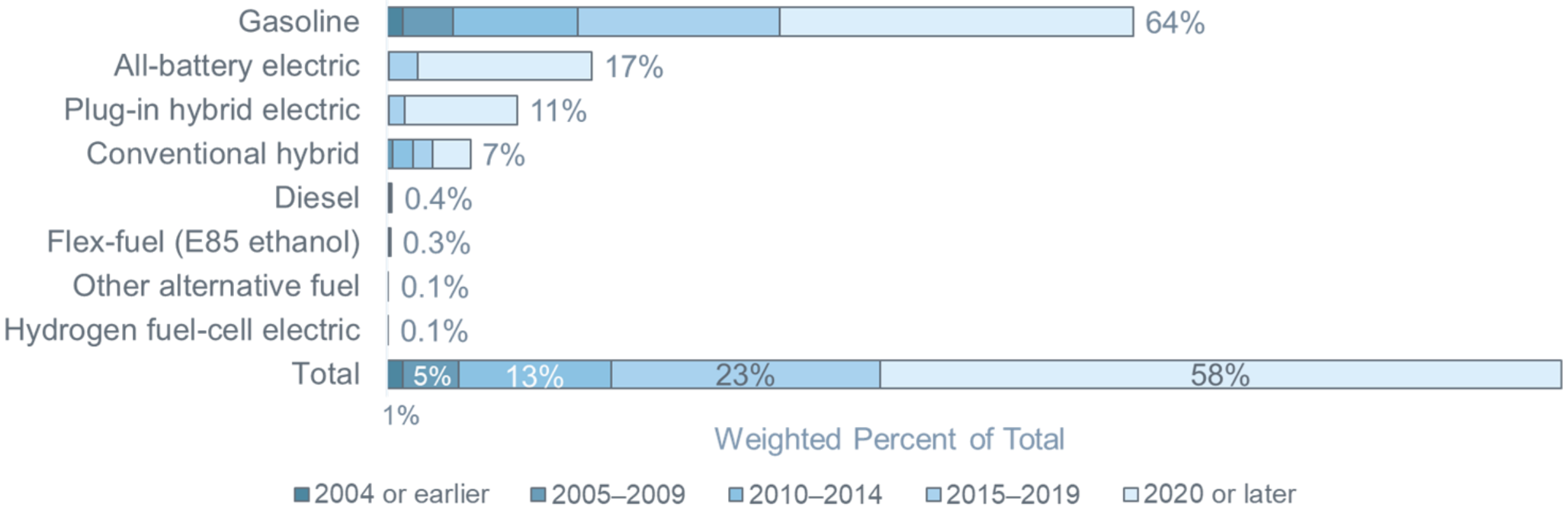


NY Drive Clean Rebate: Vehicle Replacement through 2024

July 2025

Brett Williams, PhD – Principal Advisor, EV Programs, CSE

Nicholas Pallonetti – Senior Research Analyst, CSE

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

NEW YORK STATE | NYSERDA

Overview

Scope

- Characterizes vehicles replaced by EVs rebated by the NY Drive Clean Rebate Program through 2024
  - Utilizes 5,593 survey responses weighted to represent 45,443 program participants (see Appendix)
  - Examines vehicle replacement rates and replaced-vehicle types and ages
  - Examines trends over time, highlights 2024

Context: 2024 Rebates

- Tesla rebate share (41%) lowest since 2021
- Leases continued increasing drastically

Vehicle Replacement Highlights

- Replacement rate **increased to 83%**
- **>70%** of replaced vehicles **were gasoline-fueled**
- **1/5th** of replaced vehicles were **10+ years old**

Outline

Context: Rebated Vehicles

Are rebates impactful?

