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FEATURE STORY

Everyday Insurance Analytics:
Using Data at Every Level

By Ryan Mandell
Director of Claims Performance,
Repair | Auto Physical Damage

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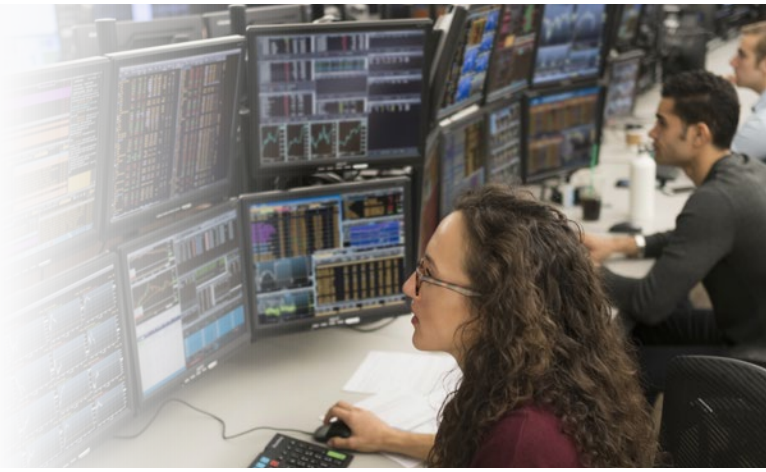
FEATURE STORY

Everyday Insurance Analytics: Using Data at Every Level



By Ryan Mandell
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A Message from the CEO

The Latest Technology Trends and Industry Insights

Welcome to the Q2 Auto Physical Damage edition of the mPower Industry Trends Report.

We are living in a time of unprecedented change, one that is driven by the exponential evolution of technology. Its impact reverberates across the industry. In this quarter's report, Debbie Day, Executive Vice President and General Manager of Auto Physical Damage at Mitchell, delves into how advanced safety technologies can simplify the claims and collision repair processes, and in doing so, how they also support better outcomes for the insured.

Also featured in this issue, Ryan Mandell, Director of Claims Performance, Auto Physical Damage Unit, discusses how data analytics have now permeated almost all levels of insurance company organizations, presenting some exciting new challenges and opportunities to the industry as a whole. In this piece, Ryan details best practices for leveraging insurance analytics, including how to narrow focus, interpret more effectively and ultimately enhance domain experience by engaging with data.

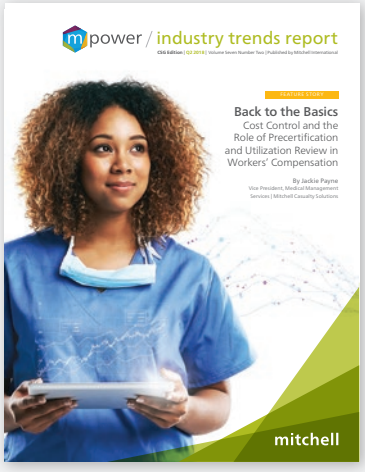
This latest report is also packed full of other useful information and insights, including an article on diagnostics systems and how repair facilities are using Mitchell vehicle scan technology to accurately restore vehicles to pre-accident conditions more quickly and efficiently. It also includes extensive collision repair and total loss data, rental data for repairable vehicles, and an in-depth look at the Canadian collision summary report.

You can find these articles and many more on the **mPower by Mitchell website**, our latest resource for technology trends and industry insights. I encourage you to check back often.

Alex Sun | President and CEO | Mitchell

Alex Sun
President and CEO | Mitchell

View the Casualty Edition



READ NOW

Advanced Technologies Reduce Complexity and Restore Lives

The renowned futurist Ray Kurzweil once said, "We won't experience 100 years of progress in the 21st century—it will be more like 20,000 years of progress." He is not alone in his thinking. By all accounts, we live in a time of unprecedented change, one that is driven by the exponential evolution of technology. As technology becomes more deeply integrated into the property and casualty and collision repair industries, and with it, casualty, workers' compensation and collision claims processes, not only is it reducing complexity and improving efficiency, it's also helping insurers as they go about the business of restoring people's lives after an accident or injury.

Auto Physical Damage and Collision Repair: Proper and Safe Repairs

By Debbie Day
Executive Vice President and General Manager,
Mitchell Auto Physical Damage

On January 1, 1968, the first United States federal law requiring seatbelts in vehicles took effect. Fifty years later, vehicle safety has advanced considerably. Today's connected cars are outfitted with complex advanced driver-assistance systems (ADAS)—forward collision detection, lane departure warnings, and adaptive cruise control. Central to these systems are sensors that track what's going on both in and around the vehicle. In fact, the average new vehicle has 60 to 100 sensors, and as cars become increasingly connected, that number could rise as high as 200 sensors. These numbers translate to approximately 22 billion sensors in the automotive industry by 2020.

Technology helps make our cars safer, but when an accident does occur, it also makes our cars significantly more complex and difficult to repair. Simply put, the U.S. Department of Labor states that in 1965, an automotive repair technician needed to understand more than 5,000 pages of service manuals to fix any automobile on the road. Today, that same technician must be able to decipher more than 500,000 pages of technical text.

Today, an automotive repair technician must be able to decipher more than **500,000 pages** of service manuals to fix any automobile on the road.

We are no longer just driving cars, we are also operating sophisticated computers.

While technology has given rise to many repair challenges, it also offers solutions to reduce the complexity of repairing those vehicles. In order to ensure a proper and safe vehicle repair, collision repair technicians need to be able to efficiently access the right information when and where they need it. That's where advanced technology like cloud computing comes in. Now, with integrated repair procedures—housed securely in the cloud—technicians can access the latest information at the time of the estimate and throughout the duration of the repair. Instead of sorting through those 500,000 pages, they can access only the relevant information for the specific make, model and repair.

From seatbelts to advanced safety systems, technology has made driving and riding in vehicles safer. Now, it's essential to ensure a vehicle that's been damaged is once again safe to put back on the road.

Read more from Debbie Day on proper and safe repairs.

Auto Casualty and Workers' Compensation: Managing Claims and Improving Outcomes

By Nina Smith
Executive Vice President and General Manager, Mitchell Casualty Solutions

According to a recent study, property and casualty insurers are investing heavily in artificial intelligence, with a near-term focus on creating efficiencies in the claims process. This sentiment is echoed in Mitchell's own survey of workers' compensation insurers. Forty-three percent of respondents believe that advanced technologies will have the greatest impact on claims management processes. Another 30 percent of respondents believe technology will help the most in improving medical outcomes. These results reflect both the industry's persistent need to simplify the claims process and its paramount objective: to restore the lives of people who have been injured in an auto or workplace accident and return them to their normal lives.

Property and casualty insurers are employing technology at the fastest pace ever to reduce complexity in the claims process. There are solutions that simplify and support virtually every step: managing medical records, triaging claims appropriately, reviewing bills for errors, and even identifying fraud. But increasingly, advanced technology is being put to work to support an injured person's return to normal life. It starts with the claims process: as it becomes increasingly automated, adjusters are able to spend less time on administrative tasks and more time where their focus should be—on the injured party. From there, video chat can connect provider and patient, while wearable sensors and other telemedicine solutions can monitor vital signs in real time. From this perspective, technology is actually enabling greater human interaction at a time when people are extremely vulnerable.

Technology has a powerful place and a purpose within the claims process, making it more efficient, accurate and cost effective. As it becomes more deeply integrated into the claims process, it not only helps insurers deliver the best care, it also helps us connect to each other and to our higher purpose of restoring people's lives after an auto accident or workplace injury.

Read more from Nina Smith on the impact of technology and human interaction.

Pharmacy Solutions: Visibility Supports Return to Work

By Dave Torrence
Executive Vice President and General Manager, Pharmacy Solutions

Beyond the devastating loss of life, the **opioid epidemic** is taking a significant financial toll.

According to the Center for Disease Control and Prevention, 63,642 people died of drug overdoses in 2016, and a full two thirds—nearly 42,000—of those deaths were caused by opioids. In fact, the number of opioid deaths in the United States now outpaces the number of breast cancer deaths. Beyond the devastating loss of life, the opioid epidemic is taking a significant financial toll. A recent study by Altarum puts the cost associated with the epidemic at $1 trillion between 2001 and 2017, projecting an additional $500 billion spend by 2020.

There is no straightforward solution: prevention, intervention, treatment and regulations all play a role. For workers' compensation insurers looking to support an injured worker as he or she returns to pre-injury condition, full visibility into when opioids are being prescribed, in what quantity, and for how long, supports prevention and intervention.

Here's the challenge: the insurance industry and the healthcare system both rely on vast webs of information comprised of different data sets, each representing a milestone in the claims journey. Because these data sets often live in different, unconnected databases, it can be extremely complex to capture a holistic view of the process. For instance, an injured person who goes to the emergency room to be treated may be prescribed opioids. He or she may then be seen by another physician for follow-up treatment, and that doctor may also prescribe opioids. Individually, each of these prescriptions may not be cause for concern, but collectively, they could be problematic, even catastrophic.

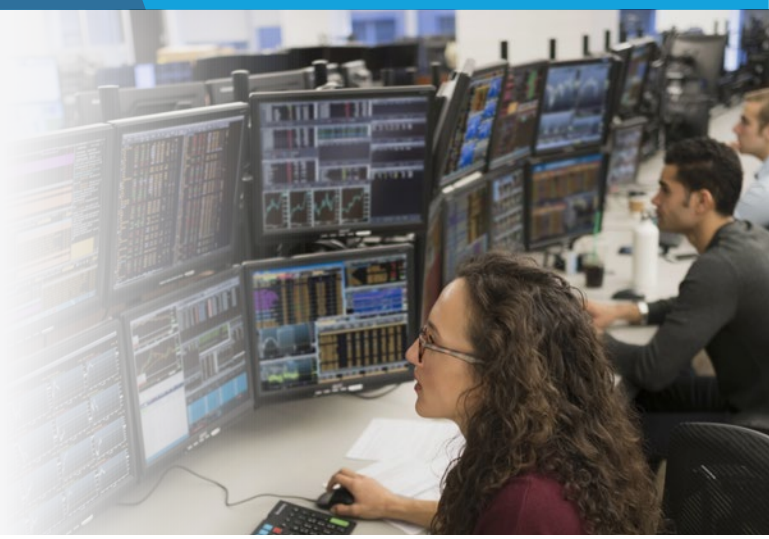
With integrated pharmacy benefit management and bill review technology solutions that connect in-network and out-of-network pharmacy claim data gathered in the claims process, workers' compensation insurers can uniquely gain a more complete picture of how opioids are being prescribed. Clinical intervention in opioid management is significantly more effective once a payer has full visibility into all aspects of the claim. This benefit is only achieved with the integration of pharmacy benefit management programs and bill review systems, ensuring that the injured worker stays on the road to recovery and does not become another unfortunate opioid statistic.

