

Current Classes 4-7

Market Overview & Forecast

Steve Tam, Vice President

Student and analyst of the commercial vehicle market since 1993

Frequent speaker at industry and private company events

Often quoted in trade press, the Wall Street Journal, and even on the radio

Transcend boundaries to dialogue with participants from every facet of the industry

Relish opportunity to impart knowledge and understanding of this crazy industry



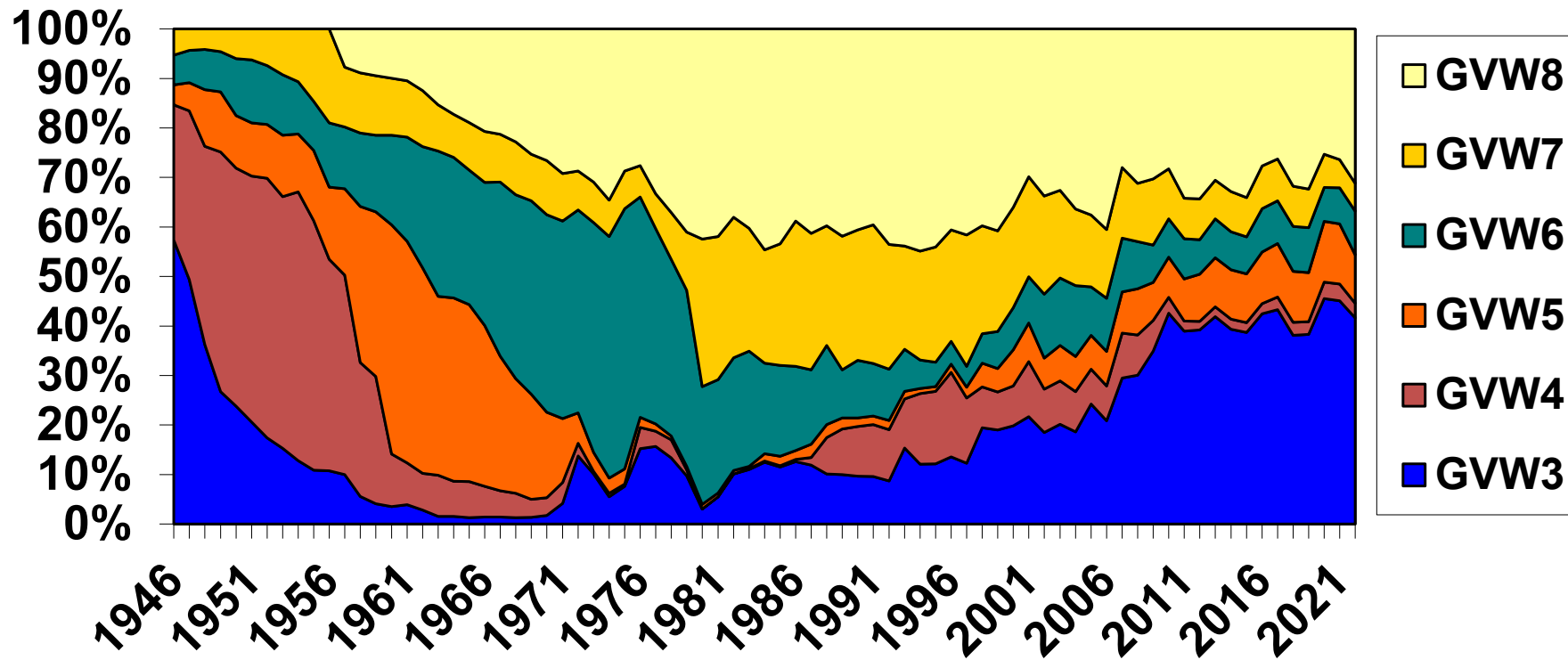
Light/Medium Duty Vehicles

- Defined
- Current Market
- Demand Drivers
- Forecast
- Developments



US Classes 3-8 Market at a Glance

Percent Mix 1946 – 2022



	YTD Share
CI 3	41.7%
CI 4-7	22.7%
CI 8	31.2%

	YTD Share Δ
CI 3	-347bps
CI 4-7	-130bps
CI 8	+477bps

	YTD Sales Δ
CI 3	-10.5%
CI 4-7	- 7.4%
CI 8	+ 14.5%

Light/Medium Duty Vehicles

Light Duty

- Classes 4-5 (2c-5)
- ~~Pickup truck on steroids~~
- Scaled LCF/COE



Medium Duty

- Classes 6-7
- ~~Morphed down from Class 8~~
- Scaled LCF/COE



A Few of the Hundreds of Body Types



The State of MD Vehicles (Current Market)

Takeaway: A Market Stuck In Neutral

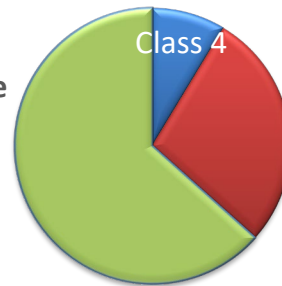


Class 4

GVWR
14,001 to
16,000 lb

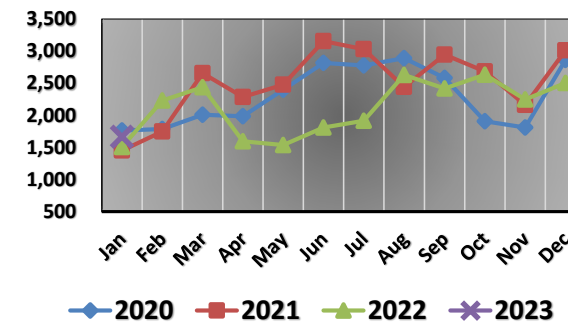
LIGHT DUTY
CLASS 4

Monthly
Market Share
(Classes 4-7)

