

## **Industry Review**

Economics, Transportation & Commercial Vehicles

**Presented by Penske Transportation Solutions** 



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April 13, 2021

# 2,945,662







### Webinar Overview

- Introduction Steve Tam
- Economy Sam Kahan
- Freight Transportation Tim Denoyer
- Class 8 Kenny Vieth
- Used Trucks/Classes 5-7 Steve Tam
- Trailers Frank Maly
- Q&A/Wrap-up All





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## **OUTLOOK SEMINAR655** LEVELING UP: ACTORESEARCH Autonomous Vehicles and the Future of Transportation

# **REGISTER TODAY**

August 24-26, 2021





#### **CHARGING FORWARD**

2020 - 2040 BEV & FCEV FORECACT & ANALYSIS

Classes 4-5 Vehicles 14 Market Sub-Segments 23 Application Types

275+ Page Written Analysis Covering: Infrastructure Battery Technology Fuel Cell Technology Hydrogen Technology Regulations and More...

Comprehensive Plug & Play TCO Model

AVAILABLE NOW

Contact Ian McGriff, imcgriff@actresearch.net





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### Economic Outlook: Bright

#### Effective Virus Vaccine

- Pace: 3 million administered daily
- Coverage: 56 million fully covered and 110 million at least one

#### Stimulus Fiscal Policy

- American Rescue Plan, \$1.9 trillion package, passed
- American Jobs Plan: the infrastructure proposal, looks promising

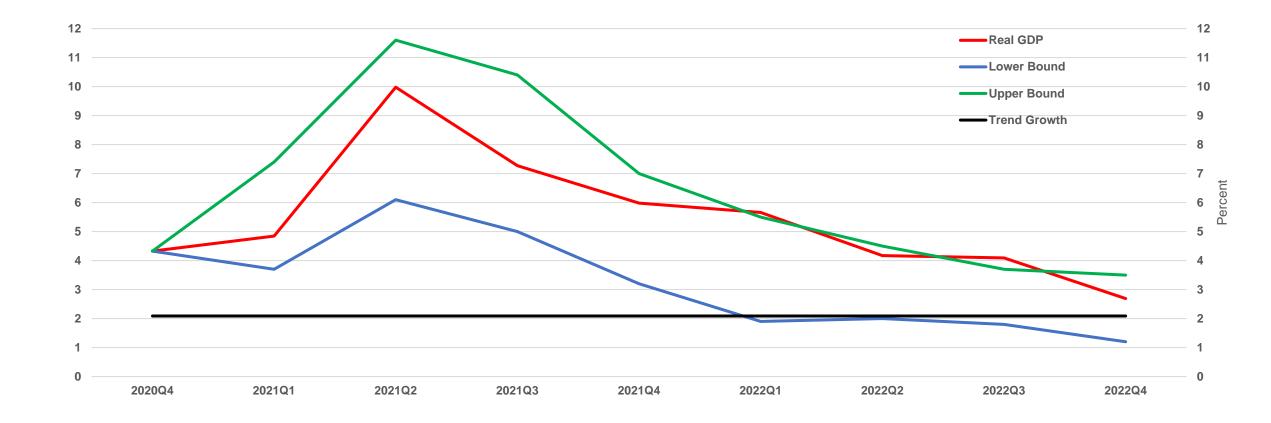
#### Accommodative Monetary Policy

- Provide liquidity and keep short-term rates low
- Raise rates if **actual** inflation increases more than 2.25% or 2.5%

#### Implication: Robust Transportation and Freight Activity

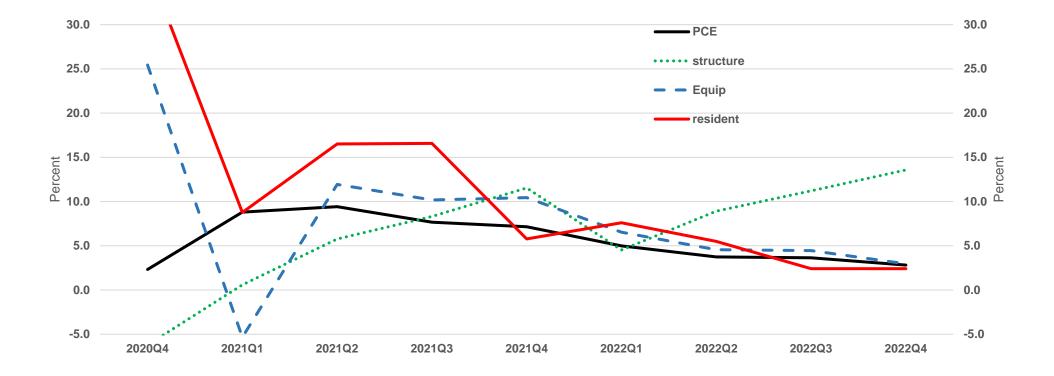


#### Real GDP Growth (SAAR)





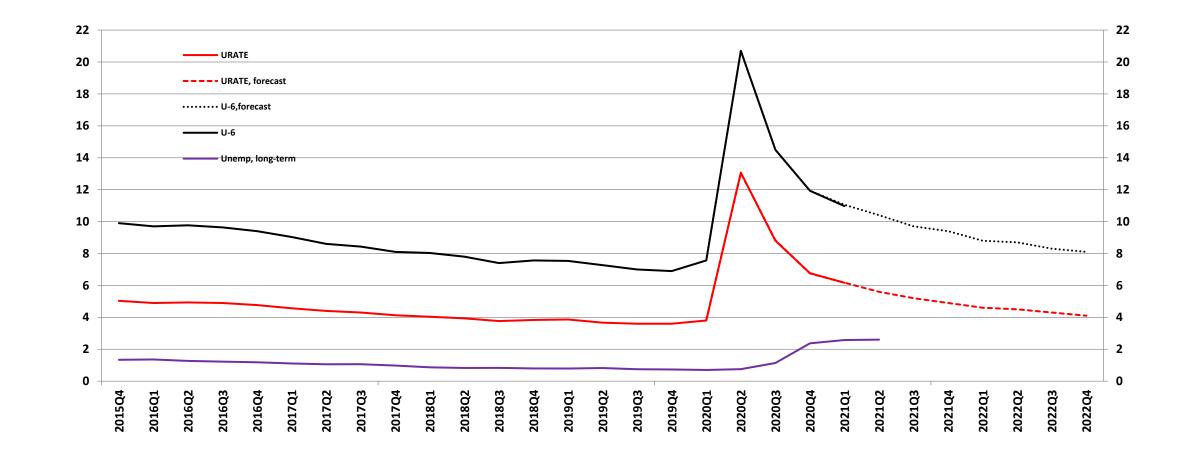
#### Sectoral Growth (SAAR)





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### Unemployment Rate (Quarterly Averages)



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#### Potential Risks: Low Probability Occurrence

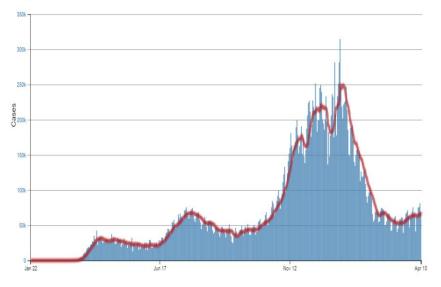
#### • Vaccine:

- New cases plateauing at 65K instead of declining
- Cause: More serious variants and loosening of Covid protocols
- Surge in inflation rate
- Debt crisis or inoperative credit markets
  - Archegos mutual fund: example or one-shot problem?
- Recession
  - Energy, real estate, service weakness: spreads to rest of economy?
- Geopolitical turmoil





