



2021

# Presentation to CAWA

*Bill Long, MEMA President & CEO  
CAWA Leadership Days*



# What is MEMA?

## OUR CIRCLE

We are **vehicle suppliers**. We are **innovators**.

We conceive, design and manufacture the **original equipment** systems and technologies that make up two-thirds of the value in every vehicle. We supply the **aftermarket** with the **automotive** and **commercial vehicle** parts that keep millions of vehicles on the road. We are **jobs**, directly employing more people than any other **manufacturing** sector across the United States. And all of our work is done with a focus on **public safety** and the **environment**.





# Vehicle Supplier Industry

New 2021 independent research\* confirms the importance of the U.S. vehicle supplier industry:

**#1** **Manufacturing**  
Sector in U.S.

**907,000** **JOBS** from direct  
employment

**4.8 million** **JOBS** from direct, indirect  
and induced employment

**2.5 %** of Total **U.S. GDP**

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\* Research conducted  
by IHS Markit,  
based on 2019 data.



Automotive | Commercial Vehicle  
Original Equipment | Aftermarket

**MEMA**  
.org



Established 1904

All Members Are MEMA Members

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# Discussion Topics

## *"The Road Ahead: Automotive Aftermarket Risks and Opportunities"*



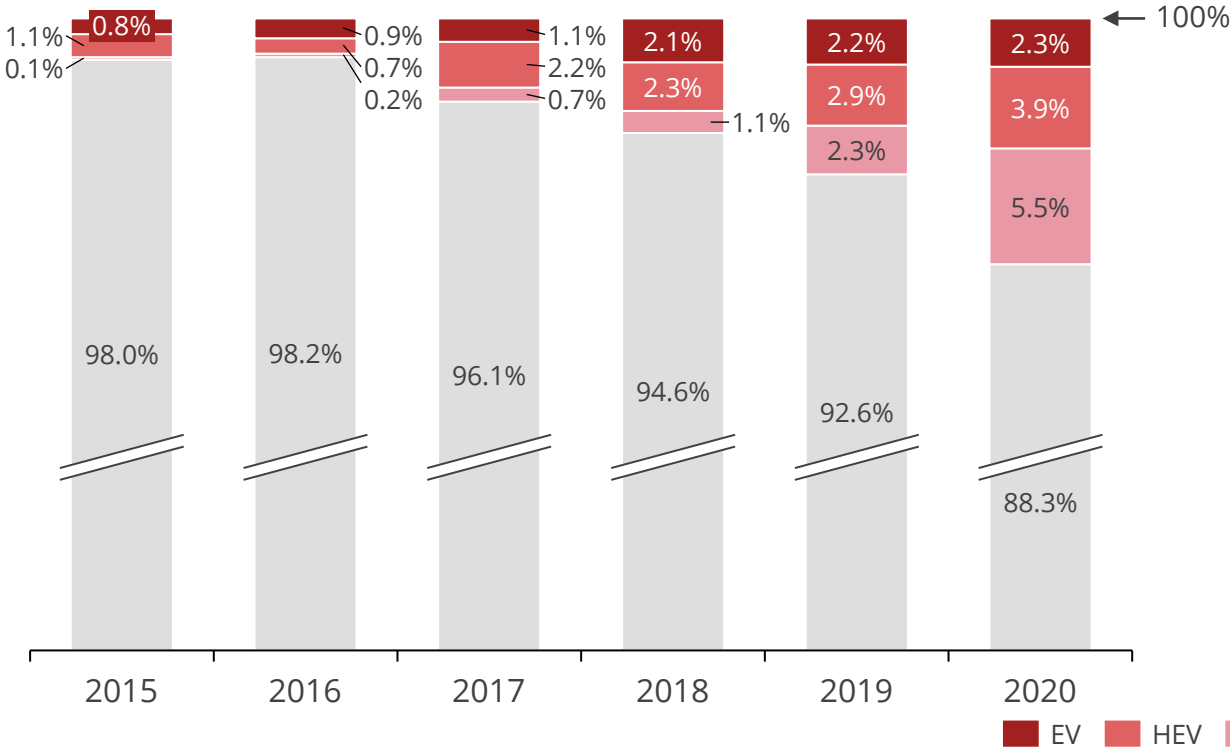


# The Impact of Electrification on the Aftermarket

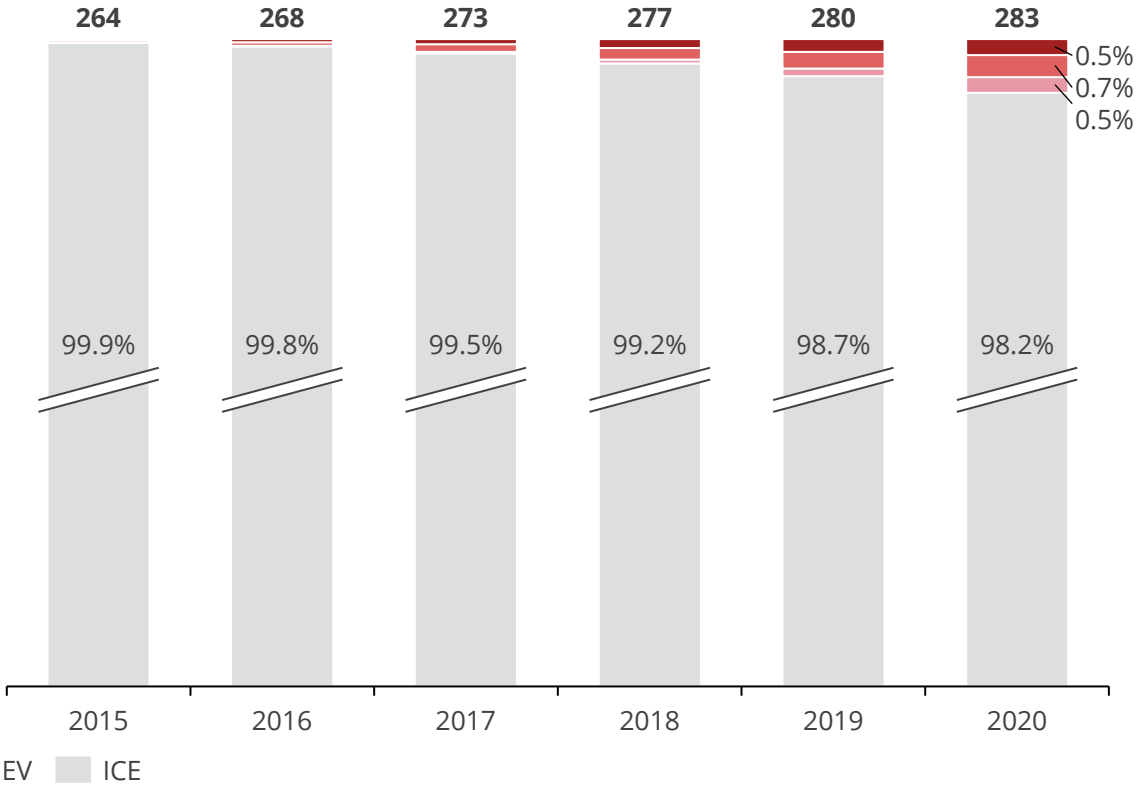


# There has long been a buildup around powertrain electrification but actual parc penetration is limited

2015-2020 Historic U.S. car sales by car type  
[Percent of Total New Sales]



2015-2020 U.S. car parc penetration by vehicle type  
[Percent of Total Car Parc]



EV: Electric [BEV, PHEV] HEV: Hybrid Electric MEV: Mild Hybrid ICE: Internal Combustion Engine [ICE, MiEV]

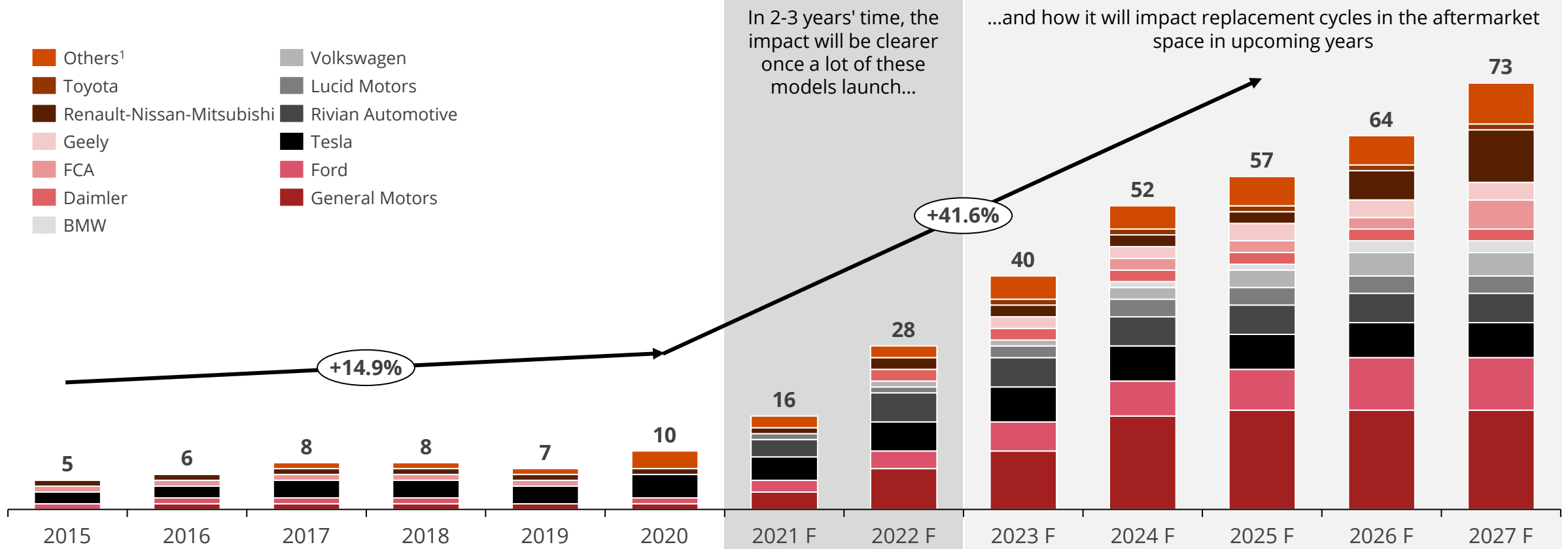
Sources: IHS Markit, DOT, EREC, Strategy& research and analysis



