



Q4 MANHEIM USED VEHICLE VALUE INDEX QUARTERLY REVIEW

Jan. 8, 2024

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CHRIS FREY

Senior Manager, Economic and Industry Insights



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MANHEIM USED VEHICLE VALUE INDEX

Concept

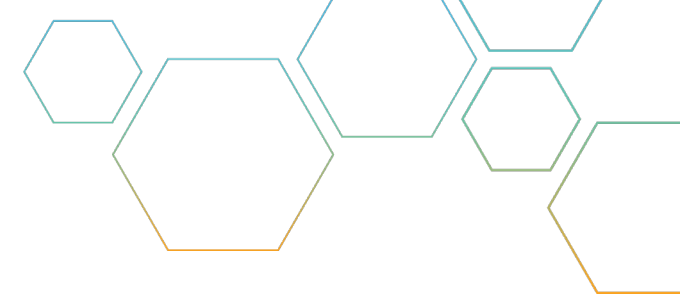
A single measure of used vehicle price change that is independent of underlying segment shifts in the characteristics of vehicles being sold

Steps

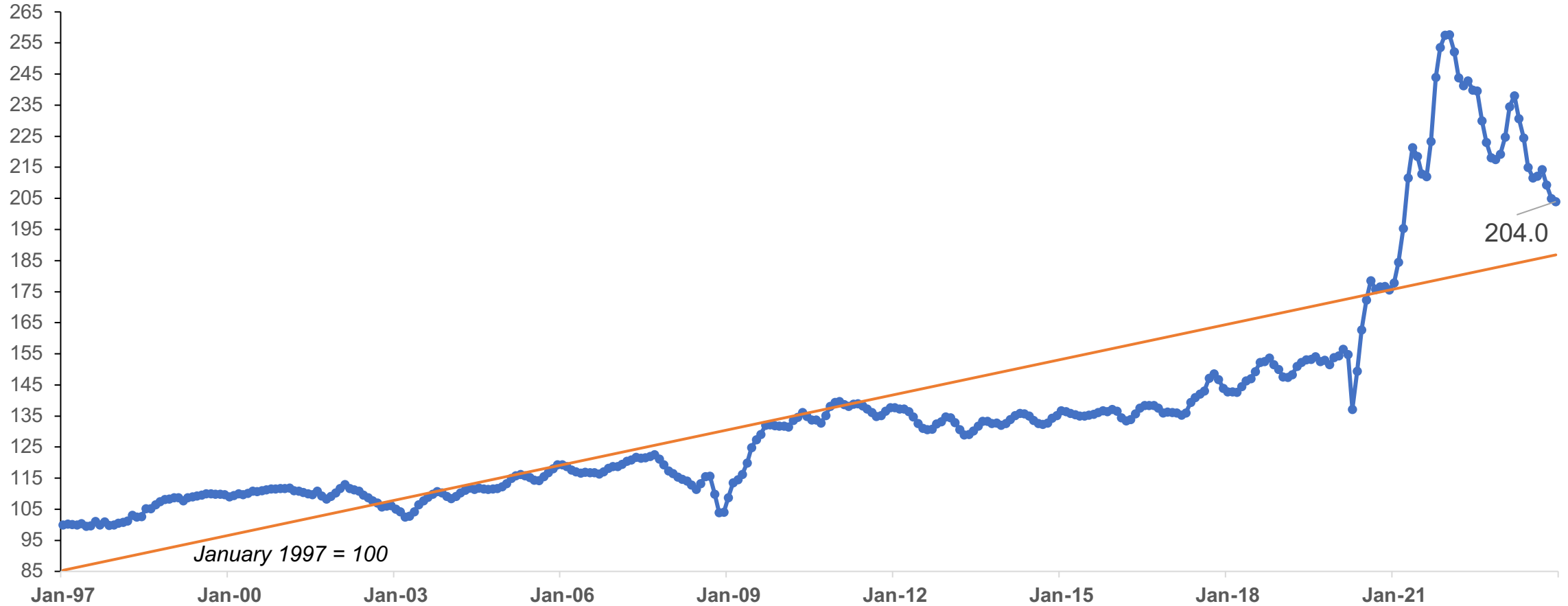
1. All Manheim U.S. sales
2. Classify by market segment
3. Account for differences in mileage
4. Weight to provide smoother segment mix
5. Seasonally adjust



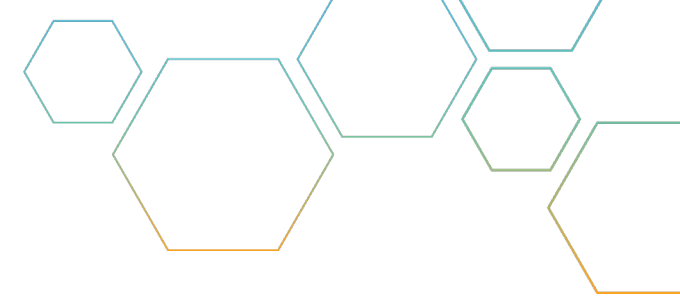
WHOLESALE VEHICLE VALUES DECREASE IN DECEMBER



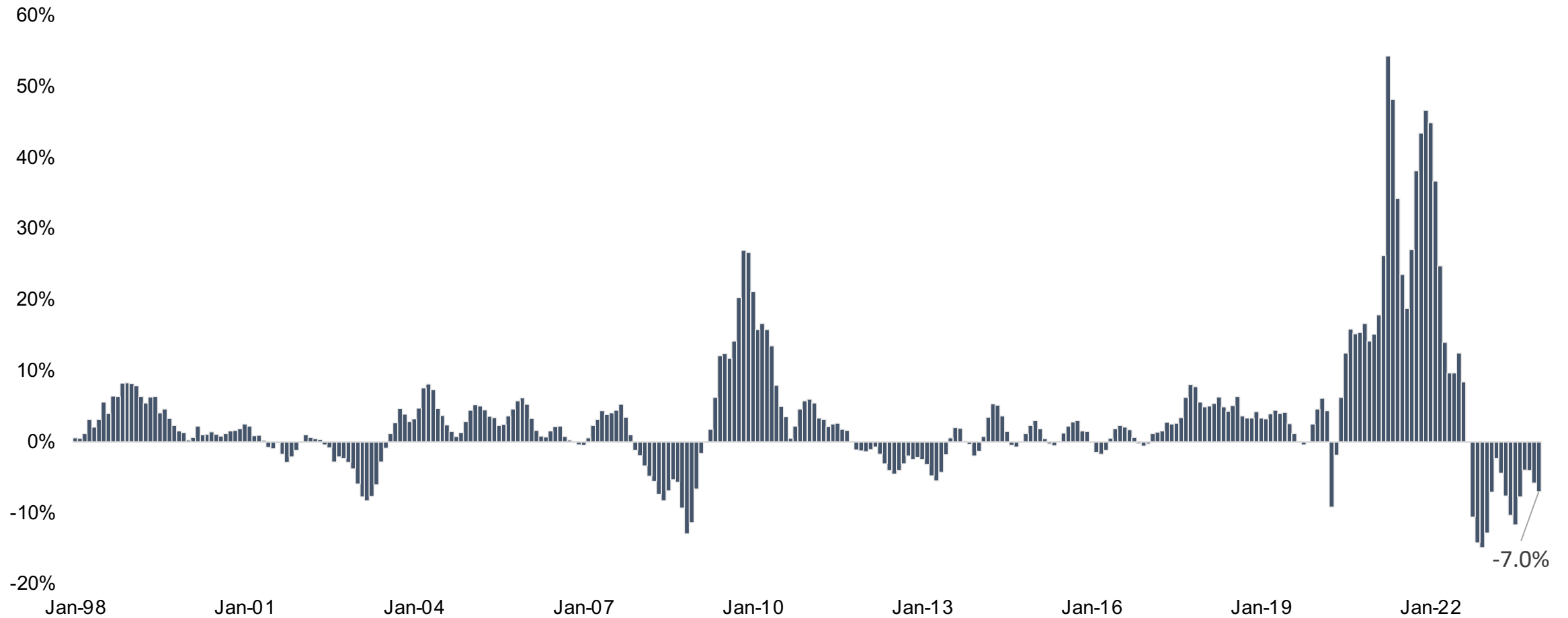
Prices declined 0.5% from November and were down 7.0% from December 2022



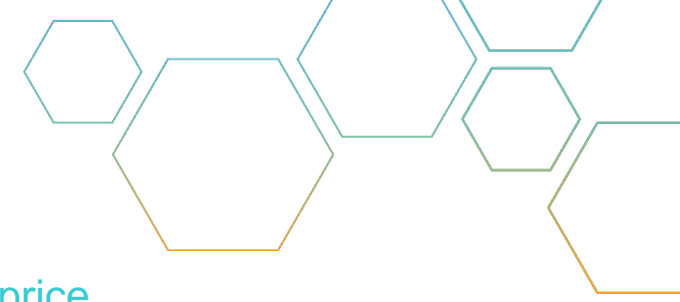
YEAR-OVER-YEAR PERFORMANCE WAS NEGATIVE EACH MONTH IN 2023



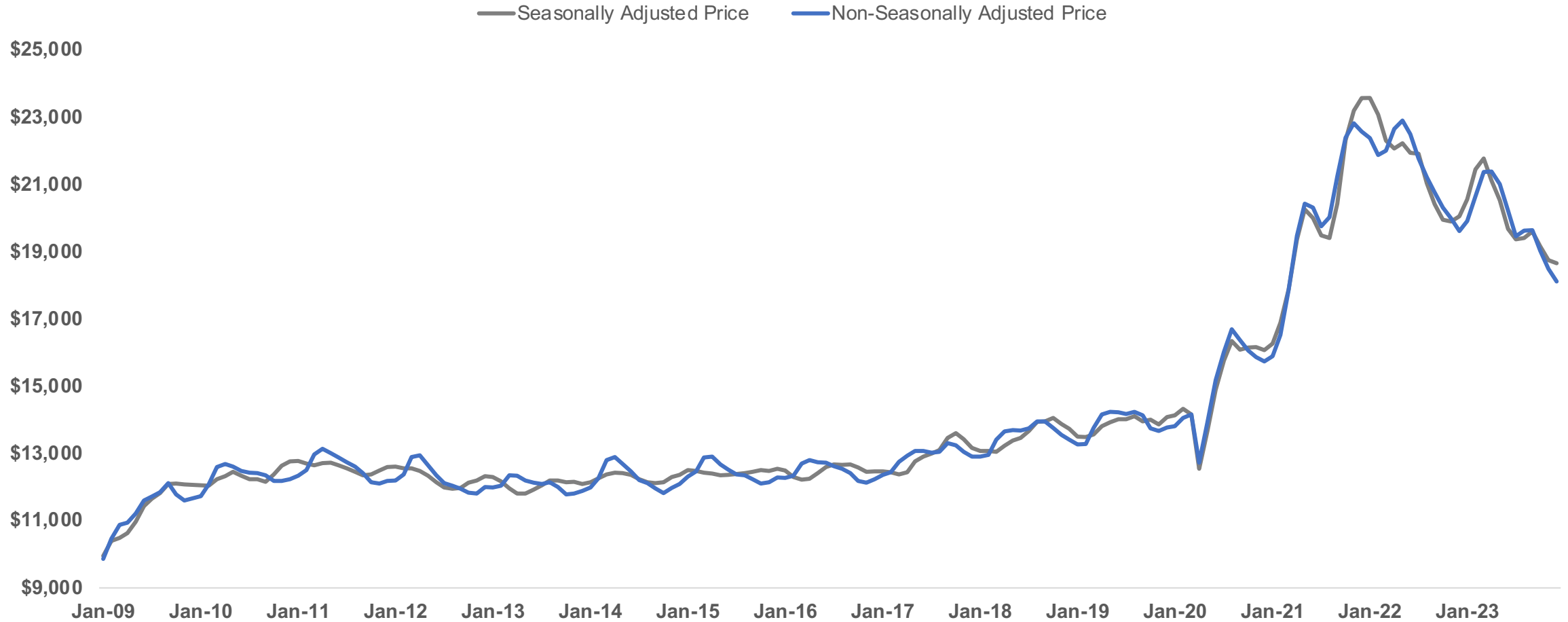
Annualized changes have been below 0% since September 2022



SEASONALLY ADJUSTED PRICE LEVEL CLOSED 2023 WITH A BREAK FROM NON-ADJUSTED PRICE



Price movements were tight in 2023 until December's noticeable move lower for unadjusted price

