

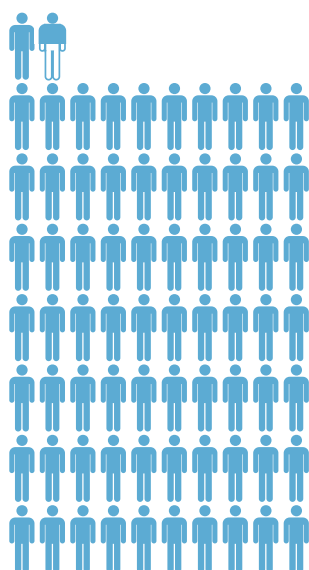


How to make urban mobility clean and green

The most effective way to decarbonise urban passenger transport? Shared vehicles, powered by clean electricity, integrated with existing public transport

The issue

CO₂ emissions from urban mobility will increase 26% by 2050



India

71.4

inhabitants per registered vehicle



USA

1.5

Demand for urban passenger transport could grow 60-70% by 2050

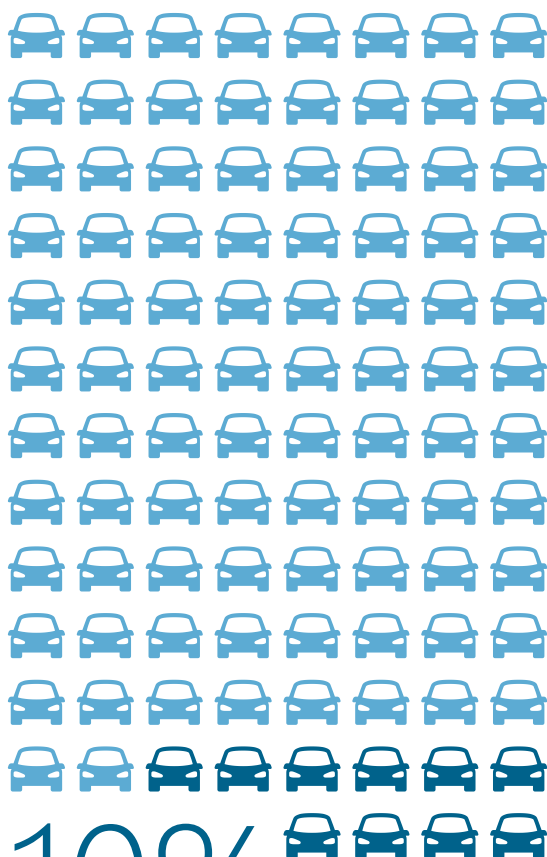
Population growth, economic development and continued urbanisation will lead to strongly increasing demand for urban transport. This growth will more than cancel out any CO₂ emissions reductions made possible by new low- and zero-carbon technologies. Projections see total motorised mobility in cities almost double (+94%) between 2015 and 2050. This growth will cause a 26% increase in CO₂ emissions from urban mobility by 2050.

Cars remain city dwellers' travel mode of choice

The number of cars on city roads will continue to grow, especially in fast-developing economies. In China, the number of light-duty vehicles soared from 5.9 million in 2000 to 91.7 million in 2014. In India, the increase was from 2.9 million cars to 21 million. But the number of cars per citizen in emerging economies is still far below those in developed countries. In 2010, the United States had one car for every 1.47 inhabitants, and India had one car for every 71.4 inhabitants. Worldwide, the number of cars is expected to reach 2 billion by 2040, double the 2010 figure. Most new car owners will live and drive in urban areas, and the share of the world's urban population is set to grow from 54% in 2015 to 68% in 2050. At least ten new megacities of more than 10 million people will form in the next two decades. Several cities have succeeded in reducing the number of cars driven in city centres. These are exceptions worth studying.

