

Maine Climate Council

Transportation Working Group Meeting

Co-Chairs:

Jeff Crawford, Maine Department of Environmental Protection

Joyce Taylor, Maine Department of Transportation



GOVERNOR'S OFFICE OF
Policy Innovation
and the Future



MAINE DEPARTMENT OF
Environmental Protection



December 12, 2023

Meeting Agenda

1. Review existing data and resources

- Maine DEP's Ninth Biennial GHG report
- Clean Transportation Roadmap
- Maine Won't Wait (2020)
- Maine Won't Wait update (2023)
- Rhode Island Clean Transportation and Mobility Innovation Report (2020)

2. Identify what is missing and where group should prioritize time

Maine Won't Wait Goals



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MWW Goal #1: Reduce GHG emissions

MWW Goal #2: Avoid cost of inaction

MWW Goal #3: Foster economic opportunity

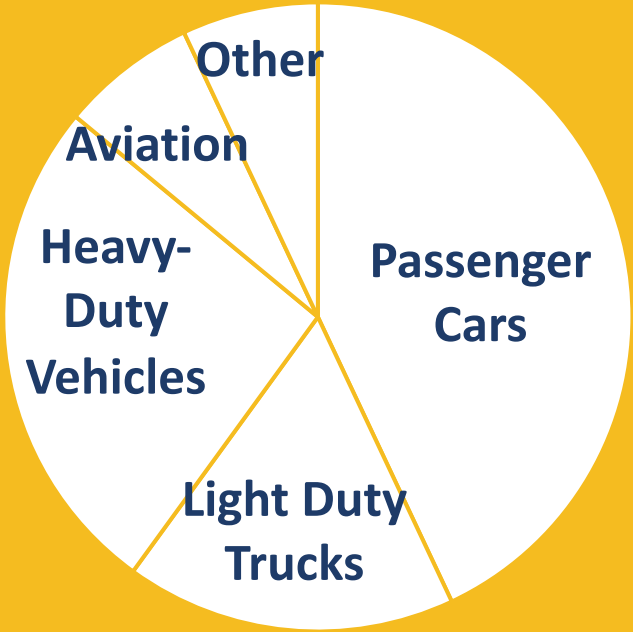
**MWW Goal #4: Ensure climate action that benefits all
Maine people**

Emissions from Transportation Sector



49%

MAINE'S TRANSPORTATION SECTOR GHG EMISSIONS



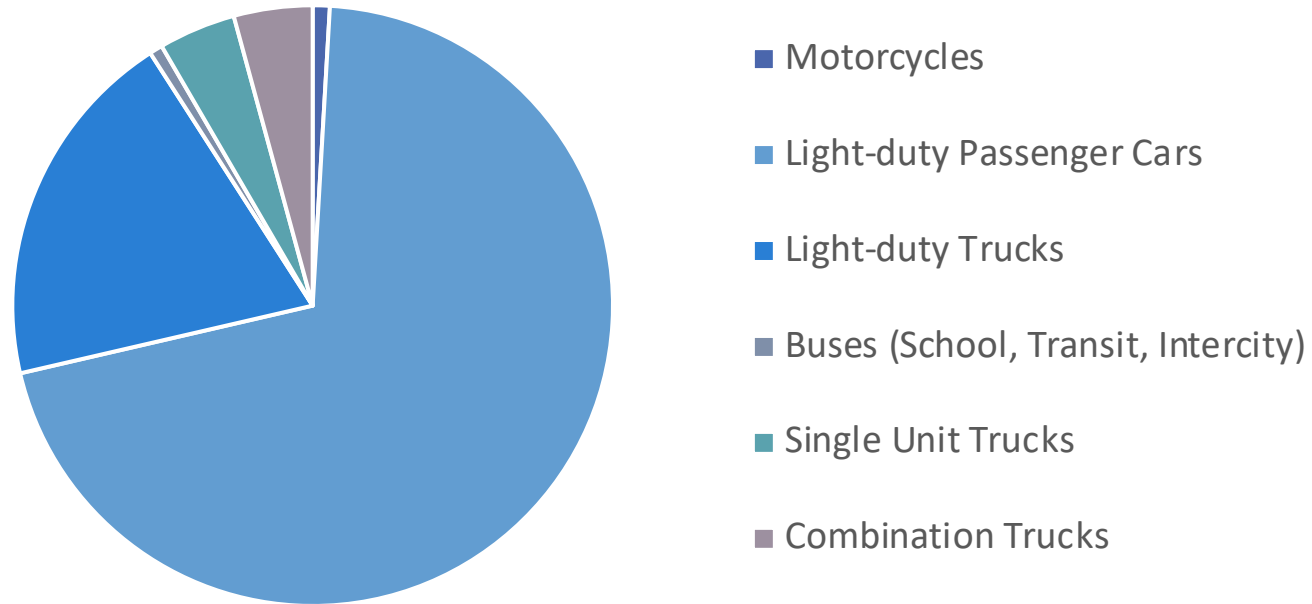
Passenger cars and light-duty trucks make up 60% of all emissions for the sector.

