



MCCC Mitigation Working Group – Accelerating Light-Duty Zero Emission Vehicle Adoption in Maryland – Phase 2 – Program Design

Assistance for the Greenhouse Gas Mitigation Working Group of the Maryland Commission on Climate Change

Project funded by: The Nature Conservancy, Maryland/DC Chapter

June 15, 2023

Phase 2 Scope

- Program design for ZEV-focused dealership engagement
- **Program design to support low-income purchases of ZEVs, including used vehicles**
- Recommendations for fleet electrification technical support program
- Engage with state agencies and Mitigation Working Group as we develop those program designs

Timeline

- Today: receive MWG members' feedback on "low-income incentive" program
- Draft recommendations circulated for input by 6/16
- Receive MWG members' feedback by 6/21 as well as feedback from stakeholders that have been engaged in phase II
- Final report by 6/30
- Presentation at the July 20 MCCC meeting

Barriers for LI purchase of ZEVs

Barriers to car ownership

- Lower credit score resulting in higher interest rate and-or lack of access to financing
- Lack of financing capacity as well as potential distrust toward financial institutions and financial incentives
- Targeted vehicles not eligible for financing
- Higher insurance costs
- Lack of reliable, safe, and/or affordable parking

Barriers specific to EV

High transportation expenses associated with existing vehicle and negative feedback cycle of vehicle repairs observed in New York State (negative feedback loop)

- Lack of charging infrastructure in underserved communities, and added barriers for renters in multifamily housing
- Need for electrical upgrade for at-home L2 charging
- Higher upfront purchase cost combined with hesitation to finance (see barriers to car ownership above).
 - Perception of lease might be different
 - Low credit score remains a factor in lease monthly payments
- Tend to have only one vehicle that needs to “do it all” / increase concerns over reliability as a transportation crisis can quickly lead to dramatic consequences

Marylanders to benefit from the incentive program

Program design will aim to make EV more accessible to all Maryland households with limited and moderate incomes.

When designing, the project team will keep the specifics of the following segments in mind:

- Marylanders living in more rural areas
 - Rural areas correlate in part with high-concentration of limited-income areas (see next slide)
 - These households are more likely to be car-dependent and drive long distance for work
- Marylanders in urban/suburban areas that are highly car dependent. E.g.,
 - rideshare drivers who are likely to fit within the scope of an income-based definition
 - Workers who cannot access or maintain employment without a personal vehicle

Marylanders to benefit from the incentive program

Available census data shows that in Maryland, 75% of workers living below 150-percent of the Federal Poverty Line (FPL) are car-dependent and 62% are driving alone for work. This percentage is higher in suburban and rural areas.

	Total below 150% FPL		car, truck, van - drive alone		car, truck, van - carpool		Total car dependent for work	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Total	217,882		135,170	62%	27,450	13%	162,620	75%
Anne Arundel Co.	18,084		12,433	69%	2,520	14%	14,953	83%
Baltimore Co.	31,614		20,047	63%	3,460	11%	23,507	74%
Frederick Co.	7,082		4,842	68%	645	9%	5,487	77%
Harford Co.	6,894		3,632	53%	1,124	16%	4,756	69%
Howard Co.	8,893		5,680	64%	1,407	16%	7,087	80%
Montgomery Co.	34,579		18,351	53%	4,706	14%	23,057	67%
Prince George's Co.	32,254		19,132	59%	3,542	11%	22,674	70%
Washington Co.	8,381		5,942	71%	1,466	17%	7,408	88%
Baltimore City	35,880		19,395	54%	4,577	13%	23,972	67%

Income based definitions

- The program will rely on **self-certification** for income-verification
 - Enforcement through “spot checking”
 - The program will publish income guidelines based on a household annual AGI and list of programs (e.g., SNAP) that can be used as a proxy to determine eligibility for “low-income” incentive.
- **“Low-income”** households earn less than **60% of the Area Median Income**
- **“Moderate-income”** households earn less than **80% of the Area Median Income**
- **28% of Maryland households would be eligible for a State incentive** when combining “Moderate-income” and “Low-income” segments.

	200% Federal Poverty Line (FPL)	60% AMI (Statewide)	300% FPL	80% AMI (statewide)
Income level for a 4-person household	\$60,000	\$70,500	\$90,000	\$89,400
Number of Maryland families below poverty ratio	259,047		426,200	
Percentage of Maryland families	17%		28%	

Program objectives

The program will **provide Marylanders with limited financial resources greater access to clean and affordable vehicles**. The associated theory of change is as follow

From near-term to long-term effects

Shift attitudes and market access to normalize ZEV usage among households with limited financial resources

Increase proportion of EV drivers who have limited financial resources

Increase affordable, healthy mobility for households who are necessarily car-depend and living with limited financial resources