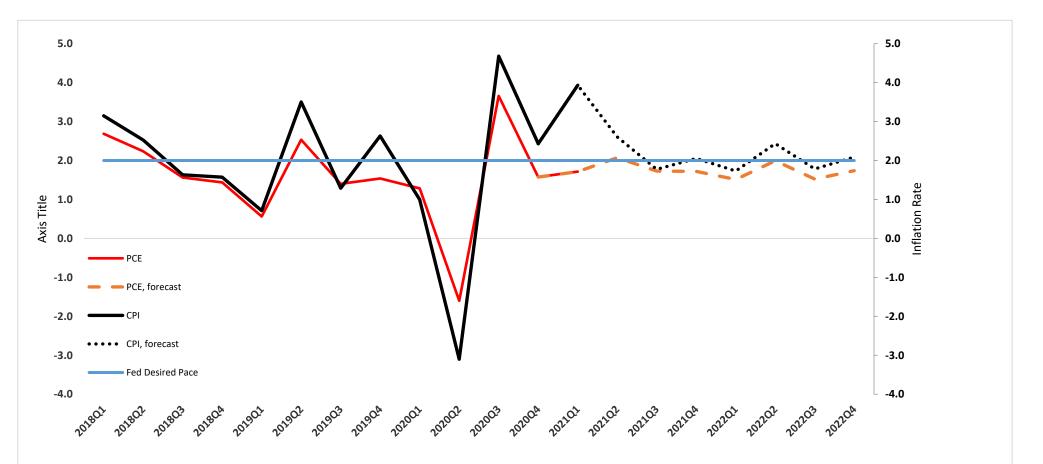
Daily Trends in Number of COVID-19 Cases in the United States Reported to CDC



Source: CDC



#### Inflation Rate (PCE, CPI - SAAR)



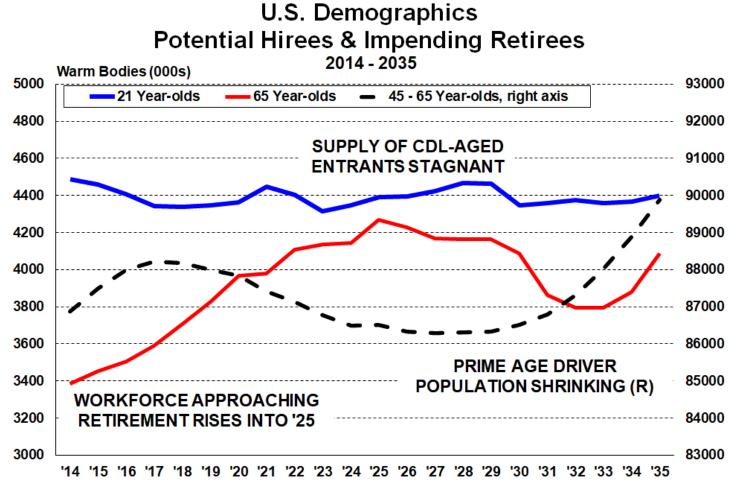


### **Freight Market Summary**

- Clear visibility to extended freight backlog
  - Risk of some softness at east coast ports post-Suez fiasco, but likely brief
  - Spot rates making new record highs
- Capacity re-engagement excruciatingly slow
  - Supply constrained with driver school capacity down and extended unemployment
  - Driver pay increases were helping at the margin, but slowed in Q1
- Elevated demand + constrained supply = higher rates
  - Spot rates up about 25% in 2021
  - Contract rate increases to last into 2022
- Semiconductor and other shortages building pent-up demand
  - Along with infrastructure's improving prospects, constraints portend stronger-for-longer cycle



## Long-Term: Labor Force Capacity Constraint



Source: U.S. Census Bureau, ACT Research Co., LLC: Copyright 2021

- 1) Labor force growth projected at 0.5% this decade (BLS)
- 2) Aging workforce implies lower participation rate (BLS)
- 3) Drug & Alcohol Clearinghouse

3a) Legal cannabis (NY and VA)

#### 4) Short-term:

1) COVID impact on schools

2) Competition from RFI

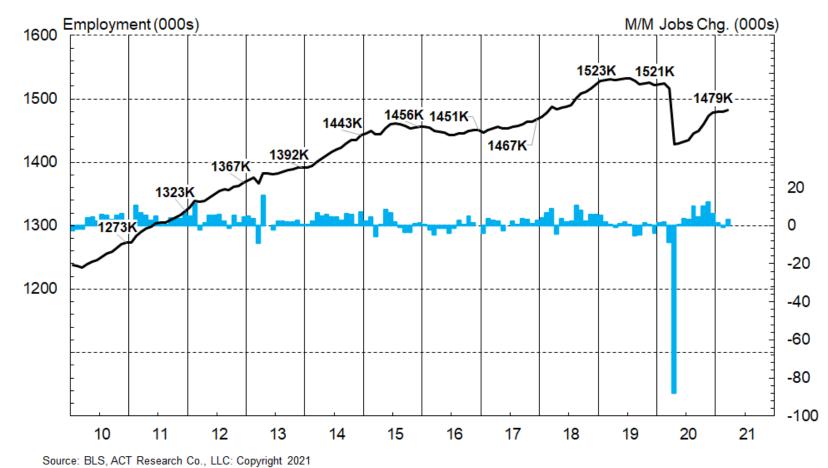
Conclusion: Increasingly sharp driver shortages around economic inflections



#### **Driver Shortage Continues**

Truck Transportation Employment

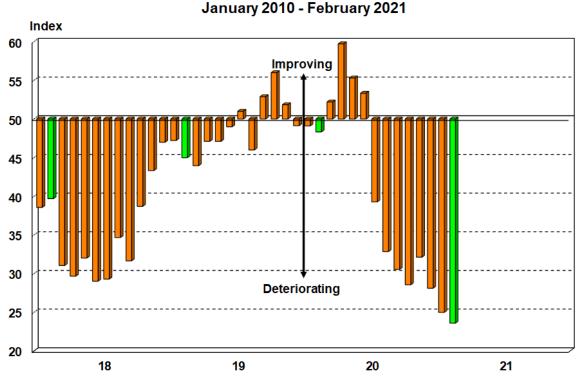
January 2010 - March 2021 (SA)



Early-21 slowdown coincident with stimmies



### New Low in Driver Availability



#### ACT For-Hire Trucking Index: Driver Availability



2008 - 2021

\$,000s Y/Y % Chg. 60.0 57.5 Y/Y % Chq. Driver Pav 55.0 52.5 50.0 47.5 45.0 10 42.5 5 40.0 0 37.5 -5 35.0 -10 09 21 08 10 19 20 15

Source: ACT Research Co., LLC: Copyright 2021

Source: Bureau of Labor Statistics, ACT Research Co., LLC: Copyright 2021



## New Supply Constraint in 2020\*

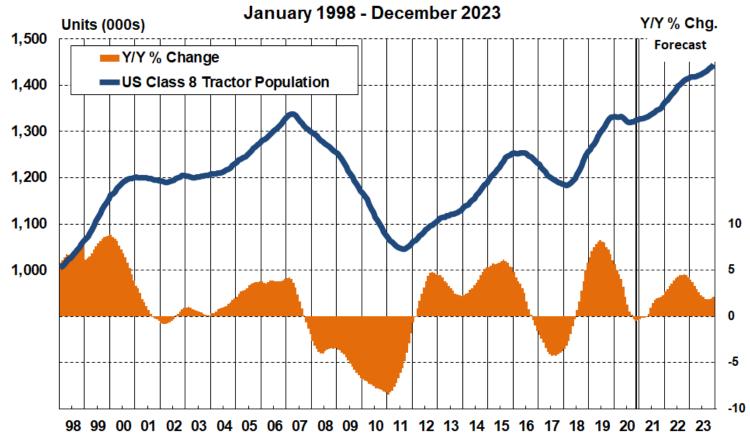
RTD STATUS	# DRIVERS (Total since January 6, 2020)
All Drivers (with at least 1 violation)	59,614
Drivers in Prohibited Status	50,512
RTD Process Not Started	38,243
Substance Abuse Professional (SAP) Request Sent	455
SAP Designation Confirmed	1,120
SAP Request Declined	174
Initial SAP Assessment Complete	2,431
Determined Eligible for RTD Testing	8,089
Drivers in Not-Prohibited Status	9,102
RTD Test with Negative Results	9,102
Follow-Up Testing Plan Complete	0