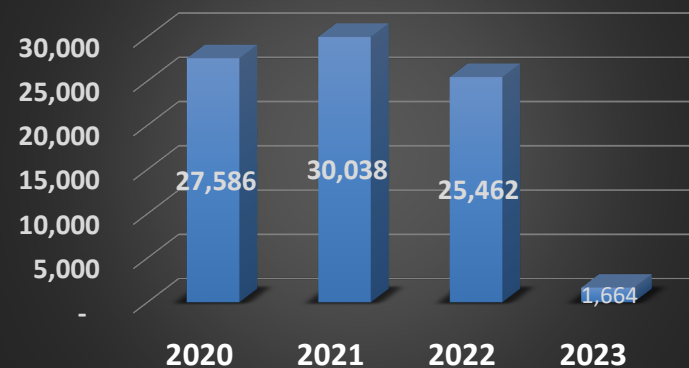


Retail Sales Report January 2023

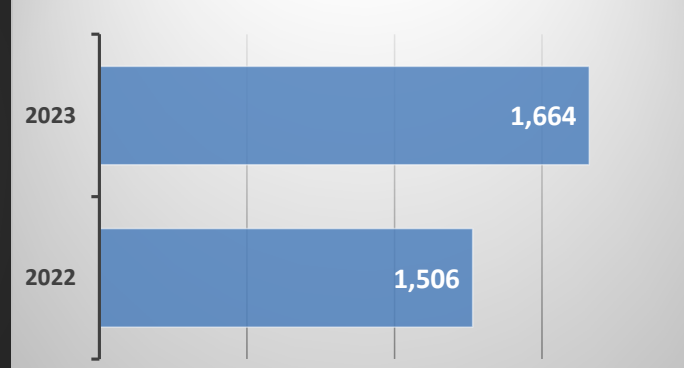
Monthly Sales Trend



Year-to-Date



Year-over-Year

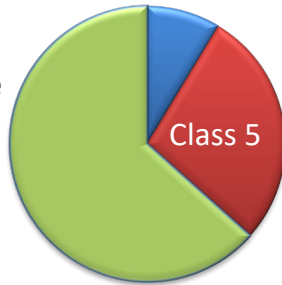


Class 5

GVWR
16,001 to
19,500 lb

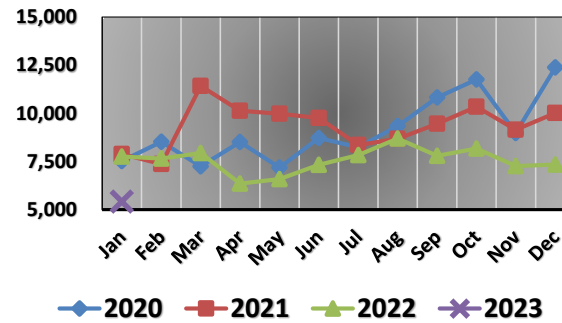
LIGHT DUTY
CLASS 5

Monthly
Market Share
(Classes 4-7)

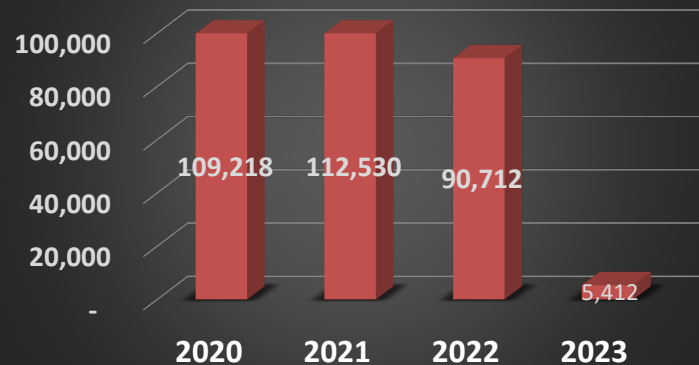


Retail Sales Report January 2023

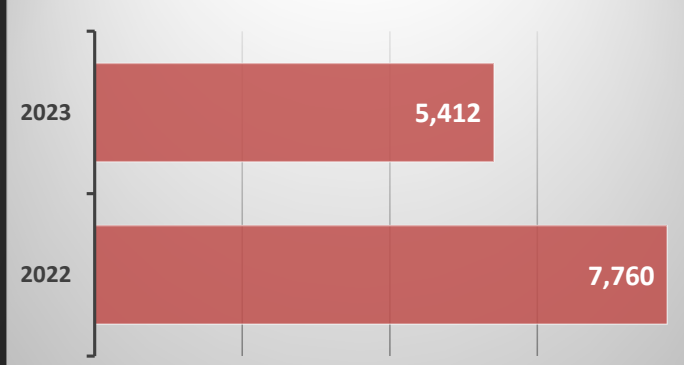
Monthly Sales Trend



Year-to-Date



Year-over-Year



Classes 6-7

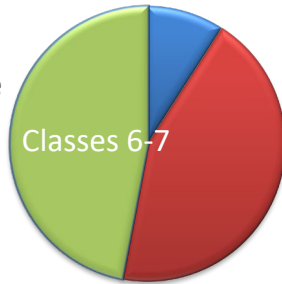
GVWR
19,501 to
33,000 lb

MEDIUM DUTY
CLASSES 6-7

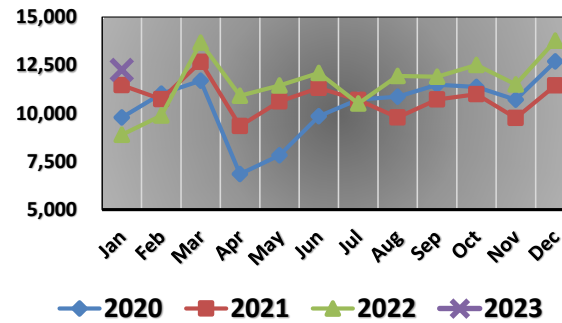
Retail Sales Report

January 2023

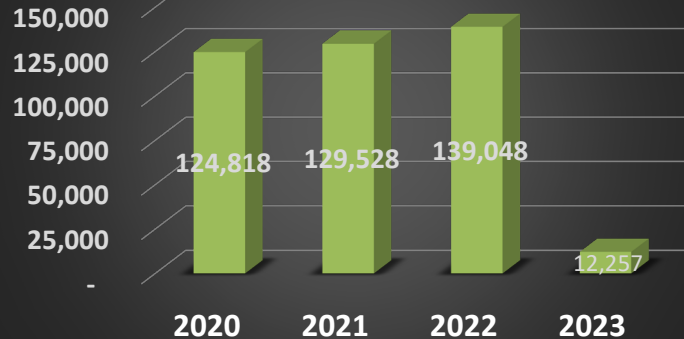
Monthly
Market Share
(Classes 4-7)



