Auto Physical Damage

Plugged-In: EV Collision Insights Q3 2024

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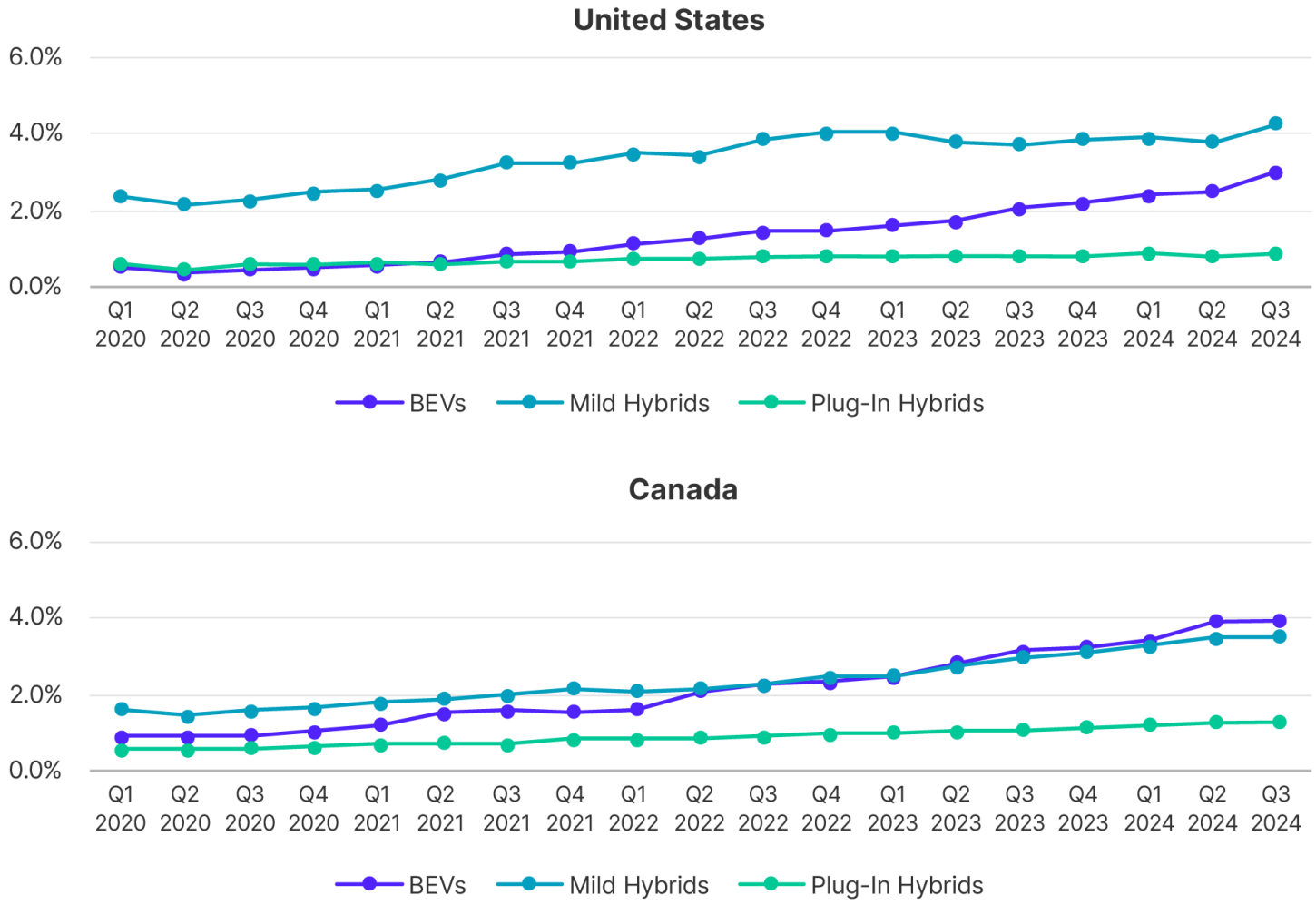
In Q3 2024, claims frequency for repairable collision-damaged battery electric vehicles (BEVs) rose to 3.01% in the U.S. and 3.97% in Canada, an increase of 47% and 26% respectively year over year (YOY). While BEV sales have slowed, they still represent 8% of new vehicle sales in the U.S. (up 11.3% YOY) and 9.49% in Canada (up 18.47% YOY).