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# OEMs are planning to launch 70+ EV models over the next 7 years

2015-2027F EV models produced in North America [Number of Models]



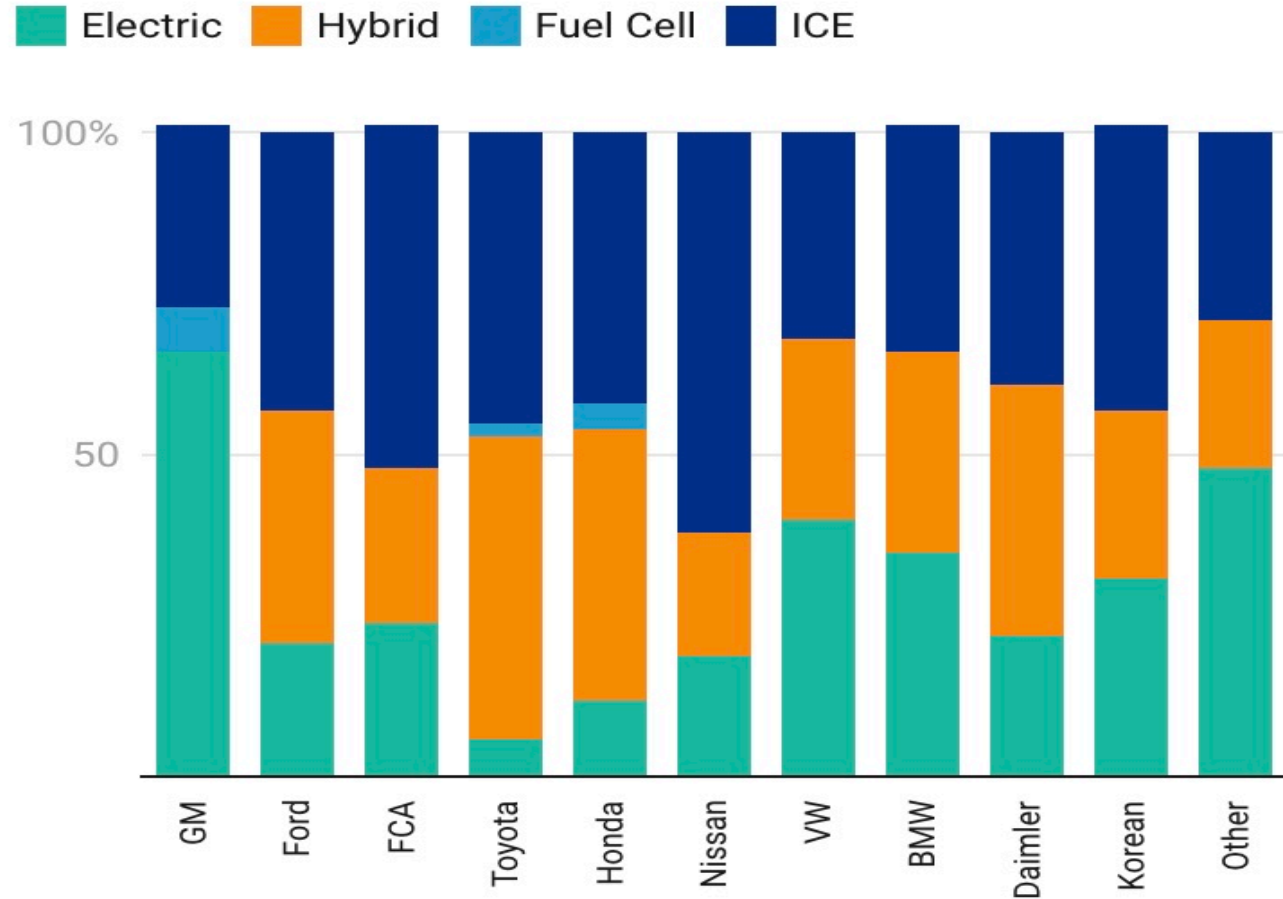
Notes: 1) Others includes AM General, CODA, COMPAS, Giant Motors, Karma Automotive, Mercedes Benz Vans  
Source: IHS Markit, National Automobile Dealers Association. Strategy& Analysis





# Powertrain Offering Mix by OEM

Over the 2022-2025 model years, it appears that GM and VW are pushing the most aggressively into EVs.



Source: BofA Global Research • [Get the data](#) • Created with [Datawrapper](#)

# The ZEV Program<sup>1</sup> began as a CA state initiative that has since been adopted by 12 other States

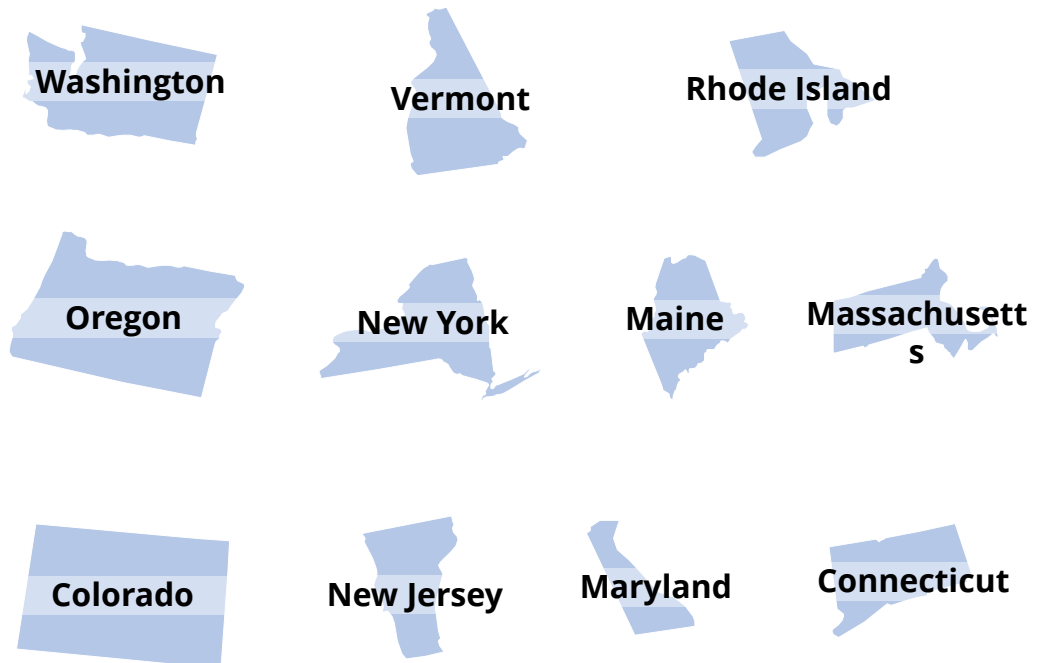
*California mandated its first air quality standards prior to the Federal Clear Air Act, allowing it to uphold its own standards*

**1959:** California mandated the **California Ambient Air Quality Standards**, preceding the Federal Clean Air Act of 1963

**Section 177** of the Clean Air Act allows other states to follow California's standards without federal approvals

**1990:** The **California Air Resource Board** (CARB) created the **Zero Emission Vehicle** (ZEV) program to control smog-causing pollutants and greenhouse gas emissions of passenger vehicles

