HLDI
Highway Loss Data Institute

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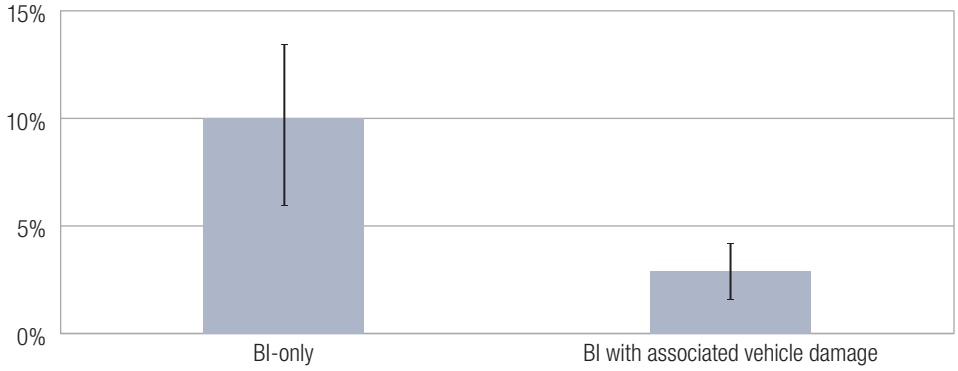
Effect of hybrid vehicles on pedestrian-related bodily injury liability claim frequencies

Summary

Hybrid vehicles generate little noise when operating under battery power, making them harder for pedestrians to detect. This may increase the likelihood of pedestrians being struck by hybrids. If this is the case, bodily injury (BI) liability claim frequencies for claims without associated collision or property damage liability (PDL) claims should be higher for hybrids than for their nonhybrid versions. This Highway Loss Data Institute (HLDI) bulletin examines the effects of hybrid vehicles on injury-only BI liability claim frequency. HLDI expects that a large proportion of the BI liability claims without associated collision or PDL claims are pedestrian- or bicyclist-related.

A 2011 HLDI study showed that hybrid vehicles had pedestrian-related claim frequencies that were 19.6 percent higher than that of their conventional counterparts. This result was statistically significant. The current study shows that for hybrid vehicles, the pedestrian-related claim frequency is 10 percent higher than that of their conventional counterparts, and that the BI-liability claim frequency with associated physical vehicle damage is 3 percent higher for hybrid vehicles. Both estimates are statistically significant.

Estimated change in BI-only and BI with associated vehicle damage claim frequency for hybrids vs. conventional counterparts



Introduction

Hybrid vehicles generate little noise when operating under battery power, making them harder for pedestrians to detect. This may increase the likelihood of pedestrians being struck by hybrids. If this is the case, BI liability claim frequencies for claims without associated collision or PDL claims should be higher for hybrids than for their nonhybrid versions.

This HLDI bulletin examines the effects of hybrid vehicles on BI-only liability claim frequency. HLDI expects that a large proportion of the BI liability claims without associated collision or PDL claims are pedestrian or bicyclist-related. There were nearly 6,000 pedestrian fatalities in the United States in 2016, up 9 percent from 2015 (NHTSA, 2017a). In addition, in 2016, an estimated 85,000 pedestrians were injured in traffic crashes (NHTSA, 2017b). A prior HLDI study showed that for hybrid vehicles, the BI-only claim frequency was 19.6 higher than that of their conventional counterparts, which was statistically significant (HLDI, 2011).

Methods

Vehicles

To be included in this study, a hybrid series must have had either an exact nonhybrid counterpart to be matched for a hybrid/nonhybrid series pair (e.g., Toyota Camry sedan) or a carefully selected nonhybrid comparable enough to be used in the pairing (e.g. Lexus GS 450 hybrid/Lexus GS 350). Also, both the hybrid and its nonhybrid counterpart must have had at least one injury-only BI liability claim and 1,500 years of exposure. Vehicles like the Toyota Prius and the Honda Insight were excluded because they do not have a nonhybrid counterpart. Forty-four hybrid series and their nonhybrid counterparts were included in the analysis.