**Drug & Alcohol Clearinghouse makes testing** results available nationally 59,600 violations over first 14 months 65% have still not started "RTD process" ~20% appear to be "in process 15% have completed RTD process ~3.6k drivers/month removed from freight market \* Don't know how this compares historically



### Equipment Capacity Response Challenged

#### U.S. Class 8 Active TL & LTL Tractor Population

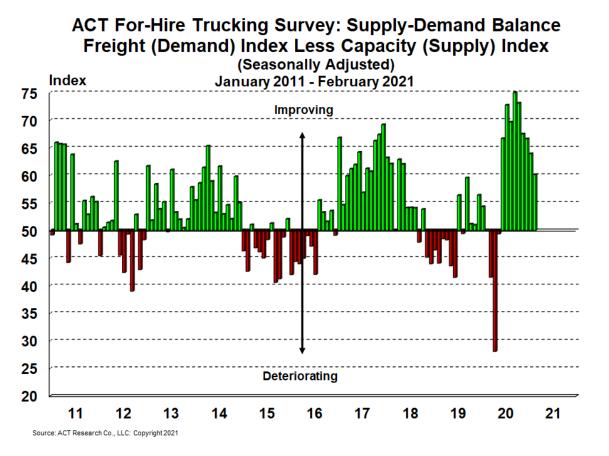


Semiconductor shortages forestalling fleet growth

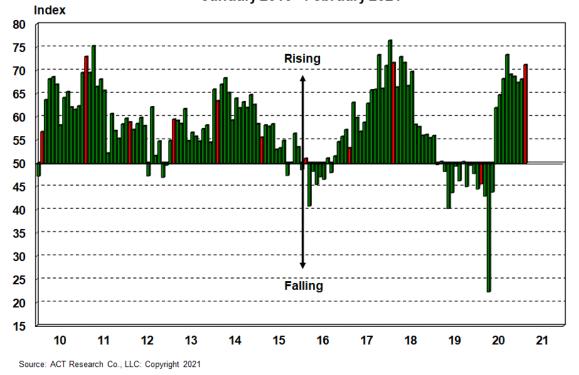
Source: ACT Research Co., LLC: Copyright 2020



### **Pricing Pendulum Remains with Fleets**



#### ACT For-Hire Trucking Index: Freight Rates (Seasonally Adjusted) January 2010 - February 2021



#### **Rebalancing beginning?**



### **Freight Cycle Accelerating**

#### North American Class I Rail Volumes by Segment

y/y % change									
	Q1'19	Q2'19	Q3'19	Q4'19	Q1'20	Q2'20	Q3'20	Q4'20*	Q1'21
Intermodal	-1.3%	-4.5%	-4.7%	-7.4%	-7.9%	-12.9%	1.3%	9.7%	13.6%
Chemicals	-0.3%	1.1%	-2.3%	-4.8%	2.2%	-11.4%	-4.5%	2.5%	-3.1%
Metals	0.7%	-2.1%	-4.6%	-10.5%	0.0%	-23.0%	-15.1%	1.9%	-1.4%
Automotive	-1.9%	0.2%	-0.4%	-5.8%	-5.3%	-69.3%	-4.8%	-2.0%	-8.1%
Petroleum	18.8%	24.1%	9.8%	2.7%	14.4%	-32.1%	-29.6%	-23.0%	-18.9%
Minerals/Sand	-5.8%	-9.8%	-4.4%	-6.5%	-7.5%	-22.0%	-20.6%	-8.8%	-9.0%
Paper/Lumber	-0.8%	-4.8%	-8.2%	-7.6%	-3.3%	-11.5%	-6.9%	0.7%	0.9%
Grain/Food	-1.7%	-1.0%	-3.4%	-2.8%	-0.5%	-6.1%	4.0%	14.6%	13.2%
Coal	-6.4%	-1.0%	-8.7%	-14.8%	-16.7%	-36.3%	-25.9%	-16.5%	-5.3%
Total	-1.5%	-2.4%	-4.2%	-7.3%	-5.6%	-19.5%	-6.4%	2.5%	4.5%
Carloads, ex- Intermodal	-1.6%	-0.5%	-3.8%	-7.2%	-3.5%	-25.2%	-13.2%	-4.1%	-3.3%

## Shutdown comps, but still good sequential progress

Source: Company reports; ACT Research Co. LLC. Copyright 2021

\*Excludes unusual 53rd week

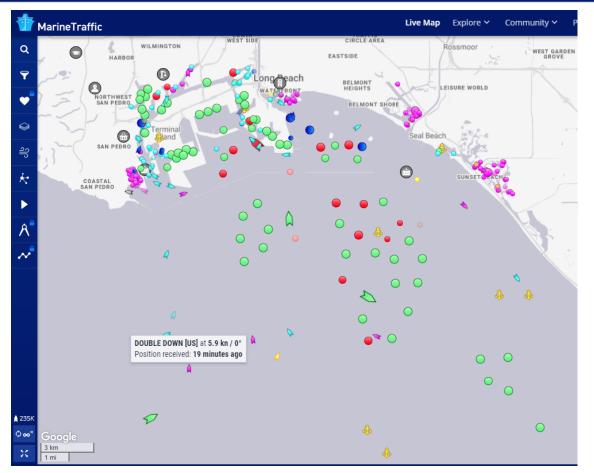
#### Weekly North American Rail Volumes by Segment

y/y % change															
Week ending:	1/2/21	1/9/21	1/16/21	1/23/21	1/30/21	2/6/21	2/13/21	2/20/21	2/27/21	3/6/21	3/13/21	3/20/21	3/27/21	4/3/21	4/10/21
Intermodal	10.7%	7.8%	12.2%	14.9%	5.3%	7.8%	7.7%	-12.5%	13.2%	20.3%	21.7%	18.9%	23.4%	29.2%	31.8%
Chemicals	1.3%	4.8%	8.1%	6.4%	2.4%	4.0%	-0.6%	-22.2%	-12.2%	-8.3%	-9.0%	-8.1%	-4.9%	0.8%	9.0%
Metals	0.9%	1.0%	12.3%	-4.7%	-5.7%	0.7%	-7.3%	-17.5%	-2.8%	0.3%	1.2%	1.4%	-8.4%	6.4%	17.2%
Automotive	40.5%	-3.4%	-6.3%	-0.1%	-9.6%	-8.1%	-21.1%	-38.0%	-17.4%	-14.5%	-20.3%	-12.3%	37.3%	238.4%	444.0%
Petroleum	-23.1%	-21.6%	-5.5%	-15.5%	-22.3%	-21.3%	-26.0%	-32.6%	-22.3%	-14.9%	-11.9%	-9.5%	-8.8%	-0.1%	-0.9%
Minerals/Sand	-11.9%	-13.8%	-12.8%	-1.7%	-13.2%	-12.5%	-17.7%	-38.0%	-18.4%	-7.4%	-4.6%	-5.4%	7.5%	4.4%	4.4%
Paper/Lumber	2.2%	-1.0%	7.9%	7.7%	-4.9%	-0.3%	0.1%	-10.0%	0.1%	1.1%	2.1%	2.5%	-0.7%	-2.8%	-1.3%
Grain/Food	14.1%	20.4%	19.8%	20.9%	15.4%	16.1%	9.7%	-9.9%	9.3%	18.2%	13.3%	11.6%	6.7%	9.1%	9.0%
Coal	-20.5%	-12.8%	-8.9%	-10.0%	-10.9%	-5.5%	-12.9%	-19.3%	-3.1%	8.5%	15.8%	5.3%	7.8%	4.5%	19.9%
Total	2.4%	2.1%	6.4%	7.4%	-0.3%	2.2%	-0.8%	-18.3%	2.0%	8.6%	9.6%	7.9%	12.5%	18.5%	23.8%
Carloads, ex- Intermodal	-4.0%	-3.1%	1.1%	0.7%	-5.4%	-2.7%	-8.3%	-23.3%	-7.3%	-1.0%	-0.4%	-1.3%	3.3%	9.1%	16.6%

