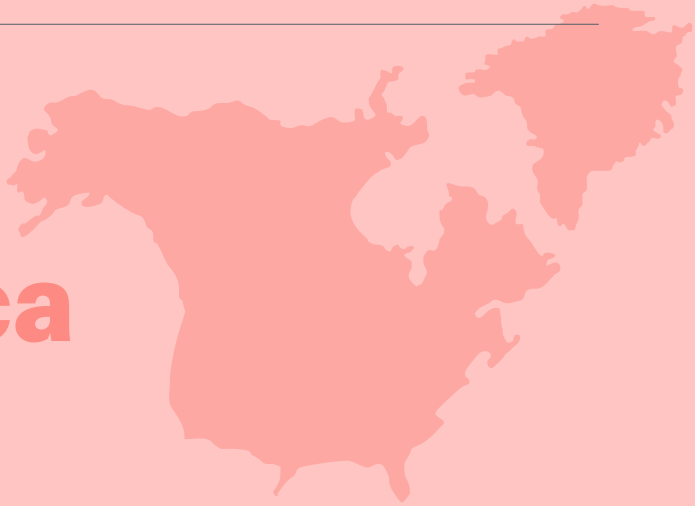
1.6

North America Regional Overview



Demographics

Population size:	Population growth:	Urban population share:	Urban population growth:	GDP per capita:	GDP growth:
747 million	+7%	83%	+10%	USD 55,153	+22%
(2020)	(2010-2020)	(2020)	(2010-2020)	(2019)	(2010-2019)

Sources: See endnote 1 for this section.

Key findings

Demand trends

- In the United States of America (USA) in 2019, single-occupancy vehicles accounted for more than 75% of work commute trips, whereas public transport accounted for less than 5%, with little change from 2018.
- Rail accounted for roughly one-third of all freight transport in Canada in 2011, and in the USA in 2019, exceeded only by pipelines in Canada (40%) and trucking in the USA (39%).
- Car ownership levels in North America were nearly five times the global average in 2015; however, the average growth in car ownership between 2005 and 2015 was nine times greater globally than in North America.
- Total new vehicle sales in North America grew 46% in 2019, the highest increase among global regions and nearly 3.5 times the increase in Europe (13%).
- The USA is the world's second largest national market for electric and plug-in hybrid cars (after China), with nearly 1.5 million units sold in 2019; however, in the USA electric vehicles accounted for only around 2% of new car sales that year.

Emission trends

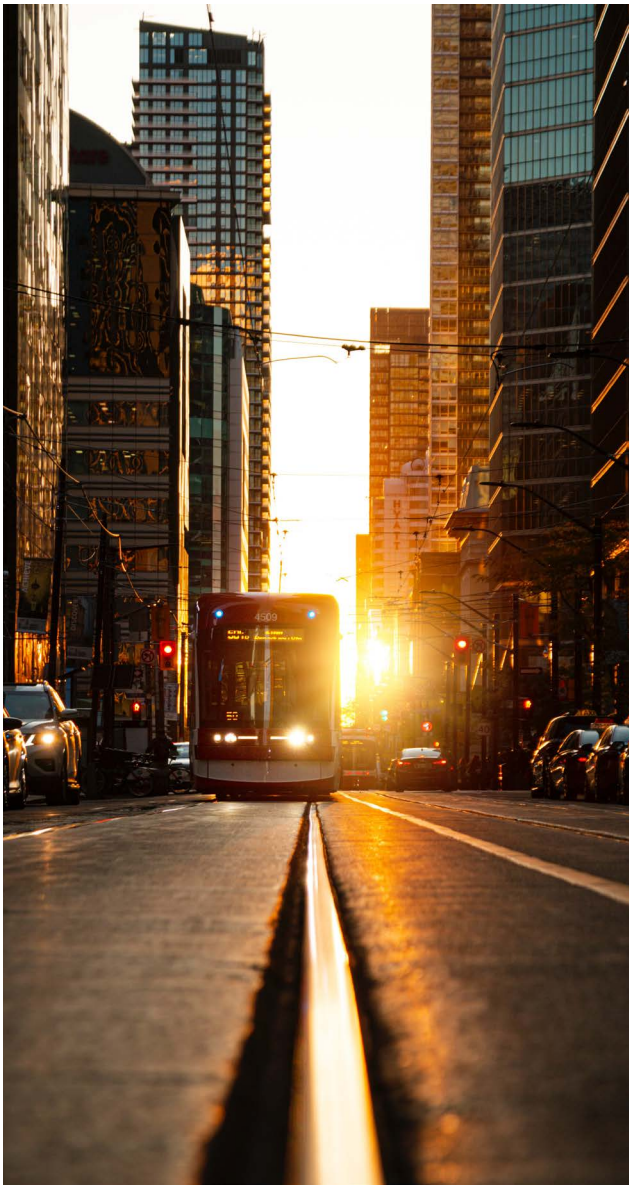
- Transport carbon dioxide (CO_2) emissions in North America grew 6% from 2010 to 2019, less than half the global average rate.
- Transport CO_2 emissions in the USA in 2014 were dominated by internal combustion engines, led by passenger cars (42%), freight trucks (23%) and light-duty trucks (18%).
- Transport emissions in North America are being decoupled from economic activity (decreasing 12-14% per unit of GDP from 2010 to 2019), while absolute transport emissions continued to rise through 2019.
- In the USA, domestic aviation accounted for nearly 7% of transport CO_2 emissions in 2014; however, much of the country's aviation emissions remain unaccounted for, as international flights represent the majority of air travel miles.

