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# NY Drive Clean Rebated Vehicle Characteristics through 2023

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with thanks to J. Bowers, A. Thang, and others at the Center for Sustainable Energy (CSE)



NYSERDA

# Outline

## What vehicles are being rebated?

- by vehicle type, make, model, buy/lease
- by MSRP
- Summary

## Appendix

# Headlines: 2023 Purchases/Leases

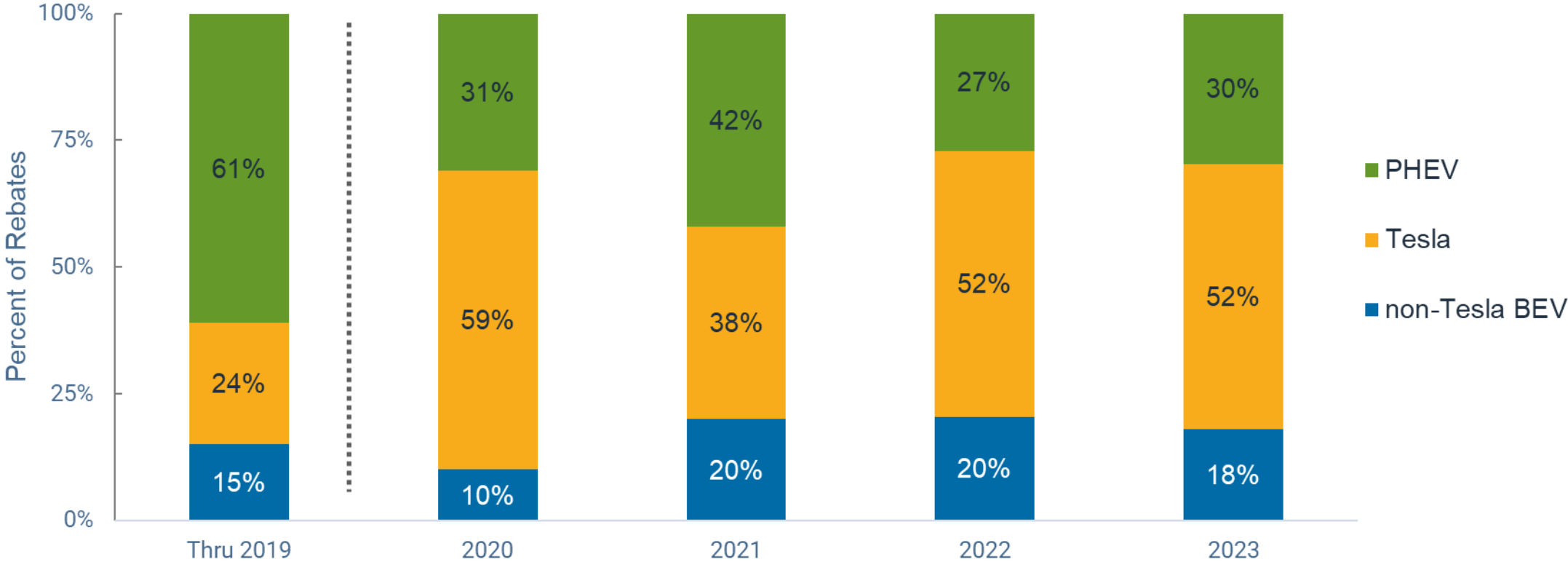
- Still dominated by Tesla (50% of funding, 52% of rebates) and \$500 rebates (51% of funding, 78% of rebates)
- MSRPs converged toward \$40–50k (as Model Y prices fell)