- Vehicle Replacement Rates
- Replaced Vehicle Types & Ages

Wrap Up

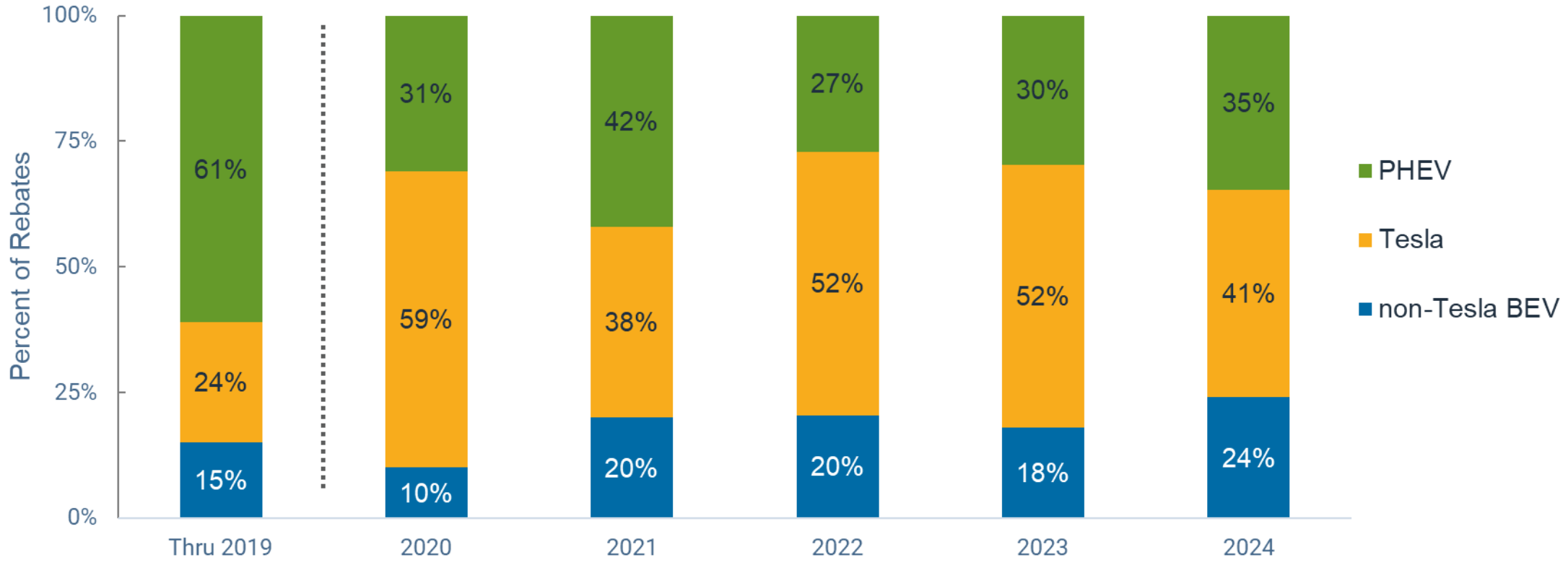
Appendix

Context

- **Rebated Vehicle Characteristics**

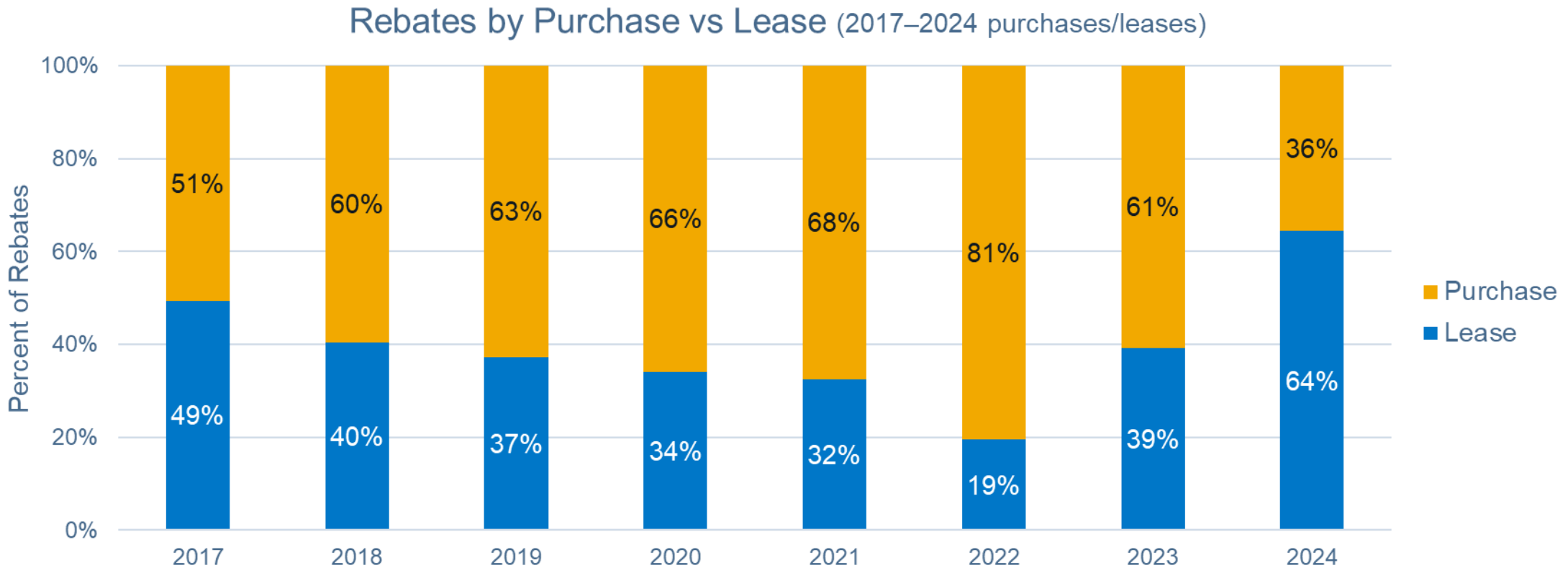
(for program-design and -data context, see Appendix)

