

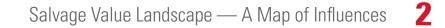
2017 INDUSTRY REPORT



Insurance Auto Auctions, Inc. (IAA) is the leading live and live-online salvage vehicle auction company and a business unit of KAR Auction Services (NYSE: KAR). With more than 170 auction facilities — the largest footprint in North America — IAA provides registered buyers from more than 110 countries the opportunity to bid on and purchase vehicles from a comprehensive group of sellers, including insurance companies, fleet and rental companies, financing companies, charitable organizations and the general public. Through its weekly auctions, IAA has sold millions of vehicles, offering towing, financing and titling services.

IAA leverages its business model to assist charitable organizations in the U.S. through its One Car One Difference® program. To date, IAA has provided millions of dollars in additional funding to charities by assisting in the processing of donated vehicles. Learn more about the program by visiting 1car1difference.com. With a talented team of more than 2,500 employees, IAA is committed to technological innovation and providing its customers the highest level of service in the salvage auto industry. To learn more, visit IAA-Auctions.com, and follow IAA on Facebook, Twitter and LinkedIn.

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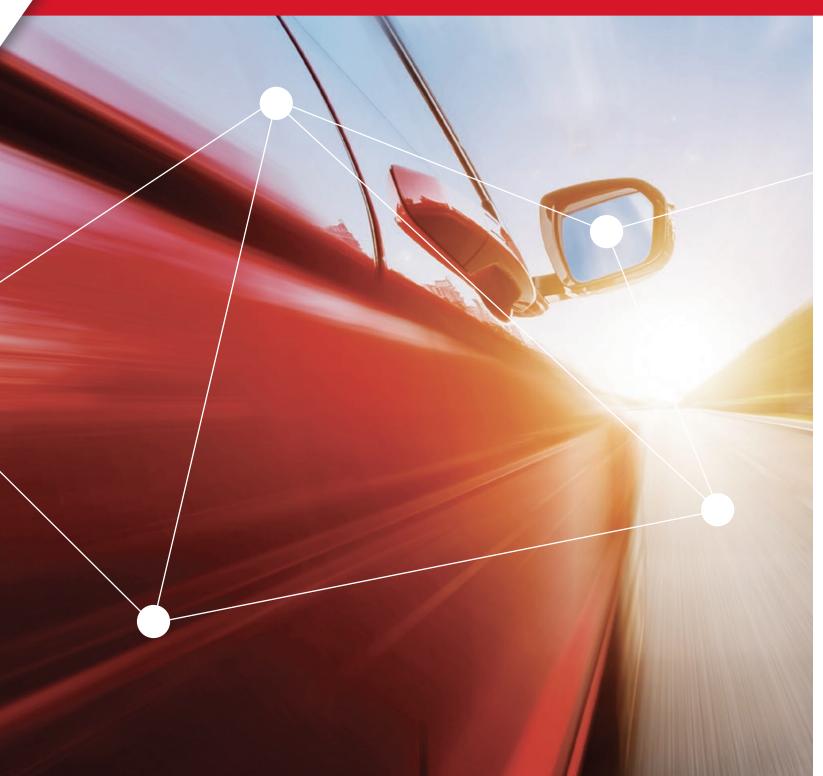
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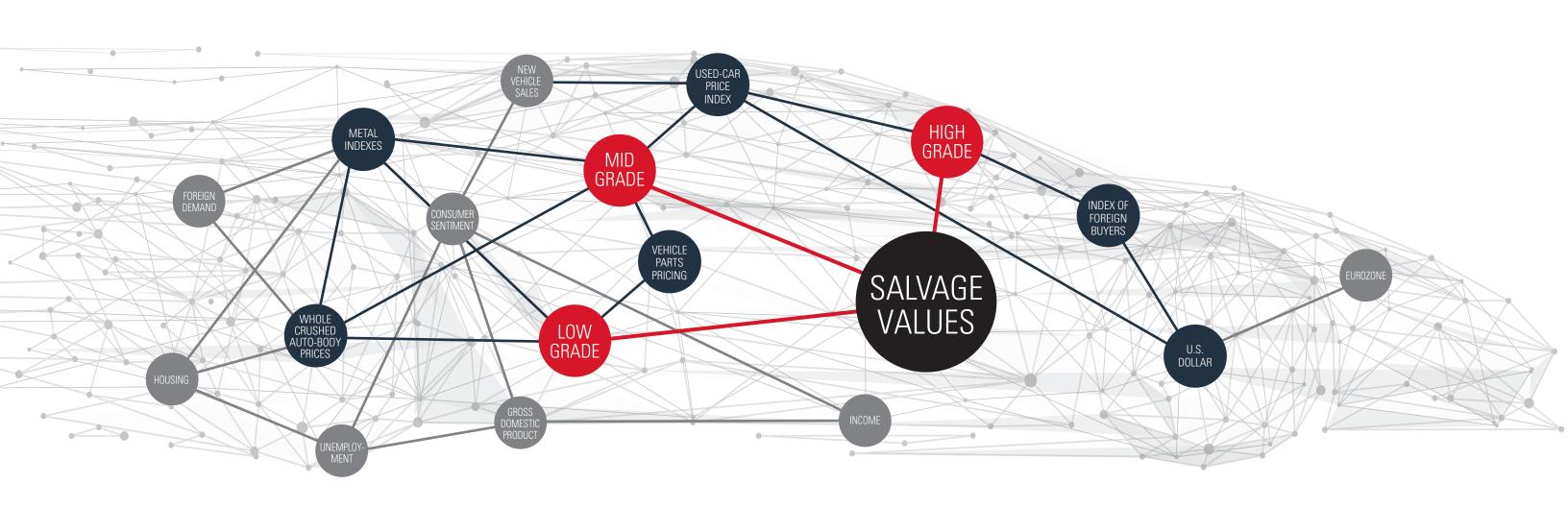
The auto salvage industry as discussed in this document refers to the industry as experienced by IAA. IAA does not possess data on the performance of other salvage companies; therefore, the analyses are based on how different economic factors impact the performance of vehicles sold through IAA's auctions.