# What vehicles are being rebated?

- **by vehicle type, make, model,  
buy/lease**
- **by MSRP**

# Since 2020, the majority of rebates went to BEVs

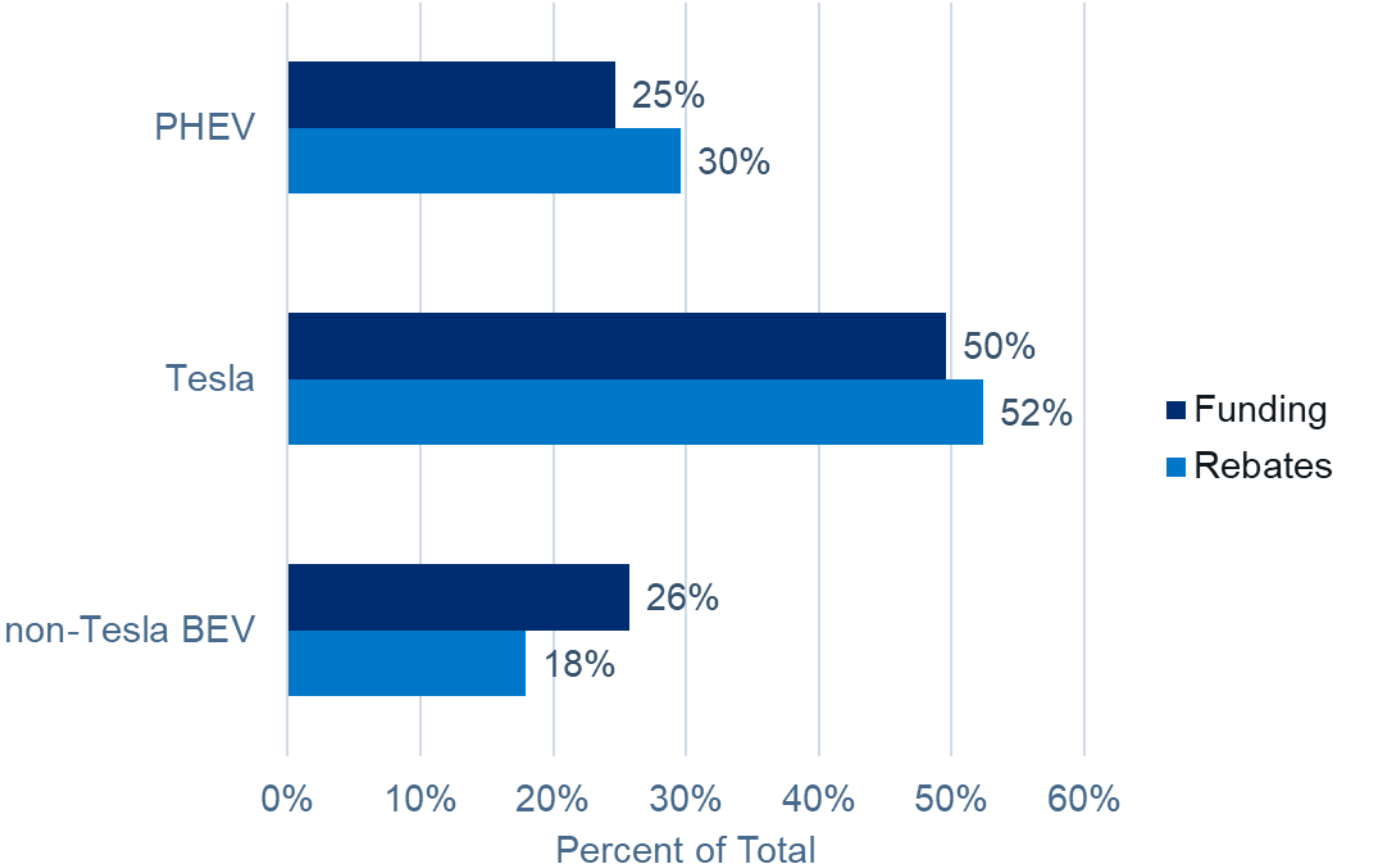
Most were **Tesla**, which we analyze separately



Based on the year of purchase/lease. 2017–19 values for DCRP are from: B.D.H. Williams (2021), [An Electric-Vehicle Consumer Segmentation Roadmap: Strategically Amplifying Participation in the New York Drive Clean Rebate Program](#), NYSERDA Report 21-30.

# Vehicle Technology Type: Rebates vs Funding

2023 purchases/leases

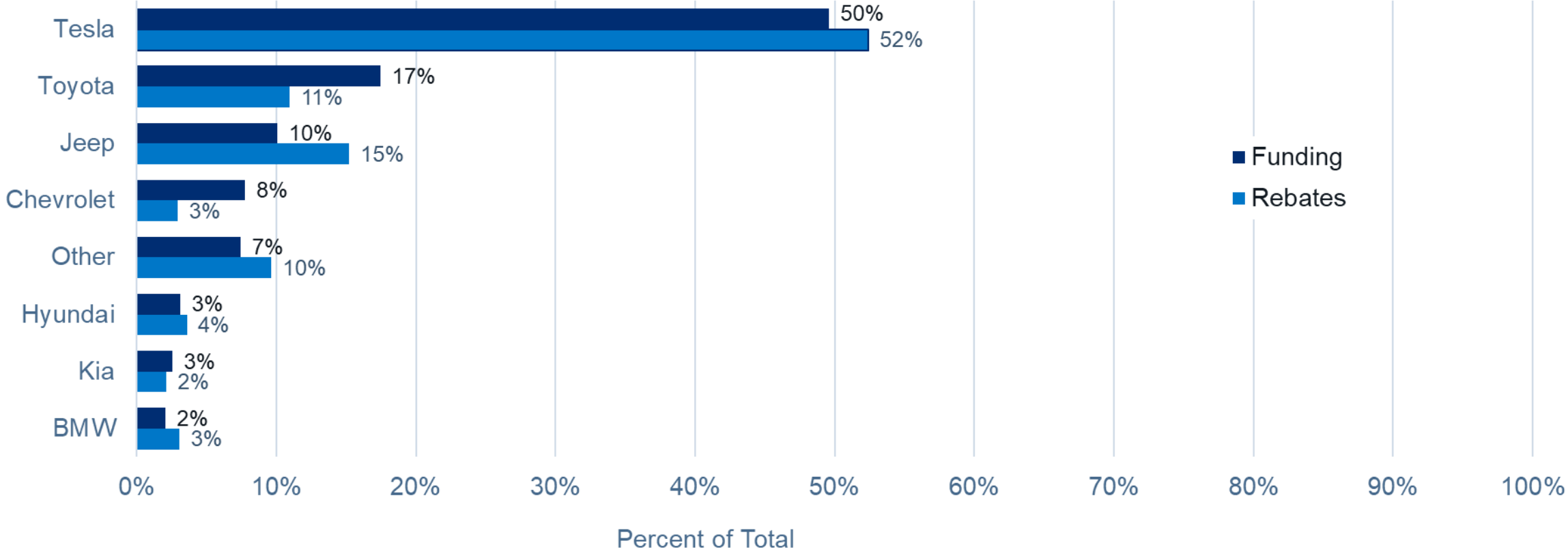


## Funding percentages often tell a different story

- Less about the market and more about the program and its beneficiaries
- Difference important because of prevalence of \$500 rebates