Mild hybrids, such as the Infiniti QX60, Saturn Aura, and Saturn Vue, were also excluded from the study. Mild hybrids operate differently than full hybrids. A full hybrid can operate using the gasoline engine only, electric power only, or a combination of both; however, a mild hybrid uses the gasoline engine or a combination of gasoline engine and electric power. Since mild hybrids are never in complete electric mode, they do not operate as quietly as full hybrids. The Honda Civic and Honda Accord were also eliminated. The Honda vehicles operate more like traditional hybrids than mild hybrids; yet at low speeds, power is supplied by both the electric battery and the gasoline motor. Studied vehicles included 2005–17 models during calendar years 2004–17, totaling 32,816,540 years of exposure. A complete list of the included vehicles can be found in **Appendix A.**

Insurance data

Automobile insurance covers damages to vehicles and property in crashes plus injuries to people involved in crashes. Different insurance coverages pay for vehicle damage versus injuries, and different coverages may apply depending on who is at fault.

BI liability coverage insures against medical, hospital, and other expenses for injuries that at-fault drivers inflict on occupants of other vehicles or others on the road. PDL coverage insures against physical damage that at-fault drivers cause to other people's vehicles and property in crashes. Collision coverage insures against physical damage to an at-fault driver's vehicle sustained in a crash with an object or other vehicle.

The current study is based on BI liability, collision, and PDL coverages. BI liability losses are restricted to data from traditional tort states.

Concurrent coverage and injury-only BI claims

Concurrent coverage means a vehicle is insured under two or more relevant coverage types at the time of a loss: in this study BI liability, collision, and PDL. In forming the data for this study, exposure and claim data for BI liability coverage were joined with those for collision and PDL coverages at the VIN level, so that during the overlapped exposure period, the association between claims can be explored to identify whether a BI liability claim occurs in an injury-only crash that has associated vehicle damage.

The current study is based on BI liability claims with no same-day collision or PDL claims. HLDI expects that many of the BI liability claims without associated collision or PDL claims are pedestrian- or bicyclist-related. Hereafter, these claims will be referred to as BI-only or pedestrian-related claims. Exposure is measured in insured vehicle years. An insured vehicle year is equivalent to one vehicle insured for 1 year, two vehicles insured for 6 months, etc.

Table 1 shows the exposure and claim counts for the vehicles in the study. It also includes the percent of BI liability claims that are BI-only, BI-only claim frequency, the percent difference in BI-only claim frequency for hybrid versus conventional vehicles, percent of claims that are BI with associated vehicle damage, BI with associated vehicle damage claim frequency, and the percent different in BI with associated vehicle damage claim frequency for hybrid versus conventional vehicles.

Table 1: Exposure, claim counts, and observed claim frequencies by vehicle type

Vehicle Type	Exposure (years)	BI claims	BI-only claims	BI with associated vehicle damage claims	Percent of BI claims that are BI-only	Percent of BI claims that have associated vehicle damage	Observed BI-only claim frequency	Observed BI with associated vehicle damage claim frequency	Difference between hybrid and conventional observed BI-only claim frequencies	Difference between hybrid and conventional observed BI with associated vehicle damage claim frequencies
Conventional	29,645,205	315,065	26,678	288,387	8%	92%	0.9	9.7		
Hybrid	3,171,335	33,250	3,076	30,174	9%	91%	1.0	9.5	8%	-2%

