

# Mitigating GHGs from Rural Travel in Maine



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# Maine Climate Council

## PROCESS TIMELINE



**June 2019**  
Governor signs LD 1679, establishing Maine Climate Council



**Sept 2019**  
Governor appoints Maine Climate Council members; MCC launches



**Oct 2019 - June 2020**  
Working Groups & Scientific + Technical Subcommittee  
Meet Monthly to Develop Mitigation & Adaptation Recommendations, Characterize Climate Impacts



**June 2020 - Dec 2020**  
Maine Climate Council Considers and Selects Final Strategies for State Climate Action Plan



**Dec 1, 2020**  
State Climate Action Plan Delivered to Legislature

# CLIMATE COUNCIL GOALS



**12.01.20**

Climate Action Plan  
Delivered



ACHIEVE STATE  
CARBON NEUTRALITY BY

**2045**

REDUCE MAINE'S GREENHOUSE GAS EMISSIONS  
BY TARGETS OUTLINED IN STATE LAW

**45%**

BELOW 1990 LEVELS  
BY 2030

**80%**

BELOW 1990 LEVELS  
BY 2050



ENSURE MAINE PEOPLE, INDUSTRIES, AND COMMUNITIES  
ARE RESILIENT TO THE IMPACTS OF CLIMATE CHANGE.

# Maine Greenhouse Gas (GHG) Emissions by Sector



54%



19%



11%



9%



7%

TRANSPORTATION • RESIDENTIAL • COMMERCIAL • INDUSTRIAL • ELECTRIC POWER

# Maine Transportation Emissions

- The average Maine vehicle travels approximately **12,000 miles** per year.
- An analysis of vehicle miles traveled in Maine found that **65%** of driving occurs on **rural roads** and **35%** in **urban and suburban** areas.
- Most of these total miles are driven in the **Southern** half of Maine.
- Maine's transportation emissions also include an estimated **37.4 million** seasonal **visitors** (as of 2019).



# Embrace the Future of Transportation in Maine

## Accelerate Maine's transition to electric vehicles (EV)

- Put 41,000 light-duty EVs on the road in Maine by 2025 and 219,000 by 2030
- Statewide EV Roadmap
- Policies, incentives, pilot programs to encourage adoption of EVs and alternative-fuel vehicles

## Increase fuel efficiency and alternative fuels

- Support increased federal fuel efficiency programs
- EPA SmartWay
- Local biofuel and biodiesel production and use

## Reduce Vehicle Miles Traveled (VMT)

- Reduce light-duty VMT by 10% by 2025 and 20% by 2030
- Highspeed broadband
- Land-use policies
- Rideshare