Read more from Dave Torrence on artificial intelligence and opioids.

FEATURE STORY

Everyday Insurance Analytics: Using Data at Every Level

By Ryan Mandell
Director of Claims Performance,
Repair | Auto Physical Damage



Data analytics have now permeated most levels of insurance company organizations, creating exciting new opportunities but also some interesting challenges. Not all business units are equipped with data scientists and insurance analytics experts to help decision makers navigate what can seem to be uncharted waters or a flood of information. The challenge insurance companies face is making data accessible to a wide range of stakeholders who have little experience in the field of data science in a way that enables organizations to achieve the greatest value and benefit from both their data and human resources. There are several steps insurers can take to foster a culture that maximizes the effectiveness of data analytics at all levels.

Determine Your Question and Narrow Your Focus

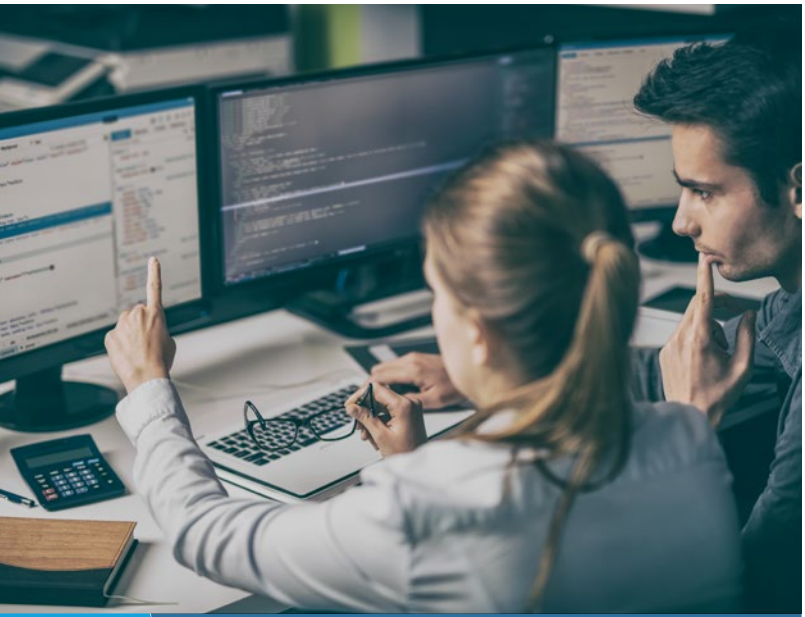
For many, analytics can be intimidating simply because of the massive amount of data that is at our fingertips. I often liken it to an author working on a novel: the hardest step is usually just getting started. Being inundated with data from every angle makes it difficult for an everyday user to get started in gleaning insights from analytics. In order to overcome this challenge, it is important first to define the question one wants to investigate, essentially starting with the first step of the scientific method. This narrows the focus of inquiry, eliminating wide swaths of data that do not contribute to answering the question.

> "It is important first to define the question one wants to investigate, essentially starting with the first step of the scientific method."

This step is arguably the most important because the people who are at work on the frontline of the organization on a daily basis often have much greater insights into what kinds of questions need answering first.

Beware the Interpretation Gap Trap

Even though the people working on a particular question may not be insurance analytics experts, it is still essential to understand the source of data and the methodology used to produce them. Think of this as the research an author does to get started on a novel. When telling the story of the results, either within or outside of an organization, it's necessary to be clear about how a particular insight was produced and what data were used to produce them. To get there, one must work to bridge what the MIT Sloan School of Business calls an "interpretation gap". Asking questions that help to ensure the data being produced are **applicable to practical, real world scenarios** will produce a more reliable result that business users can lean into with confidence.



Enhance Domain Expertise with Data

Insurances companies must remember that analytics are not a substitute for the intimate, first hand understanding of a business, something often referred to as domain expertise. The Boston Consulting Group defines domain expertise as, "superior knowledge and insight into a business or category," and goes further to state that domain experts "use this insight to spur innovation, to see through complexities, and to imagine what could be." Data are not a replacement for domain expertise but rather complementary to it. This distinction helps prevent viewing analytics in a vacuum.

> "If something doesn't seem like it adds up in the data, use domain expertise and ask."

If something doesn't seem like it adds up in the data, use domain expertise and ask, as Florian Zettelmeyer, the Academic Director for Kellogg Executive Education's Leading With Big Data and Analytics program explains, "Knowing what you know about your business, is there a plausible explanation for that result?" This is where an author would combine research with personal experience to craft a story with a logical plot that will be most appealing to the reader. Companies cannot rely on data or observations alone to guide actions but should use the **results of both to form a more complete view of the business** or the particular question they have chosen to answer by analyzing data.

Make Small Improvements for Profound Payoffs

Success in asking the right question(s) and making sure the data analyzed meaningfully inform the decisions at hand means nothing if data analysis is not followed by action. The actions taken will look different depending on the questions that started the process. The author is now completing the process of actually publishing the novel and distributing it to the public. It is necessary for insurance business leaders to avoid creating action plans that completely overhaul or revolutionize their organization, but rather focus on more granular goals. According to McKinsey and Company, "The impact of 'big data' analytics is often manifested by thousands—or more—of incrementally small improvements. If an organization can atomize a single process into its smallest parts and implement advances where possible, the payoffs can be profound." Too often, companies ignore the value of small improvements and their potential for exponential payoffs that accrue from building on the foundation of small improvements over time.

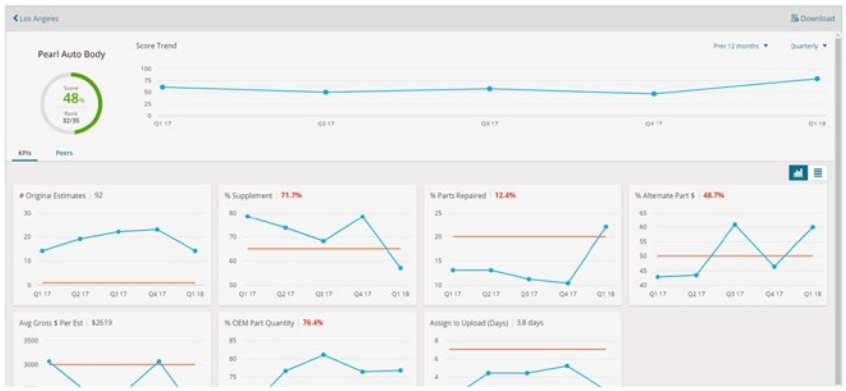
Engage with Your Insurance Analytics

The real key to success with every day analytics comes down to one thing: engagement. Leaders and their teams that are simply engaged with analytics are already ahead. Producing analytics should not be a goal in and of itself; the goal for insurers is to use data to make better decisions and to increase efficiencies within the organization. The author does not publish a novel simply to do so, but to delight readers and to make a small contribution to society. On an organizational level, data analytics is really not so different.

In order to achieve high levels of engagement with insurance analytics, the team must have access to tools that take away the intimidation factor. For example, **Mitchell's WorkCenter™ Scorecards** provide users at every level of an insurance company's hierarchy access to simple, easy to understand analytics that don't require an advanced degree in computer science to understand. With every day tools like scorecards and dashboards, managers have the ability to customize a full suite of key performance indicators in addition to being able to choose how results are presented to team members.

> The real key to success with every day insurance analytics comes down to one thing: engagement.

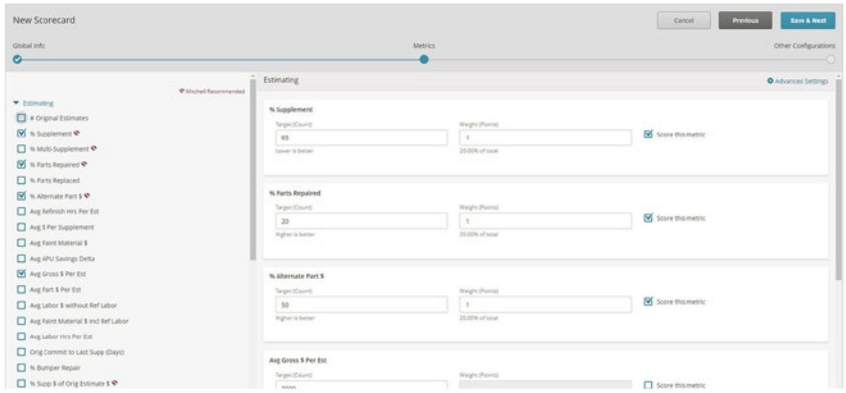
Mitchell WorkCenter® Scorecards



> "In order to achieve high levels of engagement with insurance analytics, the team must have access to tools that take away the intimidation factor. "

Modern benchmarking functionalities, such as peer group rankings, give users insights into how their own performance measures up to the rest of the group and provide leaders with an easily consumable, transparent view into their organization—and where the greatest opportunities for those essential small improvements exist. By making performance data accessible in a format that is practical for all levels of data expertise, insurance companies are more likely to increase engagement with analytics—allowing for truly expert story telling.

Mitchell WorkCenter® Scorecards



Contact a Mitchell sales representative for more information about our new and improved **WorkCenter Scorecards.**

ABOUT THE AUTHOR

Ryan Mandell
Director of Claims Performance Repair | APD Solutions

Ryan Mandell is the Director of Claims Performance for Mitchell International. Ryan has spent his entire career in the automotive industry and has a wide array of experiences ranging from field claims appraiser, body shop manager, and most recently as a regional director for a large recycled parts supplier in the Pacific Northwest. In his current role, Ryan works hand in hand with insurance executives and material damage leaders to provide actionable insights and consultative direction for their claims organizations. Ryan earned his Master of Arts degree from Northern Arizona University and his Bachelor of Arts from the University of San Diego. Ryan also received the Accredited Automotive Manager designation from the Automotive Management Institute in 2016 and maintains ASE Certifications as both a collision damage estimator and parts specialist. In 2015, he was selected as one of the top 40 Business and Community Leaders in the South Puget Sound under the age of 40 by Washington's Business Examiner Magazine.