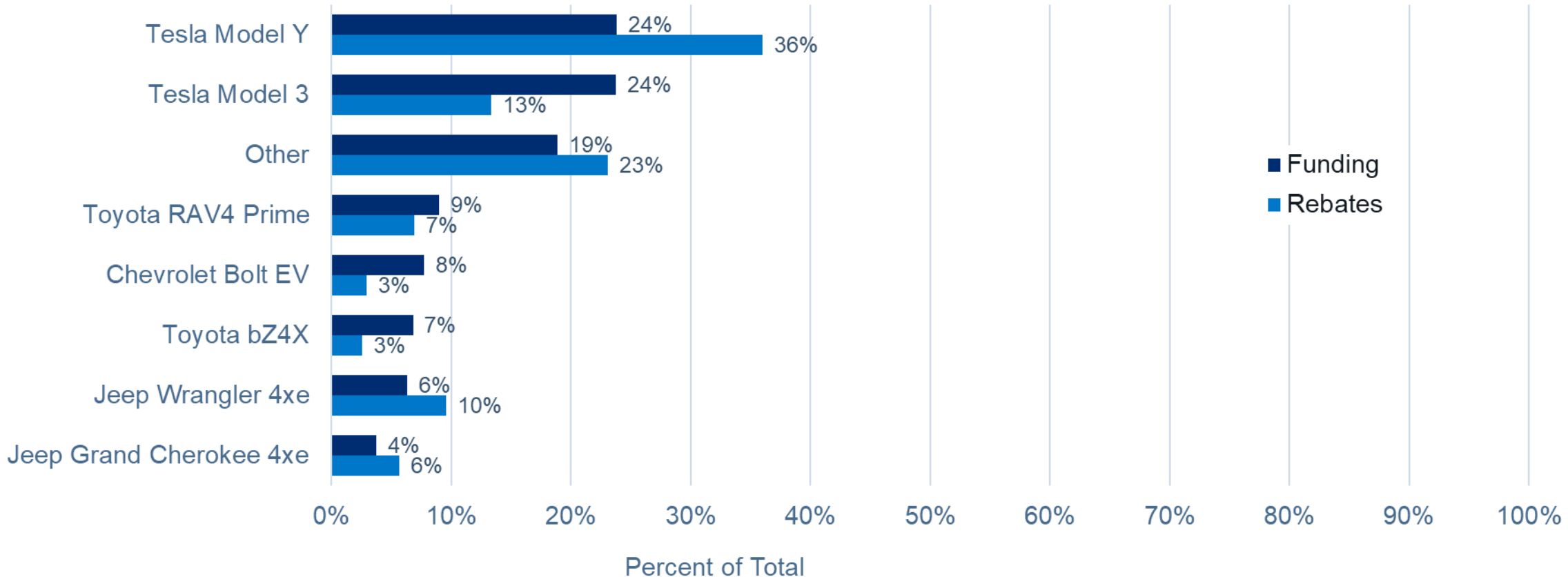
# Toyota & Chevrolet products received more per rebate; Jeep products less Tesla maintained its 2022 rebate share; Hyundai's fell

Funding & Rebates by Vehicle Make (2023 purchases/leases)



# Model Y share continues to lead, but lower priced, longer-range BEVs & PHEVs receive the most per rebate (Model 3, RAV4 Prime, Bolt, and bZ4X)

