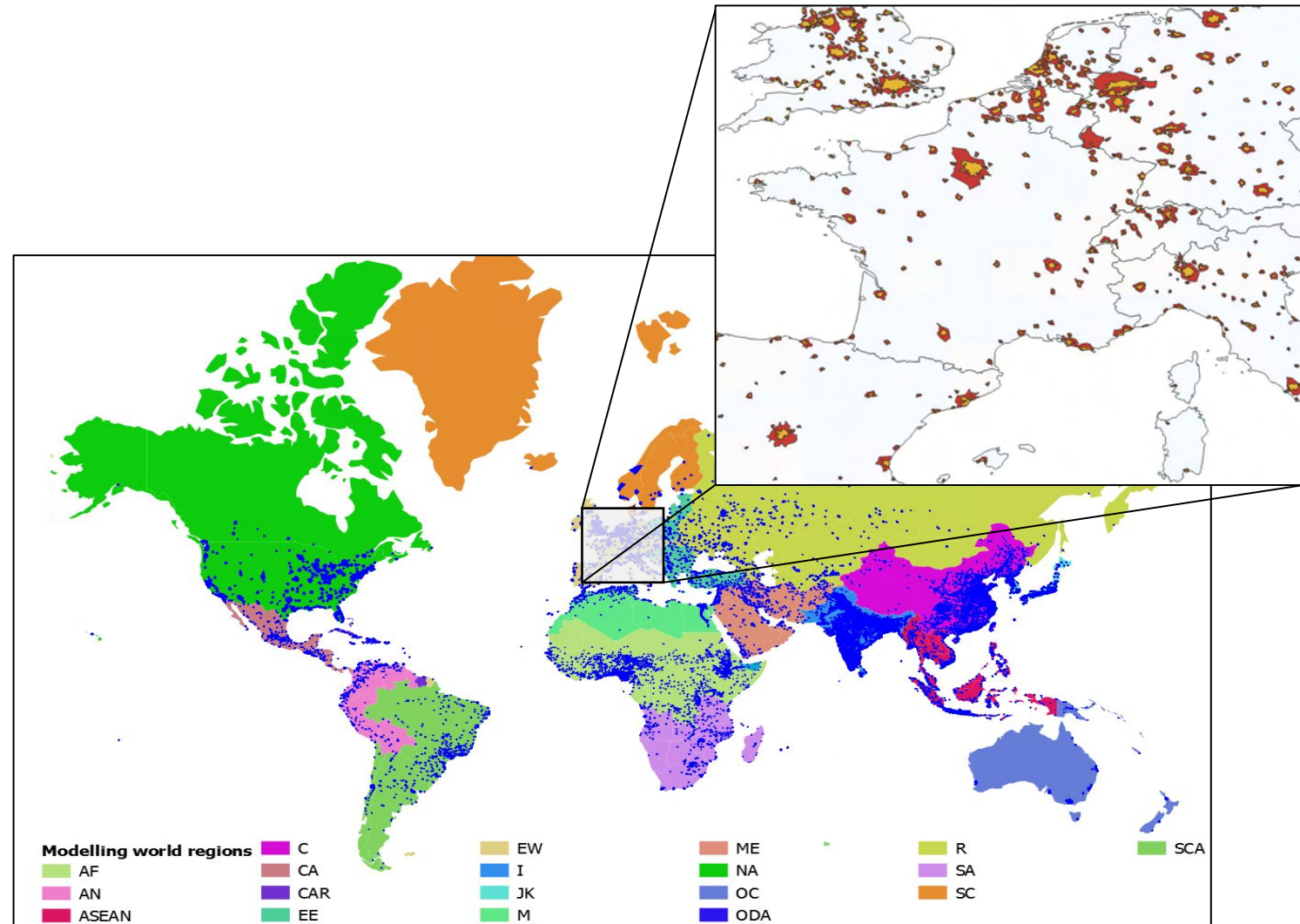


ITF Global Modelling Framework - Urban Passenger Model



Model Resolution

- 9 234 macro Functional Urban Areas (FUA) from the OECD-EC Cities in the World project
- Includes a demographic model
- Results available by trip distances, gender and age categories
- Differentiated between suburbs and high-density centres