# Existing/Ongoing Programs

## Efficiency Maine Trust

- EV incentive program
- Charging infrastructure expansion

## GO MAINE

- Rideshare program
- New Vision

## Complete Streets

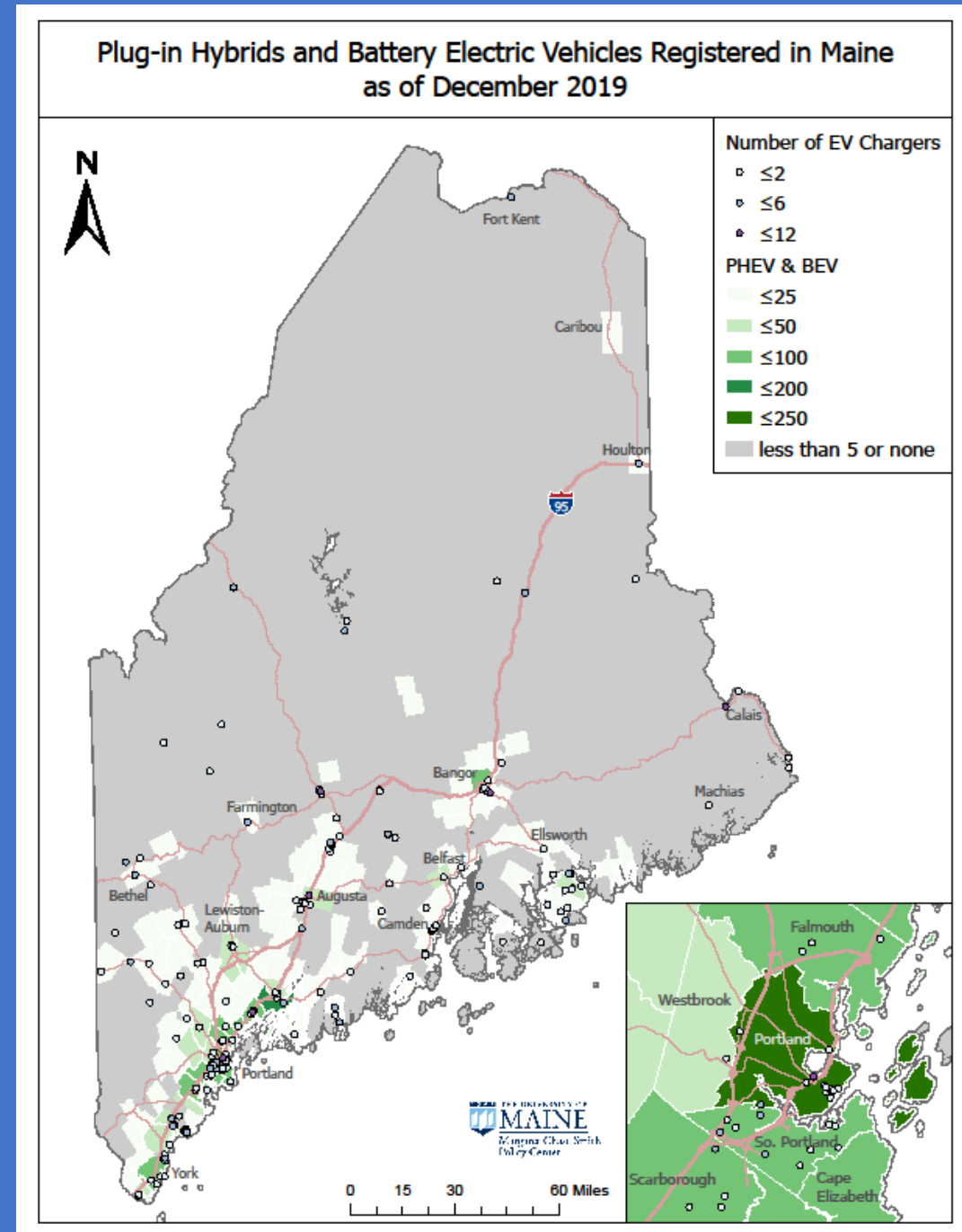
## Bike/Ped Infrastructure

## Biofuel Pilots



# Electric Vehicles in Maine

- Current sales of EVs are less than 2% in Maine
- Charging stations are available
- EV selection in Maine not robust (especially for used-EVs)



