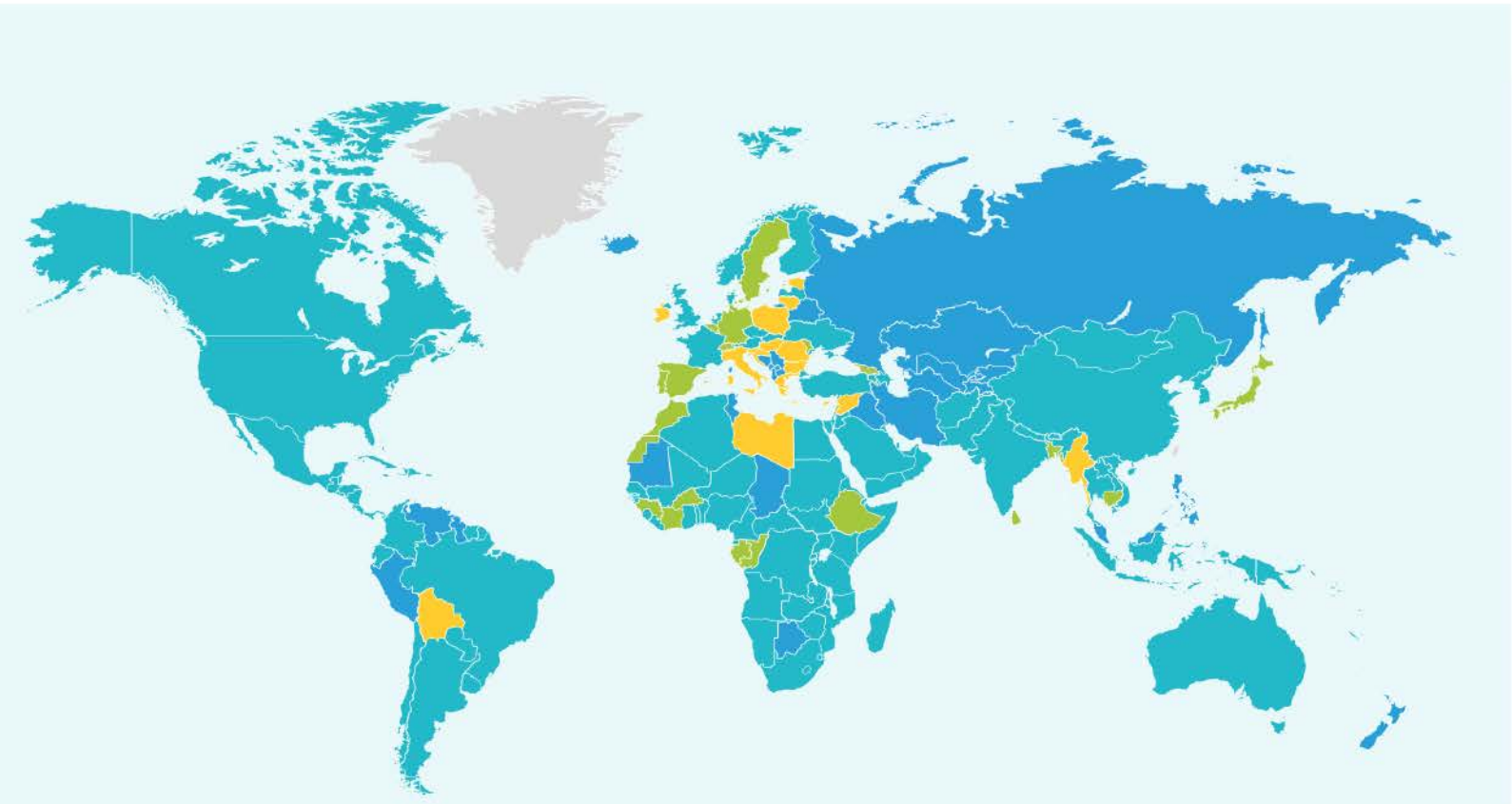
SLOCAT
Partnership on Sustainable, Low Carbon Transport

Executive Summary

Climate Strategies for Transport: An Analysis of Nationally Determined Contributions and Long-Term Strategies



Lead author: Nikola Medimorec (SLOCAT Secretariat)
Contributors: Maruxa Cardama, Emily Hosek, Mark Major (SLOCAT Secretariat); Daniel Bongardt, Verena Knoell, Nadja Taeger (GIZ); Marion Vieweg (move2change)

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About the report

This Report analyses trends in the transport decarbonisation ambition, targets and actions in the climate strategies submitted by countries in the framework of the Paris Agreement. Specifically, the analysis focuses on Long-Term Strategies (LTS) starting from 2016 and on Nationally Determined Contributions (NDCs) starting from 2019. On the basis of the analysis, the report seeks to establish to what extent climate action in transport by countries is on track to deliver on the Paris Agreement goal of limiting global warming below 1.5 °C. The Report also identifies gaps and shortcomings in the transport dimension of these national climate strategies; while it provides recommendations on how to enhance it.