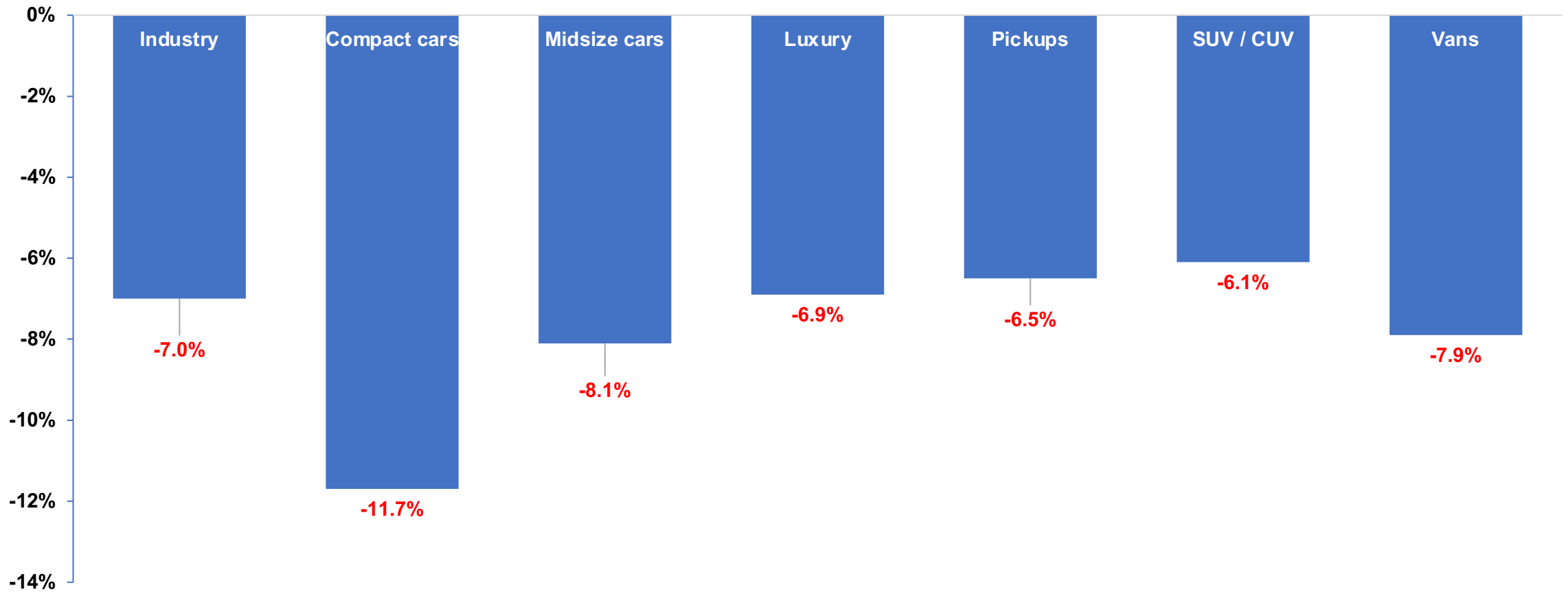


ALL SEGMENTS LOST PRICE STRENGTH IN 2023

Work units had better performance for most of the year, but lost ground in Q4



Percent Change in Manheim Index Year Over Year December 2023





JEREMY ROBB

Senior Director, Economic and Industry Insights

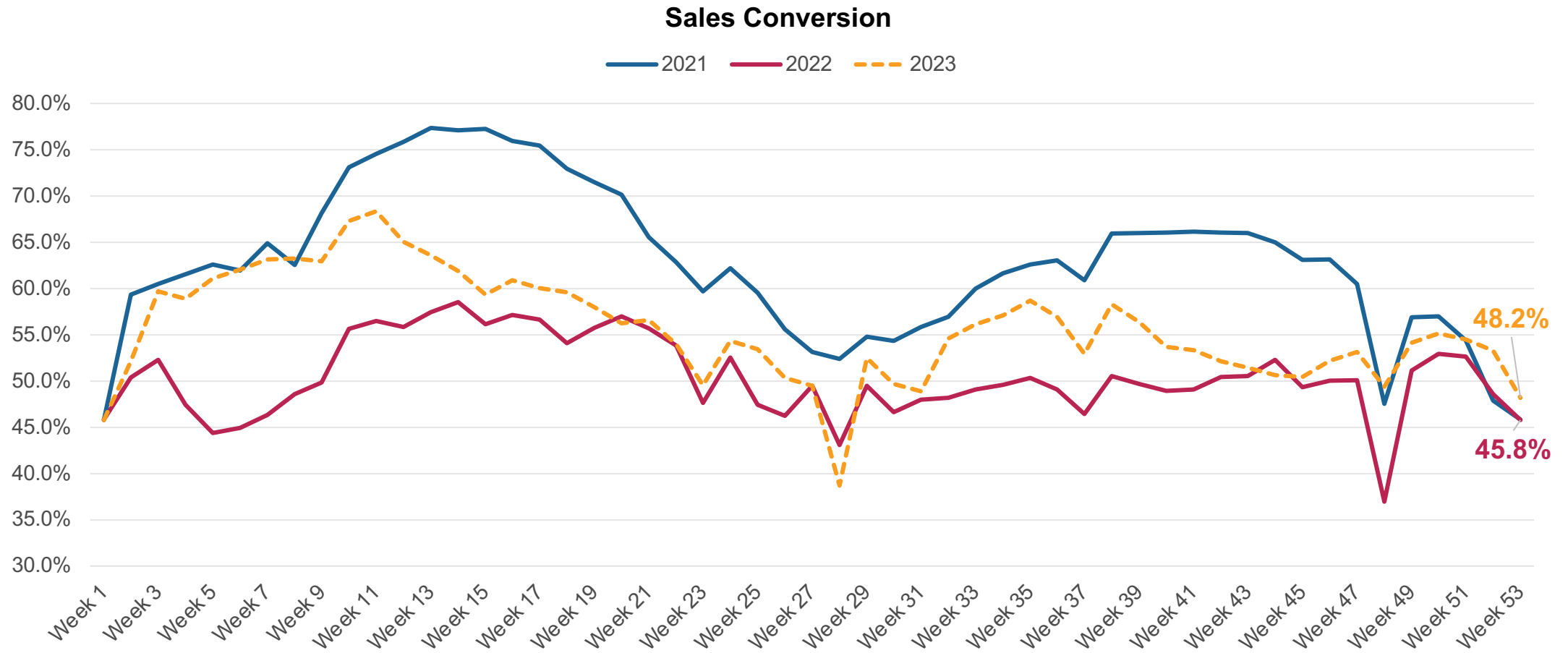


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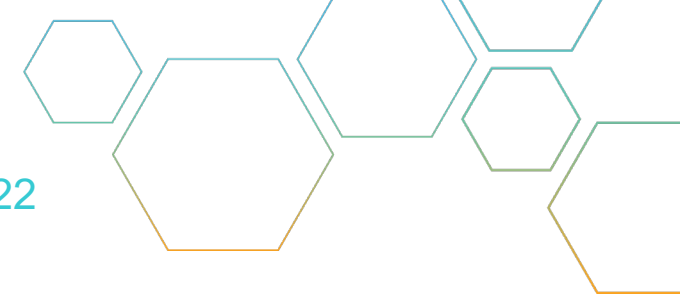
WHOLESALE SALES CONVERSION

Sales Conversion rebounded in early December and ended a few points higher than last year



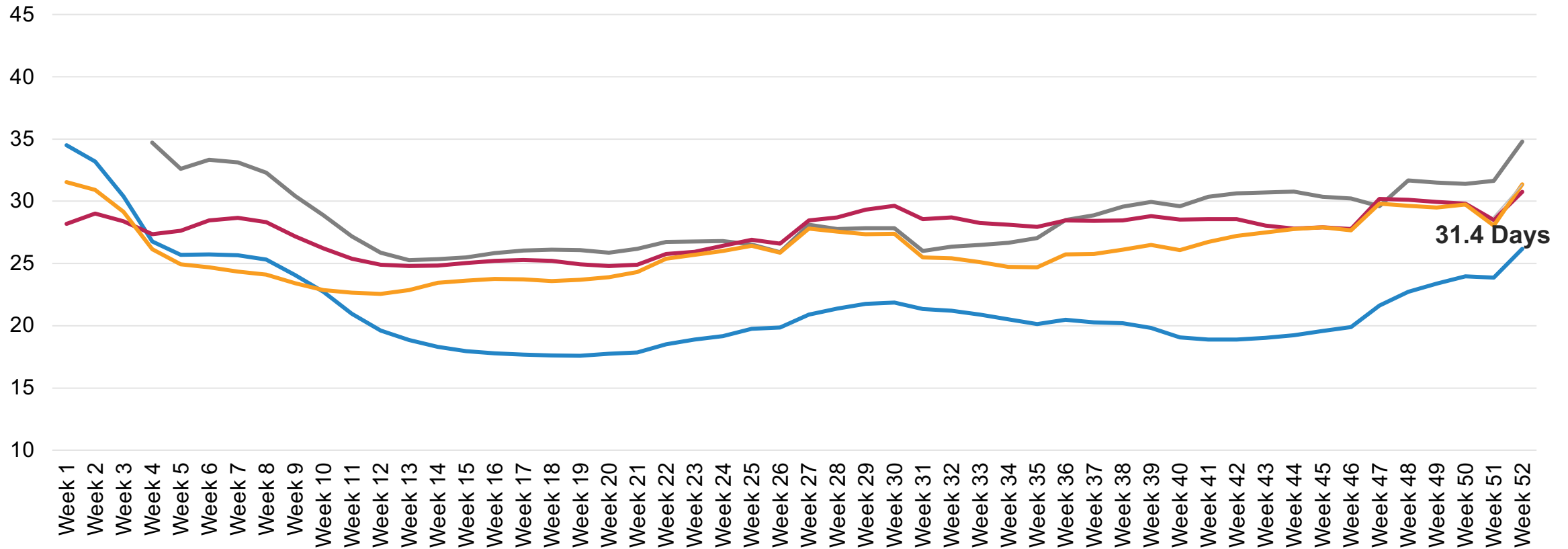
WHOLESALE SUPPLY

Inventory is +4% Y/Y and sales +8% as Days Supply grew to 31.4, up 2% at year end vs 2022



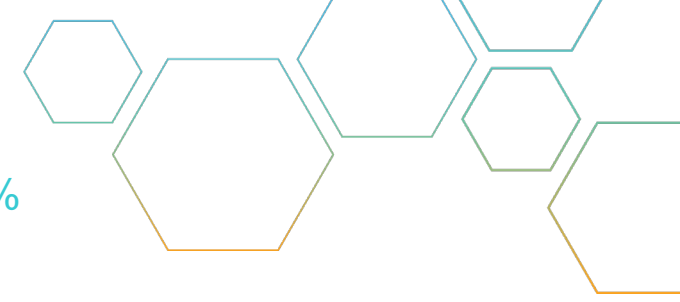
Wholesale Days of Supply

— 2019 — 2021 — 2022 — 2023

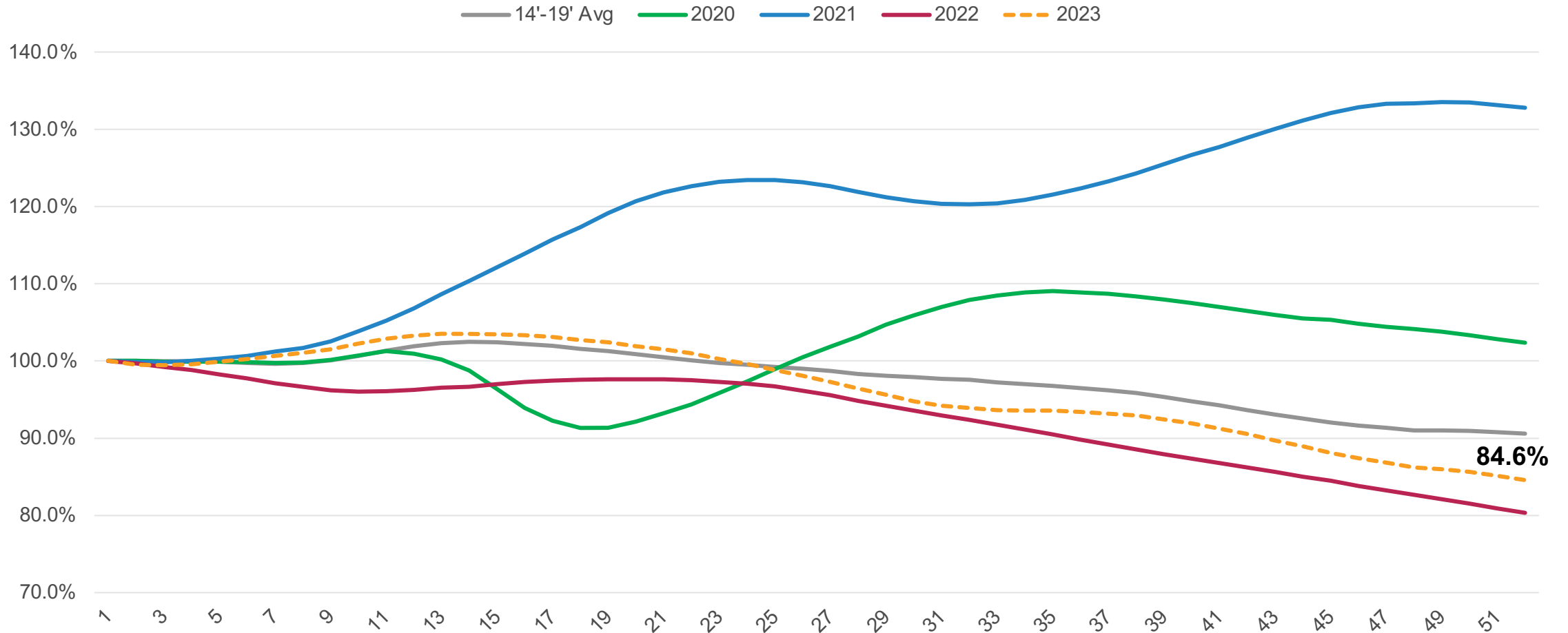


OVERALL WHOLESALE MMR VALUE TRENDS

Depreciation trends were a bit stronger for most of Q4, with the overall index ending at 84.6%