The statements contained in this report and statements the company may make orally in connection with this report that are not historical facts are forward-looking statements. Forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from the results projected, expressed or implied by the forward-looking statements. Factors that could cause or contribute to such differences include those matters disclosed in the company's Securities and Exchange Commission filings. The company does not undertake any obligation to update any forward-looking statements.



SALVAGE VALUE LANDSCAPE A Map of Influences

The complexity of the vehicle salvage industry is revealed when trying to understand how its drivers are linked by factors such as the economy, vehicle sale prices, driver behavior and weather. Each factor represented by a dot on the map is scaled to convey its level of impact on the industry.



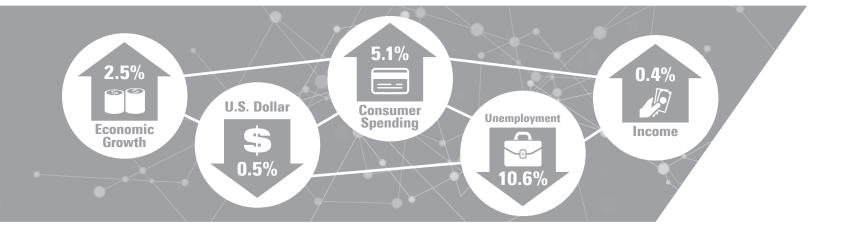
- Vehicle Grade
- Primary Economic Factors
- Secondary Economic Factors

EXECUTIVE SUMMARY

U.S. ECONOMY

Personal consumption expenditures, business investments and net exports soared in 2017, prompting real Gross Domestic Product (GDP) to grow by 2.5% year-over-year. Overall, the U.S. economy thrived in 2017, with consumer spending rising as the labor market tightened.

The nation's unemployment rate finished out the year at 4.1%, the lowest since 2000.² Modest wage growth and high consumer sentiment also offset any downward pressure from slumped residential fixed investment.³



AUTOMOTIVE INDUSTRY

Despite finishing above 17 million units, total lightweight-vehicle sales fell 0.3 million units from a record-performing 2016. Increased new-vehicle buyer incentives and longer loan terms proved strong enough to keep auto demand afloat despite rising gas prices.⁴ In December, vehicle discounts averaged around \$4,300, \$600 more than in January 2017. An increasingly tight labor market

also bolstered vehicle demand, with the nationwide unemployment rate falling from 4.8% in January 2017 to 4.1% in December 2017. A continued preference for larger vehicles like SUVs occurred throughout the year, with demand for lightweight trucks increasing 2 percentage points by the end of the year.⁵ See a detailed overview of the automotive industry in <u>Section Two</u> of this report.



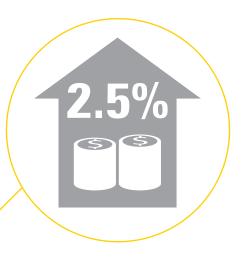
SALVAGE INDUSTRY

Macroeconomic conditions helped salvage-vehicle values recover from a 2016 slump for all three vehicle grades in 2017. Low-grade vehicles saw the most price growth, surging 14.3%, though they still remain below average values seen in the years after the most recent recession. Steady but modest wage increases, a domestic labor market reaching near full employment and strong global economic growth were the main drivers that bolstered vehicle demand through 2017.

Additionally, households looking to replace hurricane-damaged vehicles supported vehicle values at the end of Q3 and start of Q4. These factors, along with robust improvements in both whole-crushed car and metals prices, helped solidify price growth for salvage vehicles over the year. More information about all three vehicle grade segments and the factors that impacted their performance can be found in <u>Section Three</u> and Section Four, respectively.







2016 Total Real GDP: \$16.8 Trillion 2017 Total Real GDP: \$17.3 Trillion

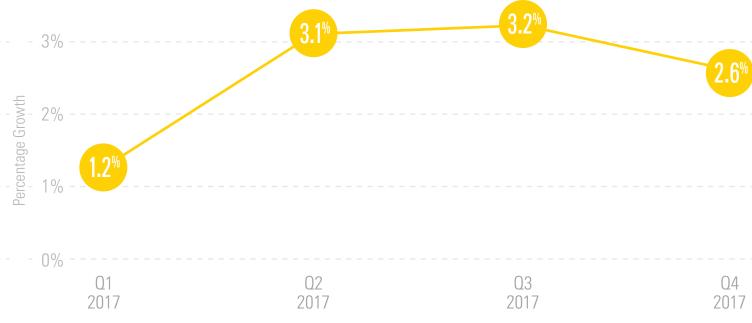
Gross Domestic Product (GDP)

In the first quarter of 2017, initial estimates of real GDP were sluggish at 0.7%. This figure was later revised higher to 1.2%, mirroring first-quarter growth patterns from the past few years.⁶