Available at

www.slocat.net/ndcs

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Executive Summary

Introduction

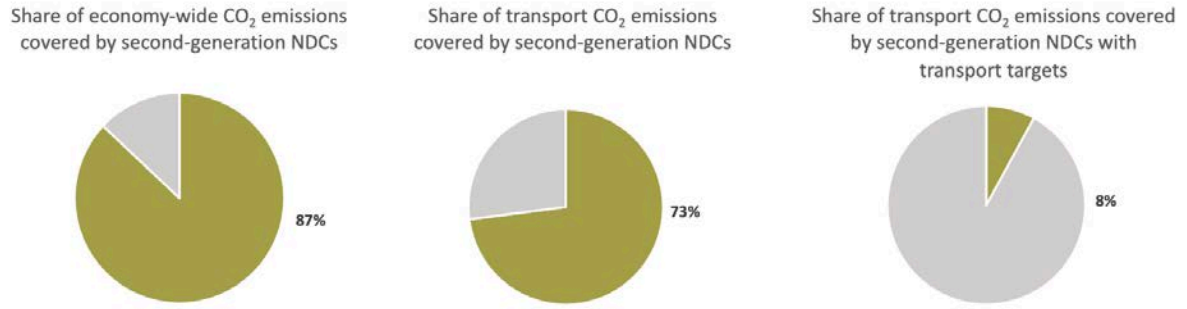
This analysis aims to support a better understanding of the level of transport decarbonisation ambition and supporting plans in long-term strategies (LTS) and second-generation Nationally Determined Contributions (NDCs) by examining the commitments and goals countries are setting to decarbonise the sector.

It focuses on LTS submitted between 2016 and 2021 and second-generation NDCs (covering both second NDCs, updated NDCs and newly submitted first NDCs) submitted to the UNFCCC between 2019 and 2021.

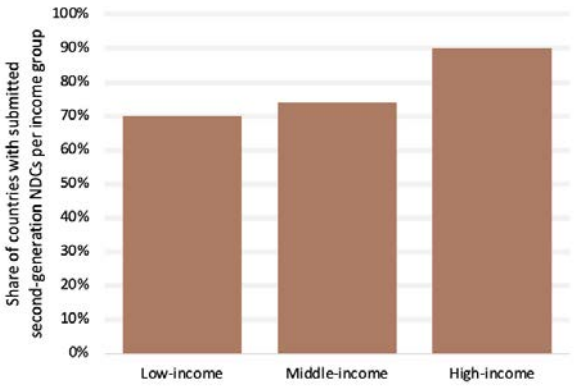
Overview and scope

Second-generation Nationally Determined Contributions

There are 13 second NDCs and 113 updated NDCs representing 152 countries as of 30 November 2021. The EU submitted an updated NDC on behalf of the 27 members of the EU. Countries with second-generation NDCs represent 73% of total transport CO_2 emissions (excluding international aviation and shipping).



Nearly all European and North American countries submitted second-generation NDCs, while 72% of countries in other regions have done so. The NDCs are an opportunity to express the need for international support in regards to climate action, thus more low-income countries could benefit from submitting updated NDCs to increase their chances of accessing international financing. Climate strategies by low- and middle-income countries are important as future transport demand growth is projected to occur mainly in these country income groups.



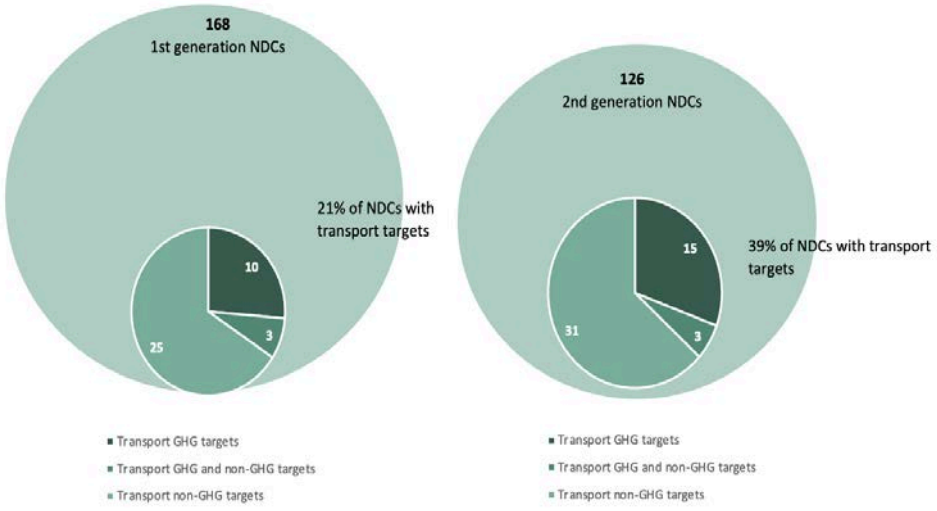
Long-Term Strategies

Through 30 November 2021 45 countries plus the EU have submitted LTS. 17 individual EU member countries also submitted their respective LTS, resulting in a majority of LTS (53% of all submissions) coming from Europe. The LTS cover 50% of total CO_2 emissions and 38% of transport CO2 emissions (excluding international aviation and shipping). There have been no LTS submissions from low-income countries.