Overall MMR Index Trends
All Model Years

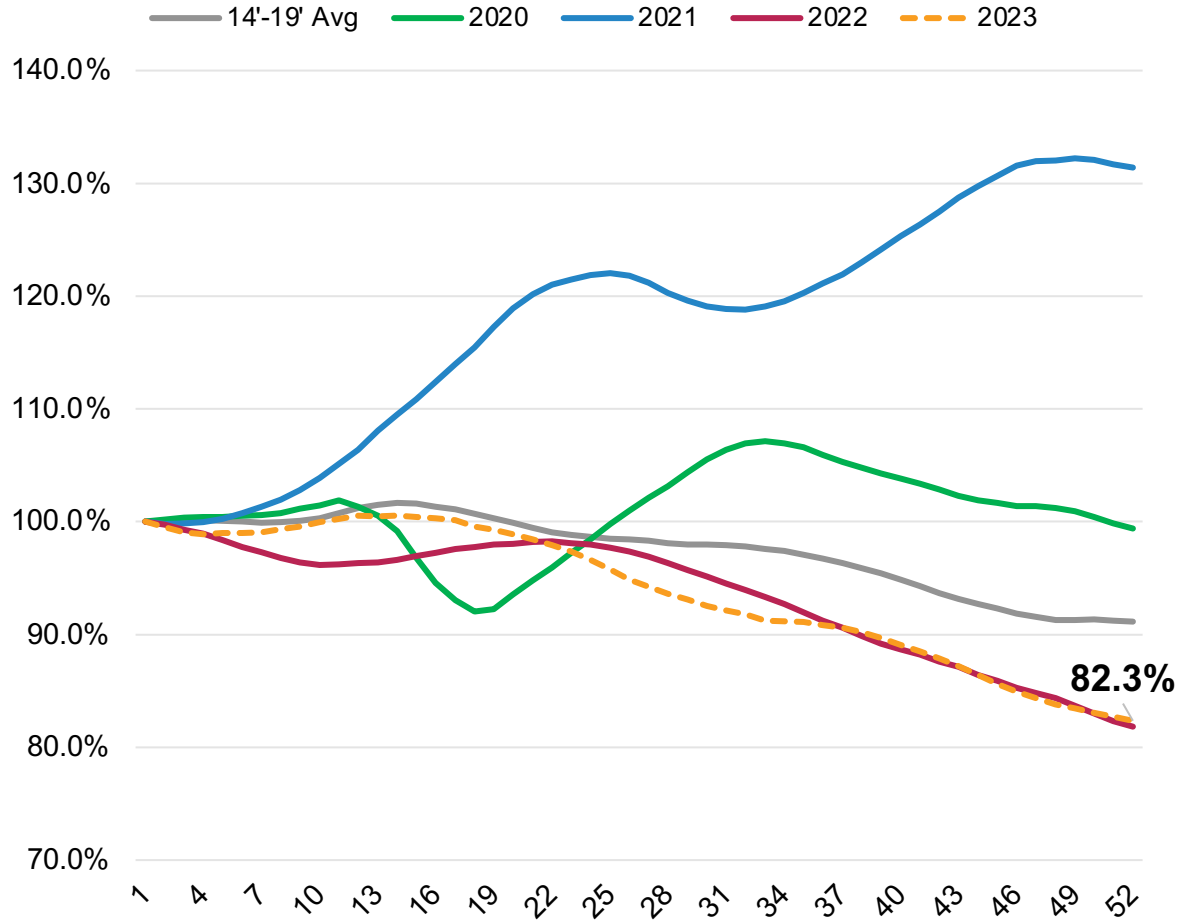


1YO MMR INDEX WITH RESALE VALUES BY YEAR

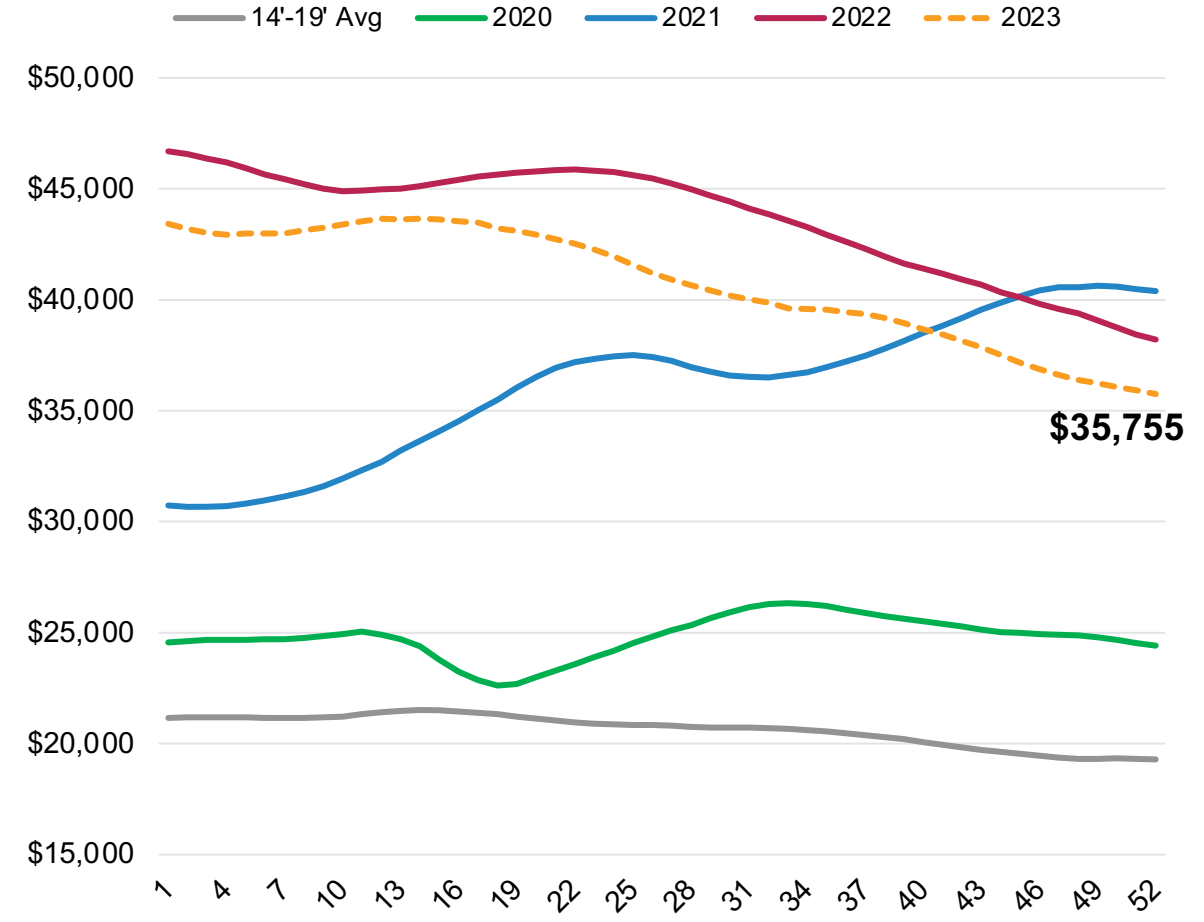
The 1YO has shown the strongest depreciation of all age groups, down 18% on the year



