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Vehicle Affordability

Defining, Diagnosing, and Understanding New Vehicle Affordability in the United States

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About the Authors

The Center for Automotive Research (CAR) is an independent, non-profit organization conducting industry-driven research and analysis. Focusing on critical areas like Energy & Sustainability, Technology, and Labor, Economics, and Policy, CAR has been a trusted resource for the automotive industry for over twenty years. www.cargroup.org

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Table of Contents

About the Authors	2
Acknowledgements	2
Table of Contents	3
Table of Figures.....	4
Table of Tables	6
Key Takeaways	7
Executive Summary.....	7
Defining Vehicle Affordability	9
Consumers See High Prices as a Challenge.....	9
Vehicle Price Trends.....	11
Inflation-Adjusted Vehicle Costs.....	14
Vehicle Affordability and Household Income	15
A Bifurcated Vehicle Market	17
In-Vehicle Factors Driving Cost	23
Quality Improvements.....	23
Durability.....	25
Fuel Efficiency	26
Size and Performance	27
In-Vehicle Technology	28
Today's Vehicles Are Not Yesterday's	30
Production Costs.....	32
Profit.....	36
External Factors Driving Cost	37
Cost of Owning and Operating a Vehicle.....	38
Consumer Transportation Expenditure	40
Vehicle Insurance and Repair Costs.....	42
Vehicle Affordability: One Piece of a Consumer's Budget	45
Conclusion	47
Works Cited	49

Table of Figures

Figure 1. Buying conditions for vehicles	10
Figure 2. Reasons for opinions for buying conditions for vehicles.....	10
Figure 3. Auto loan delinquency hits 15-year high: Percent of auto loan balance 90+ days delinquent.....	11
Figure 4. Average consumer expenditure per new light vehicle	12
Figure 5. Average consumer expenditure per new light vehicle by segment.....	13
Figure 6. Average consumer expenditure per new light vehicle versus average expenditure at constant 2002 light truck and passenger car market shares	13
Figure 7. Purchasing Power: Average consumer expenditure per new light vehicle, adjusted for inflation to 2025 dollars	14
Figure 8. Average transaction price by select vehicle category, adjusted for inflation to 2025 dollars	15
Figure 9. Affordability through financing: Estimated monthly payment on average new auto loan and median household income	16
Figure 10. Weeks of median household income needed to purchase a new vehicle at average transaction price	17
Figure 11. The highest 20% of households by income reach record share of expenditure on new vehicle purchases	18
Figure 12. Sales distribution skews toward higher priced vehicles	19
Figure 13. Average transaction price distribution by model sales, 2012 versus 2025 ...	20
Figure 14. Average transaction price distribution by model sales, 2012 versus 2025, adjusted to 2025 dollars	20
Figure 15. Vehicle affordability by household income in 2024.....	22
Figure 16. Vehicle affordability by household income in 2019.....	22
Figure 17. Vehicle affordability by household income, 2019 versus 2025	23
Figure 18. Average transaction price of new light vehicles compared to constant 2002 quality vehicles	24
Figure 19. Average transaction price of a new light vehicle compared to a new 2002-quality vehicle	25
Figure 20. Durability: Average age of vehicles in operation in the United States	26
Figure 21. More efficient and cleaner: Average real-world MPG and CO2 emissions per mile by model year	27

Figure 22. Larger, heavier, and more powerful: vehicle footprint, weight, and horsepower by model year.....	28
Figure 23. Smarter and Safer: Percent factory installment of selected ADAS equipment in U.S. light vehicles (1/3).....	29
Figure 24. Smarter and Safer: Percent factory installment of selected ADAS equipment in U.S. light vehicles (2/3).....	29
Figure 25. Smarter and Safer: Percent factory installment of selected ADAS equipment in U.S. light vehicles (3/3).....	30
Figure 26. Raw material price trends: Steel, aluminum, plastic, and rubber	33
Figure 27. Raw material value in an automobile, selected years	34
Figure 28. Motor vehicle parts price trend: Domestic and import	35
Figure 29. Average hourly earnings of motor vehicle, parts, and general manufacturing production workers	36
Figure 30. Net profit: Motor vehicle and parts manufacturing, 2002 to 2026	37
Figure 31. Net profit: Motor vehicle and parts manufacturing, 2019 to 2026	37
Figure 32. Average cost of owning and operating a vehicle, cents per mile	38
Figure 33. Consumer price index: Vehicle-related costs vs. all-item inflation	39
Figure 34. Consumer price index: New and used vehicles vs. housing, food, medical care, education, and childcare	40
Figure 35. Consumer expenditure on transportation growth by category, indexed to January 2002	41
Figure 36. Consumer expenditure on transportation by category, percent change in share of total expenditure.....	42
Figure 37. Detailed view of other vehicle expenses	42
Figure 38. Vehicle insurance expenditure share by income quintile	43
Figure 39. Vehicle insurance expenditure share by age of reference person	43
Figure 40. Average loss payment per claim for passenger vehicle collision coverage..	45
Figure 41. Percent change in new vehicle purchases as a share of total expenditure, by income quintile.....	46

Table of Tables

Table 1. Ford F-150: 2002 vs. 2025 base model specification comparison	31
Table 2. Chevrolet Silverado 1500: 2002 vs. 2025 base model specification comparison	31
Table 3. Toyota Camry: 2002 vs. 2025 base model specification comparison	32

Key Takeaways

- **New vehicle prices have risen sharply in nominal terms, but far more modestly in real terms.** Average consumer expenditure per new vehicle has nearly doubled since 2002, but real expenditure (adjusted for inflation) is up only about 8%. Real expenditure on passenger cars specifically is down 16%, meaning passenger cars have become relatively more affordable in terms of consumer purchasing power.
- **The new vehicle market has bifurcated along income lines.** The highest-earning 20% of households accounted for 55% of total new vehicle expenditure in 2024, up from 42% in 2019 and the largest share on record. The vehicle market has shifted accordingly, catering to these wealthier consumers. However, affordable models are still available.
- **A meaningful share of the price increase reflects real gains, not just added cost.** Today's vehicles are safer, more powerful, more fuel-efficient, and equipped with technology – from advanced driver assistance systems to full connectivity – that did not exist two decades ago.
- **Ownership costs, particularly insurance, are rising faster than vehicle prices themselves.** Vehicle insurance expenditures are consuming a growing share of household budgets, disproportionately affecting lower- and middle-income and younger consumers, driven in part by the higher cost of repairing technologically advanced vehicles.
- **Vehicles are relatively affordable compared with other major household costs.** Vehicle-related price growth has trailed housing, medical care, education, and childcare since 2002, yet transportation's shrinking share of total household spending suggests these faster-growing costs are crowding out consumers' ability to buy a new vehicle.

Executive Summary

Vehicle affordability has gotten a lot of attention in recent years. The average transaction price for a new vehicle surpassed \$50,000 in late 2025, and roughly three-quarters of consumers surveyed by the University of Michigan's Surveys of Consumers say the next 12 months will be a bad time to buy a vehicle, citing high prices as the top reason. This report, prepared by the Center for Automotive Research (CAR) for the Alliance for Automotive Innovation, examines what is actually driving that perception and finds that affordability is not a single number but a multidimensional issue shaped by vehicle pricing, product quality, total cost of ownership, and the broader consumer budget.

In nominal terms, vehicle prices have risen substantially, but the picture changes when viewed through the lens of purchasing power. Real, inflation-adjusted expenditure per new vehicle has increased only modestly since 2002, and passenger cars in particular

have become more affordable. Even so, the period since the COVID-19 pandemic marks a genuine break from this longer trend: new vehicle prices began rising faster than general inflation in 2021. Furthermore, rising auto loan delinquencies suggest that monthly financing payments and other costs of owning and operating a vehicle, not just sticker prices, are a growing burden for new vehicle owners.

Discussions of average vehicle prices also mask a market that is bifurcating by income. Higher-income households now account for a record share of new vehicle spending, while the share of new models considered affordable for the median household income has fallen since 2019. Affordable vehicles for most household income levels exist, but they represent a shrinking slice of a market increasingly oriented toward higher-priced models – a pattern consistent with the broader “K-shaped” divergence observed across the U.S. economy.

Part of the price increase reflects real improvements in the product itself. Constant-quality price analysis and direct model-year comparisons show that vehicles today are safer, more powerful, more fuel-efficient, and equipped with driver-assistance and connectivity technology unavailable twenty years ago. Rising material, parts, and labor costs have also pushed up production costs, even as industry profit margins have narrowed since their semiconductor-shortage-fueled peak.

Affordability also does not end at the point of sale. The cost of owning and operating a vehicle – insurance, maintenance, fuel, and financing – has climbed alongside purchase price, with vehicle insurance emerging as the fastest-growing component and a disproportionate burden on lower-income and younger households. And even though vehicle-related costs have grown more slowly than housing, medical care, and education since 2002, transportation's shrinking share of total household spending shows that these even faster-growing costs may be limiting consumers' ability to purchase a new vehicle.

Taken together, these findings show that no single factor – not sticker price, not financing, not insurance, not household income – fully explains the affordability challenge facing today's new vehicle buyers, and no single lever will resolve it. The sections that follow examine each of these dimensions in turn: how vehicle prices have changed, how much of that change reflects quality and technology gains, and how ownership costs and the broader household budget shape a consumer's ability to purchase and keep a new vehicle.

Defining Vehicle Affordability

According to Cox Automotive, the average transaction price for a new vehicle surpassed \$50,000 in the latter part of 2025 and has since remained above \$49,000¹. In recent months, roughly three quarters of those surveyed by the University of Michigan's Survey of Consumers stated that they think the next 12 months will be a bad time to purchase a new vehicle. The top reason? Prices are high. For the past three years, vehicle price has been among the top three most important factors driving U.S. consumers' choice of brand for their next vehicle, based on Deloitte's Global Automotive Consumer Studies, and was the top factor for U.S. consumers' next vehicle brand choice in 2024².

Consumers See High Prices as a Challenge

Consumer sentiment highlights vehicle prices as an important issue for industry. Survey responses to the University of Michigan's Surveys of Consumers question, "do you think the next 12 months or so will be a good time or a bad time to buy a new vehicle, such as a car, pickup, van, or sport utility vehicle?" show that most respondents said it was a bad time to buy in 2021 and the sentiment has persisted through 2025 (Figure 1). When asked "why do you say so?", the top response has been consistently "prices are high" (Figure 2). Many consumers feel new vehicles have become unaffordable in recent years.

¹ Cox Automotive, [Kelley Blue Book Report: New-Vehicle Prices Trend Higher in July as Incentives Decline and Sales Pace Slows - Cox Automotive Inc.](#)

² Deloitte Global Automotive Consumer Studies, 2024, 2025, and 2026

Buying Conditions for Vehicles

Do you think the next 12 months or so will be a good time or a bad time to buy a new vehicle, such as a car, pickup, van, or sport utility vehicle?

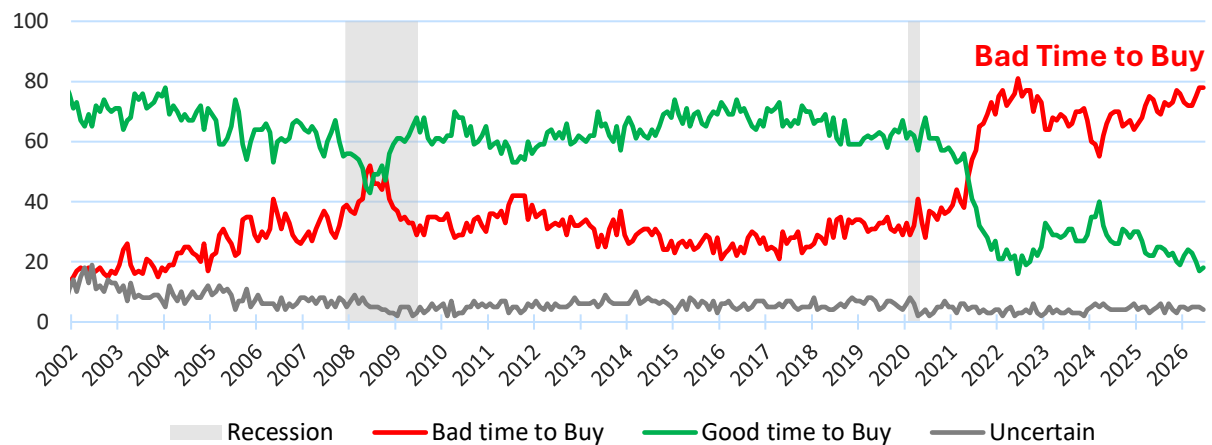


Figure 1. Buying conditions for vehicles³

Reasons for opinions for buying conditions for vehicles

Bad time to buy: Why do you say so?

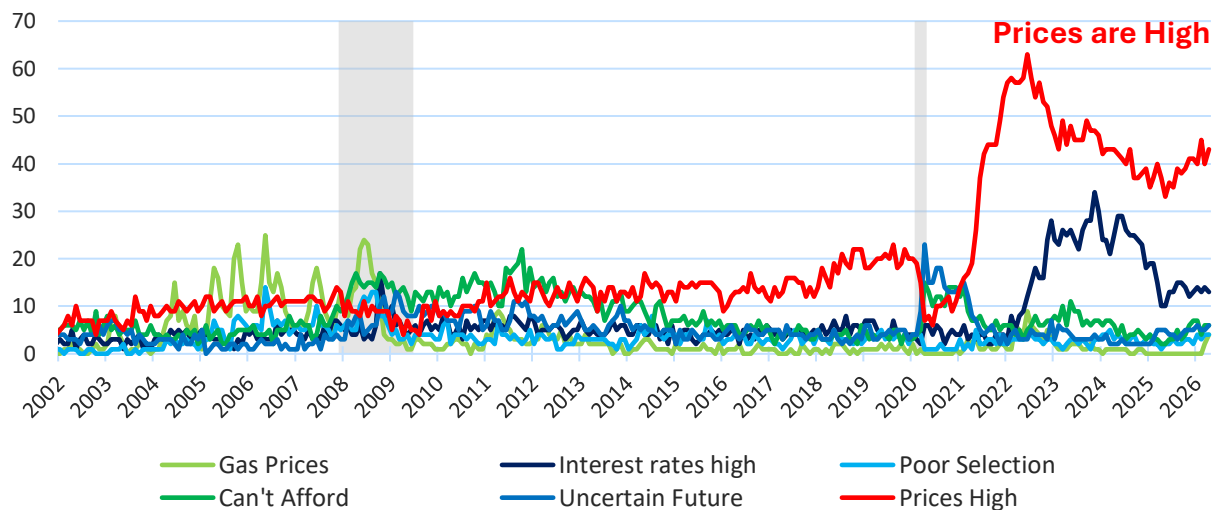


Figure 2. Reasons for opinions for buying conditions for vehicles⁴

Another pain consumers may be feeling is finance cost. According to the Federal Reserve Bank of New York's Household Debt and Credit Reports, auto loan delinquency (percent of balance more than 90 days delinquent) hit a 15-year high in 2025. This suggests that not only are would-be vehicle buyers balking at high vehicle prices, but buyers are struggling to afford the vehicles they have already purchased.

³ University of Michigan, Survey Research Center, Surveys of Consumers

⁴ University of Michigan, Survey Research Center, Surveys of Consumers

Figure 3 depicts the percent of balance for auto loans that are delinquent by 90 plus days.

Percent of Balance 90+ Days Delinquent

Auto loans

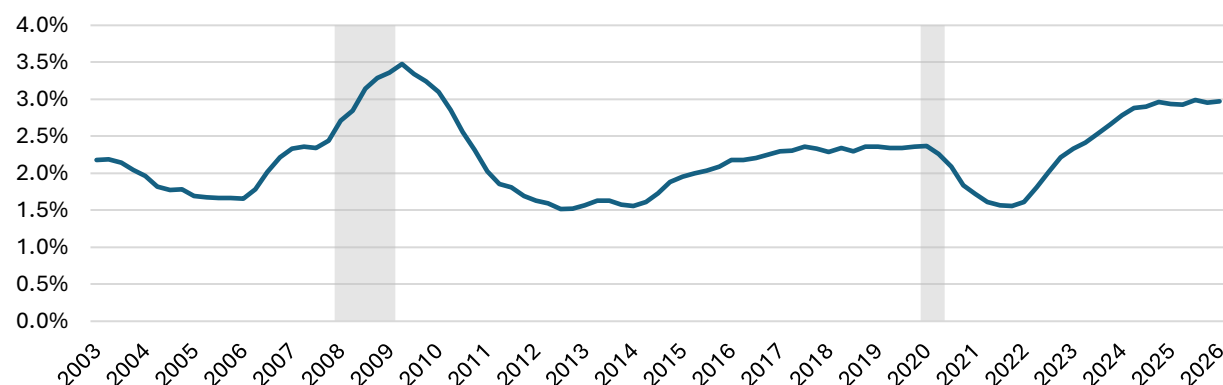


Figure 3. Auto loan delinquency hits 15-year high: Percent of auto loan balance 90+ days delinquent⁵

Vehicle Price Trends

Vehicle prices have increased. The average consumer expenditure per new vehicle has nearly doubled since 2002, up 98.7% from January 2002 to its peak in May of 2025. Figure 4 shows the average consumer expenditure per new vehicle. Following relatively steady growth from 2002 through 2018, average expenditure per new vehicle accelerated in 2019 through 2021 before leveling off in 2023. Notably, over half of the total growth in average consumer expenditure per vehicle occurred in the four years from 2019 through 2022.