Modal Resolution

- Accounts for 18 modes including paratransit and shared mobility

Active mobility



Public Transport



Shared mobility



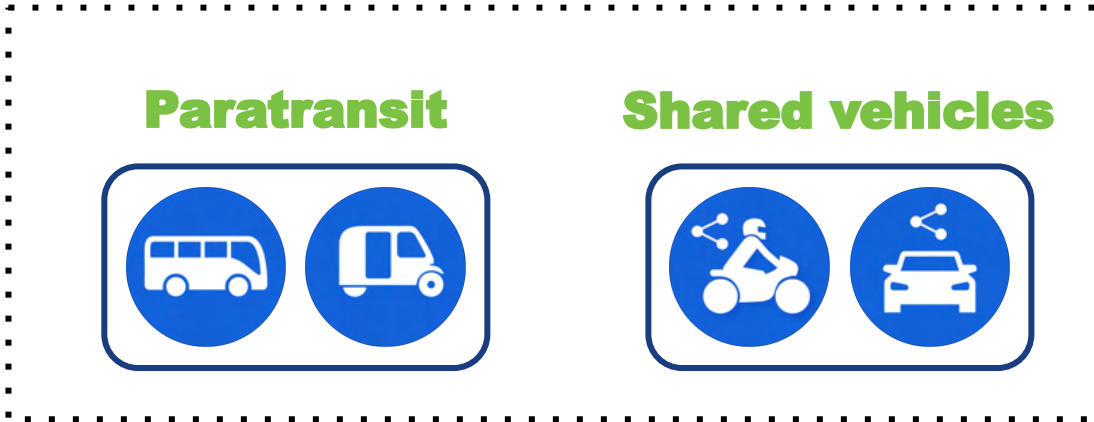
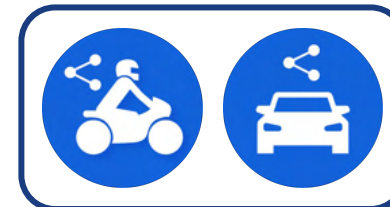
Private vehicles