MMR Index Trends 1YO

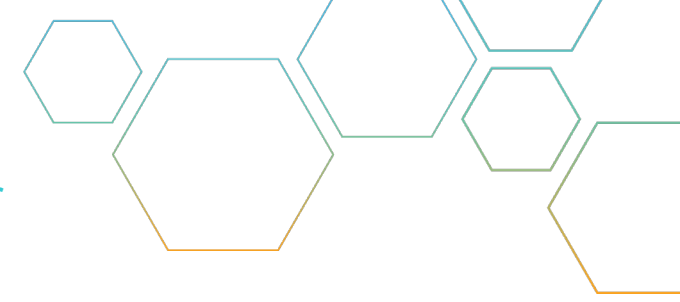


MMR Resale Value Trends 1YO

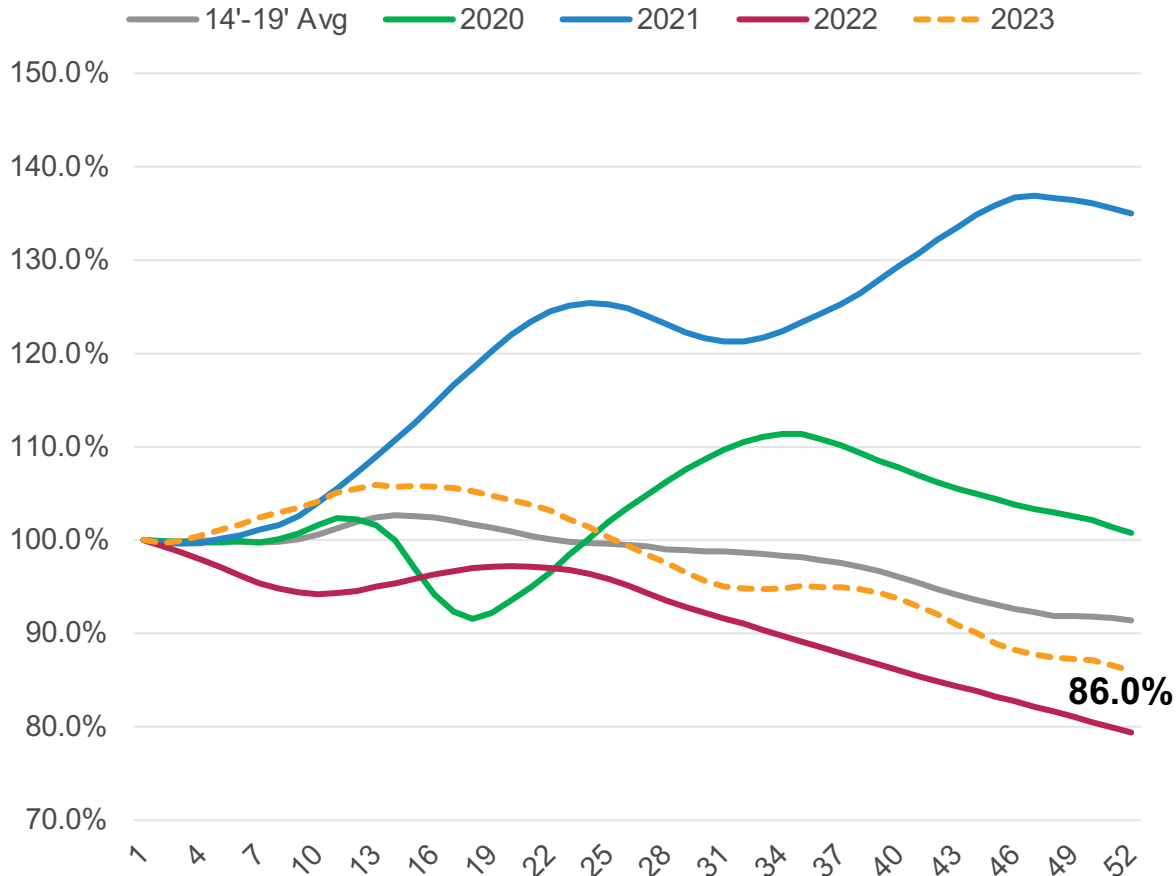


3YO MMR INDEX WITH RESALE VALUES BY YEAR

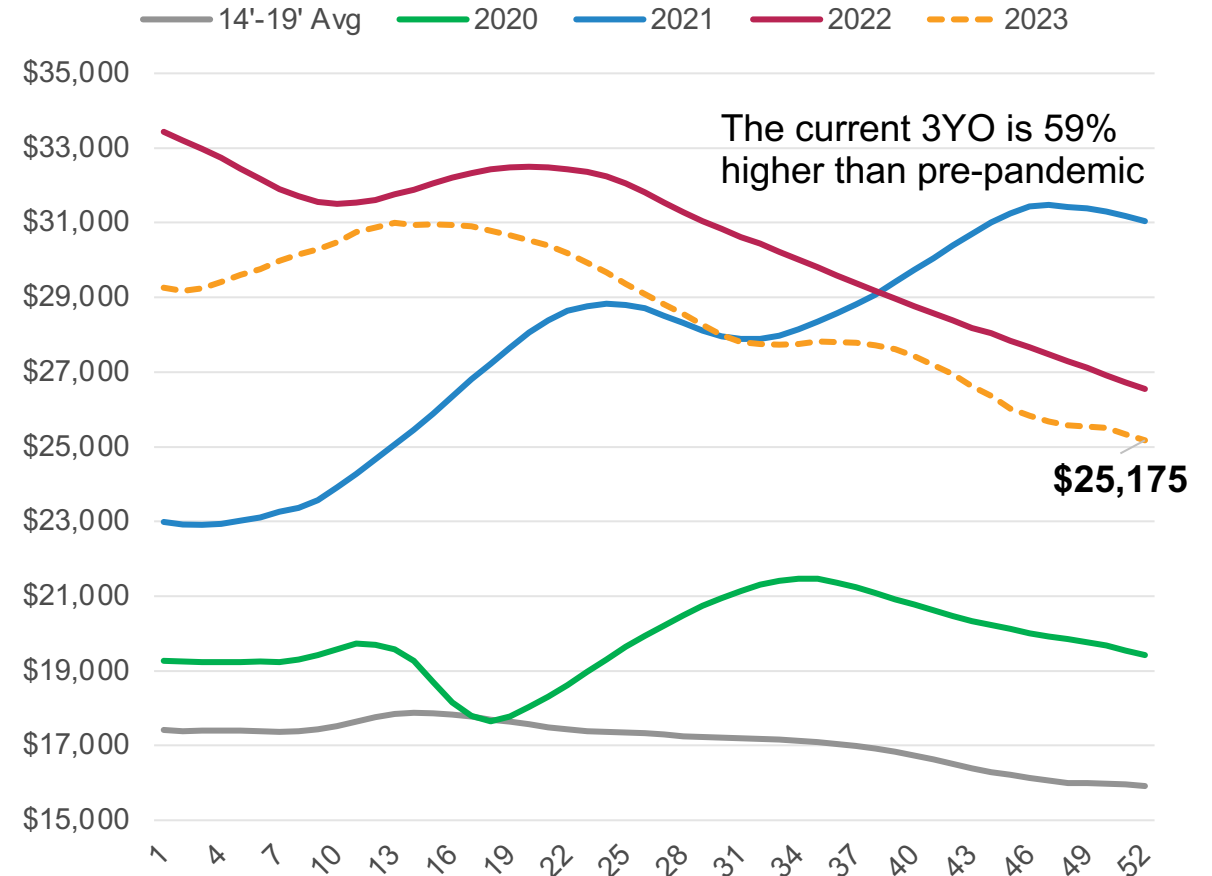
3YO values declined 14% for the year with weekly depreciation trends stronger in December



MMR Index Trends 3YO

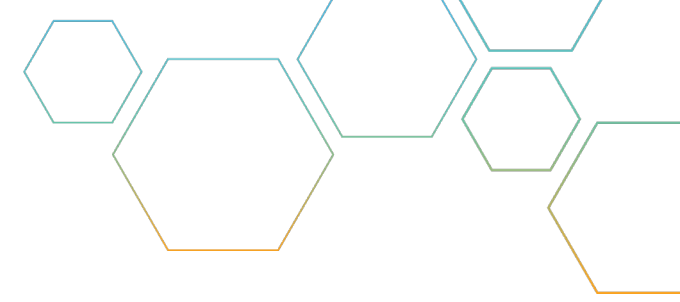


MMR Resale Value Trends 3YO

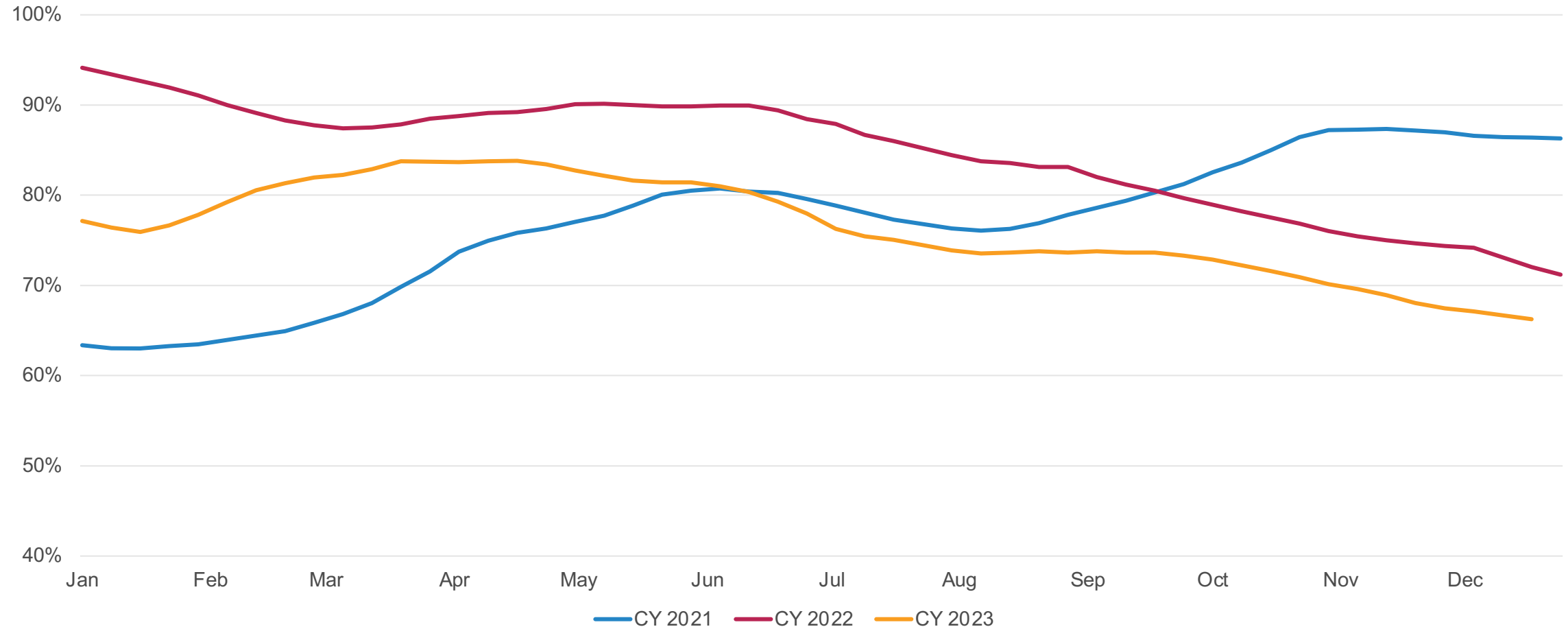


RETENTION VALUES AT AUCTION

Auction Retention Values declined throughout most of Q4, as new vehicle availability grew



Auction Retention Values
(1 to 3 year old vehicles)

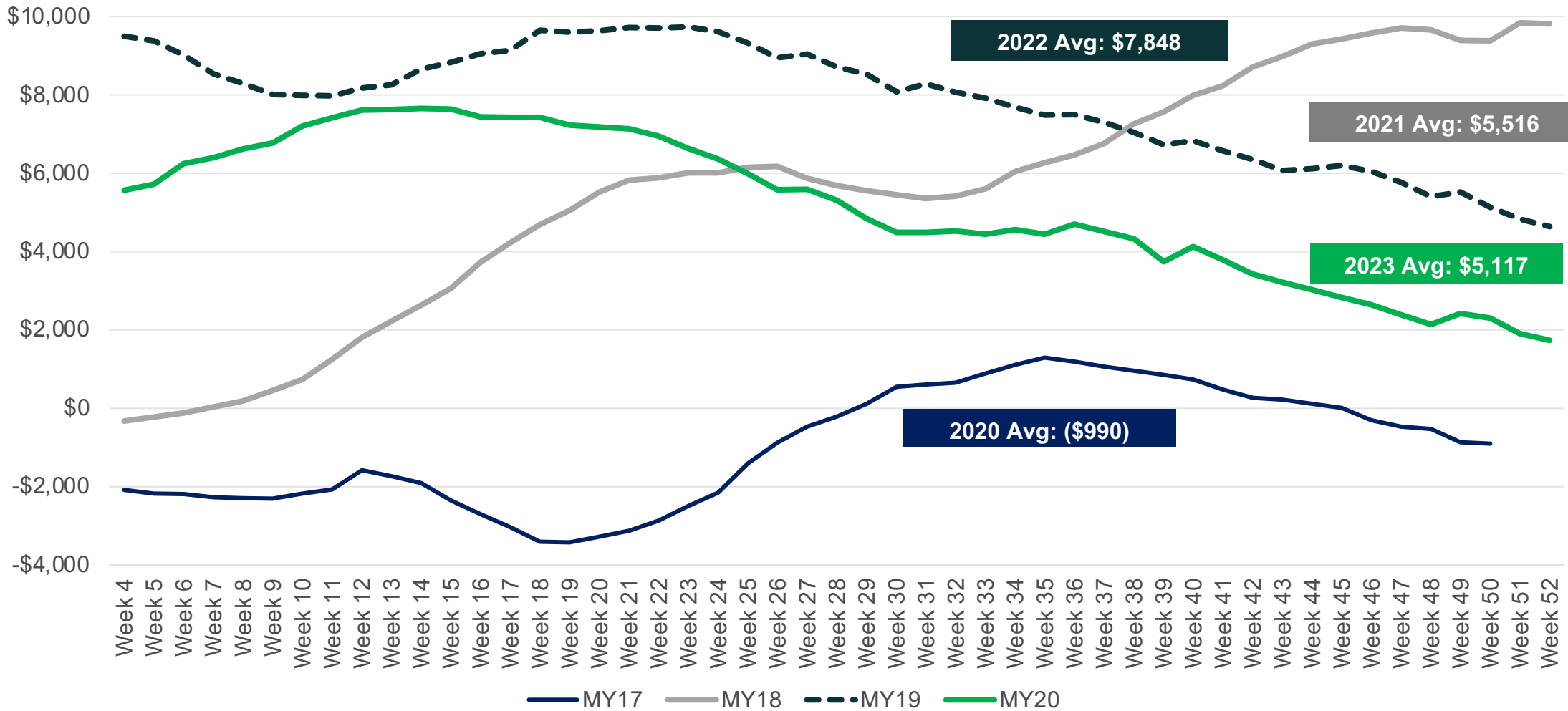


CALE: LEASE EQUITY POSITIVE, TRENDING DOWN

2023 was flatter mid-year before declines began again in Q4 – by brand results are mixed



CALE Historical View (36-month term)