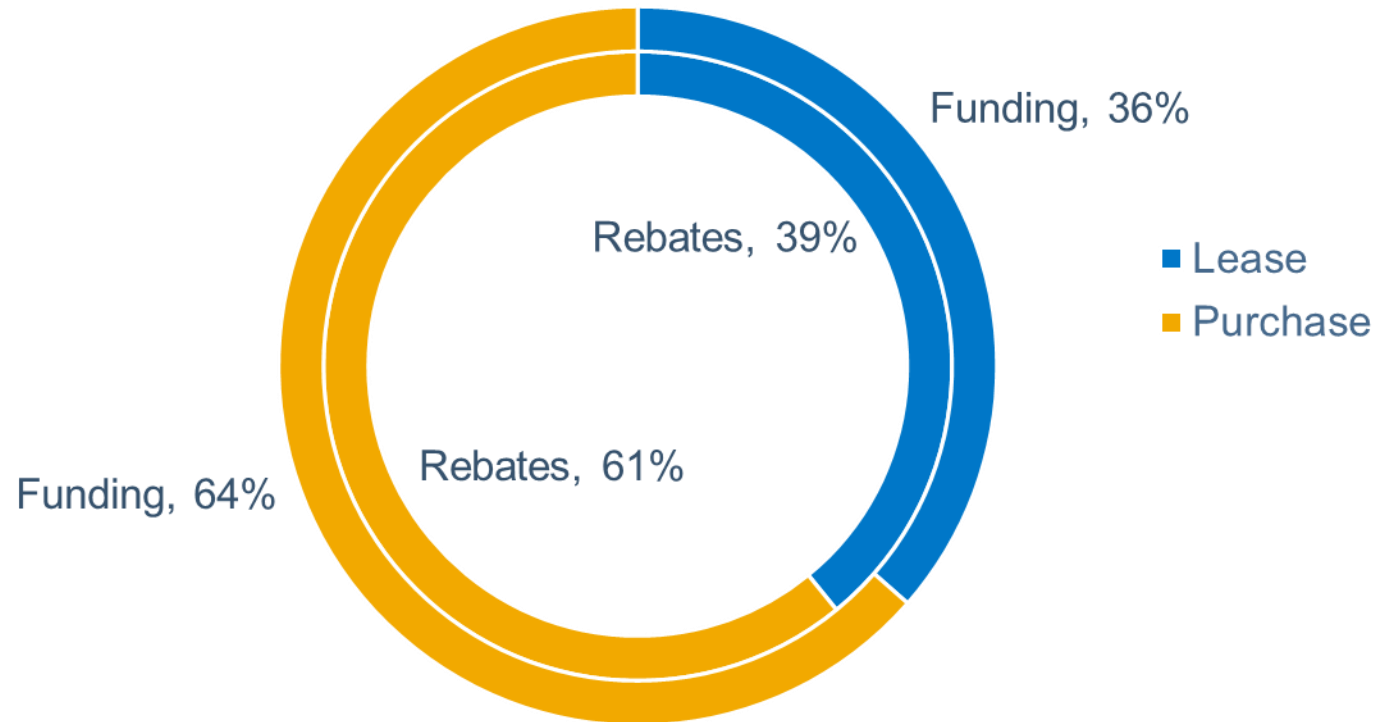
Funding & Rebates by Vehicle Model (2023 purchases/leases)



# Most funding & rebates went to purchased vehicles

However, leases nearly doubled from 19% of rebates in 2022, restoring historical balance  
(Federal-tax-credit “leasing loophole” for foreign-assembled vehicles at work?)

Funding & Rebates by Purchase vs Lease (2023 purchases/leases)