⁵ New York Fed Consumer Credit Panel/Equifax

Average Consumer Expenditure per New Light Vehicle All Light Vehicles

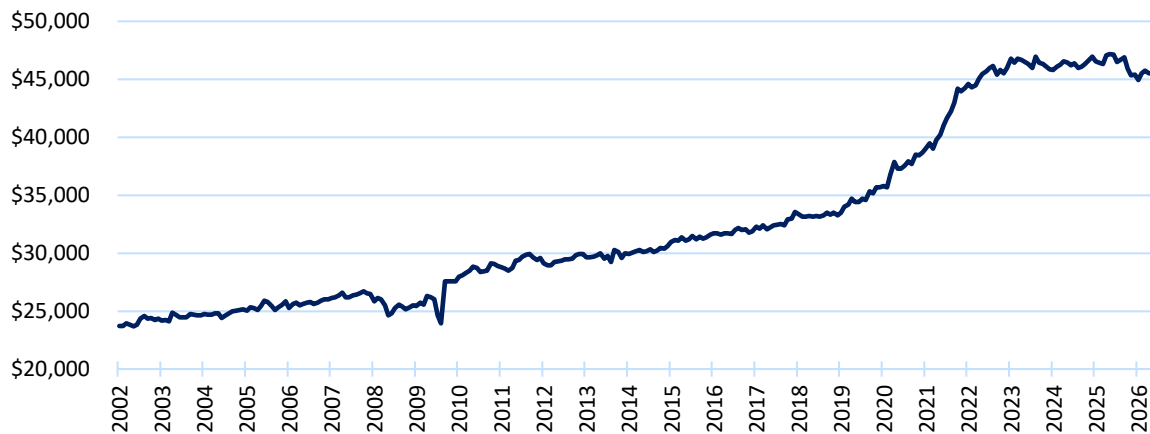


Figure 4. Average consumer expenditure per new light vehicle⁶

Averages alone hide nuance in the light vehicle market. Faster growth in light truck (e.g., vans, SUVs, and pickups) transaction prices and their increasing market share skew the average transaction price. In 2012, light truck and passenger car sales split the new vehicle market. By 2025, light trucks captured over 80% of the new vehicle market. Figure 5 shows the average consumer expenditure per new vehicle by segment.

⁶ CAR analysis of U.S. Bureau of Economic Analysis data

Average Consumer Expenditure per New Light Vehicle By Vehicle Segment

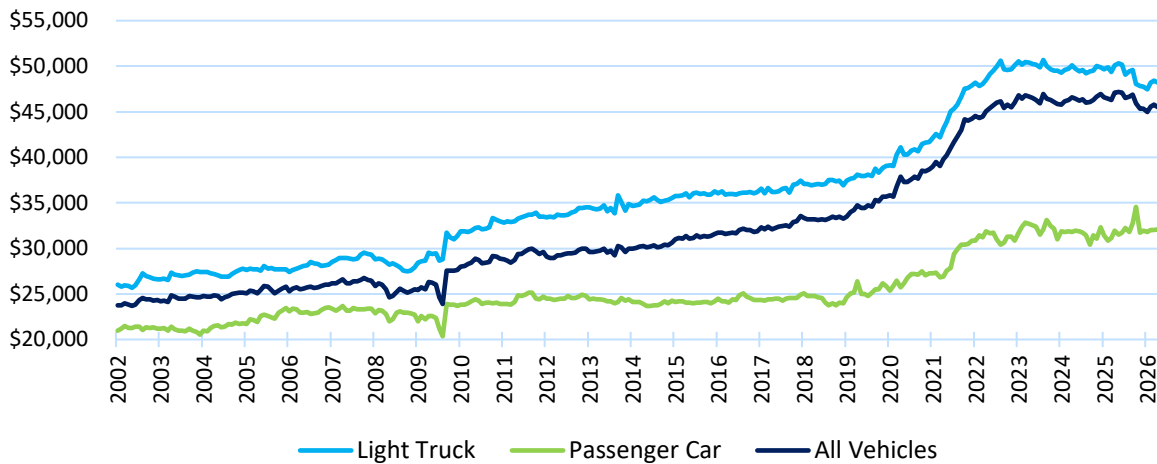


Figure 5. Average consumer expenditure per new light vehicle by segment⁷

Figure 6 more clearly shows the impact of vehicle segment mix on average expenditure. Holding the share of light truck and passenger car sales constant at 2002 levels, average consumer expenditure per new vehicle would be roughly \$4,600, or 10%, lower than it is today.

Average Consumer Expenditure per New Light Vehicle Actual vs Constant 2002 Segmentation Mix

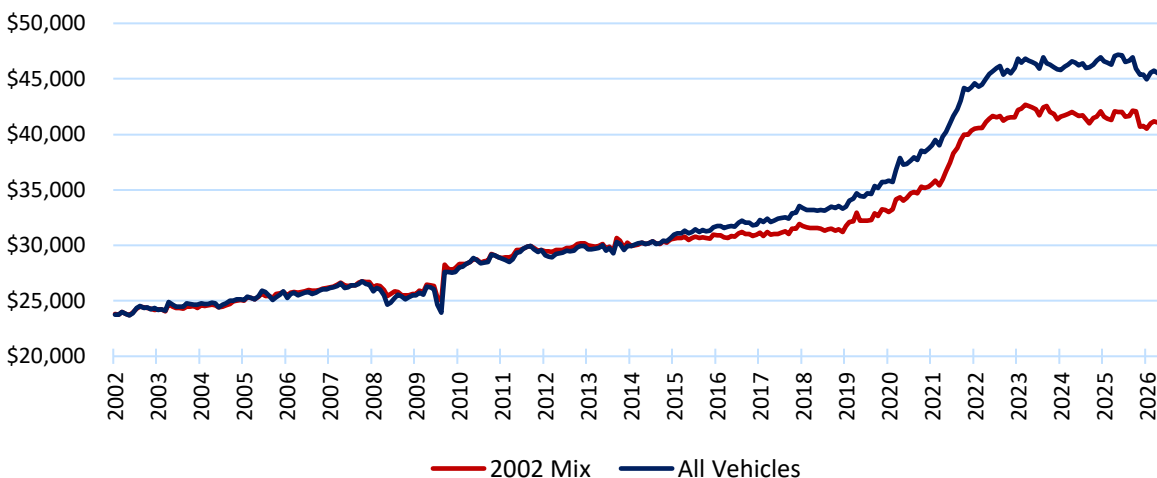


Figure 6. Average consumer expenditure per new light vehicle versus average expenditure at constant 2002 light truck and passenger car market shares⁸

⁷ CAR analysis of U.S. Bureau of Economic Analysis data

⁸ CAR analysis of U.S. Bureau of Economic Analysis data

Inflation-Adjusted Vehicle Costs

Nominal prices alone do not give an accurate picture of vehicle affordability. A better way to view consumer expenditure per vehicle is to put it into real terms – adjusting for inflation. This allows historical comparison of vehicle expenditures in terms of purchasing power, converting past expenditure per vehicle into 2025-dollar values (Figure 7). Doing so reveals that consumer expenditure per vehicle has increased from 2002 to 2025 by roughly 8% in real terms. Interestingly, real expenditure per passenger car is down 16% over the same period, suggesting cars have become more affordable.

Average Consumer Expenditure per New Light Vehicle

Purchasing Power: Inflation Adjusted to 2025 dollars

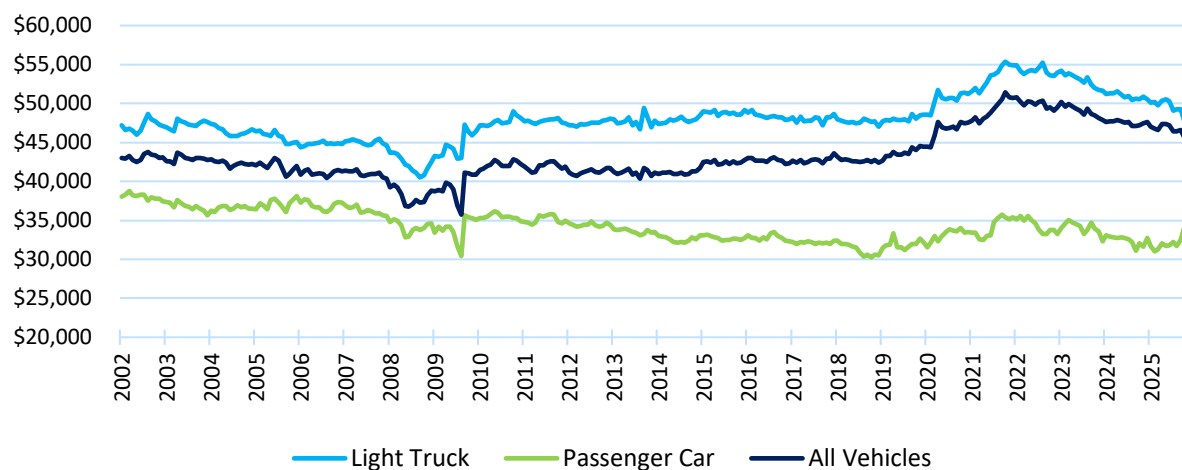


Figure 7. Purchasing Power: Average consumer expenditure per new light vehicle, adjusted for inflation to 2025 dollars⁹

Even within these segments, differences emerge by body style and size. Figure 8 shows average transaction price provided by Cox Automotive for several major vehicle categories since 2012, adjusted for inflation to 2025 dollars. As before, this analysis views transaction prices through the lens of consumer purchasing power. Vehicles that fall within the passenger car segment, such as compact and mid-size cars and subcompact and compact SUVs have become relatively more affordable since 2012. Within the light truck segment, rising prices for pickups and full-size SUVs hide the more moderate growth of minivans and mid-size SUVs.

⁹ CAR analysis of U.S. Bureau of Economic Analysis and Bureau of Labor Statistics data; inflated using CPI-U

Average Transaction Price by Body Style 2012 through 2025, Adjusted for Inflation to 2025 Dollars

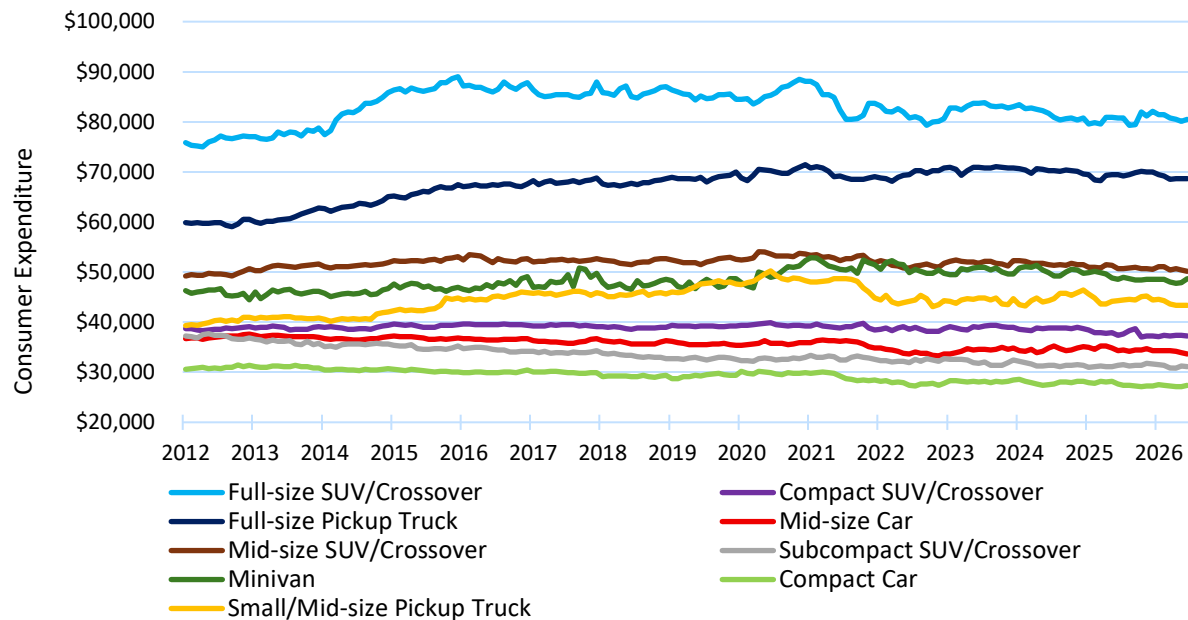


Figure 8. Average transaction price by select vehicle category, adjusted for inflation to 2025 dollars¹⁰

Vehicle Affordability and Household Income

Vehicle financing and loan terms impact vehicle affordability. CAR analyzed estimated monthly payments on a new vehicle in comparison to median household income. CAR assumed a 10% down payment with a 72-month loan maturity¹¹. These assumptions were arrived at by reviewing data available from Cox Automotive and Dealertrack, Experian, Edmunds, and J.D. Power. The 72-month term is the most common length for a new auto loan. A 10% down payment was seen as a conservative estimate that matched current down payment trends. Figure 9 depicts estimated monthly payment on a new vehicle compared to annual median U.S. household income.

¹⁰ CAR analysis of U.S. Bureau of Labor Statistics data and data provided by Cox Automotive; inflated using CPI-U

¹¹ CAR estimated the average rate for a new 72-month auto loan based on the finance rate on consumer installment loans at commercial banks for new auto loans with a 48-month maturity. This rate was adjusted for the added risk of an extra 24 months on the books based on findings from the Federal Reserve's Finance and Economics Discussion Series paper "One Month Longer, One Month Later? Prepayments in the Auto Loan Market" (Katcher, Bradley, Geng Li, Alvaro Mezza, and Steve Ramos, 2024). This allowed for estimating an average interest rate for a 72-month term for all lenders based on the longer series for 48-month term rates on new auto loans from commercial banks. Using these assumptions, CAR estimated the average monthly new vehicle payment at \$743 in June 2026 – in line with industry estimates.

Estimated Monthly New Vehicle Payment and Median Household Income
Average transaction price with 10% down and 72-month term

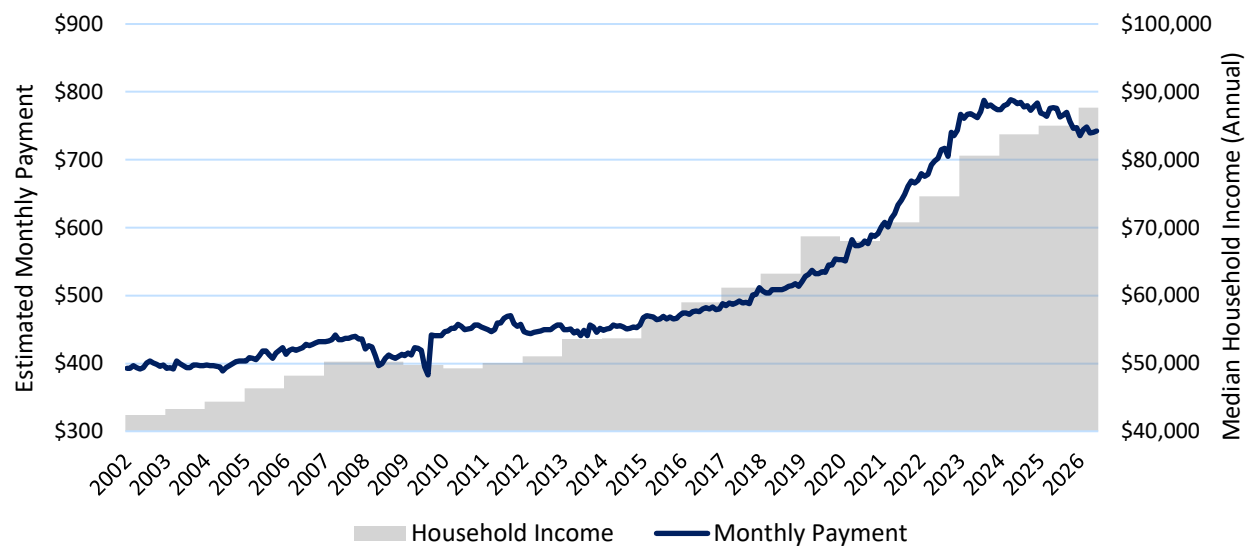


Figure 9. Affordability through financing: Estimated monthly payment on average new auto loan and median household income¹²

Contrasting monthly payments on new auto loans with annual median household income allows for a longer-term comparison of vehicle affordability that accounts for changing income, vehicle prices, and interest rates. Specifically, CAR examined the number of weeks at the median household income that would be necessary to cover the cost of an auto loan and down payment, seen in Figure 10. Downward trends for this measure indicate periods of increasing vehicle affordability, as fewer weeks at the median household income are needed to purchase a new vehicle at the average transaction price. This also suggests vehicles became less affordable from 2019 through 2022 (hitting a peak of 40.3 weeks of income in the fourth quarter of 2022) but have since been becoming more affordable (falling to 34.4 weeks in the second quarter of 2026).