Diagnostics Systems Key to Proper and Safe Repairs for Fountain Valley Body Shop

By Pauline Perenack
Senior Marketing Manager | Mitchell Auto Physical Damage

> One more trend we noticed from the survey is that the industry seems to be looking to new technologies

Since opening his Fountain Valley body shop over 40 years ago, owner Dave March has had a front row seat witnessing the evolution of the collision repair industry. In 1974 when his shop opened, only one automobile manufacturer offered airbags, and the NHTSA was still five years away from crash-testing popular cars to encourage manufacturers to improve the safety of their vehicles.[1]

> "When I have these vehicles come in as technical as they do, I really need a tool that gives me that ability to quickly understand what's going on with it."

Vehicle technology, especially as it relates to safety, has advanced exponentially in the last decade.

Which means shop owners like Dave have learned first-hand that the old adage "they don't make 'em ike they used to," now translates to "you can't repair 'em like you used to." In an age where damage is no longer a predictor of specific necessary repairs, it's vital that collision repair shops invest in solutions that allow them to **quickly access the data needed to ensure a proper and safe repair**. "When I have these vehicles come in as technical as they do, I really need a tool that gives me that ability to quickly understand what's going on with it," says Dave.

Improved Efficiency Keeps Everyone Smiling

Family-owned Fountain Valley Bodyworks is known for making customers smile. In fact, it's considered their trademark. They're so dedicated to pleasing customers that they have a smiley face on their

building so large it can be seen from planes flying overhead.[2] What makes the owners and technicians at the No. 1 auto body shop in Orange County happy is getting vehicles back to pre-accident condition and exceeding customer expectations.

Fountain Valley Bodyworks, like many of today's leading body shops, recognized that when working on vehicles with advanced driver assistance systems and other electronic safety systems, a diagnostics system and pre- and post-repair vehicle scans help ensure a vehicle is safe to put back on the road. After evaluating systems, they opted for **Mitchell Diagnostics** systems to help them accurately restore vehicles to pre-accident condition more quickly and efficiently. In addition to ease of use, what General Manager Michael March likes about Mitchell Diagnostics is the confidence it gives him. As Michael explains, "I feel more confident that it's actually resetting the codes. I've had some situations where it was reset, the car leaves and it comes back on. I haven't had that with the Mitchell Diagnostics. When it's cleared, it's cleared and the report shows that."

Simplify the Claims Management Workflow with Diagnostics Systems

Added bonus—with the Mitchell Diagnostics system collision repair shops spend less time processing the work and more time getting it done. This system features a best-in-class file documentation system that simplifies the claims management workflow. Michael describes what the experience used to be like when there was a light on the dash: "you'd have to take a photo, put it in the estimating system, you'd have to send it to the insurance company, show the customer and show why you need it." With the Mitchell Diagnostic system, "when you scan, it automatically sends to the computer, and it provides you a report. The report is very thorough. It goes through all the different systems and the vehicle, and we're able to use that in order to get paid for these repairs."

Listen to what the owners of Fountain Valley Bodyworks have to say about the Mitchell Diagnostics and see the first diagnostic system designed specifically for automotive collision repair in action.

> "I feel more confident that it's actually resetting the codes. I've had some situations where it was reset, the car leaves and it comes back on."

Diagnostics Systems Are a Win-Win

A comprehensive diagnostics system that improves the repair process really was the missing link for Dave and his shop. "I personally think that Mitchell Diagnostics is a real win-win for us and the insurance companies. And now we have something that's efficient and easy to use."

Getting in an accident is certainly nothing to smile about, but diagnostics systems contribute to a more efficient process and a positive outcome. In the case of Fountain Valley Bodyworks the Mitchell system helps them deliver "the best auto body experience imaginable." That goes a long way towards making customers happy—and importantly, ensuring proper and safe repairs.

[1] https://en.wikipedia.org/wiki/Automobile_safety
[2] https://www.fvbodyworks.com/about-us

U.S. Length of Rental—Q1 2018

By Dan Friedman
Assistant Vice President | Collision Industry Relations and Sales,
Enterprise Rent-A-Car

> The average LOR ranged from a high of 13.6 days in the Mountain region to a low of 11.2 in the Pacific.

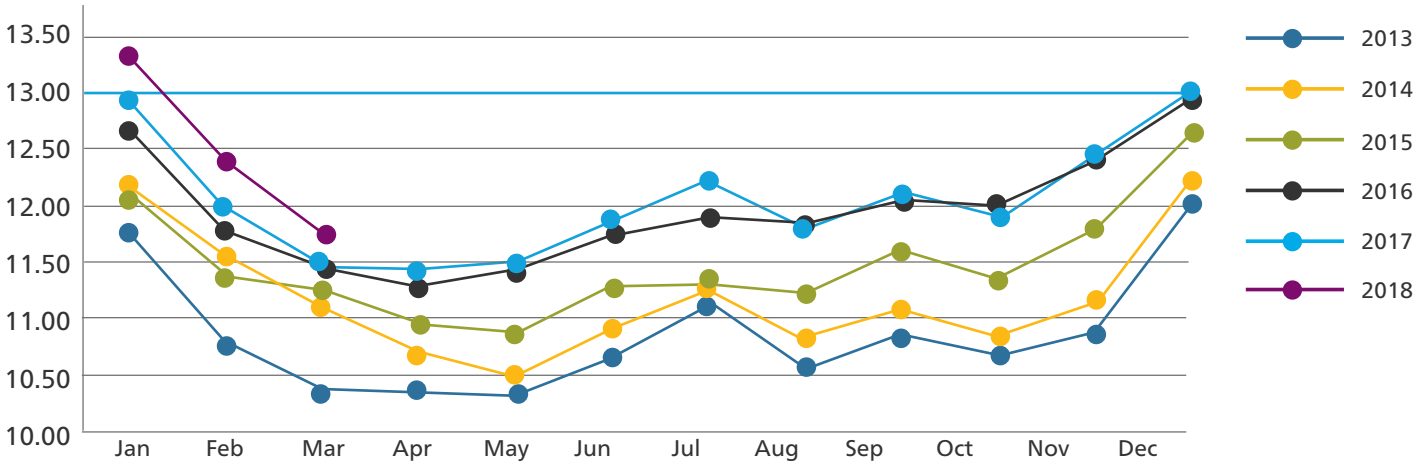
Average Length of Rental (LOR) for Q1 2018 landed at 12.5 days in the United States, an increase of .4 days compared to Q1 2017. This represents a return to the consistent upward trends generated throughout 2015 and 2016 after a largely flat 2017.

Once again, there was very little consistency between regions and states, suggesting that the quarterly result for the U.S. is not reflective of a genuine national trend. The Northeast, Midwest and Mid-Atlantic regions produced the largest increases at .7 days while the Pacific had the steepest decline at .6 days. The average LOR ranged from a high of 13.6 days in the Northeast to a low of 11.6 in the Pacific and Midwest. At the state level, Puerto Rico and North Dakota were once again the outliers at 18.1 and 9.7 days, respectively.

At least 26 states deviated significantly in terms of year-over-year change, further demonstrating a lack of consistency. Puerto Rico (5.1), Michigan (1.3) and Vermont (1.2) produced the largest increases with the Island still being impacted by the devastation of Hurricane Maria. The most significant decreases in LOR included Alaska (-1.8), Oregon (-1.3), Idaho (-.6) and Montana (-.6). Alaska remained .9 days above the U.S. average (12.5) despite the significant drop.

As pointed out in previous updates, there remains a significant delta between average and best in class. Collision centers that invest in extensive training, consistently execute a robust scheduling strategy, and properly utilize the ARMS® Auto application, routinely outperform market-average LOR metrics.

US Industry Avg Length of Rental



*Excludes Total Losses

Canada Length of Rental—Q1 2018

Canada's Length of Rental (LOR) concluded at 12.7 days for Q1 2018. This was .9 days longer than the Q4 2017 result of 11.8 days, and 1 day longer than the Q1 2017 result of 11.7 days.

While the United States also witnessed an LOR increase—.4 days—through the first 90 days of 2018, (from 12.1 days to 12.5 days), January 2018 through March 2018 also marked the first time in more than 2 years where Canada posted a longer LOR result than its southern neighbor. For reference, Canada's LOR was 1.2 days shorter than the US in Q4 of 2016, and .6 days shorter than the US in Q4 of 2017.