Ensure more equitable distribution of the benefits of ZEVs

key strategies for success

- Stack incentives (i.e., combine sales tax exemption, federal credit, State and cash for clunker incentives)
- Strengthen programmatic synergies across State Agencies, social service providers, non-profits and local governments
- Integrate and-or coordinate with wrap-around social services (financial coaching, workforce development, ...)
- Address financing need and barriers; ensure incentives and financing products are compatible with leasing model.
- Prioritize partnerships with community-based organizations and leverage marketing approach tailored to the specifics of the LMI segment; at the same time ensure marketing and outreach account for the diversity of this segment.
- Develop implementation plan with the input of a large set of stakeholders
- Explore opportunities for corporate partnerships with rideshare companies

Key incentive design features

Eligible vehicles

- Align with eligibility criteria in place for the [federal tax credit](#). Starting in 2024 federal tax credits will be transferable to dealers at the point of sale so that it can directly reduce the purchase price and benefit households with limited to no tax liability ([source](#)).
- Used vehicles should be eligible.
- Plug-in hybrid are more affordable than all-electric vehicles and should be eligible. As with the federal tax credits, plug-in hybrid should be eligible to the same incentive amount than full electric vehicles.

Incentive delivery

- At point of sale through participating car dealers, with guaranteed dealer reimbursement in a minimum time period (e.g., <30 days)
- Requiring minimal necessary paperwork for buyer/leaser and dealer and address potential barriers to access such as language
- Ensure incentive is not taxable income and able to be directly passed to the end-user, including via a leasing model
- A point-of-sale State incentive should be designed to work in tandem with a sales tax exemption as both apply at the point of sale.

Key incentive design features

Duration of the program

Certainty on the availability of financial incentives is key to the success of a program. This implies:

- Program administrators should anticipate the risk associated with incentive “stop-and-go”
- The need to find a stable source of funding for the program and to avoid linking the program with the annual budget process for approval and continuation.
- A program should be set to operate for at least 2 to 4 years. Budget should be sufficient and determined based on (a) expected demand for incentives and (b) incentive amount to avoid the negative impact associated with “stop-and-go” effects.

Estimating incentive amounts

A State incentive amount should be set at a level that (a) account for other available incentives (b) allows to bring the cost of eligible vehicles within an “affordable” range.

	60% AMI	80% AMI
Annual income for a 4-person household	\$70,500	\$89,400
“Affordable” total transportation costs (10% of annual income)	\$588	\$754
Monthly payment capacity (loan or lease) after deducting fuel, maintenance, repair and insurance for a Chevrolet EV Bolt	\$322	\$479

State incentive(s) amount

The following model proposes to combine a sales tax exemption with federal and state incentives to reduce the cost of a ZEV and mitigate the cost barrier households with limited resources face to adopt these vehicles.

A “base” State incentive provides the same dollar amount for new/used and EV/PHEV vehicles. A “low-income adder” allows to provide greater incentive amount to households who earn less than 60% AMI.

State “base” incentive	New vehicles (EV or PHEV)	Used vehicles (EV or PHEV)
Moderate-income households (up to 80% AMI)	\$4,000	\$4,000
Low-income households (up to 60% AMI)	\$6,000	\$6,000

To further incentivize replacement of old non-electric vehicle by ZEV a “replace your ride” or “cash for clunker” incentive is offered.

State “cash for clunker” incentive	New vehicles (EV or PHEV)	Used vehicles (EV or PHEV)
Moderate-income households (up to 80% AMI)	\$4,000	\$0
Low-income households (up to 60% AMI)	\$5,500	\$0

Example of incentive and financing stacking

	For a new EV (e.g., Chevrolet Bolt)		For a used PHEV (e.g., Prius Prime)	
	Low-income household	Moderate-income household	Low-income household	Moderate-income household
Vehicle acquisition cost	\$30,000	\$30,000	\$15,000	\$15,000
Federal tax credit	\$7,500	\$7,500	\$4,000	\$4,000
State “base” incentive	\$6,000	\$4,000	\$6,000	\$4,000
State “Replace your ride” incentive	\$5,500	\$4,000		
Total State incentives	\$11,500	\$8,000		
Remaining cost	\$11,000	\$14,500	\$5,000	\$7,000
Monthly payment (if financing at 11%)	\$240	\$315	\$108	\$152
Monthly payment (if financing at 3%)	\$198	\$260	\$90	\$126

Incentive and financing stacking – impact on affordability

	For new EV (e.g., Chevrolet Bolt)		For a used PHEV (e.g., Prius Prime)	
	Low-income household	Moderate-income household	Low-income household	Moderate-income household
Monthly payment (if financing at 11%) after incentives	\$240	\$315	\$108	\$152
Total transportation cost per month (adding fuel, maintenance and repair, insurance to monthly payment)	\$634	\$709	\$556	\$600
Total transportation cost per month for a \$8,000 gas vehicle (financed at 11%)	\$729	\$729	\$729	\$729
Monthly savings ZEV compared to gas	\$95	\$20	\$173	\$129

Estimation given for 20,000 miles per year