¹² CAR analysis of BEA, Census, Federal Reserve, Experian, Motio Research, and Katcher, Bradley, Geng Li, Alvaro Mezza, and Steve Ramos (2024); assumes 10% down payment, 72-month term length, average transaction price of a new vehicle

Estimated number of weeks to purchase a new vehicle Median household income, purchased at the average transaction price

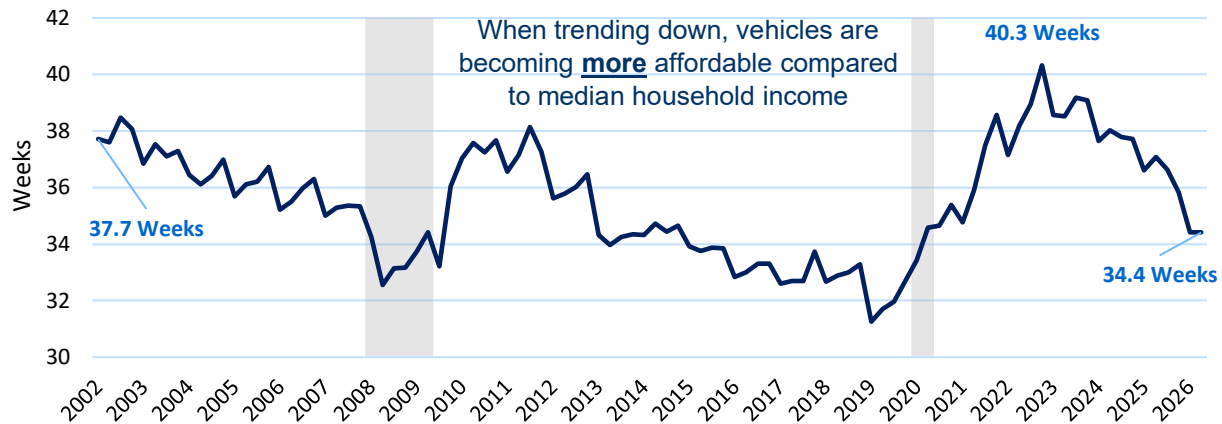


Figure 10. Weeks of median household income needed to purchase a new vehicle at average transaction price¹³

A Bifurcated Vehicle Market

So far, the discussion of vehicle affordability has centered on measures of central tendency, such as looking at average expenditure per vehicle and median household income. But this overlooks the diversity of consumers. Not everyone is at the median household income or can afford the average new vehicle transaction price.

Looking at the share of total consumer expenditure on new cars and trucks each year by quintile of household income, the top 20% of households by income have been growing as a share of total expenditure on new car and truck purchases since 2019. This suggests that the "average consumer" in the new vehicle market is changing.

Figure 11 shows the share of total consumer expenditure on new vehicle purchases by household income. In 2019, the top 20% of households accounted for 42% of total expenditure on new vehicle purchases. This increased to 55% in 2024, which is the highest share recorded since 1984 when data became available. The middle quintiles, capturing households from the 21st to the 80th percentile by income, saw their share of expenditure fall from 52% in 2019 to just 38% in 2024.

¹³ CAR analysis of BEA, Census, Federal Reserve, Experian, Motio Research, and Katcher, Bradley, Geng Li, Alvaro Mezza, and Steve Ramos (2024); assumes 10% down payment, 72-month term length, average transaction price of a new vehicle

Expenditures by Household Income Quintile

Vehicle Purchases: Cars and Trucks, New

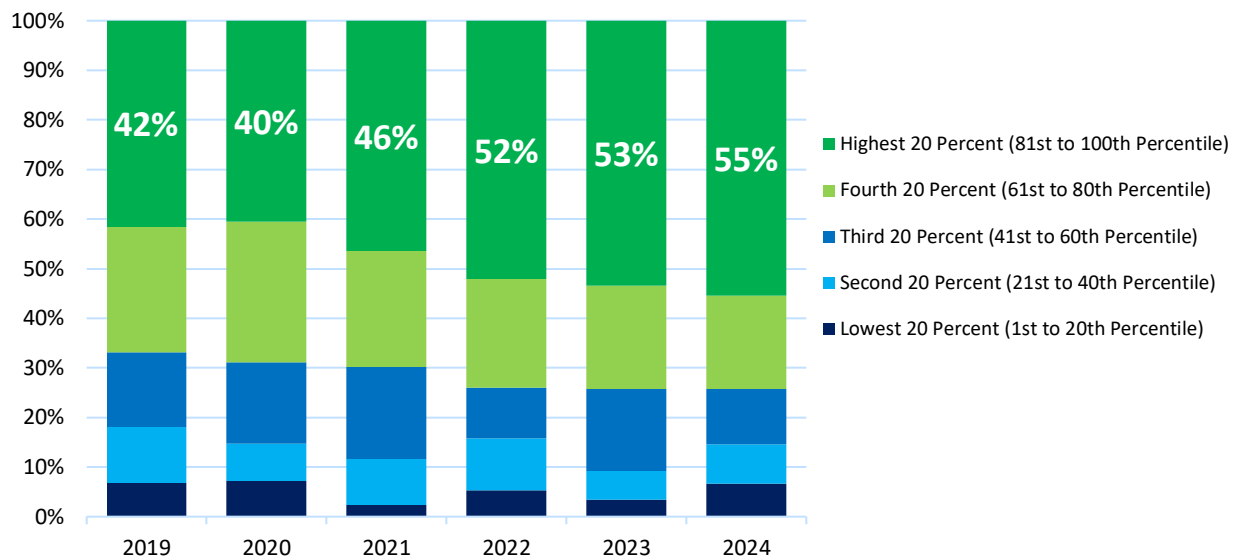


Figure 11. The highest 20% of households by income reach record share of expenditure on new vehicle purchases¹⁴

Unsurprisingly, this shift in who is purchasing new vehicles has had an impact on the new vehicle market. Looking at the distribution of vehicle sales by transaction price in 2025 based on data provided by Cox Automotive (Figure 12), sales of models transacting below \$30,000 were less than half of those transacting above \$65,000. Interestingly, there were nine models that had an average transaction price below \$25,000. However, sales of these affordable vehicles accounted for just under 2% of the overall market total – less than the share of vehicle model sales transacting at over \$95,000. In other words, sub-\$25,000 vehicles were available, but consumers preferred higher-priced vehicles.

Anecdotal data from the Federal Reserve System’s Beige Book further notes sustained demand from higher income households for luxury goods, including autos. As noted by the Federal Reserve Bank of Atlanta in the April 2026 Beige Book¹⁵: “Automobile manufacturers reported softer demand for lower priced vehicles, but sales of luxury models were strong.”

¹⁴ CAR analysis of U.S. Bureau of Labor Statistics data

¹⁵ Federal Reserve Beige Book, April 2026; Federal Reserve Bank of Atlanta: [The Fed - Monetary Policy: Beige Book \(Branch\)](#)

U.S. New Light Vehicle Sales in 2025

Sales Share by Average Transaction Price

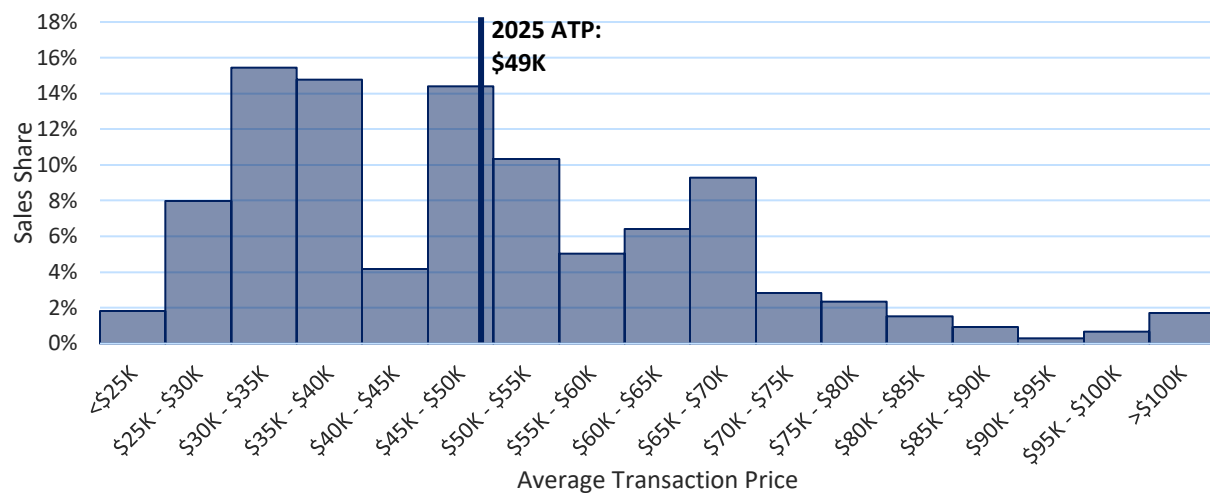


Figure 12. Sales distribution skews toward higher priced vehicles¹⁶

The impact from the growing share of new vehicle expenditure by wealthier households can be seen comparing the 2025 distribution of vehicle sales by average model transaction price to that of 2012. Figure 13 shows the distribution of sales in 2012 and 2025. A rightward shift is clearly seen.

It is helpful to also view these vehicle transactions in terms of purchasing power. Figure 14 shows the same vehicle sales data, but with average transaction prices adjusted for inflation to 2025 dollars. Even after adjusting for inflation, the U.S. new light vehicle market has shifted toward higher-priced vehicles.

¹⁶ CAR analysis of data provided by Cox Automotive

U.S. New Light Vehicle Sales Sales Share by Average Transaction Price

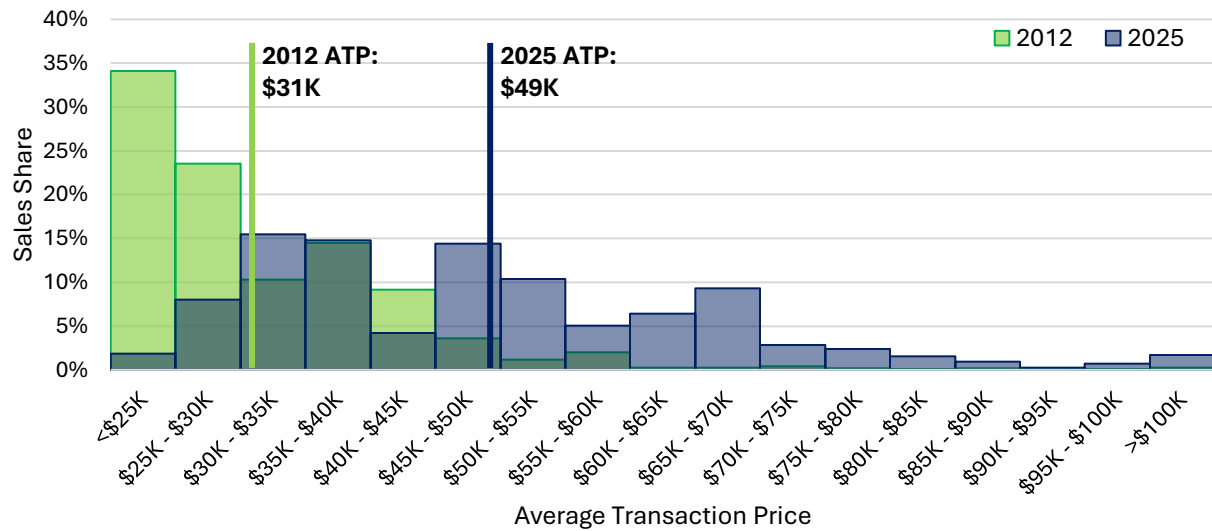


Figure 13. Average transaction price distribution by model sales, 2012 versus 2025¹⁷

U.S. New Light Vehicle Sales Sales Share by Average Transaction Price, 2025 Dollars

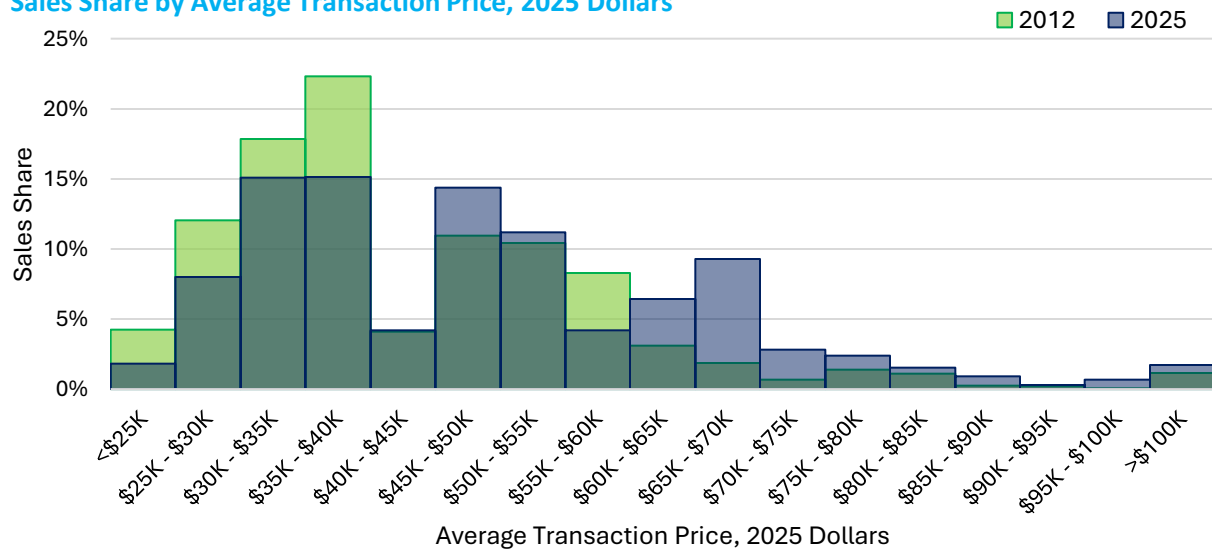


Figure 14. Average transaction price distribution by model sales, 2012 versus 2025, adjusted to 2025 dollars¹⁸

To evaluate vehicle affordability in a way that better captures differences by income, CAR applied its earlier vehicle payment assumptions to U.S. household income groups by decile and limiting expenditure to 10% of pre-tax household income. By doing so,

¹⁷ CAR analysis of data provided by Cox Automotive

¹⁸ CAR analysis of U.S. Bureau of Labor Statistics data and data provided by Cox Automotive

CAR estimated the affordable MSRP by income decile and counted the number of new vehicle models that each income group can afford¹⁹.

Comparing the 2024 model year against 2024 household income and the 2019 model year against 2019 household income shows that consumers had fewer affordable vehicle options in the new vehicle market in 2024 than consumers had in 2019. In 2019, 55% of the new models on the market had a base MSRP within the affordability of the median household income. In 2024, this dropped to 29%. Despite this, however, there were 17 models in 2024 with a base MSRP under \$24,500 and 70 models with a base price under \$32,200. This highlights that affordable options remain in the new vehicle market.

Figure 15 shows the share of new vehicle models that are affordable by household income, comparing 2024 household income to model year 2024 MSRPs. Figure 16 does the same for 2019 household income to model year 2019 MSRPs. Finally, Figure 17 compares vehicle affordability for these two years.