State and local government spending dropped in the second quarter but recovered quickly in the third and fourth quarters.^{7,8} Consumer spending continued to grow throughout the year, likely due to steady wage and job growth. Similarly, business investment accelerated during

the same time frame, with higher labor costs providing an incentive for increasing capital expenditures. Real GDP growth finished the year at 2.5%, reflecting positive contributions from personal consumption expenditures, net exports, and nonresidential fixed investment.⁹

U.S. Real GDP Growth



Unemployment

The U.S. economy added 2.1 million jobs in 2017, which is actually the lowest total since 2011. However, many economists regard slowing job creation as expected in an already tight labor market.¹⁰

Jeff Kolko, chief economist at Indeed, said in June that "even though job growth slowed, it's still well above where it needs to be to keep up with the workingage population growth." ¹¹ In the third quarter, damage from Hurricane Harvey and Hurricane Irma largely impacted workers in the restaurant industry, threatening to break the consecutive monthly hiring trend in September. Initial estimates predicted a loss of 33,000 jobs, but the revised monthly mark went

positive with an addition of 18,000 jobs. 12 This job growth continued to build upon the last eight years, making December 2017 the 87th consecutive month of net job gains. Leading the way were new hires in the health care, leisure and hospitality industries, with construction and manufacturing following close behind. The unemployment rate ended 2017 at 4.1%, the lowest level in 17 years, and averaged 4.4% for the year. 13



2016 Average: 4.9%2017 Average: 4.4%

Income

Wages grew modestly in all but two months of 2017. Despite the economy nearing full employment, wage growth slowed from past year-over-year figures.

While wage growth has remained positive, basic economic theory would predict that as the number of potential employees becomes scarce, average wages will rise as a result of employers competing to obtain and retain good workers. According to a Bloomberg analysis, wages have grown the most for

workers in the lowest 20% of earnings, whereas the upper 80% of workers have had stagnant or decreasing wages over the year. ¹⁴ Other factors slowing down wage growth include workers' weakening bargaining power, stagnant productivity, contract restrictions and outsourcing work to lower-paid contractors. ¹⁵



Average Weekly Earnings

2016: \$364.81 2017: \$369.19

Consumer Sentiment and Spending on Durable Goods

Consumer sentiment recorded consecutive quarterly growth all throughout 2017, with the index ending higher than any quarterly mark since 2006.

Included within those figures were the first ever monthly result over 100 and the highest ever quarterly average. A near full employment labor market, below 2.0% inflation, high stock prices and relatively cheap gasoline all contributed to consumers' favorable view of the

U.S. economy. 16 Consumer spending on durable goods also grew on a quarterly basis throughout the year, with a 5.1% gain year-over-year. Spending fell in August, likely due to hurricane effects, but picked back up again in September as households replaced damaged vehicles. 17



2016 Average: 91.82017 Average: 96.8



2016: \$1,403 Billion 2017: \$1,475 Billion



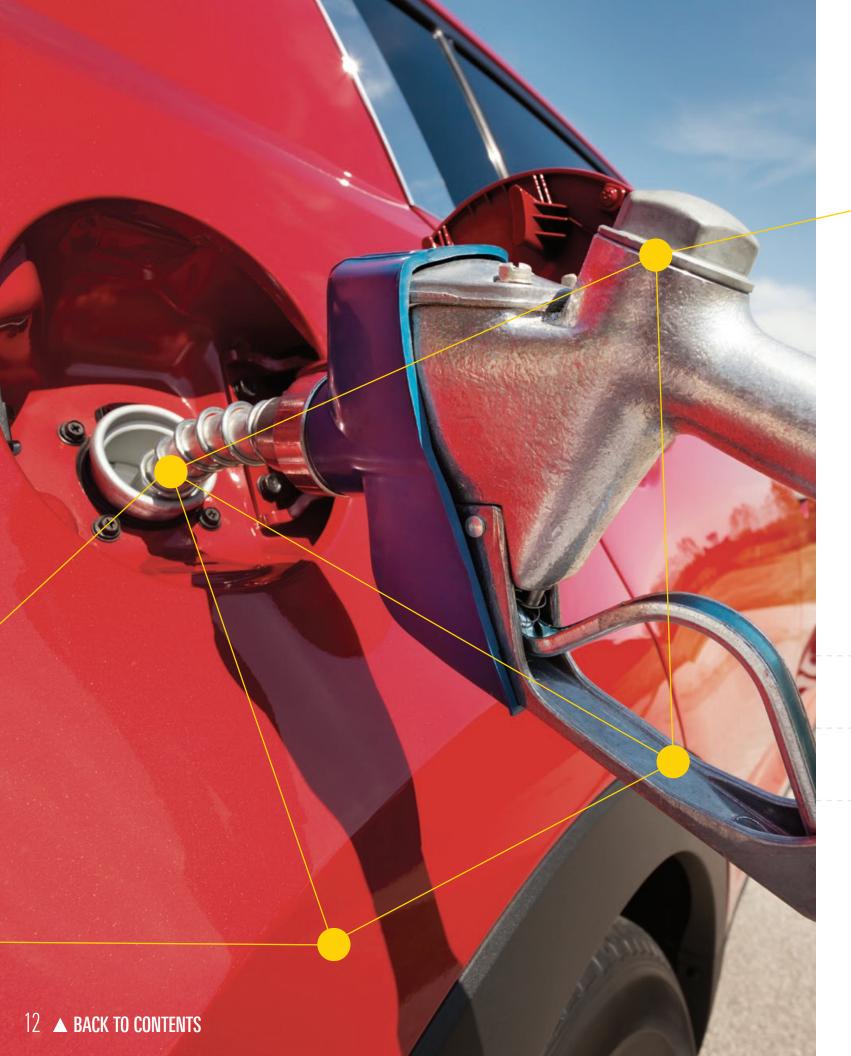
2016 Average: 91.6 2017 Average: 91.1

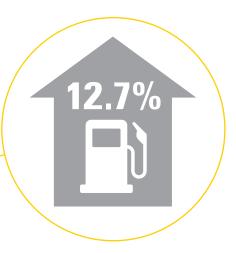
U.S. Dollar

After a strong dollar mark in December 2016, The U.S. dollar depreciated in the first two months of 2017 before picking up steam again.

