

ITF Transport Outlook 2019





Strategic tool

- ▶ ITF's "flagship" publication – part of OECD Outlook series
- ▶ In-house models covering all modes of transport, freight and passenger – globally, nationally, cities
- ▶ Long-term development of global transport volumes and related CO₂ emissions, health impacts, SDGs
- ▶ Allows us to analyse how world could change if we choose different policies and development paths



Projecting under uncertainty

- ▶ How socio-economic changes affect transport demand
 - › Population, GDP, trade, transport policies
- ▶ Relies on our understanding of how these affected transport in the past
- ▶ Uncertainty is an inherent element of future transport scenarios
 - › Slowing economic growth, changing demographics, travel behaviour, technology and innovation



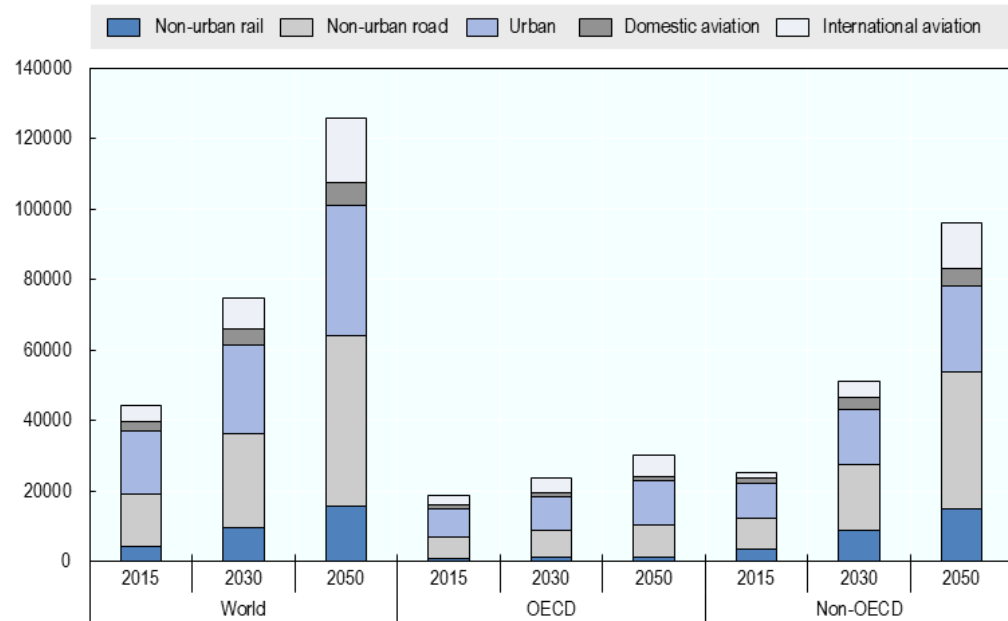
Passenger transport demand to triple by 2050

China and India to generate 1/3 of global pkm

OECD share of pkm falls from 43% to 24%

Non-urban road is the largest mode by 2050

Current demand pathway, billion passenger-kilometres





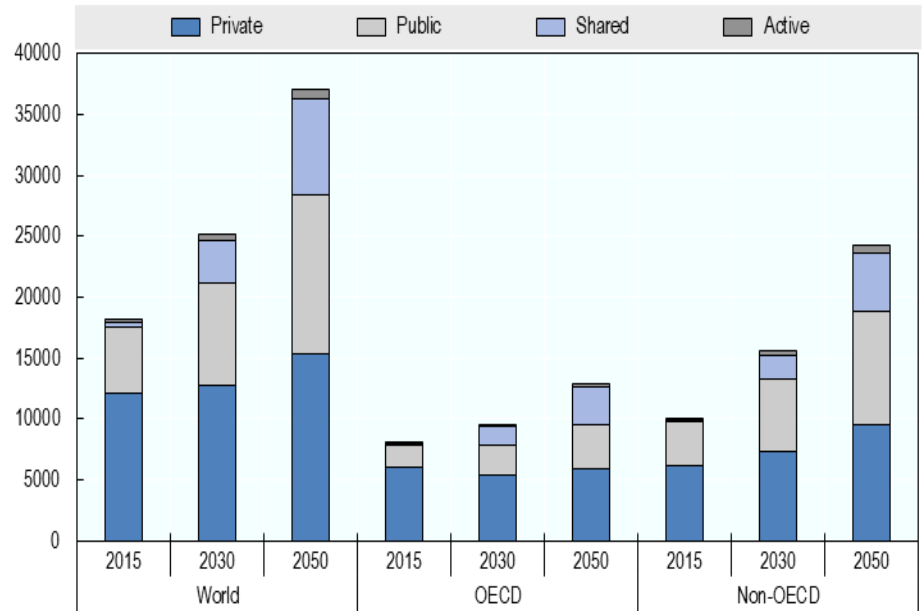
Urban passenger transport to double by 2050

