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# North America Regional Overview

Demographics





SLOCAT Partnership on Sustainable, Low Carbon Transport

Fransport, Climate and Sustainability Global Status Report - 3<sup>rd</sup> edition

## **Key findings**

## **Demand trends**

- Travel activity in North America dropped sharply in 2020 following the onset of the COVID-19 pandemic. In the United States, passenger activity was down 18% after a decade of constant 1.4% annual growth.
- The pandemic induced significant shifts in US commuting patterns, with the number of people working from home increasing three-fold between 2019 and 2021, and the use of public transport falling at least 30% nationwide in 2021.
- The region's motorisation levels (covering fourwheeled motor vehicles) have remained at an all-time high.
- In 2022, vehicle sales continued to decline in North America due to a combination of inflation, rising energy prices and lingering supply chain issues. However, the demand for electric vehicles increased, with the share of battery electric vehicle sales in Canada and the United States tripling to above 6% in the third quarter of 2022, up from slightly more than

## **Emission trends**

- Carbon dioxide (CO<sub>2</sub>) emissions from the transport sector in North America were greatly affected by the COVID-19 pandemic. The region's transport CO<sub>2</sub> emissions fell 7% between 2019 and 2021, changing their overall trajectory: transport CO<sub>2</sub> emissions rose 5% from 2010 to 2019 but declined 2% from 2010 to 2021.
- In 2021, North America contributed 28% of global transport CO<sub>2</sub> emissions (excluding international

## **Policy developments**

- Across North America, national and sub-national stakeholders raised their ambition on climate action during 2021 and 2022.
- Support for walking and cycling was strengthened in the region.
- The US Inflation Reduction Act of 2022 is aimed in part at helping the country achieve its climate target for 2030, with the goal of reducing emissions 31-44% below 2005 levels by 2030.
- The US Infrastructure Investment and Jobs Act of 2021 (also known as the Bipartisan Infrastructure Law) allocates USD 550 billion in new infrastructure investment from 2022 through 2026.

2% two years prior.

- Despite less driving in 2020 due to the pandemic, total traffic deaths in the United States increased significantly from 2019 to 2021, and the rate of pedestrian fatalities reached an all-time high. Around 20% of the people killed in road traffic crashes in 2021 were pedestrians or cyclists.
- North America experienced the biggest drop in metro ridership among world regions in 2020 due to the pandemic, with the number of passengers falling 64%, from 3.7 billion to 1.3 billion.
- In 2022, ridership increased on several US public transport systems, although numbers remained well below pre-pandemic levels.
- The Russian Federation's invasion of Ukraine put additional pressure on global supply chains and increased inflation, creating major bottlenecks for key materials used in US industries, including transport.

aviation and shipping), the second highest regional share after Asia.

- Among the 11 economies with preliminary emission estimates, the United States was one of 4 countries where transport emissions fell in 2022 (the others were China, the Russian Federation and Spain).
- US transport emissions have gradually shifted from passenger transport towards freight transport.



- Improvements to public transport were implemented in North America between 2020 and 2022, and more support was generated for introducing congestion charging.
- The region has prioritised the transition to electric road vehicle fleets, enabled by charging stations along highways and a Canadian ban on sales of internal combustion engine vehicles by 2035.
- New policies in the region are poised to lead to cleaner trucks and to improvements in longdistance rail.

## Overview

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North America – comprising the large economies of Canada and the United States as well as the territories of Bermuda (UK), Greenland (Denmark) and Saint Pierre and Miquelon (France) – has above-average motorisation rates and transport emissions. In 2021, the region contributed 28% of the world's carbon dioxide (CO<sub>2</sub>) emissions from transport, the second highest regional share after Asia.<sup>2</sup>

Canada and the United States have enhanced their climate action plans since 2020. The US Biden administration introduced key changes to policies on climate change, transport and infrastructure. The United States rejoined the Paris Agreement in 2021, increased its climate ambition and set a goal to reach net zero greenhouse gas emissions by 2050.<sup>3</sup> The Inflation Reduction Act backs climate action with several activities on transport, and the Bipartisan Infrastructure Law supports infrastructure improvements. Canada also upgraded its emission reduction plan and set a target for net zero emissions by 2050.<sup>4</sup>