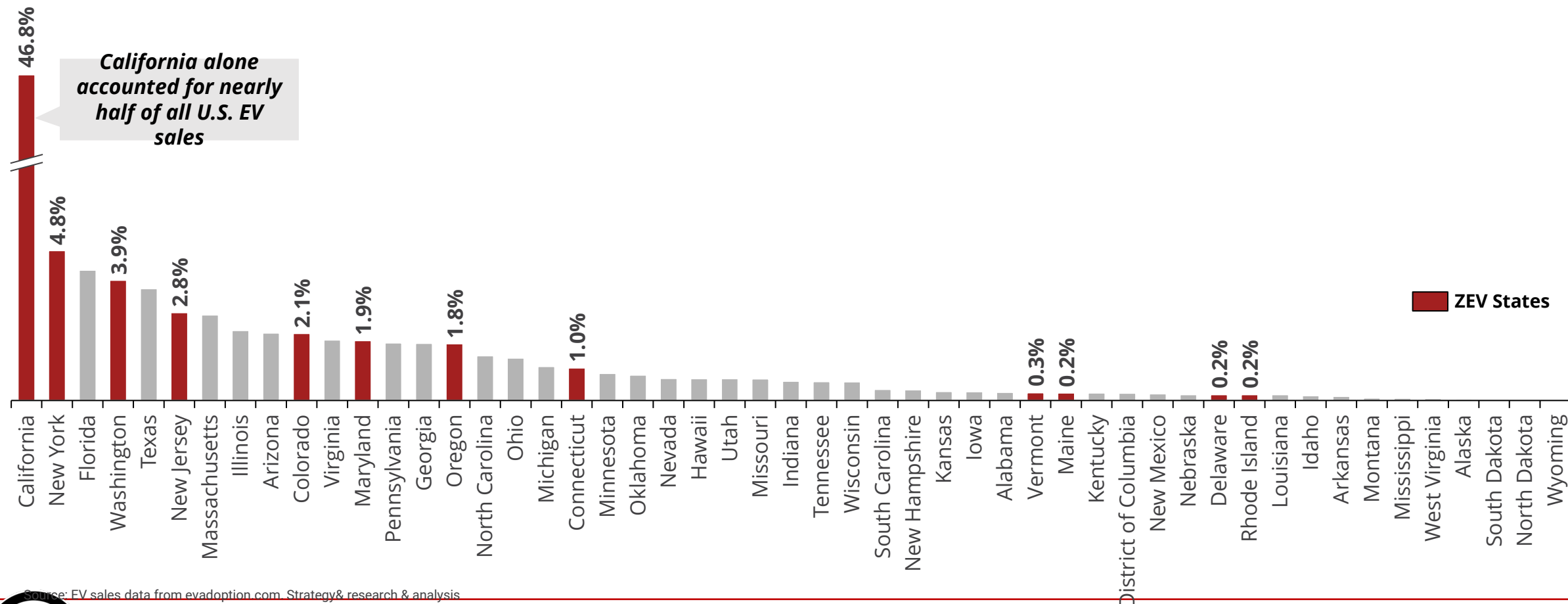
*Under Section 177, 11 other states have adopted the ZEV program*



Note: 1 - ZEV program is a mandate for Passenger Cars, Light- and Medium Duty vehicles with a gross vehicle weight under 8,500 pounds  
Source: California Air Resource Board (CARB) publications; Section 1900, Title 13 of California Low-Emission Vehicle Regulations

# Requirements set by the ZEV program coupled with state-led incentives are major driver of EV adoption

**ZEV compliant states accounted for ~70% of the 2019 EV sales [Percent of Total EV Sales]**



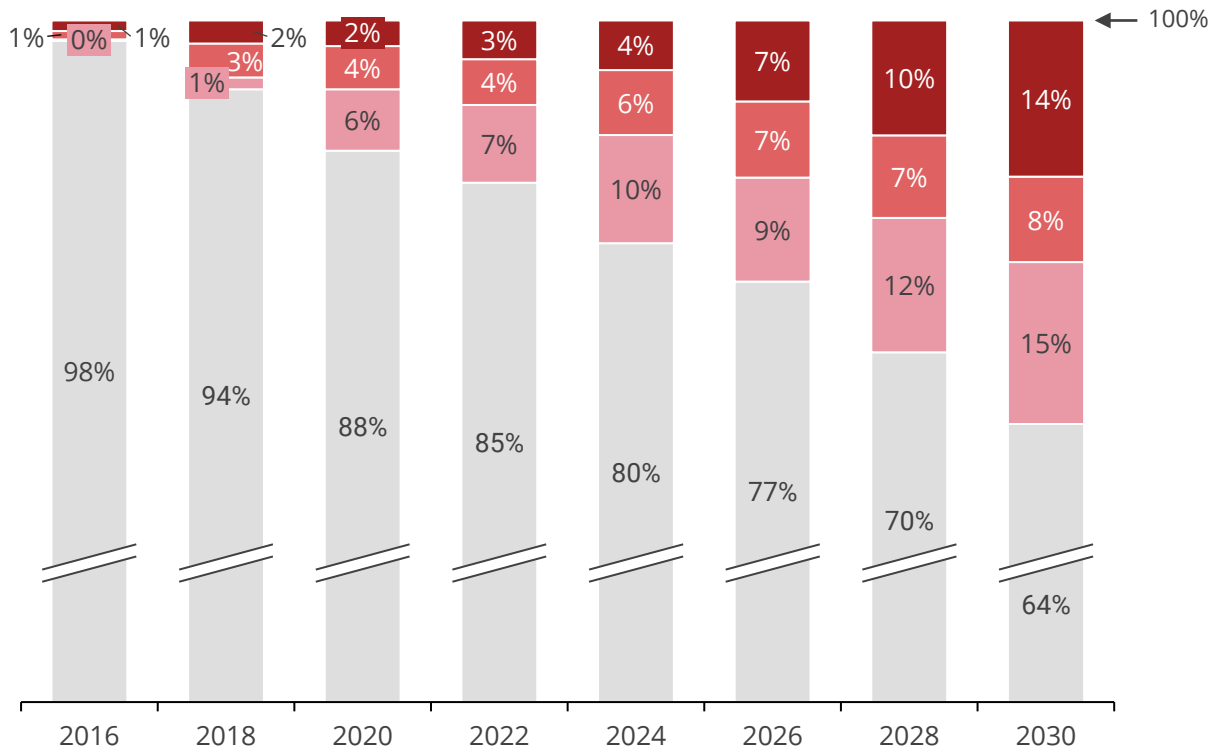
Source: EV sales data from [evadoption.com](https://www.evadoption.com). Strategy & research & analysis



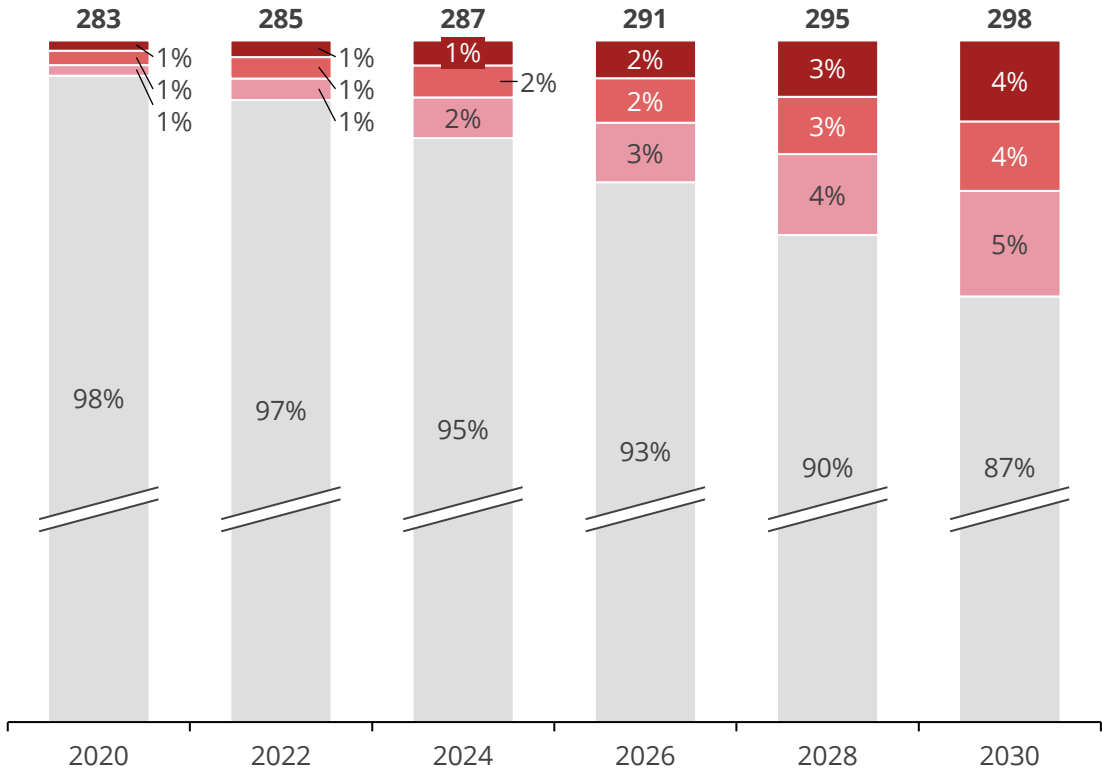
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# Even though there is higher penetration of new EV sales by 2030, the car parc will only be <5%

2016-2030F U.S. percent of new car sales by propulsion type  
[Percent of Total New Sales]



2020-2030F U.S. car parc penetration by vehicle type  
[Percent of Total Car Parc]



Sources: : IHS Markit. Strategy& research and analysis.