Shared mobility* is the fastest growing mode

Public transport ridership growth strong in non-OECD rail and metro

Car share still dominant but declining

Current demand pathway, billion passenger-kilometres



*Free-floating shared vehicle systems (cars, bikes, scooter, motorbikes) and shared taxis and minibuses



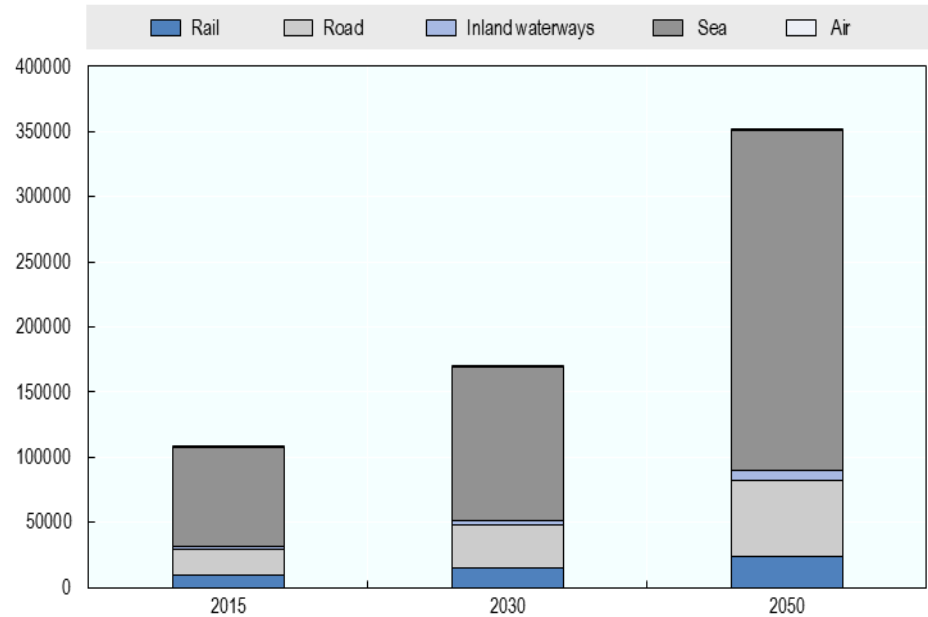
Freight growth subject to significant uncertainties

