Presenters

Mark Schirmer, Director, Public Relations

Jonathan Smoke, Chief Economist

Zach Hallowell, Senior Vice President, Manheim Digital

Chris Frey, Senior Manager, Economic and Industry Insights

Kevin Chartier, Vice President, Manheim Consulting
The Power of Cox Automotive

Harnessing the power of connected data for game-changing results
COVID-19 Daily Case and Vaccination Trends

Source: Cox Automotive
Economic Activity Recovering from Omicron Wave

11 states now have activity higher than February 29, 2020

Moody’s-CNN Business Back-To-Normal Index (February 29 = 100)

Source: Moody’s Analytics and CNN Business
Refund issuance did not reach critical mass in March, but average refund up 12% year over year

Cumulative Refunds Issued and Ave Refund Amount by Week
(week 12 was week ending Mar 25, 2022)

Source: Verisk/Equifax
Retail Sales Estimates Show Slow Start to Year

2022 and 2021 % Change vs. 2019 in Retail Sales by Week

Source: Cox Automotive
New Supply Tightening Again in March

Inventory down 71% vs. 2019 and down 57% from last year

Source: Cox Automotive
Used Supply Tightening Substantially in March

Days’ supply fell 19 days over course of March
Zach Hallowell
Senior Vice President, Manheim Digital
## MANHEIM IS WELL-POSITIONED

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry Experience</td>
<td>75+ Years</td>
</tr>
<tr>
<td>Network</td>
<td>111 Physical, Digital and Mobile Sites</td>
</tr>
<tr>
<td>Land</td>
<td>6,500+ Acres</td>
</tr>
<tr>
<td>Workforce</td>
<td>11,500+</td>
</tr>
<tr>
<td>Population</td>
<td>84% within 100 miles of a Manheim site</td>
</tr>
<tr>
<td>Vehicles Handled</td>
<td>8M</td>
</tr>
<tr>
<td>Infrastructure Investment</td>
<td>$100M+</td>
</tr>
</tbody>
</table>
COVID ACCELERATED DIGITAL ADOPTION

- **Digital Buyer**
  - Pre-COVID: 48%
  - First Wave of COVID: 100%
  - Full Year 2020: 80%
  - Full Year 2021: 79%

- **In-Lane Buyer**
  - First Wave of COVID: 0%
  - Full Year 2020: 20%
  - Full Year 2021: 21%

- COVID Accelerated Digital Adoption:
  - 2020: 80%
  - 2021: 79%

- COVID-related terms:
  - PRE-COVID
  - FIRST WAVE OF COVID
  - FULL YEAR 2020
  - FULL YEAR 2021
THE FUTURE OF WHOLESALE IS CONNECTED ACROSS PHYSICAL + DIGITAL

100K+ Average # of weekly buyer attendees; 30K+ in lane

300+ Average # of dealers in each Simulcast lane weekly; 105 bidding

~5 Bids per vehicle offered on average

~9K Average # of sellers offering vehicles each week

~270K Average # of vehicles listed in the Manheim Marketplace each week.
NEW AI-FUELED IMAGING LEADING TO INDUSTRY’S MOST ADVANCED AUTOMATED DAMAGE DETECTION
THE MANHEIM + FYUSION DIFFERENCE

1M+
360° CAPTURES IN PATENTED FYUSE FORMAT; MILLIONS MORE COMING

94%
ACCURACY IN AUTOMATICALLY IDENTIFYING TOP 20 DAMAGE TYPES

80+
ISSUED PATENTS ON IMAGING AND DAMAGE DETECTION TECHNOLOGY

3D
FYUSION’S TECHNOLOGY IS THE ONLY IN WHOLESALE TO USE 3D FOR IMAGING
OFFSITE WHOLESALE IS SKYROCKETING

Around HALF of Active Offsite Sellers:

- Say that selling from the lot is more important now to how they do business (more than any other channel)
- Agree that all wholesale sales (from dealers) will come from the dealership lot in the future

What Dealers Tell Us:
Top 5 Benefits of Offsite Selling

1. Easier than sending to auction
2. Saves me time
3. Make more money due to lower fees
4. Potential to sell the vehicle retail
5. Vehicles sell faster
MANY WAYS TO WHOLESALE OFFSITEManheim ExpressUpsideOVEManheim Private Stores
Chris Frey
Senior Manager, Economic and Industry Insights
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 March

