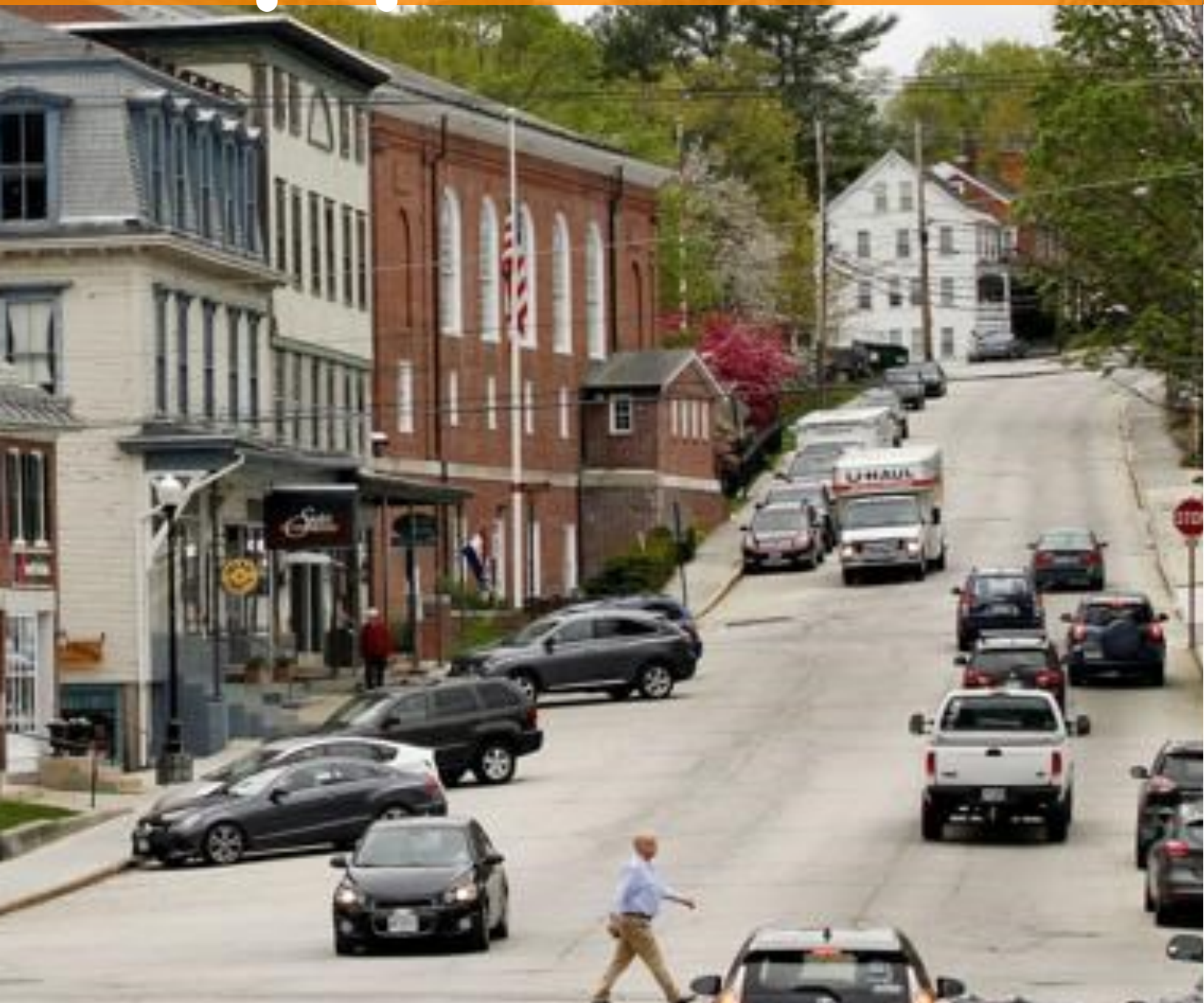
SECTION 05

Transportation and Land Use



CURRENTLY IN PETERBOROUGH

33.5%
of townwide GHG emissions in 2021 are from transportation

65,023,000
Vehicle Miles Driven in 2021

36
Battery Electric vehicles currently registered

Sources: see Peterborough GHG Inventory

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Moving ourselves and our goods and services from place to place is very energy intensive while the vehicles we use for that mobility are very material resource intensive. In addition to transportation vehicles, off-road equipment like construction, recreational and lawn equipment also consume significant amounts of fossil fuels for their operation. Off-road equipment have even higher GHG emission and overall air pollution rates per gallon of fuel consumed than on-road vehicles due to less efficient combustion and lower emission standards than on-road vehicles.

Equipment and transport systems have significant impacts on the environment, accounting globally for 20% to 25% of world energy consumption and carbon dioxide emissions. In Peterborough, the Transportation sector accounts for 33.5% of community wide GHG emissions and are projected to decrease as the transportation sector electrifies.

Many options exist for improving the sustainability of our transportation systems while improving quality of life and equity. Increasing shared transportation while decreasing use of single-occupancy vehicles significantly reduces the environmental impacts of transportation. This change also can improve equity in mobility. Alternative transportation modes like bicycles, eBikes, and scooters can also increase opportunities for exercise while reducing air pollution. Lastly, studies indicate that recent advances in electric vehicles, car-sharing technologies and the potential for self-driving vehicles underline a much more sustainable usage of car assets that could remove up to 90% of the vehicles from the streets while enhancing mobility options.