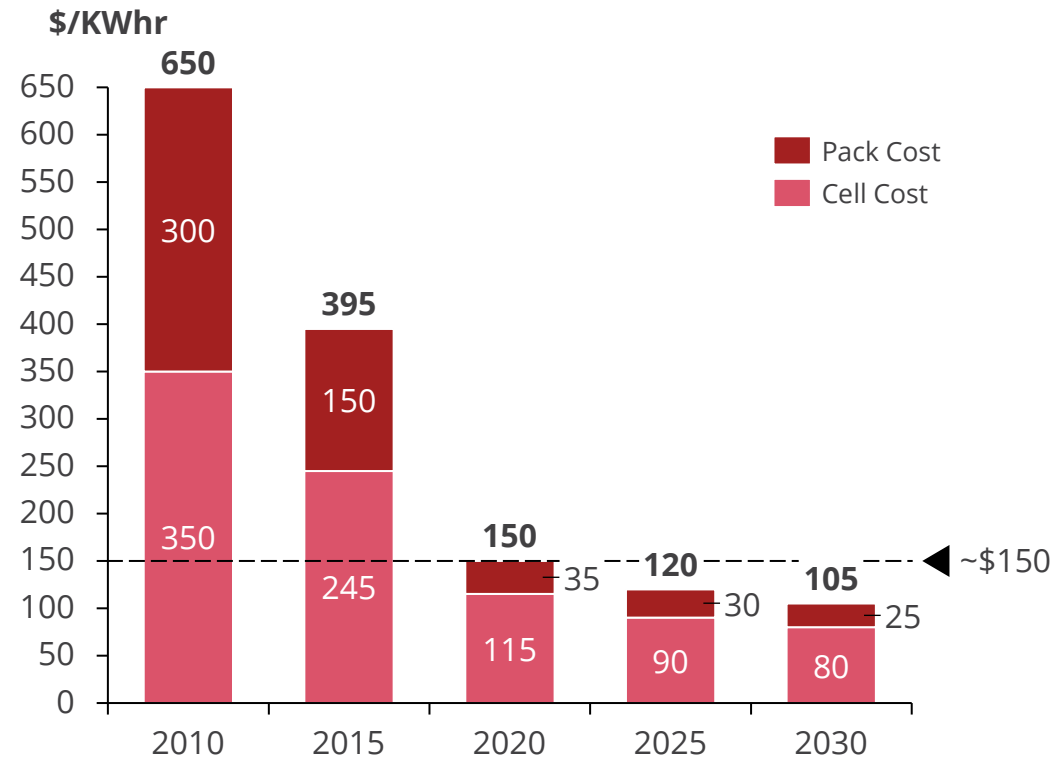
EV HEV MEV ICE



# We expect TCO parity to occur in ~5 years, which should result in accelerated EV adoption thereafter

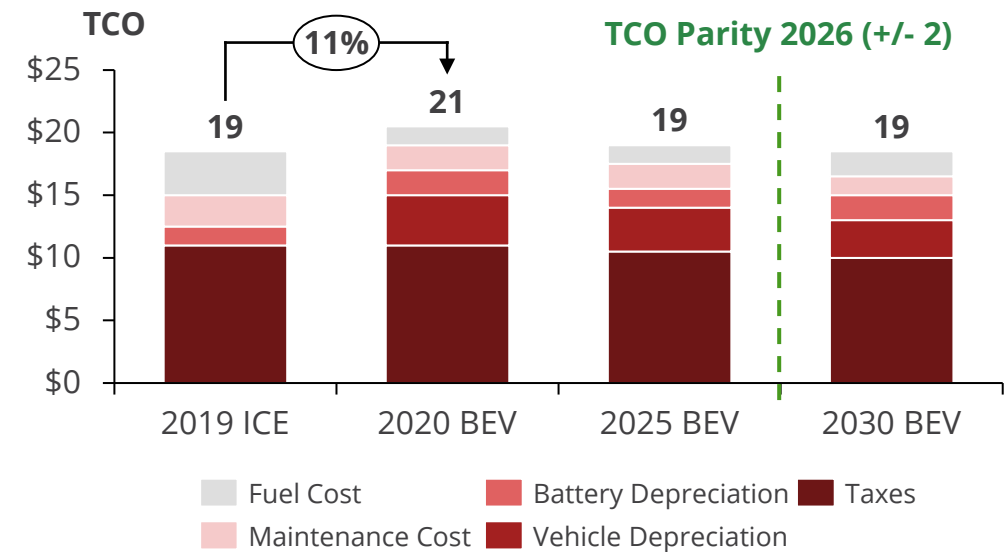
The TCO parity will occur when the total cost of ownership of an ICE vehicle exceeds that of an EV

**U.S. battery pack cost estimates**  
[USD per KWhr]



Notes: ICE = internal combustion engine, BEV = battery electric vehicle, TCO = total cost of ownership  
Sources: GM, Bloomberg New Energy Finance, Strategy& analysis.

**U.S. ICE/ BEV total cost of ownership without incentives**  
[USD | Thousands]



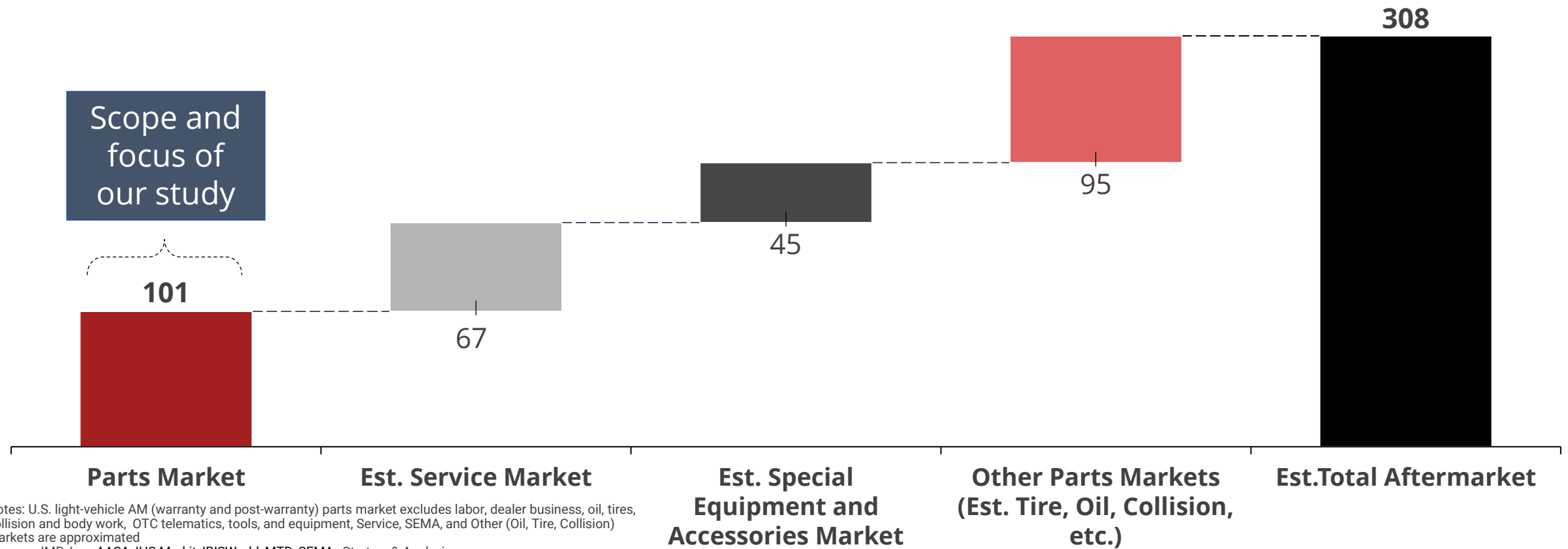
**Changes since last PwC Strategy& projections**

- Lower battery cost
- Lower fuel cost
- Higher commercial recharging prices
- Higher EV maintenance cost
- EV dedicated platform efficiency



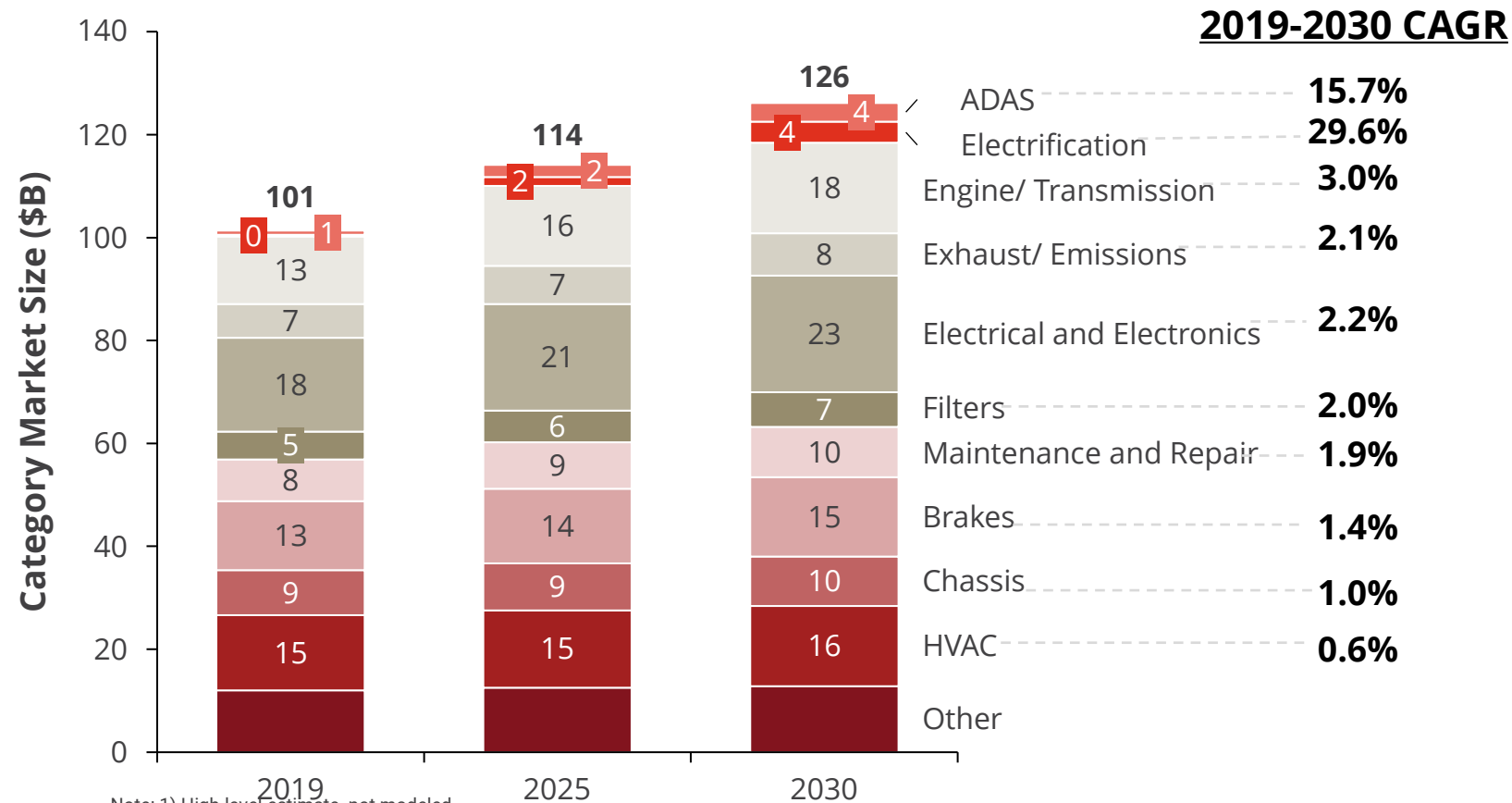
# To model the effect on the parts market, we focused on the growth of ~ 85 part categories

