Pathways for Mitigation

Transportation – Summary Statement

Transportation – the movement of people and goods – is essential to the state's economy and Vermonter's quality of life. The state's rural character and low population density also means that Vermonters depend primarily on cars and trucks to get them where they need to go. Vermont's auto-reliant system is fueled with a heavy dependence [1] on carbon-intensive gasoline and diesel, making transportation the largest source of climate pollution – equating to almost 40% of the state's greenhouse gas emissions. [2] The combination of our mostly rural nature, dispersed land use patterns, and heavy reliance on fossil-fueled vehicles is a significant reason why Vermonters emit more greenhouse gasses per capita than any other state in New England. [3] This reality makes transforming the state's transportation system essential to meeting the emissions reduction requirements of the Global Warming Solutions Act. At the same time, creating a clean, efficient, multi-modal system will also have economic, environmental, equity and public health benefits.

Vermont's reliance on liquid fossil fuels is a significant drain on our economy. The largest share of Vermonters' energy expenditures is for fossil fuels for transportation (mostly gasoline), equating to 45% of total energy expenditures on average. Vermonters collectively spend over $1 billion per year on fossil fuels for transportation.[4] Approximately 75% of those dollars leave the state's economy.[5] In contrast, electricity purchases keep far more dollars in Vermont, with about 60% of every dollar spent on electricity staying and recirculating in state. [6] Moving to more

---

[1] https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/2021%20Vermont%20Transportation%20Energy%20Profile.pdf

[2] https://outside.vermont.gov/agency/anr/climatecouncil/Shared%20Documents/1990-2021_GHG_Inventory_Uploads/_Vermont_Greenhouse_Gas_Emissions_Inventory_Update_1990-2021_Final.pdf

[3] EAN, Assessing Vermont's Climate Responsibility, Updated March 2025.

[4] Vermont Department of Taxes, 2025.

[5] EAN 2024 Annual Progress Report for Vermont: https://eanvt.org/wp-content/uploads/2025/01/EAN-APR-2024-updatedJan2025.pdf (Page 7)

[6] EAN 2024 Annual Progress Report for Vermont: https://eanvt.org/wp-content/uploads/2025/01/EAN-APR-2024-updatedJan2025.pdf (Page 7)

efficient, electric vehicles will keep more of the money we collectively spend on transportation in the state's economy and in Vermonters' pockets.[7]

Higher per capita costs and high price volatility in the current system also makes transportation an equity issue.[8] Lower-income Vermonters spend a far greater proportion of their incomes on energy than upper income Vermonters. Transportation costs – primarily through owning, operating and maintaining a vehicle – equate to 45% of total energy expenditures for the average Vermont household. This reality places a disproportionate economic burden on lower income Vermonters. [9]

The current system's failure to serve people equally is another equity concern. Many older Vermonters, youth, and people living with disabilities cannot drive, thus limiting their ability to access jobs, services and community amenities without a multi-modal, integrated transportation system. Research highlights that vehicle ownership is a significant requirement for job access and retention for lower income Vermonters.[10] This has long been true and was underscored in the COVID-19 pandemic, when many low-income, frontline workers continued to report in-person to work, often relying on costly and inefficient vehicles. Research also found that "possession of a driver's license and a car was a stronger predictor of leaving public assistance than even a high school diploma," which speaks to the importance of vehicle access and ownership as an important justice issue.[11]

The economic disparities and equity issues embedded in rural Vermont's current transportation system present opportunities. Equitably accelerating the adoption of more efficient, electric vehicles, expanding transportation choices, and creating compact communities where

[7] https://www.ucsusa.org/sites/default/files/2020-11/rural-transportation-opportunities_0.pdf

[8] https://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Legislative_Reports/2021%20Annual%20Energy%20Report%20Final.pdf

[9] https://www.efficiencyvermont.com/Media/Default/docs/landing-pages/energy-burden-report/2023-EfficiencyVermont-EnergyBurdenReport.pdf