Tkm to triple by 2050

Maritime continues to dominate freight

Anticipating bottlenecks and planning investment difficult

Current demand pathway, billion tonne-kilometres





Policy scenarios: current and high ambition



Car access restrictions



Pricing



Mass transit



Transport integration



Urban density



Carbon pricing



Trade of coal and oil



Logistics efficiency



Efficiency and EVs



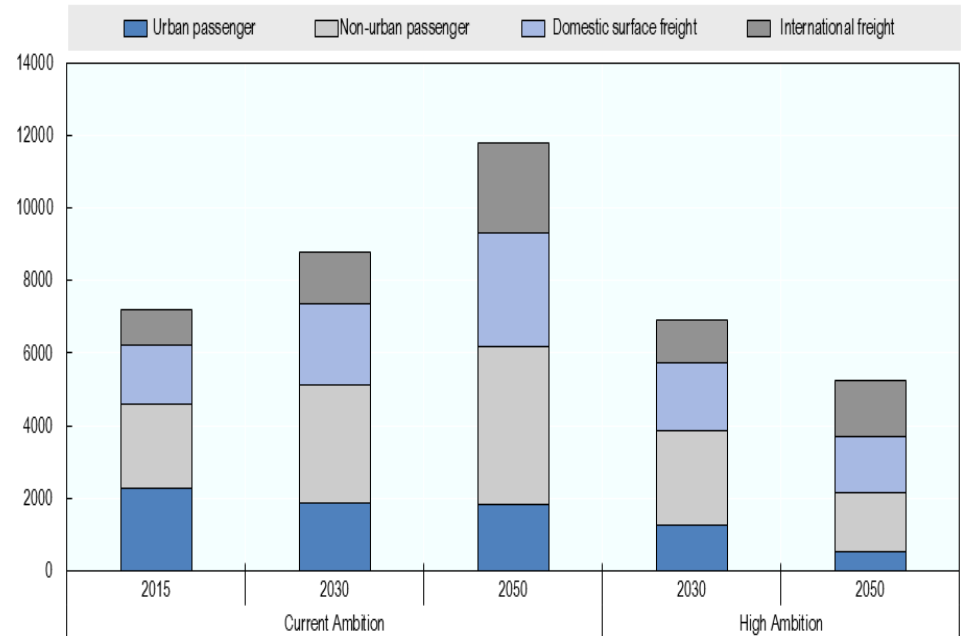
Current ambitions not enough to achieve climate goals

Transport-related CO₂ emissions to grow over 60% by 2050

More ambitious policies could reduce emissions by 30%

Importance of disruptive innovations

Transport CO₂ emissions, million tonnes





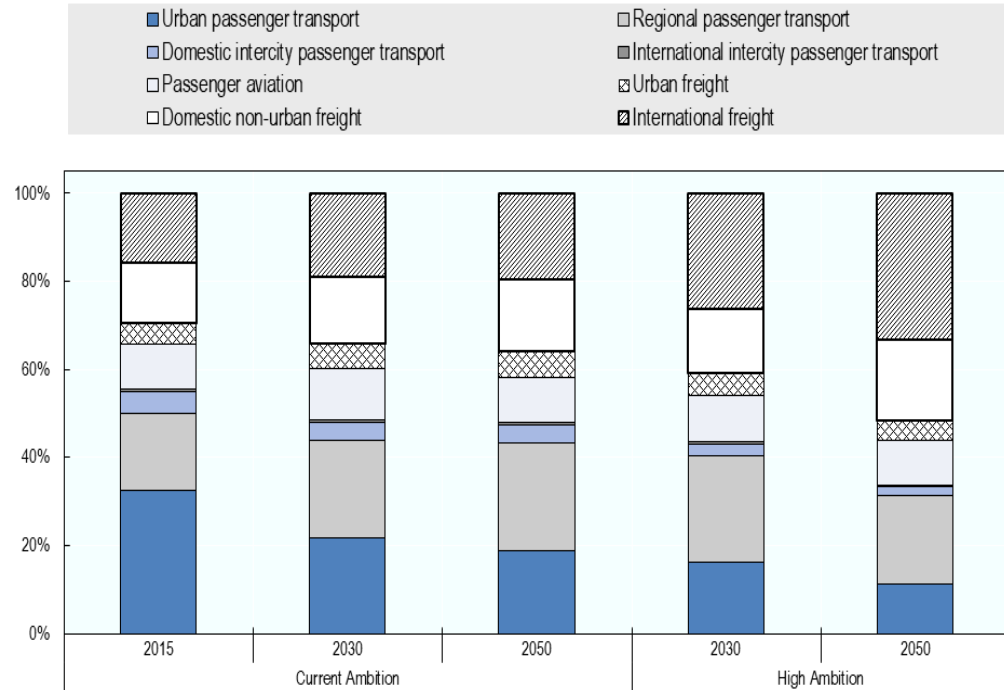
Policies will lead to shifts by sector

Share of urban transport declines in all scenarios

Regional passenger transport, non-urban freight and international freight increase shares