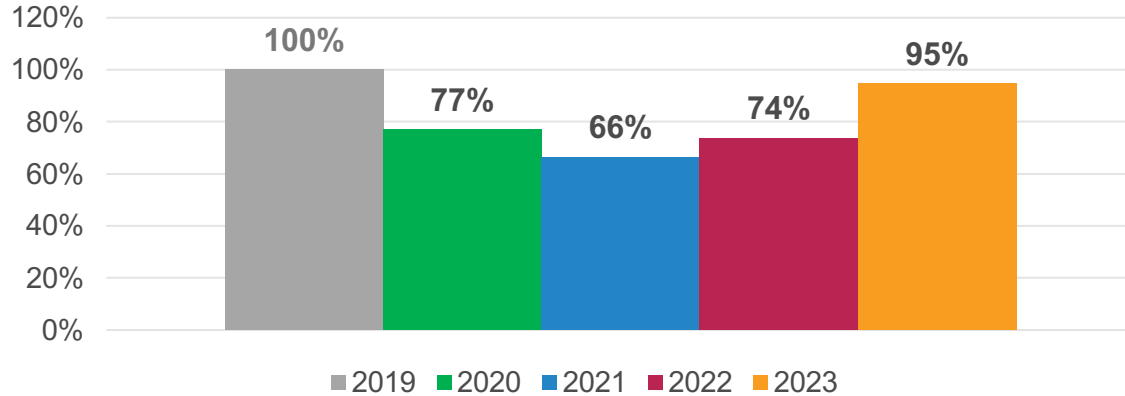


AUCTION CHECK-INS FOR COMMERCIAL SEGMENTS

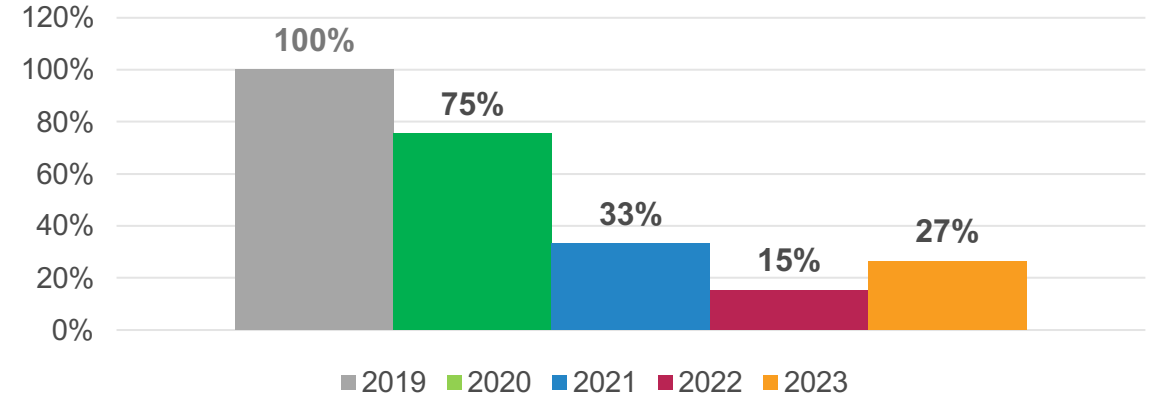
Repo & Lease Check-In Rates continue to rise, but a long road to normal for Off-Lease



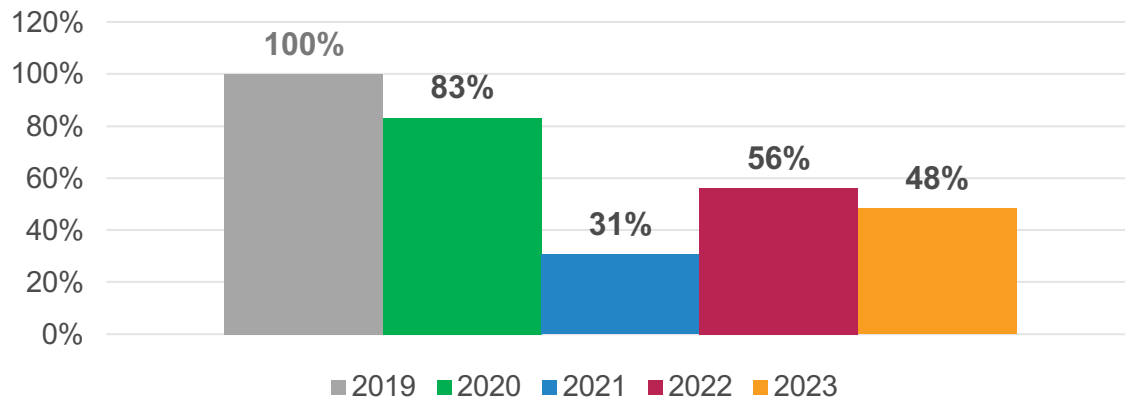
Repo Check-In Index 2019=100



Lease Check-In Index 2019=100



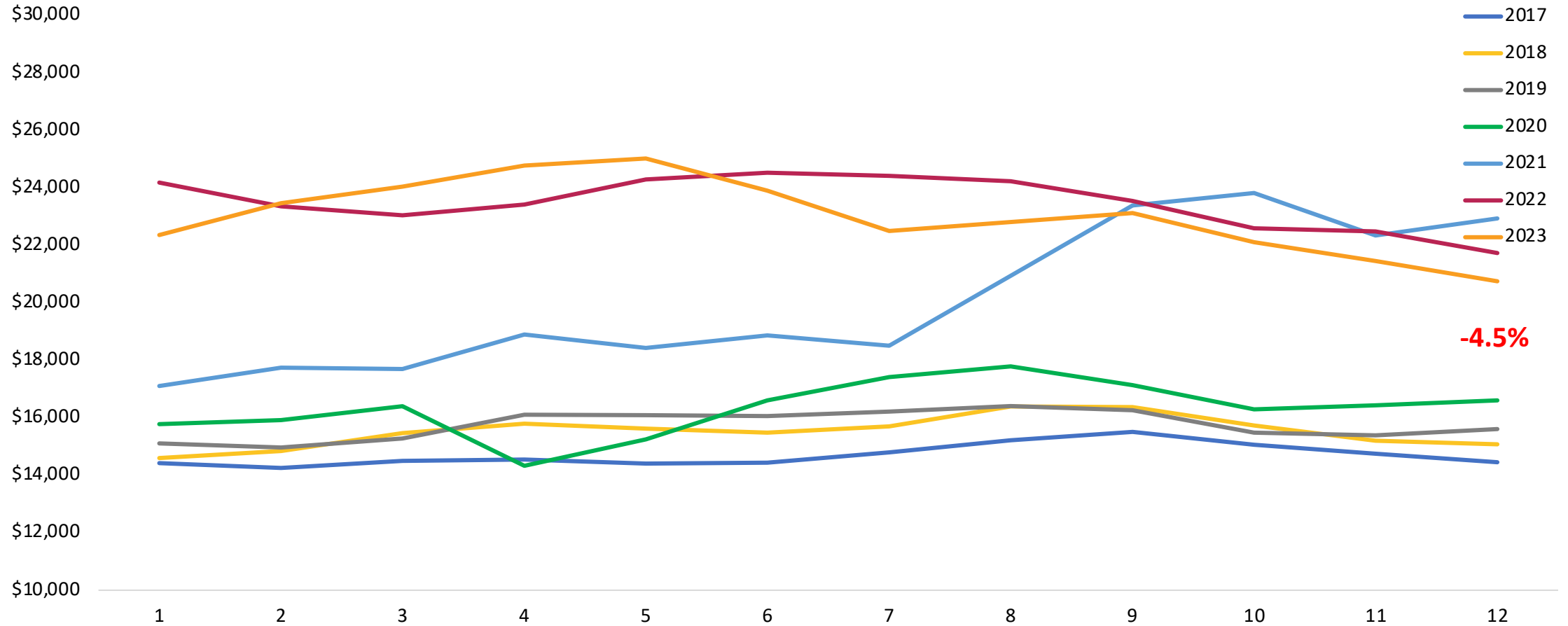
Rental Check-In Index 2019=100



- Repo +29% vs 22' but down (5%) vs 19'
- Lease +76% vs 22' yet down (73%) vs 19'
- Rental down (14%) vs 22' and down (52%) vs 19'

RENTAL RISK AVERAGE AUCTION PRICES

Prices for units sold in December were down 4.5% year-over-year and down 3.3% from November



RENTAL RISK VEHICLE VARIETY INCREASING

Shares of top configurations returning to pre-pandemic levels

	2021 Q4	2022 Q4	2023 Q4
Number of unique year, make, model, body configurations sold	2,543	4,164	3,886
Share accounted for top 10 YMMB	20.6%	11.6%	14.3%
Share accounted for top 25 YMMB	34.1%	20.5%	24.8%
Number of YMMB to reach 50% share	64	137	107

RENTAL RISK AVERAGE MILEAGE

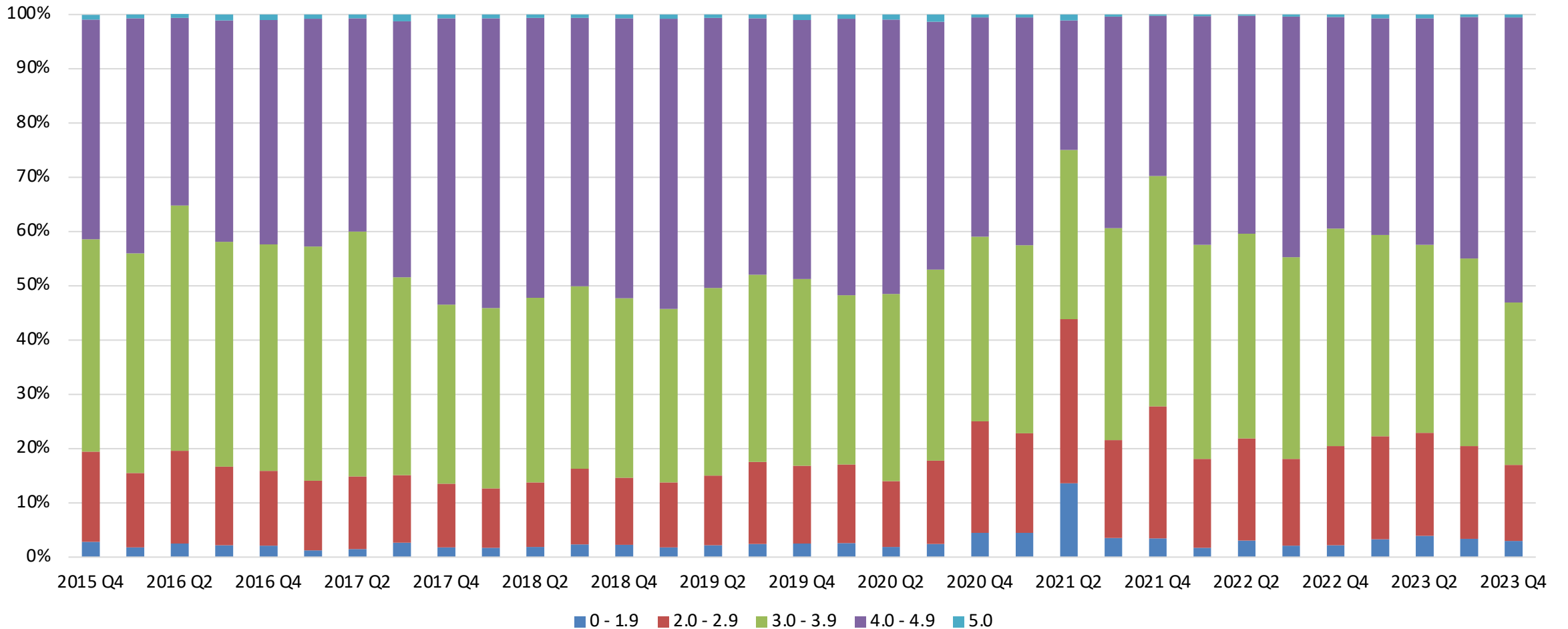
Average mileage was down 5.3% from November and down 20.2% from December 2022