¹⁹ Some limitations of this analysis include utilizing the same loan terms and down payment share for each income group. It is likely that interest rates, maturity, and down payment vary based on household income and credit score. Lower-income households may face higher interest rates than the CAR-estimated average rate, while higher-income households may have access to more favorable loan terms, suggesting the model may overestimate affordability at lower incomes and underestimate affordability at higher incomes. Despite this limitation, this analysis allows for historical comparison of the number of current-year models that are within the affordability of each decile group by household income.

Share of New Vehicle Models within Affordability by Household Income
By lowest trim level MSRP for model year 2024

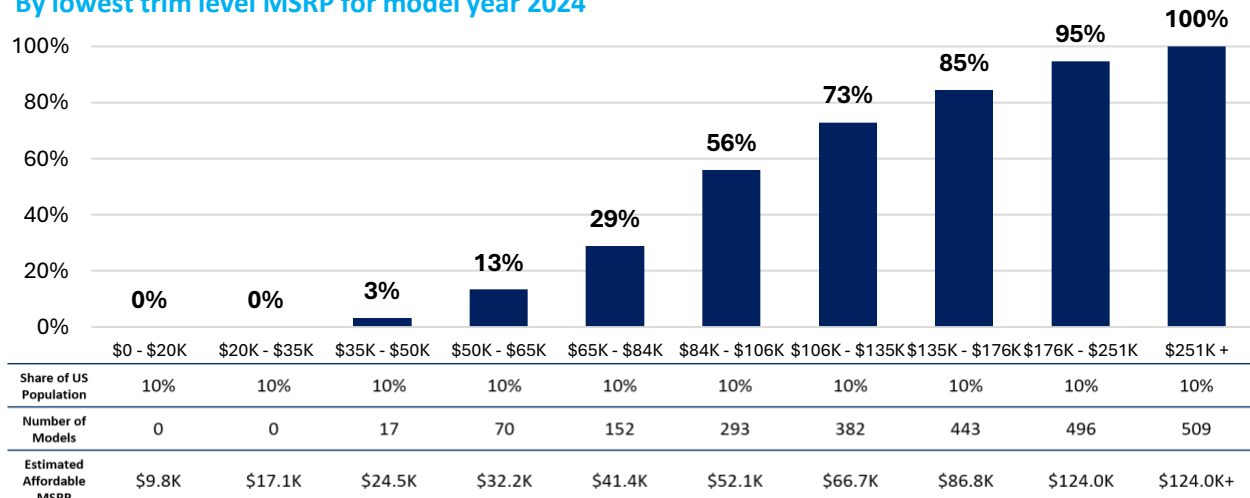


Figure 15. Vehicle affordability by household income in 2024²⁰

Share of New Vehicle Models within Affordability by Household Income
By lowest trim level MSRP for model year 2019

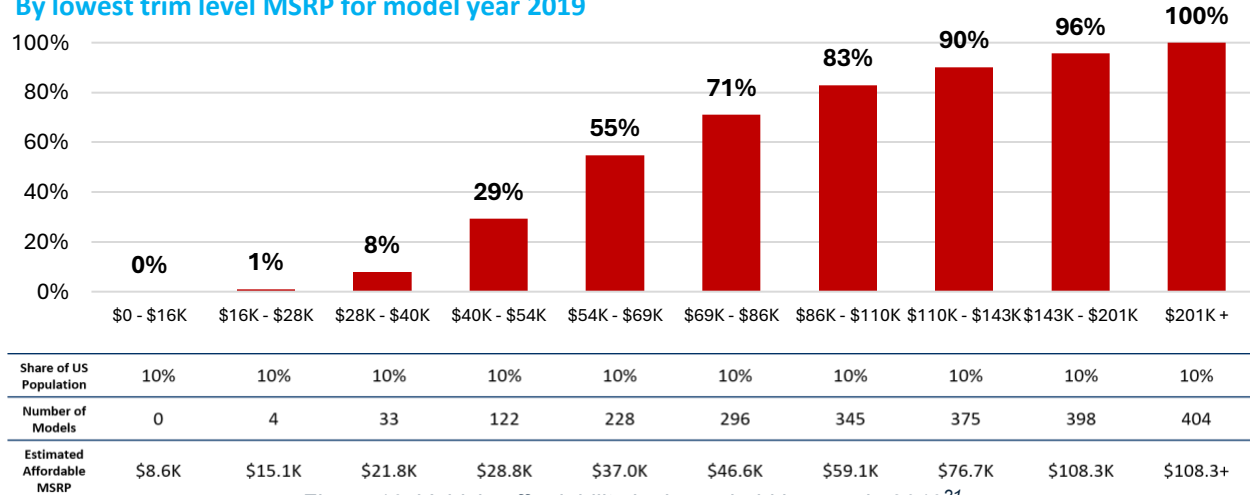


Figure 16. Vehicle affordability by household income in 2019²¹

²⁰ CAR analysis of BEA, Census, Federal Reserve, Experian, Omdia, and Katcher, Bradley, Geng Li, Alvaro Mezza, and Steve Ramos (2024); assumes 10% down payment, 72-month term length, 10% pre-tax household income spent; models with "NA" MSRP in source data are excluded

²¹ CAR analysis of BEA, Census, Federal Reserve, Experian, Omdia, and Katcher, Bradley, Geng Li, Alvaro Mezza, and Steve Ramos (2024); assumes 10% down payment, 72-month term length; models with "NA" MSRP in source data are excluded

Share of New Vehicle Models within Affordability by Household Income (HHI)

HHI and MY 2019 vs HHI and MY 2024 by lowest trim level MSRP

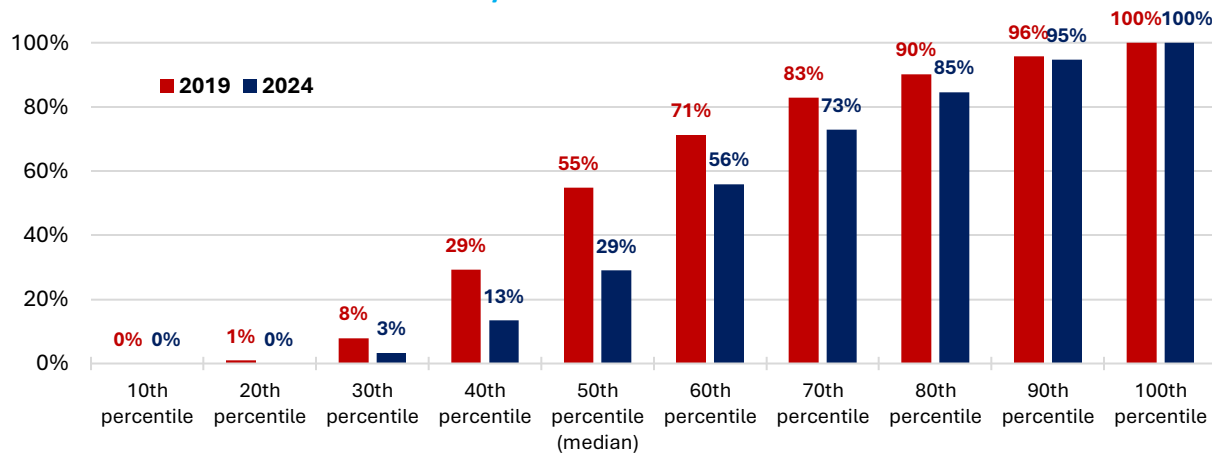


Figure 17. Vehicle affordability by household income, 2019 versus 2025²²

In-Vehicle Factors Driving Cost

While vehicle prices have risen since 2002, vehicles themselves have also evolved significantly. A new vehicle in 2025 differs substantially from one produced in 2002.

Quality Improvements

The U.S. Bureau of Labor Statistics calculates a constant quality consumer price index for new cars and light trucks, adjusting for structural and engineering quality changes between model year changeovers that impact vehicle price. Adjustments are made using manufacturer-provided cost estimates associated with vehicle attributes such as reliability, durability, safety, fuel economy, maneuverability, speed, acceleration and deceleration, carrying capacity, and comfort or convenience features. Using this constant quality index, the current price of a new vehicle with a quality matching that of a vehicle built in 2002 can be estimated. Figure 18 shows average consumer expenditure per passenger car (PC) and light truck (LT) compared to these hypothetical constant 2002 quality vehicles.

²² CAR analysis of BEA, Census, Federal Reserve, Experian, Omdia, and Katcher, Bradley, Geng Li, Alvaro Mezza, and Steve Ramos (2024); assumes 10% down payment, 72-month term length; models with "NA" MSRP in source data are excluded

Transaction Price vs Constant 2002 Quality Vehicle Light Trucks (LT) and Passenger Cars (PC)

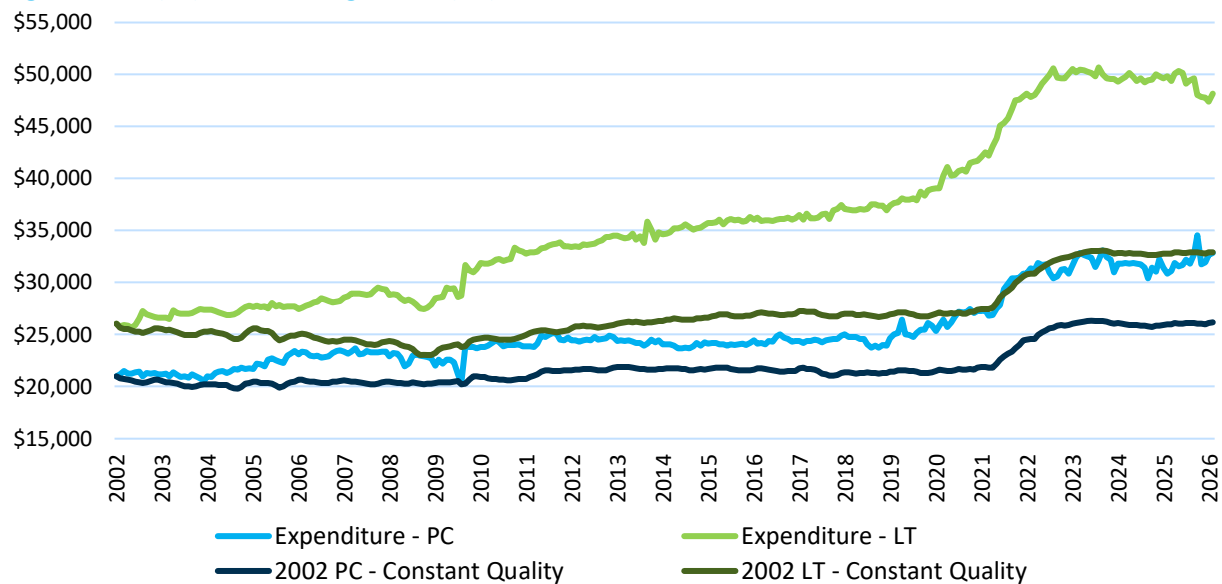


Figure 18. Average transaction price of new light vehicles compared to constant 2002 quality vehicles²³

The gap between the constant 2002 quality price and the average transaction price captures quality improvements, as well as changes in vehicle propulsion (like the broader introduction of electric vehicles). It also captures price changes due to segment and trim level mix. Shifting market share within the light truck segment (from comparatively lower-priced subsegments toward higher-priced subsegments such as full-sized pickups and SUVs) could raise the average transaction price. Furthermore, consumer preference for higher trim levels and the introduction of higher-end models would contribute to higher average transaction prices.

As the hypothetical 2002 quality vehicle transaction price strips out quality improvements (including durability, safety, performance, and comfort and convenience features), this gives a view into the share of vehicle price stemming from cost factors that do not contribute to a higher quality vehicle, such as production costs, cosmetic changes, and profit margins.

Figure 19 shows these two sets of cost contributors leading to increased transaction prices. In addition to the market shift towards light trucks, this shows that the increase in average transaction price is largely attributable to increases in vehicle quality.

²³ CAR analysis of US Bureau of Labor Statistics and US Bureau of Economic Analysis data

Average New Vehicle Transaction prices vs. a Constant 2002-Quality Vehicle Contributing Cost Factors

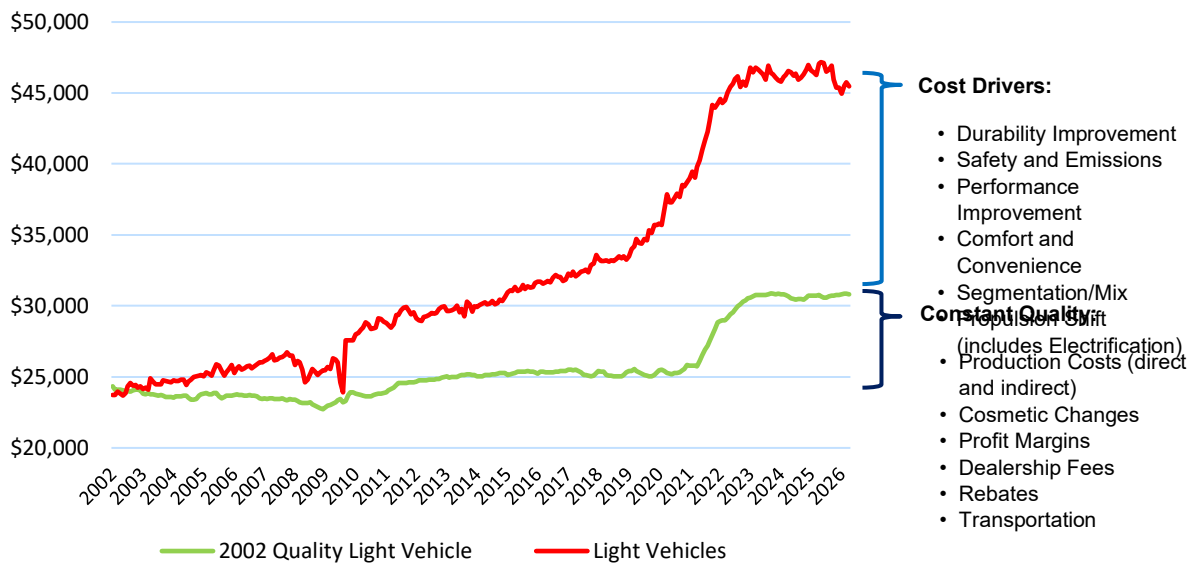


Figure 19. Average transaction price of a new light vehicle compared to a new 2002-quality vehicle²⁴

Durability

Another indicator of how vehicles are changing is the average age of a vehicle on the road. The U.S. Bureau of Transportation Statistics reports that the average age of light vehicles in operation reached 12.8 years in 2025, up from 9.6 in 2002. This suggests that more modern vehicles are more durable – they are remaining on the road and lasting longer. Figure 20 shows the average age of vehicles in operation in the United States.

²⁴ CAR analysis of US Bureau of Labor Statistics and US Bureau of Economic Analysis data

Average Age of Vehicles in Operation

Cars and Light Trucks in the United States

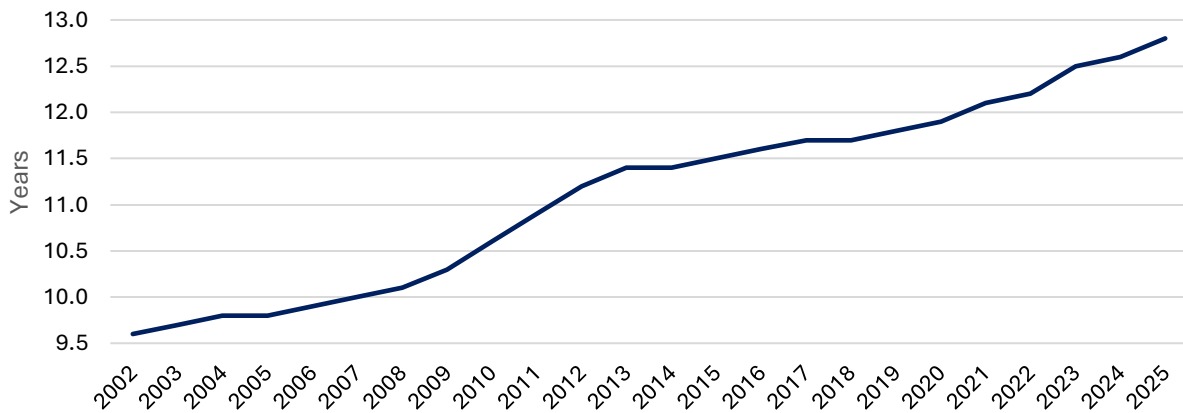


Figure 20. Durability: Average age of vehicles in operation in the United States²⁵

Fuel Efficiency

Vehicles are also becoming more fuel efficient. Data from the EPA Automotive Trends Report highlights performance trends over time. Fuel economy has grown and CO₂ emissions have declined since 2002. Model year 2002 vehicles got an average of 19.5 miles per gallon. By model year 2025, new vehicles averaged 28.1 miles per gallon. Cars and light trucks both showed gains in fuel economy, increasing from 22.8 and 16.5 miles per gallon in model year 2002 to 36.6 and 25.0 miles per gallon in model year 2025, respectively. CO₂ emissions dropped from an average of 456.9 grams per mile in model year 2002 to 305.4 grams per mile in model year 2024. This is seen in Figure 21.