Policy measures

- At least 43 **USA states** and the **District of Columbia** took policy actions in 2019 related to electric vehicles and charging infrastructure.
- In 2019, **Canada** adopted a target for 100% zero-emission passenger vehicles by 2040, and in 2020, **15 USA states** and the **District of Columbia** collectively pledged to sell only electric medium- and heavy-duty vehicles by 2050.
- Sustainable freight measures in **North America** focused on zero-emission vehicle targets and efforts to shift delivery patterns.
- In 2019, nearly 140 million trips were taken on shared bicycles and scooters in the **USA**, up 60% from 2018. Shared scooter use grew more than 100%, while shared bike use increased around 10%.
- Active commuting rates in much of the **USA** remained low in 2017, with walking declining and cycling remaining level, while walking was the fastest growing mode in Vancouver, **Canada** in 2018.

Impacts of the COVID-19 pandemic

- In April 2020, after the onset of the pandemic, trans-border road and rail freight between the USA and neighbouring Canada and Mexico dropped nearly 45% from a year earlier, to its lowest level since 2009.
- Cities across **Canada** and the **USA** re-allocated road space to pedestrians and cyclists to encourage physical distancing and active transport in response to the pandemic.



Overview

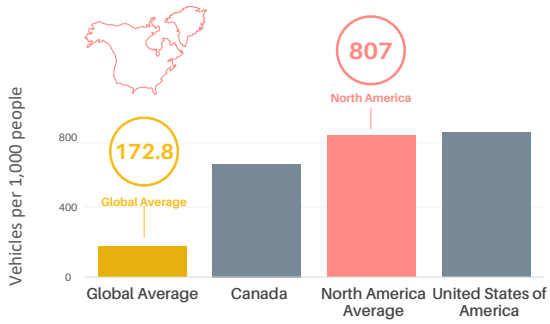
North America[i] – comprising Bermuda (territory of the United Kingdom), Canada, Greenland (Denmark), Saint Pierre and Miquelon (France) and the USA – contributed the second highest regional share of transport CO_2 emissions in 2019 after Asia, at 29%.[2] This reflects the continued use of private vehicles in countries that have limited fuel economy standards (especially the USA), as well as the temporary USA withdrawal from the Paris Agreement. Both the USA and Canadian Nationally Determined Contributions towards reducing emissions under the Paris Agreement have been deemed "critically insufficient" or "insufficient" to meet targets.[3]

Steps towards decarbonisation of the region's transport sector included growing local, state and provincial leadership on transport climate action, increased momentum towards the electrification of medium- and heavy-duty vehicles, and innovations in shared mobility. In June 2020, the INVEST in America Act was proposed to improve infrastructure in the USA, including in the transport sector *(see Box 1)*.[4]

The COVID-19 pandemic led to sharp declines in public transport demand across the region.[5] *(See Box 2)* In March 2020, a recovery package announced in the USA allocated USD 25 billion in federal aid to public transport, and a Canadian recovery plan provided significant funding to the country's airports but few incentives for sustainable transport.

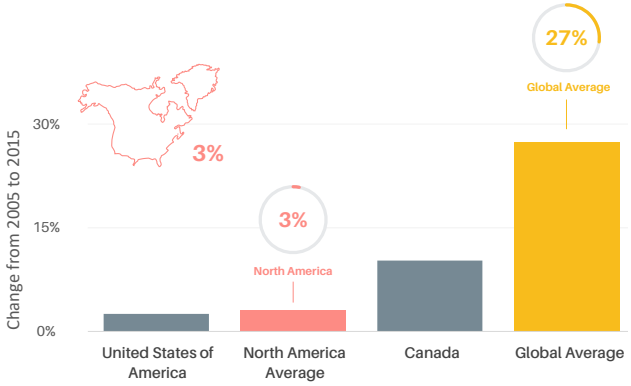
i While "North America" technically includes all five countries and territories listed here, in this section it is generally used to refer to only Canada and the United States unless otherwise specified.