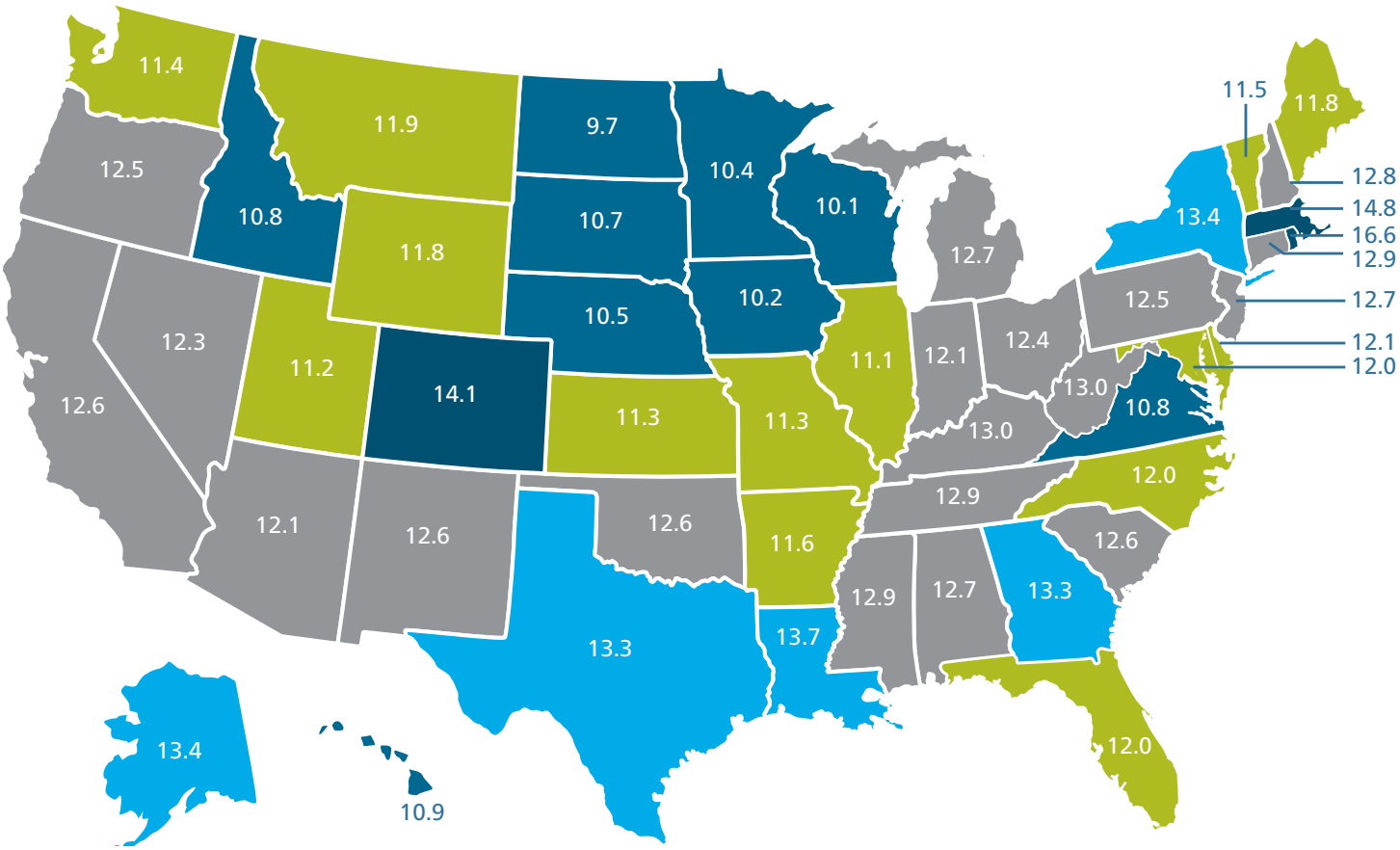
Consistent with past performance, there was a large variance in individual provincial results in Canada for Q1 2018. Prince Edward Island was the sole province that did not see an increase over Q1 2017 (remaining flat at 9.5 days), while six provinces posted an increase over last year, with those increases ranging from .2 to 1.8 days. Ontario and Quebec each added over 1 day to their Q1 result relative to the same time period last year.

Overall, Canada's Q1 LOR ranged from a low of 9.5 days in PEI to a high of 13.6 days in Ontario. Provinces that posted shorter LOR than the national average include Quebec, Newfoundland, New Brunswick, Nova Scotia and PEI.

As kilometers driven and complexity of repair increase, we see a trend towards longer LOR.

As in the US, there is a significant difference between "Average" and "Best in Class" LOR. Collision Centers that invest in a robust scheduling strategy, extensive training, and proper utilization of the ARMS® Auto application can expect to out-perform market averages for LOR.

U.S. Average Length of Rental (LOR) by State
Q1 2018



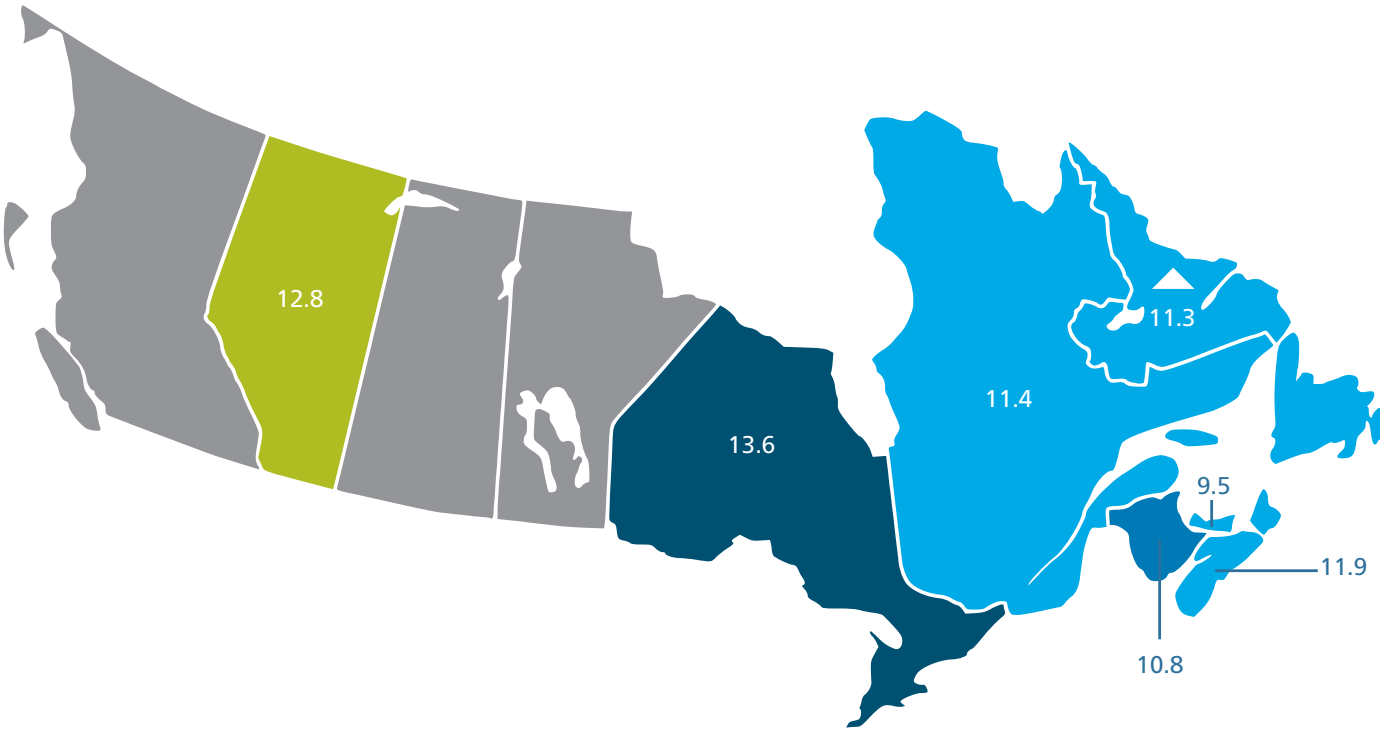
Average Billed Days for U.S.		
Q1 2017	Q1 2018	Change
12.1	12.5	-0.1

At least 26 states deviated significantly in terms of year-over-year change, further demonstrating a lack of consistency.

Average Billed Days for U.S. by Region			
Region	Q1 2017 LOR	Q1 2018 LOR	Change
California	12.7	12.6	-0.1
Mid-Atlantic	11.3	12.0	0.7
Midwest	10.9	11.6	0.7
Mountain	12.8	13.0	0.2
Northeast	12.9	13.6	0.7
Northwest	12.1	11.7	-0.4
Pacific	12.2	11.6	-0.6
Southeast	12.2	12.6	0.4
Southwest	13.0	13.0	0.0

Canadian Average Length of Rental by Province

Q1 2018



Year-Over-Year Change

Source: Enterprise Rent-A-Car. Includes ARMS® Insurance Company Direct Billed Rentals; Excludes Total Loss Vehicles.

Average Billed Days for Canada		
Q1 2017	Q1 2018	Change
11.7	12.7	1.0

The quarterly LOR summary is produced by Dan Friedman, Assistant Vice President Collision Industry Relations and Sales at Enterprise Rent-A-Car. Dan has 21 years of experience with Enterprise working within the collision repair industry. Through its ARMS® Automotive Suite of Products, Enterprise provides collision repair facilities with free cycle time reporting with market comparisons, free text/email capability to update their customers on vehicle repair status, and online reservations. More information is available at **armsautosuite.com** or by contacting Dan Friedman at **Daniel.Friedman@ehi.com.**

Average Billed Days for Canada			
Province	Q1 2017 LOR	Q1 2018 LOR	Change
Alberta	12.4	12.8	0.4
Ontario	11.8	13.6	1.8
Quebec	10.2	11.4	1.2
Newfoundland and Labrador	11.1	11.3	0.2
New Brunswick	10.6	10.8	0.2
Nova Scotia	11.3	11.9	0.6
Prince Edward Island	9.5	9.5	0.0