²⁵ U.S. Bureau of Transportation Statistics

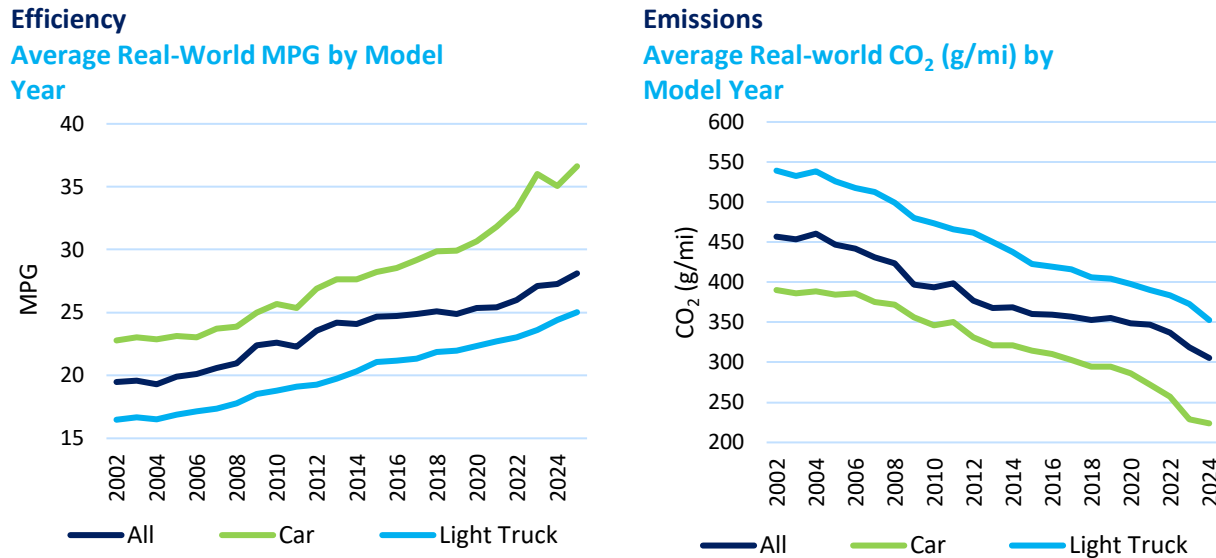


Figure 21. More efficient and cleaner: Average real-world MPG and CO₂ emissions per mile by model year²⁶

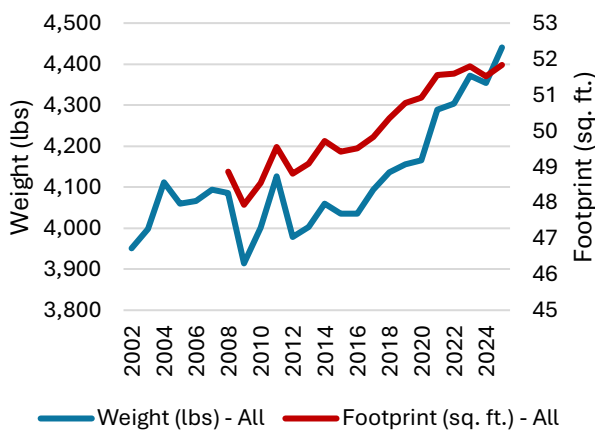
Size and Performance

While vehicles were becoming cleaner, they were also becoming larger, heavier, and more powerful. Average vehicle weight and footprint by model year, alongside average horsepower by model year, show that new vehicle average weight increased by roughly 490 lbs. from model year 2002 to 2025 – a 12.4% increase in vehicle weight. While this increase in average weight was driven in large part by shifting segments, all but one EPA segment increased in average weight over this period. Furthermore, vehicles were becoming larger: the average footprint for the 2008 model year was 48.9 square feet, increasing to 51.8 square feet by model year 2025. Additionally, these larger, heavier, and cleaner vehicles were more powerful – average horsepower grew 38.2% from model year 2002 to 2025. Figure 22 shows Average weight, footprint, and horsepower by model year.

²⁶ CAR analysis of EPA Automotive Trends Report

Weight and Size

Average Weight and Footprint by Model Year



Power

Average Horsepower (HP) by Model Year

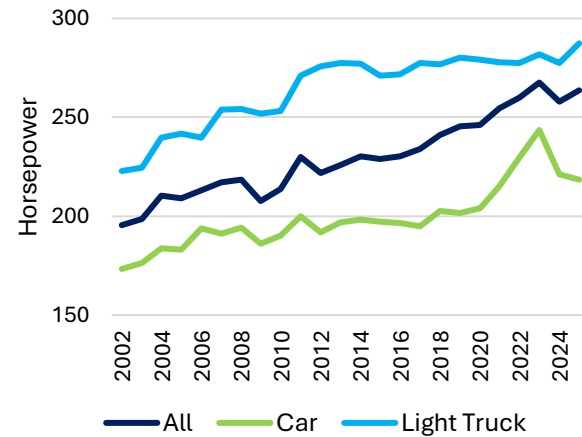


Figure 22. Larger, heavier, and more powerful: vehicle footprint, weight, and horsepower by model year²⁷

In-Vehicle Technology

In-vehicle technology has become more sophisticated as well. Recent growth in select factory-installed equipment in U.S. light vehicles shows that advanced driver assistance systems (ADAS) equipment enabling collision warning and active mitigation is becoming near universal. Clear upward trends in object and pedestrian detection, lane keep assist, and blind-spot alert installations mean wider distribution and adoption of this technology to U.S. drivers, making roadways safer. (Figures 23, 24, and 25)

ADAS technology has made roadways safer. The Partnership for Analytics Research in Traffic Safety found that automatic emergency braking (AEB) has become more effective from 2015 through 2023, indicating that technology advancements have led to real improvements. They measured a 49% reduction in front-to-rear crashes for vehicles equipped with AEB across model years and segments. Furthermore, they measured a 9% reduction in single-vehicle frontal collisions with non-motorists for vehicles equipped with pedestrian automatic emergency braking. Finally, their study shows that vehicles equipped with lane departure warning and lane keep assist were effective in reducing single-vehicle road-departure crashes²⁸.

²⁷ CAR analysis of EPA Automotive Trends Report

²⁸ PARTS (2025), A Study on Real-world Effectiveness of Model Year 2015–2023 Advanced Driver Assistance Systems

U.S. Light Vehicle Factory Installed Rates by Model Year

Active Pedestrian Detection, Blindspot Alert, Collision Warning, and Cross Traffic Warning

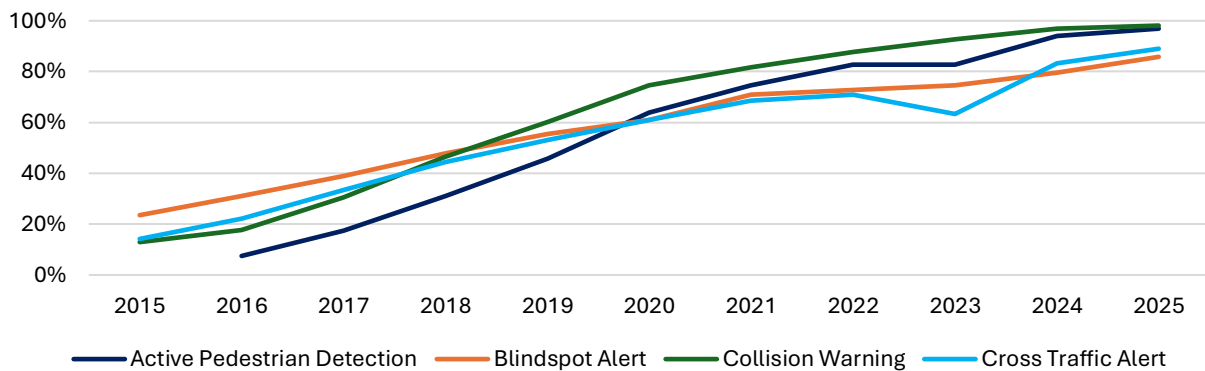


Figure 23. Smarter and Safer: Percent factory installment of selected ADAS equipment in U.S. light vehicles (1/3)²⁹

U.S. Light Vehicle Factory Installed Rates by Model Year

Adaptive Cruise Control, Lane Departure Warning, Lane Keep Assist

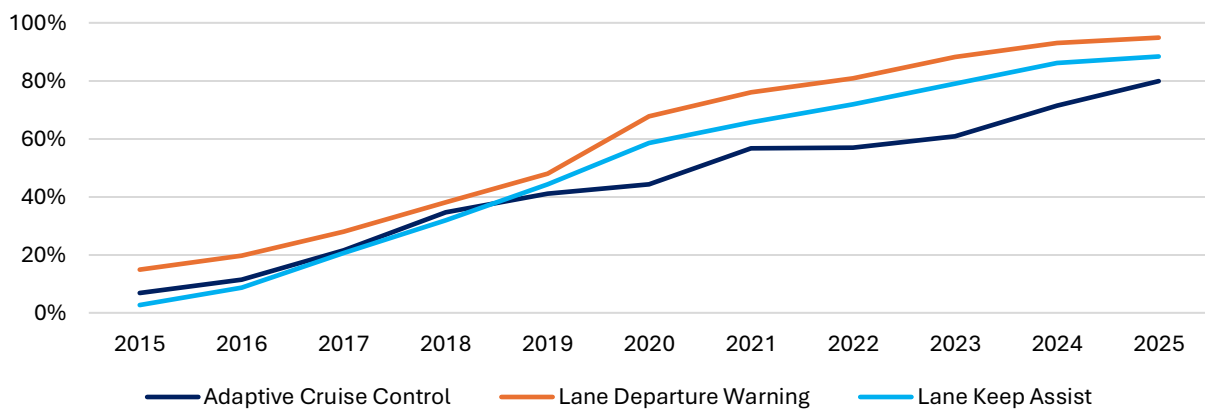


Figure 24. Smarter and Safer: Percent factory installment of selected ADAS equipment in U.S. light vehicles (2/3)³⁰

²⁹ CAR analysis of Omdia data

³⁰ CAR analysis of Omdia data

U.S. Light Vehicle Factory Installed Rates by Model Year

Front Camera, Front Object Detection, Rear Camera, Rear Object Detection

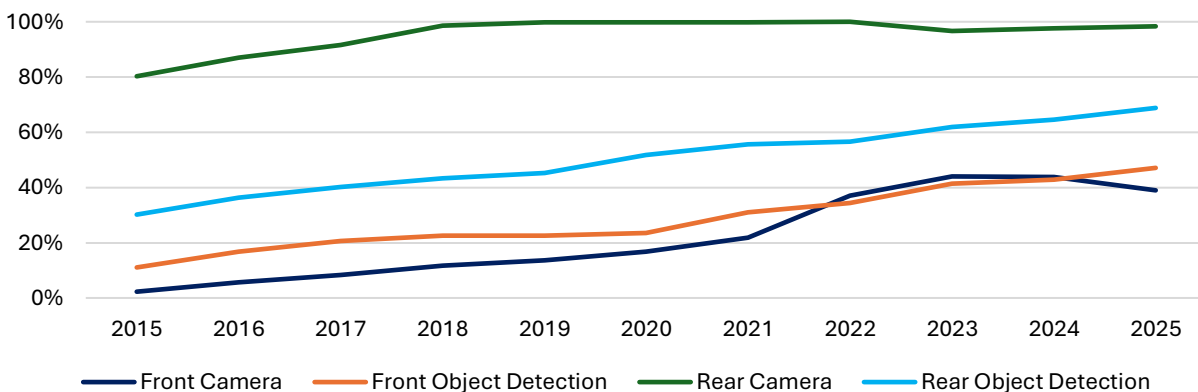


Figure 25. Smarter and Safer: Percent factory installment of selected ADAS equipment in U.S. light vehicles (3/3)³¹

Today's Vehicles Are Not Yesterday's

A clear way to see these trends is to compare the same vehicle, but 23 years later. The three best-selling vehicle models in the United States in 2002 were the Ford F-Series, Chevrolet Silverado, and Toyota Camry. All three remain popular today. In 2025, these models ranked first, second, and seventh in sales.

A comparison of the base models from the 2002 and 2025 model years highlights significant changes in technology, features, and performance. The tables below compare selected specifications for these vehicles across the two model years, including factory installation rates of select features in domestically produced models (Tables 1, 2, and 3).

³¹ CAR analysis of Omdia data

Table 1. Ford F-150: 2002 vs. 2025 base model specification comparison³²

Ford F-150	MY 2002	MY 2025
Base MSRP:	\$18,955	
MSRP Adjusted to 2025 Dollars:	\$33,953	\$39,940
Base Curb Weight:	3,990 lbs	4,069 lbs
Base Engine:	4.2L V6	2.7L V6
Base Horsepower:	202 HP	325 HP
Base Transmission:	5-speed manual (opt: 4-speed automatic)	10-speed automatic
Base Fuel Economy (City/Hwy):	17 / 21 MPG	21 / 26 MPG
Base Size (L/W/H):	206.9" / 79.3" / 72.7"	228.1" / 79.9" / 75.0"
Towing Capacity:	2,000 to 8,800 lbs*	7,400 to 13,500 lbs*
Safety Features:	4-wheel ABS; ~20% anti-theft device; no side airbag, no traction control	Side and side curtain airbag; anti-theft device (engine immobilizer and security alarm); stolen vehicle locator
Overall IIHS Safety Rating:	Poor	Good
NHTSA:	N/A	5/5; 3/4 Recommended Safety Tech
Comfort:	reclining seats; ~86% cruise control; ~77% power windows and door locks; ~33% power front seats	power windows and door locks; remote start; ~75% power front seats; ~73% heated or heated/cooled front seats; ~57% heated steering wheel; ~30% heated rear seats; ~52% power rear gate
ADAS:	N/A	Low speed driver assist systems (Traffic alert rear, reverse collision mitigation, active pedestrian detection, ~71% trailer backup assist); blind spot alert; lane departure warning; lane keep assist; ~70% adaptive cruise control
Connectivity:	N/A	Wifi Capable; 5G; phone connectivity, voice recognition; Apple CarPlay/Android Auto, wireless charging

* Conventional towing capability varies based on trim series, option content and payload

Table 2. Chevrolet Silverado 1500: 2002 vs. 2025 base model specification comparison³³

Chevrolet Silverado 1500	MY 2002	MY 2025
Base MSRP:	\$18,238	\$38,995
MSRP Adjusted to 2025 Dollars:	\$32,669	
Base Curb Weight:	3,956 lbs	4,410 lbs
Base Engine:	4.3L V6	2.7L I4
Base Horsepower:	200 HP	310 HP
Base Transmission:	5-speed manual (opt: 4-speed automatic)	Automatic 8-Speed
Base Fuel Economy (City/Hwy):	16/20 MPG	18/21 MPG
Base Size (L/W/H):	203.1"/78.5"/71.2"	210.9"/81.1"/75.7"
Towing Capacity:	3,800 to 10,800 lbs*	8,700 to 13,300 lbs*
Safety Features:	4-wheel ABS; ~74% anti-theft device; ~1% traction control; no side airbag	Side and side curtain airbag; ~89% anti-theft device (engine immobilizer and security alarm); stolen vehicle locator
Overall IIHS Safety Rating:	Poor	N/A
NHTSA:	N/A	5/5; 4/4 Recommended Safety Tech
Comfort:	~75% power windows, power door locks; ~76% reclining seats; ~77% cruise control; ~39% power front seats	power windows and door locks; ~89% remote start; ~93% power front seats; ~66% heated or heated/cooled front seats; ~66% heated steering wheel; ~19% heated rear seats; ~34% power rear gate
ADAS:	N/A	Low speed driver assist systems (~50% Traffic alert rear, ~50% reverse collision mitigation, active pedestrian detection); ~50% blind spot alert; lane departure warning; lane keep assist; ~32% adaptive cruise control
Connectivity:	N/A	Wifi Capable; 4G LTE; phone connectivity, voice recognition; Apple CarPlay/Android Auto, wireless charging

* Conventional towing capability varies based on trim series, option content and payload

³² Wards Automotive Yearbook (2002, 2003); Omdia; IIHS; NHTSA; 2002 Ford F150 User Manual; 2025 Ford F150 Towing Guide

³³ Wards Automotive Yearbook (2002, 2003); Omdia; IIHS; NHTSA; Hemer, C., 2002 Tow Ratings; Chevrolet Trailering and Towing

Table 3. Toyota Camry: 2002 vs. 2025 base model specification comparison³⁴

Toyota Camry	MY 2002	MY 2025
Base MSRP:	\$19,455	\$29,535
MSRP Adjusted to 2025 Dollars:	\$34,849	
Base Curb Weight:	3,086 lbs	3,310 lbs
Base Engine:	2.4L I4	2.5L I4 (Hybrid only)
Base Horsepower:	157 HP	203 HP
Base Transmission:	4-speed Automatic (few 5-speed Manual)	Automatic 8-Speed
Base Fuel Economy (City/Hwy):	24/33 MPG	53/30 MPG
Base Size (L/W/H):	189.2"/70.7"/57.9"	192.1"/72.4"/56.9"
Safety Features:	~95% anti-theft device; ~60% ABS; ~20% side airbag; ~9% traction control	Side and side curtain airbag; anti-theft device (engine immobilizer and security alarm); stolen vehicle locator
Overall IIHS Safety Rating:	Good	Top Safety Pick
NHTSA:	N/A	5/5; 4/4 Recommended Safety Tech
Comfort:	Power windows, power door locks, reclining seats, cruise control; ~20% power front seats; ~9% heated seats; ~2% navigation system	power windows and door locks; remote start; ~83% power front seats; ~81% heated or heated/cooled front seats; ~81% heated steering wheel
ADAS:	N/A	Low speed driver assist systems (~32% Traffic alert front, traffic alert rear, ~32% reverse collision mitigation, active pedestrian detection, cyclist detection); blind spot alert; lane departure warning; lane keep assist; adaptive cruise control
Connectivity:	N/A	Wifi Capable; 4G LTE; phone connectivity, voice recognition; Apple CarPlay/Android Auto, wireless charging

In addition to an increase in MSRP, each vehicle had gotten heavier, larger, more powerful, more fuel efficient, and safer by 2025. For model year 2002, power windows, power locks, and power seats were not a given. The top two selling vehicles did not come with side airbags or traction control. Cruise control was not universal. However, by model year 2025, these features were standard and equipment like heated (and cooling) seats and steering wheels were commonplace.