Nevertheless, current climate strategies are still not enough to meet the goals of the Paris Agreement in the region. The US efforts on climate change are regarded as "insufficient", because while the country's targets are "almost sufficient" to keep the average global temperature rise below 2 degrees Celsius (°C), envisioned policies and actions are still "insufficient".<sup>5</sup> Canada's climate strategies are "highly insufficient", as current policies are projected to lead to a 4°C warming pathway.<sup>6</sup>

## **Demand trends**

Travel activity in North America dropped sharply in 2020 following the onset of the COVID-19 pandemic. In the United States, passenger activity was down 18% after a decade of constant 1.4% annual growth.<sup>7</sup> US domestic aviation, inter-city rail and public transport activity fell by half in 2020.<sup>8</sup> Meanwhile, freight activity in the country surpassed 5,250 billion tonne-miles for the year, declining only for railroads (down 11%) and water transport (down 5%).<sup>9</sup>

In Canada, rail passenger activity fell from 1,729 million passengerkilometres in 2019 to 235 million passenger-kilometres in 2020 and only recovered to 542 million passenger-kilometres in 2021.<sup>10</sup> Available freight statistics for the country show that rail activity increased 2% during 2015-2020, but between 2019 and 2020 the number of tonne-kilometres travelled fell from 455 billion to 423 billion.<sup>11</sup> The annual vehicle miles travelled in the United States recovered in 2022, rising from 2.84 trillion in the one-year period from February 2020 to January 2021, to more than 3.26 trillion during the period from February 2021 to January 2022 – to surpass the 2019 value of 3.25 trillion vehicle-miles.<sup>12</sup>

The pandemic induced significant shifts in US commuting patterns, with the number of people working from home increasing three-fold between 2019 and 2021, and the use of public transport falling at least 30% nationwide in 2021.<sup>13</sup> The share of US work commute trips taken in single-occupancy vehicles fell from 76% in 2019 to 68% in 2021.<sup>14</sup> However, this did not reflect a shift to public transport, which also fell from just under 5% of work commute trips in 2019 and 2020, to only 2.5% in 2021.<sup>15</sup> Rather, the main shift in 2021 was to working from home, as the share of people not commuting to work grew from 5% in 2019, to 7% in 2020, to 18% (27.6 million people) in 2021.<sup>16</sup>

The region's motorisation levels (covering four-wheeled motor vehicles) have remained at an all-time high. The motorisation rate of North America is 4 times the global average and 18 times higher than in Africa.<sup>17</sup> Canada had a motorisation rate of 656 vehicles per 1,000 people in 2019, whereas the US rate was even higher, at 807 vehicles per 1,000 people in 2020 (see Figure 1).<sup>18</sup> The motorisation rate grew 9% in Canada and 3% in the United States from 2010 to 2019.<sup>19</sup>

In 2022, vehicle sales continued to decline in North America due to a combination of inflation, rising energy prices and lingering supply chain issues. However, the demand for electric vehicles increased, with the share of battery electric vehicle sales in Canada and the United States tripling to above 6% in the third quarter of 2022, up from slightly more than 2% two years prior (see Figure 2).<sup>20</sup>

New passenger car sales in the United States fell 8% in 2022, totalling 13.8 million.<sup>21</sup> Continuing the trend since 2010, growth occurred only in commercial vehicle sales, although this too has slowed since 2015.<sup>22</sup> Larger passenger vehicles, specifically sport utility vehicles (SUVs), are a major contributor to US  $CO_2$  emissions, as every second passenger car sold is an SUV.<sup>23</sup>

- In 2022, more than a third of all vehicle models available in the United States were electric light-duty vehicles (132 out of 325 total models), nearly twice as many as in 2019.<sup>24</sup>
- Battery electric vehicles represented 3.1% of all registered lightduty vehicles in the United States in 2021, and 5.6% in 2022.<sup>25</sup>
- Twice as many battery electric vehicles were sold in the United States in 2022 compared to the previous year, or around 750,000 units in total.<sup>26</sup>

### FIGURE 1. Motorisation rates per 1,000 people in North America, 2019/2020

Source: See endnote 18 for this section.



## Four-wheeled vehicles per 1,000 people

## FIGURE 2. Shares of battery electric vehicles sold in Canada and the United States, 2020-2022



Source: See endnote 20 for this section.