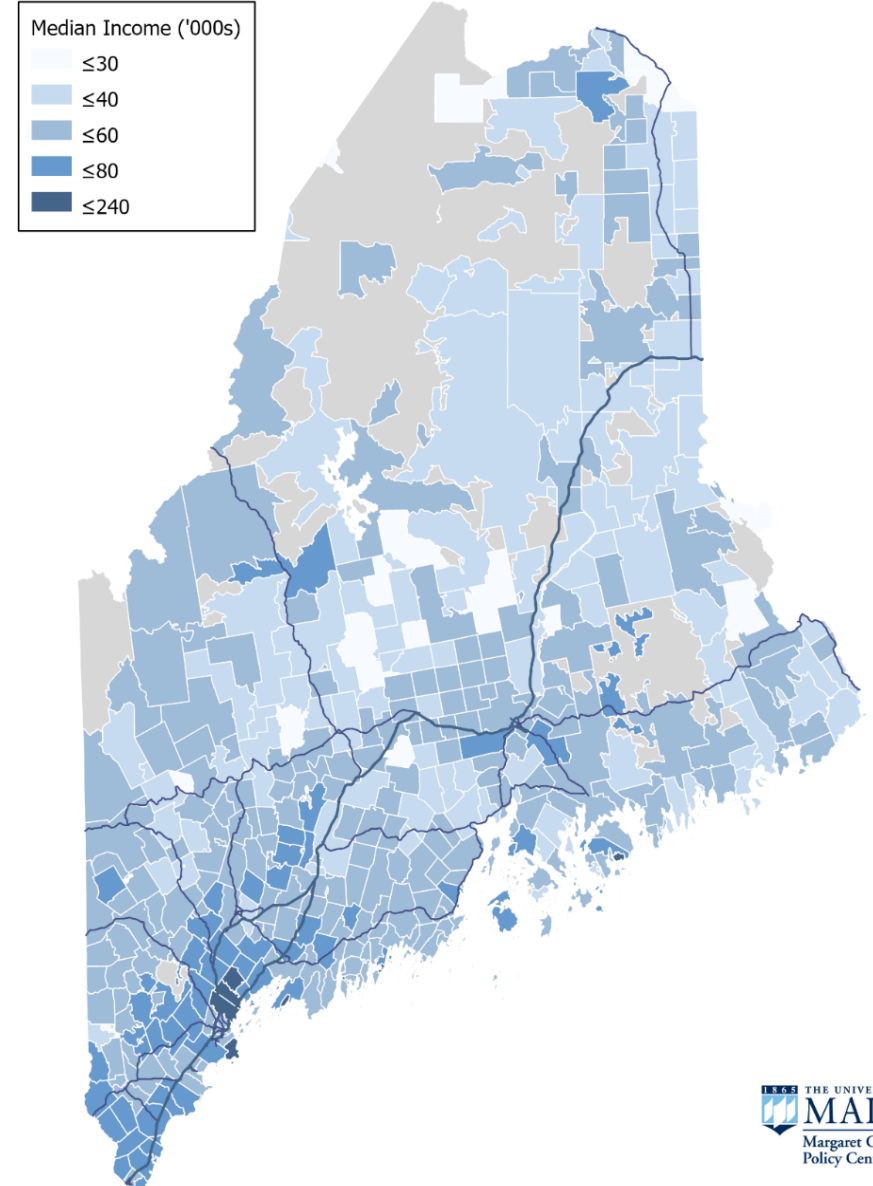


# Electric Vehicles in Maine

- Most Mainers can't afford a new EV
- New EV car buyers are wealthier and tend to have higher levels of education
- Low- and moderate-income households have greater dependence on used vehicles
- Volume of used car sales is more than double new car sales