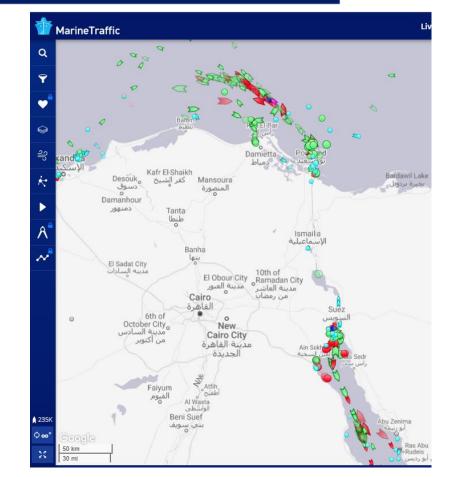
Source: Company reports; ACT Research Co. LLC. Copyright 2021



## **Backlogs & Blockages**



~30 containerships still in the San Pedro Bay

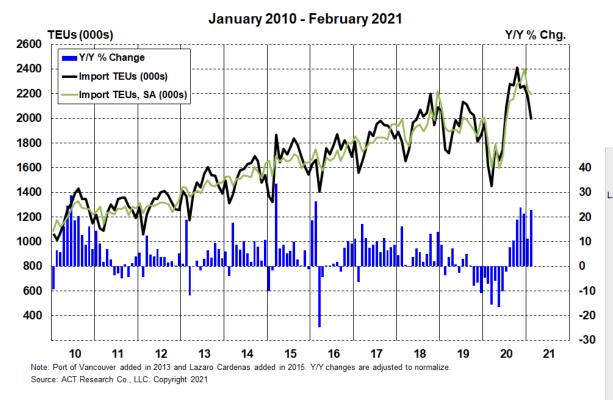


## And a few dozen still backed up around the Suez Canal



## Import Surge Unlikely to Let Up Soon

#### N.A. Ports: Inbound Loaded Containers



#### San Pedro Bay Suez Canal blocking could affect east coast near-term

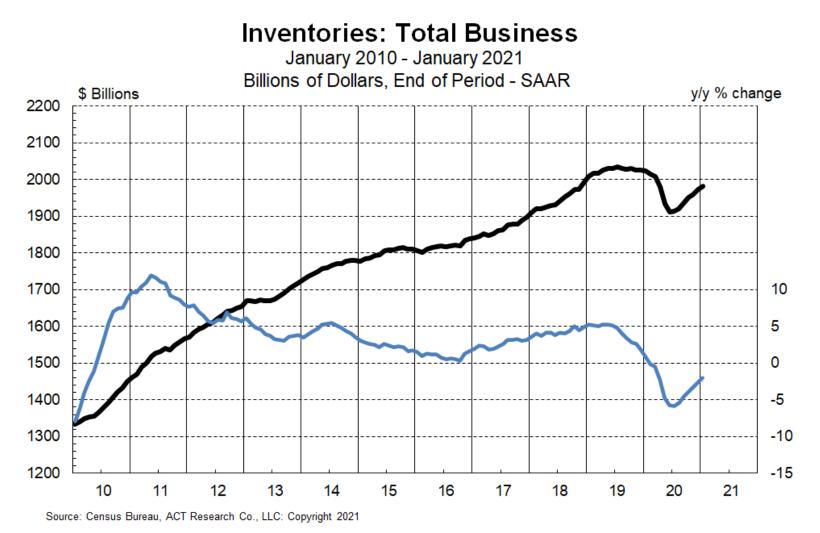
#### North American Container Import Volumes by Port

Loaded TEUs, y/y % change

Largest to Sr	nallest≻												
	Los	Long									Prince	Lazaro	
	Angeles	Beach	New York	Savannah	Vancouver	Seattle	Virginia	Houston	Charleston	Oakland	Rupert	Cardenas	Total
Jan-20	-3.5%	-4.3%	-1.4%	-9.9%	-15.7%	-20.0%	-0.8%	10.2%	2.9%	7.3%	-9.8%	-1.2%	-4.6%
Feb-20	-22.5%	-17.9%	1.7%	13.6%	-18.1%	-8.0%	-7.4%	3.4%	13.5%	-9.2%	60.4%	-12.0%	-7.1%
Mar-20	-25.9%	-5.0%	-4.1%	-21.1%	-14.7%	-28.2%	-7.4%	-19.4%	-18.1%	-10.3%	-30.8%	-26.2%	-15.5%
Apr-20	2.6%	-20.2%	-4.6%	-5.1%	2.4%	-13.9%	-15.9%	-0.6%	-5.4%	-0.9%	2.0%	10.5%	-5.9%
May-20	-28.4%	7.6%	-21.9%	-16.5%	1.3%	-22.9%	-26.7%	-7.1%	-17.0%	-14.6%	-36.7%	-27.6%	-16.5%
Jun-20	-6.8%	-9.3%	-12.5%	-4.4%	1.8%	-15.1%	-15.2%	-17.6%	-18.9%	1.9%	-16.3%	-41.9%	-10.0%
Jul-20	-4.3%	20.3%	-3.2%	-6.0%	-1.2%	-15.9%	-15.6%	-7.9%	-12.1%	6.4%	-2.5%	-23.6%	-2.1%
Aug-20	18.0%	13.0%	7.1%	4.8%	14.6%	-3.9%	-0.5%	5.8%	-6.1%	9.0%	-4.7%	-29.6%	7.7%
Sep-20	17.3%	14.3%	18.6%	15.8%	-0.1%	-6.8%	5.6%	14.3%	0.3%	10.6%	-5.3%	-24.1%	10.5%
Oct-20	29.0%	19.4%	18.8%	16.9%	41.9%	4.7%	6.1%	22.2%	1.3%	10.4%	17.3%	-11.5%	19.0%
Nov-20	25.2%	30.5%	27.2%	34.9%	31.1%	23.3%	21.1%	20.7%	12.8%	0.9%	-11.9%	-0.2%	23.9%
Dec-20	23.4%	25.6%	24.0%	30.5%	19.1%	15.7%	18.8%	27.2%	14.4%	11.0%	-4.3%	-4.9%	21.4%
Jan-21	5.5%	17.5%	15.1%	23.2%	12.2%	10.9%	20.1%	15.7%	5.3%	-11.9%	2.2%	-30.9%	11.2%
Feb-21	52.9%	50.3%	11.2%	11.6%	28.4%	10.3%	13.0%	2.8%	-7.1%	26.2%	-32.0%	-6.3%	22.8%



## **Tight Inventories Support Volume Recovery**



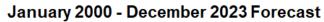
\$70 billion of the \$110 billion inventory drawdown has been restocked

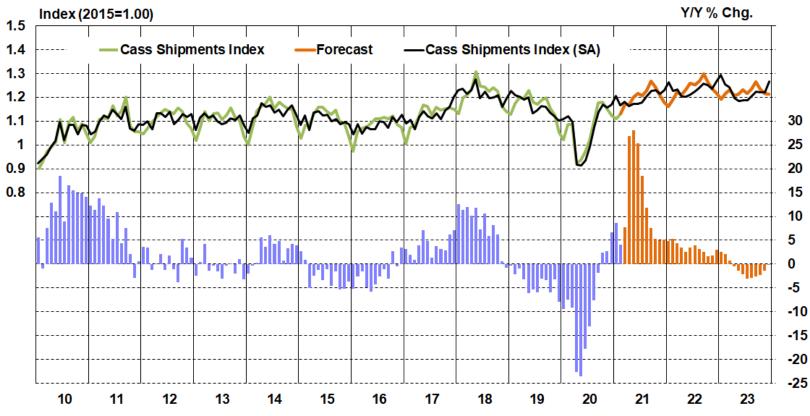
Returning to 5% growth will take another year at this rate