Figure 1. Car ownership rates per 1,000 people in North America, 2015



Source: See endnote 16 for this section.

Figure 2. Growth in car ownership in North America, 2005-2015



Source: See endnote 16 for this section.

Box 1. The INVEST in America Act

In July 2020, the US House of Representatives passed the Investing in a New Vision for the Environment and Surface Transportation in America Act (INVEST in America Act). This comprehensive legislation authorises nearly USD 500 billion over five years to address some of the country's most urgent transport infrastructure needs, including repairing and replacing a backlog of roads, bridges and public transport systems.

In addition, the Act has a complementary objective to drive greener response and recovery to COVID-19. For example, it allocates funding for building more resilient transport infrastructure, designing safer streets for all road users (including pedestrians and cyclists), putting the US on a zero-transport-emissions trajectory, and boosting public transport options in urban, suburban and rural areas.

Source: See endnote 4 for this section.

Demand trends

In the USA in 2019, single-occupancy vehicles accounted for more than 75% of work commute trips, whereas public transport accounted for less than 5%, with little change from 2018.[6] In 2017, ride-hailing services in the country contributed to an estimated 8-22% increase in vehicle trips (compared to a lack of ride-hailing services).[7]

- In **Canada**, ridership on passenger railways grew 13% from 2018 to 2019, to 1.73 trillion passenger-kilometres travelled.[8]
- Ridership on the **USA** passenger railway Amtrak increased 2.5% in fiscal year 2018-19, to 32.5 million passenger-journeys, and capital investment in the railway jumped 9.4%, to USD 1.6 billion.[9]
- **USA** domestic air travel increased 5.6% from 2017 to 2018 but then fell 41% from 2019 to 2020 due to the COVID-19 pandemic, to the lowest level since 1987.[10]
- Passenger transport activity:
  - Canada: down 2% during 2000-2009, to 449,413 million passenger-kilometres[11]
  - USA: up 12% during 2010-2018, to 10,281 billion passenger-kilometres[12]

Rail accounted for roughly one-third of all freight transport in Canada in 2011, and in the US in 2019, exceeded only by pipelines in Canada (40%) and trucking in the US (39%).[13] Greater demand for real-time delivery has increased urban freight activity and impacts.

- Freight transport activity:
  - Canada: up 29% during 2010-2015 to 903,981 million tonne-kilometres[14]
  - USA: down 10% during 2010-2017 to 7,422 billion tonne-kilometres[15]

Car ownership levels in North America were nearly five times the global average in 2015; however, the average growth in car ownership between 2005 and 2005 was nine times greater globally than in North America *(see Figures 1 and 2)*.[16]

Total new vehicle sales in North America grew 46% in 2019, the highest increase among global regions and nearly 3.5 times the increase in Europe (13%).[17] Most of the newly purchased vehicles in the region were for commercial purposes, with the USA being the largest commercial vehicle market.

New vehicle sales

- **46% increase** in total new vehicle sales (2010-2019)
- **18% decline** in new passenger car sales (2010-2019)
- Over **5.2 million** new passenger cars sold (2019)
- **103% increase** in new commercial vehicle sales (2010-2019)
- **14.2 million** new commercial vehicles sold (2019)

Sources: See endnote 18 for this section.

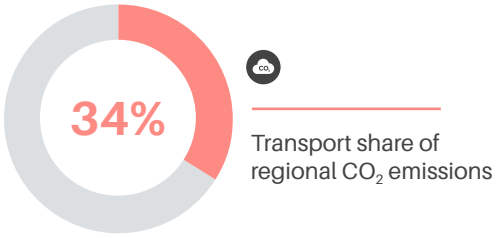
The USA is the world's second largest national market for electric and plug-in hybrid cars (after China), with nearly 1.5 million units sold in 2019; however, electric vehicles accounted for only around 2% of US new car sales that year.[19] Electric car sales accounted for nearly 3% of new car sales in Canada in 2019.[20]

Emission trends

Transport CO_2 emissions in North America grew 6% from 2010 to 2019, less than half the global average rate *(see Figure 3)*.[21] In 2018, transport accounted for the largest share of greenhouse gas emissions in the USA, at 28%, and for the second largest share of Canadian emissions (after oil and gas), at 25%.[22] Per capita transport emissions in North America are more than five times the global average due to the higher rate of motor vehicle use in the region *(see Figure 4)*.[23]