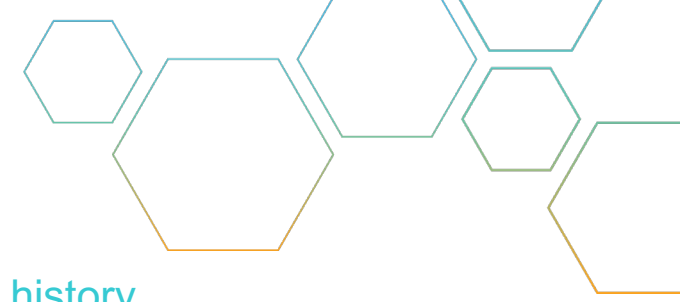
RENTAL RISK SALES CONDITION



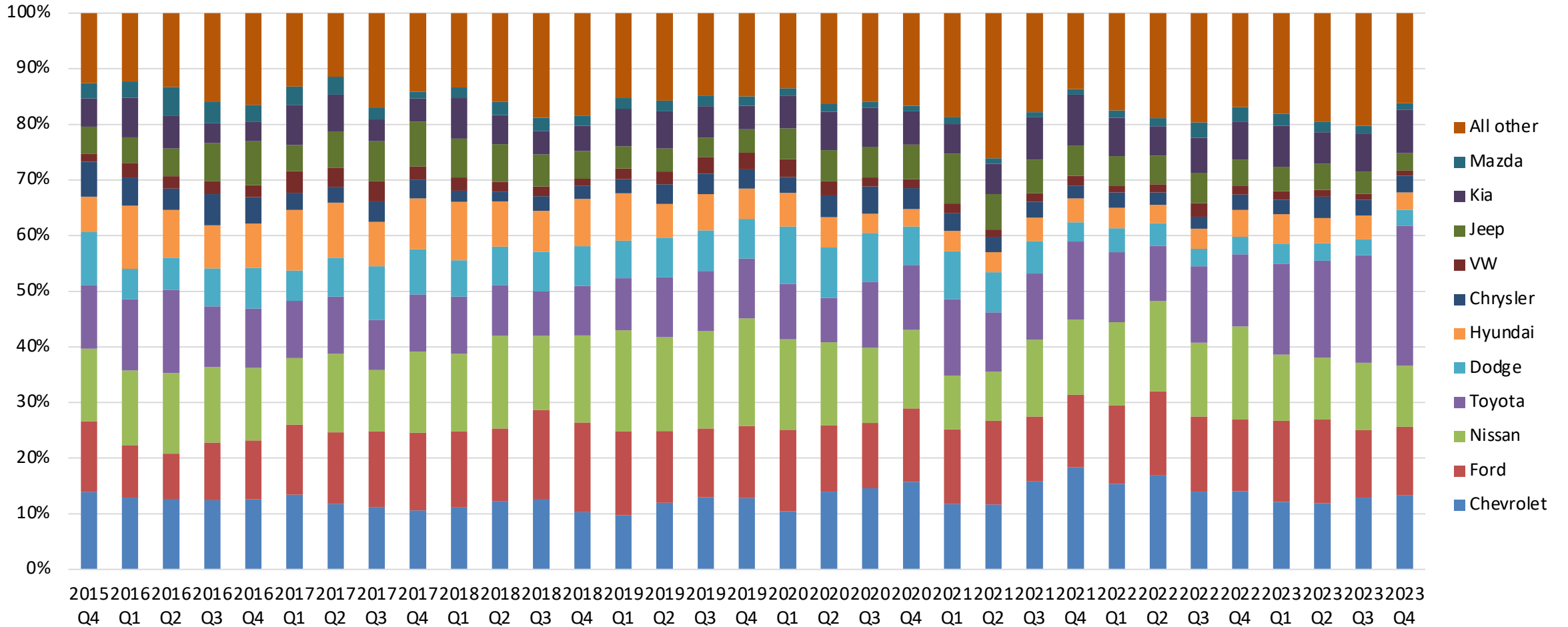
Trend since Q4 2022 continues – more high-grade units and fewer low-grade units to auction



RENTAL RISK SALES BY MAKE

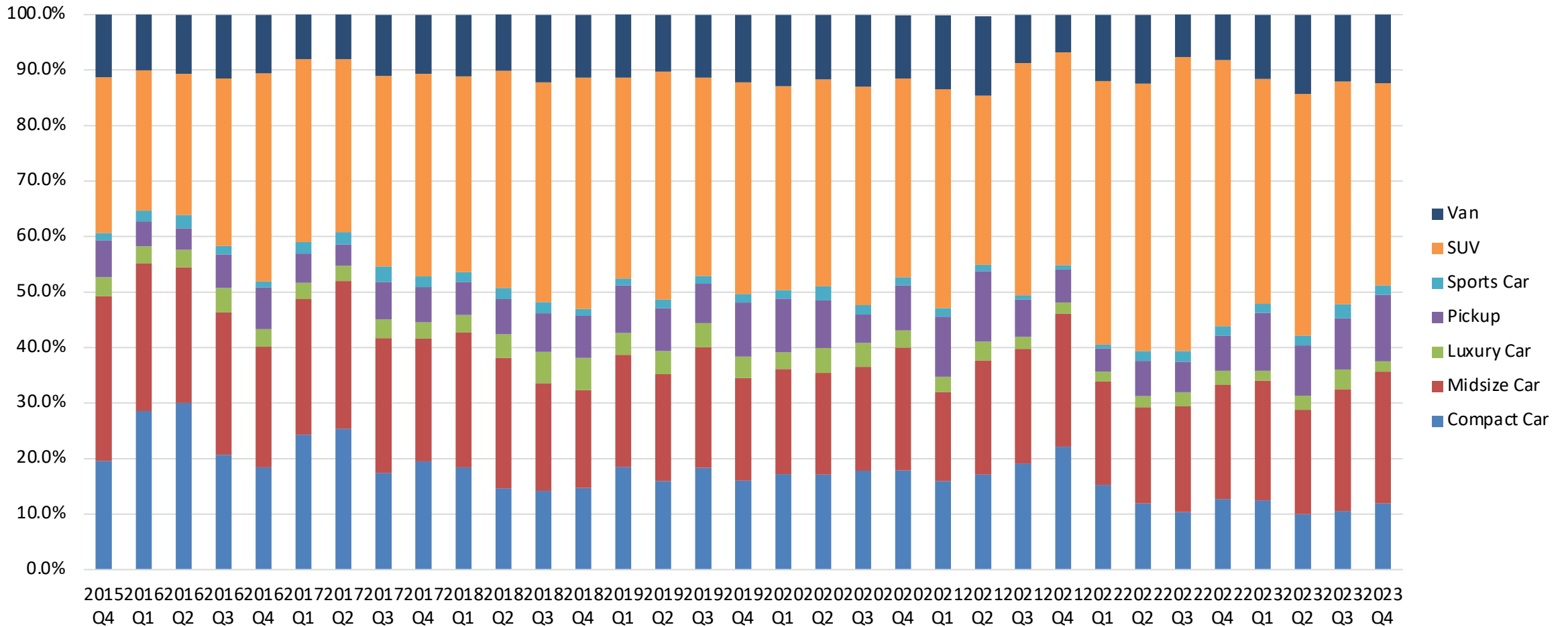


Toyota share at auction was 25.2% in Q4 2023, the highest of any single make in this series' history



RENTAL RISK SALES BY VEHICLE SEGMENT

SUVs saw share decline 3.8% from Q3, while pickups gained 2.8% and midsize cars were up 1.8%



MANHEIM INSIGHTS ON TOP VOLUME VEHICLES

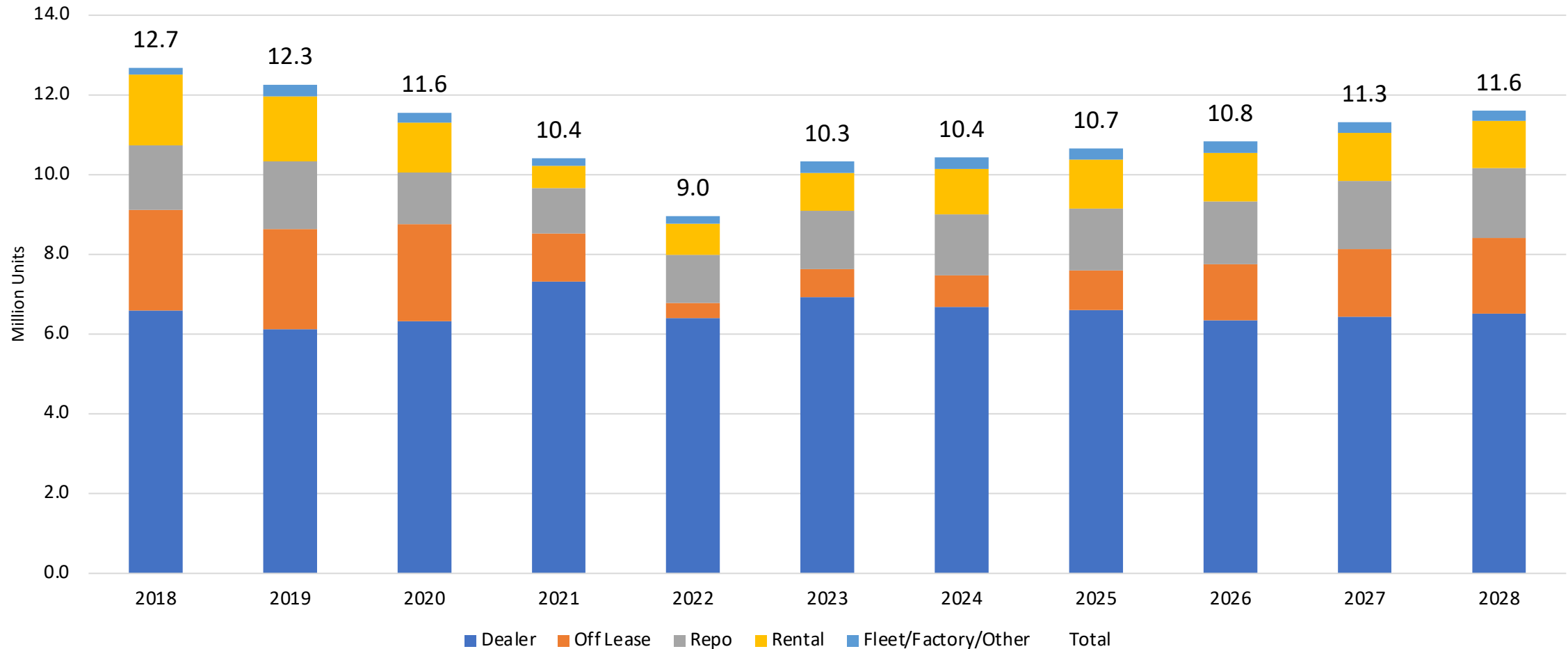
Price trends on top selling vehicles in December at Manheim saw substantial variation m/m but consistency y/y

Rank	Source(Rank)	Category	Subcategory	Vehicle	1-Jan	Past 30 Days	Last Year	Current Dep	L12M Dep/Mo
1	All	SUV	SUV Midsize	2020 FORD EXPLORER 4WD 4C 4D SUV XLT	\$24,300	\$24,400	\$30,000	-0.4%	-1.6%
2	All	SUV	SUV Luxury	2021 VOLVO XC90 AWD 4D SUV T6 MOMENTUM	\$33,100	\$33,400	\$40,700	-0.9%	-1.6%
3	All	SUV	SUV Midsize	2020 CHEVROLET EQUINOX FWD 4D SUV 1.5L LT	\$15,650	\$16,150	\$18,600	-3.1%	-1.3%
4	All	Compact Car	Compact Car Premium	2021 TOYOTA COROLLA 4D SEDAN LE	\$14,900	\$15,200	\$17,900	-2.0%	-1.4%
5	All	Midsize Car	Midsize Car Premium	2023 TOYOTA CAMRY FWD 4C 4D SEDAN SE	\$22,200	\$22,800	\$28,300	-2.6%	-1.8%
1 Dealer	Dealer	Compact Car	Compact Car Premium	2021 TOYOTA COROLLA 4D SEDAN LE	\$14,900	\$15,200	\$17,900	-2.0%	-1.4%
1 Lease	Lease	SUV	SUV Luxury	2021 VOLVO XC90 AWD 4D SUV T6 MOMENTUM	\$33,100	\$33,400	\$40,700	-0.9%	-1.6%
1 Rental	Rental	Compact Car	Compact Car Premium	2023 TOYOTA COROLLA 4D SEDAN LE	\$18,650	\$19,150		-2.6%	

WHOLESALE FLOWS BOTTOMED IN 2022

After 13% decline in 2022, the wholesale market should see a slow and gradual recovery to 2020 levels by 2028

Estimated Wholesale Volumes by Inflow Channel (Annual Volume)