Analysis methods

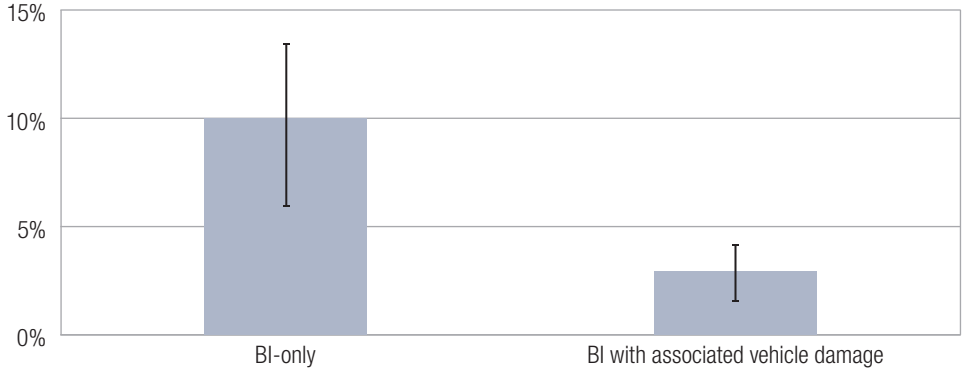
Regression analysis was used to quantify the effect of a hybrid engine while controlling for other covariates. The covariates included calendar year, garaging state, vehicle density (number of registered vehicles per square mile), rated driver age group, rated driver gender, rated driver marital status, and risk. Based on the model year and vehicle series, a single variable called SERIESMY was created for inclusion in the regression model. Effectively, this variable controlled for the variation caused by vehicle design changes that occur from model year to model year. Reference categories were assigned as follows: rated driver age group = 40–49, risk = standard, state = California, rated driver gender = female, rated driver marital status = married, density = 1,000+, calendar year = 2016, vehicle model year and series = 2007 Toyota Camry, and engine = conventional.

Claim frequency was modeled using a Poisson distribution and a logarithmic link function. For space reasons, illustrative full regression results for BI-only claim frequency are shown in **Appendix B**. To further simplify the presentation here, the exponent of the parameter estimate was calculated, 1 was subtracted, and the results multiplied by 100. The resulting number corresponds to the effect of a given model variable on a loss measure. For example, the estimate of BI-only claim frequency for vehicles with hybrid engines was 0.0954; thus, BI-only claim frequency is expected to be 10 percent higher than that of their conventional counterparts ((exp(0.0954)-1)*100 = 10).

Results

Figure 1 shows the estimated change in BI-only claim frequency and BI with associated physical vehicle damage claim frequency for hybrid vehicles versus their conventional counterparts. Hybrid vehicles show a 10 percent higher BI-only claim frequency and a 3 percent higher BI with associated physical damage claim frequency. Both estimates are statistically significant.

Figure 1: Estimated change in BI-only and BI with associated vehicle damage claim frequency for hybrids vs. conventional counterparts



Discussion

Hybrid vehicles show a statistically significant increase in BI-only and BI with associated vehicle damage claim frequencies of 10 and 3 percent, respectively. The large 10 percent increase in pedestrian-related claim frequency suggests that hybrids are more likely to inflict injuries on pedestrians than their conventional counterparts, likely due to the quiet nature of hybrids when they are traveling at lower speeds and operating under battery power. This finding is consistent, although to a lesser magnitude, with the findings from the National Highway Traffic Safety Administration, which found that hybrid vehicles had a higher rate of pedestrian (35 percent) and bicyclist (57 percent) crashes than nonhybrid vehicles (Wu, Austin, & Chen, 2011).

A prior HLDI study of hybrid vehicles and pedestrians showed a statistically significant 19.6 percent increase in BI-only claim frequency (HLDI, 2011). However, the vehicle population in the current study is much larger and includes many vehicles that were not available as hybrids at the time of the prior study. The prior study included only 17 vehicle pairs, but this current study includes 44 vehicle pairs, so a change in the magnitude of the increase in claim frequency is not unexpected. The current results are within the confidence bounds of the prior HLDI report. A supplemental analysis was completed that used the vehicles from the 2011 study with updated loss data. The supplemental analysis yielded results comparable to the current analysis. This could indicate that the hybrids in the original study were driven by early adopters of the technology. These early adopters may somehow have been different in ways that couldn't be controlled for by the demographic data available to HLDI.

In December of 2016, NHTSA issued its final rule adding a sound requirement for all newly manufactured hybrid and electric light-duty vehicles to help protect pedestrians. Under the new rule, all hybrid and electric light-duty vehicles with four wheels and a gross vehicle weight rating of 10,000 pounds or less will be required to make audible noises when traveling in reverse or forward at speeds up to 19 miles per hour (30 km/h) (NHTSA, 2016). The rule applies a phase-in schedule, requiring half of new hybrid and electric vehicles manufactured between September 1, 2018, and September 1, 2019, to comply and all such vehicles manufactured after September 1, 2019, to meet the new federal safety standard. In February of 2018, this phase-in schedule was delayed 1 year (Federal Register, 2018). After this rule has been enacted, HLDI will re-evaluate the impact of hybrid engines on BI-only claim frequency. Currently, it is believed that some manufacturers might have added noise in advance of this ruling. Vehicles that are likely to have already adopted this technology are the Hyundai Sonata hybrid and the Kia Optima hybrid that emit artificial engine noise at low speeds. The extent to which automakers have begun to comply could account somewhat for the smaller effect than the prior 2011 analysis.