	GHG emissions from vehicle use (metric tons)	Vehicle Miles Driven	Registered Electric Vehicles
Goals			
Today	24,001	65 million	37
2030 Targets	16,400	61.7 million	1,853

Sources: see Peterborough GHG Inventory

STRATEGIES

The strategies on the following pages guide our path in meeting our climate goals for the Transportation and Land Use sector. Each strategy is supported by a series of detailed actions to be explored and undertaken in order to carry out the vision and goals.

Action Implementation

The following are the proposed strategies and detailed actions in support of this section. Actions are anticipated to be implemented in three phases:*

- Phase 1: action initiation anticipated within 0-3 years of REP approval
- Phase 2 action initiation anticipated within 2-5 years of REP approval
- Phase 3 within 3-7 years of REP approval

*Phasing will be established by the PREP Team in collaboration with Town staff at initiation of plan implementation (see strategy CC1).

TL 1:

Decrease community-wide vehicle miles traveled (VMT) by 5% by 2030 through increased biking, walking, shared mobility, and eMobility.

TL 2:

Increase battery electric vehicle (BEV) and plug-in hybrid (PHEV) utilization to 30% of community-wide rolling stock by 2030 (from 37 to approximately 1,853 vehicles community -wide)**.**

TL 3:

Increase Average Population per Developed Acre with Sewer and Water by 5% by 2030.

TL 4:

Establish viable renewable diesel and/or biodiesel sources to serve community. Achieve 100% diesel consumption replacement with renewable diesel and/or biodiesel as technology allows. (Intended as bridge strategy towards electrification and more rapid reduction of fossil fuel use)

TL 5:

Convert municipal operations' gasoline and e10 gasoline vehicles and equipment within municipal fleet to EV's as technology allows with a goal of 100% by 2040.

Strategy Action

ACTIONS

TL 1:

Decrease community-wide vehicle miles traveled (VMT) by 5% by 2030 through increased biking, walking, shared mobility, and eMobility.

