Q3 2015

Lasting Longer: How Better Quality Is Affecting Used Vehicle Demand

AT A GLANCE

- Improvements in vehicle dependability and durability
- Shifting consumer preferences for new and used vehicles
- The growing role of used vehicles at franchised dealerships
- Trends in vehicle pricing and depreciation

NADA
Used Car Guide
Since 1933

Introduction

In the not-too-distant past, questions surrounding how well — and how long — a vehicle would hold up made dealing with used vehicles a risky proposition for many. For example, in the late 1990s, a 5- to 6-year-old car with 60,000 miles was typically entering the dreaded "repair-replace-repeat" period of its life.

Durability has improved tremendously over the last two decades, easing concerns about the long-term viability of used vehicles. In fact, J.D. Power and Associates® data shows vehicle dependability has improved by nearly 50% in the last decade alone, and the gap in quality across brands has narrowed dramatically. Furthermore, problems with engines, braking and suspension — the systems necessary for a vehicle to successfully travel from point A to point B — have fallen substantially over the past decade.

While we are not expecting an immortal car anytime soon, automobiles are lasting longer. This is reshaping consumer habits in ways that will continue to have a material impact on lender, dealer and automaker business practices.

Steady Improvements in Vehicle Dependability

Perhaps the most well-known measure of vehicle dependability is J.D. Power's annual *U.S. Vehicle Dependability Study℠ (VDS)*, which examines problems experienced during the past 12 months by original owners of 3-year-old vehicles. The number of problems experienced per 100 vehicles (PP100), with a lower score reflecting higher quality, determines overall dependability. From 2005 to 2013, the industry average for overall vehicle dependability fell from 237 PP100 to 126 PP100 — a 47% improvement. New model launch hiccups pushed the overall vehicle dependability average up to 133 PP100 in 2014; however, this