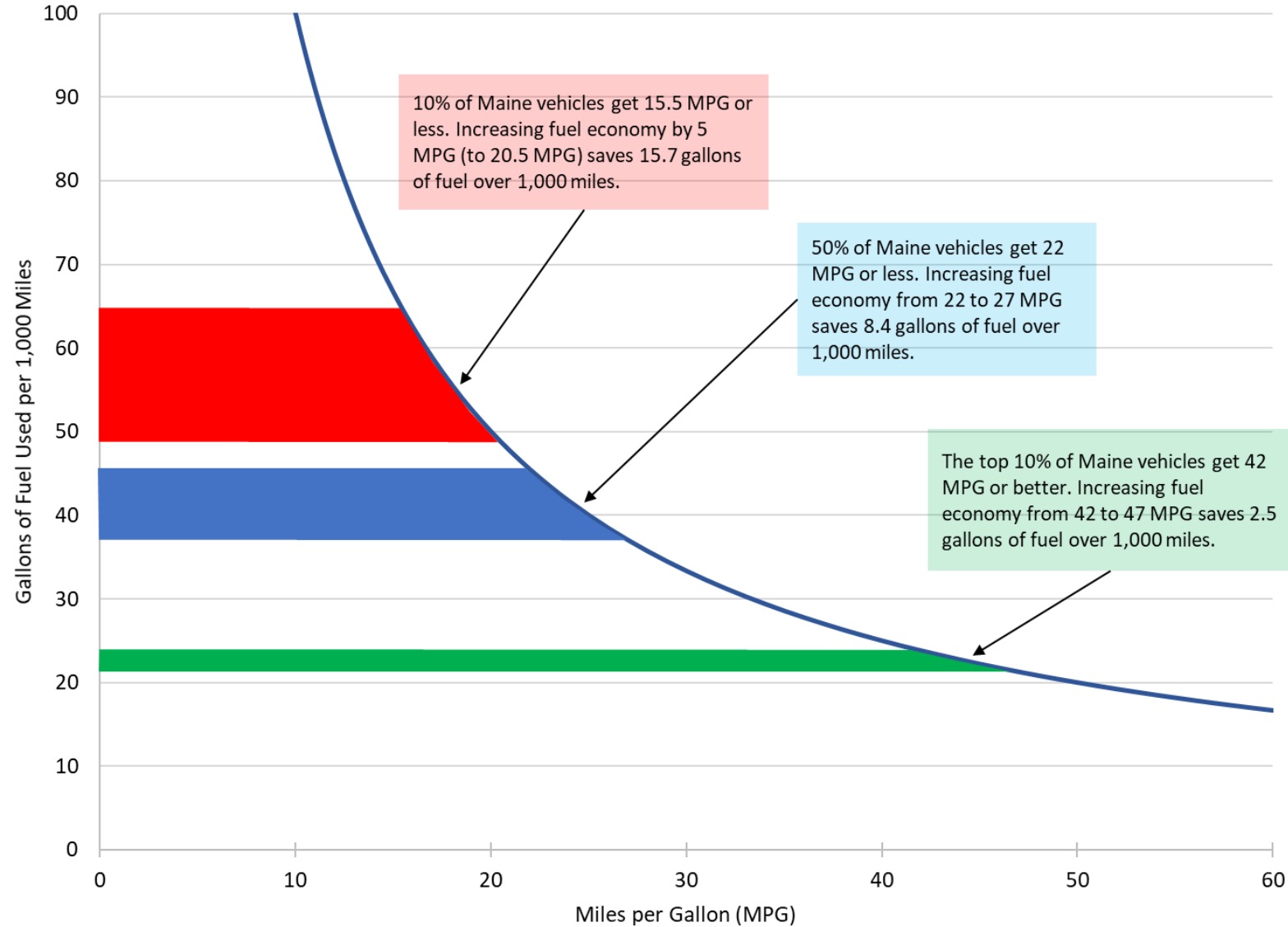
Median Household Income by Zip Code, 2014 5-year estimate

Source: American Community Survey








Raising the fuel economy of low MPG vehicles

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The relationship of MPG and fuel is not linear



# Electrification and Equity

- Targeting low-emission vehicles
- Time-limited income-eligible higher-efficiency used vehicle incentive
- Used electric vehicle incentive

Current Vehicle		Replacement Vehicle			
2011 Ford F150 2WD (8 cyl.) MPG = 13/18 		2017 Ford F150 2WD (6 cyl.) MPG = 19/26 			
Fuel Savings @ \$2.30/gal = <b>\$3,306/ 6yrs.</b>		Emissions Saved = <b>15.7 MTCO<sub>2</sub></b>		Cost to State per metric ton reduced = \$128	
2011 Chevrolet Equinox AWD MPG = 20/28 		2017 Toyota RAV 4 Hybrid AWD MPG = 34/30 			
Fuel Savings @ \$2.30/gal = <b>\$1,596/ 6yrs.</b>		Emissions Saved = <b>7.6 MTCO<sub>2</sub></b>		Cost to State per metric ton reduced = \$264	
2011 Ford Fusion FWD MPG = 23/32 		2016 Ford Fusion Energi FWD Plug-in Hybrid MPGe = 88/MPG 38 			
Fuel Savings @ \$2.30/gal = <b>\$1,728/ 6yrs.</b>		Emissions Saved = <b>18.1 MTCO<sub>2</sub></b>		Cost to State per metric ton reduced = \$111	