Limitations

There are limitations to the data used in this analysis. Although BI-only claims are consistent with pedestrian and other nonoccupant injuries, our data do not allow us to know definitively if a crash involved a pedestrian, however prior checks on this assumption verify that BI-only claims, in fact, involve nonoccupants. Even so, there may be some crashes included that are not pedestrian-related. Likewise, some pedestrian crashes may have been excluded unintentionally. For example, a crash in which a person was struck that resulted in a BI liability claim and also damaged the vehicle would have been excluded, because a collision claim would have been filed for the damaged vehicle. Also, hybrids typically only operate under battery power (thus making less noise) when the vehicle is traveling at low speeds. The HLDI data do not include the vehicle speed at the time of the crash, so the engine status is unknown. It is possible that some of the vehicles in this study were equipped with collision avoidance technology, but because the presence of this technology was not VIN-discernible, it was not considered in this analysis. In addition, for some vehicles, such as the Infiniti Q50, safety features, such as forward collision warning, are standard on the hybrid version of the vehicle but optional on the conventional version of the vehicle.

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Appendix A: List of vehicles included in the study			
Model years	**Make**	**Conventional series**	**Hybrid series**
2013–14	Acura	ILX 4D	ILX hybrid 4D
2013–16	Audi	Q5 4D 4WD	Q5 hybrid 4D 4WD
2013–15	BMW	335 I 4D 2WD	Active hybrid 3 4D
2012–16	BMW	535 I/535 IS 4D 2WD	Active hybrid 5 4D
2009–13	Cadillac	Escalade 1/2t 4dr 4x2	Escalade hybrid 4dr 4x2
2009–13	Cadillac	Escalade 1/2t 4dr 4x4	Escalade hybrid 4dr 4x4
2016–17	Chevrolet	Malibu 4dr	Malibu hybrid 4dr
2009–13	Chevrolet Truck	Silverado 1500 crew cab 4X2	Silverado 1500 hybrid crew cab 4X2
2009–13	Chevrolet Truck	Silverado 1500 crew cab 4X4	Silverado 1500 hybrid crew cab 4X4
2008–13	Chevrolet Truck	Tahoe 4dr 4X2	Tahoe hybrid 4dr 4X2
2008–13	Chevrolet Truck	Tahoe 4dr 4X4	Tahoe hybrid 4dr 4X4
2010–17	Ford	Fusion 4dr 2WD	Fusion hybrid 4dr 2WD
2005–12	Ford Truck	Escape 4dr 2WD	Escape hybrid 4dr 2WD
2005–12	Ford Truck	Escape 4dr 4WD	Escape hybrid 4dr 4WD
2009–13	GMC Truck	Sierra 1500 crew cab 4X4	Sierra 1500 hybrid CR 4X4
2008–13	GMC Truck	Yukon 4dr 4X2	Yukon hybrid 4dr 4X2
2008–13	GMC Truck	Yukon 4dr 4X4	Yukon hybrid 4dr 4X4
2011–17	Hyundai	Sonata 4dr	Sonata hybrid 4dr
2012–13	Infiniti	M37 4dr 2WD	M35H hybrid 4dr 2WD
2014–17	Infiniti	Q50 4dr 2WD	Q50 hybrid 4dr 2WD
2014–17	Infiniti	Q50 4dr 4WD	Q50 hybrid 4dr 4WD
2011–17	Kia	Optima 4dr	Optima hybrid 4dr
2013–17	Lexus	ES 350 4dr	ES 300H hybrid 4dr
2007–11, 2013–17	Lexus	GS 350 4dr 2WD	GS 450H hybrid 4dr 2WD
2015–17	Lexus	NX 200T 4dr 4WD	NX 300H hybrid 4dr 4WD
2006	Lexus	RX 330 4dr 2WD	RX 400H hybrid 4dr 2WD
2006	Lexus	RX 330 4dr 4WD	RX 400H hybrid 4dr 4WD
2007–08, 2010–16	Lexus	RX 350 4dr 2WD	RX 450H hybrid 4dr 2WD
2007–08, 2010–17	Lexus	RX 350 4dr 4WD	RX 450H hybrid 4dr 4WD
2011–17	Lincoln	Zephyr/MKZ 4dr 2WD	MKZ hybrid 4dr 2WD
2008–10	Mazda	Tribute 4dr 2WD	Tribute hybrid 4dr 2WD
2008–11	Mercury	Mariner 4dr 2WD	Mariner hybrid 4dr 2WD
2006–11	Mercury	Mariner 4dr 4WD	Mariner hybrid 4dr 4WD
2010–11	Mercury	Milan 4dr 2WD	Milan hybrid 4dr 2WD
2007–11	Nissan	Altima 4dr	Altima hybrid 4dr
2012–17	Porsche	Cayenne 4dr 4WD	Cayenne hybrid 4dr 4WD
2014–15	Subaru	XV Crosstrek station wagon 4WD	XV Crosstrek hybrid station wagon 4WD
2016	Subaru	Crosstrek station wagon 4WD	Crosstrek hybrid station wagon 4WD
2013–17	Toyota	Avalon 4dr	Avalon hybrid 4dr
2007–17	Toyota	Camry 4dr 2WD	Camry hybrid 4dr
2006–07	Toyota	Highlander 4dr 2WD	Highlander hybrid 4dr 2WD
2006–17	Toyota	Highlander 4dr 4WD	Highlander hybrid 4dr 4WD
2016–17	Toyota	RAV4 4dr 4WD	RAV4 hybrid 4dr 4WD
2013–16	Volkswagen	Jetta 4dr	Jetta hybrid 4dr