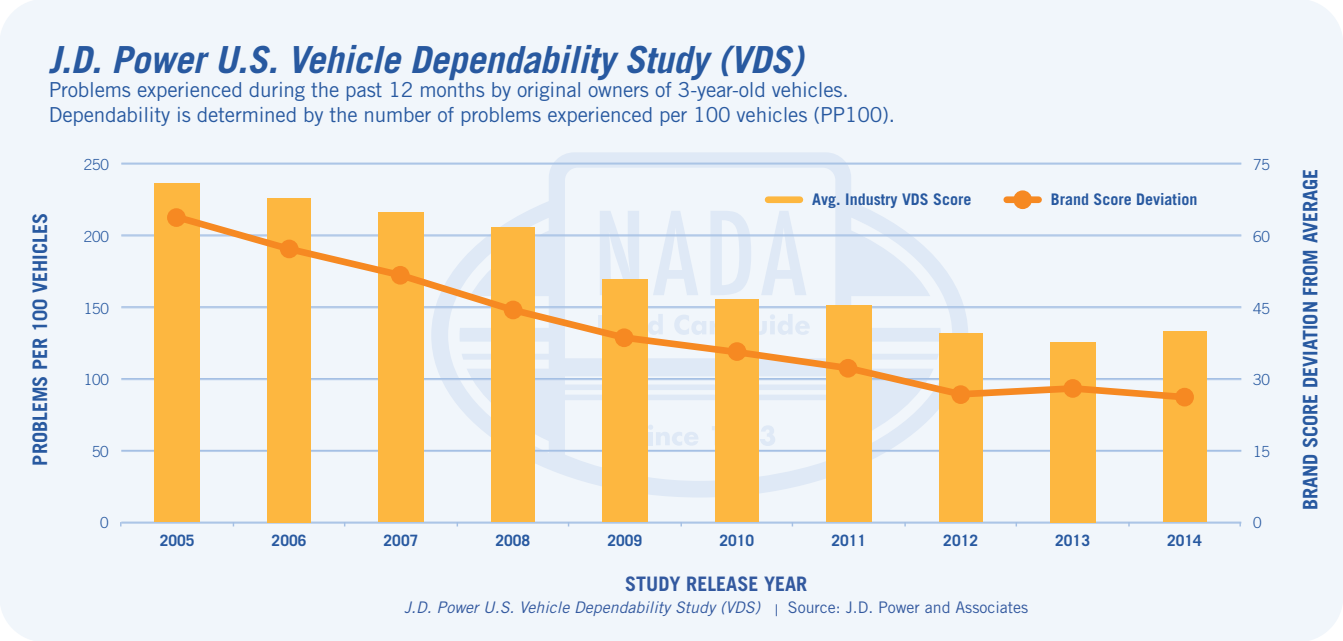

Figure 1

figure was still a vast improvement over averages recorded a decade earlier.[1] Another important note on dependability is the decline in brand score deviation. The lower scores indicate manufacturers have made quality improvements across the board, rather than a handful of brands making extreme advancements (figure 1, page 2).

Increasing mileage is also tangible evidence of improving durability. For example, the average number of miles on compact and midsize cars 10 years in age at auction went from roughly 126,000 in 2004 to 133,000 in 2014 — an increase of 6%.

Vehicle age provides yet another indicator. The average age of vehicles on the road is dependent on the number of new vehicles added to the market each year versus the number of used vehicles subtracted (i.e., inputs versus outputs). Assuming a consistent rate of new sales growth, expected average vehicle age should increase gradually over time as quality improves and the total number of vehicles in operation rises. This is precisely what has occurred. According to data from IHS Automotive (Polk), the average age of all light vehicles grew from 8.4 years in 1995 to 9.6 years in 2007 (figure 2).

Average age jumped to 11.4 years by 2014, but this was more the result of the severe falloff in new sales due to the Great Recession than a significant jump in dependability. Still, the data clearly shows vehicles are lasting longer with each passing year. NADA Used Car Guide estimates average vehicle age would have been approximately 10.3 years in 2014 had the market not experienced such a major disruption.

What Does Higher Quality Mean for Used Vehicles?

Ownership terms are increasing

Improving durability means that consumers can put off replacing their current vehicles due to