Key insights

If urban mobility were based on shared and electric vehicles, CO₂ emissions from traffic could fall by 60%



Decarbonising cities fast requires zero-emission cars

Urban car use relies nearly 100% on burning fossil fuels. The electrification of motorised vehicles is a promising option for decarbonising urban mobility. Yet the number of electric cars in cities remains marginal. To have any impact on urban CO₂ emissions in a way that helps to reach mitigation targets, their use must be scaled up very rapidly. Electric vehicles are becoming more easily available and affordable. Virtually all car manufacturers are offering an increasing number of models. Policy makers can accelerate their adoption with a wide range of incentives. However, they must avoid policies that simply displace emissions – electric mobility powered by fossil energy does not help the climate.

Shared mobility cuts CO₂ without any new technology

Better capacity use is the key to mitigating CO₂ emissions in urban areas. Cars operate 50 minutes per day, with around 1.4 passengers on average. If greater ride-sharing succeeds in doubling car occupancy, today's level of mobility could be provided with less than 10% of the current number of cars. This would cut CO₂ emissions by one third without the need for any new technology. Because shared cars drive more miles and are thus replaced sooner, more energy-efficient cars are introduced more quickly and on a larger scale. Well-planned shared mobility services do not compete with public transport. In fact they can increase public transport ridership by acting as feeders for metros or light rail lines.

To Dos

Emissions and congestion charges for vehicles in city centres have reduced local CO₂ emissions by c. 15% and congestion by 20-30%



Prioritise shared and electric urban mobility

Urban transport policies and infrastructure improvements that support the adoption of shared and electric mobility will expedite the shift to sustainable transport in cities. Reaping their full mitigation potential quickly will require an integrated policy for both. It must also go along with the determination to scale up quickly. A willingness to experiment with regulations and technologies will foster further innovation and maintain momentum.

Aim to make low-carbon travel the default

Reducing travel demand, facilitating the use of high-occupancy mobility, and encouraging walking and cycling will all help to reduce CO₂ emissions from urban transport. Better public transport network coverage, greater accessibility to these networks, and improved connectivity between mobility options is also essential. Innovative ways to manage car parking have been successfully trialled. Emissions and congestion charges on vehicles using urban roads have proved effective. Some have reduced local CO₂ emissions by around 15% and congestion by 20-30%. To exploit the potential of individual measures, cities must integrate urban land-use planning and transport planning. This will require unprecedented forms of co-ordination.

Further reading:

Policy Priorities for Decarbonising Urban Passenger Transport (ITF 2018)

ITF work on Shared Mobility

About



Who we are

The International Transport Forum at the OECD is an intergovernmental organisation with 59 member countries. It acts as a think tank for transport policy and organises the Annual Summit of transport ministers. ITF is the only global body that covers all transport modes. The ITF is administratively integrated with the OECD, yet politically autonomous.

What we do

The ITF works for transport policies that improve peoples' lives. Our mission is to foster a deeper understanding of the role of transport in economic growth, environmental sustainability and social inclusion and to raise the public profile of transport policy.

How we do it

The ITF organises global dialogue for better transport. We act as a platform for discussion and pre-negotiation of policy issues across all transport modes. We analyse trends, share knowledge and promote exchange among transport decision-makers and civil society. The ITF's Annual Summit is the world's largest gathering of transport ministers and the leading global platform for dialogue on transport policy.

Decarbonising Transport initiative

The Decarbonising Transport initiative

promotes carbon-neutral mobility to help stop climate change. It provides decision makers with tools to select CO₂ mitigation measures that deliver on their climate commitment.

Climate change affects lives around the globe. Rising temperatures cause draughts, rising sea levels threaten low-lying regions, ever more extreme weather leads to severe disruptions. Climate change cannot be stopped without decarbonising transport. Transport emits around 23% of the energy-related CO₂ that feeds global warming.

Without immediate action, its share could reach 40% by 2030. Transport emissions have grown faster than those of any other sector over the past 50 years. Demand for transport will continue to grow massively in the coming decades. As a result, CO₂ emissions from transport activity will not fall, but could increase by 60% by 2050. And because transport relies on oil for 92% of its energy, it is particularly hard to decarbonise.

The initiative is funded by voluntary contributions from a number of sources including ITF member countries, Corporate Partnership Board, multilateral development banks, as well as industry associations and foundations.

www.itf-oecd.org/decarbonising-transport