According to the U.S. Energy Information Administration, hybrid sales are responsible for the slight gain in market share for electrified powertrains. “Hybrid sales accounted for 8.6% of the total light-duty market in 1Q24 and increased to 9.6% in 2Q24. Plug-in hybrid electric vehicle (PHEV) sales increased slightly from 1.7% to 2% of the total light-duty market year over year.”

Lately, automotive manufacturers seem to favor hybrids with companies like Ford transitioning some manufacturing plants to plug-in platforms rather than full BEV powertrains. However, headwinds appear to be forming for wider spread PHEV adoption as J.D. Power reported that, “PHEVs score significantly lower than BEVs in nine of the 10 categories tracked in the J.D. Power 2024 U.S. Electric Vehicle Experience Ownership Study, particularly when it comes to battery range and total cost of ownership.”

Frequency of Repairable Claims Volume

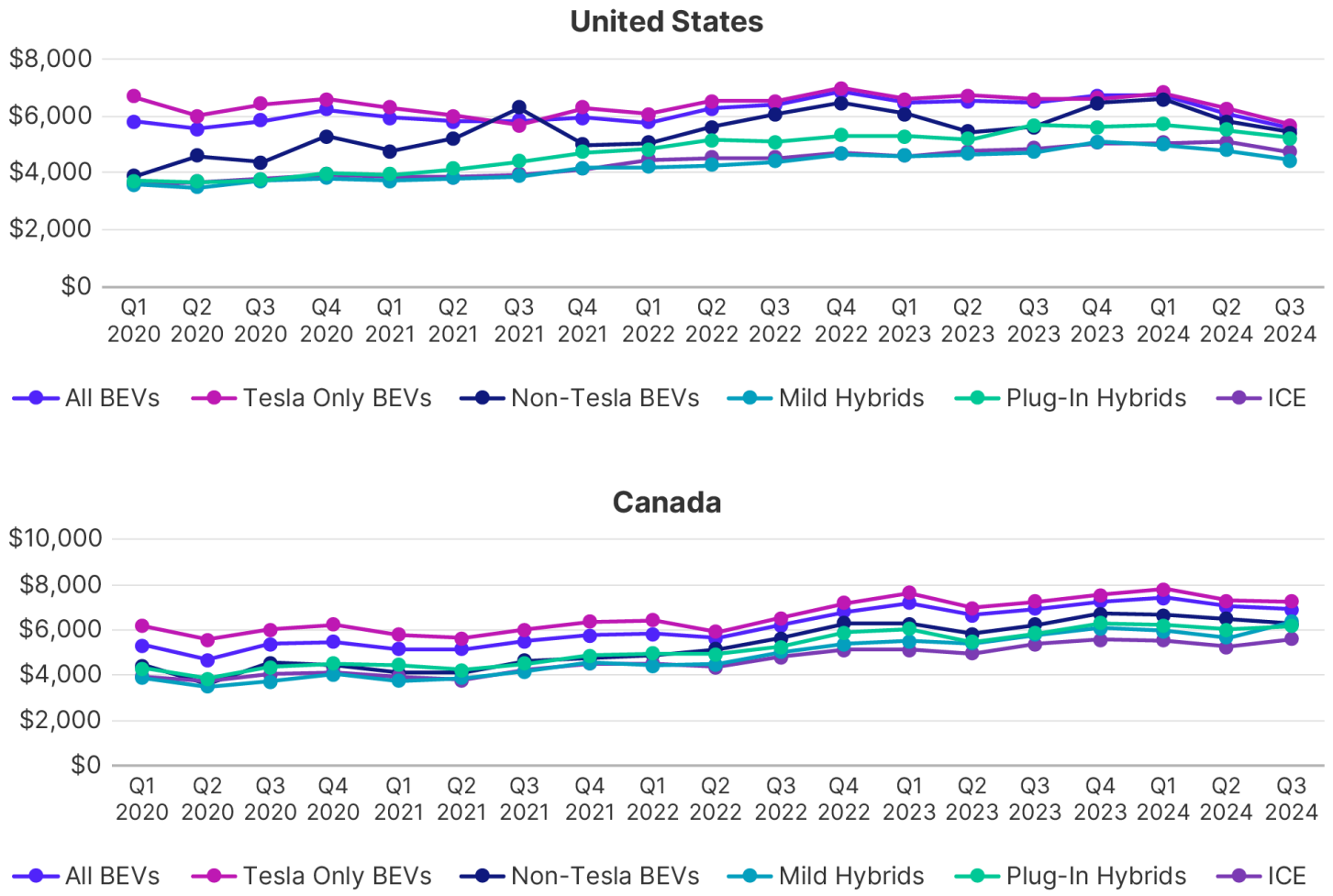


Source: Mitchell International, Inc.