Other includes motorcycles, locomotives, boats, and other.



Vehicle Miles Traveled (VMT)

Projected VMT by Vehicle Class (2022)



Light-Duty vehicles account for 90% of all VMT



Relative Cost-Effectiveness of Strategies

Table 6. Cost-Effectiveness of Clean Transportation Strategies

Strategy	GHG	PM2.5	New non-SOV trips	Jobs	Health benefits
Light duty EVs	+++	+++	-	+	++
Electric transit buses	+++	+++	-	+	+++
Electric school buses	+++	+++	-	+	++
Electric trucks	+++	+++	-	++	++
Hydrogen trucks	+++	+++	-	++	++
Shared ride incentives	+	+	+++	+	+
Micromobility: Shared e-scooters & e-bikes	+	+	++	+	++
Micromobility: E-bike ownership	++	++	+++	+	++
Land use/smart growth	+++	++	-	++	++
Bicycle investment	++	++	+++	++	+++
Pedestrian investment	+	+	+++	++	+++
Travel demand & mobility management	++	++	+++	++	++
Bus rapid transit	+	+	+++	++	+
Commuter/intercity rail	+	+	++	++	+
Bus service: Expansion	+	-	++	+++	+
Bus service: Efficiency	++	+	++	+++	++
Electric microtransit	+	+	+++	++	+
Traffic flow improvements	+++	-	-	+++	-

Table 5. Benefits Key

Benefits Range	GHG tons/\$M	PM2.5 lbs/\$M	New non-SOV trips per \$M	New jobs per \$M	Value of health benefits per \$M
-	<10	<1	<1,000	<1	<\$0.1M
+	10 – 100	1 – 10	1,000 – 50,000	1 – 10	\$0.1 – \$0.25M
++	100 – 1,000	10 – 100	50,000 – 250,000	10 – 20	\$0.25M – \$2.5M
+++	>1,000	>100	>250,000	>20	>\$2.5M

Note: A typical car emits about 4 to 5 tons of GHG per year, so 100 tons is equivalent to taking 20 cars off the road, and 1,000 tons is equivalent to taking 200 cars off the road.

Electrification and traffic flow improvements have greatest cost-effectiveness for emissions reductions

Source: Rhode Island Clean Transportation and Mobility Innovation Report (2020)