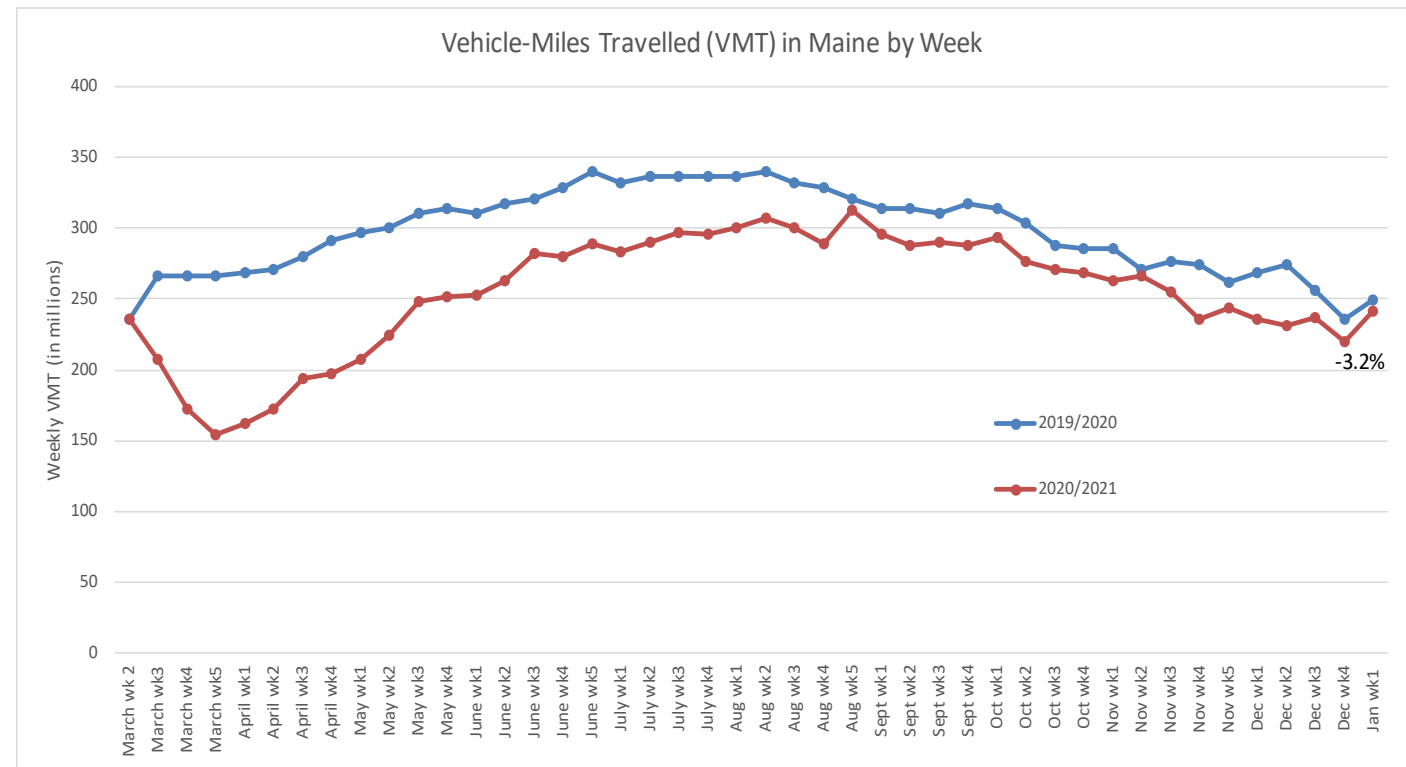
# Education and Awareness



- Misconceptions
  - Fire risk
  - Poor acceleration
  - Difficult to charge
- Availability of charging stations (level 2 and level 3)
- Charging habits – at home
- Concerns of cold weather and range
- Benefits
  - Fun to drive
  - Cost savings
  - Low maintenance

# Pandemic-related VMT Reduction

Maintain the idea of less miles traveled post-pandemic



# The Rural Solution



- Electrification (long-term)
- Used higher-efficient vehicles (short-term)
- Reducing VMT for rural drivers will be difficult. Broadband will help.
- Supplemental strategies include:
  - Walking/bicycling
  - Ride-sharing
  - Public transit

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