## **Freight Demand Outlook Upbeat**

Cass Shipments Index ®





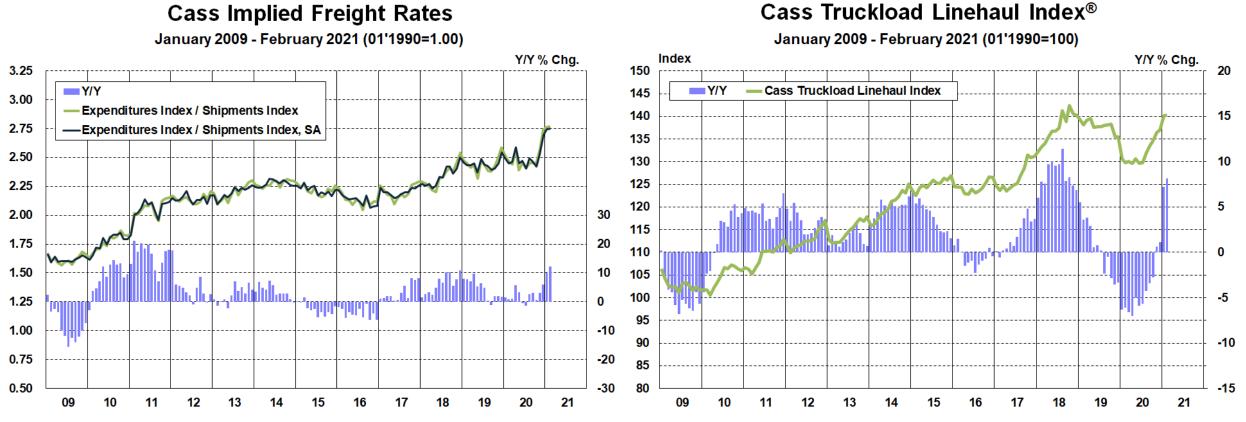
Inventory and port backlog portend strong near-term volume outlook

 Building pent-up demand and infrastructure support stronger-for longer cycle

Source: Cass Information Systems, Inc., ACT Research Co., LLC: Copyright 2021



### Freight Rates Accelerating Broadly



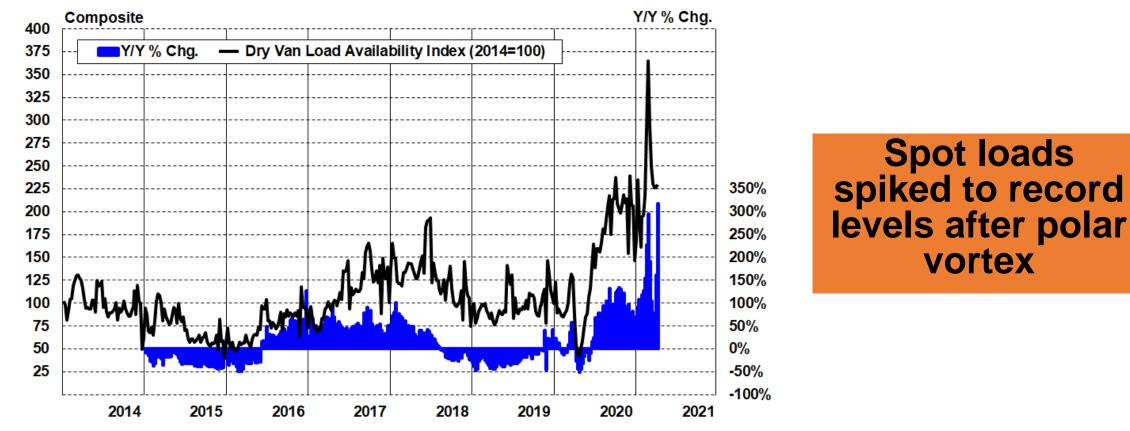
Source: Cass Information Systems, Inc., ACT Research Co., LLC: Copyright 2021

Source: Cass Information Systems, Inc., ACT Research Co., LLC: Copyright 2021



### **Truckload Spot Demand Off the Chart**

#### Truckstop: Dry Van Load Availability Index January 2014 - April 2021

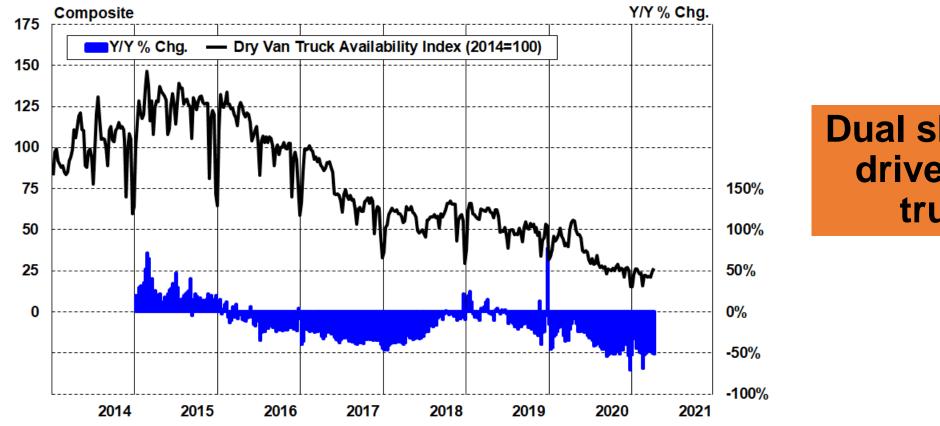


Source: Truckstop.com, ACT Research Co., LLC: Copyright 2021



## Spot Supply Nowhere to be Found

#### Truckstop: Dry Van Truck Availability Index January 2014 - April 2021



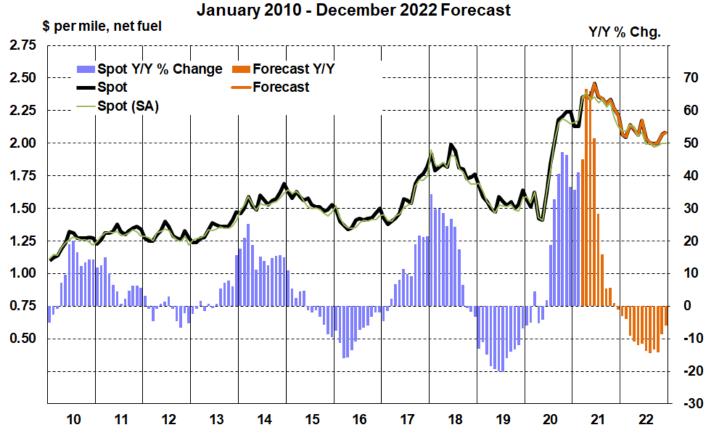
Dual shortage: drivers and trucks

Source: Truckstop.com, ACT Research Co., LLC: Copyright 2021



### **Truckload Spot Rate Expectatioms**

#### DAT Trendlines Spot Rates: Dry Vans



Source: DAT Solutions, ACT Research Co., LLC: Copyright 2021

- Spot Rate Composite forecast +26% for 2021, -9% for 2022
- Slowdown likely in late-2021 as drivers respond to higher pay
- This will drive record carrier profitability and cash generation
- Estimate almost \$3b in public TL carrier earnings in '21, breaking 2018 record of \$2.1b
- Supply chain risks and the increasingly likely infrastructure package could add to the forecasts



### **Class 8 Market Conditions**

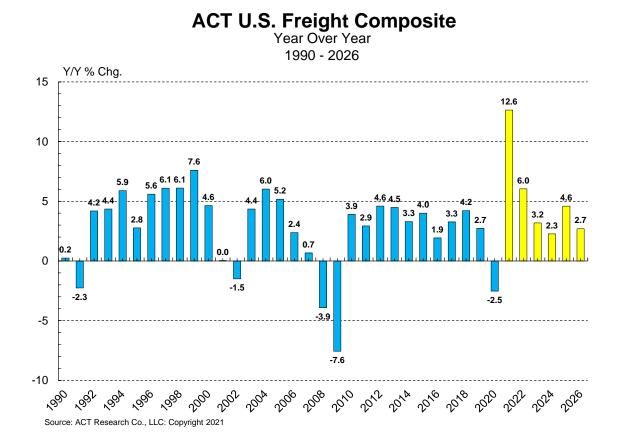
#### • Economy growing in all the right places