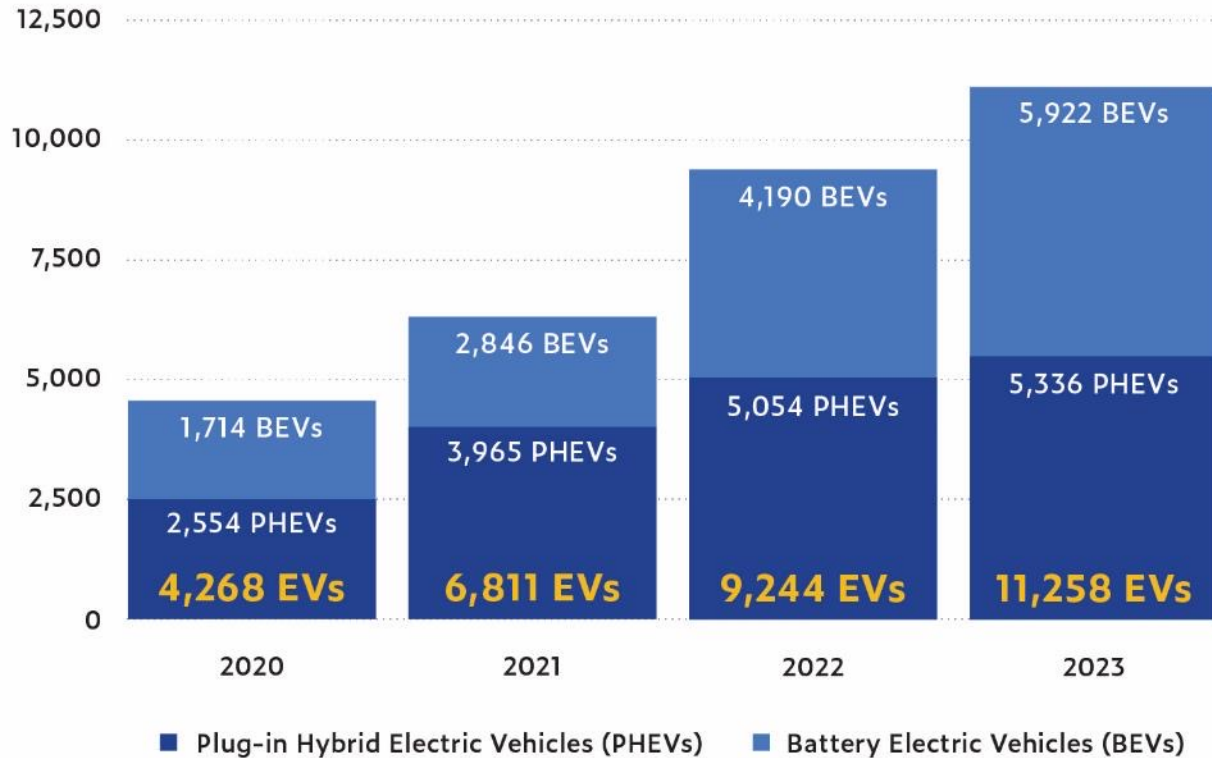
Transportation Working Group:

Recommendation #1: Accelerate Maine's Transition to Electric Vehicles (*41,000 EVs on the road by 2025 and 219,000 by 2030*)