[10] https://ljfo.vermont.gov/assets/Uploads/9bc271c390/Reach-Up-Annual-Report_FINAL_2020.01.15.pdf

[11] https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u2196/Arrive%20Together%20Transportation%20Access%20and%20Equity%20in%20Wisconsin.pdf

Vermonters can afford to live without a vehicle will have many benefits. Those benefits include collectively saving Vermonters hundreds of millions of dollars every year; significantly reducing the high energy burdens Vermonters currently face; ensuring Vermonters of all incomes levels and demographics can access more clean, affordable transportation options; and – individually and collectively – improving public health outcomes by reducing exposure to the air pollutants caused by the burning of gasoline and diesel and expanding active modes of transportation. [12]

Together, the strategies identified below will not only improve health outcomes and save Vermonters money, but set the state on a course to reduce transportation-related carbon pollution and more equitably shift to a cleaner, more efficient, multi-modal transportation system. This is a two-pronged approach to make both vehicles and the transportation system more efficient by:

1. Replacing carbon intensive fuels (gas and diesel) with zero emission or low carbon fuels including electricity for cars and light duty trucks and biofuels and hydrogen for medium and heavy duty vehicles.

2. Making both the vehicles and the transportation system more energy efficient by creating options for Vermonters to drive less or use alternatives to the single occupancy vehicle to get where they need to go, while also increasing options for those who cannot drive.

Electrification is a critical priority. Many new and used electric vehicles are available for purchase. They are more energy efficient than gas powered vehicles and cost far less per mile than a gas-powered vehicle to own and operate over time.[13] This means that rural Vermont drivers will see significant savings.. A recent study estimated that a typical rural driver can save approximately $1,500 per year by switching from a conventional gasoline car to a comparable electric vehicle, made even more significant over the life of the vehicle [14]

[12] https://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_CH_Transportation-Health.pdf
[13] https://eanvt.org/wp-content/uploads/2025/01/EAN-APR-2024-updatedJan2025.pdf (Pages 5, 22)
[14] https://www.ucsusa.org/about/news/rural-communities-could-benefit-most-electric-vehicles

Avoiding car trips, reducing car trip lengths, and/or replacing car trips with clean and energy efficient transit, biking and walking options, carpool and rideshare programs and other non-single occupancy vehicle strategies have economic, equity and public health benefits – while also being important pollution reduction measures to achieve 2050 emissions reduction obligations. These transportation options rely on compact community settlement patterns, thus requiring short- and long-term investments in key community infrastructure and affordable housing to create walkable, bikeable, and transit friendly places where people want and can afford to live.

Transitioning to a cleaner transportation system can have public health benefits. A recent analysis by the American Lung Association found that residents in every region of the U.S. stand to benefit from the elimination of on-road traffic pollution and clean, renewable electric generation. It is estimated that, by 2050, a cleaner transportation system could net Vermont over $73 million in value from avoided premature deaths, asthma attacks and work days lost. [15]

The pathways and actions described below will help put Vermont on a path to significant climate progress, respond to Vermonters' diverse transportation needs and provide numerous co-benefits.

The pathways include:

- Adopting a cap and invest policy including but not limited to the transportation sector to achieve GWSA obligations and create a sustainable revenue source for carbon- and cost-reducing transportation programs.
- Reducing greenhouse gas emissions from vehicles.
- Lowering the carbon intensity of fuels.
- Reducing Vehicle Miles Traveled through smart land use strategies and approaches.

The transformation of the current transportation system will evolve and be an iterative process, happening swiftly in the near term with Vermonters saving on energy costs by eliminating their reliance on fossil fuel vehicles while also achieving the state's mandatory greenhouse gas

[15] https://www.lung.org/getmedia/99cc945c-47f2-4ba9-ba59-14c311ca332a/electric-vehicle-report.pdf

emissions reductions. This means steps such as implementing an electric vehicle point of sale purchase or lease financial incentive. Point of sale is a critical moment that helps car owners avoid locking into a high-emitting fossil fuel vehicle that may be on the road for a decade or more.