The most striking difference between these model years is advanced technology: ADAS and connectivity. This includes reverse collision mitigation, active pedestrian detection, blind-spot alert, adaptive cruise control, lane keep assist, 4G and 5G connection, voice recognition, Apple CarPlay and Android Auto – all features unavailable (and in many cases, not invented yet) to vehicles in 2002. Inflating the model year 2012 MSRP to 2025 dollars, the Ford F-150 and Chevrolet Silverado 1500 added all this content and capability for roughly \$6,000 dollars of increased purchasing power, and the 2025 model year Toyota Camry is \$5,000 less expensive than the 2002 model year in terms of 2025 purchasing power.

Production Costs

Production costs – specifically changes in production costs that do not impact the structural or engineering quality of the vehicle – fall into the “Constant Quality” set of

³⁴ Wards Automotive Yearbook (2002, 2003); Omdia; IIHS; NHTSA

contributors. The following section focuses on two aspects of production cost: Materials and Components, and Labor. These factors can impact the cost of manufacturing a vehicle, which has a direct impact on the MSRP.

According to the American Chemistry Council (ACC), the top four major materials in an automobile by weight include steel, aluminum, plastics, and rubber. In 2024, these cumulatively accounted for 75% of the total weight of an average vehicle. As such, fluctuations in the price of the materials will impact production costs.

Figure 26 shows the producer price indices (the prices manufacturers receive for their products) for these materials. While trending upward since 2002, each price index shows a substantial increase in price in 2021.

Steel saw the sharpest rise. From the beginning of 2020 to November 2021, prices for domestically produced rolled steel manufacturing products rose 123%. While these prices did ease from their 2021 and 2022 peaks, price levels remained higher than pre-pandemic levels. Notably, prices began to rise again for these materials in 2025 and 2026. As materials become more expensive, vehicle manufacturing input costs rise and consumer-facing sticker prices usually follow.

Auto Raw Material Costs Rise in 2021

Producer Price Index: Rubber, Plastic, Aluminum, and Steel

January 2015 = 100

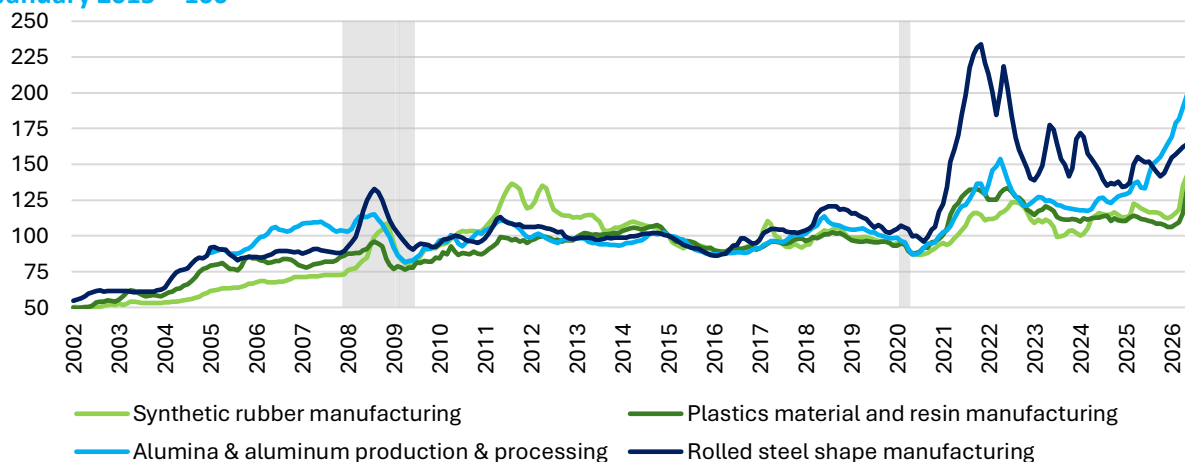


Figure 26. Raw material price trends: Steel, aluminum, plastic, and rubber³⁵

These material price changes have real impacts on vehicles. Using data provided by ACC on vehicle material content by weight and their reported value of chemistry in

³⁵ CAR analysis of U.S. Bureau of Labor Statistics data

automobiles, the raw material value contained within vehicles can be estimated. Figure 27 shows the value of chemistry and estimated value of metals per vehicle in select years³⁶. The value of chemistry in an automobile increased from \$3,669 in 2020 to \$4,738 in 2022, up nearly 20%. The value of metal increased from \$1,448 to \$2,687 in the same period – an 86% increase.

Raw Material Value in Average Vehicle

Chemistry and Metals

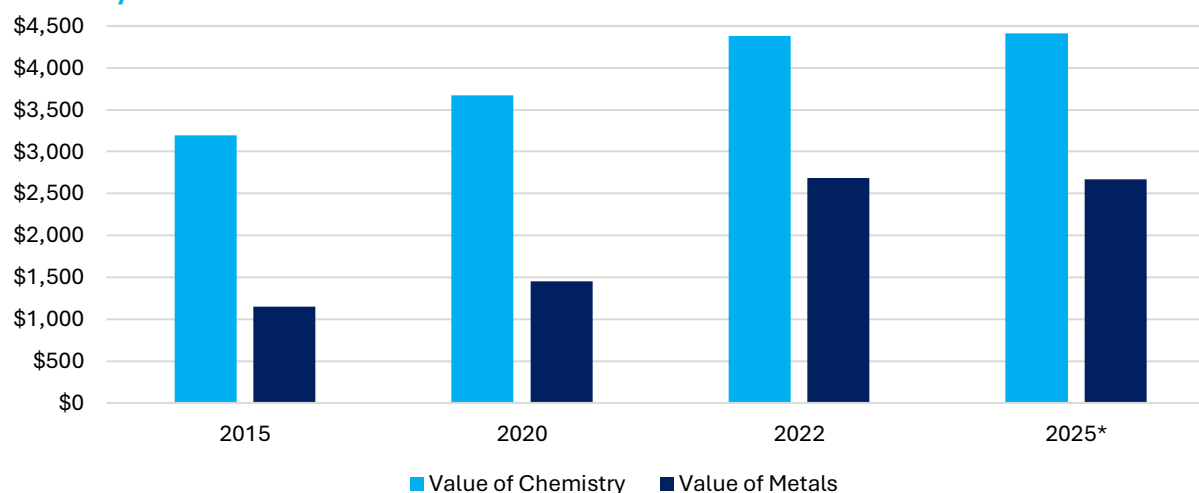


Figure 27. Raw material value in an automobile, selected years³⁷

Increasing material costs – along with other factors – leads to increased parts costs too. Domestic motor vehicle parts prices rose nearly 10% in 2021 and have trended upward since. By mid-2026, parts prices were over 15% higher than the beginning of 2021. This was not solely a domestic phenomenon. Imported motor vehicle parts prices also rose, up 10% in May 2026 compared to January 2021. Figure 28 shows the producer price index, measuring the change in prices received by domestic manufacturers, and the import price index, measuring the change in prices for imports, for motor vehicle parts.

³⁶ The chemistry value includes plastics and polymer composites, synthetic rubber and elastomers, semiconductors and other electronic chemicals, fluids and lubricants, textiles, and others. The value of metals per vehicle was calculated based on ACC steel, aluminum, iron, magnesium, copper and copper alloys, zinc, and lead content by weight and the commodity value of these metals for the selected years based on data provided by Ducker Carlisle and publicly available data

³⁷ American Chemistry Council (ACC); CAR analysis of data provided by ACC and Ducker Carlisle; International Money Fund via FRED

Motor Vehicle Parts rise in Price
Producer Price and Import Price Index
January 2021 = 100

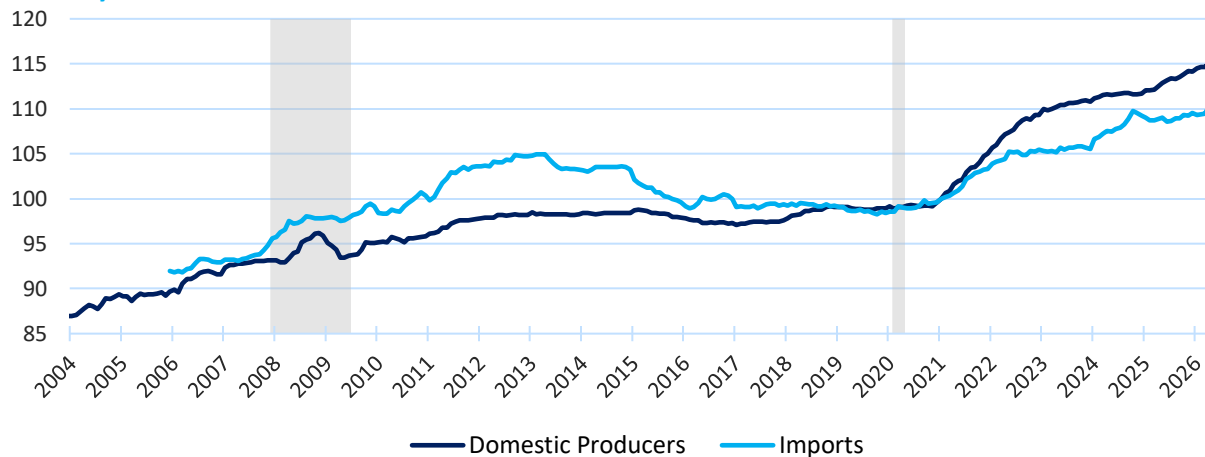


Figure 28. Motor vehicle parts price trend: Domestic and import³⁸

Labor is another production cost for automakers. Rising labor costs impact automakers both directly through higher wages and benefits paid to their own employees, and indirectly through increasing labor costs for their suppliers.

Figure 29 shows the average hourly earnings for production and nonsupervisory employees in the motor vehicle industry, the motor vehicle part industry, and the larger manufacturing industry. Post COVID-19 pandemic, production workers saw accelerated wage growth. The average hourly earnings for a motor vehicle manufacturing production worker increased 35% from the beginning of 2020 to May 2026. Motor vehicle parts manufacturing production worker hourly earnings increased by 43% in the same period.

³⁸ U.S. Bureau of Labor Statistics

Average Hourly Earnings Production and Nonsupervisory Employees

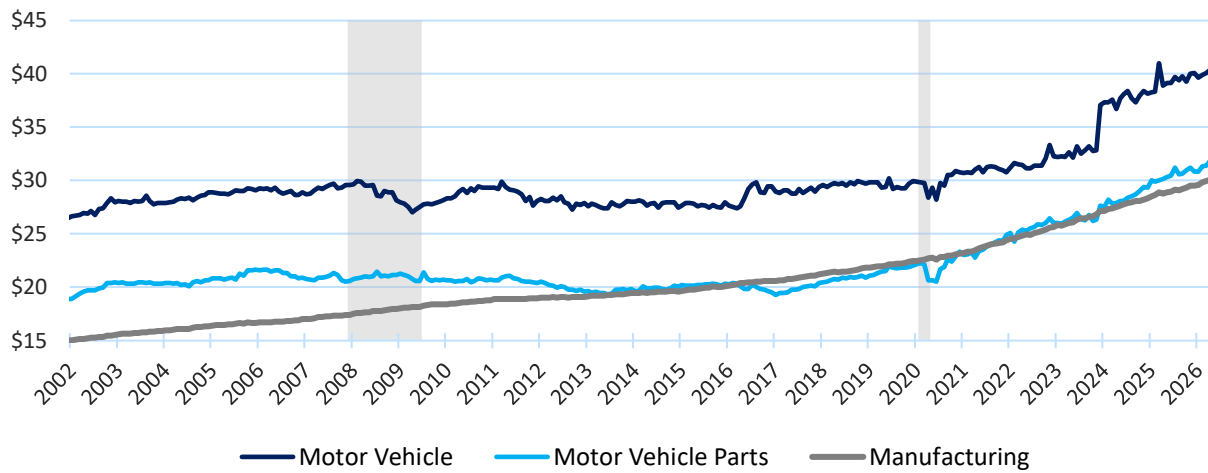


Figure 29. Average hourly earnings of motor vehicle, parts, and general manufacturing production workers³⁹

Profit

Data shows that, while automotive margins were elevated in 2021 following the COVID-19 pandemic, industry profit margins have since narrowed.

Figure 30 shows motor vehicle and parts manufacturer net profit margins since 2002. The 2008 financial crisis greatly impacted profitability. However, the industry stabilized after 2012, and net profit margins averaged 4.2% from 2015 to 2019. The industry was then negatively impacted by the COVID-19 pandemic, causing declines in production, reduced demand, and supply shortages. Coming out of the pandemic, consumer demand for vehicles recovered quickly but the industry found itself supply constrained in certain components. This misalignment in vehicle supply and demand led to average transaction prices exceeding sticker prices in 2021 and 2022 as consumers paid a premium for new vehicles.

Industry net profit margins moderated from 2022 through 2024 but remained slightly above the pre-pandemic average. However, as EV sales slowed and tariffs increased, margins tightened. The sharp drop at the end of 2025 was likely driven by significant EV write-offs and write-downs as the industry grappled with lackluster consumer demand and shifts in EV-related policy. Figure 31 zooms in on 2019 to the present.