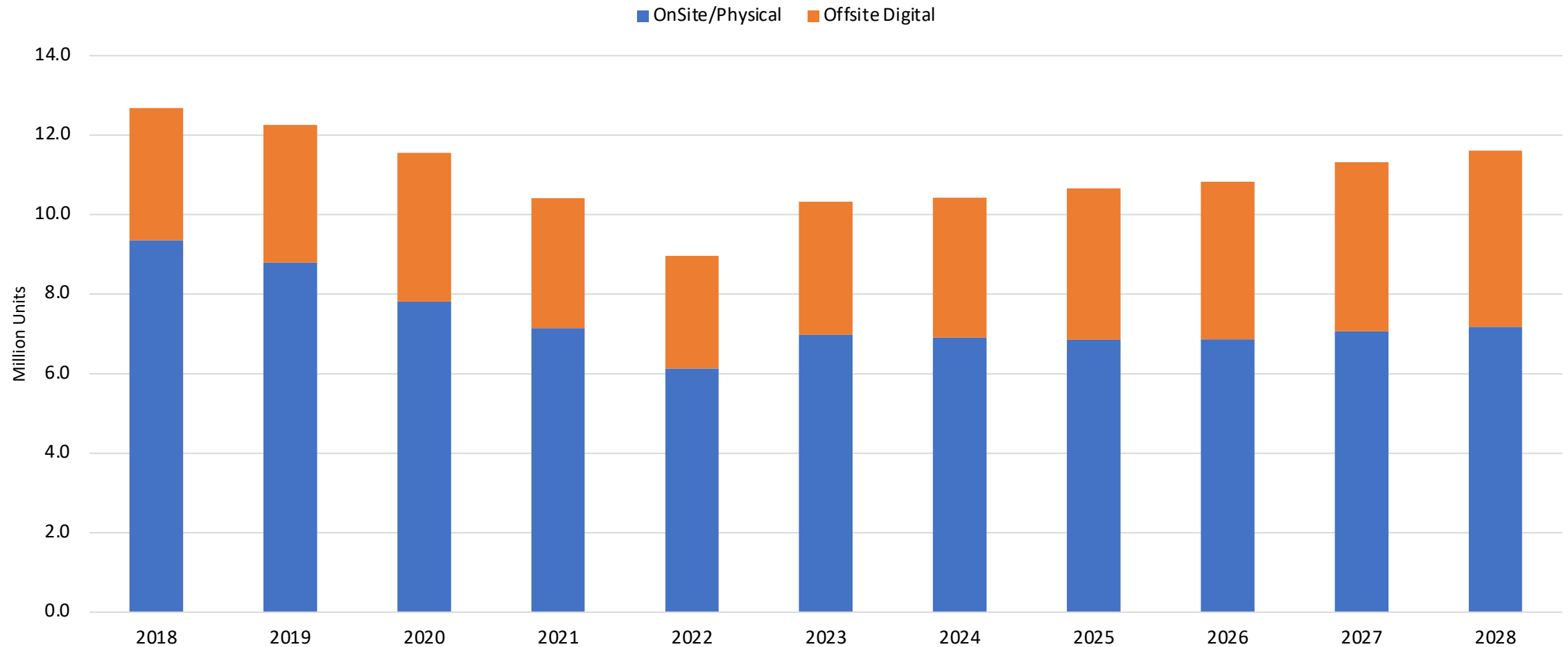


ON-SITE PHYSICAL AUCTION VOLUMES DO NOT FULLY RECOVER



With gradual shift to more transactions offsite and fully digital, onsite volume in 2028 expected to be 18% below 2019

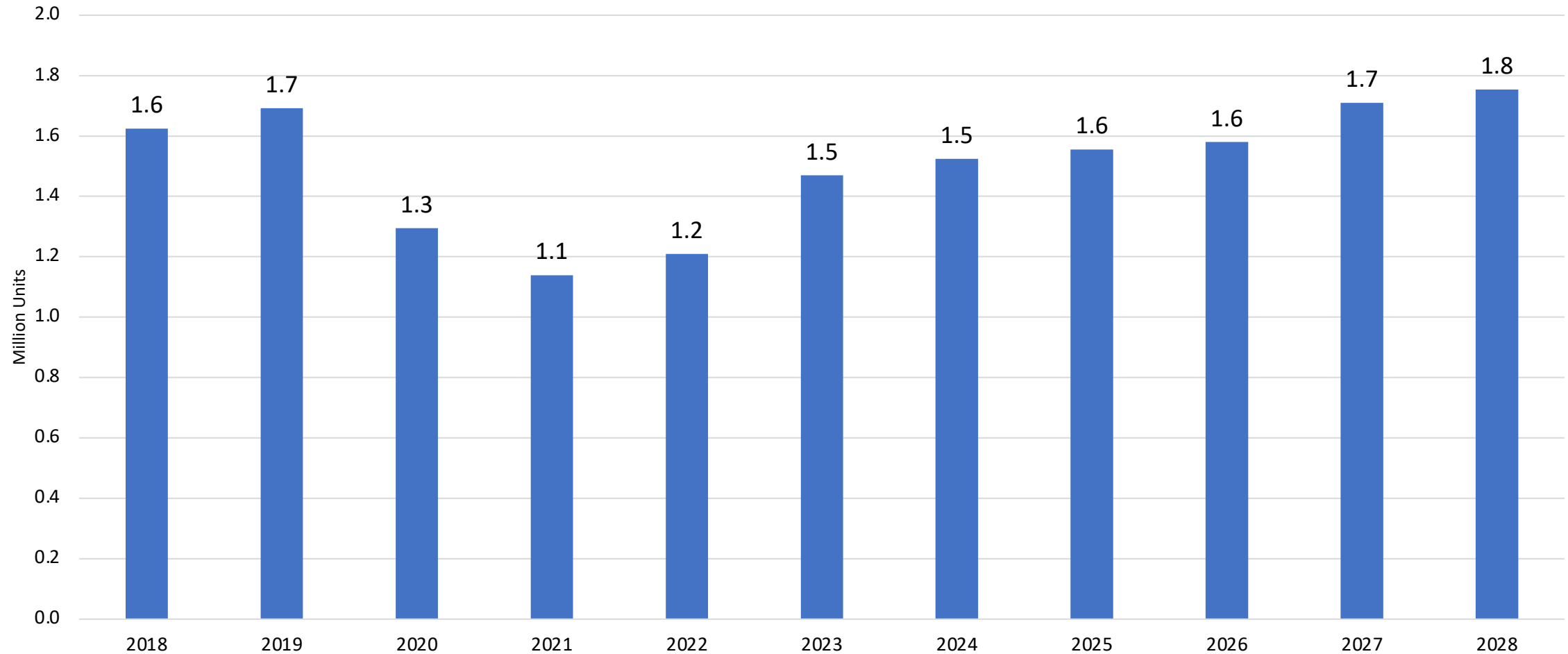
Wholesale Onsite/Physical vs. Offsite



REPO DIP IN 2020-2021 SEES NORMALIZED RECOVERY

Longer term expects normal default rates by credit tier resulting in higher defaults in 2028 compared to 2019

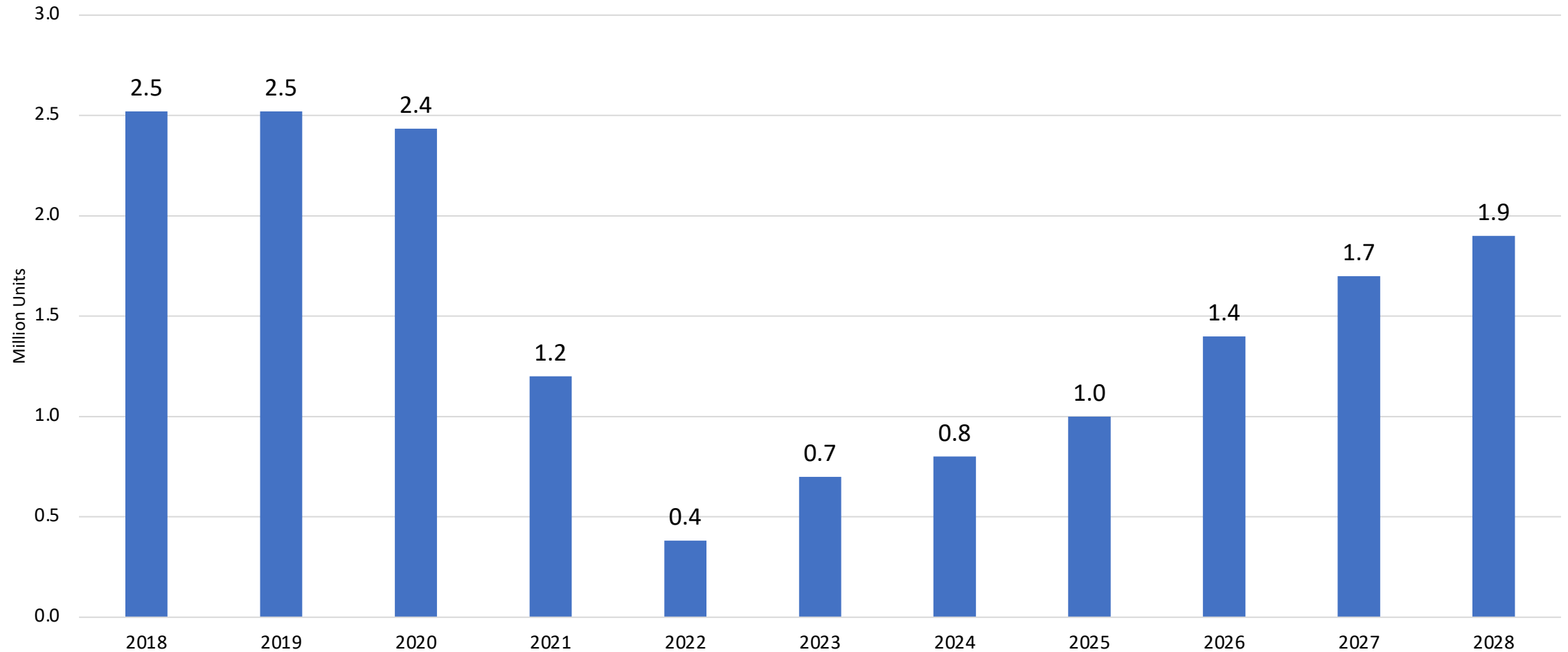
Estimated Repossession Volumes



OFF LEASE RETURNS COLLAPSED BUT WILL RECOVER AS MATURITIES FALL

Return rate hit a historical low of 11% in 2022 vs. 62% in 2019; now lease maturities are falling

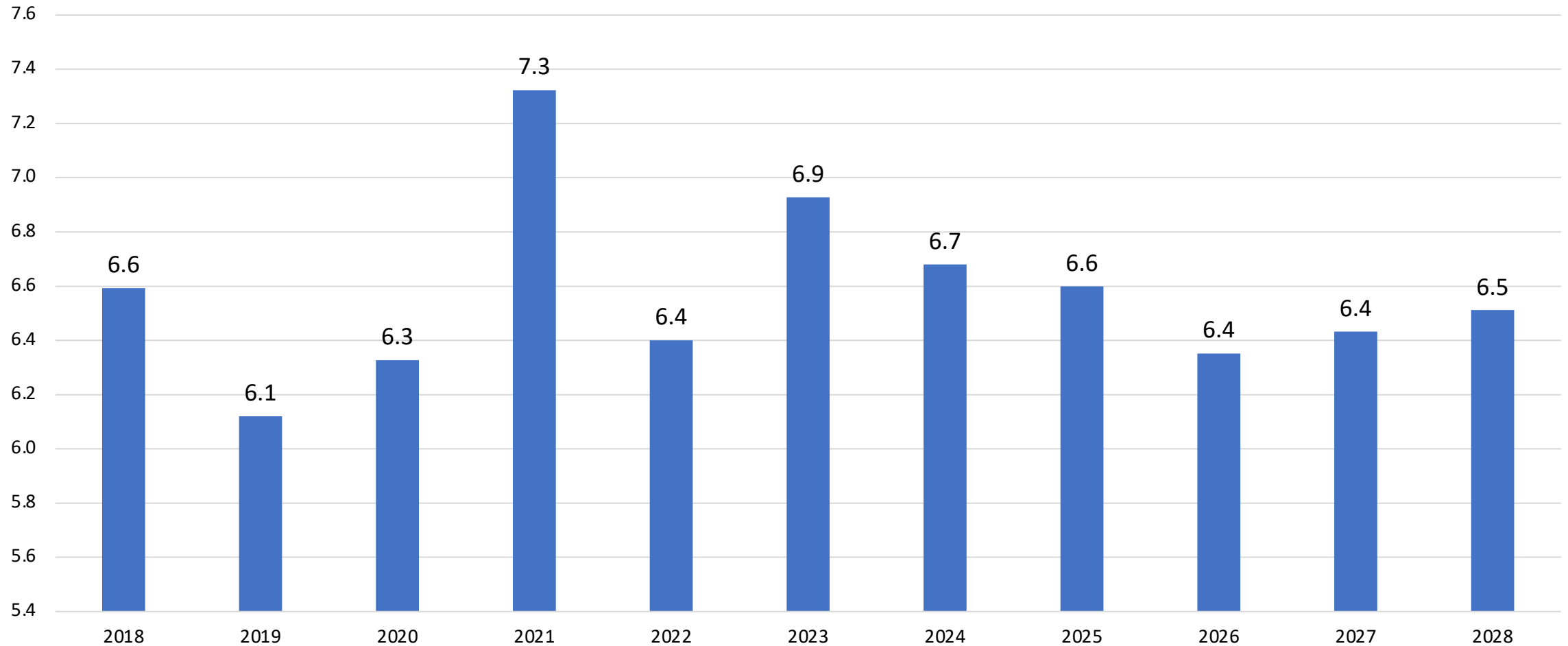
Off Lease Returns



DEALER VOLUMES SPIKED IN 2021; NORMAL FLOWS AHEAD

Off-lease arbitrage and record retail sales powered an 11% jump in dealer consignments in 2021