Prices in March decreased 3.3% from February 2022 but were up 24.8% compared to March 2021

Source: Manheim
Year-over-year price performance turned lower heading into spring

Source: Manheim
Adjusted prices continued downward, while non-seasonally adjusted prices increased in March.
Wholesale Used Vehicle Prices Versus New-Vehicle Prices

New retail prices capped at sticker by OEM, while wholesale prices rose from supply constraints
Vans Continue Outperforming Other Segments

Compared to December 2021 all segments have seen declines, while still being elevated compared to March 2021

### Percent Change in Manheim Index Year Over Year March 2022

- **Industry**: 24.8%
- **Compact cars**: 33.8%
- **Midsize cars**: 27.7%
- **Luxury cars**: 24.4%
- **Pickups**: 10.0%
- **SUV / CUV**: 24.5%
- **Vans**: 37.7%

*Source: Manheim*
Weaker Than Normal In Q1 And Late Start To Spring Selling Season

Following the incredible run up in Q4-2021, price depreciation in Q1-2022 looked more like a normal Q4

Average Q4 Decline = -5.6%

Source: Manheim
Luxury Prices Also Drifting Lower In Q1

Luxury prices also followed a more typical Q4 pattern

Source: Manheim
1-Year-Old Prices Also Weaker Than Normal

1-year-old vehicle prices also followed a Q4 pattern but not quite to the same extent and 3-year-olds

1-Year-Old Model MMR Index by Week

- Average Q4 Decline = -5.0%

Source: Manheim
2022 Depreciation Patterns Differ Greatly By Age Group

Oldest vehicles held their value better in Q1 than near-new segments
Gas price jump coinciding with the normal spring market upturn
Sedans Typically Lead The Market Higher In The Spring

Pickups & Full-Size SUV prices normally turn up later than sedans in the spring
Commercial Supply Sources Remain Well Below Historical Norms

Repos following long, slow recovery path while Off-Lease & Rental remain near all-time lows

~13% of Normal
Extremely High Equity Positions continuing to keep most off-lease units out of auction

~64% of Normal
Repo Volumes Slowly Recovering But Still Well Below Pre-Covid Levels

~56% of Normal
Running Slightly Higher Than 2021
Retention Values Now Higher Than 2021’s Record Peak

Retention values peaked at high of 87% in 2021; now at 89%

Auction Retention Value
(1-3 year old vehicles)

Source: Kelley Blue Book
Rental Risk Average Auction Prices

Average price for rental risk units sold in March up 30% year over year and down 1% month over month

Source: Manheim
Rental Risk Vehicle Variety Represented in Sales

Configurations declined while share of most populous units increased

<table>
<thead>
<tr>
<th></th>
<th>2020 Q1</th>
<th>2021 Q1</th>
<th>2022 Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of unique year, make, model, body configurations sold</td>
<td>3,390</td>
<td>3,149</td>
<td>2,976</td>
</tr>
<tr>
<td>Share accounted for top 10 YMMB</td>
<td>11.8%</td>
<td>12.0%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Share accounted for top 25 YMMB</td>
<td>21.4%</td>
<td>22.6%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Number of YMMB to reach 50% share</td>
<td>113</td>
<td>117</td>
<td>68</td>
</tr>
</tbody>
</table>

Source: Manheim
Rental Risk Average Mileage

Average mileage for rental risk units in March was down 6% compared to a year ago but up 6% month over month

Source: Manheim
Rental Risk Sales Condition

Q1 2022 distribution very close to that of Q1 2021

Source: Manheim
Chevy, Nissan, Ford, and Toyota remain in the top 4 with a little movement among those players.
Rental Risk Sales By Vehicle Segment

SUVs continued to have increased share
Price trends on top selling vehicles in March at Manheim showed mostly appreciating trends and clear year-over-year gains.