In Canada, battery electric vehicles accounted for 3.6% (58,700 vehicles) of total vehicle registrations in 2021, rising to 6.1% (70,800 vehicles) in the first three quarters of 2022.<sup>27</sup>

Despite the rising popularity of electric vehicles, the United States Energy Information Administration projected in 2023 that the share of battery electric vehicles in the US would reach only 16% in 2030 and 21% in 2050.<sup>28</sup> This is well below the pathway needed to achieve the goals of the Paris Agreement, which requires more than 60% of car sales globally to be electric by 2030 and no new cars with internal combustion engines to be sold after 2035.<sup>29</sup>

Projections of the future energy demand from light-duty vehicles indicate that the energy savings through more efficient electric vehicles and stricter US Corporate Average Fuel Economy standards will be between 3% and 28% by 2050 compared to 2022, despite continued growth in travel demand.<sup>30</sup>

Sales of electric bikes (e-bikes) continued to outpace electric car sales in the United States in 2021, with US e-bike imports reaching 790,000 units in 2021, while electric car sales totalled 650,000 units.<sup>31</sup> Surveys in the country show that e-bike use, especially by lower-income households, can replace 35-44% of a car's vehicle-miles travelled.<sup>32</sup>

Despite less driving in 2020 due to the pandemic, total traffic deaths in the United States increased significantly – rising from 36,355 in 2019 to 38,824 in 2020 and 42,939 in 2021 – and the rate of pedestrian fatalities reached an all-time high.<sup>33</sup> Around 20% of the people killed in road traffic crashes in 2021 were pedestrians or cyclists.<sup>34</sup> The number of pedestrian fatalities per vehicle-mile travelled in the United States increased 21% in 2020 compared to 2019, the highest growth ever recorded.<sup>35</sup> Studies from this period reveal a close correlation between larger personal vehicles and pedestrian deaths.<sup>36</sup>

North America experienced the biggest drop in metro ridership among world regions in 2020 due to the pandemic, with the number of passengers falling 64%, from 3.7 billion to 1.3 billion.<sup>37</sup> Ridership on New York City's metro system dropped 62% in 2020, the second biggest decline among the world's largest metro systems (after Delhi, India).<sup>38</sup>

In 2022, ridership increased on several US public transport systems, although numbers remained well below prepandemic levels.<sup>39</sup> The main reasons for the increase were more people returning to workplaces, and high petrol prices.<sup>40</sup> In June 2022, US petrol prices reached a record high of USD 4.93 per gallon.<sup>41</sup> Although US petrol prices previously reached USD 4 per gallon in mid-2008 during the financial crisis, they remained steady between 2015 and 2020 at around USD 2-3 per gallon.<sup>42</sup> Despite the recent increase, US petrol prices have continued to be the lowest among member countries of the Organisation for Economic Co-operation and Development (OECD).<sup>43</sup> During the pandemic, many cities in North America implemented pedestrian and bicycling improvements, including "pop-up" bikeways. Bike sharing systems continued to grow in the United States, with 10 systems in 25 metropolitan areas expanding or releasing expansion plans during 2021-2022.<sup>44</sup> The main trend is towards electrification of bike sharing fleets. Meanwhile, the region's electric scooter fleets grew 14% in 2021 and held steady in 2022.<sup>45</sup>

In Canada, during the height of the pandemic in 2020, cycling was up 48% in Vancouver and 26% in Victoria, based on usage of Strava, an exercise tracking app.<sup>46</sup>

The Russian Federation's invasion of Ukraine put additional pressure on global supply chains and increased inflation, creating major bottlenecks for key materials used in US industries, including transport. The most affected sectors have been energy, food and semiconductors. As of 2022, the United States obtained more than 90% of its semiconductor-grade neon from Ukraine, and 35% of its palladium and 20% of its nickel from the Russian Federation.<sup>47</sup> Nickel and other metals are required for electric vehicle batteries. In response to the invasion, and to increase resilience to shocks, US vehicle manufacturers aim to increase efforts to secure materials and to expand and diversify supply chains.<sup>48</sup>

## **Emission trends**

Carbon dioxide  $(CO_2)$  emissions from the transport sector in North America were greatly affected by the COVID-19 pandemic. The region's transport CO<sub>2</sub> emissions fell 7% between 2019 and 2021, changing their overall trajectory: transport CO<sub>2</sub> emissions rose 5% from 2010 to 2019 but declined 2% from 2010 to 2021.<sup>49</sup> Transport CO<sub>2</sub> emissions were close to exceeding 2 gigatonnes prior to the pandemic but fell to 1,813 million tonnes in 2021.<sup>50</sup> Per capita transport emissions in North America are six times the global average due to the higher rate of motor vehicle use in the region (see Figure 3).<sup>51</sup>