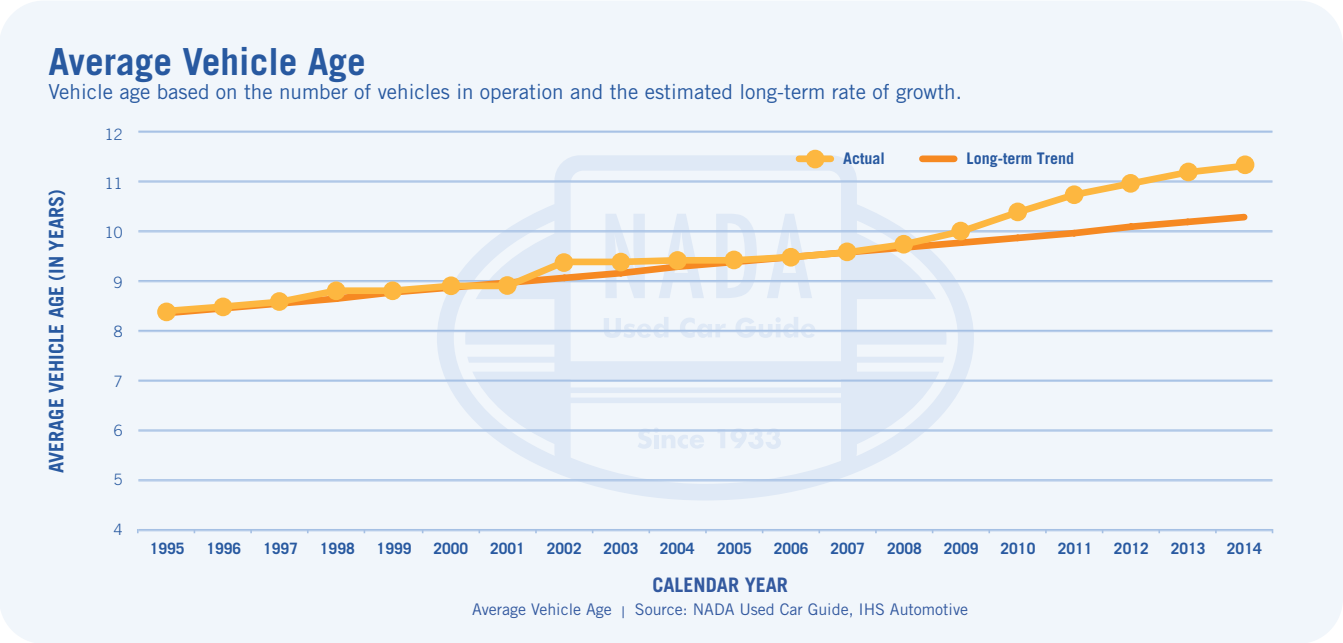

Figure 2

[1] The *J.D. Power U.S. Vehicle Dependability Study* was enhanced for 2015 to better measure the quality of today's vehicles, particularly related to new technologies and features. As such, PP100 scores of the 2015 study cannot be compared with PP100 scores from previous studies.

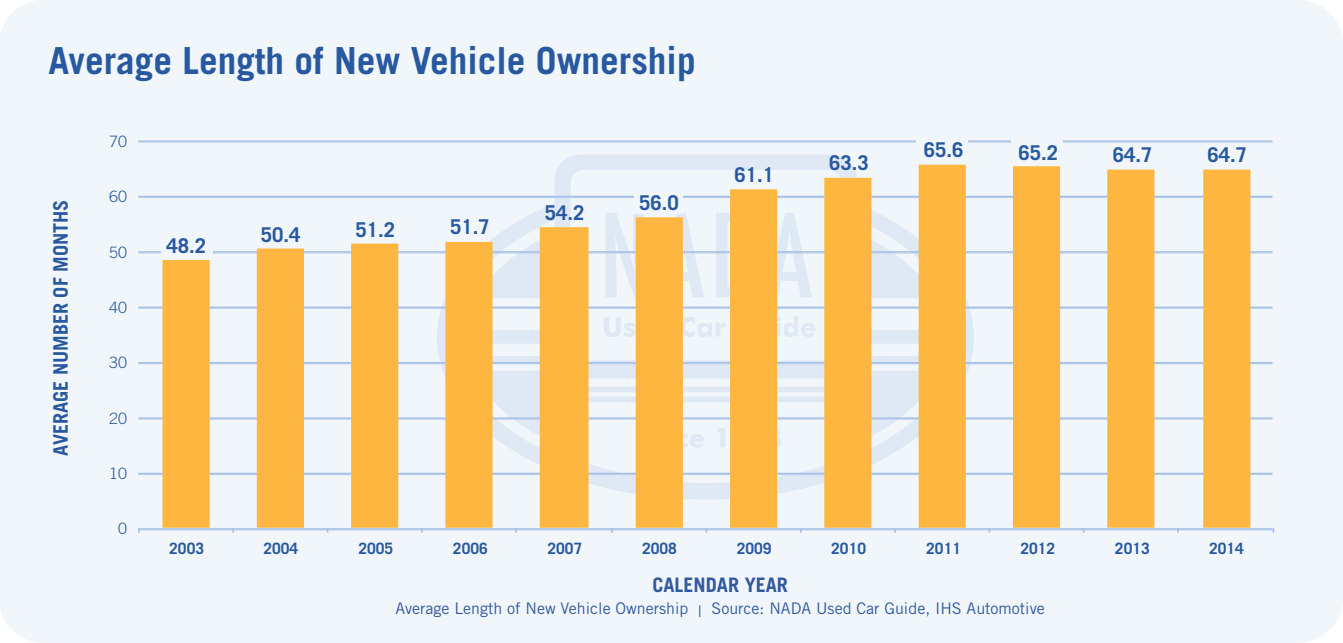

Figure 3

maintenance and repair concerns for a longer period of time. An analysis of IHS Automotive registration data reveals the average time for a new vehicle to enter the used market for the first time grew from 48.2 months in 2003 to 64.7 in 2014 — a 34% increase.[2] While we cannot fully attribute the increase to better dependability — economic conditions, automaker discounts and finance terms also played key roles — increased quality undoubtedly helped facilitate growth (figure 3).