Tesla rebate share lowest since 2021



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.

In a rapid reversal, leases became the majority of rebates for the first time in 2024



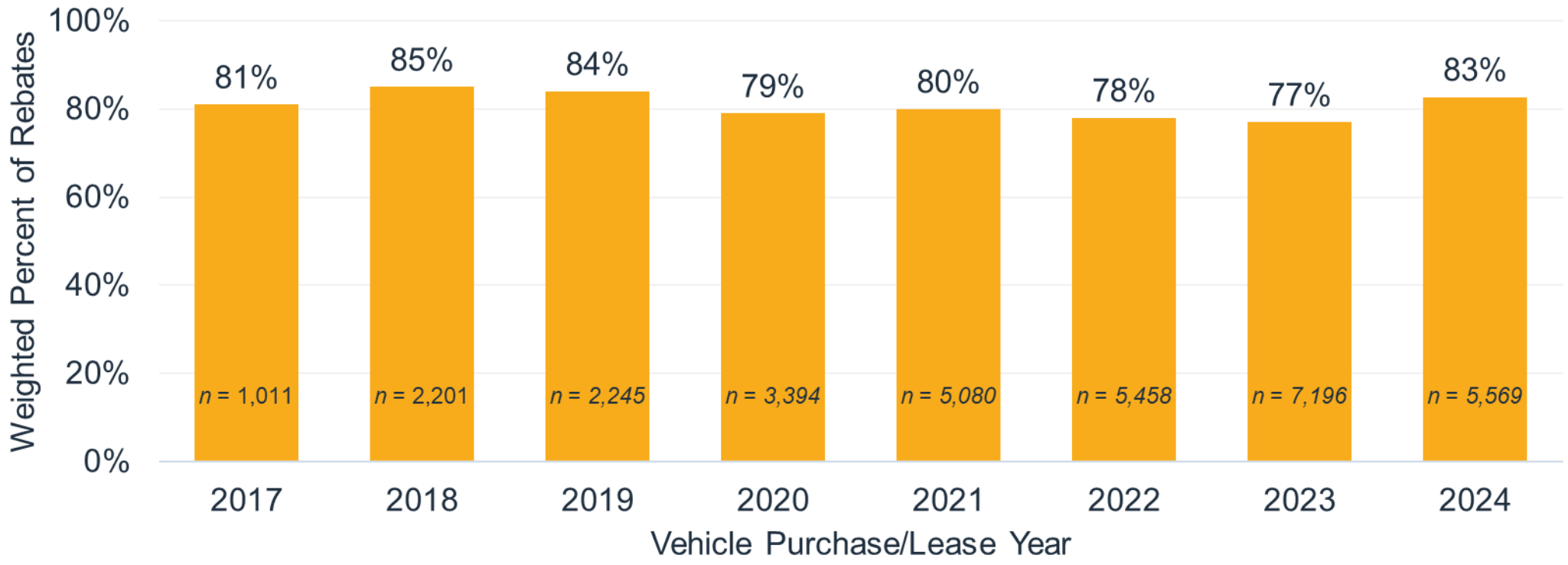
Includes applications approved as of 4/15/2025.

Are rebates impactful?