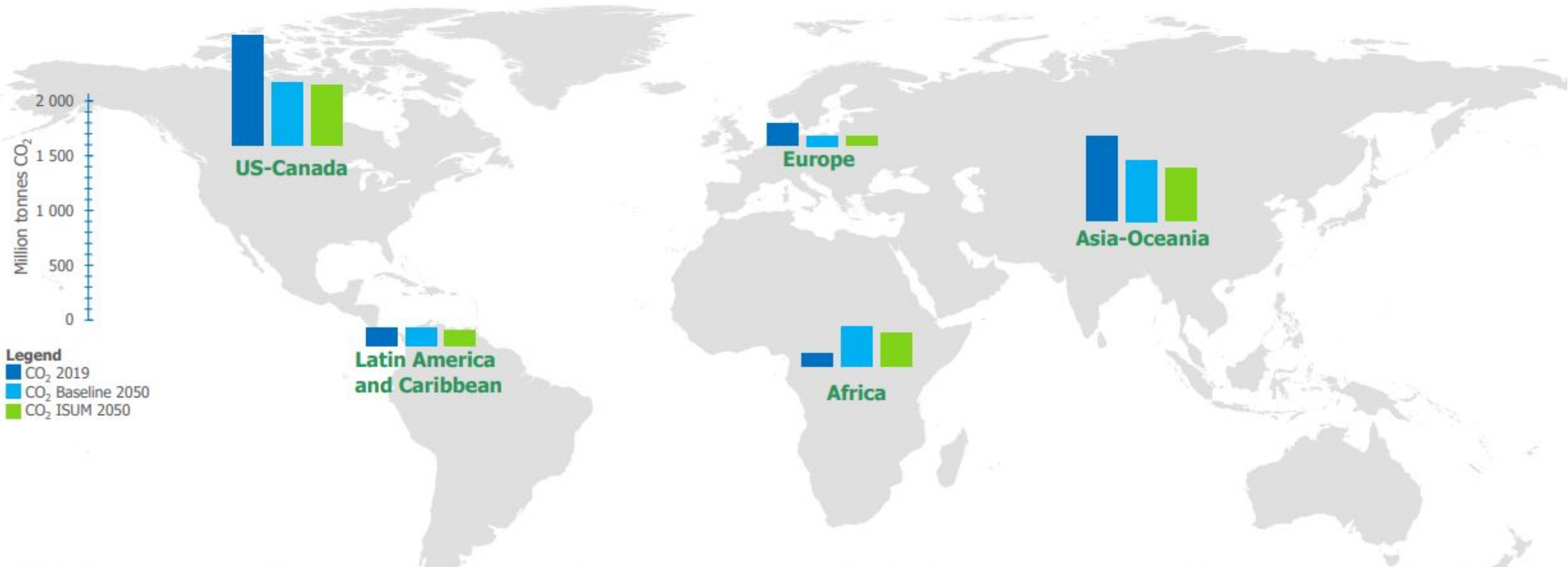
Paratransit



Shared vehicles



The Integrated Sustainable Urban Mobility scenario and CO₂ emissions by region



The ISUM scenario results in lower carbon emissions for all regions. Shifting trips toward collective, shared and active modes has benefits beyond emissions reductions: less congestion, better air quality, and better overall health.



Scenario measures

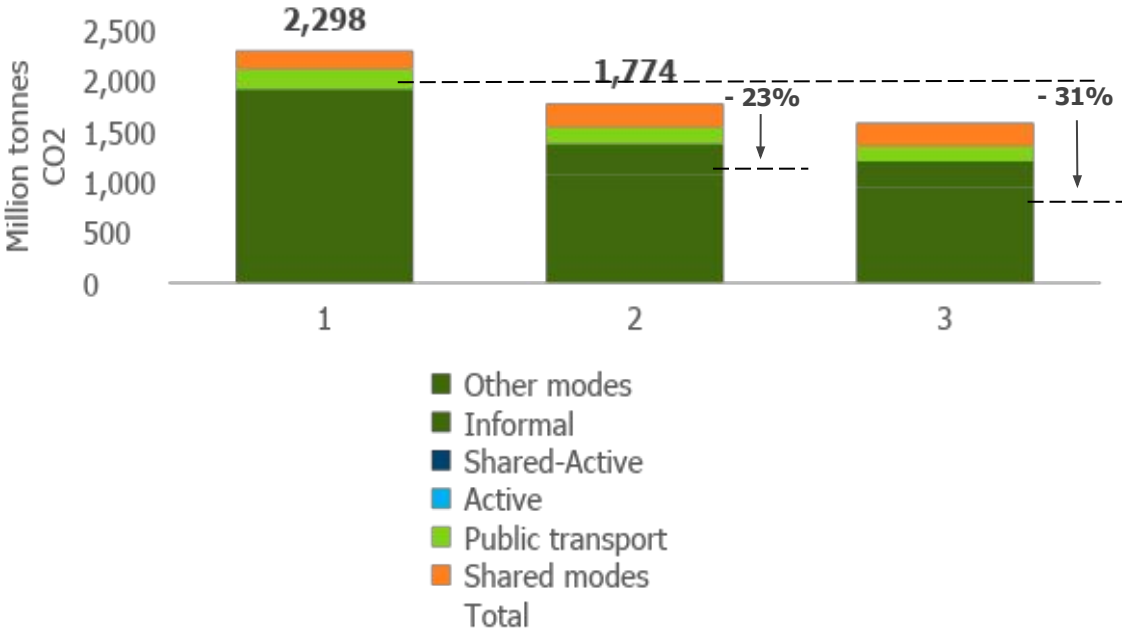
- Economic instruments
e.g. improving PT travel speeds with congestion charging
- Regulatory instruments
e.g. land use planning measures to decrease trip distances
- Operations management
e.g. improving connectivity through stop repositioning and route realignments
- Enhancement of infrastructure
e.g. improving reliability through the implementation of bus priority lanes
- Stimulation of innovation and development
e.g. improving transfers with off-board fare validation

The Integrated Sustainable Urban Mobility scenario and CO₂ emissions

The ISUM scenario can effectively reduce CO₂ emissions for urban passenger transport while better balancing the diverse travel needs of urban residents in growing cities.

Combining public transport improvements and shared service incentives with infrastructure investments that prioritise collective, shared and active modes significantly reduces emissions by shifting trips away from privately owned vehicles.