## 2019 U.S. Light-Vehicle Aftermarket Size Breakdown [USD | Billions]



# Heavy growth is expected with CASE related parts; otherwise, mild growth across other product groups

## 2015-2030F Selected aftermarket parts size by product category [USD | Billions]



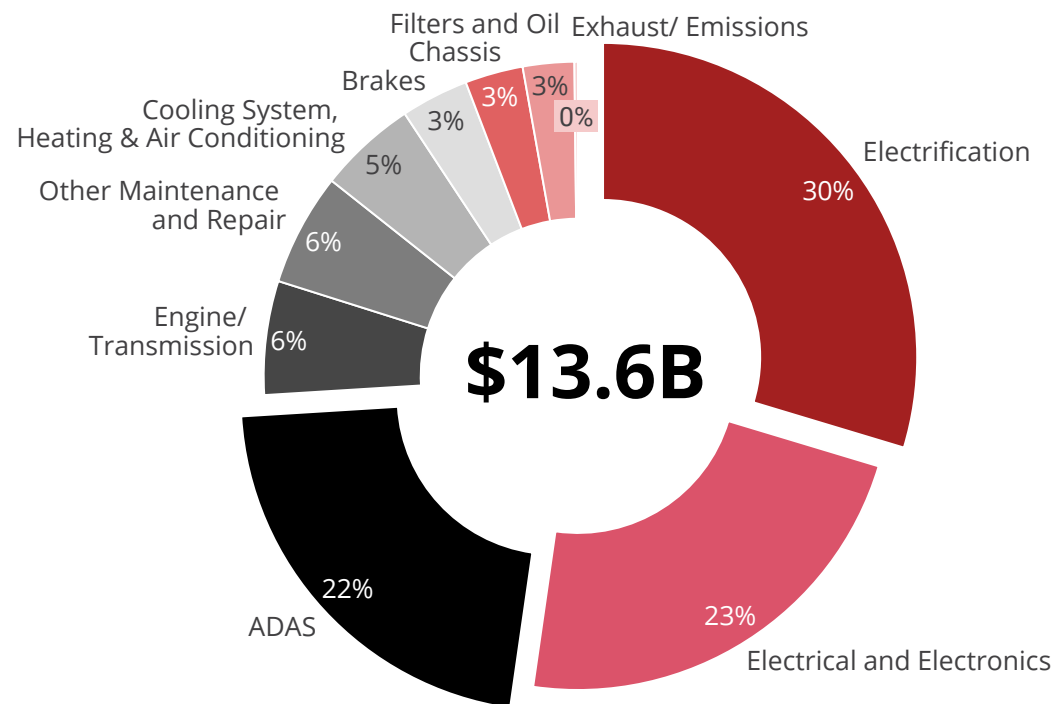
Note: 1) High-level estimate, not modeled  
Sources: : IHS Markit. Strategy& research and analysis.



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# Parts in the electrification category will contribute most of the growth between 2019 and 2030

**2019-2030F New Product & Technology Contribution to aftermarket parts growth<sup>1</sup> [Percent Change]**



Note: 1) No price increase  
Sources: HIS Markit, FRED, Strategy& research and analysis.

**'Electrification'** contributes majority of new product and technology growth (e.g., 300V Battery, Inverter, Electric Motor).

**ADAS Vehicles (L1-L3)** are already part of the car parc and will increase penetration of radars, cameras and sensors (e.g., Sensors – Radar, Ultrasonic) over the forecast period; however, L4-L5 do not impact the parc in a meaningful way until after the 2030 timeframe.

**'Electrical and Electronics'** driven by 12V battery growth due to increased adoption of stop-start hybrids (e.g., 12V Battery, Alternator).

**'HVAC'** driven by electrification of the AC compressor.

**'Engine/ Transmission'** driven by the ageing (ICE) car parc.



# What should aftermarket suppliers do?



**Have an unbiased view about how the future will evolve and therefore how you need to transform your business** – believe in aspirational forecasts at your own peril



**Be clear about your role versus others and determine what partnering and M&A you require** – the investment scale, risks and needed capabilities/skills imply that most traditional players cannot go it all alone



**Play the long game, make sure you have the right customer and program portfolio** – recognize that the car parc will be fundamentally reshaped, but that these changes and new product/ technology may not materialize as or when promised



**Change your talent model, organization, culture to support greater innovation, digitization/ software, speed and flexibility** – agility is a necessity for every company; need to provide the right training, incentives and recruiting efforts to attract the required talent to the automotive aftermarket



**Aggressively cut costs to help free up capital for critical technology investments** – keep an eye on your supply chain and operations performance; invest only where you can win



**Make investments (internal needs, new business, M&A, etc.) objectively** – assessing the true risks and uncertainty, interim vs. future needs, your risk-weighted investment capacity, your true capabilities and “right to win”, and affordability

Source: Strategy!; 2021 study for AASA





# The Impact of Electrification and Automated Technologies

How will these technologies affect the U.S. light-vehicle aftermarket?



# Vehicle Automation

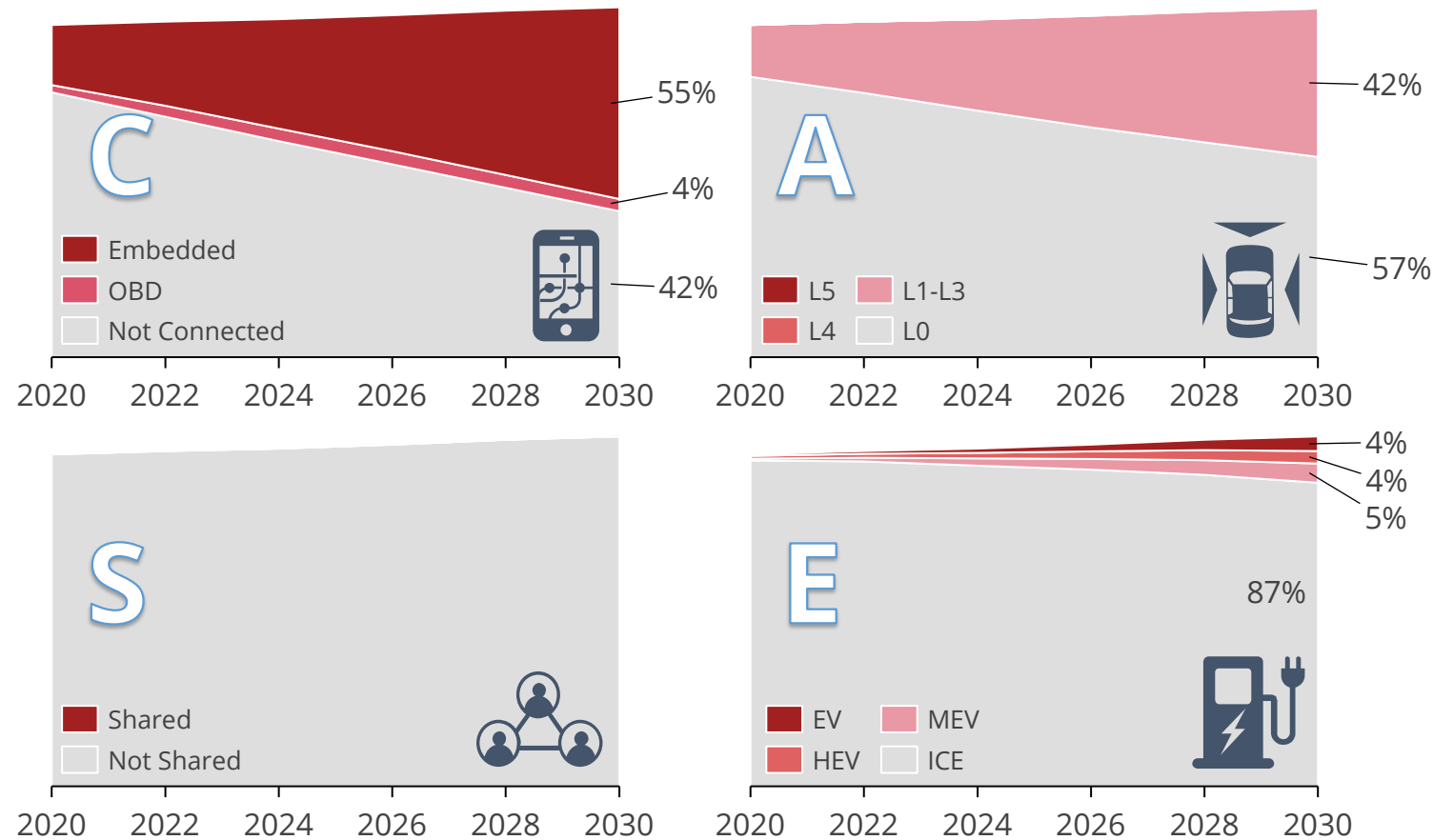
Revolution / Opportunity Happening Now?