- **Vehicle Replacement Rates**
- **Replaced Vehicle Types**

Vehicle replacement has remained high, increased in 2024

Replaced a vehicle with their rebated *plug-in EV*

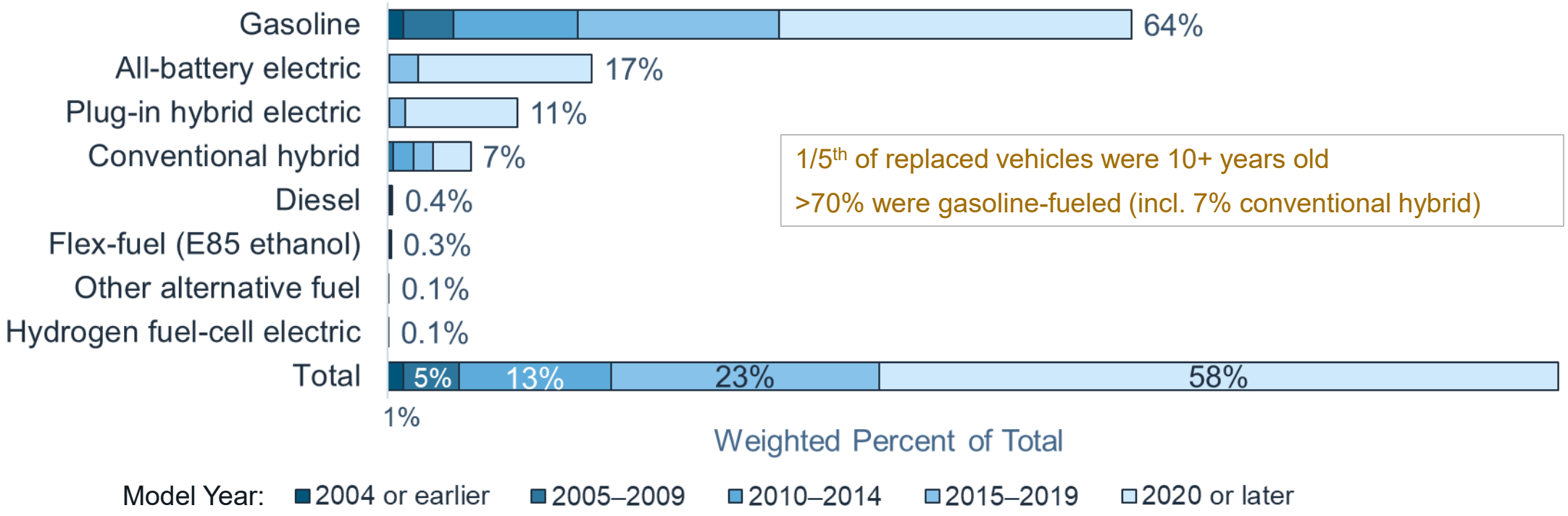


NY DCRP Adoption Survey.
n-values are filtered and question-specific. 2020–2024 weights specific to 2020–2024 purchases/leases, respectively.

Rebated EVs are replacing older, more polluting cars

2024 purchases/leases

"Please describe your previous car that you replaced (or plan to replace) with your new electric car."



1/5th of replaced vehicles were 10+ years old

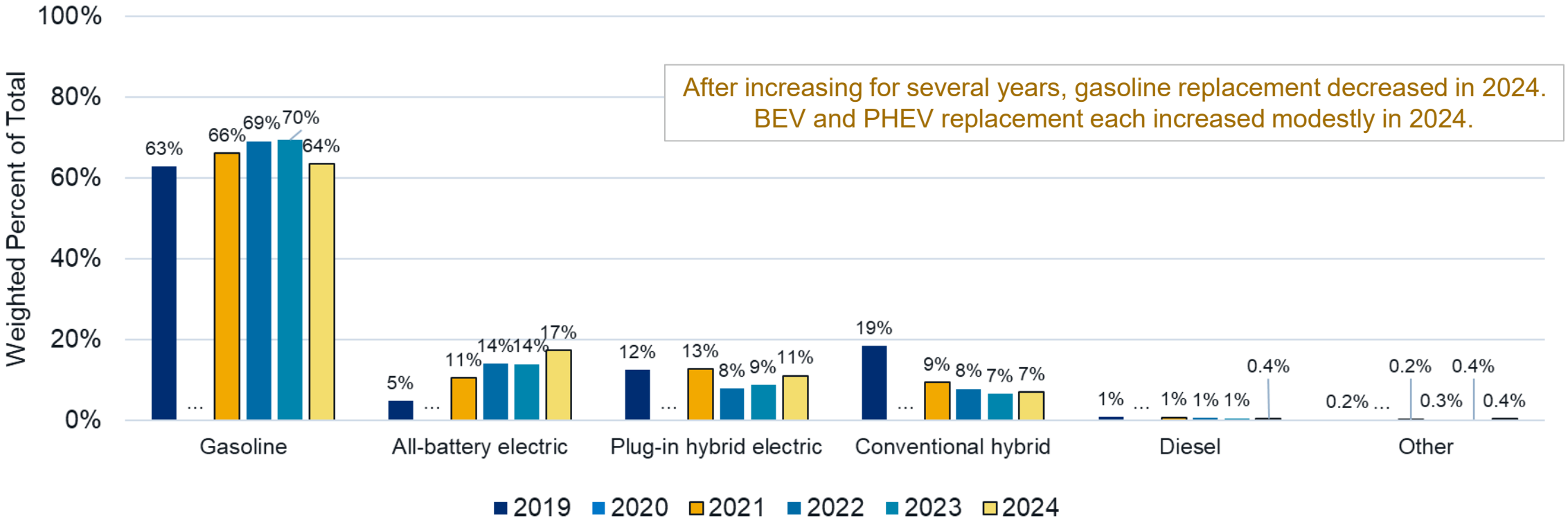
>70% were gasoline-fueled (incl. 7% conventional hybrid)