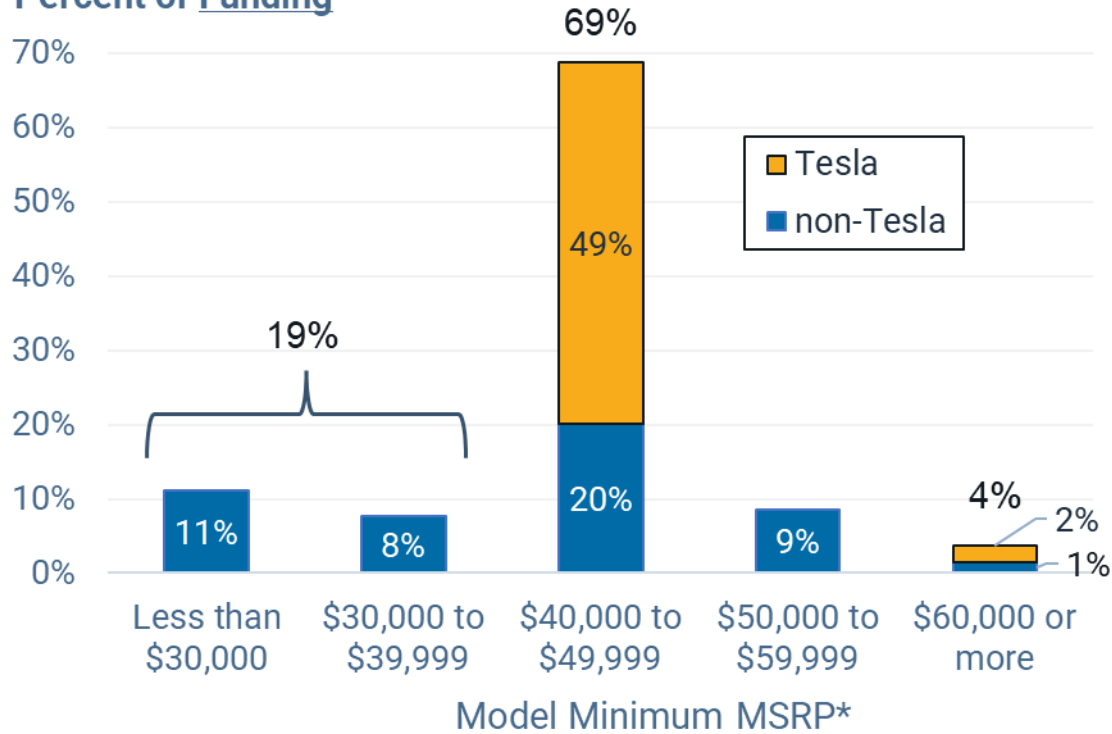


# Prices shifted toward \$40–49k category as Model Y prices decreased

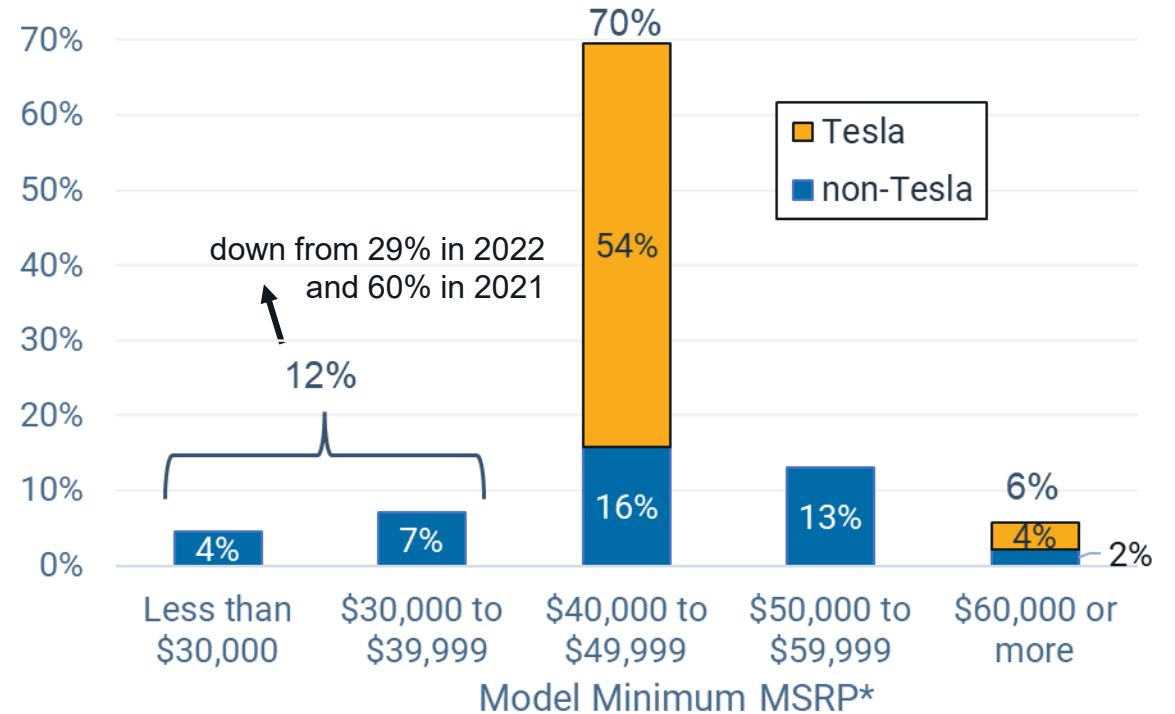
## But MSRP's are complicated

Rebated *model year 2023* vehicles (purchased/leased 5/22–7/24, N = 50,394)