Expectations that the Federal Reserve would raise the federal funds rate 25 basis points in March pushed the value of the dollar up as the interest yield gap widened between the U.S. and other currencies, making the dollar a more attractive investment. However, the U.S. dollar fell on a monthly basis from March through September, likely due to investor uncertainty around the potential for a U.S. "pro-growth" policy, combined with remarks from the White House saying that the dollar was "getting too

strong."^{19,20} The U.S. dollar rebounded slightly in the fourth quarter, posting a 0.6% gain relative to the third quarter. Expectations that the Federal Reserve would raise rates for the third time in 2017 increased the value of the U.S. dollar slightly, but strong global economic growth and similar rate hikes in other countries acted as a counterbalance. As a result, the U.S. dollar finished 2017 with 0.5% quarter-to-quarter and 6.8% year-over-year depreciations.^{21,22}





2016 Average: \$2.072017 Average: \$2.34

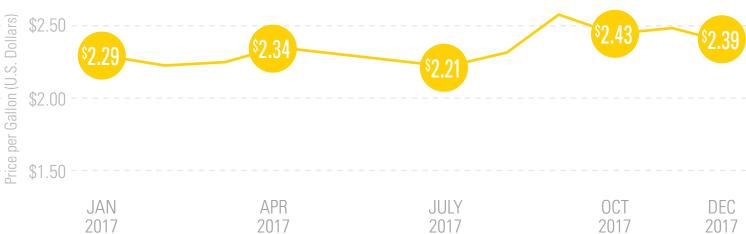
Fuel

Gasoline prices had an up-and-down year, but quarterly and yearly averages all increased sequentially.

OPEC members as well as Russia continued their commitment to reducing oil production and inventories, but domestic oil producers picked up any slack in supply that may have occurred. According to Baker Hughes, the U.S. added 222 oil rigs in 2017, a 42.3% spike from 2016.²³ Since more than half of those rigs were installed by May, domestic oil was likely represented in gasoline inventories by the end of the year, offsetting any potential shortages from the OPEC deal.²⁴ Supply concerns

still pushed prices higher through the rest of the year, with geopolitical risks in the Middle East casting further doubt on future global oil production. The U.S. also unexpectedly saw supply constraints caused by Hurricane Harvey damage. Overall, the combination of net production cutbacks, expectations of lower oil inventories and strong demand led to higher crude oil prices, and this was reflected in the 12.7% jump in gasoline prices for the year.

U.S. Average Monthly Price of Gasoline







2016: 17.5 million units 2017: 17.2 million units

Total New-Vehicle Sales

The automotive industry's hot streak of year-over-year sales growth came to an end in 2017, but still only fell 1.7% with a respectable 17.25 million units sold.

Vehicle sales initially trended downward in the first half of the year, likely influenced by higher gas prices. Buyer incentives remained strong throughout that time period to offset slipping sales, averaging nearly \$4,000 in April.²⁸ In August, Hurricane Harvey put a damper on vehicle sales, but grew a seasonally adjusted 15.3% in September thanks to Labor Day discounts and increased

demand from households looking to replace hurricane-damaged vehicles.²⁹ Sales slowed down in the last quarter of 2017, but still remained higher than the year's seasonally adjusted average, likely because consumer preferences tended toward larger lightweight vehicles like trucks and sport utility (SUV) and crossover utility (CUV) vehicles.³⁰

U.S. Lightweight-Vehicle Sales: Automobiles and Light Trucks



SECTION THREE OVERVIEW OF SEGMENT ANALYSIS 10.00 17 1.65 09 5 239 900 2.322.248 2,389 13,224 3.491 17.288.600 2.913.100 40.573 1.94 247.000 45.12 0.77 2.34 0.12 **BACK TO CONTENTS**

IAA's framework for analyzing the salvage vehicle market includes six indicators of industry health.

Whole Crushed Auto-Body Prices

Compiled monthly by *American Recycler*, this measures five regional monthly averages for whole crushed car prices.

Used-Car Price Index

Measures the average monthly selling price of used cars and light trucks in the whole-car auction industry; compiled by ADESA, IAA's sister company.

Metal Prices

Aluminum (London Metal Exchange spot prices), Platinum (Johnson Matthey base prices) and Palladium (Johnson Matthey base prices).

U.S. Dollar Index

A Federal Reserve Bank of St. Louis index that measures the value of the U.S. dollar against an index of seven major currencies: the euro, Canadian dollar, Japanese yen, British pound, Swiss franc, Australian dollar and Swedish krona.

Vehicle Parts and Equipment Prices

A Bureau of Labor Statistics index that measures the average change over time in consumer prices paid for vehicle parts and equipment.

Index of Foreign Buyers

An index measuring the percentage of High Grade IAA vehicles sold to buyers from countries outside the United States.

To more accurately track how these six indicators relate to the market for salvage vehicles, IAA divides its inventory into three segments based on selling price. Each vehicle grade has unique characteristics and reacts to the aforementioned market factors differently.