Regional CO_2 trends

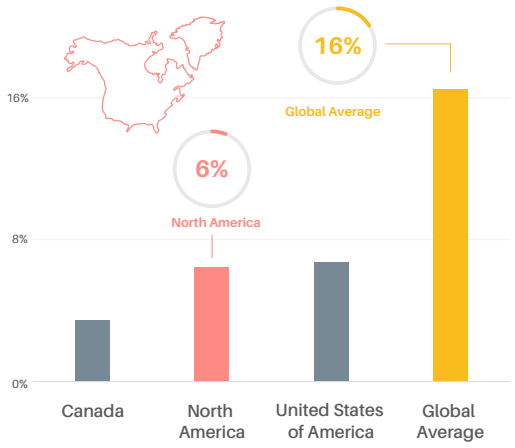
- Total transport CO_2 emissions (2019): **1,962 million tonnes**
- Share of global transport CO_2 emissions (2019): **29%**
- Per capita transport CO_2 emissions (2019): **5.35 tonnes**
- Transport CO_2 emissions per USD 10,000 GDP (2019): **0.97 tonnes**



Sources: See endnote 24 for this section.

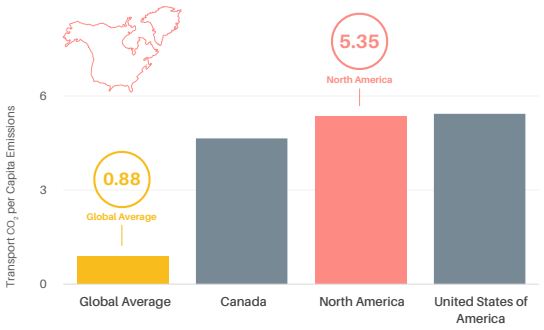
US transport CO_2 emissions in 2014 were dominated by internal combustion engines, led by passenger cars (42%), freight trucks (23%) and light-duty trucks (18%).[25] In Canada, freight trucks and passenger light trucks contributed the most to transport emission growth during 2010-2019.[26]

Figure 3. Change in transport CO_2 emissions in North America, 2010-2019



Source: See endnote 21 for this section.

Figure 4. Per capita transport CO_2 emissions in North America, 2019



Source: See endnote 23 for this section.

Transport emissions in North America are being decoupled from economic activity (decreasing 12-14% per unit of GDP from 2010 to 2019), while absolute transport emissions continued to rise through 2019.[27]

Aviation saw an overall decline in contributions to CO_2 emissions. Flights within North America accounted for 16% of global passenger CO_2 emissions in 2019, down 3% from 2013.[28] In the USA, domestic aviation accounted for nearly 7% of transport CO_2 emissions in 2014.[29] However, much of the country's aviation emissions remain unaccounted for, as international flights represent the majority of air travel miles.[30]

Policy measures

In addition to withdrawing from the Paris Agreement, the US government weakened transport efficiency measures for 2025 that had been adopted in 2012. The roll-back of fuel economy and air quality standards meant that passenger cars were allowed to emit nearly 1 billion more tonnes of CO_2 over their useful life.[31] Despite these reversals at the federal level, state and local actors, as well as private companies, continued to influence the policy landscape for sustainable, low carbon transport (including through the We Are Still In coalition).[32]

The USA state of **California** expanded its climate leadership through initiatives including the 2020 Advanced Clean Trucks regulation.[33] **California** further demonstrated its leading role in transport and climate action in the USA by collaborating with auto and truck manufacturers to raise fuel economy standards (despite federal roll-backs) and by becoming the first USA member of the Transport Decarbonisation Alliance.[34]

In Canada, **British Columbia** amended its greenhouse gas reduction regulations in June 2020 to provide financial incentives for alternative fuel vehicles.[35] Local-level actions included more than 30 new bus and light rail projects in the **USA** and **Canada**, scheduled to begin operation in 2020 and 2021.[36]

At least 43 USA states and the District of Columbia took policy actions in 2019 related to electric vehicles and charging infrastructure.[37] Many of these actions focused on the electrification of buses and other heavy-duty vehicles, an essential strategy for decarbonising the transport sector. State policy measures, often supported by utilities and cities, provide critical footholds for federal action to follow.[38]

- **New Jersey** announced plans in 2020 to make the New Jersey Transit bus fleet 100% electric by 2040.[39]
- School districts across the **USA** have purchased electric school buses, in some cases funded through the Volkswagen settlement that was agreed to after the company violated emission standards and the US Clean Air Act.[40]
- Both **Maryland** and **Nevada** passed enabling legislation in 2019 to support school districts in the transition to electric school buses.[41]

In 2019, Canada adopted a target for 100% zero-emission passenger vehicles by 2040, and in 2020, 15 USA states and the District of Columbia collectively pledged to sell only electric medium- and heavy-duty vehicles by 2050.[42] Both the demand and market for electric mobility are strong, mainly for passenger vehicles and buses, and are supported by robust targets and expanding charging infrastructure. Electrification also offers opportunities for the uptake of renewable energy in transport through solar- and wind-powered charging of electric bicycles, cars and buses.