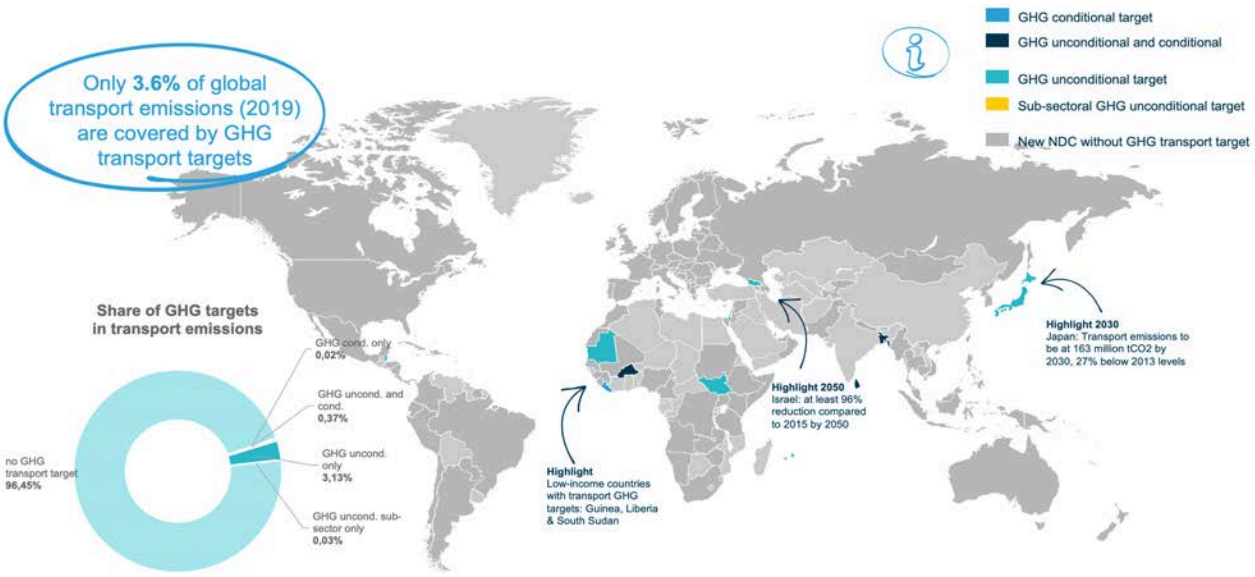
State of climate action for transport in 2021

Key insight: Progress has been achieved as more countries embrace GHG mitigation targets for transport but it is far from enough to put the world on a path to achieve the Paris Agreement goals.

Countries have made clear progress in developing long-term climate visions, with a growing number committing to long-term net-zero targets. 50 countries have submitted economy-wide net-zero targets in LTS, second-generation NDCs, or both.

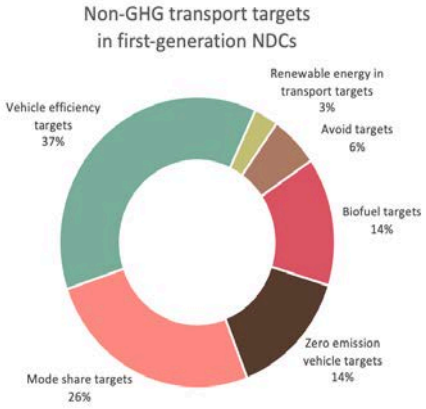


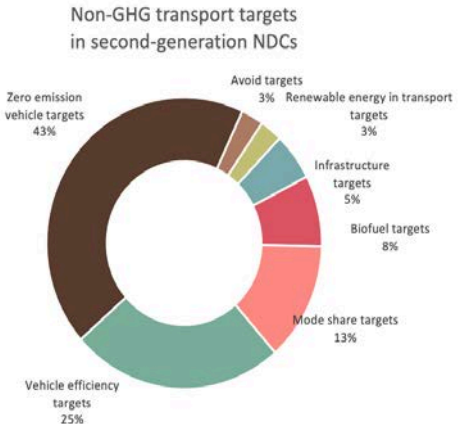
39% of second-generation NDCs contain transport targets (either transport GHG mitigation targets and/or non-GHG targets for transport).



18 second-generation NDCs have a transport GHG mitigation target, representing 14% of all second-generation NDCs. 11 of these targets are unconditional. 4 countries outlined conditional targets for transport GHG emission mitigation, the remaining 3 countries have a combination of unconditional and conditional targets. Nearly all of them have a target year of 2030.

In addition, 76 non-GHG transport targets have been identified in second-generation NDCs (a NDC can include several non-GHG mitigation targets). The percentage of mode share targets reduced significantly between the first and second generation of NDCs. The most frequent non-GHG target was for zero emission vehicles, followed by vehicle efficiency targets. The percentage of mode share targets reduced significantly between the first and second generation of NDCs.