In 2021, North America contributed 28% of global transport  $CO_2$  emissions (excluding international aviation and shipping), the second highest regional share after Asia.<sup>52</sup> Since 2019, transport has been the highest emitting sector in the United States, following large reductions in power sector emissions.<sup>53</sup> The vast majority of US transport  $CO_2$  emissions are from road transport, with an 83% share in 2019 (58% from personal vehicles and 25% from commercial trucks and buses).<sup>54</sup> In Canada, transport contributed 165 million tonnes of  $CO_2$  in 2021, or 29% of the country's total emissions, making it the second largest emitter after "other industrial combustion".<sup>55</sup>

Among the 11 economies with preliminary emission estimates, the United States was one of 4 countries where transport emissions fell in 2022 (the others were China, the

#### FIGURE 3. Per capita transport CO<sub>2</sub> emissions in North America, 2021



**Russian Federation and Spain**).<sup>56</sup> The pandemic contributed to a 15% decline in North American transport emissions (down 14% in the United States and 16% in Canada) in 2020.<sup>57</sup> In 2021, the region's transport  $CO_2$  emissions again increased, rising 9% (11% in the United States and 3% in Canada).<sup>58</sup> Preliminary estimates for 2022 show that US economy-wide  $CO_2$  emissions grew 3.5%, with transport  $CO_2$  emissions falling 0.9%.<sup>59</sup>



**US transport emissions have gradually shifted from passenger transport towards freight transport.** Between 2015 and 2020, the share of US transport sector emissions originating from light-duty vehicles fell from 60% to 57%, while the share from medium- and heavy-duty trucks grew from 23% to 26%.<sup>61</sup> In Canada, road transport (light-duty vehicles and trucks) was the major contributor to emission growth until 2019, but this sub-sector experienced the greatest decline in 2020.<sup>62</sup>

## Policy developments

Across North America, national and sub-national stakeholders raised their ambition on climate action during 2021 and 2022. In 2022, Denver and Los Angeles (USA) cancelled freeway expansion plans due to concerns about equity and pollution.<sup>63</sup> Regional awareness has risen about induced demand and the need for alternatives to road expansions.<sup>64</sup>

- British Columbia (Canada) has targets to reduce light-duty vehicle travel 25% and to roughly double the number of walking, cycling and public transport trips by 2030.<sup>65</sup>
- In the United States, California has targets to reduce the number of light-duty vehicle miles travelled per capita 25% by 2030 and 30% by 2045 (compared with 1990) and has developed new tools for evaluating the travel and emission impacts of transport and land-use planning decisions.<sup>66</sup>
- The California Climate Commitment set targets to reduce air pollution 60%, refinery pollution 94%, state oil consumption 91%, and fossil fuel use in buildings and transport 92% by 2035, as well as to save USD 23 billion by avoiding the damages of pollution.<sup>67</sup>
- Minnesota (USA) has targets to reduce vehicle travel 14% by 2040 and 20% by 2050.<sup>68</sup>
- Washington state (USA) has targets to reduce per capita vehicle travel 30% by 2035 and 50% by 2050.<sup>69</sup>
- The US government set goals to reduce greenhouse gas emissions from US aviation 20% by 2030 and to achieve net zero emissions in the sector by 2050, including by scaling up sustainable aviation fuels.<sup>70</sup>

## Support for walking and cycling was strengthened in the region during 2021 and 2022.

- In 2022, Boston (USA) set a goal to have 50% of the city's population be able to access a protected bike lane within a three-minute walk by 2025.<sup>71</sup> The plan involves building new cycling infrastructure, adding 100 new stations to the bike sharing system and installing more than 100 new speed humps or raised crosswalks to calm traffic on neighbourhood streets.<sup>72</sup>
- Canada released its first national active transport strategy in 2021 to provide CAD 400 million (USD 298.8 million) from 2021 to 2026.<sup>73</sup>
- In 2022, British Columbia (Canada) announced new funding of CAD 575,000 (USD 429,669) for Vision Zero, a strategy that supports climate goals by shifting people to walking, cycling and micromobility.<sup>74</sup>
- In California (USA), a bill to give every household that has zero registered vehicles a tax rebate of USD 1,000 passed the state senate in 2021 and is to be implemented in tax year 2023.<sup>75</sup>
- The highest court in New York (USA) confirmed in 2021 that it is a crime to drive with negligence and to injure somebody with a vehicle, thereby upholding the city's "right-of-way" law.<sup>76</sup>

