

Addressing Climate Change by Expanding Transportation Choices for Rural Maine

by Josh Caldwell

INTRODUCTION

Climate change caused by human activity is already affecting Maine at all levels of society and in all geographic regions. Addressing climate change effectively will require decarbonizing all of the major sources of greenhouse gas emissions that cause climate change, in particular fossil fuels used for power generation, heating, and transportation. Responding to climate change presents Maine with an opportunity to reform its current car-dependent transportation system, which currently fails to meet the needs of many Mainers.

Transportation is by far the most polluting sector in Maine, accounting for nearly half of the state's annual greenhouse gas emissions (MCC 2024). Reducing transportation emissions is Strategy A in Maine's climate action plan, including efforts to both accelerate the transition to electric vehicles and reduce vehicle trips and trip lengths, also known as reducing vehicle miles traveled (VMT) (MCC 2024). Despite these plans, car traffic in Maine continues to increase year over year, which is correlated with increases in pollution, and tragically, in pedestrian injuries and deaths.¹

Beyond the urgency of Maine's climate response, several other factors inform how Maine should approach transportation system reform. After several decades of population decline,

Maine is growing relative to the national average (Russell 2023), has the highest percentage of rural residents of any US state (Wickenheiser 2012), has the highest median age of any state in the country (Maine State Economist 2025), and is facing a significant transportation funding shortfall that needs to be addressed in the coming years (Myall 2024).

Maine's current transportation system fails to meet the needs of too many Mainers, and without reform, it will continue to do so as Maine grows. Due to historic underinvestment in public, active, and community transportation options, rural communities in Maine are particularly affected, but this does not have to be the case. Maine can pursue several policies to reduce VMT and increase transportation options for all Mainers, which in turn will make Maine's transportation system safer, cleaner, more accessible, and less expensive.

SHORTCOMINGS OF MAINE'S EXISTING TRANSPORTATION SYSTEM

Environmental Impact

Transportation accounts for nearly half of the total climate pollution Maine emits each year. Two-thirds comes directly from the tailpipes of light-duty cars and trucks, while 27 percent is attributable to medium- and heavy-duty vehicles (Morrison et al.

2021). In addition to climate concerns, our transportation system damages Maine's communities and environment through unhealthy air pollution salt, tire dust and vehicle debris, land use impacts (Robbins 2023; Szklarek et al. 2022), and wildlife collisions (Pagany 2020).

Providing Mainers with more options to get to work, grocery stores, appointments, or recreational destinations is an irreplaceable element of state climate policy. Much of Maine's transportation decarbonization will occur through transitioning to electric vehicles, which do not emit greenhouse gases at the tailpipe, cost less to own and operate than their combustion engine counterparts and are far more energy efficient. However, according to modeling done for the Maine Climate Council, Maine needs to reduce VMT by 20 percent in the coming years to hit the state's climate goals (MCC 2024).

In addition, Maine failed to adopt the top two electrification policies (Advanced Clean Trucks and Advanced Clean Cars II) recommended in Maine's Clean Transportation Roadmap (Morrison et al. 2021), and recent federal rollbacks will slow adoption as well. The challenges Maine is seeing around electrification reinforce that providing more safe, affordable transportation options is a critical part of Maine's climate response.

Cost

For most Maine families the cost to own and operate a personal vehicle often exceeds \$1,000 per month (Reilly 2025) — or about 30 percent of the median Maine income.² The transportation cost burden falls disproportionately on rural and low-income residents as they are more likely to have longer commute distances, lower-quality cars,

and less alternative transportation options (USDOT 2023).

The costs of the transportation system extend beyond those paid directly by users. Maine taxpayers spend more than \$500 million annually on transportation, the vast majority of which is dedicated to building, repairing, and maintaining Maine's sprawling network of roads and bridges.³ Despite the high annual price tag, Maine's roads and bridges received a "C" grade in the most recent American Society of Civil Engineers report (ASCE 2024). This does not indicate that Maine's infrastructure repair efforts are inadequate, but rather that traditional car-oriented development has incurred unsustainable maintenance obligations.

Maine is facing a projected \$280 million Highway Fund shortfall by 2027, largely due to the de-indexing of the gas tax from inflation in 2011 (Myall 2024). This change reduced Highway Fund revenue by \$588 million between 2011 and 2025. This self-imposed revenue shortfall has been compounded by increasing construction costs and reduced federal support for transportation projects.

Access

Maine's car dependency is not only polluting and expensive, it also directly excludes a portion of the population that cannot or does not drive. More than 40,000 households in Maine do not have access to a personal vehicle, and more than 90,000 Mainers of driving age do not have a driver's license. Further, more than 10,000 Mainers cited lack of transportation as their primary reason for unemployment (Reilly 2025).