Reflects current policy focus on urban transport

Transport CO₂ emissions, million tonnes





2019 Edition: Focus on disruptions



Teleworking



Shared mobility



Autonomous driving



Long-haul LCC



Energy innovation



Ultra-HSR



E-commerce



3D printing



New trade routes



Energy innovation



High-capacity vehicles



Disruptions for urban passenger transport



Teleworking

3-30 % of trips affected



Shared mobility

Uptake speed current or 2x



Autonomous driving

2.5%-40% of trips affected



MaaS

20%-100% transport integration



Access restrictions

20%-60% of trips affected



Parking pricing

10%-40% price increase

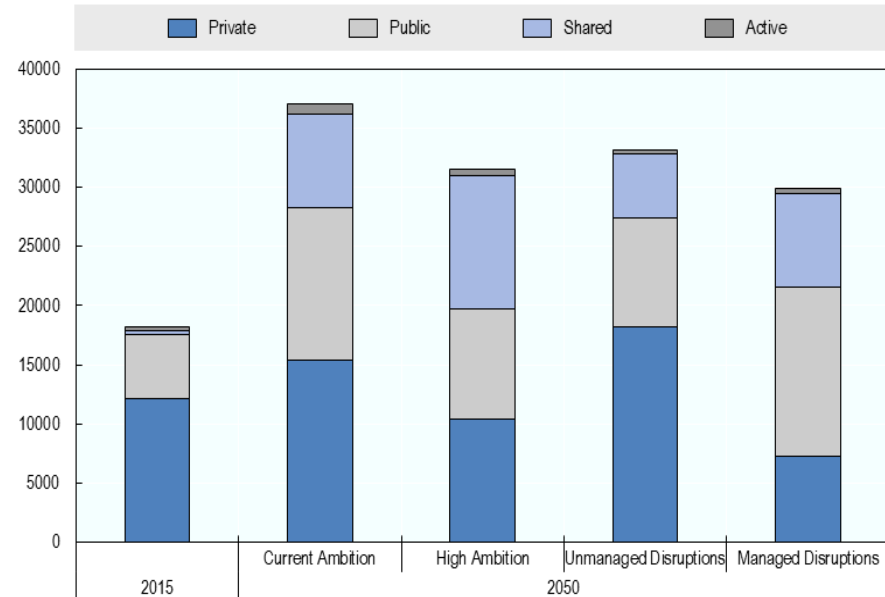


Importance of managing change

Unmanaged disruption leads to modal shift towards private car use in urban areas

Managed disruption (policy actions and regulation to support transition) can result in significantly more sustainable urban mobility

Urban mobility, million passenger-kilometres





Disruptions for inter-urban passenger transport



Long-haul LCC

3-30 % of trips affected



Energy innovation

Cost decrease and range of electric planes



Autonomous vehicles

5%-25% of trips affected



Shared transport

13%-27% trips affected



Ultra-HSR

Technology assumptions



Cost of carbon

USD 500 – USD 1000 per tonne



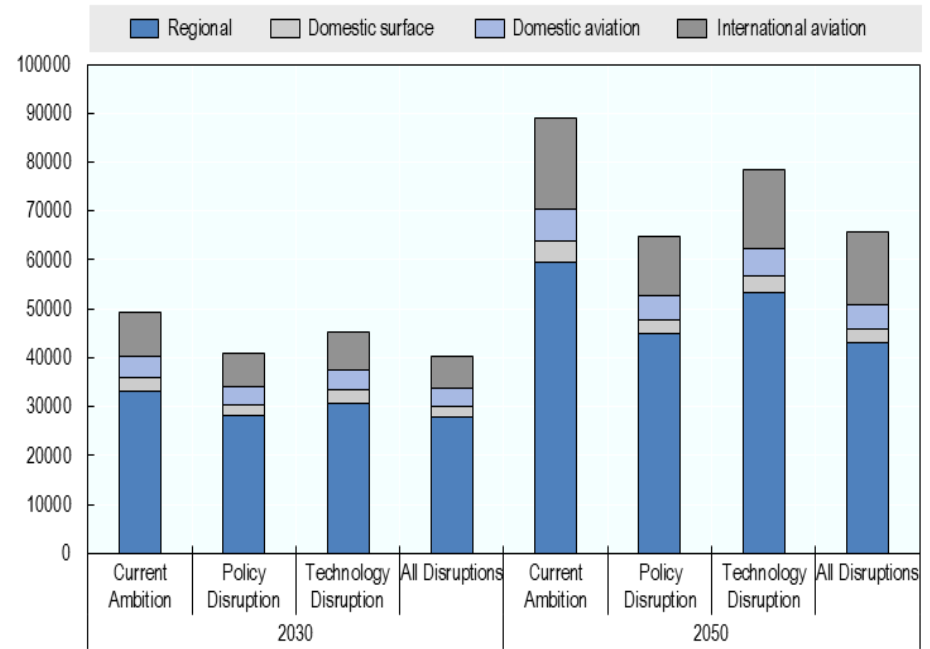
No major mode shift expected for non-urban travel