Reduction in CO₂ emissions by transport mode under the ISUM scenario



31%
 lower CO₂ emissions in 2050
 compared to baseline

8%
 from ambitious PT,
 shared mobility and
 integration

Improving informal modes can help further decarbonise urban passenger transport

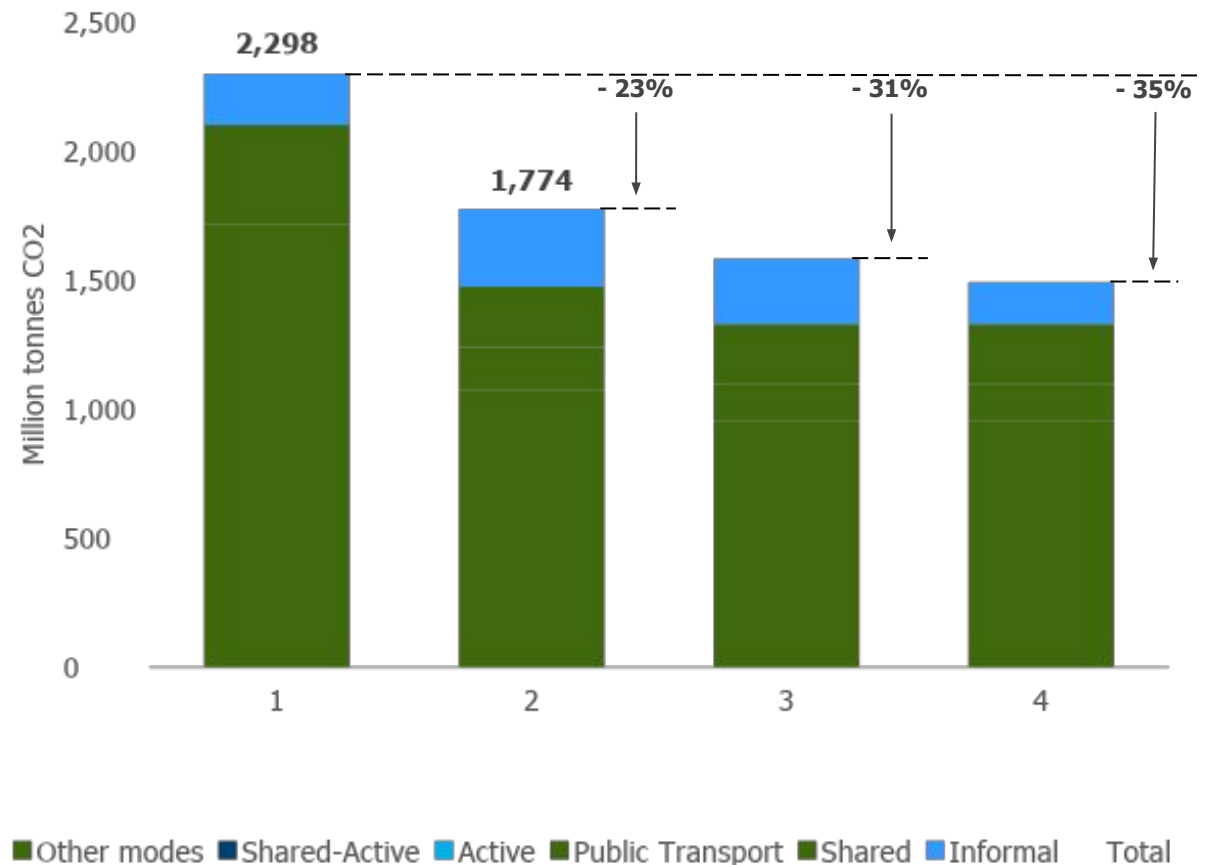
Improving the efficiency of informal modes can decrease urban passenger transport CO₂ emissions by an additional four percentage points in 2050.

Informal modes of transport exist due to a latent demand for better public transport service. Informal modes provide basic mobility and accessibility in places underserved by existing transport networks.

Actions to improve informal modes include allowing complementary operations between informal modes and public transport, integrating them into the public transport network and introducing regulations (e.g. emission standards) and incentives (e.g. scrapping schemes, purchase incentives) to improve the fleet's efficiency.

Overall CO₂ emissions would drop more than 12% compared to the baseline if the same rate of technology improvements were applied to informal fleets as is applied to formal bus transport in the ISUM scenario.

Reduction in CO₂ emissions when ISUM is combined with improvements to informal transport



Data gaps and next steps

Better data on fleets (age, powertrains) and on service operations (routes, frequencies) can improve model outputs

Our model can now incorporate this level of detail

Upcoming projects

- Informal Transport Roundtable
Santiago de Chile, 1-2 April 2024
- ITF Transport Outlook '25

Relevant studies



[ITF Transport Outlook 2023](#)

[New but Used: The Electric Vehicle Transition and the Global Second-hand Car Trade](#)

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and WRI Ross Center for Sustainable Cities (WRI)