Motor Vehicle Markets

New Vehicle Sales

WardsAuto 10 Best-Selling U.S. Cars and Trucks

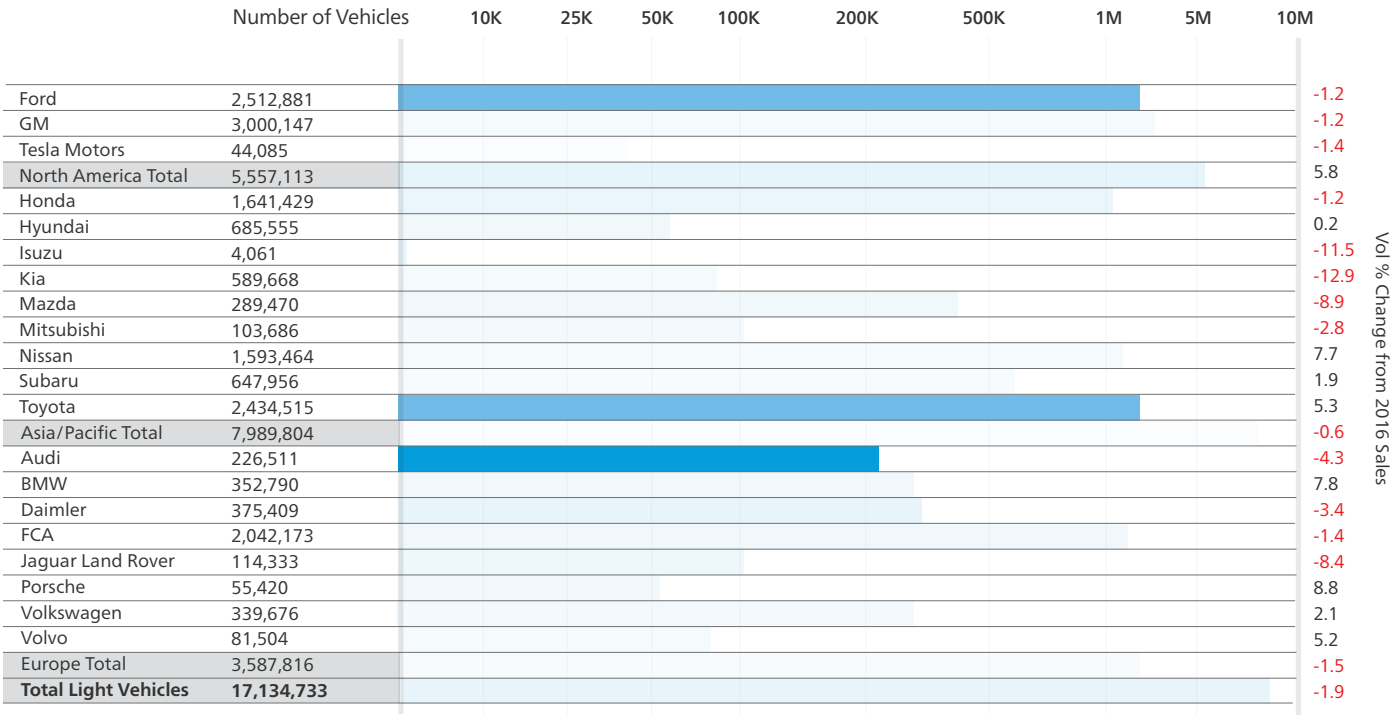
As of December 2017

Cars		Trucks/Vans/SUVs	
Model	**YTD Sales**	**Model**	**YTD Sales**
Camry	387,081	F-Series	834,445
Civic	377,286	Silverado	585,864
Accord	322,655	Ram Pickup	483,520
Corolla	308,695	Rav4	407,594
Altima	254,996	Rogue	403,465
Sentra	218,451	Cr-V	377,895
Fusion	209,623	Escape	308,296
Elantra	198,210	Equinox	290,458
Malibu	185,857	Explorer	271,131
Cruze	184,751	Grand Cherokee	240,696

Source: *WardsAuto InfoBank*

WardsAuto U.S. Light Vehicle Sales by Company

December 2017



Ford	2,512,881	-1.2
GM	3,000,147	-1.2
Tesla Motors	44,085	-1.4
North America Total	5,557,113	5.8
Honda	1,641,429	-1.2
Hyundai	685,555	0.2
Isuzu	4,061	-11.5
Kia	589,668	-12.9
Mazda	289,470	-8.9
Mitsubishi	103,686	-2.8
Nissan	1,593,464	7.7
Subaru	647,956	1.9
Toyota	2,434,515	5.3
Asia/Pacific Total	7,989,804	-0.6
Audi	226,511	-4.3
BMW	352,790	7.8
Daimler	375,409	-3.4
FCA	2,042,173	-1.4
Jaguar Land Rover	114,333	-8.4
Porsche	55,420	8.8
Volkswagen	339,676	2.1
Volvo	81,504	5.2
Europe Total	3,587,816	-1.5
Total Light Vehicles	**17,134,733**	-1.9

Light vehicles are cars and light trucks (GVW Classes 1–3, under 14,001 lbs.). DSR is daily sales rate. Tesla Motors monthly sales estimated.
Source: *WardsAuto InfoBank*

Current Used Vehicle Market Conditions

March 2018
Kontos Kommentary

By Tom Kontos
Executive Vice President,
ADESA Analytical Services

The following commentary is produced monthly by Tom Kontos, Executive Vice-President, ADESA Analytical Services. ADESA is a leading provider of wholesale used vehicle auctions and ancillary remarketing services.

As part of the KAR Auction Services family, ADESA works in collaboration with its sister company, Insurance Auto Auctions, a leading salvage auto auction company, to provide insights, trends and highlights of the entire automotive auction industry.

Wholesale Used Vehicle Price Trends

	Average Prices ($/Unit)			Latest Month Versus	
	Mar-18	Feb-17	Mar-17	Prior Month	Prior Year
Total All Vehicles	$10,837	$10,707	$10,904	1.2%	-0.6%
Total Cars	$8,603	$8,609	$8,921	-0.1%	-3.6%
Compact Car	$6,619	$6,563	$6,732	0.8%	-1.7%
Midsize Car	$7,601	$7,702	$8,006	-1.3%	-5.1%
Fullsize Car	$7,290	$7,554	$8,346	-3.5%	-12.7%
Luxury Car	$13,079	$13,132	$13,235	-0.4%	-1.2%
Sporty Car	$14,207	$14,079	$14,131	0.9%	0.5%
Total Trucks	$12,792	$12,647	$12,825	1.1%	-0.3%
Mini Van	$9,894	$8,714	$9,012	13.5%	9.8%
Fullsize Van	$13,200	$13,032	$13,009	1.3%	1.5%
Compact SUV/CUV	$10,789	$10,638	$10,894	1.4%	-1.0%
Midsize SUV/CUV	$11,043	$11,083	$11,455	-0.4%	-3.6%
Fullsize SUV/CUV	$13,399	$13,411	$13,421	-0.1%	-0.2%
Luxury SUV/CUV	$18,298	$18,101	$18,343	1.1%	-0.2%
Compact Pickup	$8,917	$8,977	$8,793	-0.7%	1.4%
Fullsize Pickup	$15,718	$15,635	$16,142	0.5%	-2.6%

Source: ADESA Analytical Services. May data revised.

Summary

Average wholesale used vehicle prices registered their first year-over-year price decline since August 2014, continuing the general softening pattern seen since the impact of the hurricanes waned in late 2017. Retail used vehicle sales, including CPO sales, were strong, reflecting Spring, tax-season demand.

Details

According to ADESA Analytical Services' monthly analysis of Wholesale Used Vehicle Prices by Vehicle Model Class1, wholesale used vehicle prices in March averaged $10,837 – up 1.2% compared to February but down 0.6% relative to March 2017. Average prices were down on a year-over-year basis for both cars and trucks, with trucks registering their first year-over-year price decline since July 2013.

When holding constant for sale type, model-year age, mileage, and model class segment, prices were up on a year-over-year basis for both midsize cars and midsize SUV/CUVs, as seen in the following table:

Fleet/Lease Sales of Three-MY-Old Units w/36k–45k Miles				
	Average Prices		Y/Y	Y/Y
Model Class	Mar–18	Mar–17	$	%
Midsize Car	$12,030	$11,897	$133	1.1%
Midsize SUV/CUV	$21,039	$20,370	$669	3.3%

This analysis indicates that wholesale values for off-lease units are holding up well despite the overall softening market trend.

Average wholesale prices for used vehicles remarketed by manufacturers were up 1.6% month-over-month and up 9.2% year-over-year. Prices for fleet/lease consignors were up 6.6% sequentially and up 4.9% annually. Average prices for dealer consignors were up 3.5% versus February and down 0.8% relative to March 2017.

Retail used vehicle sales by franchised dealers were up 8.9% year-over-year, and were up 7.3% for independent dealers. March CPO sales were up 22.0% from the prior month and up 6.4% year-over-year, according to figures from Autodata. On a year-to-date basis, CPO sales are up 4.2% versus last year.

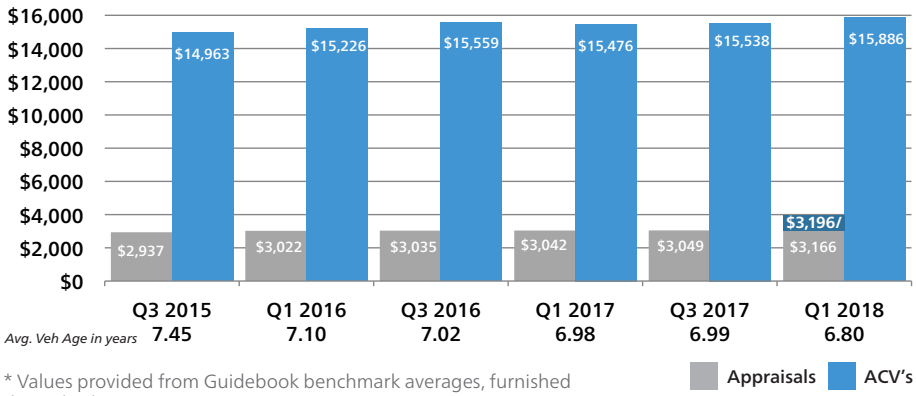
[1]The analysis is based on over seven million annual sales transactions from over 150 of the largest U.S. wholesale auto auctions, including those of ADESA as well as other auction companies. ADESA Analytical Services segregates these transactions to study trends by vehicle model class, sale type, model year, etc. The views and analysis provided herein relate to the vehicle remarketing industry as a whole and may not relate directly to KAR Auction Services, Inc. The views and analysis are not the views of KAR Auction Services, its management or its subsidiaries; and their accuracy is not warranted. The statements contained in this report and statements that the company may make orally in connection with this report that are not historical facts are forward-looking statements. Words such as "should," "may," "will," "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "bode", "promises", "likely to" and similar expressions identify 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.

Mitchell Collision Repair Industry Data

Appraisal Values

The initial average appraisal value, calculated by combining data from all first and third-party repairable vehicle appraisals uploaded through Mitchell systems in Q1 2018, was $3,166, $124 more than this same period last year. Continued development suggests a final Q1 2018 average appraisal value of $3,196.