The US Inflation Reduction Act of 2022 is aimed in part at helping the country achieve its climate target for 2030, with the goal of reducing emissions 31-44% below 2005 levels by 2030.<sup>77</sup> US energy-related CO<sub>2</sub> emissions could drop 25-38% during this period with increased electrification, equipment efficiency, and renewable technologies.<sup>78</sup> In its 2021 Nationally Determined Contribution (NDC) towards reducing emissions under the Paris Agreement, the United States targets cutting emissions 50-52% below 2005 levels by 2030.<sup>79</sup> The Inflation Reduction Act covers a variety of transport activities.<sup>80</sup>

- The Clean Vehicle Credit will maintain the existing consumer tax credit of USD 7,500 for the purchase of a clean vehicle.<sup>81</sup>
- The Neighborhood Access and Equity Grants of USD 3 billion will improve transport access and road safety as well as minimise other environmental impacts in underserved communities.<sup>82</sup>
- The Act provides USD 1 billion for grants and rebates to cover 100% of costs for clean heavy-duty vehicles (such as school buses and refuse trucks).<sup>83</sup>
- Further financial support and grants will go towards improving surface transport infrastructure, identifying low-carbon construction for highways and support for sustainable aviation fuels.<sup>84</sup>

However, the Inflation Reduction Act has been criticised for prioritising vehicle electrification and lacking support for sustainable transport.<sup>85</sup> Analysis identified that transport emissions will contribute the least to the envisioned emission reductions, as transport emissions are projected to stay steady

#### even in the most ambitious scenario.86

The US Infrastructure Investment and Jobs Act of 2021 (also known as the Bipartisan Infrastructure Law) allocates USD 550 billion in new infrastructure investment from 2022 through 2026.<sup>87</sup> It represents the largest long-term investment in infrastructure in the United States and promises to provide significant improvements to transport.<sup>88</sup>

- USD 39 billion (7% of the total budget) will be invested in the improvement and expansion of public transport systems.<sup>89</sup>
- USD 7.5 billion (1.4% of the total budget) will be used to build 500,000 new electric vehicle charging stations by 2030.<sup>90</sup>
- USD 1 billion will be provided to the Safe Streets and Active Transportation programme, which covers the construction of bike lanes, pedestrian facilities and other infrastructure for walking and cycling.
- USD 1 billion will be used to develop clean energy technologies.<sup>91</sup>

The US Departments of Energy, Transportation, and Housing and Urban Development, together with the Environmental Protection Agency, signed a Memorandum of Understanding on transport decarbonisation in September 2022, followed by the release of the first US National Blueprint for Transportation Decarbonisation in January 2023.<sup>92</sup> The comprehensive strategy encompasses actions to increase convenience (through land use and planning), improve efficiency (through expanding public transport and rail and improving vehicle efficiency) and transition to clean vehicles (zero-emission vehicles).<sup>93</sup> It supports the target in the US Nationally Determined Contribution of reducing  $CO_2$  emissions 50-52% below 2005 levels by 2030 and the target of net zero carbon emissions by 2050.<sup>94</sup>

The US Department of Transportation also published a notice for USD 1.5 billion in grant funding for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) programme through 2023, including both the regional and local scales.<sup>95</sup> In 2022, the RAISE programme funded 166 freight and passenger transport projects across 50 states, along with the District of Columbia, Puerto Rico, the Northern Mariana Islands and the US Virgin Islands.<sup>96</sup>

#### Improvements to public transport were implemented in North America between 2020 and 2022, and more support was generated for introducing congestion charging.

- Canada has allocated an additional CAD 14.9 billion (USD 11.1 billion) from 2021 to 2028 for public transport projects.<sup>97</sup>
- The public transport operator TransLink in Vancouver (Canada) released its 2050 Regional Transportation Strategy, with the main activities focused around building 300 kilometres of new lines by 2050.98
- Among major US locations that trialled free public transport fares in 2022, Boston implemented free public transport on three major bus routes, and Connecticut introduced a free bus

fare programme, resulting in public transport ridership levels higher than pre-pandemic.<sup>99</sup>

Several US cities (foremost New York City, followed by Los Angeles and San Francisco) have worked on implementing congestion pricing schemes.<sup>100</sup> Los Angeles is moving ahead with plans for a congestion pricing pilot.<sup>101</sup>

# The region has prioritised the transition to electric road vehicle fleets, enabled by charging stations along highways and a Canadian ban on sales of vehicles with internal combustion engines by 2035.