NY DCRP Adoption Survey. Filtered, question-specific *n* = 4,502

What Vehicle Types Have Rebates Helped Replace?

2019 & 2021–2024 purchases/leases

“Please describe your previous car that you replaced (or plan to replace) with your new electric car.”



NY DCRP Adoption Survey. 2019 *n* = 1,290. 2021 *n* = 4,079. 2022 *n* = 4,268. 2023 *n* = 5,554. 2024 *n* = 4,502. *n*-values are filtered and question-specific.
Other includes Flex-fuel (E85 ethanol), Hydrogen fuel-cell electric, Other alternative fuel, Compressed natural gas.

Wrap Up

- **Summary of Select Findings**

Summary of Select Findings for 2024 Purchases/Leases

Context

- Tesla rebate share (41%) lowest since 2021
  - Still more frequent than PHEVs (35%) and all other BEVs combined (24%)
- Leases continued increasing drastically and became majority

For more context, see “NY Drive Clean Rebated Vehicle Characteristics through 2024”

Vehicle Replacement

- Replacement rate **increased to 83%,** rebounding to pre-COVID-19 levels
- Most vehicles were less than five years old, **~1/5 were 10+ years old**
  - Frequency of MY 2020 or later replacements may be related to increases in leasing
- **>70%** of replaced vehicles **were gasoline-fueled** (incl. 7% conventional hybrid)
  - After increasing for several years, gasoline vehicle replacement decreased (64% in 2024, down from 70% in 2023) as BEV and PHEV replacement each increased modestly