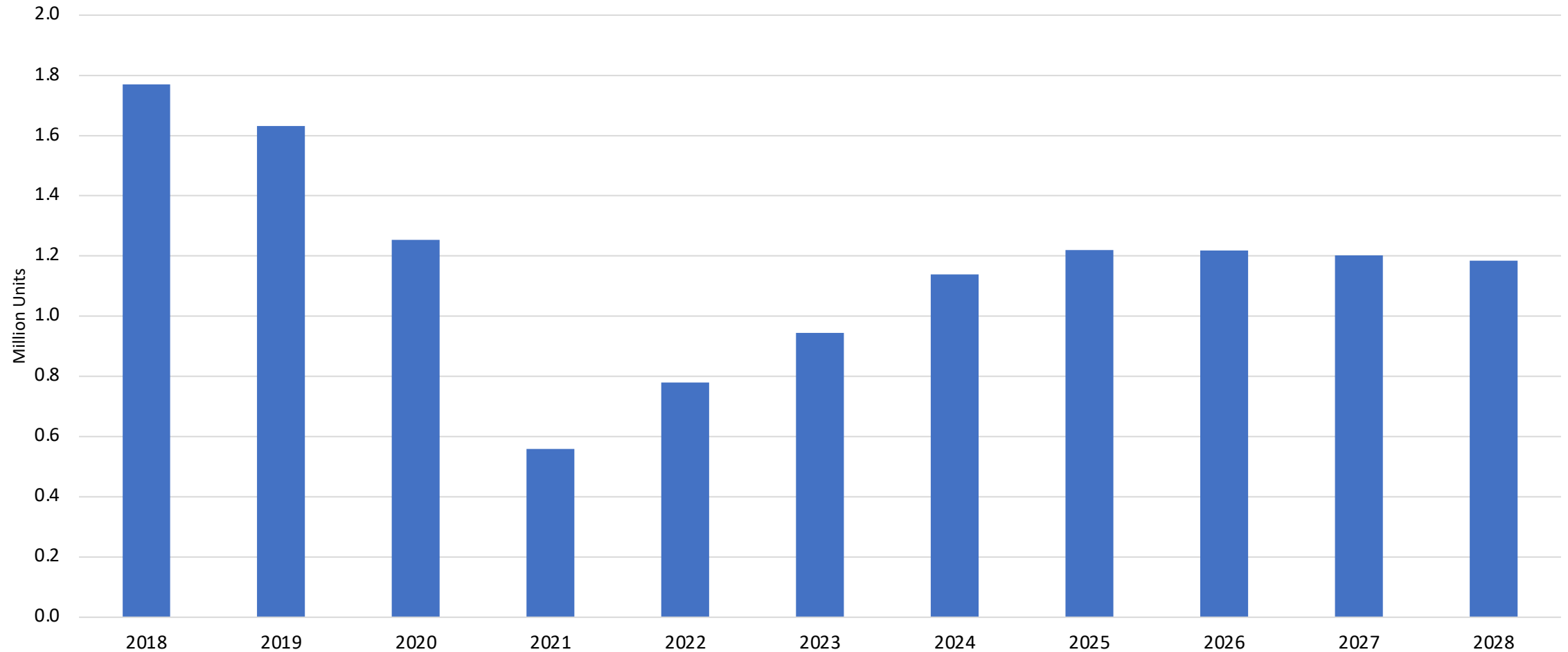
Estimated Dealer Volumes



RENTAL VOLUMES IMPROVE AS FLEET SIZE RECOVERS

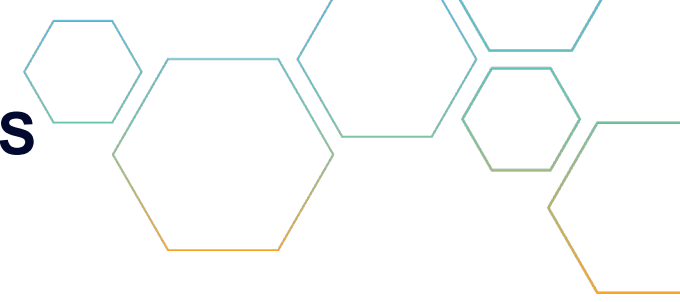
Total fleet size will expand but still fall short of pre-pandemic levels as share of new market recovers

Estimated Rental Volumes

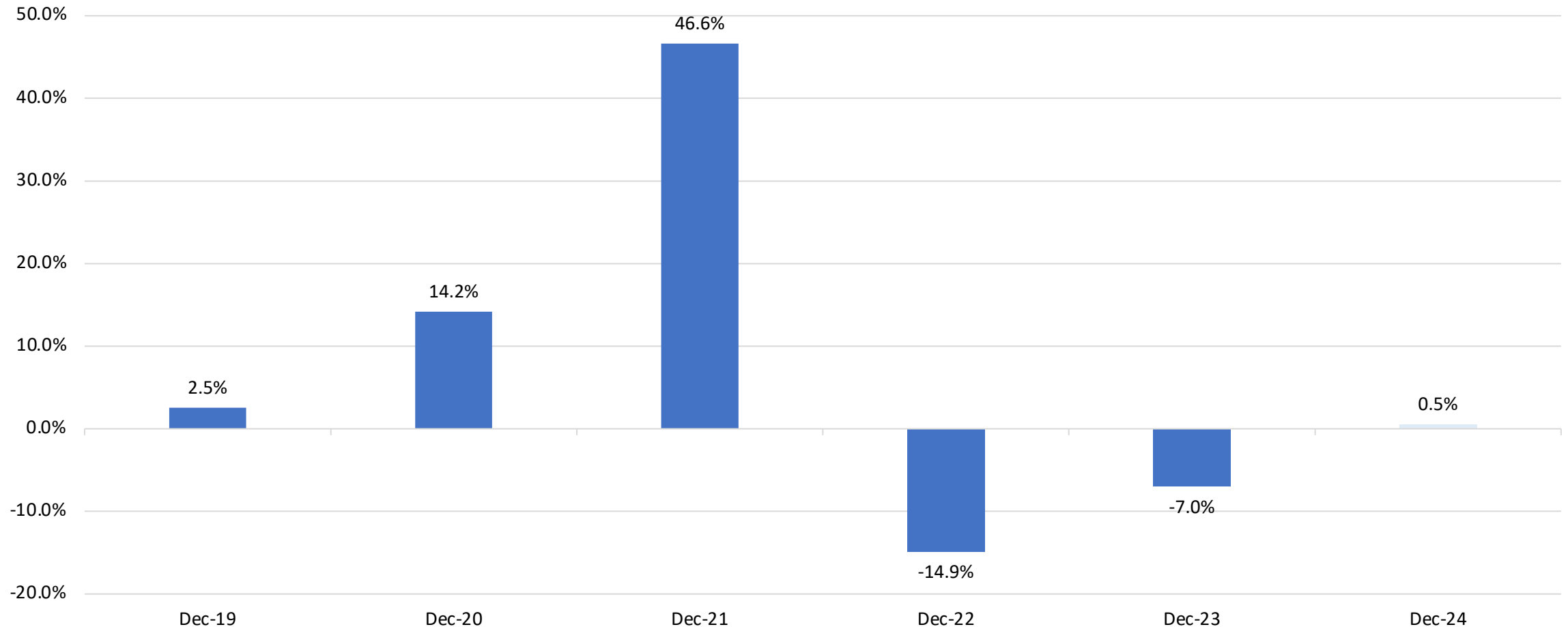


HIGHER THAN NORMAL DEPRECIATION IN 2023 TRANSITIONS TO MORE NORMAL PRICE CHANGE IN 2024

2023 saw more price pressure than normal in spring and summer and late in the year



Year-Over-Year % Change in Manheim Index, as of December

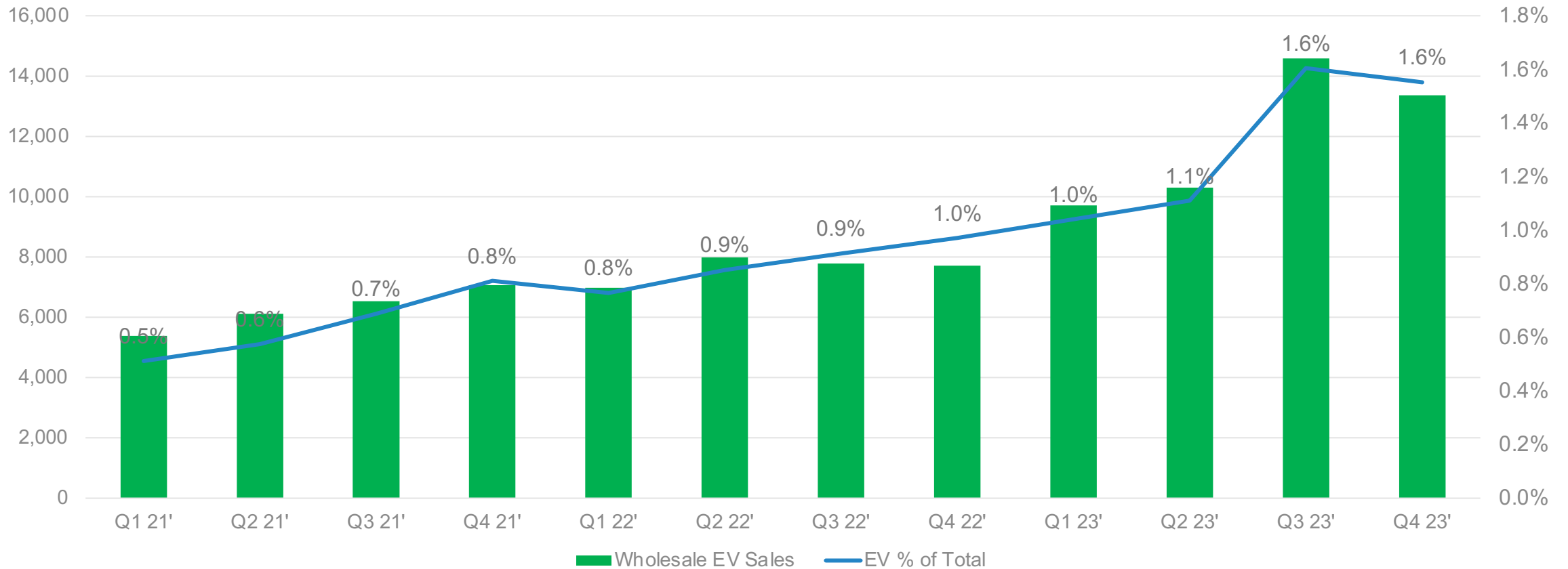


EV TRANSACTIONS INCREASED YEAR OVER YEAR AT MANHEIM

Q4 EV transactions growth climbed, +73% year over year though unit sales were down against prior quarter

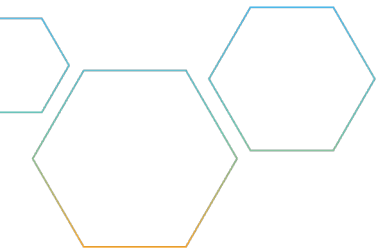


Wholesale EV Transaction Metrics



2024
FORECASTS

Jan. 8, 2024



15.7M

NEW SALES

(2023: 15.5M)

12.7M

NEW RETAIL SALES

(2023: 12.7M)

3.0M

FLEET SALES

(2023: 2.8M)

2.9M

NEW LEASE
VOLUME

(2023: 2.6M)

23%

LEASE
PENETRATION

(2023: 20%)

2.7M

CPO SALES

(2023: 2.6M)

36.2M

USED SALES

(2023: 35.9M)

19.2M

USED RETAIL SALES

(2023: 19.0M)

+0.5%

DEC 2024 Y/Y MANHEIM
USED VEHICLE
VALUE INDEX

(2023: -7.0%)

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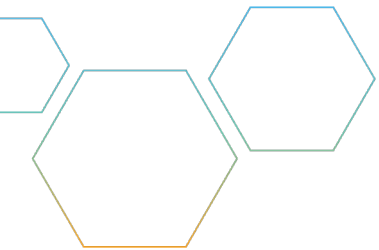
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CONTACT US

Send questions to: manheim.data@coxautoinc.com

To speak with an expert, email us:

Dara Hailes

Senior Manager

Cox Automotive Corporate Communications

dara.hailes@coxautoinc.com

Mark Schirmer

Director

Cox Automotive Corporate Communications

mark.schirmer@coxautoinc.com

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