Appendix B: Illustrative regression results — BI-only claim frequency

Parameter		Degrees of freedom	Estimate	Effect	Standard error	Wald 95% confidence limits		Chi-square	P-value
Intercept		1	-12.3738		0.0319	-12.4363	-12.3113	150576	<0.0001
Calendar year	2004	1	-0.0133	-1.3%	0.3044	-0.6099	0.5833	0.00	0.9652
	2005	1	-0.3700	-30.9%	0.1488	-0.6617	-0.0783	6.18	0.0129
	2006	1	-0.3453	-29.2%	0.0796	-0.5012	-0.1894	18.84	<0.0001
	2007	1	-0.3441	-29.1%	0.0506	-0.4434	-0.2449	46.20	<0.0001
	2008	1	-0.3705	-31.0%	0.0398	-0.4485	-0.2924	86.53	<0.0001
	2009	1	-0.3764	-31.4%	0.0353	-0.4456	-0.3071	113.54	<0.0001
	2010	1	-0.3630	-30.4%	0.0315	-0.4248	-0.3012	132.57	<0.0001
	2011	1	-0.2897	-25.2%	0.0275	-0.3436	-0.2357	110.73	<0.0001
	2012	1	-0.2761	-24.1%	0.0251	-0.3254	-0.2268	120.59	<0.0001
	2013	1	-0.1557	-14.4%	0.0228	-0.2003	-0.1111	46.84	<0.0001
	2014	1	-0.1359	-12.7%	0.0214	-0.1777	-0.0940	40.44	<0.0001
	2015	1	-0.0571	-5.6%	0.0198	-0.0958	-0.0183	8.34	0.0039
	2017	1	-0.0459	-4.5%	0.0232	-0.0913	-0.0004	3.91	0.0479
	2016	0	0	0	0	0	0		
Vehicle model year and series	For consideration of space, only a sample of the model year, make, series combinations are listed								
	2005 Ford Escape 4dr 2WD	1	0.0049	0.5%	0.0539	-0.1007	0.1105	0.01	0.9280
	2005 Ford Escape 4dr 4WD	1	-0.1470	-13.7%	0.0583	-0.2614	-0.0327	6.36	0.0117
	2006 Mercury Mariner 4dr 4WD	1	-0.1744	-16.0%	0.1636	-0.4951	0.1463	1.14	0.2866
	2006 Toyota Highlander 4dr 2WD	1	-0.1362	-12.7%	0.0616	-0.2569	-0.0156	4.90	0.0269
	2006 Toyota Highlander 4dr 4WD	1	-0.0530	-5.2%	0.0659	-0.1821	0.0761	0.65	0.4208
	2006 Ford Escape 4dr 2WD	1	-0.1148	-10.8%	0.0652	-0.2426	0.0130	3.10	0.0784
	2006 Ford Escape 4dr 4WD	1	-0.2316	-20.7%	0.0792	-0.3869	-0.0764	8.56	0.0034
	…								
	2007 Toyota Camry 4dr 2WD	0	0	0	0	0	0		