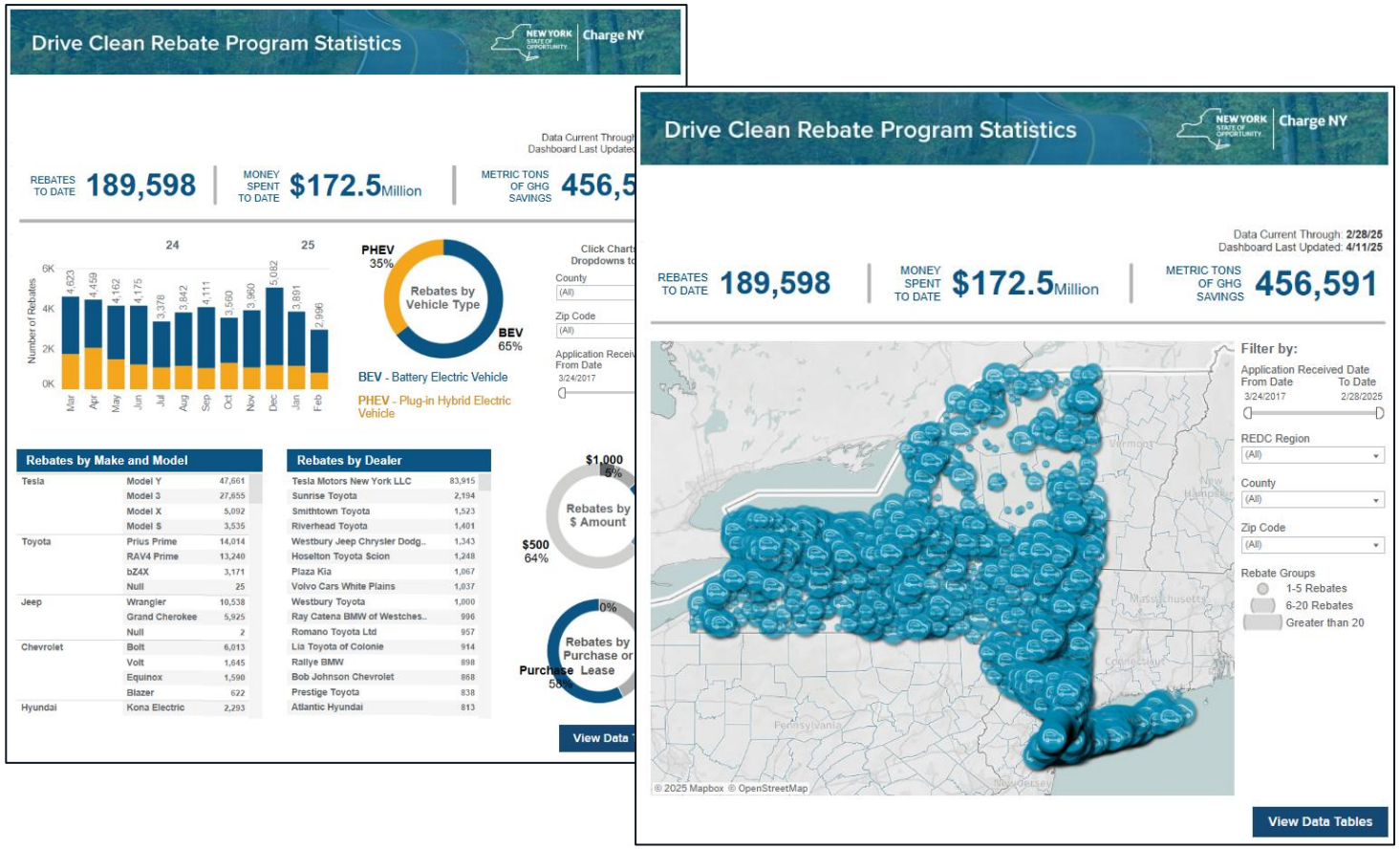
Appendix

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

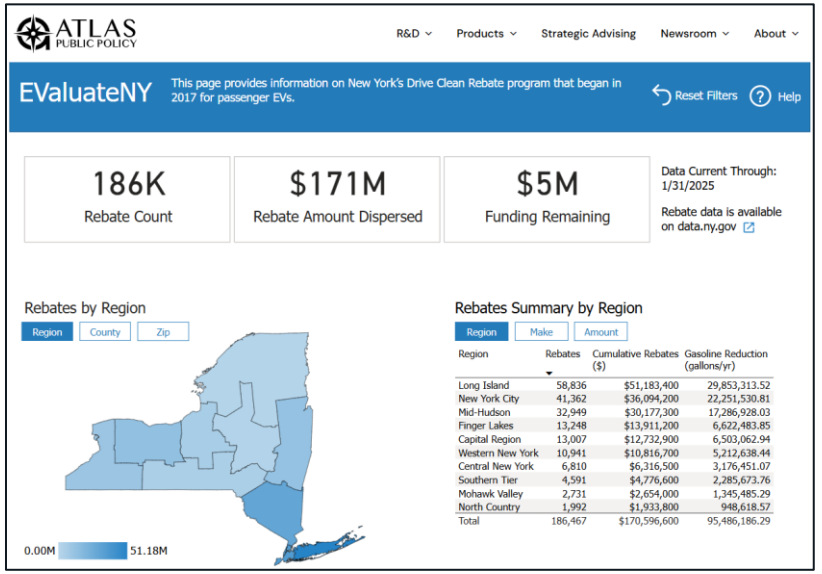
Acronyms

- **BEV – Battery Electric Vehicle**
- **DCRP – Drive Clean Rebate Program (NY 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 NY data)**
- **FCEV – Fuel-Cell Electric Vehicle**
- **MSRP – Manufacturer's Suggested Retail Price**
- **NY – New York State**
- **PHEV – Plug-in Hybrid Electric Vehicle**

For additional, up-to-date program data (images as of 4/11/2025)



[Drive Clean Rebate Program Statistics Dashboard]



[EValuateNY Dashboard]