TL 1-1	Establish a Complete Streets Policy, including criteria and review procedures for municipally funded projects.
TL 1-2	Enhance Complete Streets Plan to facilitate the creation of strong multi-modal transportation and connections within and between towns, establish complete streets guidance, provide a complete streets assessment to identify percentage of streets in compliance with Town's complete streets policy, establish Mobility Hub guidance, establish a plan for expansion of the bike path network, and identify prioritized active transportation projects with implementation timeline.
TL 1-3	Based on Multi-Modal and Complete Streets Plan, implement prioritized active transportation projects such as development of Mobility Hubs for enhanced mobility options such as rideshare, car share, and bike share
TL 1-4	Explore provision of public toilets and showers at key locations (for example: at a town center Mobility Hub) to support and encourage biking and walking into town and active transportation commuters.
TL 1-5	Explore how to modify zoning codes to establish minimum EV parking requirements.
TL 1-6	Collaborate with Monadnock employers to encourage and incentivize work-at-home adoption
TL 1-7	Install bike racks in downtown areas and shopping plazas
TL 1-8	Organize and promote an electric vehicle (EV) Group Purchase campaign regularly to partner with regional dealerships to offer limited-time discounted pricing on EVs to help reduce the costs of EV purchasing through volume purchasing power. Program should focus options to increase community equity. Group purchase could be coordinated with Town of Peterborough fleet vehicle purchases and/or in conjunction with the Town's Solar Group Purchase program(s).
TL 1-9	Explore working with SWRPC to pursue reliable Micro-transit and bus service connecting Peterborough Mobility Hubs with Keene, Nashua, and other regional communities to support decreased vehicle commuting.

Strate- Action

ACTIONS

TL 2:

Increase battery electric vehicle (BEV) and plug-in hybrid (PHEV) utilization to 30% of community-wide rolling stock by 2030 (from 37 to approximately 1,853 vehicles community-wide)**.**

TL 2-1	Establish an Electric Vehicle Action Plan (EVAP) to guide access to chargers townwide on public and private property. In the EVAP: Explore alternative technologies like Smart Cable technology and streetlight/EV charger integration. • Address barriers to charging in garage-free homes and rental properties. • Assess options to lower EV and EV charging implementation costs. • Recommend EV charging station requirement amendments to zoning ordinances to support the EVAP. • The EVAP should consider the EV charging needs of town residents and businesses as well as opportunities to support EV charging for travelers in ways that benefit both the community and the traveler. Place EV charging stations strategically to be convenient for tourists. • Establish an EV infrastructure master plan and implementation timeframe identifying EV charging station locations including at all primary municipal facilities.
TL 2-2	Install public EV charging infrastructure in accordance with the Electric Vehicle Action Plan (EVAP).
TL 2-3	Establish an EV Ready Ordinance requiring new developments to have wiring capacity to meet the needs of electric vehicle charging and the EV parking requirements of the Town's revised zoning codes.
TL 2-4	Maximize the community benefit of recently passed federal EV incentives by establishing an incentive supporting the purchase and/or installation of electric vehicle charging equipment. Incentive design should take into consideration the anticipated increase in electric demand and revenue generated through increased car electrification.
TL 2-5	Build public awareness of electric mobility options, including EV's and eBikes, through communications and Ride-And-Drive events.
TL 2-6	Solicit existing shared mobility service providers or establish a shared mobility program including EV car sharing, eBike sharing, and eScooter for the Peterborough area. Seek models or examples and run trials of local, neighborhood or apartment/housing development car and/or bike sharing.
TL 2-7	Simplify and clarify the permitting and inspection process for EV charger installations. Establish an EV charger permit template, an on-line application platform, and a utility notification protocol to streamline the process.
TL 2-8	Evaluate, monitor, and promote incentive programs to expand EV charger deployment on private property, including rebates and financing options (on-bill financing, etc.).
TL 2-9	Create a voluntary EV Ready Guide including information supporting EV charger technology, EV Fleet transition, and ADA compliant charger siting information.
TL 2-10	Update the Town’s master plan to anticipate and reflect infrastructure needed to support the transportation electrification goals of this plan and to facilitate an easy installation process.

Strategy Action

ACTIONS

TL 3:
Increase Average Population per Developed Acre with Sewer and Water by 5% by 2030.