Ongoing Initiatives - Electric Vehicle Expansion

Electric Vehicles on the Road in Maine

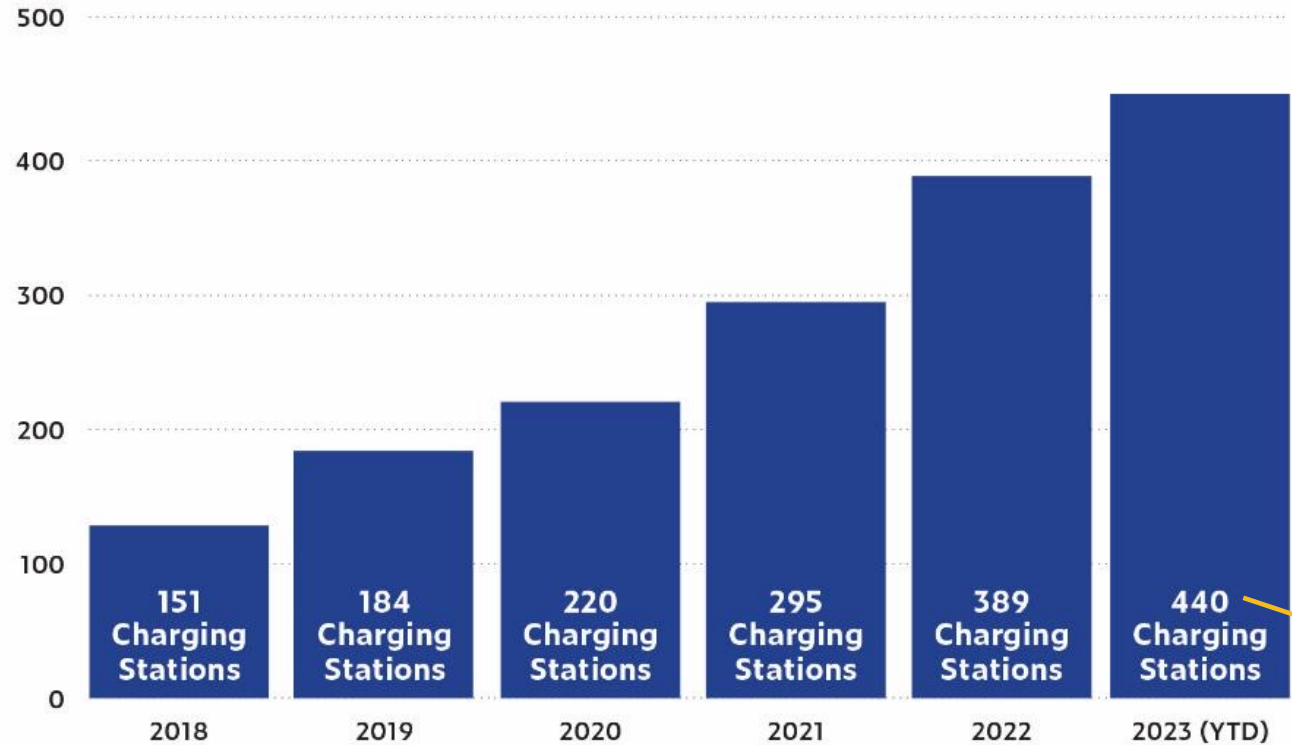


MWW Target:
219,000 EVs on
the road by
2030

Data source: Maine DEP

Ongoing Initiatives - EV Charging Infrastructure

Maine Public EV Charging Stations



Source: NREL Alternative Fuels Data Center, Alternative Fueling Station Counts by State

Clean Transportation Roadmap Target: Install **162 to 682 public L2 plugs** and **45 to 239 public DCFC plugs annually** between **2022 and 2025** to support EV population in MWW

(788 L2 ports and 220 DCFC ports)

Transportation Working Group:

Recommendation #1: Accelerate Maine's Transition to Electric Vehicles (*41,000 EVs on the road by 2025 and 219,000 by 2030*)

Recommendation #2: Increase Fuel Efficiency and Alternative Fuels

Increase Fuel Efficiency and Alternative Fuels

MWW Target: MWW modeling assumes **fuel efficiency** reaches **42 MPG** for new cars and **30 MPG** for new light trucks by **2050**

Transportation Working Group:

Recommendation #1: Accelerate Maine's Transition to Electric Vehicles (*41,000 EVs on the road by 2025 and 219,000 by 2030*)

Recommendation #2: Increase Fuel Efficiency and Alternative Fuels

Recommendation #3: Reduce Vehicle Miles Traveled (*a 10% reduction in light-duty VMT by 2025, a 20% reduction by 2030; a 4% reduction in heavy-duty by 2030*)

Reducing VMT

ANNUAL MAINE VEHICLE MILES TRAVELED BY VEHICLE CLASS			
	2020	2021	2022 PROJECTED
Motorcycles	121,832,861	135,676,430	136,383,102
Light-duty Passenger Cars	9,305,876,174	10,404,366,393	10,458,089,915
Light-duty Trucks	2,584,095,558	2,883,246,925	2,898,031,839
Buses (School, Transit, Intercity)	93,689,763	104,570,607	105,110,141
Single Unit Trucks	549,219,349	612,840,739	616,012,772
Combination Trucks	561,918,487	625,600,711	628,764,223
	13,216,632,192	14,766,301,804	14,842,391,991

Source: MaineDEP, Bureau of Air Quality, Mobile Sources Section, modeling personnel, revised May 5, 2023.

MWW Target:
Reduce VMT for light-duty by 10% by 2025 and 20% by 2030; reduce VMT for heavy-duty 4% by 2030.

Data shows VMT is increasing annually.