Rebate design shapes outcomes

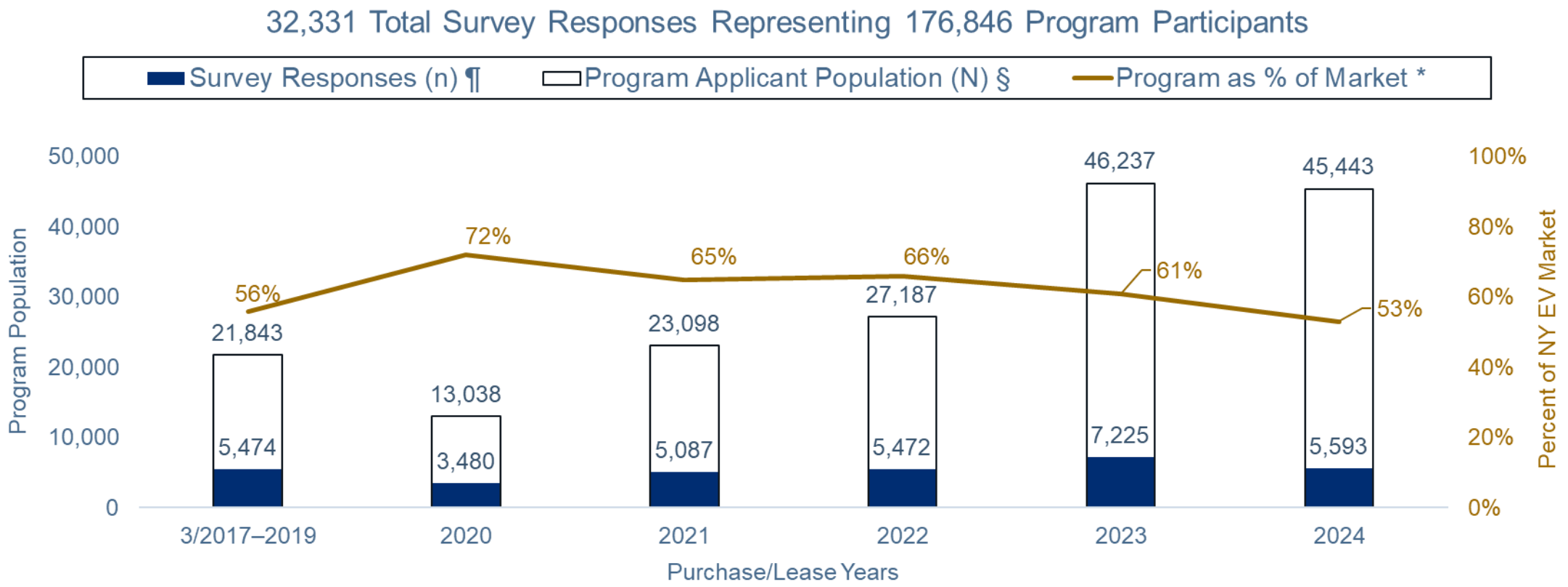
Program design changed mid-2021

Category	Purchase/lease dates through June 30, 2021	Purchase/lease dates after June 30, 2021
Fuel-Cell EVs*, **All-Battery EVs (BEVs)**, and **Plug-in Hybrid EVs (PHEVs)**	≥ 120 e-miles†: $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
Additional Elements	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 represent all participants, but participants are a decreasing portion of EV sales



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

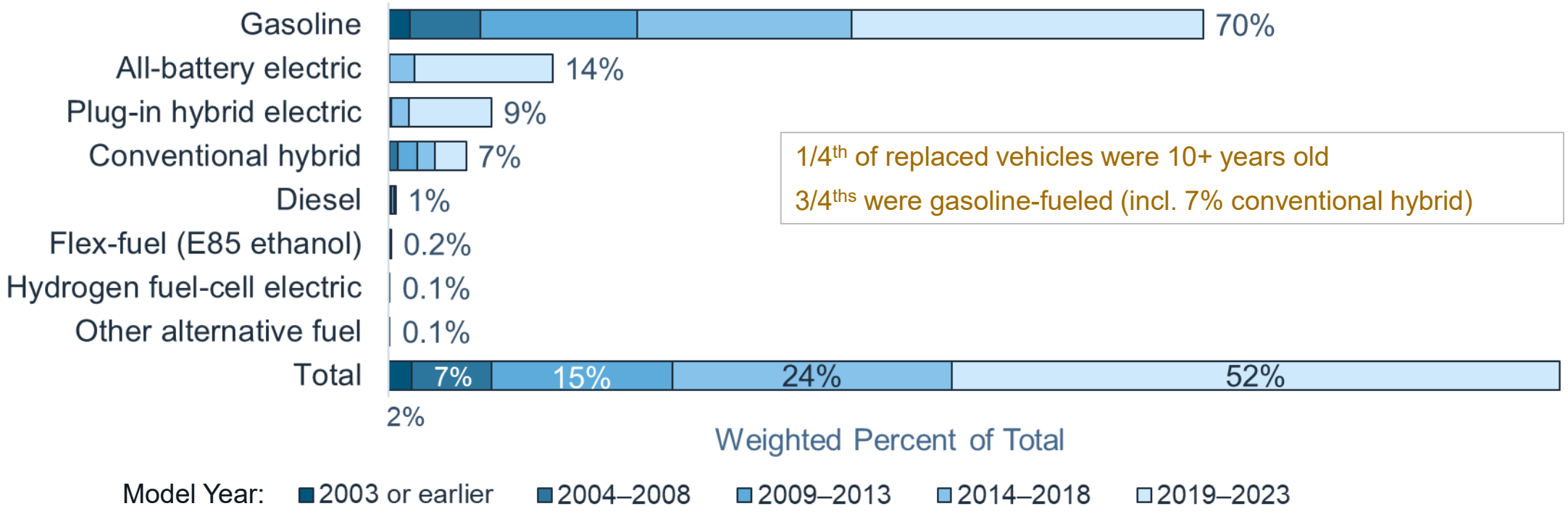
§ Small numbers of rebated vehicles are not represented in the time frames due to application lags.