- **Canada** allocated funding for electric vehicle charging infrastructure in 2019 and launched a programme to help raise awareness of electric vehicle use in 2020.[43]
- In 2019, the state of **New York** (USA) provided USD 31.6 million to its regulated utilities to build up to 1,075 fast-charging stations to expand electric vehicle use.[44] In 2018, New York, as well as **Maryland's** public utility commission, authorised utilities to recover the cost of electric vehicle charging infrastructure from ratepayers and introduced a time-of-use rate for residential charging.[45]
- **California** will replace more than 200 diesel school buses with all-electric versions between 2020 and 2025 and pledged to transition to only electric buses by 2040.[46]

Sustainable freight measures in North America focused on zero-emission vehicle targets and efforts to shift delivery patterns. Electric freight vehicles and off-peak freight delivery offer potential to increase efficiency and reduce urban emissions.[47] However, continued support for fossil fuels at the national level in both the USA and Canada has reduced incentives for cleaner freight vehicles.

- **California's** Advanced Clean Trucks regulation, passed in 2020, aims for 55% of light-truck sales and 75% of medium- and heavy-truck sales to be zero emission by 2035.[48]
- **New York City** (USA) implemented an off-hour deliveries programme in 2018 to combat congestion and improve the productivity of shippers.[49]
- In 2019, **Canada** was the first country to join the Drive to Zero Pledge, which calls for most new commercial vehicles to be zero emission by 2040.[50]

In 2019, nearly 140 million trips were taken on shared bicycles and scooters in the USA, up 60% from 2018.[51] **Shared scooter use grew more than 100%, while shared bike use increased around 10%.**[52] These two modes accounted for over 350 million trips in the USA between 2010 and 2019.[53] In cities across North America, the increase in shared mobility services is reshaping the transport landscape.

- **New York City** (USA) has legalised electric scooters and bikes, and scooter ridership outpaced docked bicycle ridership for the first time in 2020.[54]
- A 2018 electric scooter pilot in **Portland, Oregon** (USA) is estimated to have replaced car trips that would have produced 122 metric tonnes of CO_2, equivalent to the yearly emissions of 27 passenger cars.[55] Other studies take a more nuanced view of the potential of e-scooters to reduce emissions.[56]
- By April 2021, **Vancouver's** bike share system Mobi, launched in 2016, had grown to more than 2,000 bicycles housed at more than 200 solar-powered stations, serving 75,000 users.[57]

Active commuting rates in much of the USA remained low in 2017, with walking declining and cycling remaining level, while walking was the fastest growing mode in Vancouver, Canada in 2018.[58]

- An analysis of national commuting surveys in the **USA** conducted between 2006 and 2017 shows a significant decrease in walking in many states, with cycling staying at similar levels.[59]
- Walking accounted for 29% percent of trips in **Vancouver, Canada** in 2018, the highest share among sustainable transport modes including cycling and public transport.[60]
- **Canada** does not currently conduct a national household travel survey, which has created a data gap on walking and cycling activity.[61]

Box 2. Impacts of the COVID-19 pandemic on transport in North America

Major COVID-19 impacts:

- 60% decrease in trips to public transport stations (at lowest point in 2020 versus January 2020 average)
- 37% decline in freight transport activity (below 2019 levels)
- 62% decline in international aviation activity (below 2019 levels)
- 41% decline in domestic aviation activity (below 2019 levels)

In the early months of COVID-19, commercial transport activity in both **Canada** and the **USA** declined sharply, operating at around 84% and 85% (respectively) of normal volume as of mid-March 2020. Major cities with the largest public transit systems issued strict disinfection guidelines for their subway cars, buses, turnstiles, handrails and related facilities in an effort to keep ridership safe.

In April 2020, after the onset of the pandemic, trans-border road and rail freight between the USA and neighbouring Canada and Mexico dropped nearly 45% from a year earlier, to its lowest level since 2009. Truck freight declined more than 40%, while rail freight fell more than 60%.

Cities across Canada and the USA re-allocated road space to pedestrians and cyclists to encourage physical distancing and active transport in response to the pandemic. Examples in the **USA** include Chicago (Illinois), Cleveland (Ohio) and Portland (Oregon), and examples in **Canada** include Montreal (Quebec), Toronto (Ontario) and Vancouver (British Columbia).