³⁹ U.S. Bureau of Labor Statistics

Motor Vehicles and Parts Manufacturing Net Profit Margin

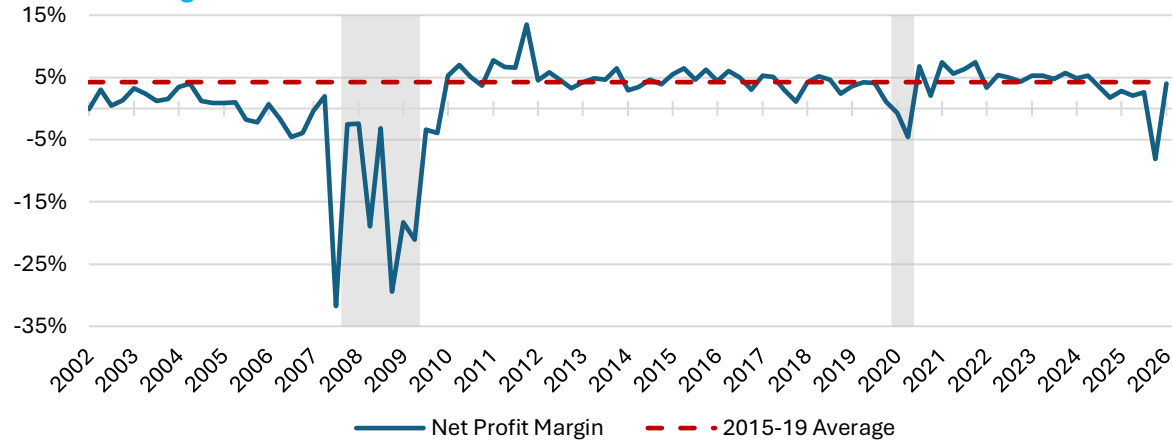


Figure 30. Net profit: Motor vehicle and parts manufacturing, 2002 to 2026⁴⁰

Motor Vehicles and Parts Manufacturing Net Profit Margin

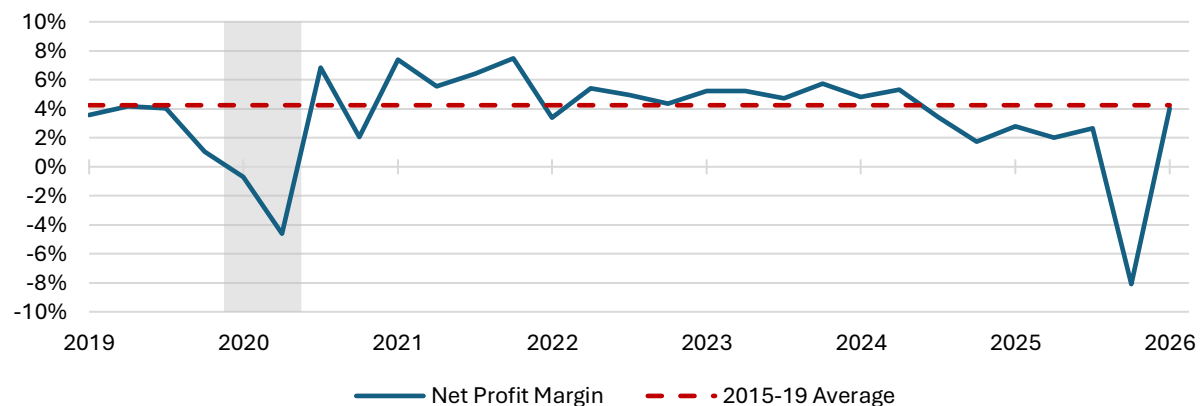


Figure 31. Net profit: Motor vehicle and parts manufacturing, 2019 to 2026⁴¹

External Factors Driving Cost

Vehicle affordability cannot be reduced to the transaction price paid at the dealer lot. A complete picture requires accounting for the ongoing costs of owning and operating a vehicle, and for how transportation spending fits within a household's total expenditures.

⁴⁰ U.S. Census Bureau, Quarterly Financial report

⁴¹ U.S. Census Bureau, Quarterly Financial report

Cost of Owning and Operating a Vehicle

The cost of owning and operating a vehicle has been steadily increasing. This rise in the total cost of ownership is driven both by rising operating costs (including fuel and maintenance) and increases in ownership costs (including insurance, license, registration, taxes, finance charges, and depreciation). The total cost of owning and operating a vehicle has grown from around \$0.50 per mile in 2002 to \$0.84 per mile in 2025, a 68% increase (Figure 32). Assuming 15,000 vehicle-miles per year, this translates to an annual cost increase from \$7,500 to \$12,583 to own and operate the average light vehicle.

Average Cost of Ownership: Cents per Mile

Assuming 15,000 vehicle-miles per year

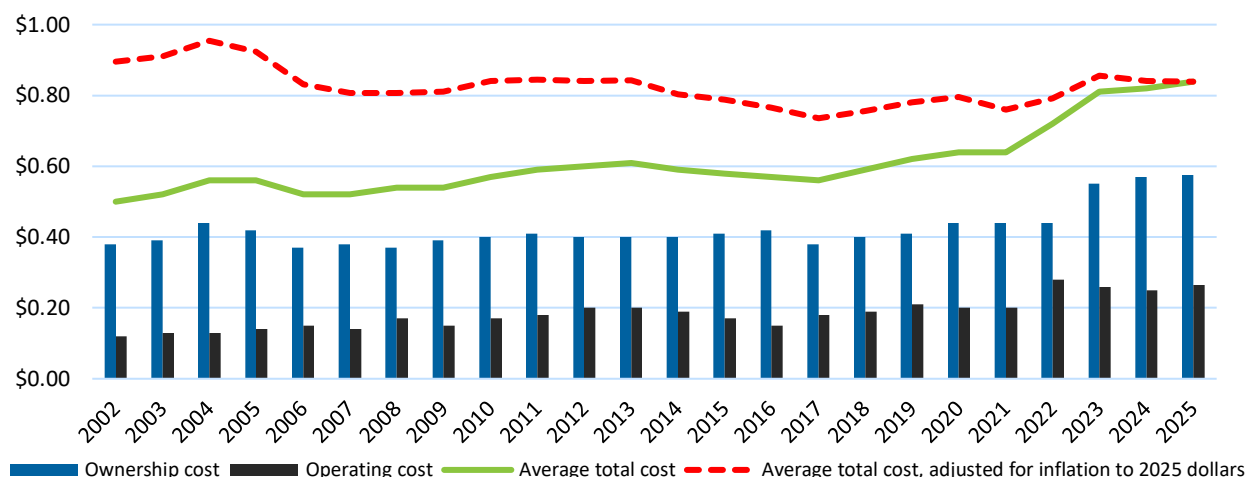


Figure 32. Average cost of owning and operating a vehicle, cents per mile⁴²

Adjusting costs to 2025 dollars provides a more accurate comparison by expressing ownership and operating costs in terms of consumer purchasing power – what those dollars can buy when general price levels are held constant. This shows that, in real terms, the overall cost of owning and operating a vehicle has remained relatively steady or even become slightly more affordable.

Total vehicle ownership cost is not a monolith – owners face a combination of costs stemming from multiple sources, including the cost of fuel, parts and equipment, maintenance and repair, and vehicle insurance. To better understand how these prices move in relation to one another, one can look at consumer price indices (CPI), which measure the change in prices facing consumers. Comparing CPI for gasoline, parts and

⁴² U.S. Bureau of Transportation Statistics; U.S. Bureau of Labor Statistics

equipment, maintenance and repair, and vehicle insurance alongside new and used vehicles and general all-item inflation, we find that general inflation has outpaced both new and used vehicle price inflation. This is seen in Figure 33. Motor vehicle parts and equipment price changes facing consumers have largely tracked with the all-item CPI. However, maintenance and repair, vehicle insurance, and gasoline CPI have outpaced the all-item CPI, indicating prices for these goods have been rising faster than general inflation, making them relatively more expensive.

Inflation Impacting Vehicle Ownership

Consumer Price Index, January 2002 = 100

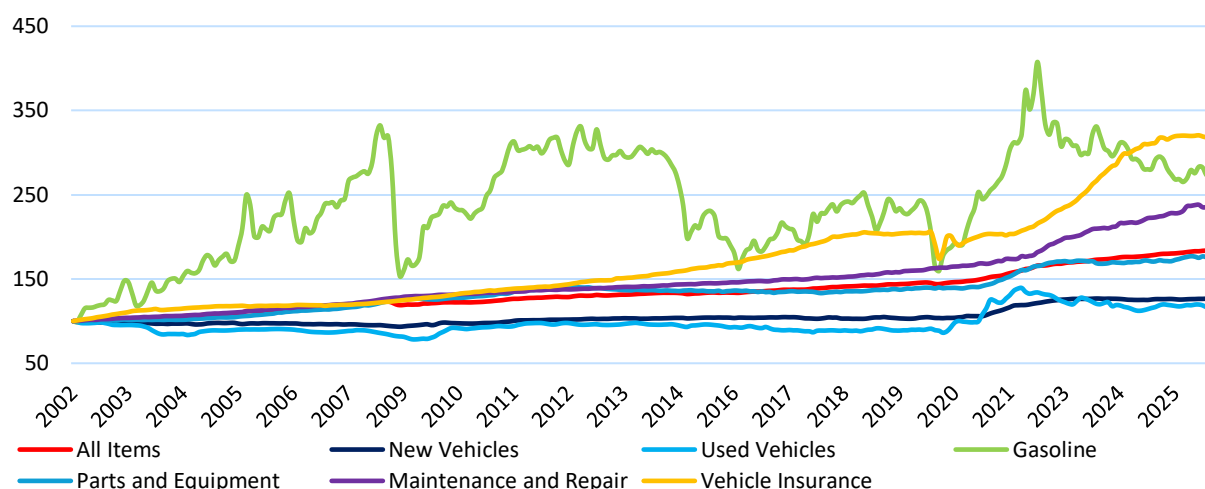


Figure 33. Consumer price index: Vehicle-related costs vs. all-item inflation⁴³

CPI also allows comparison of consumer-facing price changes for other major life costs outside of vehicle purchases and ownership. Contrasting the CPI for new and used vehicles and general all-item inflation with price changes in housing, food and beverages, medical care, college tuition, and childcare shows that price changes for new and used vehicles since 2002 have been rather mild compared to general inflation (Figure 34). This indicates vehicles have become relatively less expensive compared to the general basket of consumer goods and services, a contrast even more stark when compared to price growth for medical care, childcare, and college tuition. This indicates that, relative to other major costs consumers face, vehicles have become more affordable. Despite vehicles becoming relatively more affordable compared to other prices consumers face, rising costs of housing, food, education, medical care, and other areas burden consumers and impact the ability of consumers to purchase a new car or truck.

⁴³ U.S. Bureau of Labor Statistics

Inflation of Major Expenditure Categories Consumer Price Index, January 2002 = 100

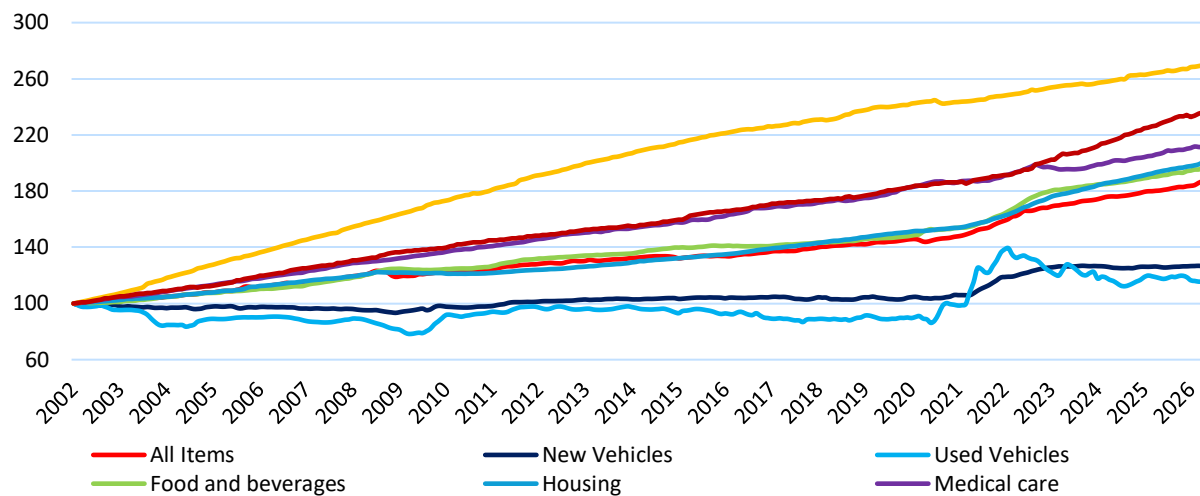


Figure 34. Consumer price index: New and used vehicles vs. housing, food, medical care, education, and childcare⁴⁴

Consumer Transportation Expenditure

Expenditure data from the U.S. Bureau of Labor Statistics provides insight into the share of consumer budget allocated to key items, showing the average amount spent per consumer unit on goods and services such as housing, insurance, or transportation.

Average consumer expenditure on transportation from 2002 to 2024 shows that transportation expenditure has been growing more slowly than total expenditure, indicating that the share of total consumer spending on transportation has been declining despite dollars spent on transportation trending upward since 2002. Looking at various sub-items within transportation, consumer expenditure on gasoline and public transit have grown faster than total expenditure, indicating a larger share of consumer spending has been dedicated to these outlays. This is seen in Figure 35.

⁴⁴ U.S. Bureau of Labor Statistics

Average Consumer Expenditure Transportation

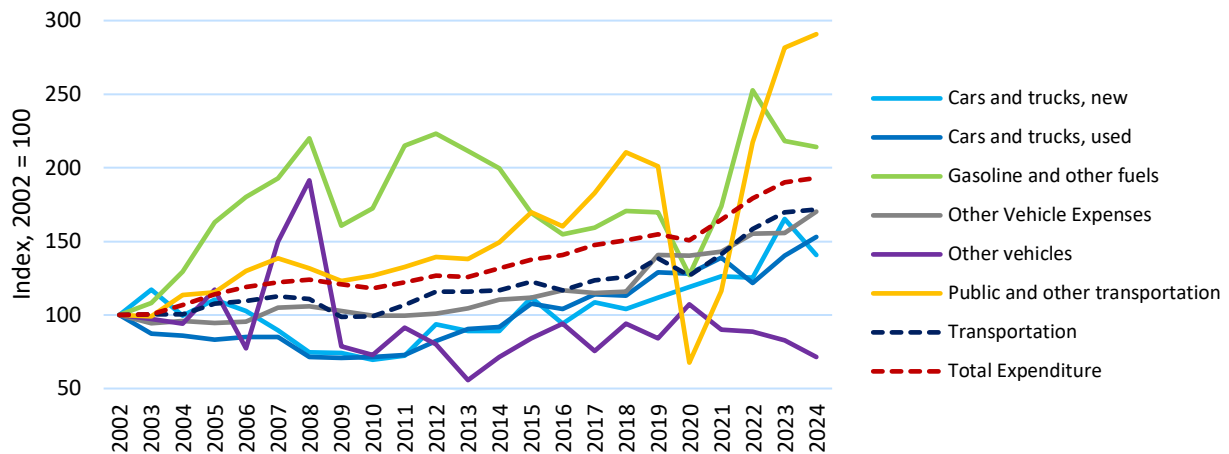


Figure 35. Consumer expenditure on transportation growth by category, indexed to January 2002⁴⁵

The growing share of the consumer spending pie being captured by gasoline and public transportation is notable, with the share of total consumer expenditure on public transportation up by 50.6% in 2024 compared to 2002 and the expenditure share dedicated to purchasing gasoline and other fuels increasing by 10.9%. This is seen in Figure 36.

On the other hand, the slice of expenditure spent on other vehicle expenses – which includes finance charges, insurance, maintenance and repair, and rental, leases, licenses, and other charges (Figure 37) – tells its own story. Notably, we see stark increases in vehicle insurance expenditure.