Average Appraisal Values, ACVs and Age All APD Line Coverages*

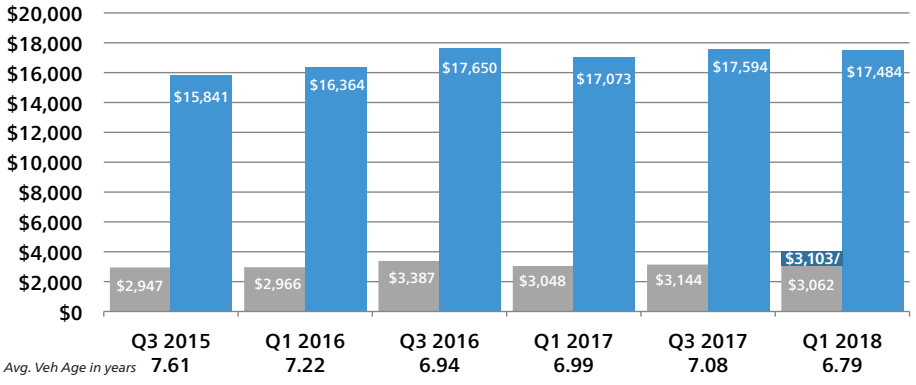


* Values provided from Guidebook benchmark averages, furnished through Ultramate.

Comprehensive Losses

In Q1 2018, the average initial gross appraisal value for comprehensive coverage estimates processed through our servers was $3,062, compared to $3,048 in Q1 2017. Factoring for development produces an increase in the adjusted value to $3,103.

Average Appraisal Values, ACVs and Age Comprehensive Losses*



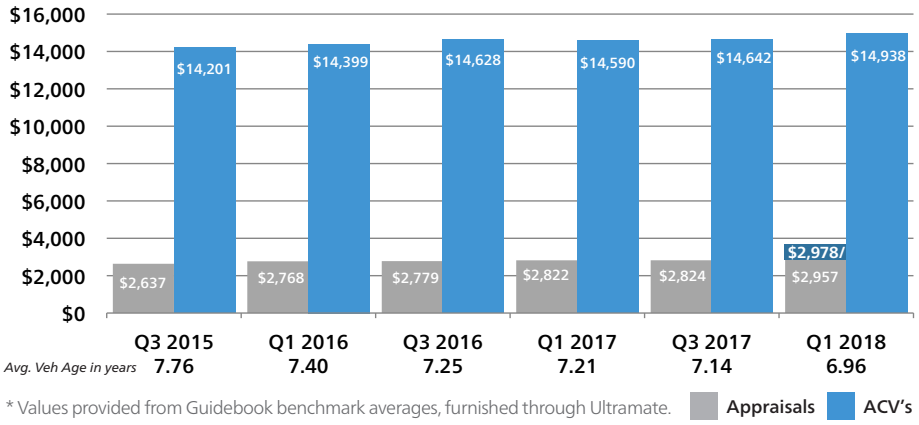
* Values provided from Guidebook benchmark averages, furnished through Mitchell Estimating.

Mitchell Collision Repair Industry Data

Third-Party Property Damage

In Q1 2018, our initial average gross third-party property damage appraisal was $2,957 compared to $2,822 in Q1 2017, reflecting a $135 initial increase between these respective periods. Factoring for development yields an anticipated Q1 2018 adjusted appraisal value of $2,978, a $156 increase in average severity over Q1 2017.

Average Appraisal Values, ACVs and Age
Auto Physical Damage*

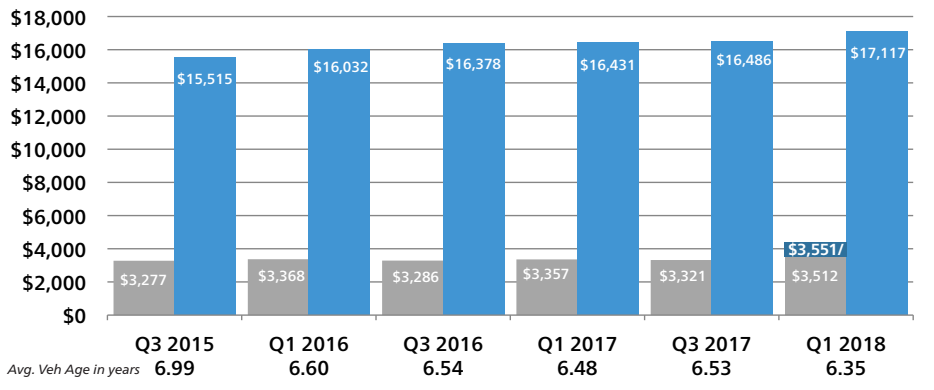


* Values provided from Guidebook benchmark averages, furnished through Ultramate.

Collision Losses

Mitchell's Q1 2018 data reflects an initial average gross collision appraisal value of $3,512, $155 more than the same period last year. Continued development suggests a final Q1 2018 average gross collision appraisal value of $ 3,551.

Average Appraisal Values, and Age
Collision Coverage*



* Values provided from Guidebook benchmark averages, furnished through Mitchell Estimating.

Mitchell Collision Repair Industry Data

Supplements

EDITOR'S NOTE

As it generally takes at least three months following the original date of appraisal to accumulate most supplements against an original estimate of repair, we report (and recommend viewing supplement information) three months' after-the-fact to obtain the most accurate view of this data.

In Q1 2018, 42.05% of all original estimates prepared by Mitchell-equipped estimators were supplemented one or more times. In this same period, the pure supplement frequency (supplements to estimates) was 67.67%, reflecting a 2.72 point increase from that same period in 2017. The average combined supplement variance for this quarter was $936.39, $36.84 higher than in Q1 2017.

Average Supplement Frequency and Severity

Date	Q3/15	Q1/16	Q3/16	Q1/17	Q3/17	Q1/18	Pt. Change	% Change
% Est. Supplement	34.71	40.63	39.88	42.03	40.27	42.05	0.02	0%
% Supplement	50.11	62.17	58.01	64.95	59.27	67.67	2.72	4%
Avg. Combined Supp. Variance $	873.18	871.59	888.88	899.55	930.77	936.39	36.84	4%
% Supplement $	29.73	28.84	29.29	29.57	30.53	29.58	0.01	0%

Parts Analysis

Parts Type Definitions

Original Equipment Manufacturer (OEM):

Parts produced directly by the vehicle manufacturer or their authorized supplier, and delivered through the manufacturer's designated and approved supply channels. This category covers all automotive parts, including sheet metal and mechanical parts.

Aftermarket:

Parts produced and/or supplied by firms other than the Original Equipment Manufacturer's designated supply channel. This may also include those parts originally manufactured by endorsed OEM suppliers, which have later followed alternative distribution and sales processes. While this part category is often only associated with crash replacement parts, the automotive aftermarket also includes a large variety of mechanical and custom parts.

Non-New/Remanufactured:

Parts removed from an existing vehicle that are cleaned, inspected, repaired and/or rebuilt, usually back to the original equipment manufacturer's specifications, and re-marketed through either the OEM or alternative supply chains. While commonly associated with mechanical hard parts such as alternators, starters and engines, remanufactured parts may also include select crash parts such as urethane and TPO bumpers, radiators and wheels.

Recycled:

Parts removed from a salvaged vehicle and re-marketed through private or consolidated auto parts recyclers. This category commonly includes all types of parts and assemblies, especially body, interior and mechanical parts.

EDITOR'S NOTE

While there isn't a perfect correlation between the types of parts specified by estimators and those actually used during the course of repairs, we feel that the following observations are directionally accurate for both the insurance and auto body repair industries. This section illustrates the percentage of dollars allocated to each unique part-type.

As a general observation, recent data show that parts make up 46% of the average value per repairable vehicle appraisal, which represents over $1,400 in average spend per estimate.

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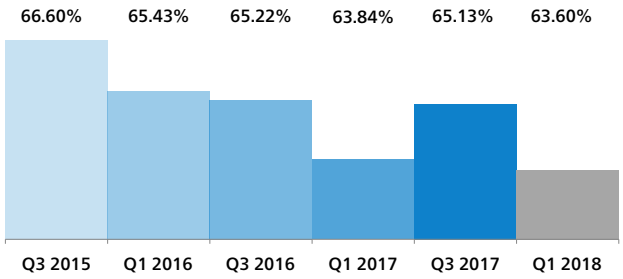
Mitchell Collision Repair Industry Data

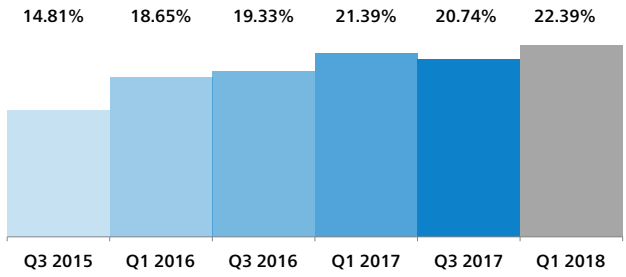
Original Equipment Manufacturer (OEM) Parts Use in Dollars

In Q1 2018, OEM parts represented 63.6% of all parts dollars specified by Mitchell-equipped estimators. This represents a decrease of 0.24 points from Q1 2017.



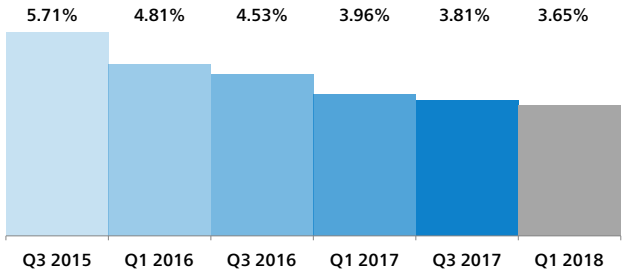
Aftermarket Parts Use in Dollars

In Q1 2018, 22.39% of all parts dollars recorded on Mitchell appraisals were attributed to Aftermarket sources, up one point from Q1 2017.



Remanufactured Parts Use in Dollars

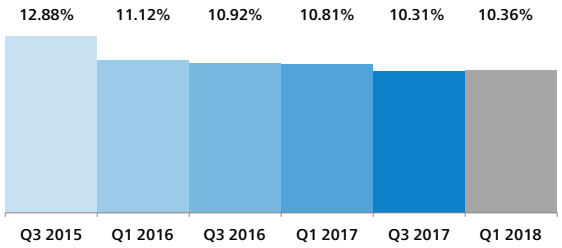
As a percentage of total parts dollars, remanufactured parts dollars continued to decline, with Q1 2018 representing the lowest of all charted values at 3.65%.