Not very sensitive to technology or policy changes

Reduced cost of transport may lead to longer trips

Combined technology and policy disruptions needed to reduce CO₂

Billion passenger-kilometres





Disruptions for freight transport



E-commerce

5%-25% increase



3D printing

Up to 38% reduction in trade value



New trade routes

Central Asia, Arctic route



Energy innovation

20%-80% reduction in carbon intensity



Autonomous trucks

Up to 90% uptake for inter-urban

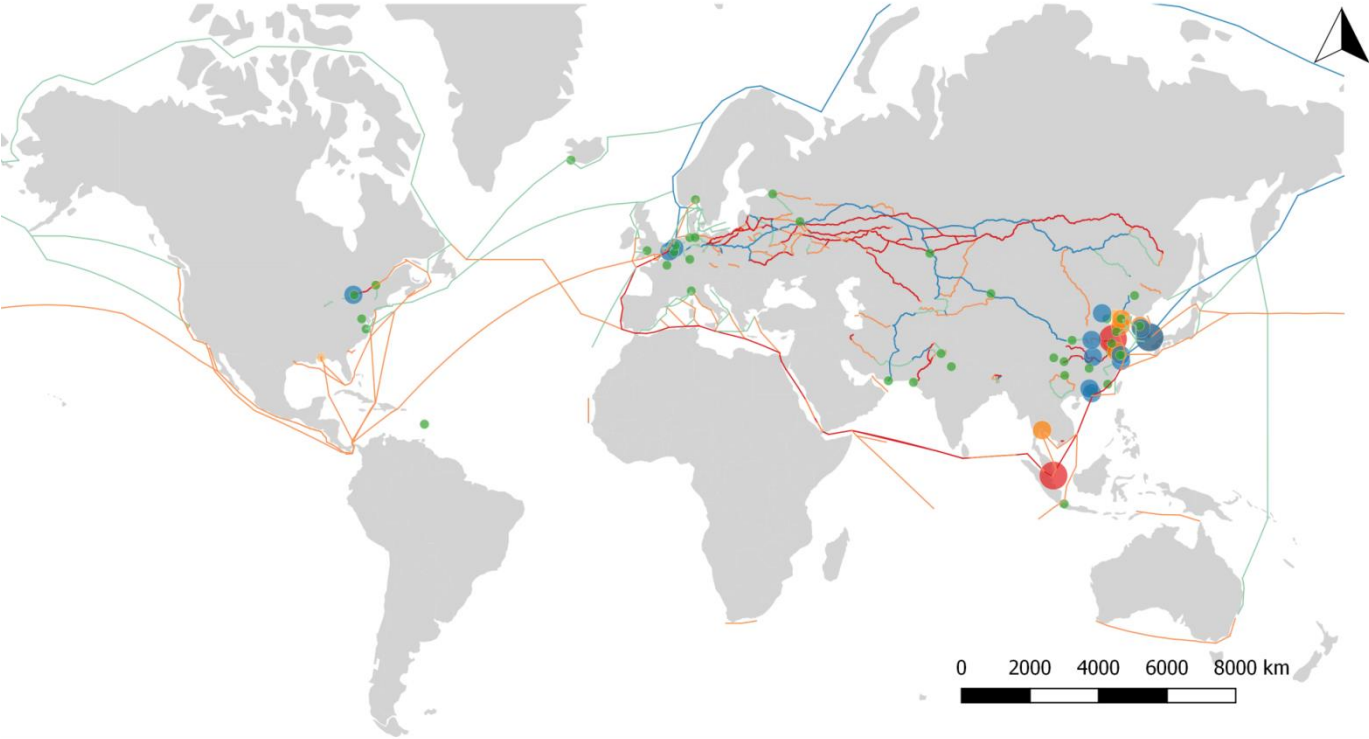


High-capacity vehicles

5%-20% uptake



New routes: Impact on trade flows





Potential impact of disruptions the largest

Massive changes in costs, activities and supply chains

Changes trade patterns, infrastructure use, logistics chains

Poses a challenge for investment decisions

Freight, Billion tonne-kilometres