Low Grade Vehicles

represent the bottom quintile (bottom 20%) and are older, have more miles or are more damaged than the average vehicle sold at auction. These vehicles are primarily purchased for their usable parts or scrap value. Therefore, their value is tied to the price of parts and scrap metals.



Mid Grade Vehicles

represent the middle three quintiles (middle 60%) and compose the largest portion of IAA's inventory. These vehicles range from those that will be dismantled for parts and scrap to those that will be repaired and driven again.



High Grade Vehicles

represent the top quintile (top 20%) and tend to have little or no damage. This segment also includes high-value vehicles with desirable parts.



Automotive salvage has its own set of unique influencers, and the following sections provide an overview of those factors that influence the value of salvage vehicles at auction.



2016 Average: \$1492017 Average: \$174

Whole Crushed Auto-Body Price Index

Whole crushed auto-body prices continued to climb in 2017, increasing 16.9% year-over-year and finishing off with an average price of \$174.

Historically, the index remains low, but there is light on the horizon for this segment. Strong global demand, particularly from China, is pushing prices higher. China's continued economic growth and recent policy crackdowns on pollution output have especially increased metals prices.³¹ Looking at the index on a quarter-to-quarter basis, prices rebounded in the first and second quarters from a 17.6% quarterly drop in Q4 2016, a rally largely driven by increases in raw

material prices and supply reductions.³² U.S. hurricane activity in the third and fourth quarters delivered a short-term oversupply of scrap metal, with October figures showing the largest dip in prices since September of 2016.³³ However, this was followed by a 0.9% month-to-month increase in November, followed by a 3.1% month-to-month increase in December — likely due to recovering global steel demand and other seasonal factors.³⁴

Whole Crushed Auto-Body Price Index



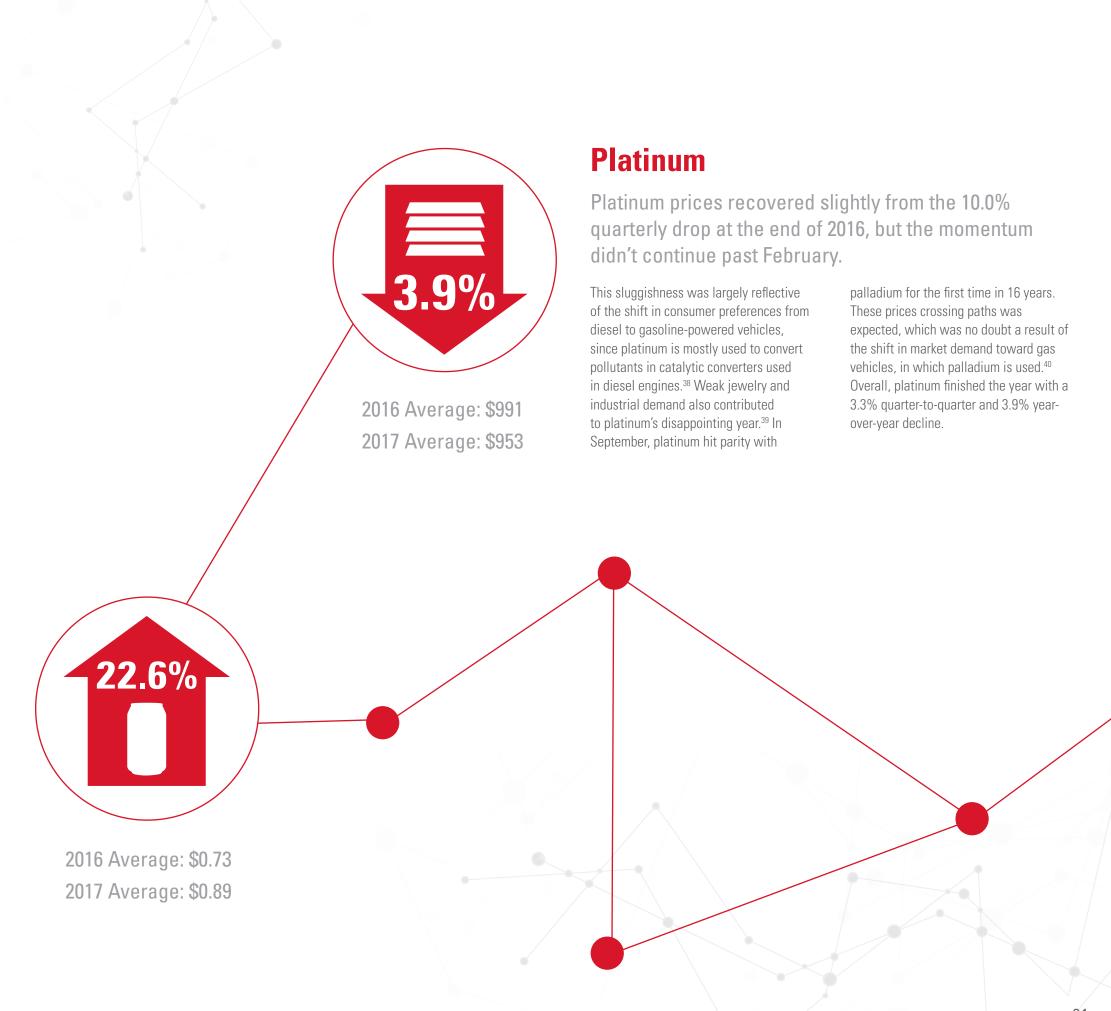
IAA tracks three key metals for their content in salvage vehicles — aluminum, platinum and palladium. Like with whole crushed auto-body prices, the value of these metals is strongly affected by the strength of the U.S. dollar because they're denominated in the currency. When the dollar gains value, metal prices typically fall because it takes fewer dollars to purchase the same amount of a particular metal. A strong U.S. dollar also turns away foreign buyers, as it means the metal becomes relatively more expensive for those customers, decreasing demand and consequently the prices.