Attention must be paid to understanding the realities facing all Vermonters through public engagement strategies and crafting programs and policies that respond to Vermonters' diverse needs as well as mitigate potential negative (cost) impacts from the transition away from single-occupancy and fossil fueled modes of transportation. As this essential and inevitable transportation transformation ramps, Vermont must work to ensure no one is left behind and, instead, has the support to access and afford cleaner, more cost effective transportation solutions.

Transportation Progress Since the 2021 Adopted Climate Action Plan:

As recommended in the 2021 Climate Action Plan, Vermont moved forward with the adoption of the next phase of our state's long-standing participation in California's clean vehicle programs. In 2022, Vermont adopted both the Advanced Clean Cars (ACC) II program and the Advanced Clean Trucks (ACT) regulation. ACC II promotes the electrification of light-duty cars, requiring automakers to deliver a gradually increasing percentage of zero-emission vehicles into the Vermont market, eventually putting the state's car and light truck sales on a pathway toward 100 percent new electric vehicle sales by 2035. The ACT rule requires manufacturers to produce and sell an increasing percentage of zero-emission trucks and buses annually through 2035. Both programs – ACC II in particular – are foundational to achieving the targets of the GWSA.

Since the last CAP, Vermont also leveraged an unparalleled influx of federal funds to support investments in cleaner transportation. That included significant investments in electric vehicle incentive programs and EV charging infrastructure, helping support thousands of Vermonters in reducing pollution and saving money by switching to electric vehicles, with nearly 18,000 EVs registered in Vermont as of January 2025.[16] Federal and state funds also enabled significant investments in climate and equity-focused programs, like Mileage Smart and Replace Your Ride

[16] https://www.driveelectricvt.com/uploads/media/Documents/Maps/vt_ev_registration_trends.pdf

as well as additional and important investments in electric bicycle and non-vehicular modes of transportation, including additional investments in transit, micro-transit, bicycle and pedestrian infrastructure and land use strategies that support more compact, energy efficient development.

These have been two significant areas of progress in the transportation sector since the initial Climate Action Plan was adopted. At the same time, Vermont remains without a primary regulatory or policy tool to reduce emissions – equitably and with certainty – in line with the obligations of the GWSA. Two significant analyses of potential approaches – including the most cost-effective, equitable approaches – have been undertaken since December 2021. Those include the federally required Carbon Reduction Strategy analysis as well as a climate policy study that examined the costs, benefits, key considerations, and likely pollution-reduction outcomes of various transportation policy, regulatory and programmatic approaches. Each of these efforts were informed by significant public engagement, and each underscored the importance of vehicle electrification as key to reducing greenhouse gas emissions and transportation pollution in our rural state. Each analysis also recognized the long-term pollution-reducing benefits of smart land use and development practices, as well as the shorter-term co-benefits of transportation options other than a single-occupancy vehicle (public health, important equity and access considerations, etc).

The climate policy analysis also found that there is a path to help Vermonters shift from fossil fuel dependence, reducing overall energy costs while also putting Vermont on a path to significantly cut climate pollution. The report's findings made clear that Vermont and Vermonters can save money over time by investing in cleaner, more cost-effective energy. The report also highlighted the ability to ensure lower and middle-income Vermonters save money and come out ahead with a combination of rebates and incentives. As other jurisdictions have done, it would be possible – and important – to design a program to protect low- and moderate-income Vermonters from bearing additional costs from a potential program.

As re-affirmed by the Vermont Climate Council in November 2022, it remains clear that "*(t)he only currently known policy options for which there is strong evidence from other states, provinces and countries of the ability to confidently deliver the scale and pace of emissions*

reductions that are required of the transportation sector by the GWSA are one or a combination of: a) a cap and invest/cap and reduce policy covering transportation fuels and/or b) a performance standard/performance-based regulatory approach covering transportation fuels." Further work to refine and advance the most effective, affordable, and equitable approach in this arena remains and will be imperative to meeting Vermont's climate commitments and transportation affordability goals.