Targets in Long-Term Strategies

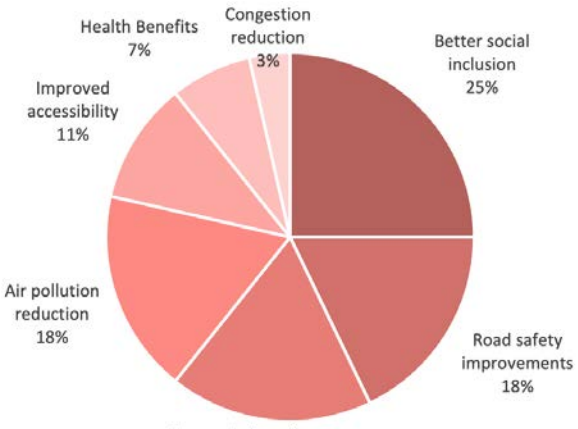
10 countries (Belgium, Germany, Japan, New Zealand, Portugal, Slovenia, Spain, Sweden, Switzerland and United Kingdom) outline transport targets in their LTS (representing 22% of submitted LTS). In contrast to second-generation NDCs, LTS usually have a target year of 2050.

Maximising impacts

Key insight: Transport climate actions are not being developed in the context of transport's impact on the wider sustainable development agenda, and are therefore missing an opportunity to enable and accelerate a wider transformation.

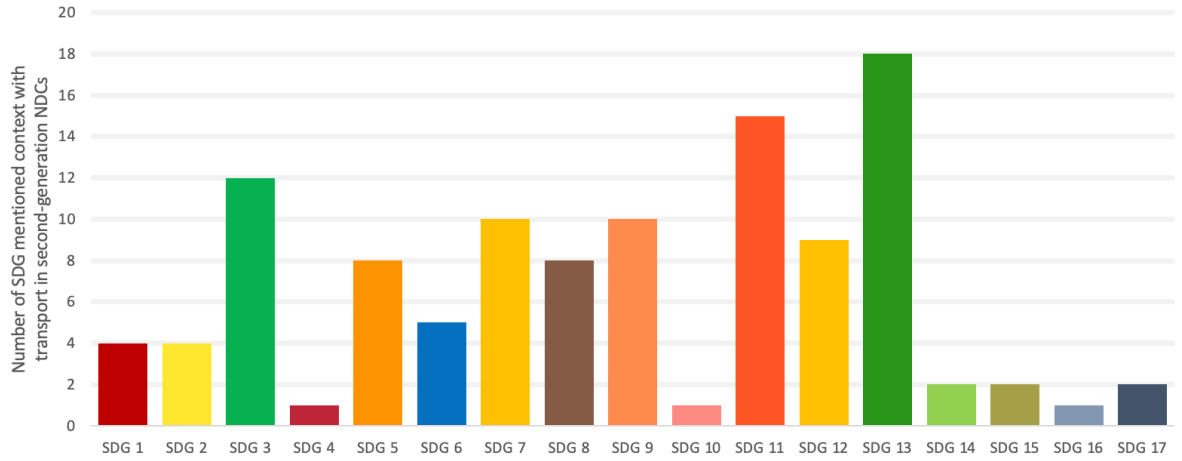
The few second-generation NDCs which reference these wider benefits mainly focus on better social inclusion and road safety improvements.

Benefits mentioned in second-generation NDCs



18 second-generation NDCs link transport to specific SDGs. The most often cited SDGs: SDG 13 (Climate Action), SDG 11 (Sustainable Cities and Communities) and SDG 3 (Good Health and Well-being).

SDGs mentioned in the context of transport in second-generation NDCs



Actions to mitigate transport emissions are insufficient to reach Paris Agreement goals

Key insight: Climate strategies embrace a wider portfolio of transport mitigation actions but the mitigation actions continue to lean towards system efficiency improvements over transformation.

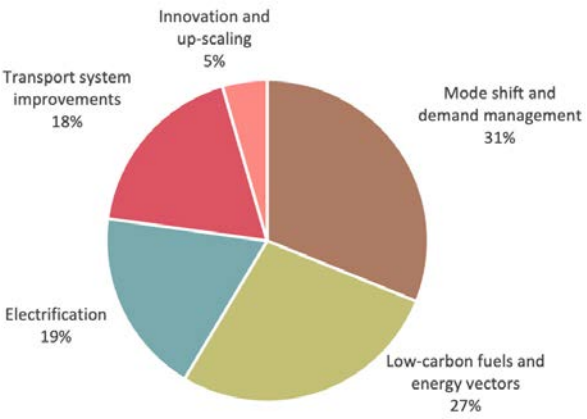
The second generation of NDCs include on average more transport mitigation and adaptation actions than the first generation. There are nearly twice as many transport mitigation actions featured in each second-generation NDC compared to first-generation NDCs. On average, there are...

2.7
Transport mitigation measures per first-generation NDC

4.9
Transport mitigation measures per second-generation NDC

21
Transport mitigation measures per LTS

Transport mitigation actions by category



In second-generation NDCs, there has been a clear shift away from actions related to public transport and towards e-mobility measures and targets.