Maine has the oldest median population in the nation, and many Mainers are aging out of driving. However,

older Mainers are not the only demographic currently excluded from Maine's transportation system. Surprisingly, the number of people without a driver's license is the same for Mainers in their 20s as it is for Mainers over the age of 75 (Reilly 2025). Further, one in three rural adults lives with a disability as compared to one in four adults nationwide—an additional barrier to transportation access in rural communities (Zhao et al. 2016). The Moving Maine Network conducted a survey in 2024 that reinforces this problem, finding that two in five Maine adults experience transportation insecurity (Miller 2025).

Lack of access to transportation directly affects Mainers' quality of life and well-being, including for example, preventing grandmothers from helping with childcare, students from attending community colleges and vocational schools, and eligible adults from participating in the workforce. Unlocking freedom of mobility is essential for rural communities to actualize their social and economic potential.

Safety

The increase in vehicle traffic since the pandemic is correlated with an increase in vehicle-related injuries and deaths. After a marked decrease in 2020 due to stay-at-home pandemic protocols, traffic deaths have spiked to the highest levels in more than 15 years, reaching 182 in 2022 and 179 in 2024 (TRIP 2025). The rate of pedestrian deaths has outpaced overall traffic fatalities, jumping 77 percent between 2010 and 2021 (Graham 2025). Rural Mainers are disproportionately affected, as the risk of death in a car crash is 62 percent higher on a rural road in the United States compared to an urban road for trips of the same length (Westling 2022).

POLICY PRIORITIES

Expand Choices, Not Highways

Car-oriented development leads to negative environmental outcomes and perpetuates car dependency, which increases costs for families, contributes to climate change, and fails to meet the needs of all Mainers. A recent analysis from the Climate and Community Institute found that shifting \$1 billion away from highway expansion and toward transit would not only reduce VMT by 1.8 billion and save 24 lives annually, but it would also save more than \$188 million in reduced traffic delays and more than \$26 million in reduced road maintenance costs every year (McDonald et al. 2025).

Intuitively, adding more vehicle lanes and car-oriented infrastructure would seem to reduce congestion and improve travel time. However, the opposite is true. Building more vehicle infrastructure induces demand that ultimately leads to more time spent in traffic. According to a 2019 study, every 1 percent increase in highway capacity leads to a 1 percent increase in VMT (Hymel 2019).

In each of the years since 2020, statewide vehicle miles traveled in Maine have increased, a rapid rebound to above prepandemic levels.⁴ While many factors have influenced increasing car dependency in Maine—including a downward turn in transit ridership due to the pandemic—it is clear that Maine's transportation system favors cars and trucks over a more diverse array of options. Sprawling development patterns and consolidation of rural commercial and service centers (for example, the closure of rural hospitals) over the years compound this problem, as, nationally, people in rural areas are now driving 12 percent farther than they

were in 2001 to reach their destinations (Laska and Bellis 2021).

Since the pandemic, the most expensive projects the Maine Department of Transportation (MDOT) has conducted have been highway expansions, namely the Brewer extension of I-395 (\$107 million) (Stockley 2025) and the Presque Isle Route 1 bypass extension (\$84.2 million) (Bouchard 2025). This does not include the highway expansions conducted by the Maine Turnpike Authority (MTA) since 2021, including two three-mile segments amounting to more than \$50 million, nor the now-cancelled Gorham Connector, which was estimated at \$330 million, including \$18 million that has already been expended by the MTA (McGuire 2025).

Rather than continuing to prioritize road expansion projects that induce demand and incur hefty road maintenance obligations, Maine should invest in climate-aligned projects that meet the access needs of rural communities while reducing car dependency.

Align Transportation Planning with Climate Goals

Maine's Climate Action Plan calls for reducing VMT by 20 percent (MCC 2024). However, the MDOT and MTA are not required to plan in alignment with Maine's climate plan or statutory greenhouse gas reduction goals. As a result, vehicle-focused investment continues to take priority over other cleaner modes.

In the 132nd Legislature, Sen. Stacy Brenner introduced a bill to align Maine's transportation planning with the state's climate action goals by measuring the climate impact of proposed transportation projects and requiring that any projects that would contribute to climate change offset the projected impact by investing in public transit or active transportation. This is an

approach that other states, including Colorado and Minnesota, have adopted (Moravec and Perkins 2025). Unfortunately, the bill did not pass the Maine House of Representatives, but future legislatures could adopt this common-sense approach.