There are two key takeaways from this data. First, new vehicle length of ownership is more or less keeping pace with progressively stretched loan terms, which, according to J.D. Power *Power Information Network®* (PIN) data, stand at an average of 67.3 months year-to-date. Certainly the trend toward longer loan terms isn't without tangible risk — for example, longer terms increase the time required to reach positive equity — but it's much less likely the vehicle will suffer a significant operational failure before the loan is paid in full (consumers and lenders wouldn't be as willing to take on the added risk if it were).

Our second takeaway deals with the consumer purchase cycle. The longer the length of ownership, the more time has to pass before a consumer is back in the market for another new or pre-owned vehicle.

Used vehicles are assuming a more prominent role at franchised dealerships

Used vehicle operations were once an overlooked byproduct of new vehicle sales at many franchised dealerships. Dealers frequently sold the used vehicles they received as trade-ins at wholesale, not just because they focused on new operations, but also because they had limited options for pricing and marketing used vehicles. Durability was another major concern. The closer a vehicle was to reaching 100,000 miles, the less likely it was to garner attention.

[2] New vehicle length of ownership has been relatively flat since 2011; however, this is due to the post-recession recovery in new vehicle sales that has occurred over the past few years.

In fact, demand for most used models fell off dramatically after reaching just 50,000 or 60,000 miles. Conditions today are much different.

Quality improvements have reduced consumer concerns about long-term dependability, while access to data and technology is allowing dealers to make more educated decisions regarding trade-in appraisals, wholesale and retail pricing, and inventory acquisition.

Franchised dealers are now moving aggressively to capitalize on a more stable used vehicle market, one that is 3 times larger than the new vehicle market and has attractive ROI potential (per National Automobile Dealers Association® data, used vehicle gross profit margins averaged 13% in 2014, more than 3 times higher than the new margin average of 3.8%). Of the 20 largest franchised dealerships listed in the 2015 edition of *Automotive News'* Top 150 Dealership Groups, a full half experienced used-to-new vehicle ratio increases ranging from 13 to 32 percentage points between 2007 and 2014. Combined, the used-to-new ratio for the group reached 69% in 2014, up 13 points from 2007's 56%.

Consumers are more open to buying used

Price aside, improved quality and dependability arguably make buying a late-model used vehicle more attractive to consumers who traditionally purchased only new.

Survey results taken from the annual Autotrader® Certified Pre-Owned (CPO) study support this logic. In the company's 2013 CPO study, 33% of new vehicle shoppers said they would consider purchasing used when shopping for their next vehicle, up from 26% in 2012's study.

New shoppers were even more inclined to consider used if the vehicle had been certified through a manufacturer CPO program. According to