- In 2022, Canada announced its intention to ban sales of passenger cars with internal combustion engines by 2035 and to target higher sale shares of zero-emission cars<sup>102</sup>
- The United States has set an ambitious target of 50% electric vehicles in total vehicle sales by 2030.<sup>103</sup> A 2023 survey found that more than half of interviewed Americans intend to buy an electric vehicle within the next five years, with the main challenges being the price and the lack of public charging stations.<sup>104</sup>
- In 2022, California (USA) passed a bill banning new petrol car sales by 2035.<sup>105</sup> In addition, California will require that all autonomous vehicles deployed in the state as of 2030 be zeroemission vehicles.<sup>106</sup>
- The United States has approved plans for electric vehicle charging stations for all 50 states as well as Washington, D.C. and Puerto Rico, together covering around 120,700 kilometres of highways.<sup>107</sup>
- In 2021, Petaluma (California), home to 60,000 residents, became the first US city to ban new petrol stations.<sup>108</sup>
- In a first US attempt to deploy vehicle-to-grid technology, in summer 2022 General Motors and the Pacific Gas and Electric Company launched a pilot project in California to test the use of electric vehicles as a back-up power source for homes during grid outages.<sup>109</sup>

## Electric bus fleets are also set to expand across North America in the coming decades.

- The US Department of Transportation plans to double the number of electric buses in operation, expanding its share of only around 2% of all buses as of 2022.<sup>110</sup>
- In Seattle (USA), King County Metro Transit Department is targeting a 100% zero-emission bus fleet powered by renewable energy by 2040.<sup>111</sup> In Washington, D.C., the Washington Metropolitan Area Transit Authority set a target in 2021 for a zeroemission bus fleet by 2045.<sup>112</sup>
- Ottawa (Canada) announced in 2021 that it would add 450 zero-emission buses to its public transport fleet by 2027 and transition the fleet to fully electric by 2036.<sup>113</sup>

New policies in the region are poised to lead to cleaner trucks and to improvements in long-distance rail.

- In 2022, the US Environmental Protection Agency announced new pollution standards for heavy-duty vehicles, the first such updates in 20 years; the goal is to improve standards 80%, with a focus on nitrogen oxides and the transition to a cleaner truck fleet.<sup>114</sup>
- The US Bipartisan Infrastructure Bill of 2021 includes USD 66 billion in funding for new rail infrastructure, the biggest investment in passenger rail transport in the history of the rail provider Amtrak.<sup>115</sup> The bill aims to greatly improve passenger rail, including by providing high-quality train service, modernising rail stations and boosting the resilience of the US Northeast Corridor.<sup>116</sup>

## Partnership in action

SLOCAT partners engaged in dozens of actions during 2020-2022, including:

- CALSTART, a US-based non-profit organisation, is working with businesses and governments to develop clean, efficient transport solutions, focusing on cars, bus, trucks and fuels.<sup>117</sup>
- In 2021, the Environmental Defense Fund worked with automakers (such as General Motors and Ford), labour unions and regulators to build consensus for achieving the US goal of having half of new passenger vehicles sold in the country be zero emission by 2030.<sup>118</sup>
- The Hewlett Foundation, a non-partisan US charitable foundation, has a Climate Initiative Strategy (2018-2023) that is committed to assessing programmes in consideration of the need for deep decarbonisation by 2050 across major sectors.<sup>119</sup>
- The Institute for Transportation and Development Policy (ITDP) uses technical expertise, direct advocacy and policy guidance to mitigate the impacts of climate change, improve air quality, and support prosperous, sustainable and equitable cities. Its activities in North America highlight the power of high-quality bus rapid transit and safe cycling streets integrated with micromobility options, while shifting away from harmful tailpipe emissions towards clean transport and mobility freedom for all.
- The Institute of Transportation Studies at the University of California at Davis (ITS-Davis), a leading university centre on sustainable transport, has hosted the National Center on Sustainable Transportation since 2013 (awarded by the US Department of Transportation) and manages large research initiatives on energy, environmental and social issues.<sup>120</sup>
- The World Resources Institute (WRI) provides leadership and support across its global network and its US and Energy programmes, which engage with federal, state and city governments and also work on urban mobility issues.<sup>121</sup>

## 2.5 NORTH AMERICA REGIONAL OVERVIEW

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