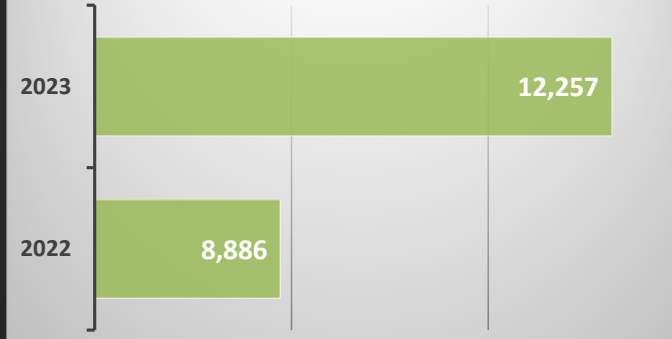
Monthly Sales Trend



Year-to-Date



Year-over-Year

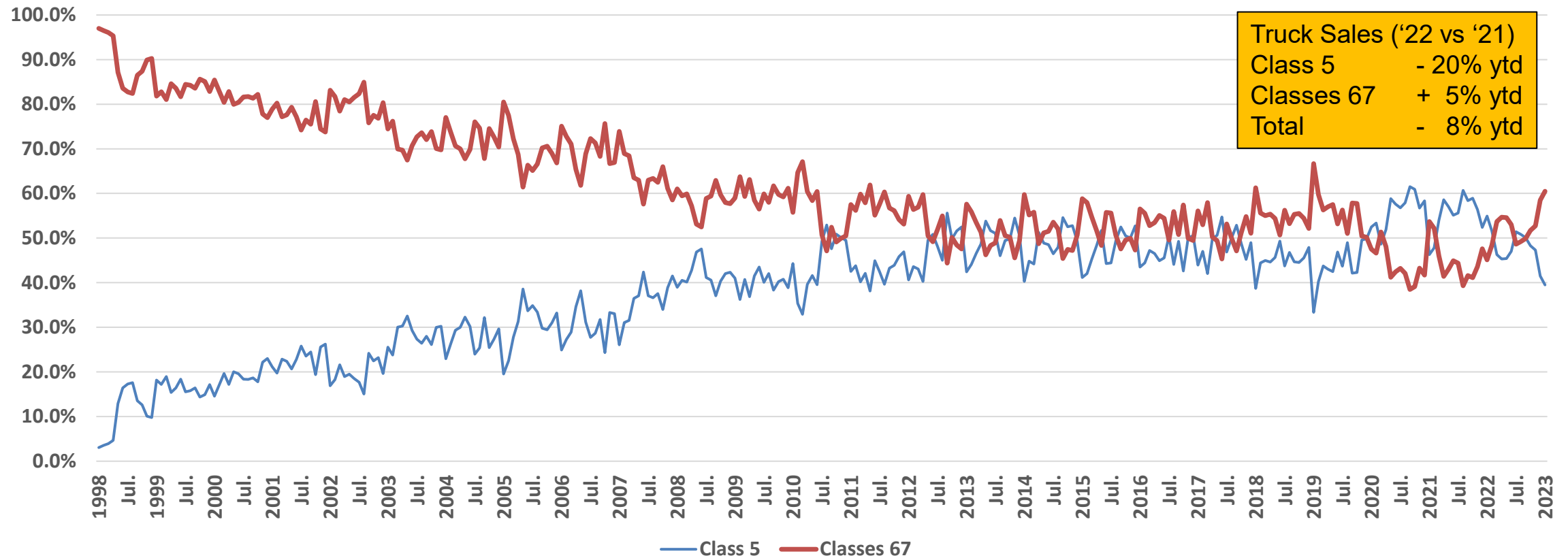


Who Gets Scarce Resources?



Classes 6-7 Truck Demand Rally

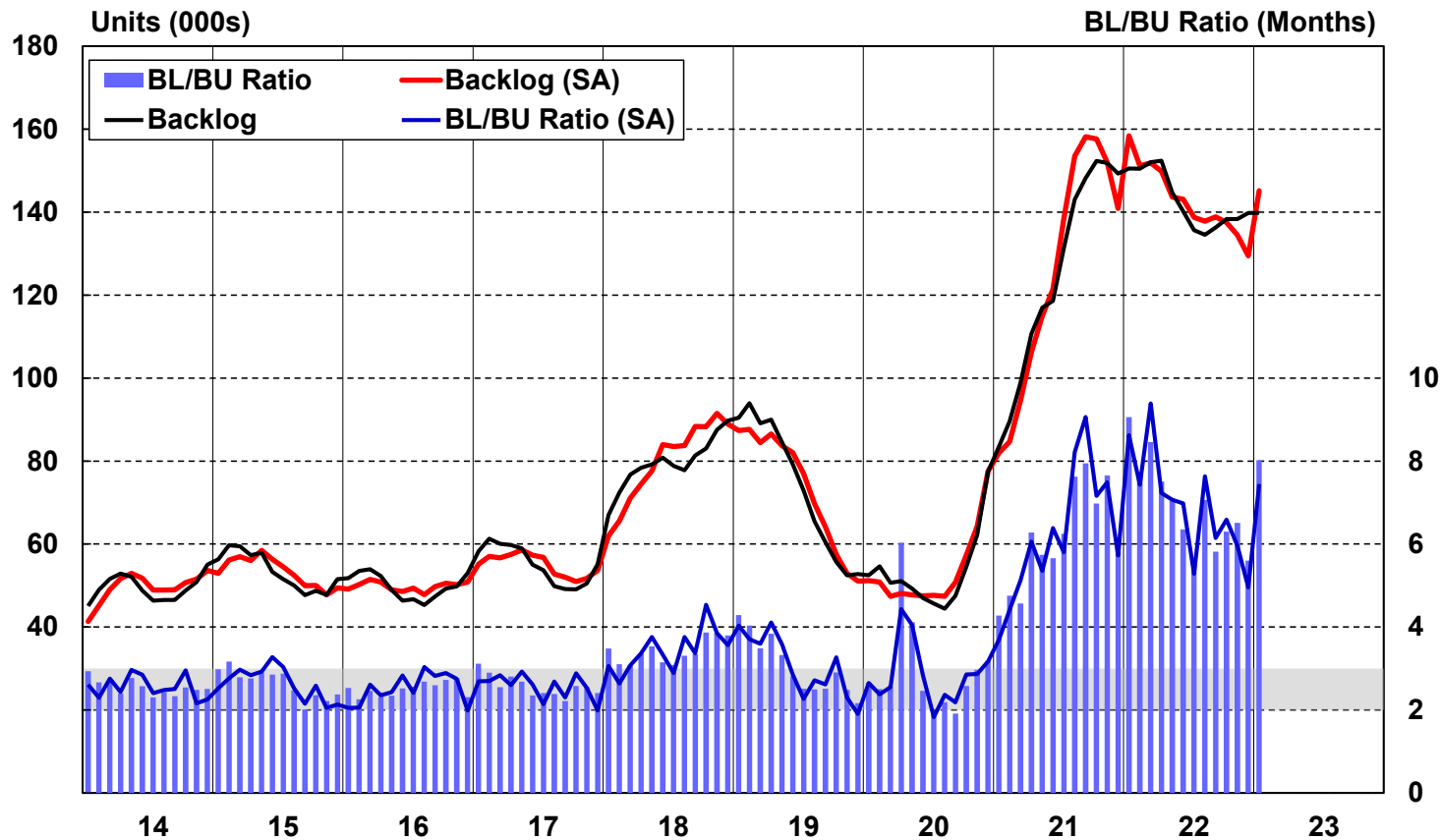
US + CAN Truck Sales



BL Progress Stalled – Ratio Essentially Flat Y/Y

Total Classes 5-7: N.A. Backlog & BL/BU Ratio

January 2014 - January 2023



Source: ACT Research Co. © 2023

OEMs struggle to make meaningful, sustainable build gains

Q3'21 – 923 upd
Q4'21 – 1,043 upd
Q1'22 – 858 upd
Q2'22 – 1,000 upd
Q3'22 – 1,047 upd
Q4'22 – 1,076 upd
Q1'23 – 946 upd*
Q2'23 – 1,151 upd*