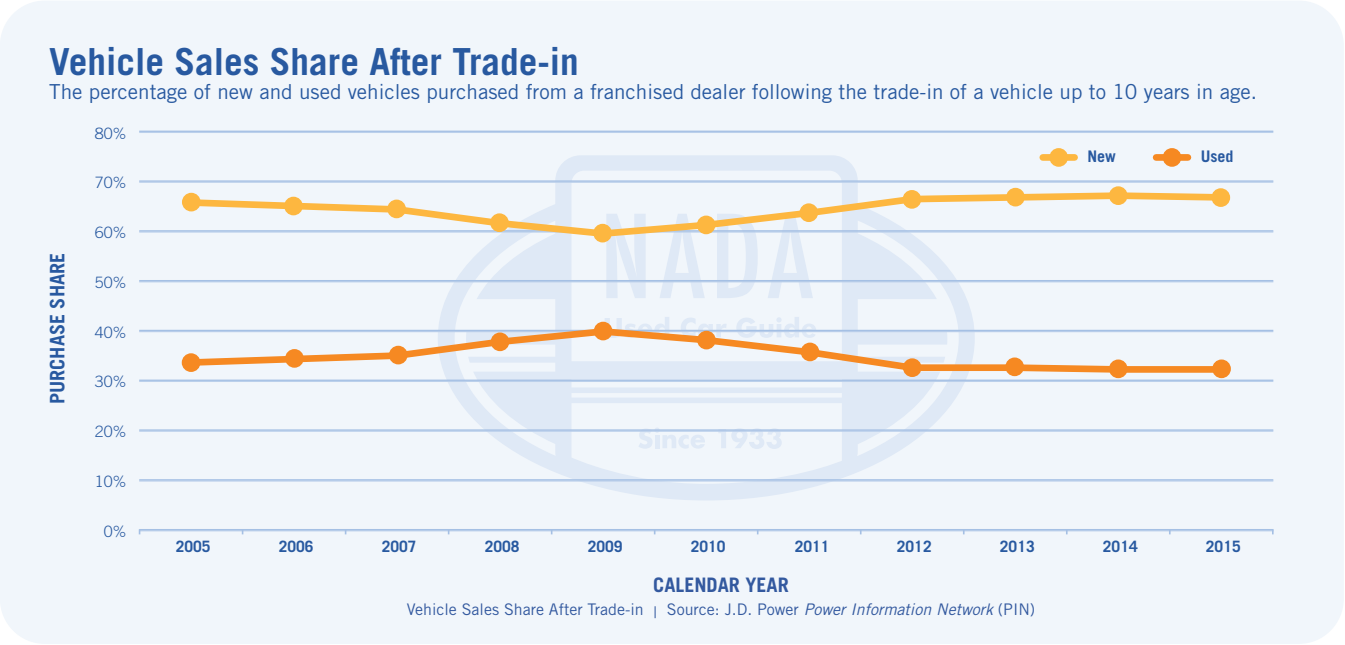

Figure 4

Autotrader's 2014 CPO study, 59% of new vehicle shoppers said they were willing to consider a Certified Pre-Owned vehicle — up 16 percentage points from the 2012 study.

So, do people actually choose used over new more frequently? Franchised dealer sales data collected from the J.D. Power *Power Information Network* (PIN) provides insight into the question.

The Vehicle Sales Share After Trade-in chart (figure 4, page 5) shows the shares of new and used vehicles purchased from franchised dealers after trading in a used vehicle up to 10 years in age. We see a subtle convergence between new and used sales shares from 2005 to 2007, before a more obvious tightening occurs in 2008 to 2009 following the global financial collapse. New and used shares drifted apart in 2010 and have remained essentially unchanged since 2012, at 67% and 33%, respectively.

Given the stability in share over the past four years, one could reasonably assume the stronger preference for used vehicles indicated by consumers has not materialized on the sales front. However, this conclusion fails to take into account how disruptive the recession was to new and used vehicle sales. New vehicle sales fell from an average of over 16 million units before the financial collapse to just 10.4 million in 2009. The decline not only caused significant pent-up demand for new vehicles, but also greatly reduced the supply of late-model used vehicles.

Post-recession, new vehicle sales gradually recovered, while used vehicle supply — and thus selection — deteriorated. Despite the decrease in supply, used vehicle sales have also grown steadily over the past few years, but at a much slower pace. Put simply, the difference in the recoveries of new and used sales and used supply has potentially delayed the subtle change in new-to-used sales share witnessed before the recession.