<table>
<thead>
<tr>
<th>Source(Rank)</th>
<th>Category</th>
<th>Subcategory</th>
<th>Vehicle</th>
<th>1-Apr</th>
<th>Past 30 Days</th>
<th>Last Year</th>
<th>Current Dep</th>
<th>L12M Dep/Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 All</td>
<td>Midsize Car</td>
<td>Midsize Car Entry</td>
<td>2020 CHEVROLET MALIBU 4D SEDAN LT</td>
<td>$20,400</td>
<td>$20,000</td>
<td>$18,000</td>
<td>2.0%</td>
<td>1.1%</td>
</tr>
<tr>
<td>2 All</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2020 TOYOTA COROLLA 4D SEDAN LE</td>
<td>$19,100</td>
<td>$18,700</td>
<td>$17,300</td>
<td>2.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>3 All</td>
<td>SUV</td>
<td>SUV Midsize</td>
<td>2019 CHEVROLET EQUINOX FWD 4D SUV 1.5L LT</td>
<td>$22,900</td>
<td>$22,400</td>
<td>$19,550</td>
<td>2.2%</td>
<td>1.4%</td>
</tr>
<tr>
<td>4 All</td>
<td>Midsize Car</td>
<td>Midsize Car Premium</td>
<td>2015 NISSAN ALTIMA 4C 4D SEDAN S</td>
<td>$9,125</td>
<td>$8,975</td>
<td>$7,950</td>
<td>1.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>5 All</td>
<td>SUV</td>
<td>SUV Midsize</td>
<td>2019 CHEVROLET EQUINOX AWD 4D SUV 1.5L LT</td>
<td>$23,000</td>
<td>$22,800</td>
<td>$19,400</td>
<td>0.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>1 Dealer</td>
<td>Dealer</td>
<td>SUV Midsize</td>
<td>2019 CHEVROLET EQUINOX FWD 4D SUV 1.5L LT</td>
<td>$22,900</td>
<td>$22,400</td>
<td>$19,550</td>
<td>2.2%</td>
<td>1.4%</td>
</tr>
<tr>
<td>1 Lease</td>
<td>Lease</td>
<td>SUV Luxury</td>
<td>2019 VOLVO XC90 AWD 4D SUV T6 MOMENTUM</td>
<td>$43,200</td>
<td>$43,300</td>
<td>$41,600</td>
<td>-0.2%</td>
<td>0.3%</td>
</tr>
<tr>
<td>1 Rental</td>
<td>Rental</td>
<td>Midsize Car Entry</td>
<td>2020 CHEVROLET MALIBU 4D SEDAN LT</td>
<td>$20,400</td>
<td>$20,000</td>
<td>$18,000</td>
<td>2.0%</td>
<td>1.1%</td>
</tr>
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Three-Year Old Average Wholesale Price Increases Over Last 3 Weeks

MY 2019 Retail and Wholesale Price Index

Source: Manheim
2022 FORECASTS

Q2 UPDATE

15.3M ↓
NEW SALES

13.3M ↓
NEW RETAIL SALES

2.0M ↓
FLEET SALES

2.9M ↓
NEW LEASE VOLUME

22% ↓
LEASE PENETRATION

2.8M ↓
CPO SALES

39.3M
USED SALES

20.7M
USED RETAIL SALES

-3%
DEC 2022 Y/Y MANHEIM USED VEHICLE VALUE INDEX

Indicates decrease from Q1 forecast
More Auto Industry Data and Insights from Cox Automotive

The go-to source for insights based on the largest breadth of first-party data in the automotive ecosystem


The official MUVVI is published on the 5th business day each month. A mid-month update covering the first 15 days of the month is published around the 17th of the month.

Auto Market Snapshot: [www.coxautoinc.com/marketsnapshot](http://www.coxautoinc.com/marketsnapshot)

This dashboard is a one-stop dashboard for the most recent data points our team is tracking.

Cox Automotive Newsroom: [www.coxautoinc.com/newsroom/](http://www.coxautoinc.com/newsroom/)

Fresh content from Chief Economist Jonathan Smoke and the Industry Insights team is published regularly.

From the Newsroom: [www.coxautoinc.com/signup](http://www.coxautoinc.com/signup)

The Cox Automotive biweekly newsletter, published every other Tuesday, is a round-up of news from Cox Automotive and perspectives from its analysts and experts on topics dominating the automotive industry.
Thank you for attending!

Contact us with questions or to speak with an expert:

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