- Stellar performance in goods producing economic sectors
- Robust freight markets & driver capacity constraints
- Supply-demand imbalance drives surge in carrier profits:
- Exogenous factors remain supportive
  - New "Must-have" specs supporting late-model valuations
  - Driver constraints regulatory & structural
  - CARB ('24) and [potential] EPA ('27) NO<sub>x</sub> & Warranty regs inject outlook volatility
- Robust freight & rising carrier profits lift demand
  - Orders booming
  - 2021 backlog almost filled
  - Strong sales have drawn down inventories

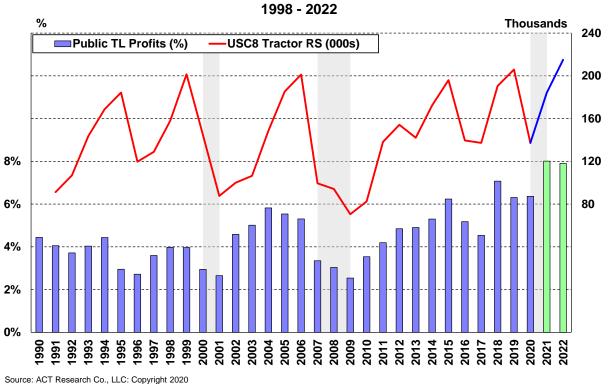


"*Truckers buy trucks when they make money*"

### Freight Inflection Overwhelms Capacity



TL Carrier Database: Core Carrier Net Profit Margins & U.S. Class 8 Tractor Retail Sales



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#### Heat Wave!

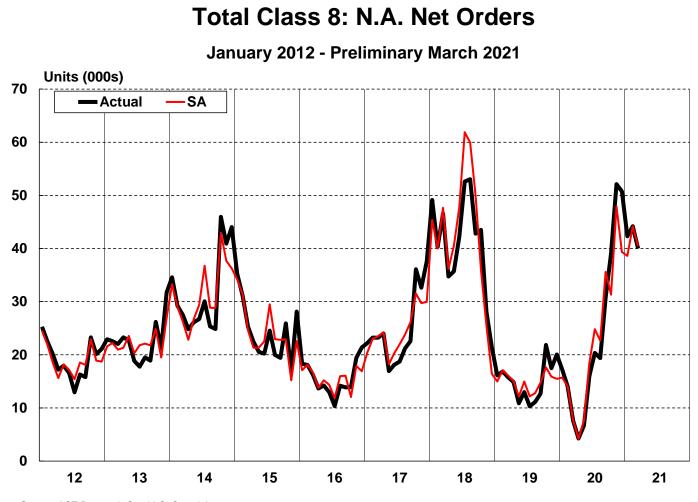
Orders (000s)	NA C8 Tractor	NA C8 Truck	NA C8 TOTAL	NA C57 Truck
Past 12 Mo.	253	80	334	218
Past 6 SAAR	364	107	471	342
Past 3 SAAR	371	117	488	349
Feb. SAAR	393	137	530	302
Past 6 Y/Y	+189%	+70%	+153%	+58%

Data through February actuals

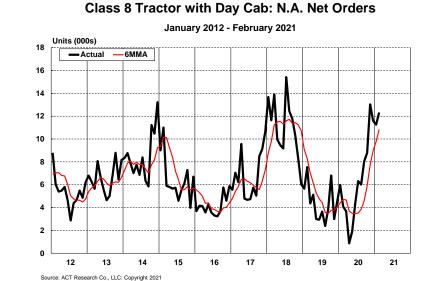
Upwards trends continued in March. Tot. NAC8 SAARs: 6 mo: 484k (p) 3 mo.: 493k (p)



## A Rising Tide Lifts All Boats



Source: ACT Research Co., LLC: Copyright 2021



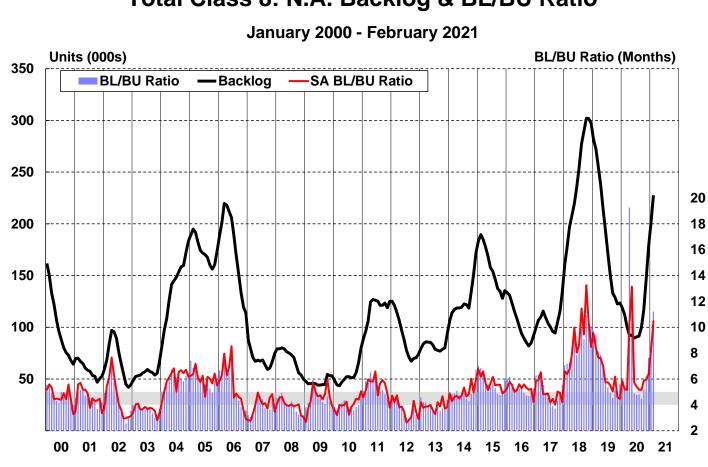
#### Class 8 Straight Truck with Day Cab: N.A. Net Orders

#### January 2012 - February 2021



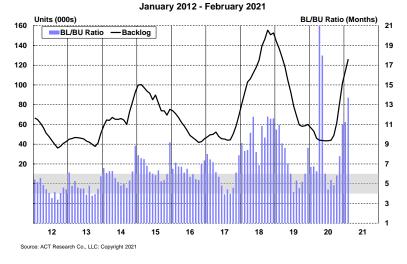


### **Constraints Elevate Ratios**



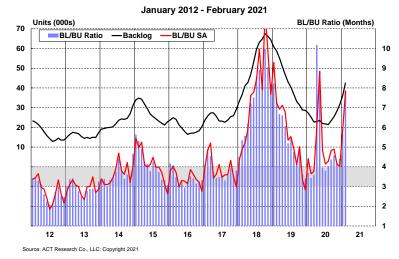
Total Class 8: N.A. Backlog & BL/BU Ratio

Source: ACT Research Co., LLC: Copyright 2021



Class 8 Tractor with Sleeper: N.A. Backlog & BL/BU Ratio

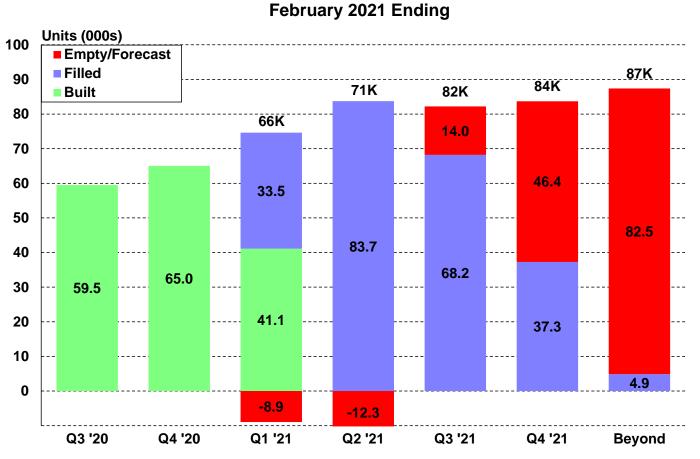
#### Class 8 Straight Truck with Day Cab: N.A. Backlog & BL/BU