TL 3-1	Amend the zoning ordinance to allow higher density development. Amendments should include: • Encourage buildings to be built to their allowable heights • Allowing projects to build out to approved densities • Considering opportunities for mixed land use
TL 3-2	Encourage development of Accessory Dwelling Units to create additional affordable housing options compatible with residential neighborhoods. The Town's planning staff will assist residents in navigating ADU requirements.
TL 3-3	Conduct a Development Study to identify and prioritize available sites for redevelopment and infill development to advance town's walkability, bikeability, and multi-modal transportation vision.
TL 3-4	Use the findings of the Development Study to encourage high quality mixed use redevelopment on properties identified as conducive to redevelopment and infilling.
TL 3-5	Study and establish incentives for multi-unit and mixed use developments which result in increased density and improved mobility. Examples include: • Alternative zoning/ordinance compliance • Fee waivers • Density bonuses • Investment prioritization • Development impact fees • Tax benefits
TL 3-6	Issue competitive redevelopment Request for Proposals based on findings of Development Study to encouraging high quality mixed use redevelopment on municipally controlled infill properties and existing surface parking lots within the downtown district. RFP's should focus on equity, affordability, livability, and compliance/support of Renewable Energy Plan goals.

Strate- Action

ACTIONS

	TL 4: **Establish viable renewable diesel and/or biodiesel sources to serve community. Achieve 100% diesel consumption replacement with renewable diesel and/or biodiesel as technology allows.** (Intended as bridge strategy towards electrification and more rapid reduction of fossil fuel use)
TL 4-1	Conduct a Peterborough Region No/Low Emission Diesel Vehicle Fuel Alternative Feasibility study to identify viable no/low emission diesel vehicle fuel alternatives, sources, and outlets for increasing no/low emission fuel alternative availability and utilization. Study to include analysis of efficiency chain and impact on land use and other communities. Study may include exploration of existing supply chains as well as potential new sources such as through a locally operated biodiesel plant or plasma gasification plant producing hydrogen or biodiesel as well as renewable electrolysis.
TL 4-2	Based on the findings of the No/Low Emission Diesel Vehicle Fuel Alternative Feasibility study identify and engage partners to establish adequate renewable diesel and/or biodiesel supply chain for community.
TL 4-3	Based on the findings of the No/Low Emission Diesel Vehicle Fuel Alternative Feasibility study, establish a policy to convert all municipal operations' diesel fuel utilization to biodiesel and/or renewable diesel fuel by 2028.
TL 4-4	Establish communication and education campaign to encourage the use of no/low emission fuels for vehicles unable to be replaced with electric alternatives.
	TL 5: **Convert municipal operations' gasoline and e10 gasoline vehicles and equipment within municipal fleet to EV's as technology allows with a goal of 100% by 2040.**
TL 5-1	Adopt a policy requiring 100% of new light-duty Town fleet vehicles to be electric, or use no/low carbon alternative fuels by 2030, and 100% of new medium and heavy-duty Town fleet vehicle purchases to be electric, or use no/low carbon alternative fuel by 2040. In accordance with the policy, Town's purchasing/budget process to default to EV or no/low carbon alternative fuel vehicles with traditional internal combustion engine (ICE) requiring proof of need. Encourage the Contoocook Valley School District to implement a similar policy.
TL 5-2	Make a municipal fleet Electric Vehicle Transition Plan (EVTP) to achieve 100% conversion of all Peterborough municipal fleet vehicles and equipment to EVs by 2040. Include implementation recommendations to incorporate EV's through right-timing purchases with a planned vehicle-replacement schedule. Encourage the Contoocook Valley School District to make a similar plan.
TL 5-3	Introduce a policy to replace Town off-road and lawn equipment with electric and low-carbon fuel alternatives at the time of replacement with traditional internal combustion engine (ICE) as an option requiring proof of need.
TL 5-4	Explore Resilient Bidirectional Charging (two-way charging allowing the flow of energy from the grid to charge the vehicle as well as from the vehicle battery back to the grid) options, and potential to support energy storage needs and increase financial viability of EV fleet transition.