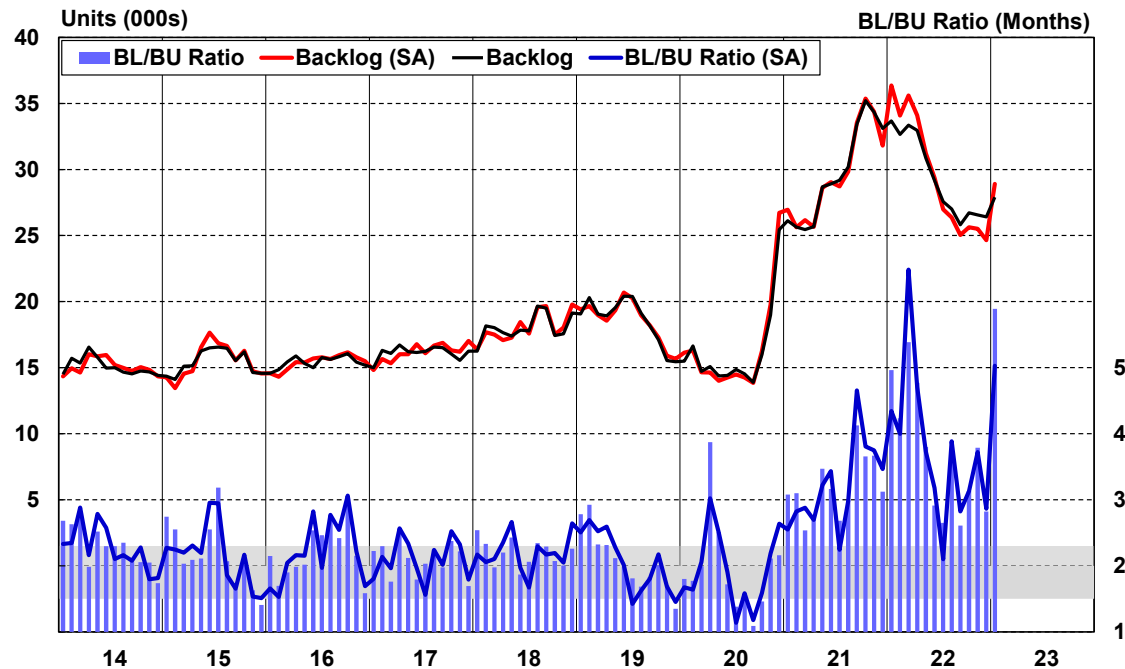
2021 – 964 upd
2022 – 993 upd

*Based on OEM build plans

Backlogs 10K Off Peak, but...