Percent of Funding



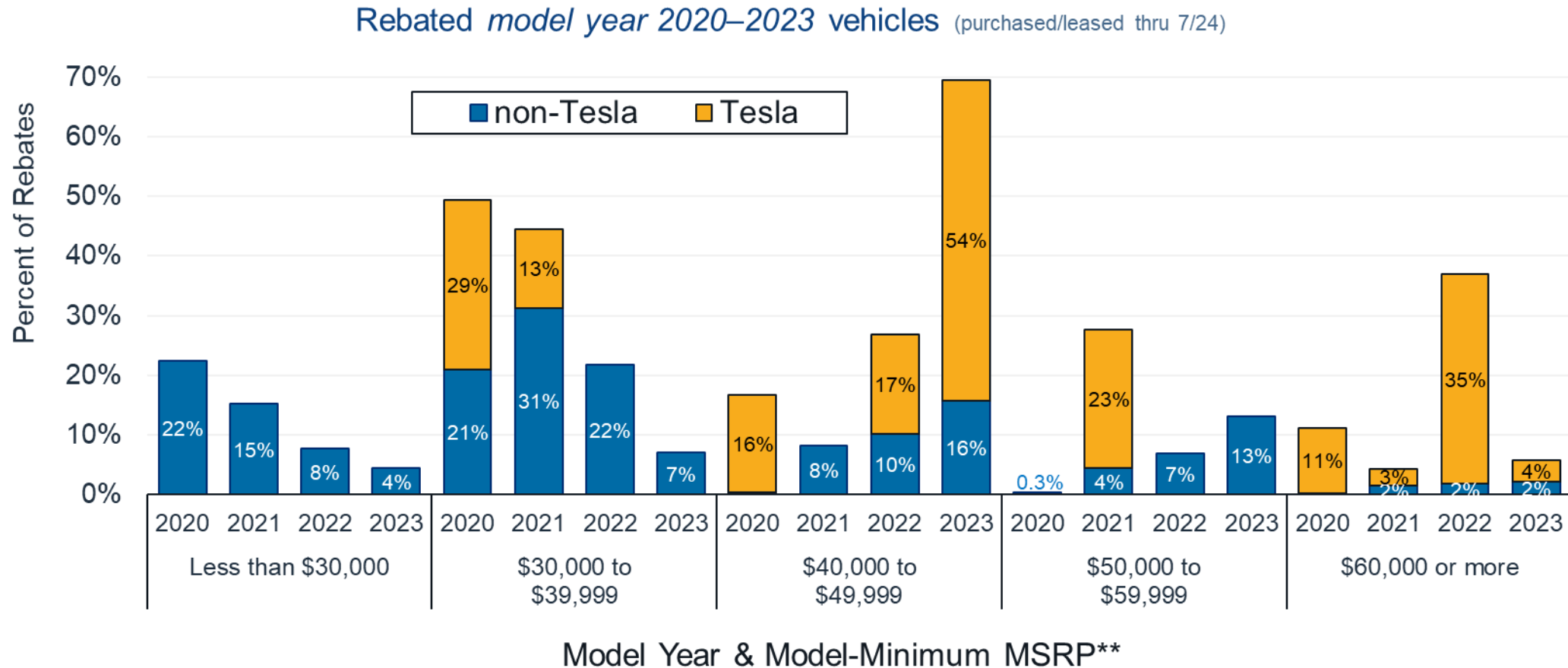
Percent of Rebates



\*Each vehicle was assigned the minimum Manufacturer's Suggested Retail Price (MSRP) for that model on fueleconomy.gov and does not reflect sale price. Where model year (MY) 2023 MSRPs were unavailable, MY 2022 MSRPs or MY 2024 MSRPs were used. Tesla MSRPs frequently changed within MY 2023 and were assigned as follows: Models 3 & Y = \$40–49k, Models S & X = \$60k or more.

# Prices shifted up, then toward \$40k category over time

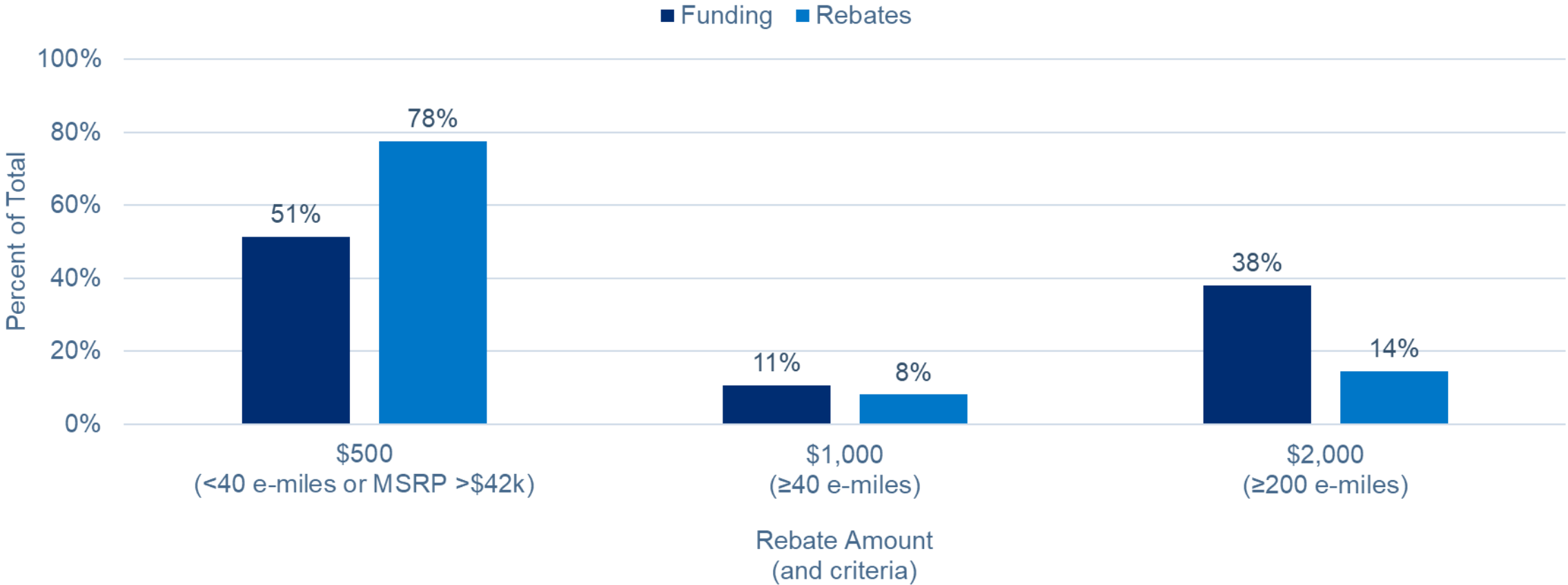
Decreasing manufacturing costs don't always mean decreasing retail prices, incentives remain important\*



\* See slide 12 from [“CVRP 2020 Data Brief: MSRP Considerations”](#)