* Based on approximate comparisons to total NY EV sales from Autos Innovate EV Dashboard (AAI & CSE 2025).

Rebated EVs are replacing older, more polluting cars

2023 purchases/leases

"Please describe your previous car that you replaced (or plan to replace) with your new electric car."



1/4th of replaced vehicles were 10+ years old

3/4ths were gasoline-fueled (incl. 7% conventional hybrid)

NY DCRP Adoption Survey. Filtered, question-specific *n* = 5,554

NY Drive Clean Rebates: Select Related Analysis

Rebate Impacts (DCRP Resources)

- ❖ Williams, B. D. H., & Pallonetti, N. (2025, March 17). Presentation: "NY Drive Clean Rebate: Vehicle Replacement through 2023." New York State Drive Clean Rebate Program. http://dx.doi.org/10.13140/RG.2.2.15316.92801.
- B.D.H. Williams and N. Pallonetti (2024, Mar.). Presentation: "NY Drive Clean Rebate: Vehicle Replacement & Rebate Influence thru 2022." New York State Drive Clean Program (DCRP), NYSERDA. http://dx.doi.org/10.13140/RG.2.2.15816.33289.
- ❖ 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.

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 (2024, Aug. 27). Moderation and Presentation: "Evaluating and Advancing the Equity of Electric Vehicle Adoption: Opening Remarks and Lessons from State Rebate Programs." *Transportation Symposium on Energy, Environment, and Livable Economies*. NASEM Transportation Research Board, Denver. TRB posting.
- 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 3/2025; key resources marked with a diamond bullet.

Related Resources: Replaced Vehicles

These can provide further inspiration on next steps/options – for example, analysis that has already been prototyped and taken further for CVRP can be considered low-cost menu items for DCRP.

Presentations

- NY Drive Clean Rebate: Vehicle Replacement through 2023 (2025, Mar.). RG posting.
- Williams, B. D. H., & Pallonetti, N. (2024, November 12). Presentation: "TRB Lightning Talk: Vehicles Replaced by EVs." Moderated by E. Kontou for *TRB AMS40 Lightning Talks,* virtual webinar.
- CVRP 2022 Data Brief: Vehicle Replacement (2024, Oct.). CVRP posting.
- NY Drive Clean Rebates: Vehicle Replacement & Rebate Influence thru 2022 (2024, Mar.).
- NY Drive Clean Rebates: Select Impacts Through 2021. Paper. (2023, Jun. 12).
- Data from Statewide Electric Vehicle Rebate Programs: Vehicles, Consumers, Impacts, and Effectiveness (2021, Jul.)
- What Vehicles Are Electric Vehicles Replacing and Why? (2019, Nov.)

Publications

- B.D.H. Williams and N. Pallonetti (2023, Mar.), New York State's Drive Clean Rebate for Electric Vehicles: Measures of Impact, *36th International Electric Vehicle Symposium (EVS36)*, EDTA, Sacramento CA, USA. Paper. Slides.
- N. Pallonetti and B.D.H. Williams (2023, Mar.), Vehicle Replacement: Findings from California's Clean Vehicle Rebate Project, *36th International Electric Vehicle Symposium* (EVS36), EDTA, Sacramento CA, USA. Paper. Precursor slides.

(Reverse Chronological in each section, as of 3/2025. Additional related items.)

For More Information

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Recommended citation:

B.D.H. Williams and N. Pallonetti (2025, Jul.), Presentation: "NY Drive Clean Rebate: Vehicle Replacement through 2024," prepared by the Center for Sustainable Energy for NYSERDA.

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