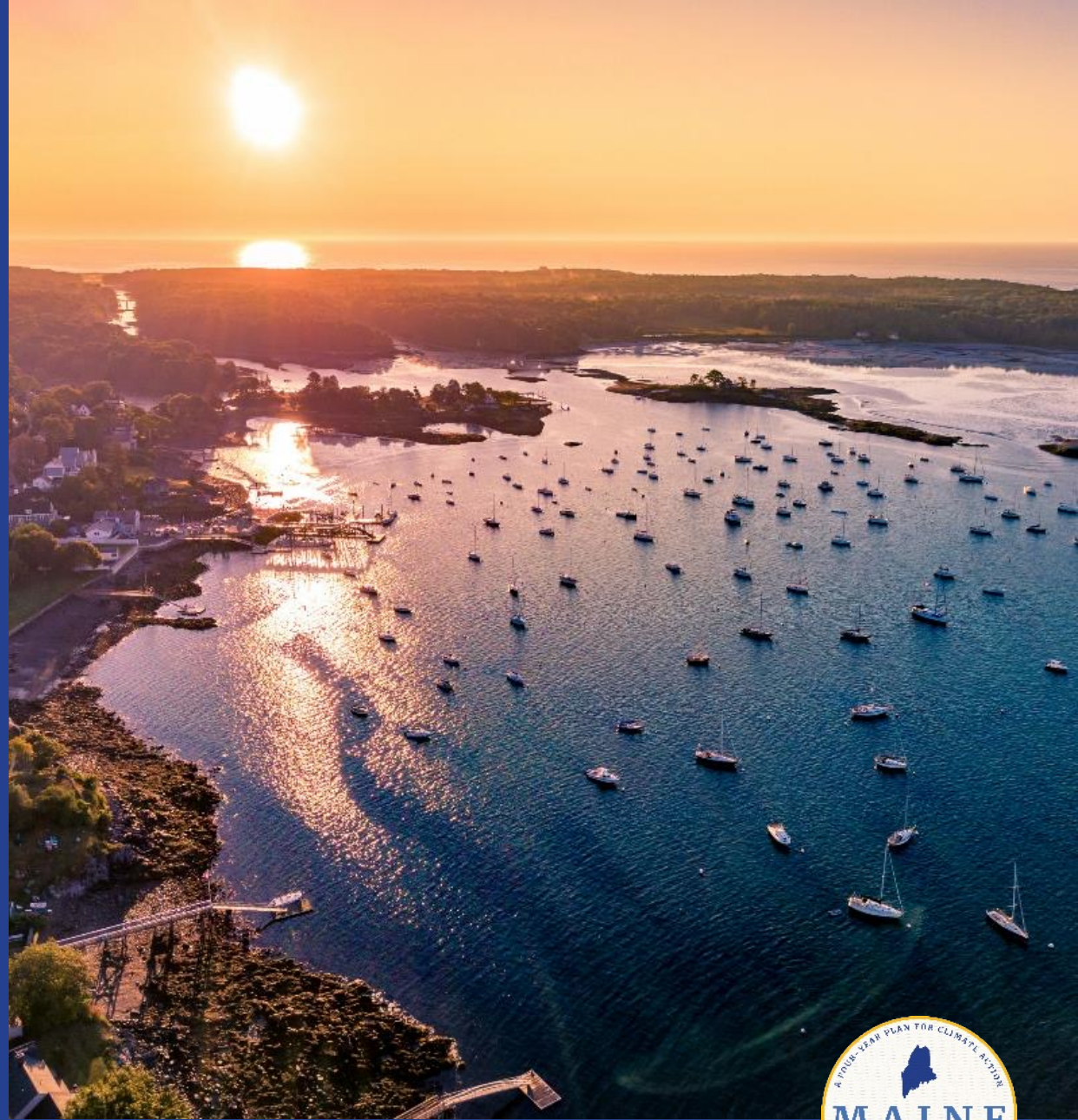


Status of most impactful actions from MWW:

- Electric Vehicles – Numbers of EVs and EVSE are increasing, but not on track to meet targets
- Fuel Efficiency/Alt fuels - Dependent on national action
- VMT reduction – Target is to reduce VMT, but numbers are increasing; how to account for EV miles

What can the TWG do to get us on track?