- **Calgary**, Alberta (Canada) converted six roadways to pedestrian zones to facilitate safe active transport during the pandemic.
- **Madison**, Wisconsin (USA) has designated a number of "shared streets" to provide safer travel options for cyclists and pedestrians.

Source: See endnote 5 for this section.

In Practice: Additional Policy Responses

Avoid measures

Sustainable mobility planning and transport demand management

- **Transport Canada** released a 2019-2020 update to its 2017-2020 Departmental Sustainable Development Strategy, committing to action on climate change; healthy coasts, oceans, lakes and rivers; safe and healthy communities; and clean growth.[62]
- In the first such move for a **Canadian** city, Edmonton decided in 2020 to eliminate minimum parking space requirements, allowing for less car-dependent development.[63]
- In 2018, the **US** Department of Transportation issued a Strategic Plan for fiscal years 2018-2022 that prioritises the goals of safety, investment in infrastructure, innovation and accountability.[64]
- New York in 2019 became the first city in the **USA** to approve congestion pricing, but implementation of the measure was delayed due to the COVID-19 pandemic.[65]

Walking and cycling

- Advocates have pushed for **Canada** to develop a national cycling strategy, building on provincial strategies to expand protection for cyclists (e.g., through **Nova Scotia's** revised Motor Vehicle Act).[66]
- In 2020, **San Jose, California** (US) created the Better Bike Plan 2025, which includes a goal to expand cycling infrastructure and sets targets for 5% of all trips to occur via bike by 2020 and 15% by 2040; the city is also building a 640-kilometre on-street bikeway network.[67]
- In 2019, **New York City** (USA) agreed to invest USD 1.7 billion in road infrastructure over 10 years to dramatically improve safety for cyclists and pedestrians.[68]

Shift measures

Public transport

- Expansions of light rail transit in **Canada** occurred in Ontario (18 kilometres) and Ottawa (12.5 kilometres) in 2019.69
- In **Connecticut** (USA), a USD 21 million investment to improve transport, CT2030, includes mass transit as one of four key areas and outlines plans for new bus corridors and electric buses.[70]
- The light rail service in the **USA** city of Minneapolis, Minnesota recorded its highest-ever ridership in 2018, with more than 80 million rides.[71]

Shared mobility services

- As of January 2018, **Canada** had 18 car sharing services in operation, with 8,052 vehicles.[72]
- Ride-hailing services were available in 14 regions of **Canada** in 2018, mainly urban areas including Calgary, Montreal,

Ottawa and Toronto.[73] Revenue from these services totalled USD 829 million in 2018 and was projected to reach USD 1,067 million by 2023.[74]

As of January 2018, the car-sharing services BlueIndy (Bolloré), car2go (Daimler), Maven (General Motors) and ReachNow (BMW) were operating in 12 markets in the **USA**, and two services (car2go and a Maven pilot programme) were operating in 4 cities in **Canada**.[75] In November 2019, Hyundai launched Mocean Carshare in Los Angeles, using electric vehicles.[76]

Ottawa, Canada launched its first peer-to-peer, eco-friendly ride-sharing app in 2020, enabling consumers to request rides in electric, hybrid or petrol-powered vehicles.[77]

In the **USA**, the ride-hailing service Lyft began offering wheelchair-accessible vehicles in San Francisco and Los Angeles in 2019, with plans for further expansion.[78]

In 2019, the self-driving car service Waymo gained permission to transport passengers in **California** and Uber entered into the urban air mobility market by launching a helicopter service in **New York City**.[79]

Improve measures

Fuel economy

In a 2018 evaluation of **Canada's** Passenger Automobile and Light Truck Greenhouse Gas Emissions Regulations, only 1% of commenters felt that the existing standards for 2022-2025 model years should be made less stringent.[80]

Challenges to fuel economy developments in the **USA** in 2018 included the freezing of stricter standards developed for 2022-2025 and the roll-back of previously established clean car rules.[81]

Despite the national freeze on fuel economy standards, the **US** state of California collaborated with four automakers to raise state efficiency and emission standards, aiming for 36 miles per gallon by 2026.[82]

In 2020, the **US** rolled back previous plans for CO_2 emission standards and set the new target to 40.4 miles per gallon by 2026, requiring an annual improvement of 1.5% until then.[83]

Electric mobility

In 2020, **Los Angeles** (USA) set targets for 155 electric buses and a 100% zero-emission bus fleet by 2028.84 The city aims to increase the share of electric or zero-emission vehicles to 25% by 2025, 80% by 2035 and 100% by 2050 for all transport modes.[85]