An issue that continues from the first generation of NDCs is that many actions and measures have vague descriptions.

Transport adaptation targets and actions are still limited

Similar to mitigation, there are more transport adaptation actions featured in second-generation NDCs compared to first-generation NDCs. On average, there are...

0.4
transport adaptation measures per first-generation NDC

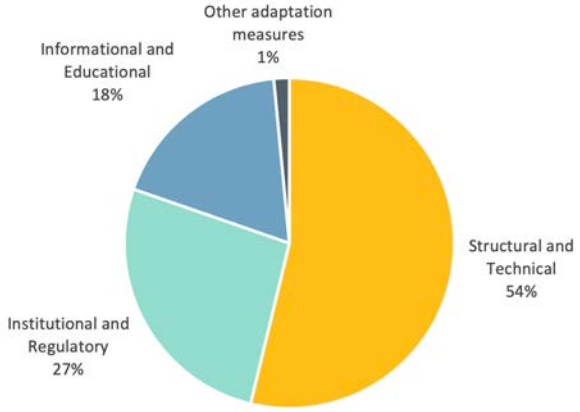
1.1
transport adaptation measures per second-generation NDC

Only 6 second-generation NDCs (Antigua and Barbuda, Burundi, Cambodia, Kenya, Liberia, Papua New Guinea) have transport adaptation targets. They include targets to climate-proof infrastructure and develop public transport and active mobility systems in support of more robust and resilient transport systems.

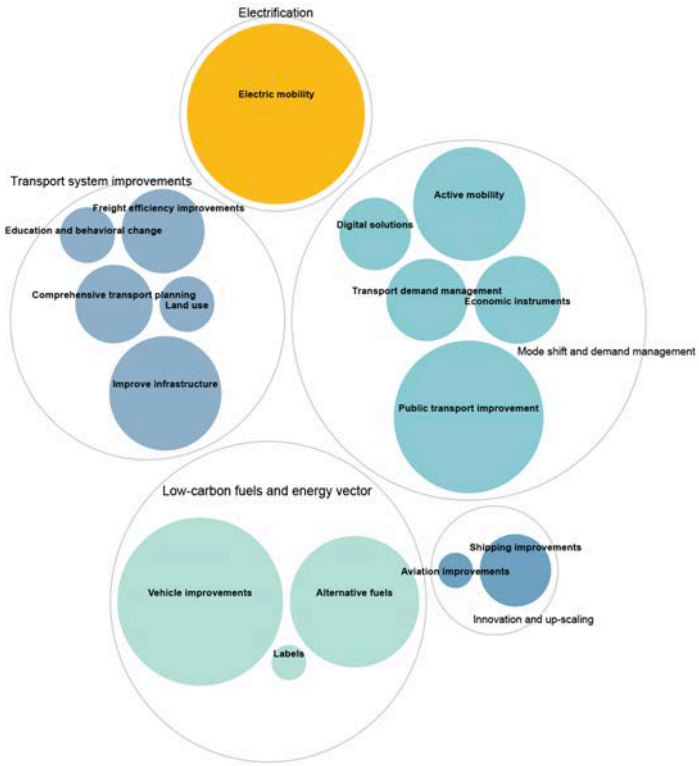
The adaptation content is very general and the majority is limited to road infrastructure resilience. Actions on transport adaptation rarely specify the type of transport activity they aim to address (i.e., passenger or freight).

54 second-generation NDCs (43% of all NDCs) include transport adaptation measures, a significant improvement over the first-generation NDCs where transport adaptation was covered in just 22%.

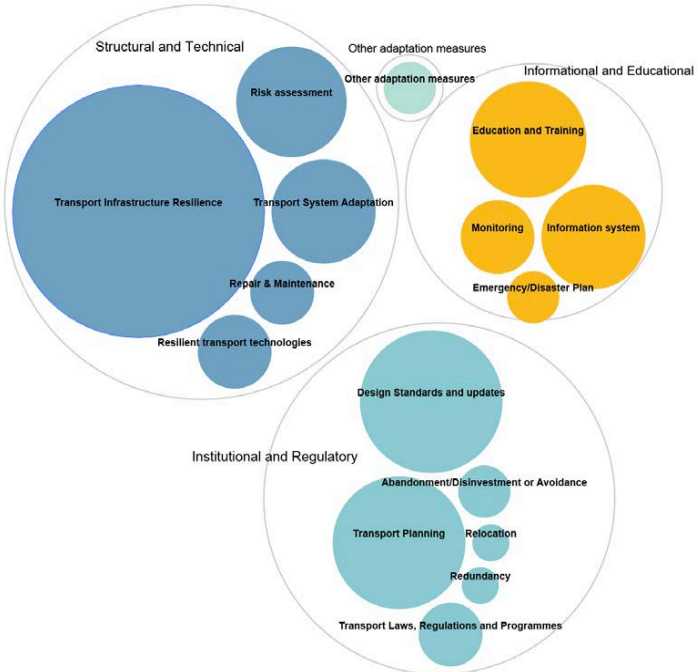
Transport adaptation actions by category