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# The impact of CASE parts on the aftermarket will depend on each tech's proliferation within the parc

2020-2030F U.S. car parc penetration by CASE technology [Percent of Total Car Parc]



- EVs are expected to make up ~4% of the total parc by 2030 (10-17M vehicles)
- The effects of ever-more present L1-L3 vehicles are set to impact the parc within the forecast, but L4/L5 will not likely play a factor until well after 2030
- Shared vehicles are forecasted to be a minute percentage of the car parc and will likely not impact the aftermarket in the forecast horizon
- Connected vehicles will quickly proliferate the parc but will likely have little impact
- We will focus mostly on Electrified and Automated Technologies in the next few pages

Sources: IHS Markit, Transportation Sustainability Research Center-UC Berkeley, IBIS World, DOT, Strategy&research and analysis.

# The elongating projections for achieving full autonomy prior to COVID has expanded further

Aug 7, 2018, 02:56pm EDT

**Aug 2018**

**Why Waymo Is Worth A Staggering \$175 Billion Even Before Launching Its Self-Driving Cars**

*Pre-COVID AV outlook already indicated a long road ahead*

**"None of us in the automobile or IT industries are close to achieving true Level 5 autonomy. We are not even close."**  
- Toyota CEO, 2019

**"We overestimated the arrival of autonomous vehicles"**  
- Ford CEO, 2019

The New York Times

***Despite High Hopes, Self-Driving Cars Are 'Way in the Future'***

Ford and other companies say the industry overestimated the arrival of autonomous vehicles, which still struggle to anticipate what other drivers and pedestrians will do.

**"Time period will be longer than you think...there are no autonomous systems available, zero on the road today"**  
- Waymo CEO, 2018

Forbes

**Mar 2020**

EDITORS' PICK | 8,211 views | Mar 6, 2020, 10:53am EST

**Waymo's \$30 Billion Valuation Shows The New Reality Of Automated Driving Is Sinking In**

*COVID impact on automotive industry poised to push AV efforts even further out*

**"Those efforts [robotaxis] won't disappear, but they will certainly slow"**  
- Gartner, May 2020

**"Given the necessary cost cuts and increased focus on core, we have decided to wind down the Incubator and AI labs"**  
- Uber CEO, May 2020

**"A lot of partners are suspending investment in AVs preferring to invest in existing functions and up to Level 2 autonomy"**  
- Bosch Chairman, May 2020

Source: Industry Reports, Strategy & research and analysis



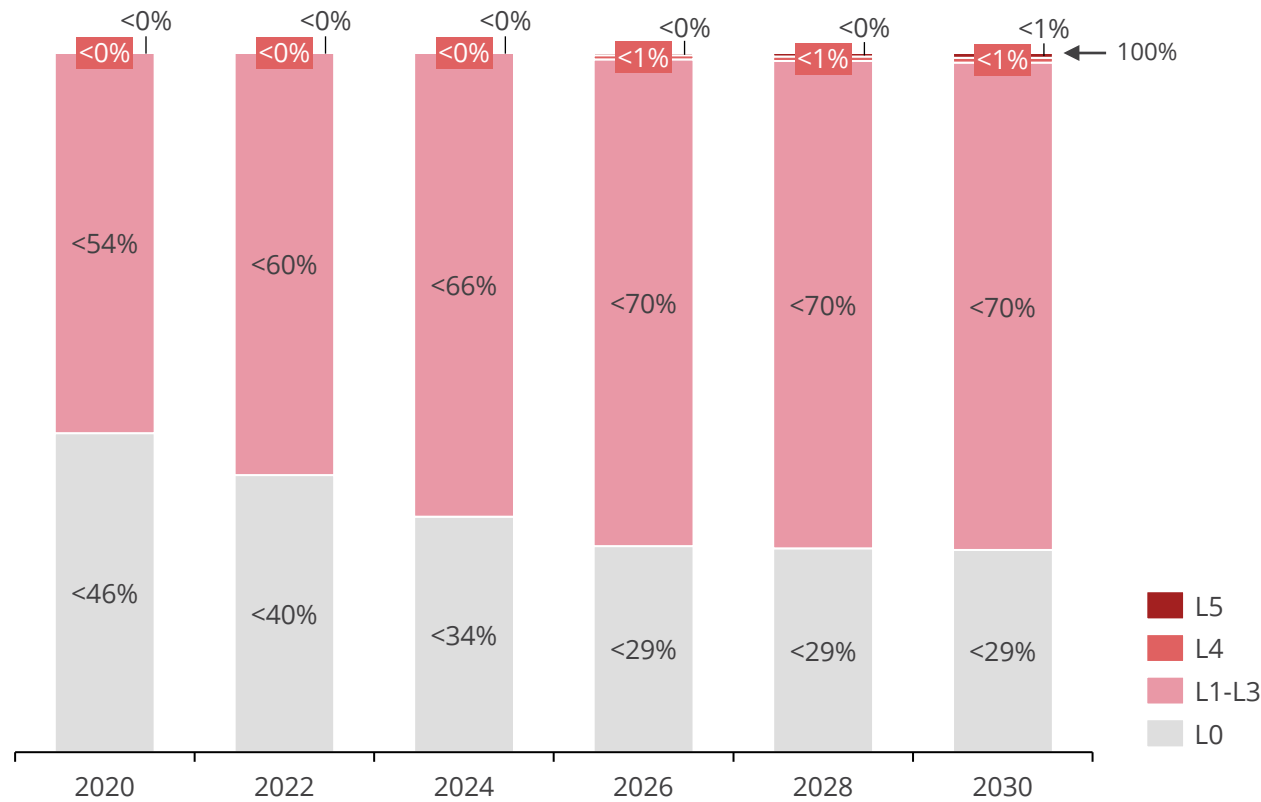
# Huge increase in vehicle technology, content & complexity is good for future aftermarket “tickets”



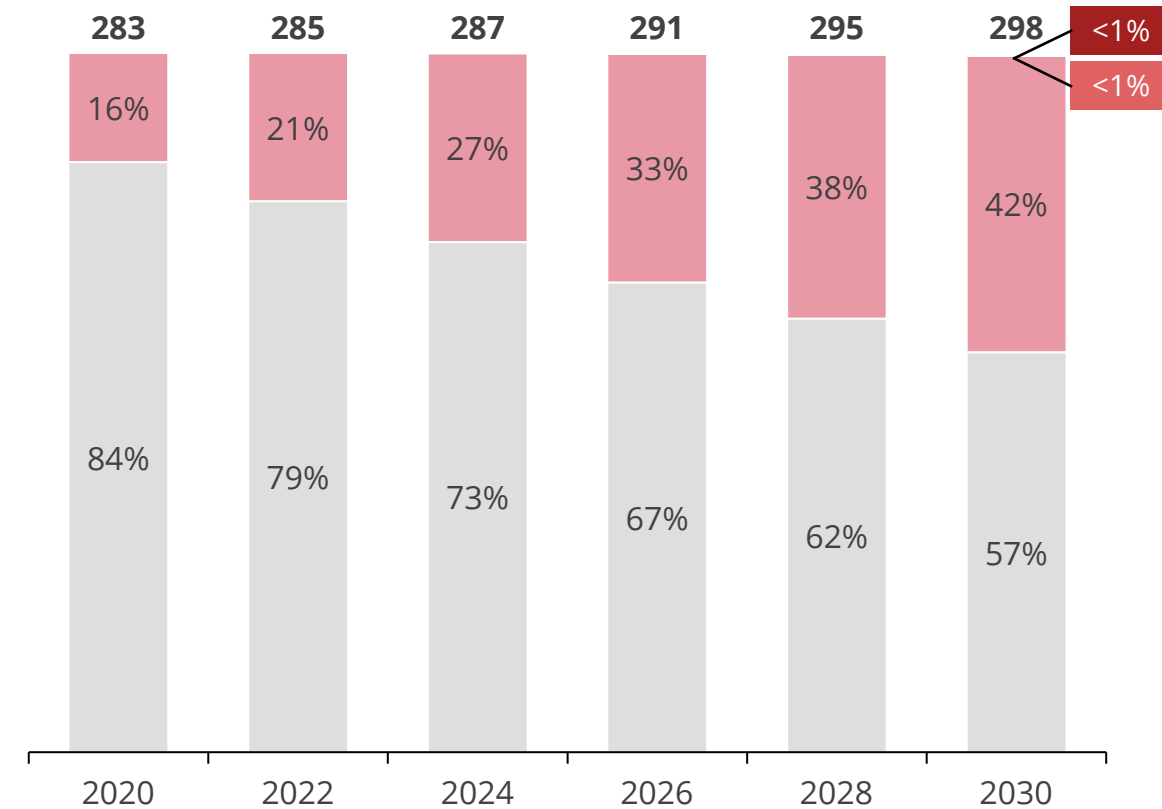
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# While a fully AV world is far out, there will be plenty of L1-L3 automation & L4/L5 testing in the interim

**2020-2030F U.S. percent of new car sales by SAE level**  
[Percent of Total New Sales]



**2020-2030F U.S. car parc penetration by SAE level**  
[Percent of Total Car Parc]



Sources: : IHS Markit. Strategy& research and analysis.