Prioritization



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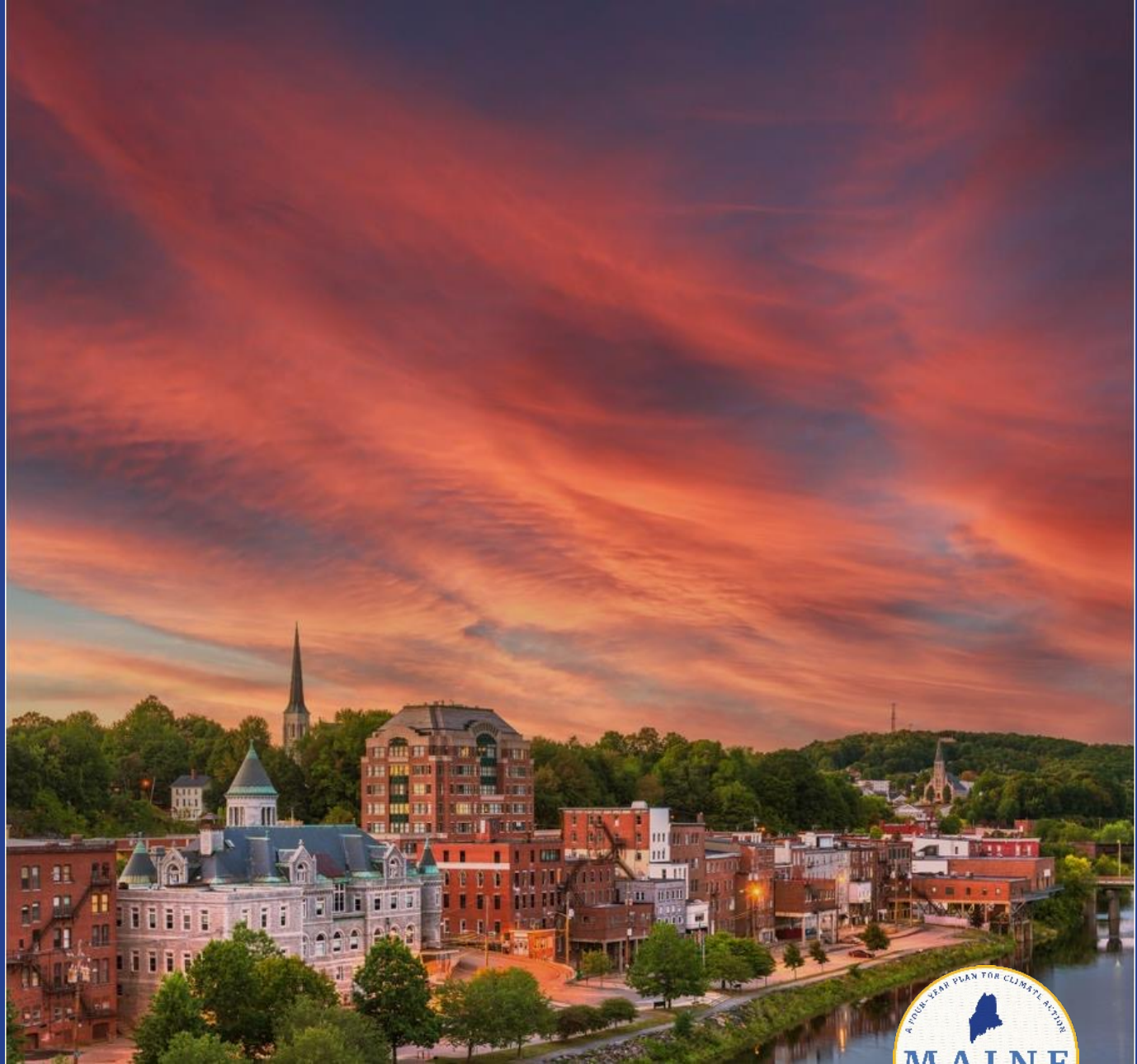


Where should this group prioritize time?

Continue to support EV adoption	Expanding EV charging infrastructure	Encourage electrification of medium- and heavy-duty vehicles	Continue to support policies that reduce vehicle miles traveled
Fine-tuning incentives	Fleet	Roadmap being developed in early 2024	Transit
Low- and moderate-income Mainers	Workplace	?	Active Transportation
?	?	?	Superusers
?	?	?	?



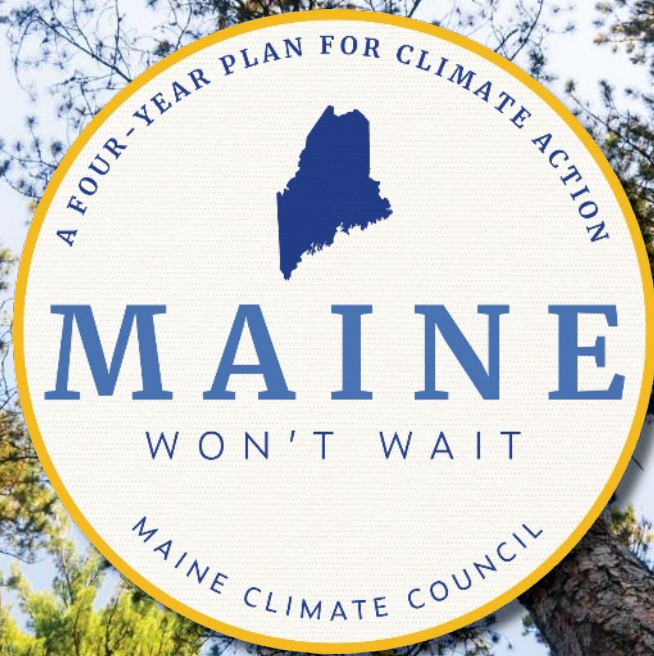
Next Steps and Adjournment



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