Detailed distribution of transport mitigation measures by category (outer circle) and subcategory (colored circles)

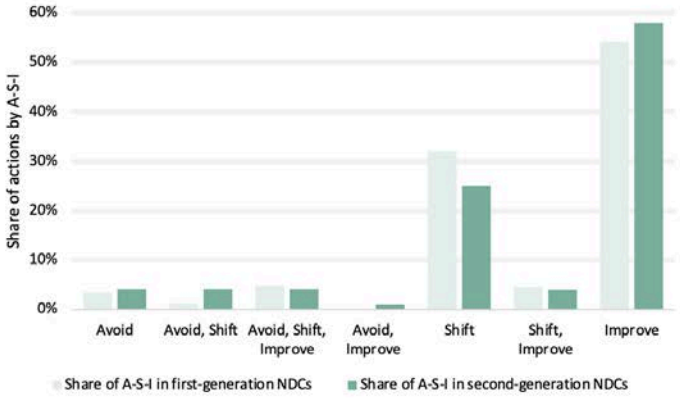


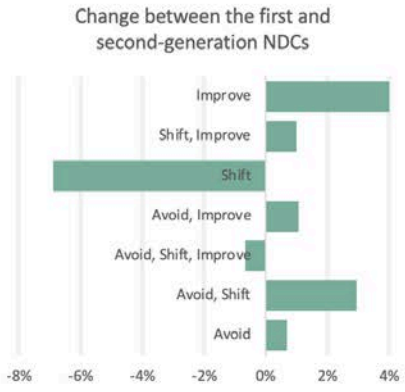
Detailed distribution of transport adaptation actions by category (outer circle) and measure (colored circles)



The full potential of Avoid and Shift benefits are not maximised; the focus on Improve prevails

Key Insight: Full potential of inclusion of Avoid and Shift actions has not yet been reached. Improve actions dominate in the second-generation NDCs and LTS.





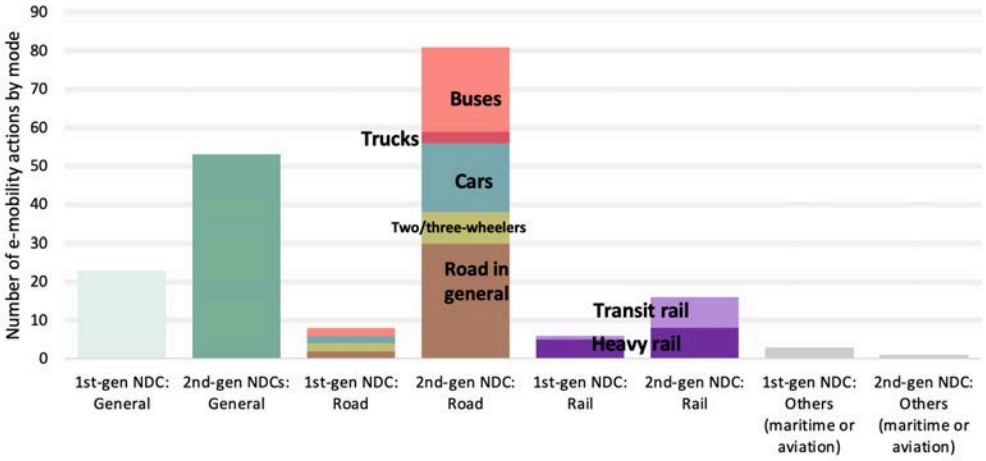
Good examples:
Sri Lanka's updated NDC with comprehensive, well-balanced measures.

Singapore's LTS with clear linkages between urban planning and transport.

Learn more about the Avoid-Shift-Improve Framework here: https://slocat.net/asi/

Electrification takes pole position

Key insight: New climate strategies feature a strong focus on electrification of road transport across vehicle types.



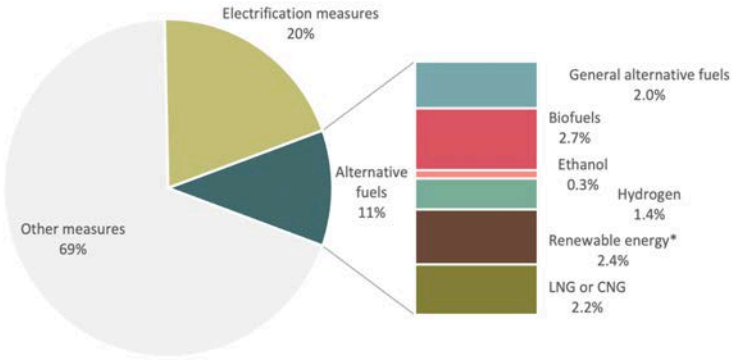
Electric mobility (e-mobility) is the most common category of measures in second-generation NDCs. 66 second-generation NDCs (52%) include e-mobility-related actions, representing 19% of all actions.

33 non-GHG transport targets in second-generation NDCs relate to vehicle electrification, and all are from middle and high-income countries.