# Aftermarket Outlook Conclusions

Aftermarket is:

- Essential
- Resilient
- Strong structural drivers
  - Net favorable lifestyle moves
  - Technology more opportunity than threat for 20+ years?

Resilience ➡➡ Recovery ➡➡ Innovation



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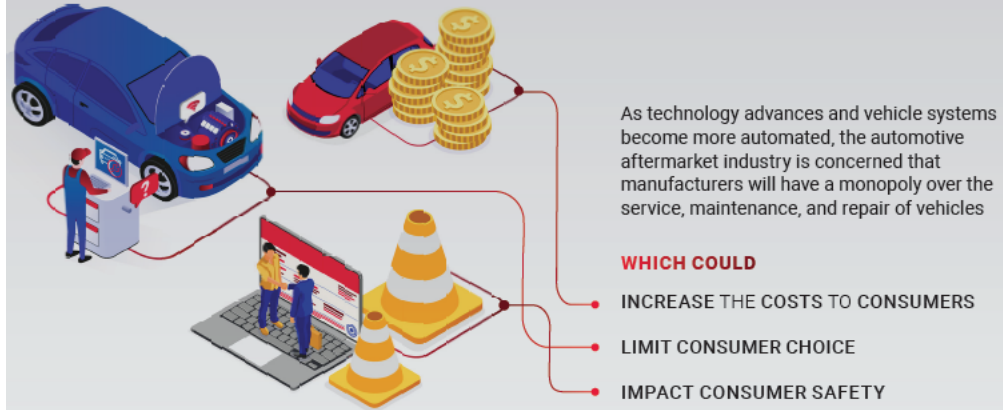


# Retaining Consumer Repair Choice & Market Competition



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# PROTECT CONSUMERS THROUGH ACCESS TO DIAGNOSTIC AND REPAIR DATA



It is imperative to ensure that consumers are not limited in their choices for maintenance, service, and repair and so that the industry can benefit from a system that fosters

- INNOVATION
- COLLABORATION
- COMPETITION
- CONSUMER CHOICE

## SECURE ACCESS TO VEHICLE DATA

- SUPPORTS CONSUMER CHOICE
- ENSURES SAFE OPERATION
- PROTECTS DATA PRIVACY



CONSUMERS CHOOSE INDEPENDENT SERVICE SHOPS OVER THE DEALERSHIPS **70%** OF THE TIME.<sup>1</sup>

By locking independent service providers out of the market, repair restrictions artificially distort consumers' natural preference for less expensive, and equally reliable, independent maintenance and repair services.



BECAUSE **77%** OF VEHICLES ON US ROADS ARE OLDER THAN 7 YEARS AND THE AVERAGE VEHICLE IS 12 YEARS OLD, MOST OWNERS OF THESE CARS WOULD CHOOSE AN INDEPENDENT REPAIR SHOP.<sup>2</sup>

If independent repair shops are unable to repair or maintain these vehicles, consumer choice is diminished, and our nation's drivers are at risk.



IF LEFT WITH NO CHOICE ON WHERE TO SERVICE, CONSUMERS WILL BE FORCED TO DEALERSHIPS WHERE COSTS ARE HIGHER, TAKING AN ESTIMATED **\$100 BILLION** FROM CONSUMERS' POCKETS.<sup>1</sup>



**37%** OF THE VEHICLES IN THE U.S. HAVE AT LEAST ONE REPAIR AFFECTED BY LIMITED DATA ACCESS.<sup>1</sup>

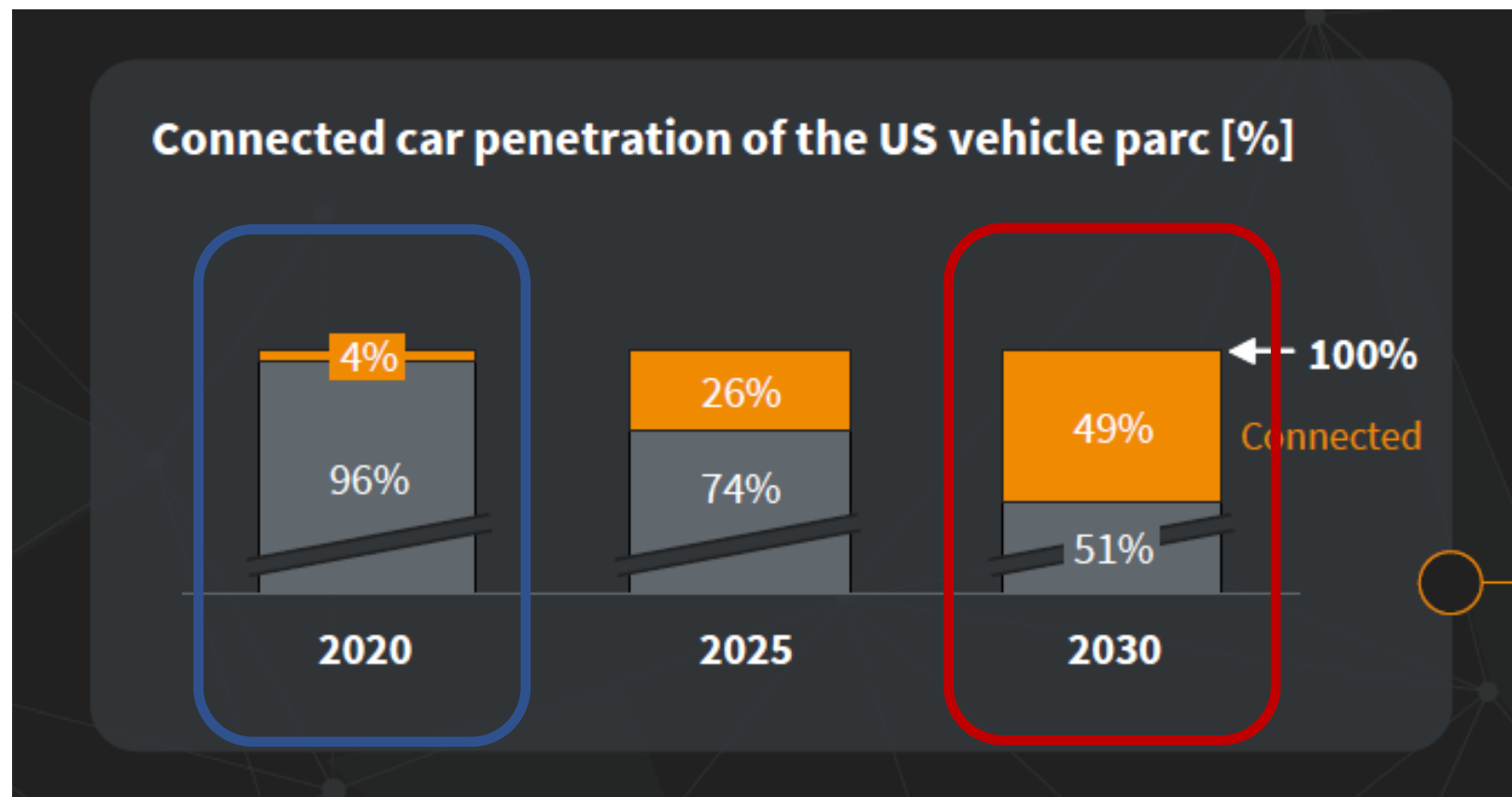
That number, and the degree of trade restraint, will increase dramatically as more technology-based restrictions are put in place by automakers. Without government action, the more entrenched these repair restrictions will become, making the problem harder to fix and placing the country's millions of drivers at greater risk by limiting choice on key vehicle repair and service.

AASA supports legislation that would preserve consumer access to high quality and affordable vehicle repair by ensuring that as vehicles continue to modernize, vehicle owners and their repairer of choice have equal access to repair and maintenance tools and data. As vehicles continue to become more advanced, vehicle repair and maintenance requires access to data, software, sophisticated replacement components, training, and diagnostic tools. Current law is inadequate to address growing competitive concerns created by new technology, and the Act would seek to resolve current and future issues that prevent consumers and independent repair shops from being able to fully maintain and repair modern vehicles, while ensuring cybersecurity and safety for critical vehicle systems.