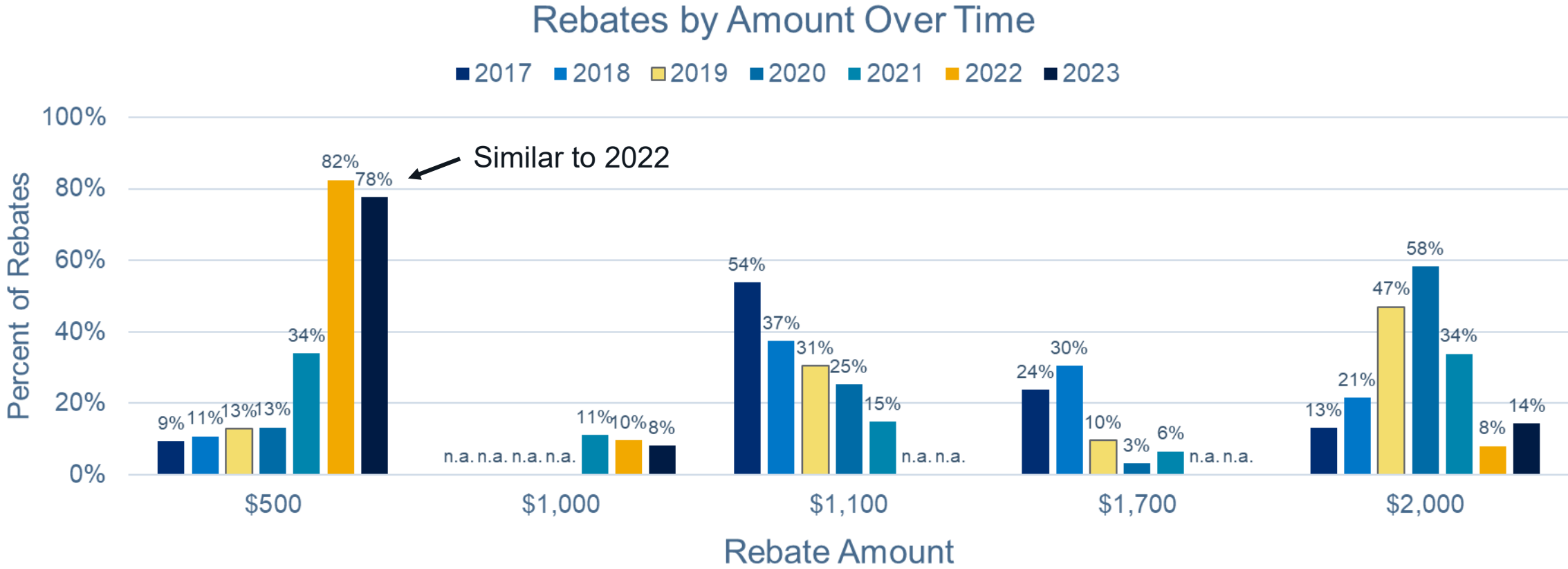
\*\*Assigned as described on previous slide.

# Most rebates (and ½ of funding) fell outside the thresholds for e-miles or MSRP 2023 purchases/leases



# The program has shifted dramatically toward \$500 rebates

These rebates acknowledge EV adoption, but have lower influence\*



\* See “Rebate Influence through 2023 and Designing for Cost-Effectiveness”  
Excludes 12 rebates with irregular amounts (< 0.1% of rebates).

# Summary of Vehicle Findings for 2023 Purchases/Leases

## Headline

- The Model Y (at lower prices) and \$500 rebates continued to dominate in 2023

## Vehicles Rebated

- Most program funding went to Tesla's Model Y and Model 3
  - Tesla comprised 52% of rebates, 50% of funding
- Prices converged toward \$40–50k as Model Y prices decreased
- \$500 rebates (vehicles beyond the thresholds for e-miles or MSRP) continued to dominate: 78% of rebates and 51% of funding
  - Only 12% of rebates (and 19% of funding) went to models with minimum MSRP <\$40,000 (before incentives)
  - 12% rebate share down from 29% in 2022 and 60% in 2021
- Leased share increased to 39% of rebates, returning to historical balance
  - Up from 19% in 2022
  - Presumably related to Federal Tax Credit “leasing loophole” for foreign-assembled vehicles

# Appendix

- **Acronyms**
- **Additional Details**
- **Resources**

# Acronyms

**BEV – Battery Electric Vehicle**

**DCRP – Drive Clean Rebate Program (statewide)**

**e-mile – EPA-rated all-electric mile of driving range**

**EPA – U.S. Environmental Protection Agency**

**EV – Electric Vehicle (including PHEVs and BEVs; FCEVs not in the data)**

**FCEV – Fuel-Cell Electric Vehicle**

**MSRP – Manufacturer's Suggested Retail Price**

**MY – Model Year**

**N.A. – Not Applicable**

**NY – New York State**

**PHEV – Plug-in Hybrid Electric Vehicle**

# Rebate design shapes outcomes

Program design changed mid-2021

Category	Purchase/lease dates <u>through</u> June 30, 2021	Purchase/lease dates <u>after</u> June 30, 2021
Fuel-Cell EVs*, All-Battery EVs (BEVs), and Plug-in Hybrid EVs (PHEVs)	≥ 120 e-miles <sup>†</sup> : \$2,000 ≥ 40 e-miles: \$1,700 ≥ 20 e-miles: \$1,100 < 20 e-miles: \$500	≥ 200 e-miles: \$2,000 ≥ 40 e-miles: \$1,000 < 40 e-miles: \$500
Misc.	MSRP > \$60,000 = \$500 Point-of-sale	MSRP > \$42,000 = \$500 Point-of-sale

\* FCEVs eligible but unavailable in NY; none rebated. † Electric miles (e-miles) are U.S.-EPA-rated all-electric miles.