In terms of keys-to-keys cycle time for collision repairs, the U.S. year-to-date average for BEVs is 19.5 days versus 16.5 days for automobiles with an internal combustion engine (ICE)—an 18% difference. Similarly, cycle time in Canada is 20% longer for BEVs (17.2 days) in 2024 compared to gasoline-powered options (14.3 days). In both countries, average cycle times for mild hybrid electric vehicles (MHEVs) and PHEVs also exceed those of ICE alternatives.

Last quarter, average claims severity for repairable vehicles in the U.S. was $5,560 for BEVs, $5,229 for PHEVs, $4,426 for MHEVs and $4,741 for ICE options. That is a YOY decrease of between 2% and 14%. In Canada, average claims severity was $6,923 CAD for BEVs, $6,171 CAD for PHEVs, $6,366 CAD for MHEVs and $5,615 CAD for ICE vehicles. However, unlike the U.S., severity has increased in Canada over the same period for all powertrains except BEVs.

Average Repairable Severity

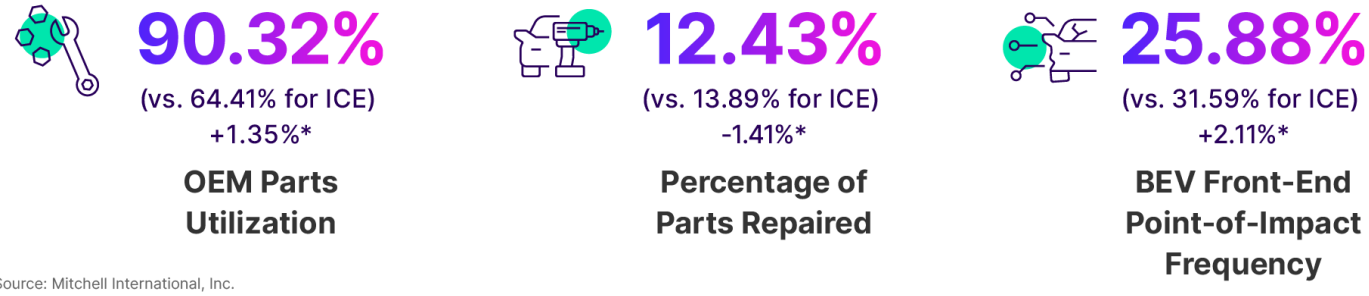


Source: Mitchell International, Inc.