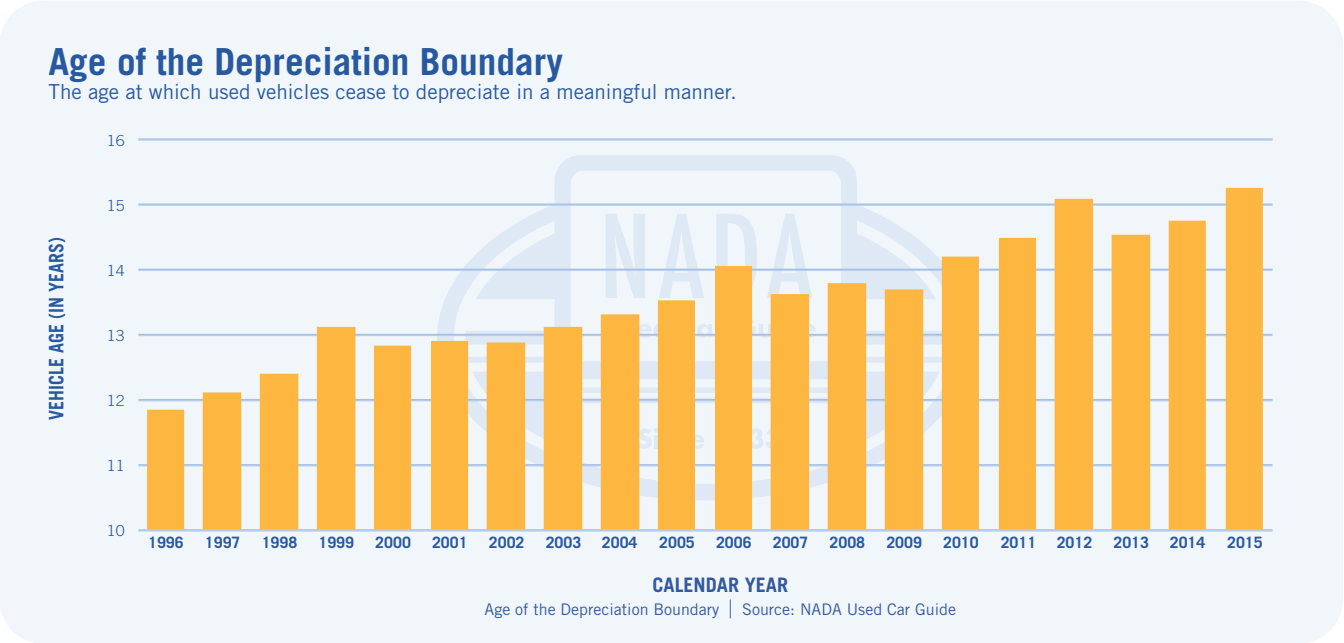

Figure 5

Used vehicle prices are stronger

Improving quality has played a critical role in improving used vehicle demand and, consequently, prices.

NADA Used Car Guide's Used Vehicle Price Forecast model measures the relationship between used vehicle prices and key influencing factors like gasoline prices, employment and used vehicle supply. Given our understanding of these relationships, we can isolate how depreciation, or the effect of increasing age and mileage on used vehicle prices, has changed over time by controlling for the influence of other factors.

Ignoring market-driven fluctuations, vehicles depreciate at a more or less constant rate up to a point we call the "depreciation boundary," which in simple terms is the vehicle age beyond which we are unlikely to observe any meaningful depreciation in price. After this point, condition and circumstance — rather than mileage and age — ultimately determine pricing.

Using our database of wholesale transactions, NADA Used Car Guide has reached two important conclusions regarding the depreciation boundary. First, the depreciation boundary is reached when prices stabilize in the $1,000–5,000 range. Second, it is taking increasingly more time for vehicles to reach this point.

In 1996, the average age of vehicles reaching the depreciation boundary was just under 12 years. In the 2 decades since then, average vehicle age has grown by 29% to 15.3 years (figure 5, page 6). Because the time it takes to reach the boundary point depends on how fast vehicle values fall, the increase in age is a direct result of slowing used vehicle depreciation.

In the late 1990s, used vehicles generally lost between 15.9% and 16.5% of their value per year