# Program data: a large number of applications and surveys

Survey data statistically represents all participants

Vehicle Purchase/Lease Dates	Annual →					Total
	3/23/2017 – 12/31/2019	1/2/2020 – 12/31/2020	1/1/2021 – 12/31/2021	1/2/2022 – 12/31/2022	1/1/2023 – 12/31/2023	
Survey Responses ( <i>n</i> ) <sup>¶</sup>	5,474	3,480	5,087	5,472	7,225	26,738
Program Applicant Population ( <i>N</i> ) <sup>§</sup>	21,843	13,038	23,098	27,187	46,237	131,403
Program as % of Market *	~56%	~72%	~65%	~66%	~61%	~63%

¶ Subsequently weighted to represent the program population along the dimensions of vehicle technology (PHEV vs. BEV), model, buy vs. lease, and county.

§ Small numbers of rebated vehicles are not represented in the time frames due to application lags.

\* Based on approximate comparisons to total EV sales from [Autos Innovate EV Dashboard](#) (AAI & CSE 2024).

# NY Drive Clean Rebates: Select Related Analysis



## Rebate Impacts (DCRP Resources)

- Williams, B.D.H. and Pallonetti, N. (2024, Mar.). [Presentation: “NY Drive Clean Rebate: Vehicle Replacement & Rebate Influence thru 2022.”](#) New York State Drive Clean Program (DCRP), NYSERDA. [Slides](#).
- ❖ B.D.H. Williams and N. Pallonetti (2023, Mar.), [New York State’s Drive Clean Rebate for Electric Vehicles: Measures of Impact](#), for procs. *36th International Electric Vehicle Symposium (EVS36)*, EDTA, Sacramento CA, USA. [Paper](#). [CSE paper posting](#). [Slides](#).
- B.D.H Williams and N. Pallonetti (2022, Jun), Presentation: “NY Drive Clean Rebate: Select Impacts thru 2020 (and Lessons from Other State Electric Vehicle Programs),” Internal Presentation for NYSERDA, presented on 1 Sep. 2022.

## Consumer Segmentation (NYSERDA Contract 66267 & Derivative Products)

- ❖ B.D.H. Williams and J.B. Anderson (2024, May). [Expanding Electric Vehicle Adoption in Disadvantaged Communities](#). *Transportation Research Record: Journal of the Transportation Research Board*. <https://doi.org/10.1177/03611981241242753>. [Paper](#). [CSE posting](#). Open-access data-summary [appendix](#). TRB 2024 [slides](#).
- B.D.H. Williams (2024, Jan. 9). [Presentation: “Amplifying Electric Vehicle Adoption in Disadvantaged Communities, Consumer Segmentation Roadmaps, and Additional Equity Considerations.”](#) *103rd Annual Meeting of the Transportation Research Board*. NASEM, Washington DC, USA. [Slides](#). [TRB posting](#).
- ❖ B.D.H. Williams and J.B. Anderson (2022, Sep.), [From Low Initial Interest to Electric Vehicle Adoption: “EV Converts” in New York State’s Rebate Program](#), *Transportation Research Record: Journal of the Transportation Research Board*. <https://doi.org/10.1177/03611981221118537>. [Paper](#). Open-access [data-summary supplement](#).
- ❖ B.D.H. Williams (2022, Jun.), [Targeting Incentives Cost Effectively: “Rebate Essential” Consumers in the New York State Electric Vehicle Rebate Program](#), for procs. *35th International Electric Vehicle Symposium (EVS35)*, AVERE. [Paper](#). [Slides](#).
- ❖ B.D.H. Williams (2021, Oct.), [An Electric-Vehicle Consumer Segmentation Roadmap: Strategically Amplifying Participation in the New York Drive Clean Rebate Program](#), NYSERDA Report 21-30, [Clean Transportation Reports](#). Also linked to [ResearchGate](#).

## Incorporated Into Multi-state Analysis

- B.D.H. Williams (2021, Jul. 28), [Presentation: “Data from Statewide Electric Vehicle Rebate Programs: Vehicles, Consumers, Impacts, and Effectiveness,”](#) *Collaboration for ZEV Success*, Multi-state ZEV Task Force and Alliance of Automotive Innovation. [Slides](#). [CSE posting](#).
- B.D.H. Williams (2020, Dec.), [Presentation: “EV Purchase Incentives: Program Design, Outputs, and Outcomes of Four Statewide Programs with a Focus on Massachusetts,”](#) *Behavior, Energy & Climate Change Conference 2020*, ACEEE, UC Berkeley CIEE, and SEEPAC. [Slides](#). [CSE posting](#).
- B.D.H. Williams (2019, Oct.), [Presentation: “Transportation Electrification: Incentives.”](#) *REV2019 Conference*, Burlington VT. [Slides](#). [CSE posting](#).
- Williams, B. D., & Jones, M. (2018, June 20). [Presentation: “Electric Vehicle Rebates: Exploring Indicators of Impact in Four States.”](#) *EV Roadmap 11 Conference*. [ResearchGate DOI](#). [CSE posting](#).

Reverse chronological within each section, as of 5/2024. Key resources marked with a diamond bullet.

# For More Information

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