Mitchell Collision Repair Industry Data

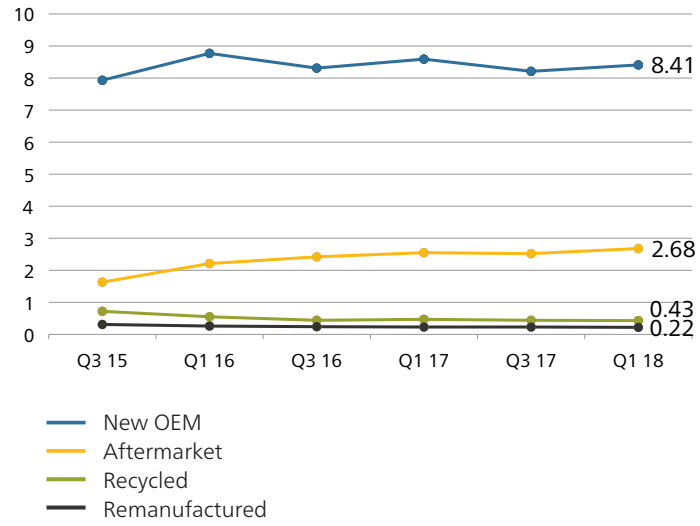
Recycled Parts Use in Dollars

Recycled parts constituted 10.36% of the average parts dollars used per appraisal during Q1 2018, reflecting a 0.45% decrease from Q1 2017.



The Number of Parts by Part Type

In order to capture another aspect of parts use, we calculate the number of parts used by part type on a repairable estimate. In comparing Q1 2018 to the same quarter in 2017, aftermarket parts usage increased to an average 2.68 parts per estimate. At the same time, new OEM, Remanufactured, and Recycled parts usage decreased.



EDITOR'S NOTE

It is commonly understood within the collision repair and insurance industries that a very large number of RECYCLED "parts" are actually "parts-assemblies" (such as doors, which in fact include numerous attached parts and pieces). Thus, attempting to make discrete comparisons between the average number of RECYCLED and any other parts types used per estimate may be difficult and inaccurate.

Mitchell Collision Repair Industry Data

Adjustments

In Q1 2018, the percentage of adjustments made to estimates was down compared to the same period last year. The frequency of betterment taken decreased by 2%, while the average dollar amount of the betterment taken dropped by 6% to $121.36. Appearance allowance frequency also dropped, while the dollar amount of that appearance allowance increased to $234.39.

Adjustment $ and %s

Date	Q3/15	Q1/16	Q3/16	Q1/17	Q3/17	Q1/18	Pt/$ Change	% Change
% Adjustments Est	2.96	3.03	2.99	2.82	2.75	2.67	-0.15	-5%
% Betterment Est	2.39	2.37	2.26	2.14	2.07	2.1	-0.04	-2%
% Appear Allow Est	0.44	0.52	0.53	0.55	0.5	0.45	-0.1	-18%
% Prior Damage Est	2.87	2.51	2.36	2.21	2.22	1.9	-0.31	-14%
Avg. Betterment $	128.96	132.18	143.34	128.56	142.16	121.36	-7.2	-6%
Avg. Appear Allow $	213.81	221.46	225.7	213.33	234.57	234.39	21.06	10%

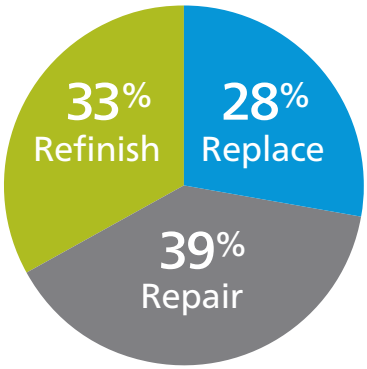
Labor Analysis

For 2018 year-to-date, average body labor rates remained mostly flat compared to 2017, with California, Florida, and Texas showing modest increases.

Average Body Labor Rates and Change by State

	2017	2018 YTD	$ Change	% Change
Arizona	51.45	51.4	$(0.05)	0%
California	56.87	57.33	$0.46	1%
Florida	43.58	44.65	$1.07	2%
Hawaii	51.34	51.59	$ 0.25	0%
Illinois	52.19	51.86	$(0.33)	-1%
Michigan	46.69	46.47	$(0.22)	0%
New Jersey	48.09	48.08	$(0.01)	0%
New York	49.38	49.47	$0.09	0%
Ohio	47.91	47.73	$(0.18)	0%
Rhode Island	46.82	46.62	$(0.20)	0%
Texas	46.18	46.44	$0.26	1%

Percent of average labor hours by type



Total Loss

The chart below illustrates the total loss data for both vehicle age and actual cash value of total loss vehicles processed through Mitchell servers.

Average Vehicle Age in Years

Vehicles	Q3/15	Q1/16	Q3/16	Q1/17	Q3/17	Q1/18
	Average Vehicle Age in Years					
Convertible	13.01	12.7	13.05	12.95	13.59	13.41
Coupe	12.37	12.1	12.35	12.2	12.42	12.53
Hatchback	8.18	8	8.06	8.25	8.19	8.52
Sedan	10.43	10.19	10.29	10.41	10.37	10.58
Wagon	10.42	10.65	10.82	10.94	11.24	11.36
Other Passenger	12.82	10.99	7.14	3.87	4.48	3.03
Pickup	12.96	12.92	13.09	13.5	13.43	13.86
Van	11.57	11.55	11.74	11.84	11.83	12.11
SUV	10.42	10.36	10.37	10.66	10.61	10.87

Average Vehicle Total Loss Actual Cash Value

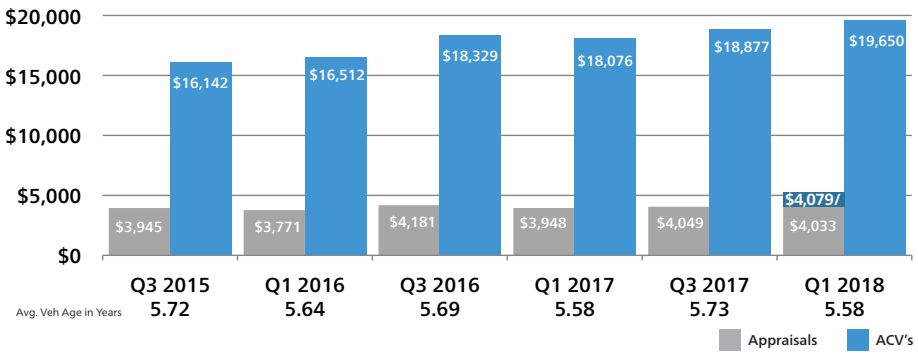
Vehicles	Q3/15	Q1/16	Q3/16	Q1/17	Q3/17	Q1/18
	Average Actual Cash Value					
Convertible	10,292.54	9,931.11	10,088.09	9,582.95	10,282.48	9,383.62
Coupe	7,974.89	8,032.50	8,080.73	7,737.34	8,291.59	7,570.78
Hatchback	8,740.67	8,534.83	8,311.45	7,621.95	7,704.69	7,241.23
Sedan	7,931.41	7,691.77	7,646.78	7,233.98	7,297.71	6,830.56
Wagon	6,833.21	6,699.17	6,571.12	6,343.90	6,403.30	6,251.35
Other Passenger	15,170.59	19,673.40	18,408.88	19,084.11	18,193.57	17,877.91
Pickup	11,124.16	11,662.25	11,969.94	11,425.11	12,072.87	11,429.51
Van	6,448.19	6,450.06	6,763.43	6,462.68	6,848.33	6,474.33
SUV	10,086.55	10,076.09	10,244.19	9,687.56	9,905.26	9,357.78

Canadian Collision Summary

Canadian Appraisal Severity

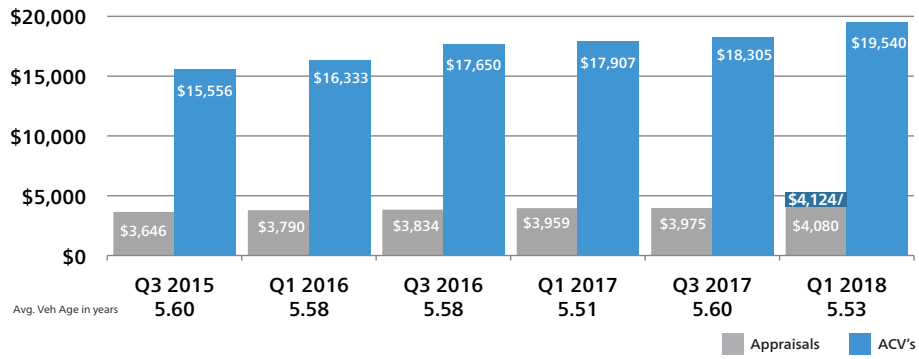
Average Appraisal Values Severity Overall

The average gross initial appraisal value, calculated by combining data from all first and third party repairable vehicle appraisals uploaded through Mitchell Canadian systems in Q1 2018 was $4,033, a $85 increase from Q1 2017. Factoring for development yields an anticipated increase to $4,079.



Collision Losses

The average initial gross collision appraisal value uploaded through Mitchell Canadian systems in Q1 2018 was $4,080, a $121 increase from Q1 2017. Factoring for development yields an anticipated increase to $4,124, which represents a $165 increase from Q1 2017.



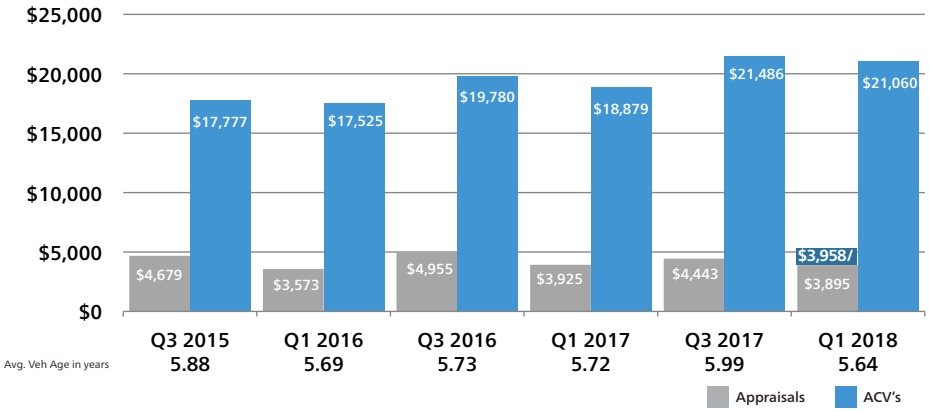
CANADA SEGMENT

At the request of our clients and friends in Canada, we are pleased to provide the following Canada-specific statistics, observations, and trends. **All dollar-figures appearing in this section are in CDN$**. This data is the product of upload activity from body shops, independent appraisers, and insurance personnel, more accurately depicting insurance-paid loss activity, rather than consumer direct or retail market pricing.