### Want a Truck, Get in Line

#### **Class 8 Backlog Fill/April Outlook Forecast**



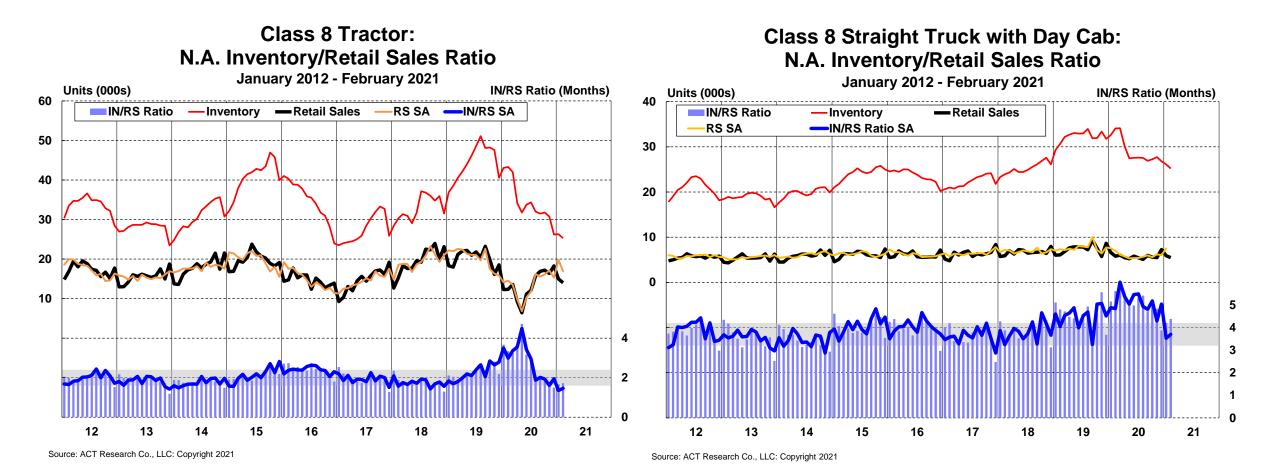
#### 2021 Forecast:

	Units	BUPD	AR
Q1:	65.7k	1,043	256k
<b>Q</b> 2:	71.4	1,133	280k
<b>Q</b> 3:	82.2	1,326	328k
Q4:	83.7	1,419	350k
CY:	303.0k		

Source: ACT Research Co., LLC: Copyright 2021



#### From Loose to Lean



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### Known Unknowns

- Production Ramp Speed & Timing
  - The impact of social distancing and labor constraints
  - Chip shortage: Bad enough to trigger a White House summit
    - How deep? How long?
      - Increasingly sounds like "later", rather than "sooner"
  - Steel shortage: Synchronized global ramp squeezes capacity
    - Semiconductor shortage bails out the steel supply chain



- Average retail at \$54,500 in February (F)
  - ➤ +6% m/m, +7% y/y, -2% ytd
- Lack of inventory has become the headline
- Miles and age starting to trend up
- Demand appears to be following freight markets
- Exports reflecting a stronger global market
  - ➤ +32% m/m, +3% y/y, +6% ytd



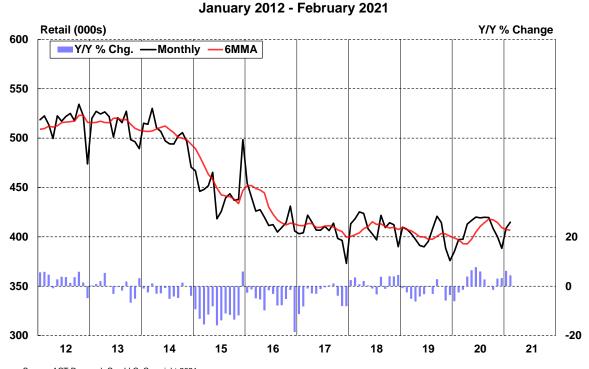
#### Prices Positive Y/Y

Class 8: U.S. 4 to 5 Year Old Used Truck Average Sale Price Class 8: U.S. Used Truck Average Sale Price 4 to 5 year old, 400-500,000 miles legacy January 2012 - February 2021 January 2012 - February 2021 Y/Y % Change Retail (\$000) Total Reported Price (\$000) Y/Y % Change ------Y/Y % Chg. — Monthly — 6MMA Y/Y % Chg. — Monthly — 6MMA SA -25 THIN I -25 -50 -50 Source: ACT Research Co., LLC: Copyright 2021 Source: ACT Research Co., LLC: Copyright 2021

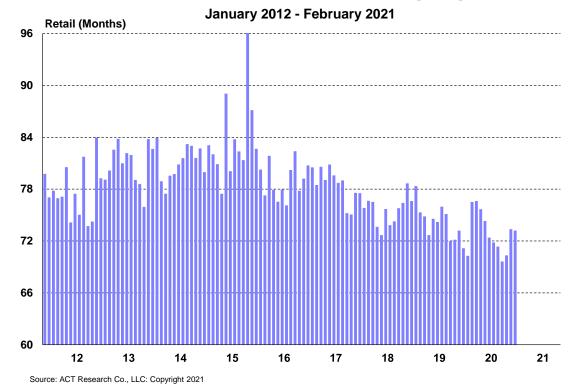


#### Trade Cycles Start to Expand

#### Class 8: U.S. Used Truck Average Miles



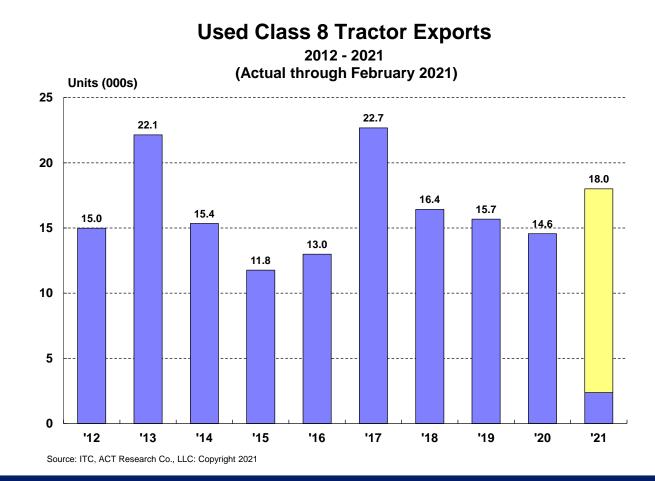
#### Class 8: U.S. Used Truck Average Age





Source: ACT Research Co., LLC: Copyright 2021

#### Exports Expected to Increase In 2021







#### Medium Duty

- BL/BU ratio intimates upward build pressure
  - Supply chain constraints have other ideas
- IN/RS ratio hanging out at top end of target range
  - Increased since December on soft sales
  - Below replacement build has reduced inventory
- Market will see meaningfully improvement in 2021
  - Build (+12%) and retail sales (+9%)
- Service-centric MD truck demand presumed to be driving improving, but...



#### Payroll Employment

Total 4.5% lower Y/Y (144.1M)

Goods down 2.8% Y/Y (20.4M)

Services down 4.6% Y/Y (102.1M)

Government down 5.1% Y/Y (21.6M)

Employment will not return to pre-COVID levels until 2024 at the soonest





#### Consumer Spending

Total 2.3% higher in Q4

Goods down 1.4% (+47% in Q3)

Services up 4.3% (+38% in Q3)

Activity should return to pre-COVID levels Q2 2021





#### **Retail Sales**

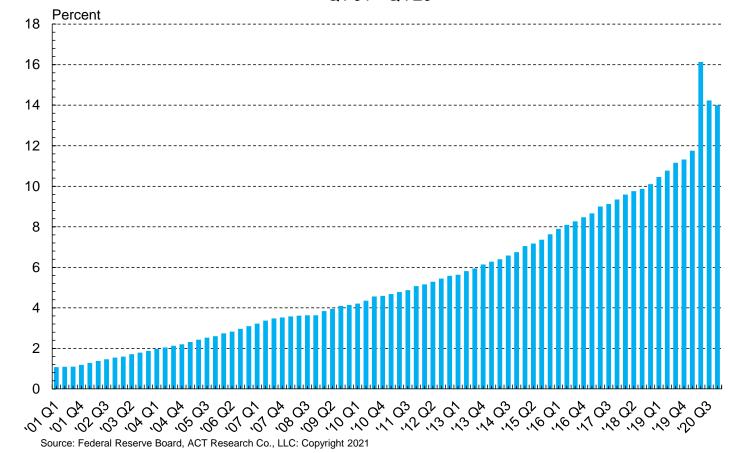
February retail sales lower sequentially (-3.0%), but well above 2020 level (+6.3%) nominally. Inflation adjusted results lower and also mixed (-3.4% m/m and +4.5% y/y).