As price parity increases between BEVs and ICE automobiles, it is creating greater similarities in total loss outcomes. The average total loss market value for BEVs in Q3 2024 was $32,718 in the U.S. and $41,380 CAD in Canada. For 2021 model year and newer ICE vehicles—which are comparable to BEVs in their complexity and cost to repair—total loss market values were $31,070 and $42,498 CAD respectively. Total loss frequency was also nearly identical with BEVs totaling at a rate of 9.9% in the U.S. and 10.11% in Canada versus 9.98% and 11.74% respectively for 2021 model year and newer ICE automobiles. Canada saw a spike in total loss frequency due to heavy catastrophic claims activity in the third quarter, which skews some results—especially when compared to historical norms.

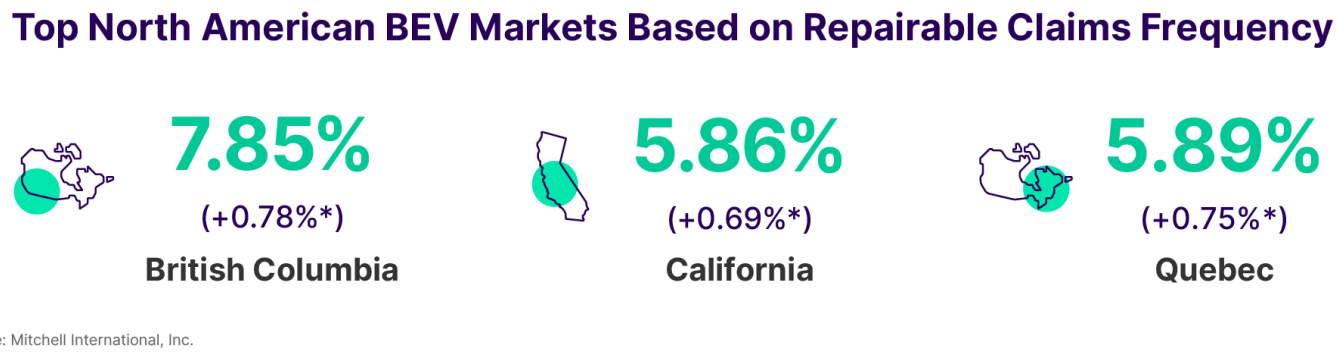
BEVs are more likely to sustain rear-end impact in a collision where gasoline-powered automobiles have a higher frequency of front-end impact. This is significant as front-end accidents are nearly 40% costlier to repair, on average.

An additional variable that contributes to differences in severity between BEVs and ICE-powered automobiles is the dynamics of point-of-impact frequency. Front-end impacts are the most common, and that remains true for ICE vehicles. For example, 31.59% of repairable ICE automobiles have a front-end point of impact (left front, right front or front center) compared to 25.88% for BEVs. However, the same pattern does not exist for BEVs where the point of impact is most likely to be the rear end of the vehicle (left rear, right rear or rear center) with 35.98% of BEV repairs classified as a rear-end impact versus only 27.57% for ICE vehicles. This is significant as front-end accidents are nearly 40% costlier than rear-end accidents, on average. The difference in point-of-impact dynamics is likely due to two main factors: 1) newer average model year, and thus more comprehensive, front crash avoidance technologies, and 2) different braking dynamics for BEVs when driving in single-pedal mode, which may result in more rapid deceleration than expected by the driver.



Source: Mitchell International, Inc.

By the Numbers



Source: Mitchell International, Inc.

Top Five BEV Model Claims Frequency by Region

United States		Canada	
Tesla Model 3	31.72% (-0.20%*)	Tesla Model 3	34.63% (-0.65%*)
Tesla Model Y	26.59% (+0.07%*)	Tesla Model Y	25.03% (-0.57%*)
Ford Mustang Mach-E	7.01% (-0.08%*)	Chevy Bolt	4.65% (+0.04%*)
Tesla Model S	6.35% (-0.04%*)	Hyundai Kona EV	5.11% (+0.45%*)
Tesla Model X	4.60% (-0.12%*)	Nissan Leaf	4.50% (+0.09%*)

Source: Mitchell International, Inc.

*Difference between Q3 2024 and Q2 2024.

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