Canadian Collision Summary

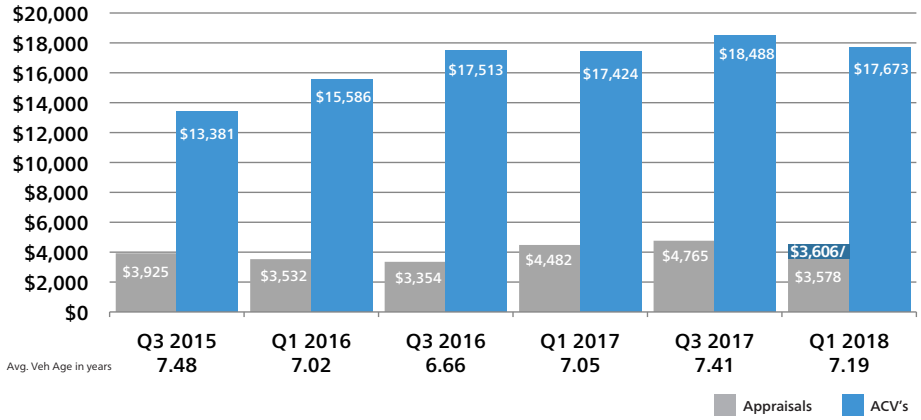
Comprehensive Losses

In Q1 2018, the average initial gross Canadian appraisal value for comprehensive coverage estimates processed through our servers was $3,895, which represents a decrease of $30 compared to Q1 2017. Factoring for development, the anticipated final average appraisal value will be $3,958.



Third-Party Property Damage

In Q1 2018, our Canadian industry initial average gross third-party property damage appraisal was $3,578, which represents a decrease of $904 from Q1 2017. Factoring for development, we anticipate a final value of $3,606.



Canadian Supplements

In Q1 2018, 52.11% of all original estimates prepared by Mitchell-equipped Canadian estimators were supplemented one or more times. In this same period, the pure supplement frequency (supplements to estimates) was 76.57%. The average combined supplement variance for this quarter was $999.71, $48.75 higher compared to Q1 2017.

Date	Q3/15	Q1/16	Q3/16	Q1/17	Q3/17	Q1/18	Pt/$ Change	% Change
% Est Supplements	49.26	55.04	45.42	51.79	45.97	52.11	0.32	1%
% Supplements	67.37	88.75	60.92	78.58	66.21	76.57	-2.01	-3%
Avg Combined Supp Variance	819.49	821.32	1,006.07	950.96	933.64	999.71	48.75	5%
% Supplement $	20.77	21.78	24.06	24.09	23.32	24.79	0.7	3%

Canadian Collision Summary

Canadian Adjustments

In Q1 2018, the average frequency of betterment taken on estimates decreased by 26%, while the dollar amount of that betterment decreased by 15%. Appearance allowance frequency was also down, although the average dollar amount of those allowances increased by 3% to $326.36 when compared to Q1 2017.

Date	Q3/15	Q1/16	Q3/16	Q1/17	Q3/17	Q1/18	Pt/$ Change	% Change
% Adjustments Est	2.52	1.72	2.53	1.47	1.78	1.09	-0.38	-26%
% Betterment Est	2.17	1.43	2.15	1.27	1.47	0.95	-0.32	-25%
% Appear Allow Est	0.34	0.26	0.39	0.2	0.33	0.14	-0.06	-30%
% Prior Damage Est	0.22	0.24	0.23	0.23	0.22	0.18	-0.05	-22%
Avg. Betterment $	289.84	335.19	344.86	402.63	418.19	341.73	-60.9	-15%
Avg. Appear Allow $	284.4	274.04	392.26	317.13	352.83	326.36	9.23	3%

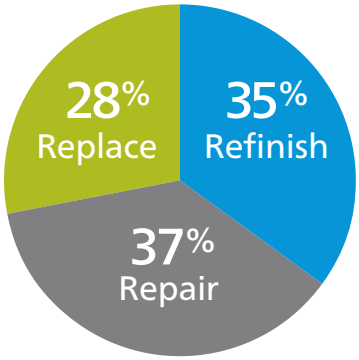
Canadian Labor Analysis

This data reflects the percentage of labor dollars utilized in the creation of Mitchell appraisals by Canadian estimators.

Average Body Labor Rates and Change by Province

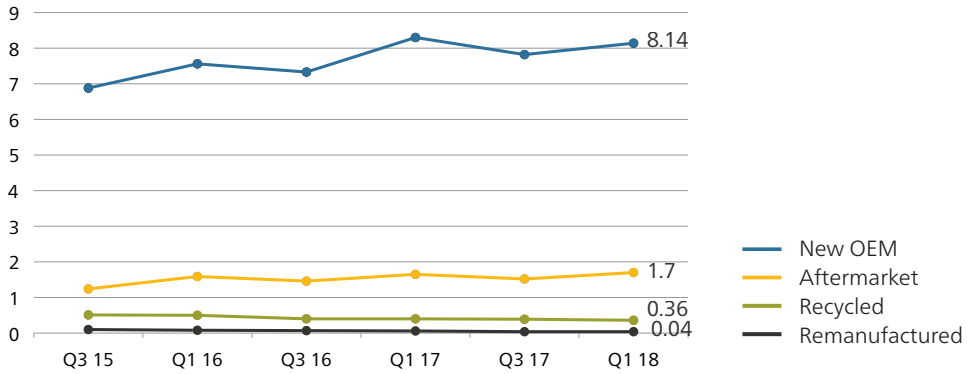
Province	2017	YTD 2018	$ Change	% Change
Alberta	75.20	74.72	$(0.48)	-1%
Newfoundland & Labrador	64.75	65.67	$0.92	1%
Northwest Territories	93.67	95.37	$1.70	2%
Nova Scotia	60.05	60.34	$0.29	0%
Ontario	58.05	58.98	$0.93	2%
Yukon Territory	95.45	97.12	$1.67	2%

Labor Operations



Canadian Collision Summary

Canadian Number of Parts by Part Type

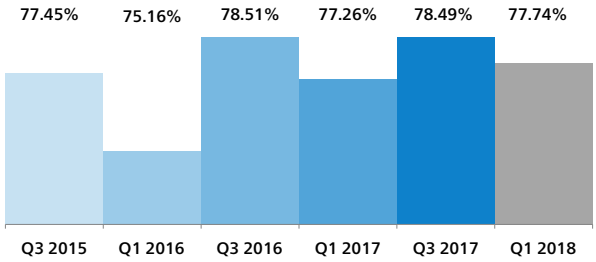


Canadian Parts Utilization

All data reflects the percentage of part-type dollars utilized in the construction of Mitchell appraisals by Canadian estimators.

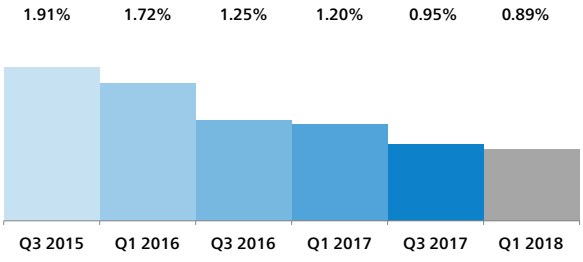
Original Equipment Manufacturer (OEM) Parts Use in Dollars

In Q1 2018, OEM parts use increased slightly compared to Q1 2017.



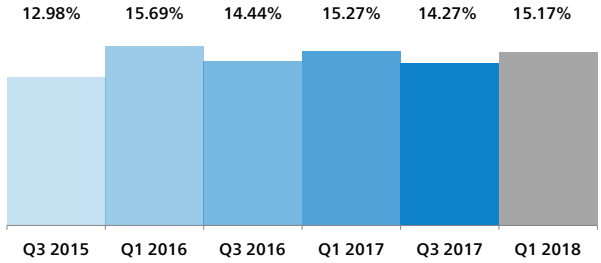
Remanufactured Parts Use in Dollars

Remanufactured parts use in Canada dropped to 0.89% for Q1 2018, which represents the lowest percentage of part dollars in the charted quarters.



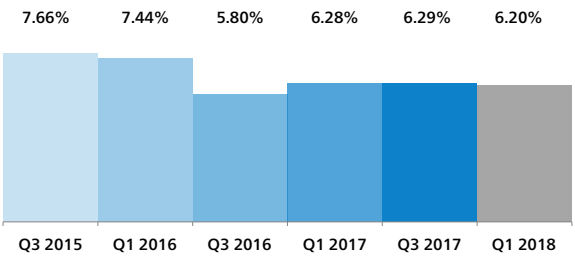
Aftermarket Parts Use in Dollars

Aftermarket parts use in Q1 2018 decreased slightly compared to the same period last year, coming in at 15.17%.



Recycled Parts Use in Dollars

In Q1 2018, recycled parts use in Canada decreased slightly compared to Q1 2017 results.



About Mitchell

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Mitchell empowers clients to achieve measurably better outcomes. Providing unparalleled breadth of technology, connectivity and information solutions to the Property & Casualty claims and Collision Repair industries, Mitchell is uniquely able to simplify and accelerate the claims management and collision repair processes.

As a leading provider of Property & Casualty claims technology solutions, Mitchell processes over 50 million transactions annually for over 300 insurance companies/ claims payers and over 30,000 collision repair facilities throughout North America. Founded in 1946, Mitchell is headquartered in San Diego, California, and has approximately 2,000 employees. The company is privately owned primarily by Stone Point Capital LLC, a leading global investment firm.

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The Industry Trends Report is a quarterly snapshot of the auto physical damage collision and casualty industries. Just inside—the economy, industry highlights, plus illuminating statistics and more. Stay informed of ongoing and emerging trends impacting the industry, and you, with the Industry Trends Report!

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