Phase-out of fossil fuels is missing in action

Key insight: The impact of electrification on decarbonisation efforts could be significantly enhanced with more widespread use of renewable energy.

14 second-generation NDCs provide clear linkages between the electrification of transport and the use of renewable energy. The use of alternative fuels (not just limited to fuels from renewable sources) to lower transport emissions has been mentioned in 11% of transport mitigation actions in second-generation NDCs.



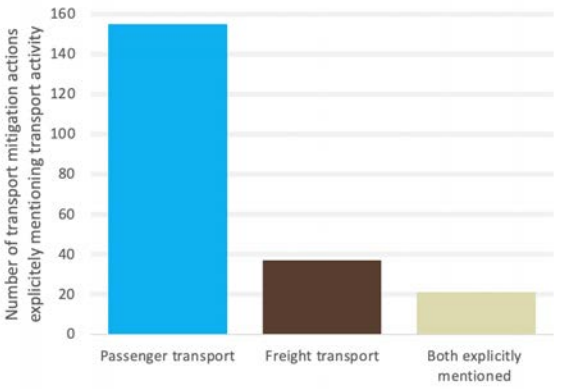
* It may include electricity through renewable energy or general references to renewable energy in transport.

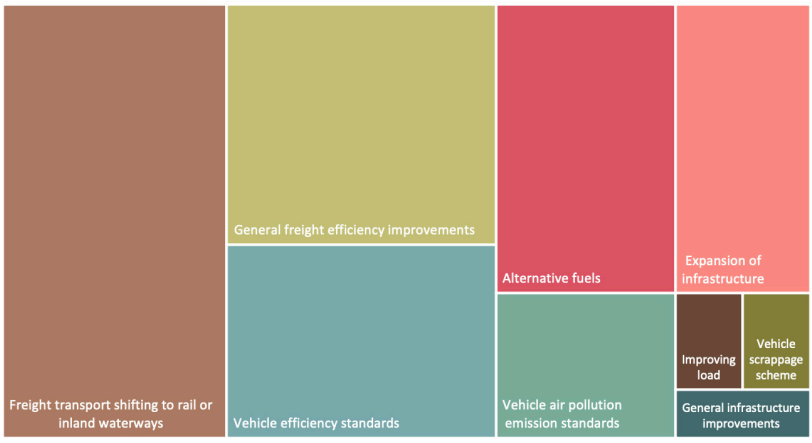
Freight emissions growth continues unabated

Key Insight: Freight remains overlooked in NDC measures despite the sector's large contributions to GHG emissions. Action on freight is urgent due to rapidly rising demand and emissions. Only a few second-generation NDCs embrace a shift of road freight to rail and improvements of logistics.

The large majority of actions in second-generation NDCs do not specify which transport activity type they will apply to.

The most popular freight actions in second-generation NDCs include: shifting from road transport to rail or inland waterways (15 actions), freight efficiency improvements (10 actions) and vehicle-focused improvements (8 actions).





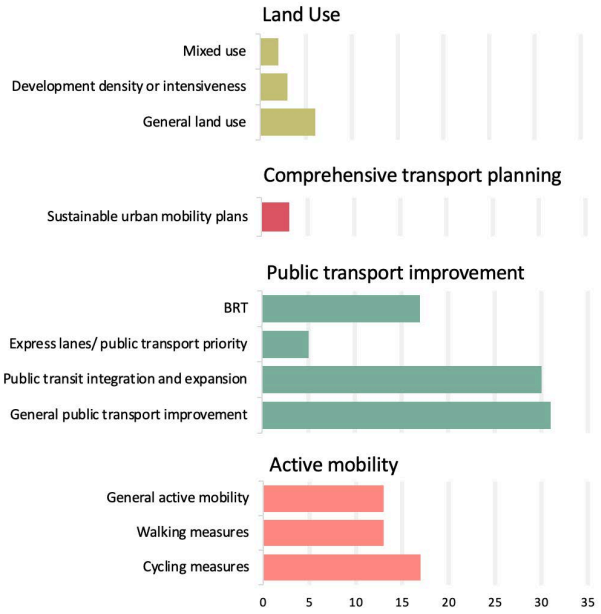
National frameworks to support sustainable urban mobility are absent in climate strategies

Key Insight: Achieving the NDCs will require climate action in cities, but NDCs lack national frameworks to support local action.

NDCs focus on climate action at the national level, but as urban transport is responsible for 60% of transport emissions, it is essential that cities are considered and supported in decarbonisation efforts. However, second-generation NDCs do not consider supporting frameworks for urban mobility.

Good example:
Canada to provide permanent funding of CAD 3 billion per year for investments in public transport and active mobility from 2026-27.

Urban transport-related actions in second-generation NDCs



Urban-level actions

Of the second-generation NDCs that include specific references to the geographic scope of measures, 20% (over 130 actions) mention urban transport. Sustainable urban mobility plans (SUMPs) are an important enabler of sustainable mobility in cities. However, only three countries have included it in their second-generation NDCs (Barbados, Guinea and Panama).