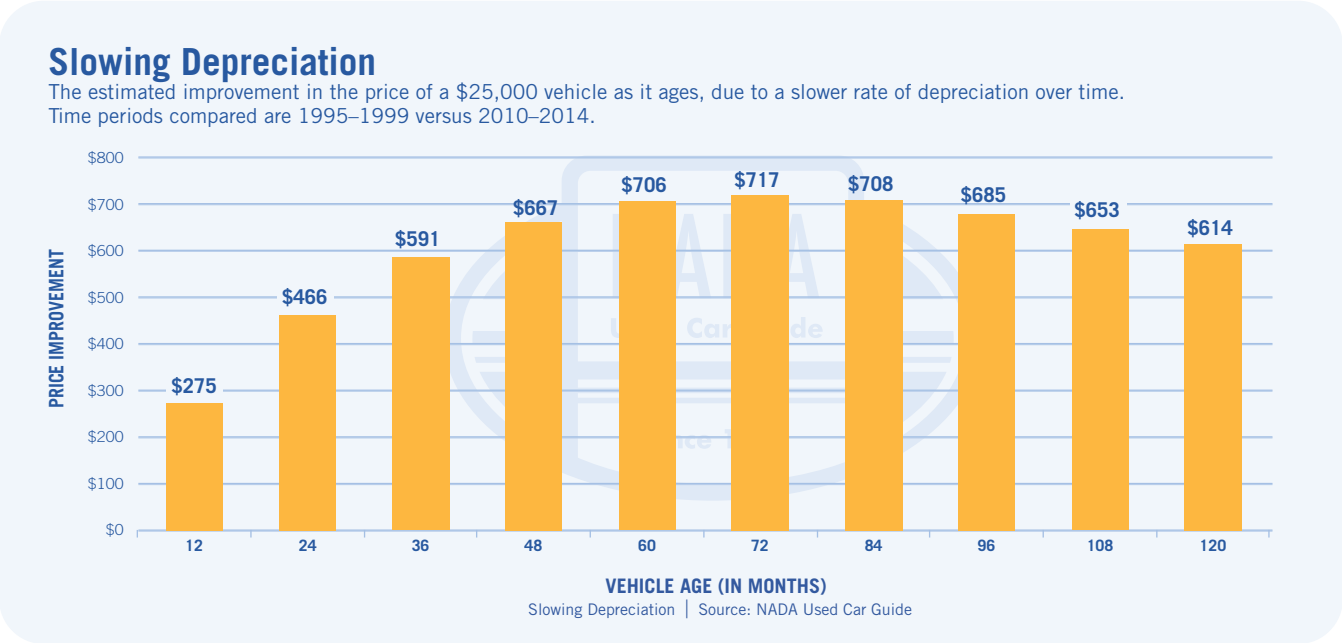

Figure 6

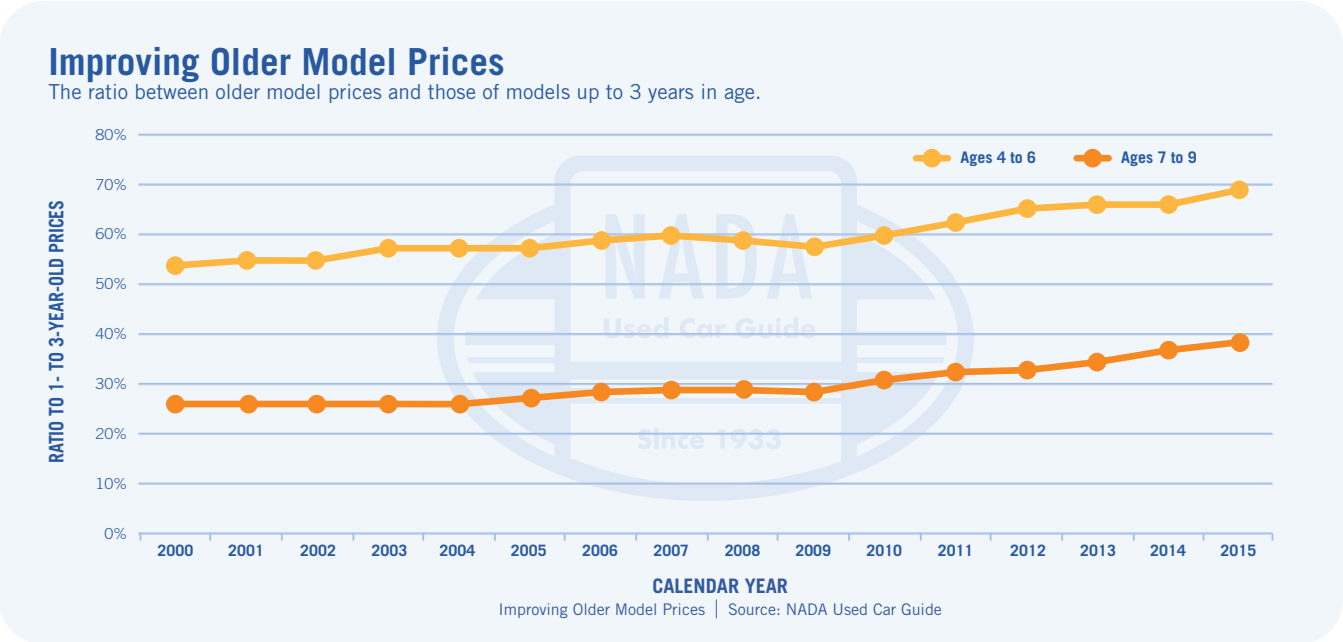

Figure 7

due to aging, depending on the vehicle's life cycle stage. Fast forward 15 years and depreciation has slowed to an annual rate between 14.8% and 15.4% per year. While the roughly 1% improvement realized over the period may seem small, it is in fact significant when viewed over the life span of a vehicle. Compared to the late 1990s, for example, a $25,000 vehicle today would retain $466 more of its value after 2 years and nearly $720 more after 6 years because of the slowed rate of depreciation (figure 6, page 7).

Another way to illustrate the effect of improving quality on used vehicle prices is to show how prices of older vehicles have changed over time relative to much younger vehicles. As can be seen above in figure 7, the spread between younger and older model prices has narrowed considerably over the past 15 years.

In 2000, 4- to 6-year-old model prices were 54% as much as prices of models up to 3 years in age. By 2014, the ratio had risen by 15 percentage points to 69%. Put another way, the discount for 4- to 6-year-old models relative to younger models shrank from 46% to 31%. With a rise from 26% in 2000 to 38% in 2014, the ratio for 7- to 9-year-old models improved by a similar amount.

The improvements in older model prices would not have been possible without better vehicle quality. While we fully expect used vehicle prices to drift lower over the next few years as supply finally returns to pre-recession levels, the boost in demand stemming from improved durability will keep prices higher than they would have been otherwise.

Key Insights

Better durability and its effect on used vehicle demand present a series of opportunities and challenges to the automotive industry.