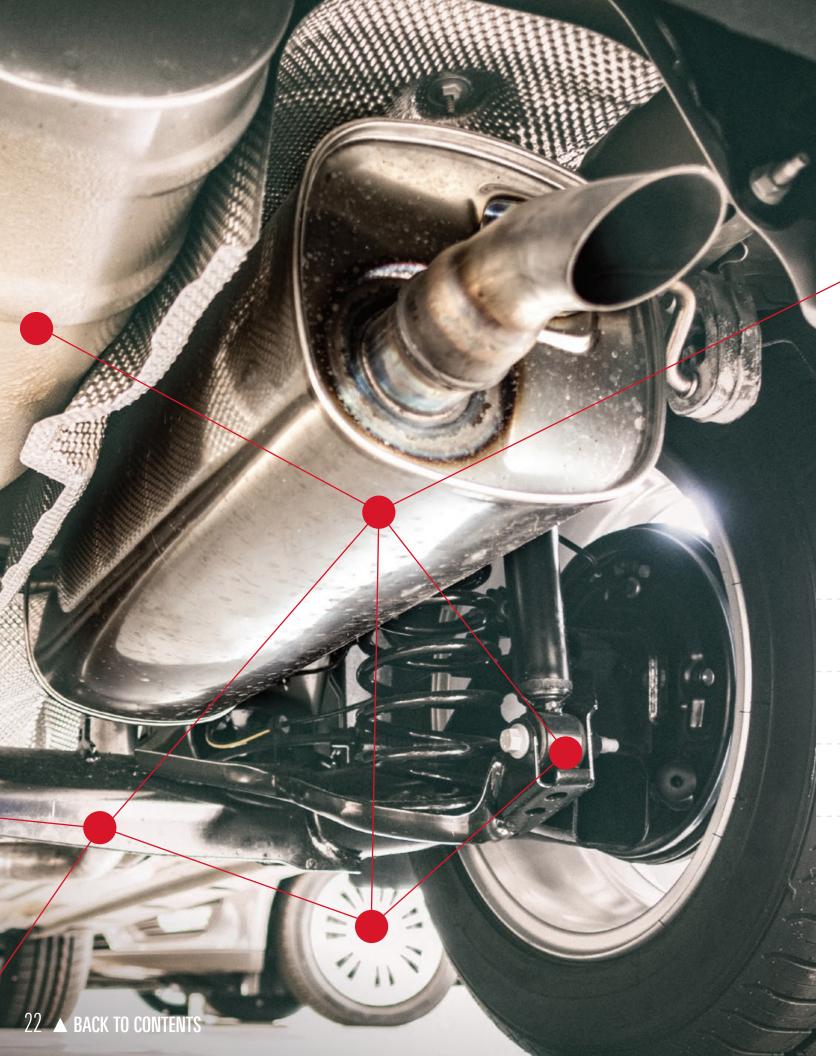
Aluminum

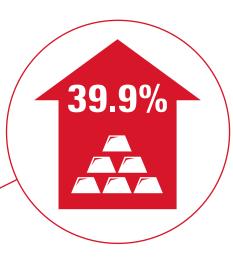
Aluminum continued its rally in 2016 into 2017, resulting in stair-step price gains throughout the year.

Like in 2016, aluminum saw a trend in consecutive quarterly increases. U.S. President Donald Trump's infrastructure plans and pledge to restore manufacturing was a significant influencer of metal gains early in the year, in addition to uncertainty over the future of the North American Free Trade Agreement (NAFTA). Meanwhile, a 30-year low in U.S. aluminum production and subsequent demand needs from foreign producers led aluminum to a 8.2% gain in the first quarter of the

year.³⁵ Robust economic growth in China resulted in strong demand from the automotive and aerospace industries, while a commitment to cutting pollution output led to a supply shortage – these supply and demand fundamentals sent prices soaring.³⁶ Another factor was the shortfalls in alumina production, an important component of aluminum. Alumina prices jumped 56.0% from August to November, with costs trickling down to aluminum's end users.³⁷







2016 Average: \$616 2017 Average: \$861

Palladium

Of the three metals IAA tracks, palladium was by far the best performing and showed double-digit growth in nearly every quarter of 2017.

The most influential driver of palladium's value was a shift in consumer preferences from diesel to gas-powered vehicles, since these vehicles use the metal in their catalytic converters. However, amidst this uptick in demand was also shrinking supply — in fact, palladium supply has

shrunk every year since 2012, pushing prices higher.41 However, some analysts believe future increased prices are driven by investment, rather than industrial demand. 42 Year-over-year, palladium topped the year off 39.9% higher than 2016.

Palladium Prices

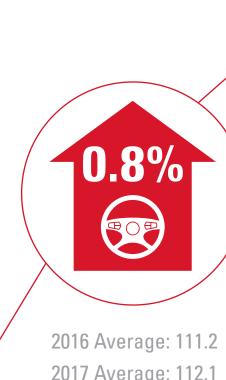


Vehicle Parts & Equipment Prices

Average vehicle parts and equipment prices grew 0.8% from 2016.