Q4 e-commerce activity ebbed lower from Q3, to 14.0% of retail sales as consumers venture out post-pandemic. Despite change and nominal decline, some degree of behavior changed may be permanent.

Full-year 2021 growth expectations range from 6.5% to 8.2% - Retail Federation

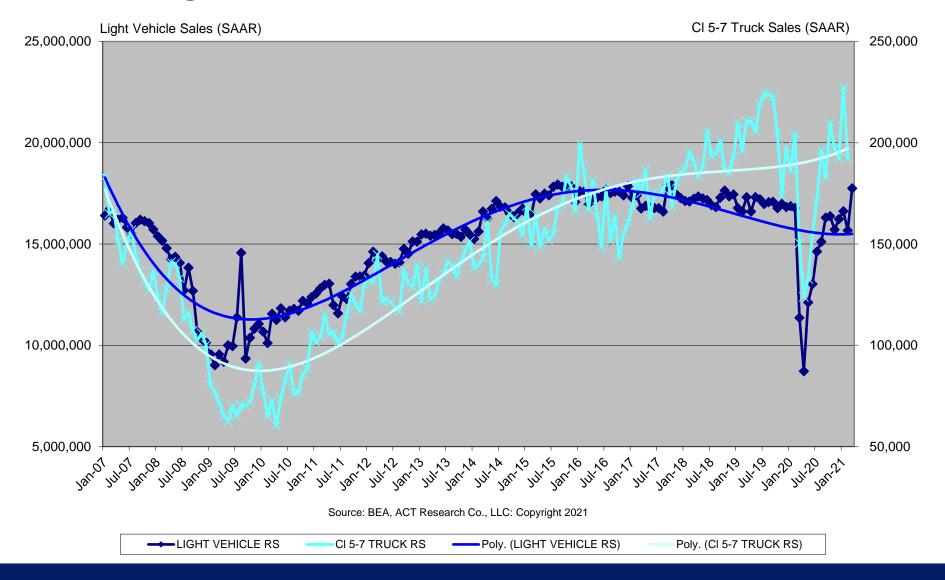
#### **E-Commerce as a Percentage of Retail Sales**

(Excluding Food Service) Q1'01 - Q4'20





#### Light Vehicle Sales vs. CI 5-7 Truck Sales





#### Order Strength Continues to Extend Backlog

- Order rebound started Q3'20
- Dry Van and Reefer impetus
- Vocational sector beginning to show strength
  - Flats and Dumps
- Short-term y/y comps of little use
- De-facto 2022 orderbook opening
  - Some reticence to book extended commitments

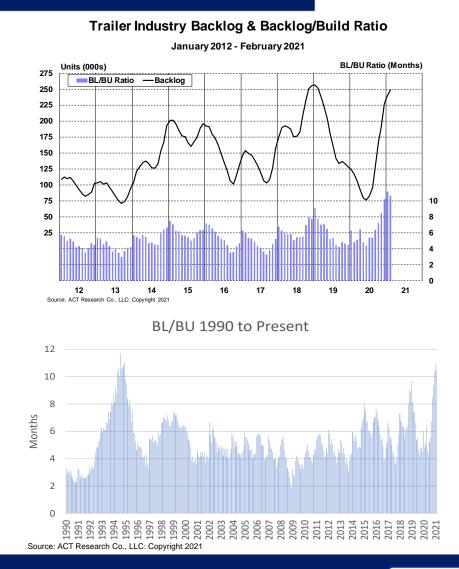


Source: ACT Research Co., LLC Copyright 2021



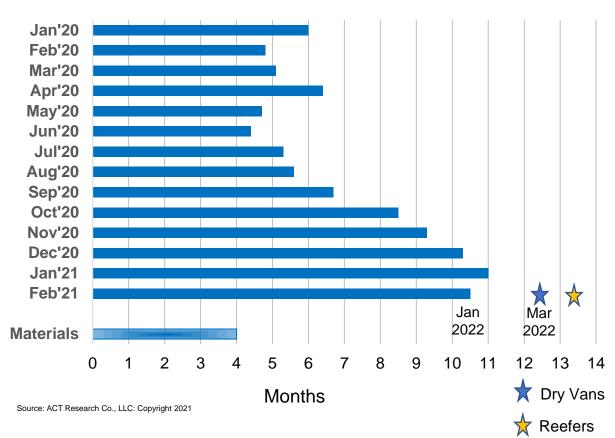
#### **Market Metrics**

- Backlog at 224k, best since Mar'19
- Near record BL/BU levels
- Production rates ramping slowly
- Re-assessment of long-term fleet orders?
- Red tag potential?





#### Fall 2020 BL/BU Surge Continues



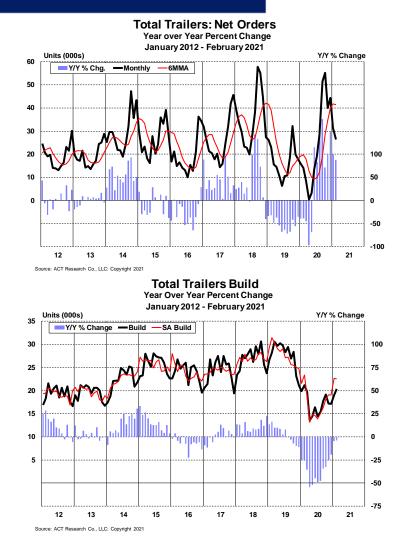
#### U.S. Total Trailer Backlog in Months

- BU rate trough Jul'20
- Order surge started in Q3'20
- Hiring challenges
  - COVID staff availability and safety
  - Unemployment benefits
  - Many economic sectors
- Component issues
  - Chip shortage potential



#### Large Fleet Demand / Small Fleet Challenges

- Strong fleet financials
  - Demand & freight rates
- Low inventories
  - Econ challenges to fill the pipeline
  - Trailers factory and dealers tight
- Driver availability trailer/tractor ratios
- Industry lagging the normal response to order rebound
- Constraints restrain 2021 expectations

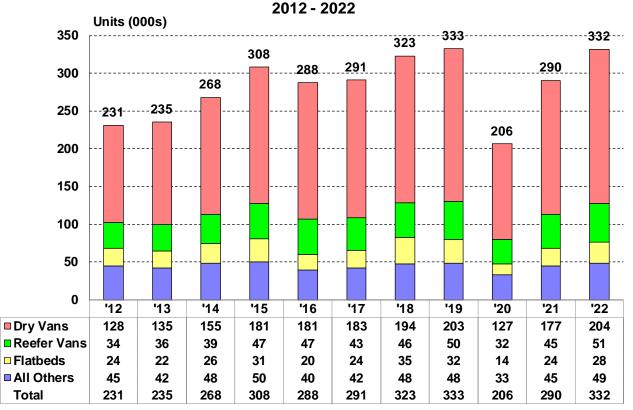




#### April'21 OUTLOOK Forecast

- 2021 & 2022 forecasts both
  upgraded
- 2021 production issues continue
- Cancels insignificant
- Total backlog edges into 2022, very category dependent
- Box trailers lead the way... ROM gaining momentum

**U.S. Trailer Production** 



Source: ACT Research Co., LLC: Copyright 2021



#### Build Forecasts

	2018	2019	2020	2021	2022
NA Class 8 (000s)	324.5	344.6	214.3	303.0	359.8
NA Classes 5-7 (000s)	272.7	281.4	223.7	249.7	262.3
US Trailer Total Trailers (000s)	323.0	332.6	206.3	290.4	331.8



# SAVE THE DATE OUTLOOK

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