⁴⁵ CAR analysis of U.S. Bureau of Labor Statistics data

Average Consumer Expenditure

Percent Change in Transportation share of Total Expenditure

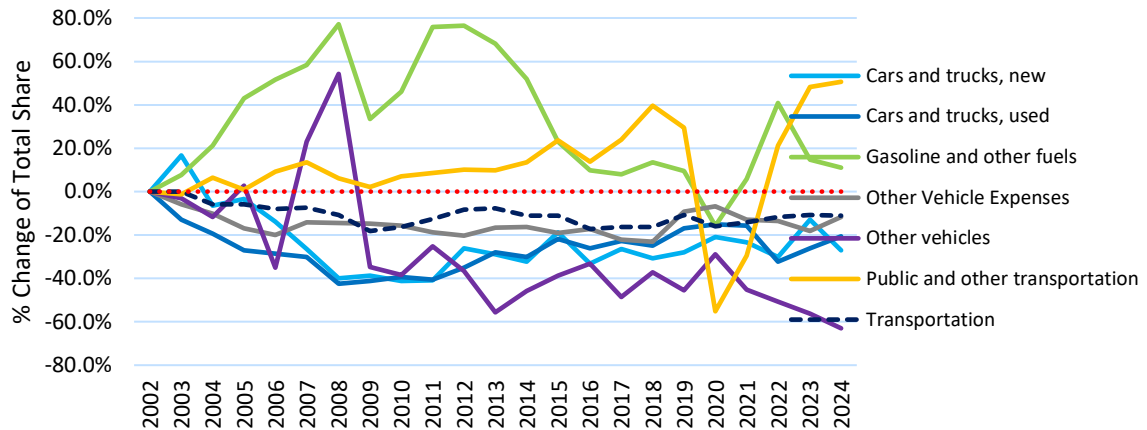


Figure 36. Consumer expenditure on transportation by category, percent change in share of total expenditure⁴⁶

Average Consumer Expenditure

Transportation, Detailed "Other Vehicle Expenses"

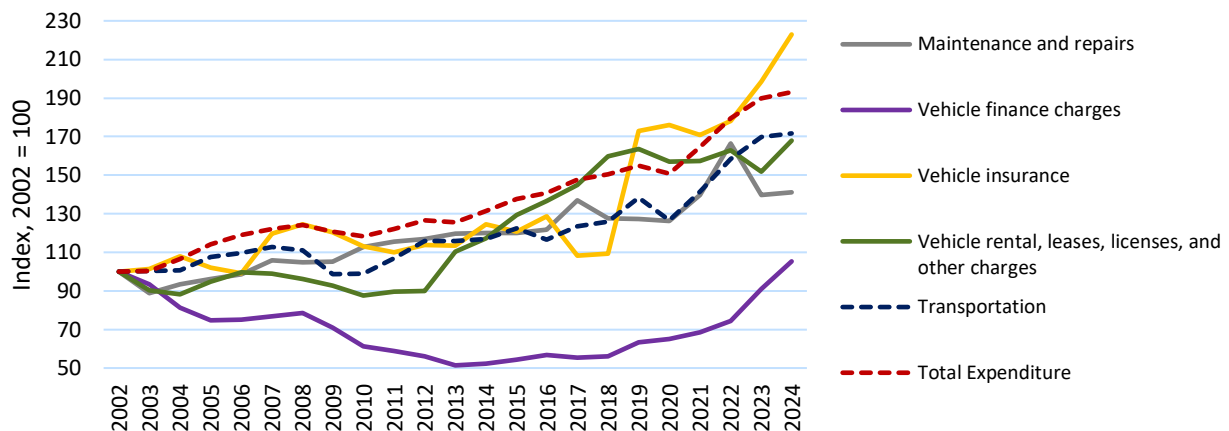


Figure 37. Detailed view of other vehicle expenses⁴⁷

Vehicle Insurance and Repair Costs

Digging deeper into vehicle insurance, consumer expenditure data can be cut to show expenditure by income and age (Figures 38 and 39). The percent of total expenditure captured by vehicle insurance by income quintile, together with vehicle insurance spending share by age of the reference person, shows that vehicle insurance has been

⁴⁶ CAR analysis of U.S. Bureau of Labor Statistics data

⁴⁷ CAR analysis of U.S. Bureau of Labor Statistics data

a growing cost and commanding a larger slice of consumers' budgets. This is particularly true for lower- to middle-income and younger people - especially those under the age of 25.

Average Consumer Expenditure

Vehicle Insurance Expenditure by Income

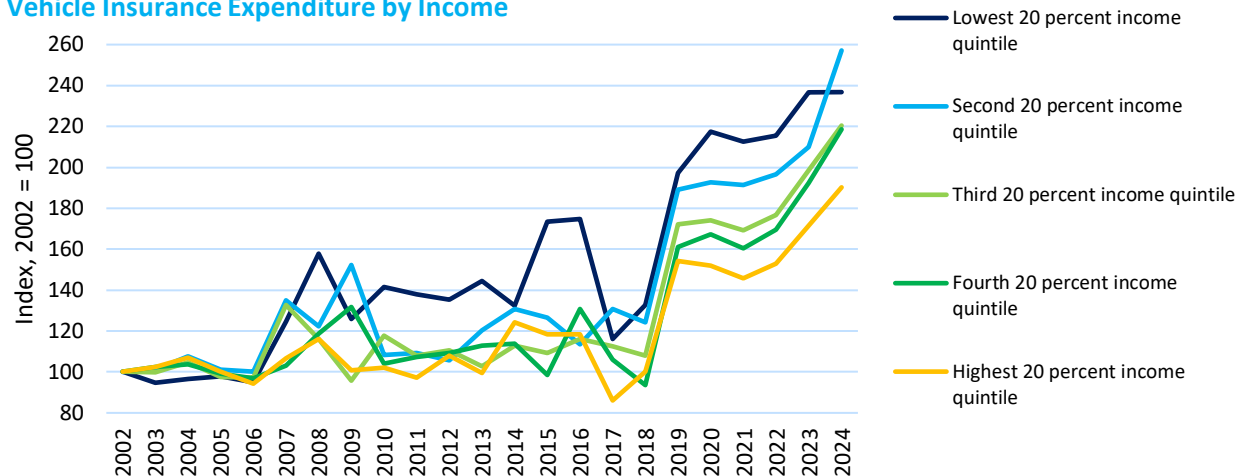


Figure 38. Vehicle insurance expenditure share by income quintile⁴⁸

Average Consumer Expenditure

Vehicle Insurance as a share of Total Expenditure by Age

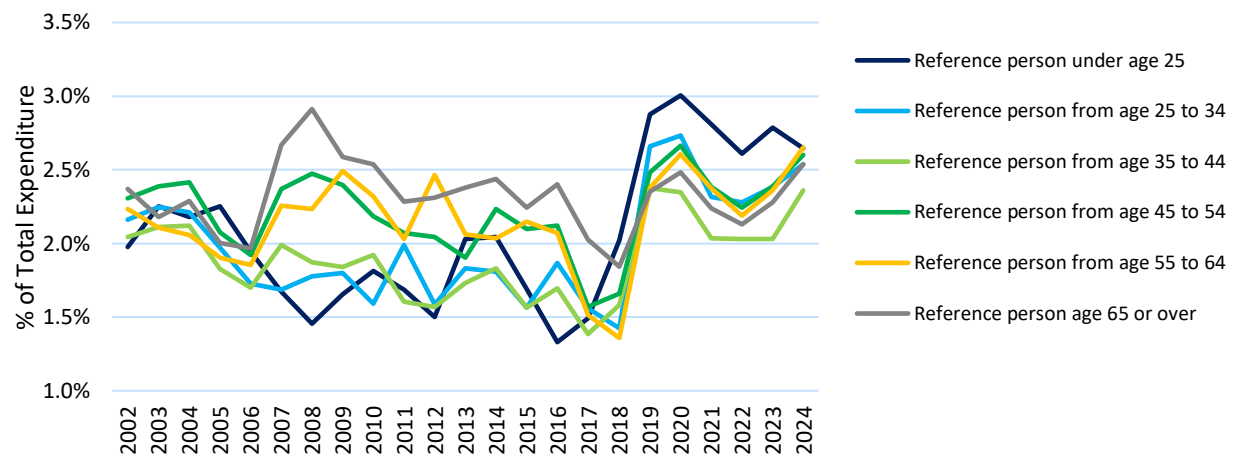


Figure 39. Vehicle insurance expenditure share by age of reference person⁴⁹

⁴⁸ CAR analysis of U.S. Bureau of Labor Statistics data

⁴⁹ CAR analysis of U.S. Bureau of Labor Statistics data

Insurance premiums are determined through a number of factors but are principally developed based on insurers' costs of paying claims⁵⁰. Factors such as age, credit score, marital status, make and model, location, miles driven, vehicle use, and claims history all play a part in determining insurance rates. National Association of Insurance Commissioners research highlights number of miles driven, medical cost inflation, cost of repairing a vehicle, and the prevalence of distracted driving as underlying factors contributing to increased insurer losses and thus increased insurance costs for consumers⁵¹.

New materials and technology can increase not just the cost of purchasing a new vehicle, but the cost of repair as well. Industry research has found that the share of insurance claims involving special materials grew substantially over the 2000s and 2010s, impacting the cost of insurance by increasing the severity of property damage claims⁵².

In addition to special materials that can be more expensive to manufacture and install, today's vehicles are increasingly smarter – meaning cameras and sensors exist where there were few or none before. One study showed the cost of repairing a front-end collision on a 2016 Nissan Maxima increased to \$6,752 from \$2,915 for the previous model year, which did not offer front-end collision sensors⁵³. More recently, a AAA report on the cost of ADAS repair noted that ADAS parts and the labor to remove, replace, and calibrate them can increase repair costs by an average of 37.6%. For example, replacement and calibration of ADAS components during a windshield replacement adds an average of \$360 to the repair cost⁵⁴.

⁵⁰ National Association of Insurance Commissioners, 2023 Auto Insurance Database Average Premium Supplement

⁵¹ National Association of Insurance Commissioners, [Insurance Topics | Auto Insurance | NAIC](#)

⁵² Mitchell, industry trends report (Q1 2017): Growth in Special Materials and Its Impact on Estimating

⁵³ Mitchell, industry trends report (Q4 2017): New Vehicles— Technology Impact on Collision Repair Costs

⁵⁴ AAA (2023): Cost of Advanced Driver Assistance Systems (ADAS) Repairs

Passenger Vehicle Collision Coverage Insurance Losses Average Loss Payment per Claim

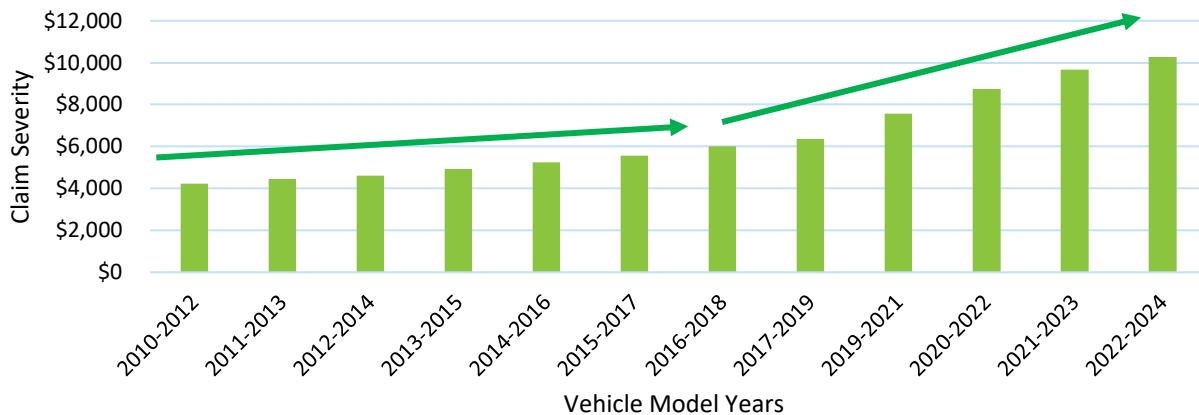


Figure 40. Average loss payment per claim for passenger vehicle collision coverage⁵⁵

Figure 40 shows the average loss payment per claim for passenger vehicle collision coverage. While trending upward, insurance loss payment growth accelerated around the 2016 to 2019 model years as ADAS features were becoming more commonplace. There is nuance here – while claim severity increased, claim frequency decreased. According to IIHS-HLDI, crash avoidance systems prevent many of the low-speed collisions that make the majority of claims under collision coverage, leaving a greater proportion of higher-speed collisions that push up the average claim severity⁵⁶.

Vehicle Affordability: One Piece of a Consumer's Budget

Vehicle purchases and the costs of owning and operating a vehicle are not the only expenditures for which consumers need to budget. In fact, for most consumers, transportation is a shrinking portion of their budget, likely being crowded out by other expenditures.

The percent change in the share of new vehicle purchases as a share of total expenditure by income quintile shows that, for all but the top 20% of consumer units by income, the share of total expenditure dedicated to new vehicle spending declined in 2024 compared to 2002 (Figure 41).

⁵⁵ Insurance Information Institute

⁵⁶ IIHS-HLDI, [How crash avoidance tech simultaneously raises and slashes repair costs](#)

Average Consumer Expenditure

Percent Change in New Vehicle share of Total Expenditure

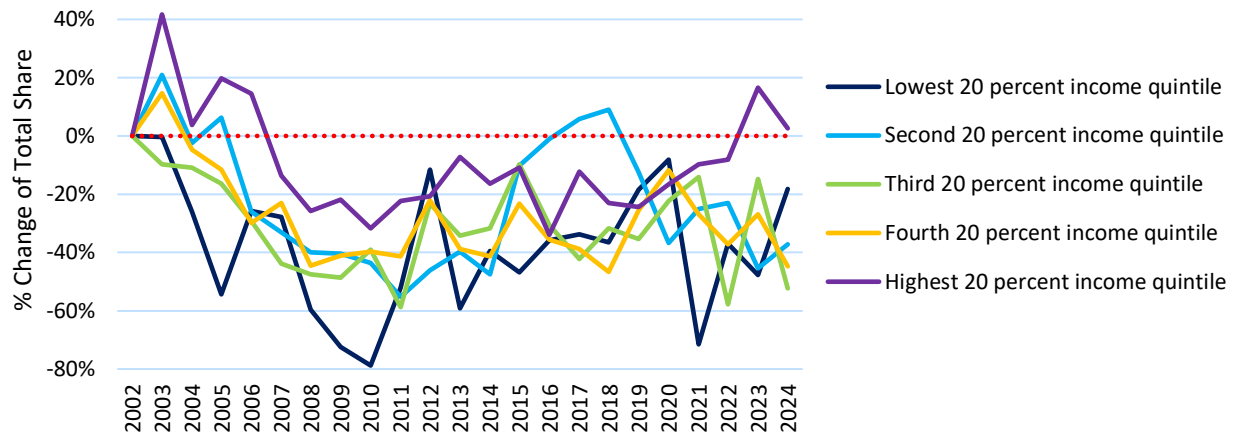


Figure 41. Percent change in new vehicle purchases as a share of total expenditure, by income quintile⁵⁷

Transportation as an expenditure item, which includes new and used vehicle purchases and spending on gasoline, other vehicle expenditures, and on public transit and other vehicles, has seen its share of total expenditure shrink across all income quintiles. For middle-income consumers, expenditure on housing, healthcare, food, and personal insurance and pensions have outpaced transportation expenditure, putting financial pressure on consumers and straining the ability to make new vehicle purchases. The lowest-income consumers saw expenditure on all those items as well as education outpace transportation spending growth. The highest-income consumers saw expenditure across most items rise in tandem, with exceptions of faster growth in food and education spending.

⁵⁷ CAR analysis of U.S. Bureau of Labor Statistics data

Conclusion

Understanding vehicle affordability requires looking at the sticker price, the product itself, the ongoing costs of ownership, and the broader household budget in which vehicle spending competes for limited dollars.

On price alone, the picture is more nuanced than headlines suggest. Although average transaction prices have nearly doubled in nominal terms since 2002, real expenditure per vehicle has risen only modestly overall and have actually declined for passenger cars.

Average transaction prices also conceal a bifurcating market. Higher-income households now account for a record share of new vehicle expenditure while middle-income households' share has fallen. Sales have skewed toward higher-priced vehicles even after inflation adjustment, and the share of new models within reach of the median household income has declined since 2019. This K-shaped pattern suggests that affordability is increasingly a story about who can and cannot participate in the new vehicle market, rather than a uniform shift for all consumers. However, the fact that some models transact below \$25,000 but account for a small share of sales suggests limited consumer demand for those models despite their price point.

Part of vehicle price increase reflects genuine gains rather than cost alone. Constant-quality price indices, model-year comparisons, and vehicle specification data all point to the same conclusion: today's vehicles are more powerful, more fuel-efficient, smarter, safer, and equipped with technology which did not exist in 2002. On the production side, rising material and parts costs, along with faster wage growth in vehicle and parts manufacturing since the pandemic, have added further upward pricing pressure, even as industry profit margins have narrowed from their 2021 highs.

Affordability does not end at the point of sale. The cost of owning and operating a vehicle (inclusive of insurance, maintenance, fuel, and financing) has also risen. In particular, vehicle insurance has become a growing share of household spending, disproportionately affecting lower-income and younger consumers. New materials and vehicle technology that improve safety and performance also raise the cost of repair, feeding directly back into insurance premiums.

Finally, vehicle affordability cannot be considered in isolation from the rest of the household budget. Relative to housing, medical care, education, and childcare, vehicle-related costs have grown comparatively slowly since 2002. Yet this relative advantage does not translate into more room in the family budget: transportation's share of total consumer expenditure has been shrinking for most income groups, as faster-growing

costs elsewhere crowd out spending on new vehicles. A vehicle can be more affordable compared to two decades ago and still be out of reach for a given household if rising costs elsewhere consume a larger share of that household's income.

Taken together, these findings indicate that vehicle affordability is genuinely multidimensional, shaped by sticker price, product quality and technology, total cost of ownership, and competing household expenses. No single lever – whether it is a lower MSRP, cheaper financing, or reduced insurance costs – would resolve the affordability challenge on its own. Addressing affordability constructively will likely require attention to all of these factors together.

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