This index is mainly influenced by two things: the average age of vehicles on the road and the average number of total miles driven. When both of these factors rise, it indicates the increased wear and tear on vehicle parts - resulting in the need for replacement parts. Interestingly, the average age of vehicles in 2017 bucked a 20-year trend of steadily older vehicles, finishing at 11.5 years and down from 11.6 years in 2016.43

Meanwhile, total miles driven increased 1.3%, seasonally adjusted, averaging just more than 267 billion miles for the year.44 Despite the very slight downturn in average age, vehicles are still old by historical standards. This combined with the increase in total miles driven likely provided the upward pressure on vehicle parts and equipment demand that led to its year-over-year increase.



2017 Average: 112.1

2016 Average: 110.7

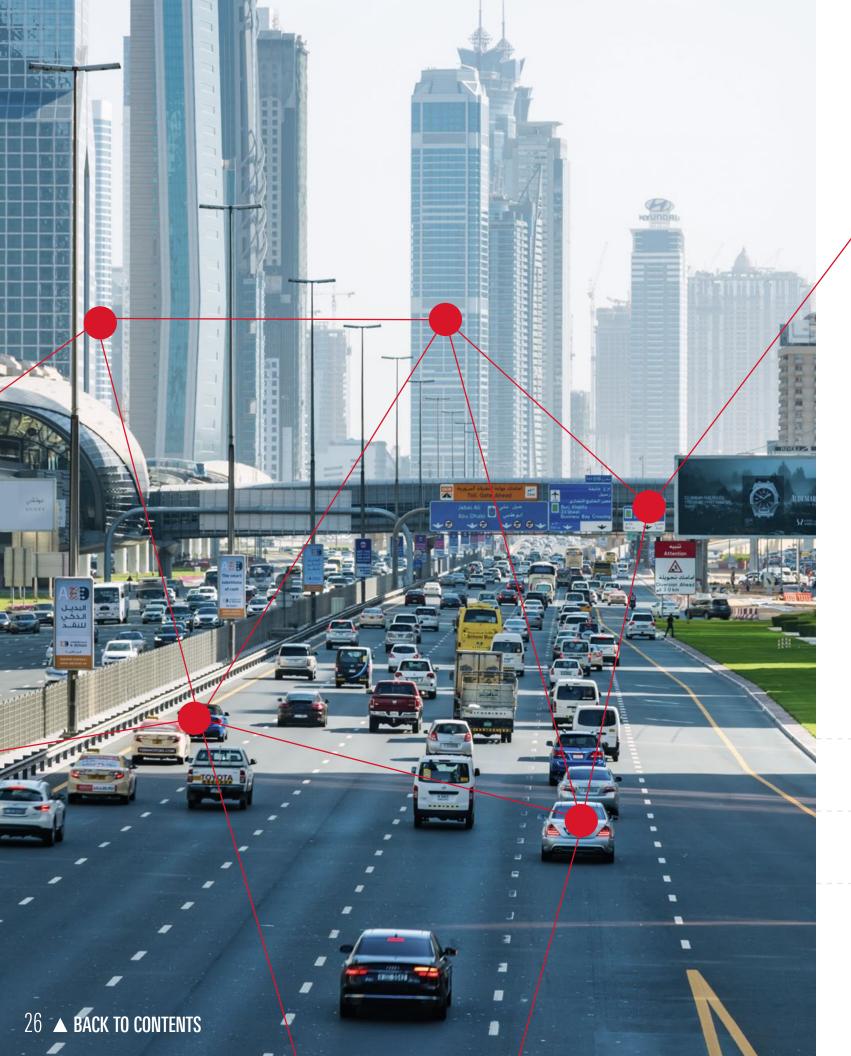
2017 Average: 114.0

Used-Car Price Index

Average used-vehicle prices finished the year up 3.0% relative to 2016. While average prices rose over the year, the growth was not equitable across all vehicle characteristics.

According to Tom Kontos, Chief Economist at KAR Auction Services, Inc., analyses controlling for sale type, model-year age, mileage and model class segment suggested that prices softened over the year. The growth was largely due to a shift in consumer preferences toward larger vehicles like trucks, SUVs and CUVs. On a quarterly basis, prices increased for the first two quarters of the year. Seasonal demand, strength in truck prices and younger off-lease units likely contributed to the gain in used-vehicle values, but again masked the underlying price softening reflective of an increase

in supply-side pressures. 45,46,47 Hurricane Harvey and Hurricane Irma reaching landfall and stop-sales from manufacturer recalls contributed to a negative supply shock that boosted prices in August and September. Additionally, drivers clamoring to replace damaged vehicles pushed vehicle values even higher. 48,49 However, these values retreated in the fourth quarter as positive-price pressure from hurricane-related effects diminished.⁵⁰ In December, the price-growth gap between trucks and cars widened further, with overall values finishing flat quarter-toquarter and up 1.5% year-over-year.