The improved preference for used vehicles is helping franchised dealers realize a level of revenue and profit growth that would be far more difficult to achieve with new vehicles alone. The trend shouldn't reverse any time soon, as a growing supply of three- to five-year-old vehicles will help fuel franchise dealers' plans to expand used vehicle operations in the future (including Lithia Motors, Sonic Automotive and Asbury Automotive Group — three of the nation's largest publicly traded franchised dealer groups). The growth in manufacturer Certified Pre-Owned demand over the past few years will also help matters. CPO sales skyrocketed 28% to 2.3 million units between 2012 and 2014 (new sales grew by 14% over the same period).

Less concerned with costly repairs, consumers are more comfortable taking out longer-term loans, and banks and captive finance companies are more at ease providing them. Longer loan terms also benefit manufacturers, as they allow consumers to buy more expensive vehicles with relatively small increases in monthly payments.

There is a downside, however. Consumers' willingness to remain in the same vehicle for a longer period of time combined with the financial incentive to do so prolong the time it takes for consumers to re-enter the market. That established, this will likely have little impact on business because the trend is a gradual one. The impact would be more disruptive if ownership terms changed dramatically over a short period of time.

More challenging for automakers is the enhanced appeal of used vehicles. When consumers are ready to buy again, better quality — and a lower price — increase the likelihood a late-model used vehicle will be considered alongside a new one. Manufacturers will have to include this reality in future sales projections. Moving forward, automakers will be tasked with raising the bar for quality and dependability to differentiate themselves from their peers, while also speeding up design and technology innovation to encourage buying new.

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NADA Used Car Guide

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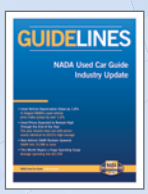

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