Total Class 5: N.A. Backlog & BL/BU Ratio

January 2014 - January 2023

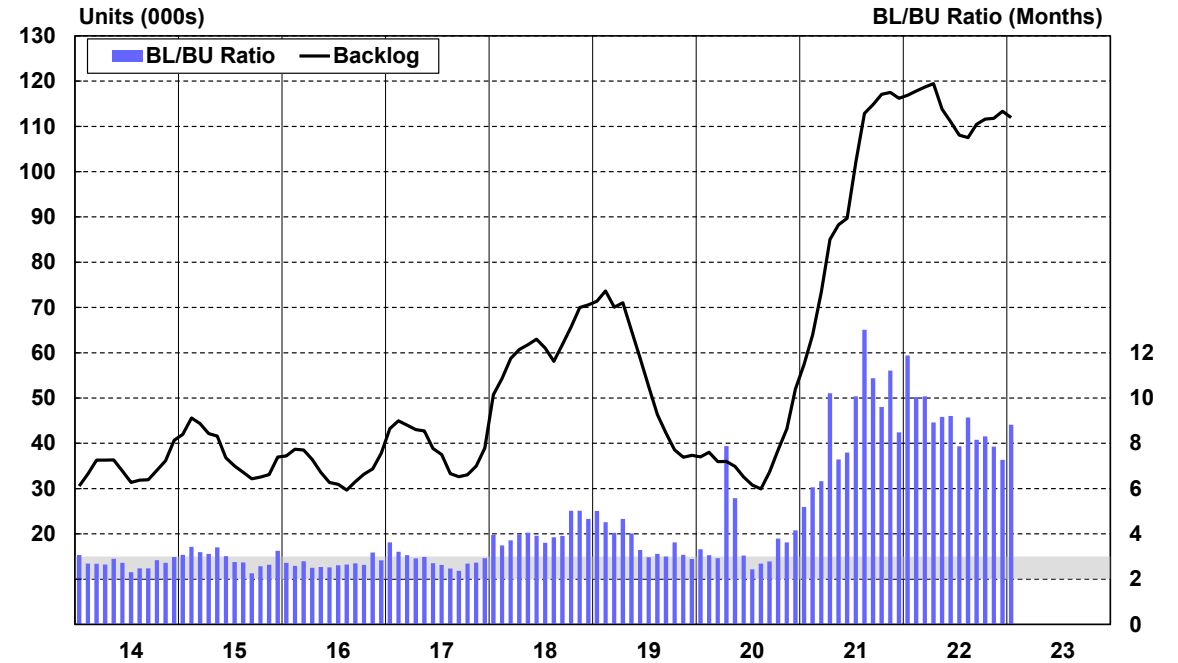


Source: ACT Research Co. © 2023

2x bump - 35k peak 20k > 15k average

Total Classes 6-7: N.A. Backlog & BL/BU Ratio

January 2014 - January 2023



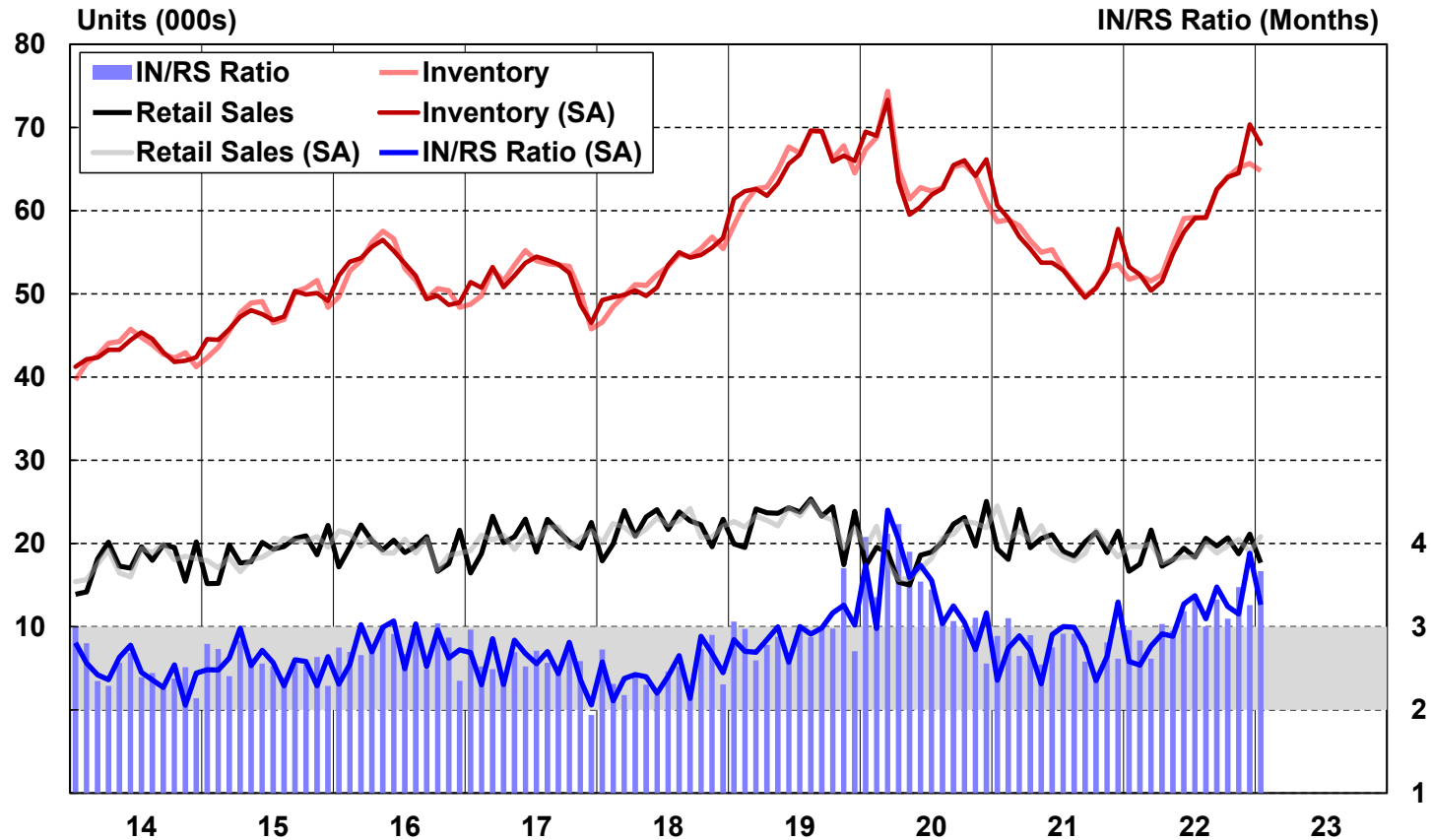
Source: ACT Research Co. © 2023

3x bump - 120k peak 80k > 40k average

Body-Builders Must Be Bursting

Total Classes 5-7: N.A. Inventory/Retail Sales Ratio

January 2014 - January 2023



YTD ('22 vs '21)

Build	+	2.5%
Sales	-	5.1%
Inventory	+	22.6%

Source: ACT Research Co. © 2023

LD/MD Vehicle Demand Drivers



Light/Medium Duty Vehicle Demand Drivers

Operational

- Replacement
- 75% of demand in any given period
- Population/utilization
- Demographics
- Vehicle age
- Resale value

Economic

- Consumer confidence
- ISM
- Manufacturers' new orders
- Unemployment rate/jobs creation
- Retail sales
- Housing starts/permits (70% R^2)
- Existing/new home sales (60-70% R^2)
- Non-residential construction
- Inflation (CPI)
- GDP
- Light auto and truck sales (70% R^2)



US LD/MD Fleet Statistics

	Classes 4-5	Classes 6-7
Replacement	90,000 (declining)	130,000 (declining)
Population	1,035,000 (growing)	1,325,000 (increasing)
Average Age	5.1 years (flat)	5.6 years (flat)
Resale Value	\$31,500 (flat)	\$54,500 (falling)