The process to implement commitments has been strengthened

Governance and implementation

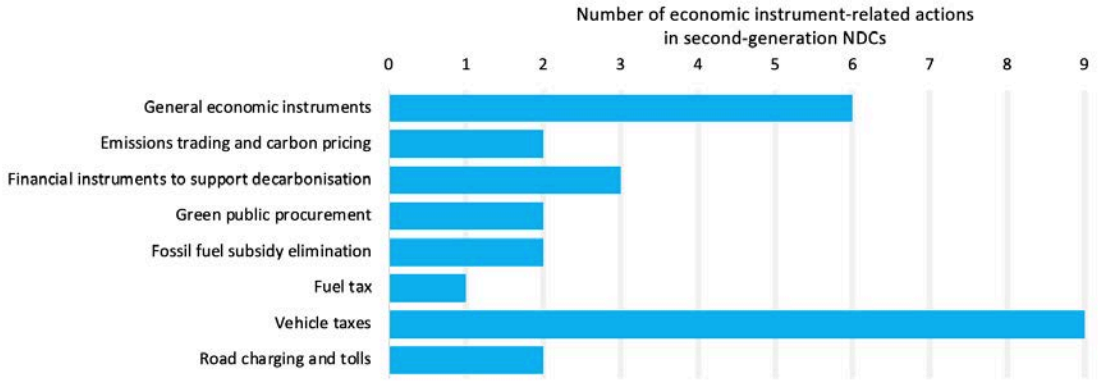
Key insight: The few NDCs with details on governance show that more engagement has been done than ever before including through stakeholder consultations and the involvement of multiple ministries.

In several second-generation NDCs references to national transport strategies have been included: Rwanda mentions its Transport Sector Strategic Plan, South Africa refers to its Green Transport Strategy, Thailand mentions its Environmentally Sustainable Transport System Plan 2013-2030, and the United Kingdom mentions its Transport Decarbonisation Plan.

Financing sustainable transport

33 second-generation NDCs outline how much investment is needed to support sustainable transport actions. For example, Bangladesh estimates that its transport mitigation actions will require over USD 124 billion until 2030. Out of this, the country notes that 88% will need to be provided through international support.

Economic instruments in support of transport decarbonisation



Attention to aviation and shipping emissions remains insufficient

Key insight: There is a notable lack of coherence between domestic and international commitments to decarbonise aviation and shipping. Only a few countries have expressed their intention to increase their engagement in global agreements on aviation and shipping.

Only 18 second-generation NDCs include plans to reduce emissions related to domestic aviation and maritime transport. A good example is Fiji, which has a target of reducing domestic maritime shipping CO_2 emissions 40% below BAU by 2030.

In addition, only a few countries have expressed their intention to increase their engagement in global agreements on aviation and shipping: The LTS by the EU, Luxembourg, Singapore and the United Kingdom have, for example, pointed out that efforts to minimise their aviation and shipping emissions will be addressed through their active participation in International Civil Aviation Organization and International Maritime Organization.

The information featured in the executive summary and the full analysis is based on data in the Tracker of Climate Strategies for Transport, a database on ambition, targets and policies in NDCs and LTS of the Paris Agreement, jointly developed by GIZ and SLOCAT and launched in May 2021.

Recommended reads:

- SLOCAT Partnership's NDCs Offering Opportunities for Ambitious Climate Action report of 2016
- GIZ's 2017 Transport in NDCs report
- GIZ's Six Action Recommendations to enhance climate ambition in transport
- SLOCAT's Ten Recommendations to raise ambition for transport in NDCs
- Preliminary analysis released in January 2021
- An updated summary of May 2021

Conclusion

Climate strategies are embracing a wider portfolio of transport mitigation actions, but they continue to favor improving the efficiency of current systems over the more transformative measures needed to reach zero emissions.

Governance structures are more sophisticated in the most recently submitted climate strategies, referencing the engagement of more stakeholders and often clarifying the responsibilities of transport ministries. Yet, there is still significant room for improvement.

The implementation of transport climate strategies, for example, is largely dependent on action at the local level. However, NDCs do not include enabling frameworks and policies to support cities in improving the sustainability of urban mobility.

Avoid-Shift-Improve actions in second-generation NDCs continue to be biased towards Improve. Electrification (an Improve measure) became the most popular transport mitigation action, specifically the electrification of buses and cars.

Less low-income countries have submitted LTS and second-generation NDCs compared to middle- and high-income countries.

NDCs and LTS don't make connections between transport and the wider sustainable development agenda.

While climate adaptation has received greater attention in second-generation NDCs, adaptation measures for the transport sector are limited and focus largely on infrastructure resilience. More efforts are needed to include these important measures and supporting institutional frameworks in climate strategies.

Second-generation NDCs fail to include measures to decarbonise and ensure the resiliency of freight transport.

Second-generation NDCs miss the opportunity to accelerate engagement in global agreements to reduce emissions from aviation and shipping and fail to include measures to support the implementation of such agreements.

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