Among other **USA** electric mobility developments in 2019, the state of Colorado adopted a requirement for electric cars to comprise 5% of an automaker's line-up by 2023; New York City set targets for 500 electric buses by 2024 and a zero-emission fleet by 2040; and Virginia allocated USD 20 million for electric buses.[86]

In 2019, **San Francisco** set a target to ban the sale of new petrol and diesel vehicles by 2030 and to achieve emission-free transport by 2040.[87]

Renewable energy

In 2019, **Santa Barbara, California** (USA) replaced petroleum diesel with renewable diesel in its bus fleet, and the state of Minnesota enacted a grant programme to fund biofuel blending infrastructure.[88]

In 2019, the **US** government extended its biodiesel tax credit of USD 1 per gallon retroactively until 2022.[89]

The **US** carrier Delta Air Lines announced in 2019 that it was investing USD 2 million to partner with Northwest Advanced Biofuels on a feasibility study to produce sustainable aviation fuel and other biofuel products.[90]

In 2019, Enel X launched a pilot project in **Hawaii** (USA) to maximise electric vehicle charging at times when solar electricity generation is highest.[91]

New York City (USA) added 50 self-contained, solar-powered electric vehicle charging stations In 2019.[92]

Portland, Oregon (USA) pledged in 2019 to have a non-diesel public bus fleet by 2040, with new electric buses to be 100% wind powered.[93]

Annex: Methodological Note

Data usage

Time period for data:
The report strives to utilise the most recent publicly available data and information just prior to the time of publication (as of 31 May 2021). The figures in the report were developed between September and December 2020 using the most recent data available.

Secondary data:
SLOCAT relies on secondary data and information collected and provided by SLOCAT partners and other entities and does not make use of any internal modelling tools.

Data on sustainable mobility: A call to action

The report benefits directly from data collected by a wide range of stakeholders working in different areas of transport.

Data are important for providing a comprehensive picture of the status of sustainable, low carbon transport and are essential for both policy and investment decision making. In these times of change, it is critical to upgrade data and policy collection and interpretation capacities to better understand progress and the hurdles that must be addressed.

The data limitations mentioned below are not new. Obtaining regular, reliable and public data across regions and transport modes remains an outstanding issue. When an increasing number of stakeholders are collecting data and policy information, more and better open-access data and capacity building efforts for data interpretation are supported by many multi-stakeholder partnerships in the sustainable, low carbon movement.

If you share our passion for open-access data and knowledge towards greater impact on policy and investment decision making worldwide and/or would like to contribute data or knowledge to our collective efforts on this report, **please reach out to the research team in the SLOCAT Secretariat at tcc-gsr@slocatpartnership.org**.

Specific data used in this report

Data on emissions

The data in this edition of the report point to the direct carbon emissions from transport activity; they do not cover the indirect emissions and land-use impacts associated with certain modes of transport. The report primarily utilises CO_2 emission data compiled in the Emissions Database for Global Atmospheric Research (EDGAR) from the Joint Research Centre of the European Commission, as this represents the most recent, comprehensive dataset on transport CO_2 emissions. However, this global dataset does not convey in full detail the unique situations of individual countries.

EDGAR provides estimates for fossil CO_2 emissions from all anthropogenic activities with the exception of land use, land-use change, forestry and the large-scale burning of biomass. The main activities covered are CO_2 emissions emitted by the power sector (i.e., power and heat genertion plants), by other industrial combustion (i.e., combustion for industrial manufacturing and fuel production) and by buildings and other activities such as industrial process emissions, agricultural soils and waste. Transport activities covered within EDGAR include road transport, non-road transport, domestic aviation, and inland waterways on a country level, as well as international aviation and shipping.[1]

For the world, regions and countries, the CO_2 emission data (provided by EDGAR) span through 2019. In a few places in the report, CO_2 data for 2020 are shown to illustrate the impact of the COVID-19 pandemic; however, these data are based on a different methodology than the EDGAR dataset and should not be compared directly with the data from previous years.

The latest CO_2 emission data for individual transport modes are for 2018 and have been compiled only at the global level. For passenger and freight transport, the data on global CO_2 emissions are for 2017, as this is the latest year with robust data. Data on passenger activity (passenger-kilometres) and freight activity (tonne-kilometres) – provided mainly in the country fact sheets – are based on the latest available year, as indicated in the report analysis.

Information on greenhouse gas emissions – provided in CO_2 equivalent (CO_{2eq}) – include not only CO_2 but also methane, nitrous oxide, and industrial gases such as hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride.[2] These data are less up-to-date. As of 31 May 2021, data on greenhouse gas emissions were not readily available for the period 2019-2020. In some cases, additional data sources were used to provide detailed information about other climate pollutants besides CO_2.