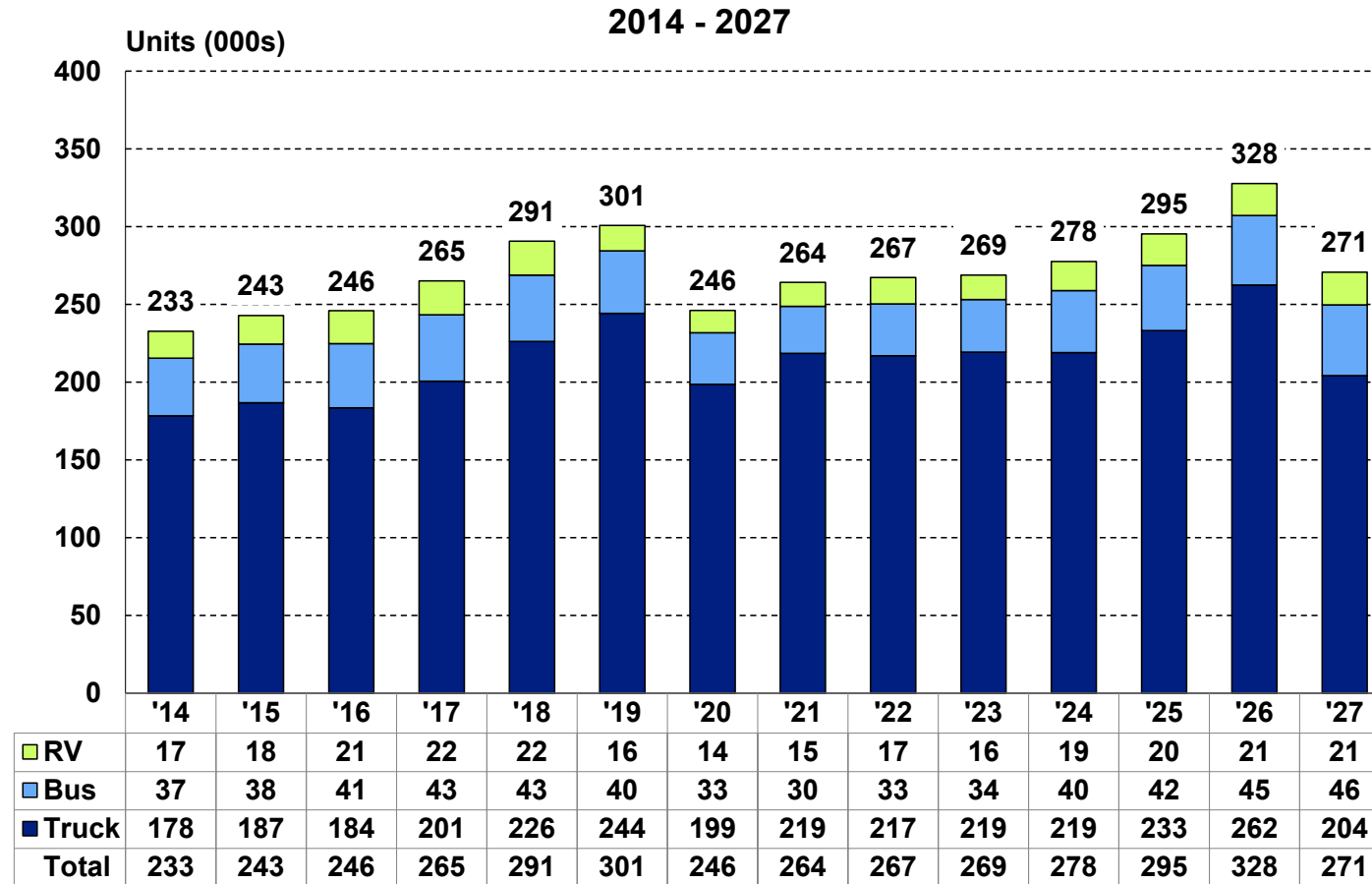
The Future of LD/MD Vehicles (Forecast)

Takeaway: Flat = Stable \neq Bad



Flat, Flat, Flat Other Than Emissions Mandates

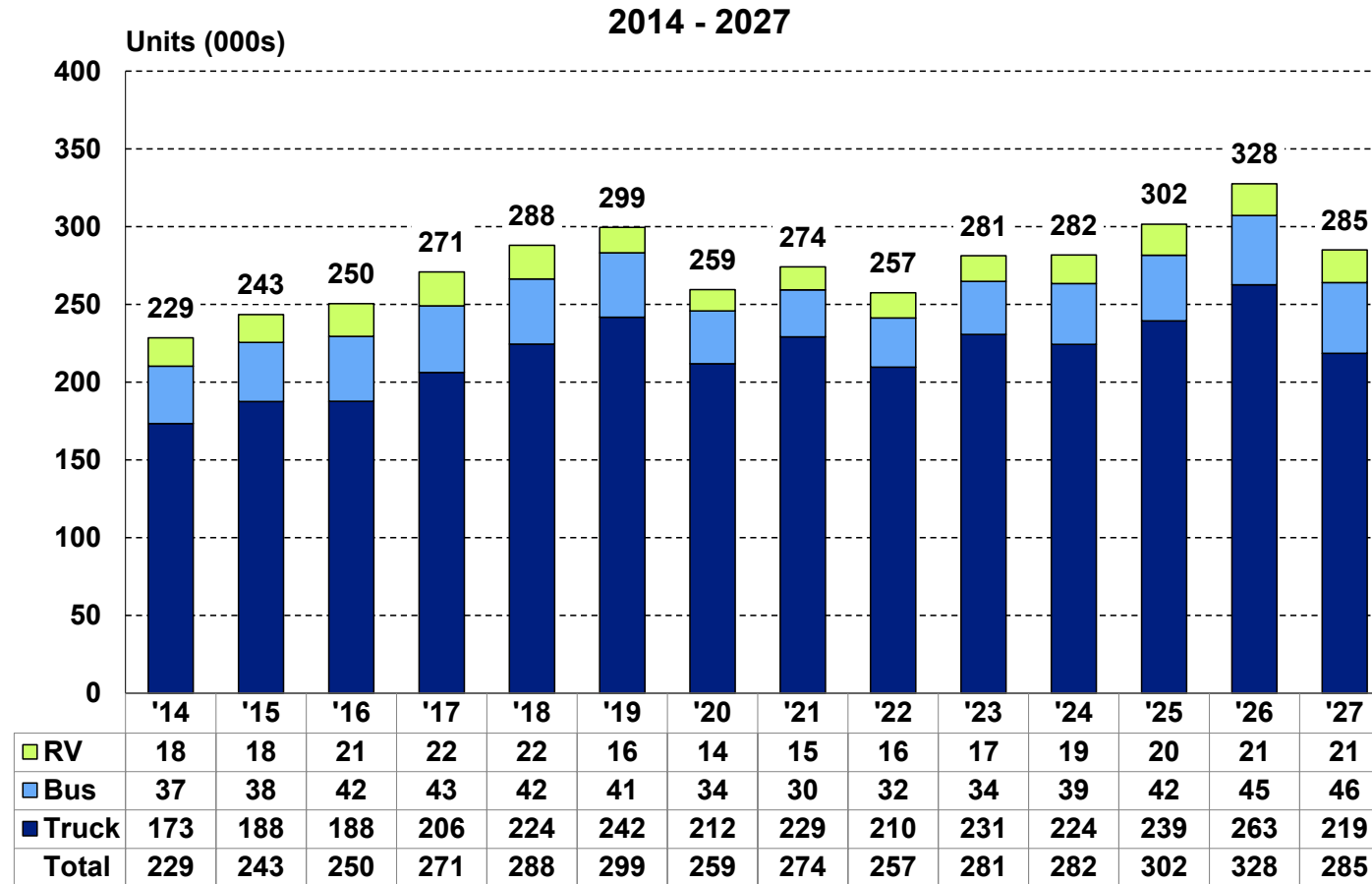
N.A. Classes 4-7 Production



Source: ACT Research Co. © 2023

Small Increase Will Come From Inventory

N.A. Classes 4-7 Retail Sales



Source: ACT Research Co. © 2023

2023 Micro Forecast (BU)

Class 5

	US	CAN	MEX	EXP	NA
Truck	81.9	7.3	0.3	0.0	89.5
Bus	0.0	0.0	0.4	0.0	0.4
RV	3.9	0.0	0.0	0.0	3.9
Total	85.8	7.3	0.7	0.0	93.8