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We are the proverbial frog in a boiling pot



## Growth 2020-2030

Electronics per vehicle (\$)	+124%
Automotive Software (\$)	+81%
Non-ADAS Sensors (\$)	+120%

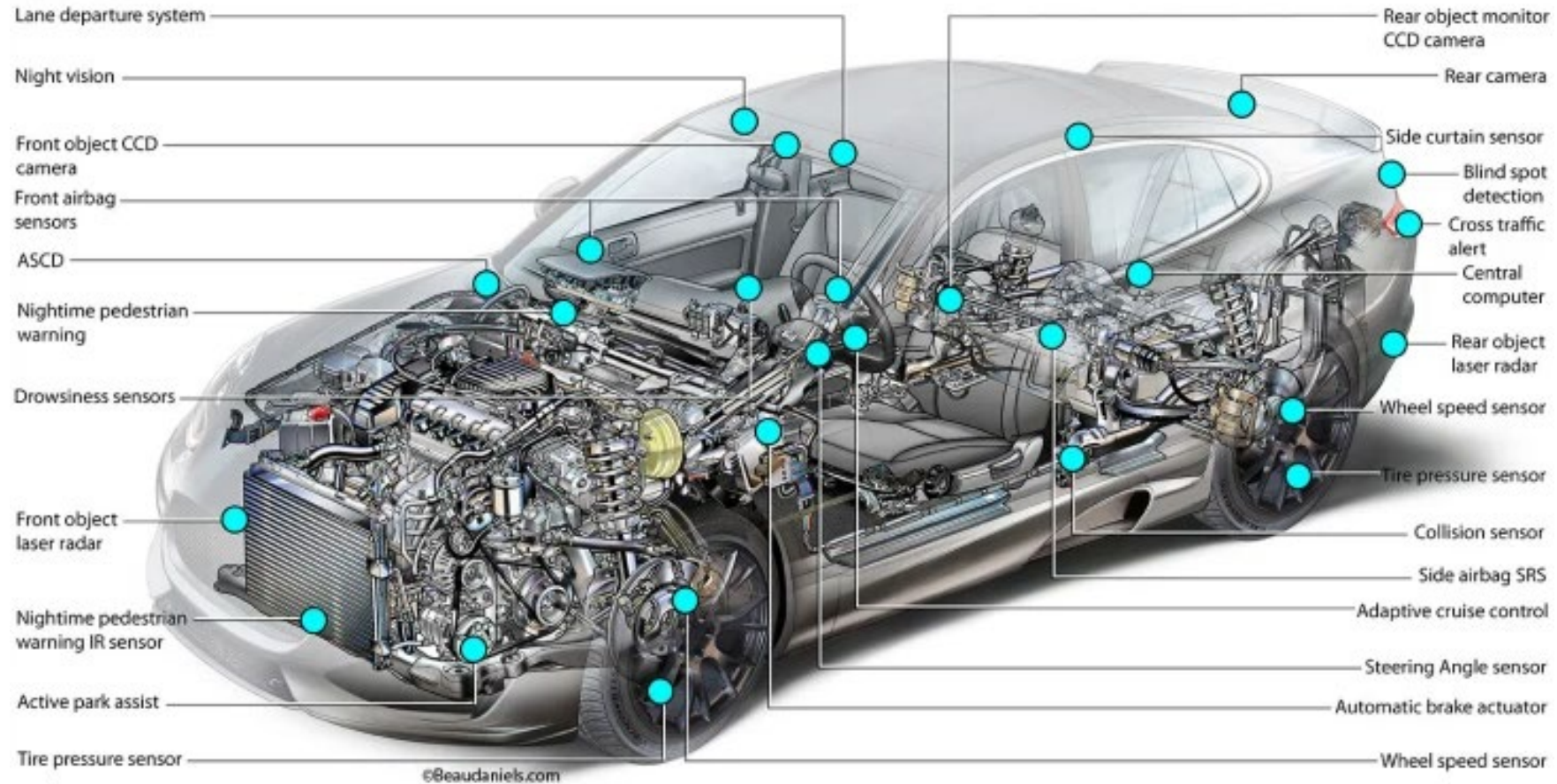
Source: AASA/Roland Berger study: Aftermarket Business Opportunities for Vehicle Data, 2021



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# A Picture is Worth a Thousand Words

## Vehicle Sensors



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# Data Access & Consumer Right to Choose



AASA & AUTO CARE  
ASSOCIATION PARTNERSHIP

YOUR CAR. YOUR DATA.  
YOUR CHOICE.



autocare<sup>™</sup>  
ASSOCIATION

Independence drives us.



Automotive Aftermarket  
Suppliers Association



# Industry Consolidation





# AASA Vision: Talk from the Top



Resilience



Recovery



Innovation



# Consolidation: What to Expect?

## CHANNEL AND CUSTOMER

“There is more to come”

“Name me another industry opening retail sectors like the aftermarket. You can’t find it”

“We will see more consolidation over the next five years, in all areas”

“We have too many stores. But the machine has to grow. If not growing, the model is at risk”

“We are way overstored. We have way too much inventory in the system”

“Will be 3 retailers and 1-2 buying groups”

“We will see fewer installers – but they will be well educated and better equipped – and will flourish!”

## SUPPLIER

“We hate the consolidation of suppliers”

“The supply base will continue to dwindle due to our pressure”

“We’re seeing PE consider exiting because of EV future. Could be very disruptive”

“PE involvement in the industry is not good”

“I am concerned about the health of the supply base”

“Don’t have a resilient supplier business model. All are trying to cut their way to prosperity”

“I’m worried about the weakness of the supply chain”

“I have long-term supplier concerns ... we’ll see more consolidation”





# Bill Long's thoughts on the future of industry consolidation

- More to come
  - At all stages of the value chain
    - Would already have seen more at the retail level apart from extended terms requiring investment grade rating, like banks
  - Succession planning will likely drive WDs, shop consolidation
- Context: also seeing new entrants
  - E-tailers in retail/distribution
  - International suppliers
- Best & those ready for future will survive – and thrive



# Supply Chain Disruption



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# Supply Chain Disruption

- Tremendous supply chain disruption
  - Ports backed-up
  - Steel issues
  - Semiconductors
  - Resins
  - Rubber
  - High shipping costs
  - Raw material costs
  - Etc.





# Biggest factor driving competition: availability

“Fill rate is a big problem”

“Inventory availability is the competitive differentiator now”

“Market is competing on availability. That is the competitive differentiation”

“Everyone is trying to beat everyone else on availability. That’s the competitive advantage”

“Availability of inventory is the #1 issue”

“Shipping rates have never been this bad before”

“I am deeply concerned about the supply chain for the next six months”

“COVID has exposed the weak links, the bottlenecks, and the choke points in the supply chain”

“Suppliers are not reacting to the growth we’re seeing”

“Fulfillment matters even more online”

“I am very concerned about meeting customer demand for the next six months”

“More to come – we need to be prepared for the US opening up again”





# Biggest articulated need: Supplier communication

“Biggest issue is communications”

“We didn’t have the right discussions”

“Need to stop over-promising and under-delivering”

“What communication we’ve had is hopes and wishes vs. what we want to see”

“We need more transparency”

“No one knocked on my door and said we want to do x, y, and z to do better and succeed better”

“No one is proactive”

“A letter is not communication”

“We’re just finding out when we are in the middle of the problem”

“We’re a year in. Suppliers should have learned to navigate the waters and communicate the issues better”

“Communication is key. We need to know what is happening. Even more so when the unexpected is happening.”

“People working remotely has played into the communications issues”

“No news is not good news”

“We’re seeing lack of follow-through. Suppliers not dealing with things as they come up”

“Suppliers have clearly dropped the ball on communication”

“Communication is getting worse, not better”





# What they wanted in supplier communication

## ASK FOR HELP?

“Message from suppliers really changes when they realize we want to help!”

“Set expectations and be candid and transparent”

“We need as much transparency on your business as you have on ours”

“Tell us what is the reality; tell us what you need from us”

“Even if you don’t have an answer, the context and background are still helpful”

“Enhanced data sharing and forecasting, sharing info, can help together”

## WORK TOGETHER

“We have a lot of options available to work with suppliers”

“What matters is end-customer fill rate, and we can do better together”

“How can we partner to mitigate these issues?”

“We might be able to deal with things better internally to address issues, but we need to work together”

“If we know, we can facilitate solutions, like bigger or more certain orders”

“The Gold star suppliers are communicating ahead of time: what’s coming; projected longer lead times. That notice allows us to work together”



# Government Advocacy



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# State of Play in Washington, DC

- **American Jobs Plan (formerly Highway Reauthorization Bill)**

- \$2 trillion proposal (meant to repair roads and bridges, expand broadband access, upgrade schools), **shift towards clean energy, replace drinking water pipes, improve American competitiveness with China, create jobs**, and a slew of other provisions.
- President Biden plans to **pay for this bill by overhauling the tax code, including raising rates for corporations and people making more than \$400,000 a year.**

- **Politics of the Proposal**

- Infrastructure investment has long been considered a bipartisan goal, but **Republicans say the plan goes too far beyond traditional infrastructure spending and are opposed to the proposed tax hikes.**
- Republicans are expected to lay out a **counter-proposal** that is much smaller and more targeted, **totaling \$800 billion with some of the costs defrayed through user fees.**
- Democrats will likely attempt to sidestep opposition and pass the measure without Republican support through a process known as “budget reconciliation,” which would allow them to avoid a filibuster in the Senate and pass the package by a vote of 51-50 (with Vice President Kamala Harris passing the tie-breaking vote).







# SUPPLY CHAIN

## White House and Regulatory Action

### MEMA

#### Supply Chain

- Address supply chain crisis through Executive Order
- Legislation moving through Congress – consensus unclear
- Promote U.S. competitiveness
- Beyond semiconductors and includes resins, foam, rubber, steel, and delays at ports

### BIDEN/CONGRESSIONAL DEMOCRATS

#### Supply Chain

- Supply chain report at WH
- Semiconductors, batteries, rare earths (100- day review)
- Transportation is part of the year-long review





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