2016 Average: 103.8 2017 Average: 105.0

Index of Foreign Buyers

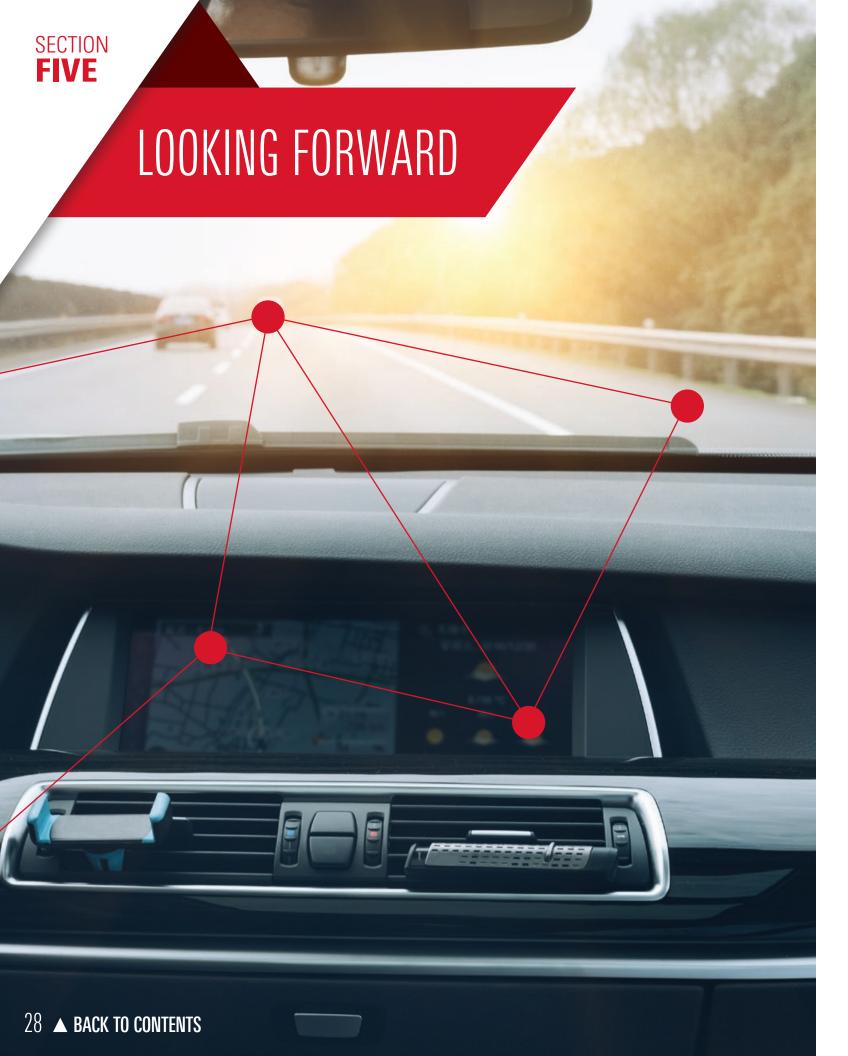
The Index of Foreign Buyers measures the proportion of vehicles purchased by buyers outside of the United States. Because a strong U.S. dollar makes it relatively more expensive for foreign buyers to purchase domestic goods, this index tends to have an inverse relationship with the value of the U.S. dollar. This is influential on High Grade vehicle values, since a stronger dollar puts downward pressure on international demand for these vehicles.

IAA uses the 12-month moving average for both the Foreign Buyer Index and U.S. Dollar Index to smooth over noisy month-to-month fluctuations in each. Both indices were relatively flat through the year, with the adjusted foreign buyer index and dollar index having appreciated at a modest 1.2% and 0.4%, respectively. On an unadjusted level, the U.S. dollar depreciated slightly at 0.5%. The Federal Reserve raised interest rates by a total of 75 basis points across three separate hikes throughout 2017, which was in line with expectations.⁵¹

Raising interest rates would typically lead to a larger dollar appreciation, thus making dollar-denominated vehicles more expensive to foreign buyers. However, that appreciation was diminished by central bank decisions in Canada and Mexico to also raise rates, with Europe and Japan keeping their rates the same. Because fluctuations in the U.S. dollar were modest, the impact on foreign buyer purchases likely did not outweigh stronger demand on the back of robust global economic growth.

Index of Foreign Buyers





With the influx of change in both innovation and geopolitical policy, the year ahead is sure to be an interesting one for not just salvage, but for the entire automobile industry as well. In this section, we take a look at the numbers.



U.S. Economy

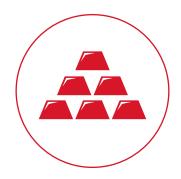
The Federal Reserve Study of Professional Forecasters predicted 2.5% average U.S. economic growth in 2018, reflecting a 0.3 percentage point increase from the 2017 forecast. On the other hand, unemployment rate is expected to hold steady around 4.1%, in line with the December 2017 mark.⁵²



Automotive Industry

Predictions from a number of industry professionals forecast new-vehicle sales to just miss the seasonally adjusted 17-million mark for 2018. Expectations of higher interest rates and the inability of consumer discounts to keep vehicle prices from falling are among the industry's challenges to keep the pace of current sales.⁵³

Additionally, vehicle mix will likely continue to reflect recent consumer preferences toward light trucks, with the National Automobile Dealers Association expecting this category to top 65 percent of market share.⁵⁴



Metals

Bank of America Merrill Lynch expects platinum and palladium prices to cross paths in 2018, predicting the metals to average \$950 and \$850 per troy ounce, respectively.⁵⁵

However, The World Bank forecasted platinum prices a bit higher, expecting the metal to reach an average \$984 in 2018.⁵⁶

According to Reuters, aluminum prices are expected to average \$2,097 in 2018, \$100 more than the average aluminum prices in 2017. These predictions are largely derivative of supply restrictions based on expectations of additional smelter shutdowns in China.⁵⁷

INDEX OF CHARTS



The U.S. Dollar Index in charts 4.2 – 4.4 is inverted to clearly showcase the relationship between the value of the U.S. dollar and metals prices.

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