Classes 6-7

	US	CAN	MEX	EXP	NA
Truck	94.5	4.3	3.5	0.7	103.0
Bus	27.1	2.1	4.1	0.1	33.4
RV	12.0	0.0	0.0	0.0	12.0
Total	133.6	6.4	7.6	0.8	148.4

Class 4

	US	CAN	MEX	EXP	NA
Truck	23.0	1.5	1.7	0.5	26.7

Total
269k



2024 Micro Forecast (BU)

Class 5

	US	CAN	MEX	EXP	NA
Truck	81.0	7.7	0.4	0.0	89.1
Bus	0.0	0.0	0.4	0.0	0.4
RV	4.6	0.0	0.0	0.0	4.6
Total	85.6	7.7	0.8	0.0	94.1

Classes 6-7

	US	CAN	MEX	EXP	NA
Truck	93.6	4.6	4.0	0.4	102.6
Bus	31.6	3.4	4.3	0.1	39.4
RV	14.1	0.0	0.0	0.0	14.1
Total	139.3	8.0	8.3	0.5	156.1

Class 4

	US	CAN	MEX	EXP	NA
Truck	23.3	1.7	1.7	0.6	27.3

Total
278k



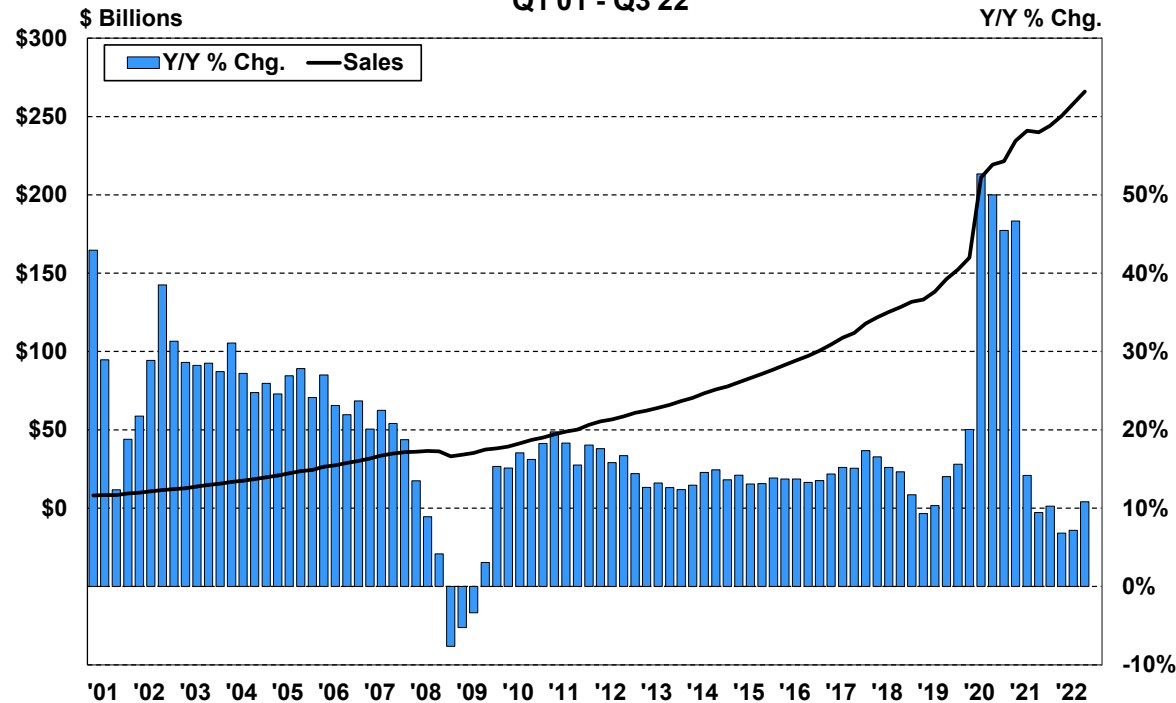
LD/MD Vehicle Developments



Equipment Shifts Amid E-Commerce Changes

Total E-Commerce Retail Sales

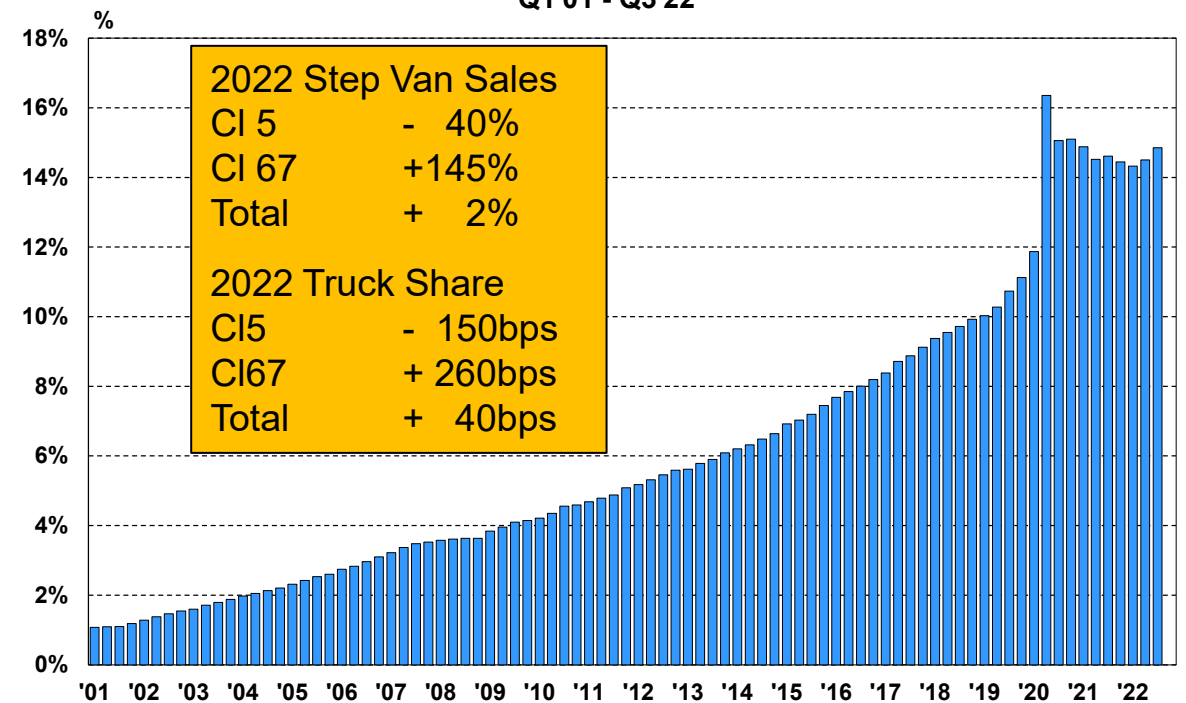
Billions of Dollars - SAAR
Q1'01 - Q3'22