All data on CO_2 and other greenhouse gas emissions, as well as CO_{2eq}, are provided in metric tonnes.

Data on car ownership

Information on car ownership rates is based on a global dataset from the International Organization of Motor Vehicle Manufacturers (OICA), with the latest release (as of 31 May 2021) dating from 2015.[3] Although newer information is available for some individual countries, using these data would hinder accurate global comparisons. Data on passenger and commercial vehicle sales were available only up to 2019.

Policy landscape data

The policy-related information presented in this report is not intended to be comprehensive. The data for the policy landscape indicators provided in Section 3 were gathered through desk research unless otherwise indicated. Barriers to accessing such information include language and limited availability of information through online media (e.g., websites, press releases and news articles).

Data in country fact sheets

Information in the fact sheets is based on desk research and on contributions from the national focal points. The data were collected to the best of the authors' knowledge and based on data availability, and thus may not be complete or show the most recent status. When no information was available for a given indicator, the term "Not available" is used.

Data gaps

Major data gaps exist in areas where there is no globally accepted data collection methodology. For example, the mapping of cycling and walking infrastructure is not currently done in all regions. Also, the modal share can be surveyed through different methods, leading to inconsistencies in available data. In addition, data on paratransit (informal transport), a predominant form of transport in many parts of the world, are largely lacking. This results in an incomplete picture of the impact of transport on climate change and sustainable development.

Methodological approach

Countries and regions

The report follows the M49 Standard of the United Nations Statistics Division.[4] In total, 196 countries have official United Nations membership and are also party to the United Nations Framework Convention on Climate Change. The available data have been put in a common structure for the United Nations member countries, regions and income groups to enable a consistent assessment. Income groups are based on the World Bank's classification of 2019.[5]

Economic calculations

The per capita and gross domestic product (GDP) calculations are based on the United Nations World Population Prospects 2019 and on World Bank GDP data using constant 2010 USD.[6]

Spatial and temporal scales

The geographic scale (global, national, city-level, etc.) as well as time scale (annual, monthly, daily) used in this report depends largely on the available dataset, as noted in the relevant figures and text. The detailed data forming the basis of the calculations and analysis are provided in the SLOCAT Transport Knowledge Base.[7]

Criteria for selection

The report covers policies, targets, emission reductions (achieved or envisioned) and market measures. To merit inclusion in the analysis, the policies, projects and trends must have been announced or completed between 2018 and 2020. Significant developments from January through May 2021 were included when deemed relevant, with the understanding that the next edition of the *Transport and Climate Change Global Status Report* will cover a period starting in 2021.

Pre- and post-COVID-19 pandemic trends

The year 2020 was pivotal for the world, and the COVID-19 pandemic has had substantial impacts on many of the transport trends monitored in this report. This edition attempts to differentiate between long-term trends and impacts due to the pandemic. To the extent possible, the analysis notes "pre-pandemic" (up to the end of 2019 or latest by February 2020) and "during pandemic" trends (starting in March 2020 until the end of 2020), as in some cases the pandemic led to reversals in long-term trends, at least for a specific period of time. In each section, a box describes the impacts that the pandemic has had on specific regions and sub-sectors.

Assembling the report

Global Strategy Team

This edition of the report was guided by a global strategy team consisting of 20 experts in the field who provided inputs over the span of six meetings between September 2019 and October 2020. Additionally, small group consultations were organised in February 2021, following the peer review process.

Authors and contributors

The report was collaboratively drafted by 22 authors and contributors from 16 organisations, led by the SLOCAT Secretariat. This includes additions and high-level inputs from the copy editor and from the special advisor who also co-authored the Executive Summary. Authors researched and compiled relevant facts and figures for the five sections of the report, including the Focus Features, with supporting review and inputs from several other organisations.

Peer review: A peer review process was carried out from 18 December 2020 to 20 January 2021 with 1,700 comments received from 74 reviewers. Each comment was individually reviewed by the SLOCAT Secretariat and considered in finalising the report.

National focal points: The report benefited from the contributions of voluntary national focal points, or experts from various regions and countries who have been essential to overcome language and information barriers. A public call for participation to provide information on policies and data resulted in several hundred initial registrations. Out of these registrations, 78 national focal points provided inputs through a first survey from 24 January to 3 February 2020; and through a second survey (focused on the country fact sheets) from 6 to 30 August 2020. All national focal points that contributed to the surveys are listed in the Acknowledgements.

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Annex: Methodological Note

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