Fully Fund Transit Statewide

Maine's 16 regional transit providers, plus the Northern New England Passenger Rail Association (NEPRA) and the Maine State Ferry Service, have unique insights into the needs of their respective communities, but are struggling to meet the need for rides due to chronic underinvestment. Recent reporting finds that Maine's statewide transit system is only meeting 11 percent of the need for rides in Maine, leaving families disconnected, workers stuck at home, and smaller customer bases (Reilly 2025).

While transit is often associated with urban areas, rural transit services cost less to effectively operate than their urban counterparts (Litman 2023). In Maine's more urban settings like Portland, Lewiston-Auburn, and Bangor, fixed-bus and train routes with frequent, reliable schedules can meet people's needs. In rural settings, flexed bus routes and on-demand van transit may be more appropriate. In all settings, regional transit providers need more funding to meet demonstrated need and to plan for the transit solutions that best fit their communities.

The Maine Public Transit Advisory Council's (PTAC) 2025 report found that the state of Maine contributes only 2 percent of total operating cost for statewide transit service, with the rest coming from federal and local sources (PTAC 2025). With increased state funding, local providers could better meet match requirements for funding and pull down more federal dollars for local service.

While the pandemic significantly affected transit, ridership is rebounding. However, federal pandemic relief funding has expired, and transit providers are struggling to make ends meet. Increasing the state share of transit operating costs is a critical step toward establishing a statewide transit system that meets demonstrated need.

Reform Transportation Project Selection to Prioritize People, Not Cars

To ensure that Maine prioritizes transportation projects that are aligned with community needs, including those of rural communities, MDOT's process for project selection must be transparent and achieve intended outcomes. MDOT should score potential transportation projects on a transparent rubric based on key factors like how they increase access, improve safety, reduce congestion, contribute to economic development, promote efficient land use, and affect the environment. Projects could then be ranked according to the established criteria, determining their priority compared to other projects. This would ensure that projects with the most benefit for Maine's people, economy, and environment are funded first, and that politics are removed from funding decisions.

Virginia's Smart Scale⁵ program demonstrates this approach well and has been in place since 2017, ensuring that Virginia's transportation funding goes to the projects that are best meeting the needs of the communities they serve. In 2025, Rep. Adam Lee proposed legislation modeled on Virginia's Smart Scale approach, but the bill was not successful. Future Legislatures should adopt this approach, ensuring transportation investments are meeting all of Maine's shared policy goals.

Prioritize Smart Growth and Downtown Revitalization

Cleaner transportation modes like public transit and active transportation are most viable when paired with smart growth principles that prevent sprawl and encourage walkability.

In rural, suburban, and urban Maine alike, that means encouraging more compact and connected development near downtowns and village centers with businesses and essential services while conserving natural and agricultural landscapes. These choices are crucial now, as Maine's population is growing faster than the national average, and the state needs 80,000 new dwelling units by 2030 to keep pace with growing housing demand (MaineHousing 2023).

In 2022, Maine made progress with the passage of LD 2003 to increase housing opportunities, and in 2025 added to that progress with several bills to increase funding for affordable housing, remove regulatory barriers to building housing, update zoning policy, and encouraging rehabilitation for housing purposes (Pendharkar 2025).

The next step is to align regional and municipal comprehensive planning with smart growth principles while making it easier for towns to conduct comprehensive planning to identify areas they want to grow and areas they want to preserve. In the 132nd Legislature, a bill (LD 1940) to update Maine's Growth Management Law with these key principles died after failing to pass through the House of Representatives.

Transportation and housing policies are inextricably linked, and the way that we develop new housing and supporting infrastructure and grow our communities will either encourage continued car-oriented development or will lend itself to reduced car dependency through transit—and active transportation-oriented development.

CONCLUSION

Rural communities deserve effective transportation options that get their residents where they need to go. With appropriate funding and planning, a thriving multimodal transportation system rooted in interconnected transit and active transportation networks is not only possible, but is also a more efficient, effective, and clean way to meet the need for rides statewide.

This vision can be achieved by aligning transportation planning with Maine's climate goals and shifting project selection criteria to prioritize the needs of people rather than cars and trucks. By reorienting planning and investment toward projects that reduce vehicle miles traveled, such as transit and active transportation, Maine can save money, revitalize local economies, and progress toward established climate goals.

NOTES

- 1 Maine DEP, Vehicle Emissions and Greenhouse Gas Data, <https://www.maine.gov/dep/air/mobile/vehicle-data.html>
- 2 US Census Bureau Quickfacts: Maine, <https://www.census.gov/quickfacts/fact/table/ME/HSG010223>.
- 3 <https://legislature.maine.gov/ofpr/highway-fund/9307>
- 4 VMT by County (Excel file), <https://www.maine.gov/dep/air/mobile/vehicle-data.html>
- 5 <https://smartscale.virginia.gov/>

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