Source: Federal Reserve Board, ACT Research Co. © 2023

E-Commerce as a Percentage of Retail Sales

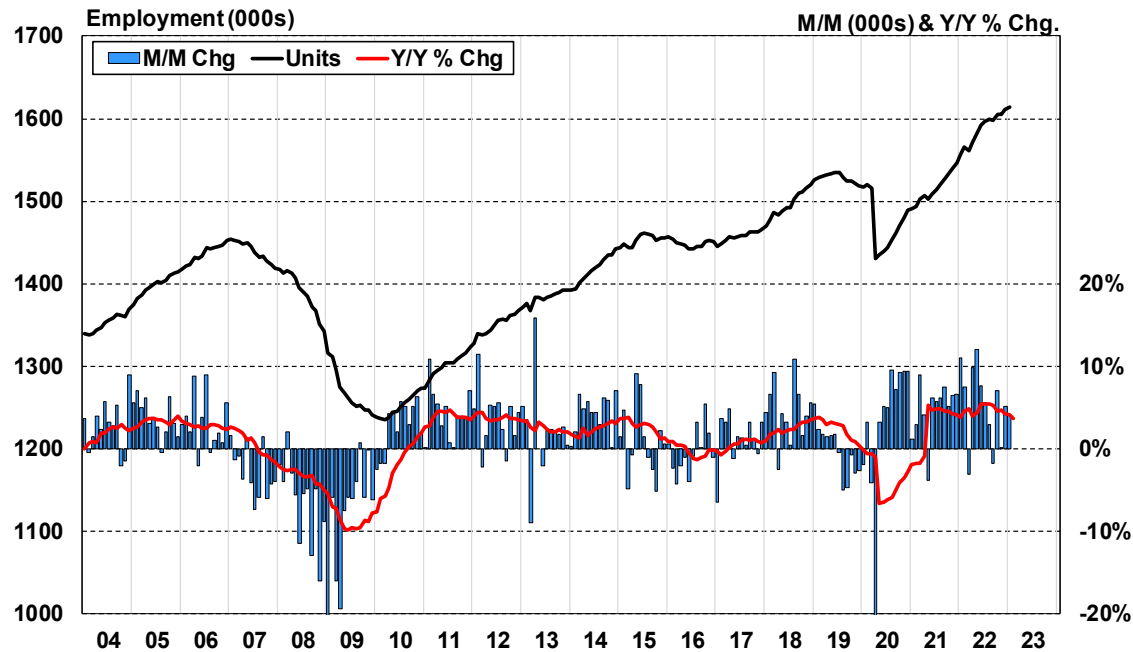
(Excluding Food Service)
Q1'01 - Q3'22



Source: Federal Reserve Board, ACT Research Co. © 2023

Local Driver Pool Growing Faster

Truck Transportation Employment
January 2004 - January 2023 (SA)



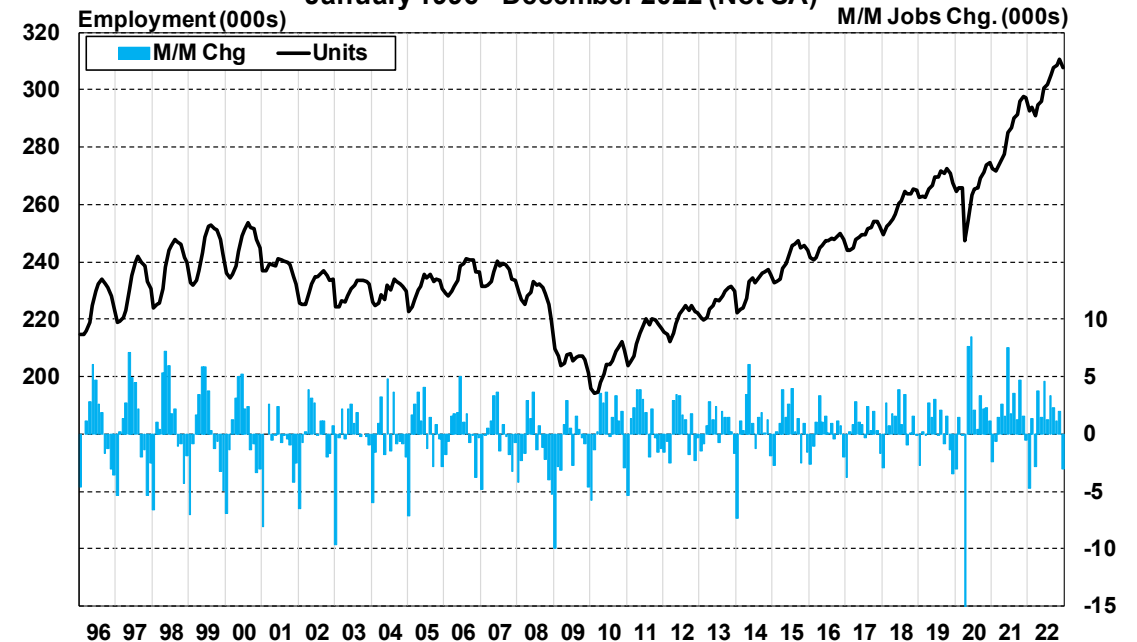
Source: BLS, ACT Research Co. © 2023

+183,700 jobs since Apr '20 (+12.8%)

+79,800 jobs since Jun '19 (+5.2%)

Truck Transportation Employment
General Freight Trucking: Local

January 1996 - December 2022 (Not SA)



Source: BLS, ACT Research Co. © 2023

+60,300 jobs since Apr '20 (+24.4%)

+35,900 jobs since Aug '19 (+13.2%)

Revolutionary Change at an Evolutionary Pace



Commercially Available CEVs

124 Models from 38 OEMs

- 69 buses (19)
- 33 straight trucks (17)
- 17 vans/step vans (7)
- 11 tractors/yard spotter (10)



Source: afdc.energy.gov/vehicles/search

NA Medium Duty Market Recap

- Diverse Is the Salvation of this Market
- Supply-Chain Constraints Still Haunt Satiation
- MD Demand = Replacement + Economic Growth
- Forecast: Solid Sales Growth, Build Not So Much
 - Inventory Reconning
- Technology ~~WILL Change~~ Is Changing the Market ~~Over Time~~



THANK YOU



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