Rated driver age group	<25	1	0.2939	34.2%	0.003	0.2881	0.2997	9897.82	<0.0001
	20–24	1	0.2514	28.6%	0.0272	0.1980	0.3048	85.12	<0.0001
	25–29	1	0.0615	6.3%	0.0235	0.0155	0.1074	6.87	0.0088
	30–39	1	-0.0552	-5.4%	0.0193	-0.0931	-0.0174	8.19	0.0042
	50–59	1	-0.0863	-8.3%	0.0193	-0.1242	-0.0484	19.93	<0.0001
	60–64	1	-0.1883	-17.2%	0.0258	-0.2388	-0.1377	53.26	<0.0001
	65–70	1	-0.2576	-22.7%	0.0285	-0.3134	-0.2017	81.69	<0.0001
	75+	1	-0.1864	-17.0%	0.0242	-0.2338	-0.1390	59.52	<0.0001
	< 20	1	0.2058	22.9%	0.0455	0.1166	0.2951	20.43	<0.0001
	Unknown	1	-0.1453	-13.5%	0.0291	-0.2024	-0.0881	24.84	<0.0001
	40–49	0	0	0	0	0	0		
Risk	Nonstandard	1	0.4088	50.5%	0.0200	0.3697	0.448	419.36	<0.0001
	Standard	0	0	0	0	0	0		
State	Alaska	1	-0.0334	-3.3%	0.1147	-0.2582	0.1913	0.09	0.7706
	Alabama	1	-0.4222	-34.4%	0.0440	-0.5085	-0.3360	92.09	<0.0001
	Arkansas	1	-0.1223	-11.5%	0.0568	-0.2337	-0.0109	4.63	0.0314
	Arizona	1	0.0085	0.9%	0.0361	-0.0623	0.0792	0.05	0.8148
	Colorado	1	-0.2905	-25.2%	0.0422	-0.3731	-0.2078	47.44	<0.0001

Appendix B: Illustrative regression results — BI-only claim frequency									
Parameter		Degrees of freedom	Estimate	Effect	Standard error	Wald 95% confidence limits		Chi-square	P-value
	Connecticut	1	0.0285	2.9%	0.0351	-0.0404	0.0974	0.66	0.4172
	Georgia	1	0.0084	0.8%	0.0239	-0.0384	0.0552	0.12	0.7256
	Iowa	1	-0.8597	-57.7%	0.0739	-1.0046	-0.7149	135.31	<0.0001
	Idaho	1	-0.2702	-23.7%	0.0892	-0.4450	-0.0955	9.19	0.0024
	Illinois	1	-0.2922	-25.3%	0.0240	-0.3392	-0.2451	148.31	<0.0001
	Indiana	1	-0.5532	-42.5%	0.0458	-0.6430	-0.4634	145.77	<0.0001
	Louisiana	1	0.7217	105.8%	0.0259	0.6709	0.7725	775.60	<0.0001
	Maine	1	-0.4666	-37.3%	0.1026	-0.6677	-0.2654	20.67	<0.0001
	Missouri	1	-0.5031	-39.5%	0.0400	-0.5814	-0.4248	158.56	<0.0001
	Mississippi	1	0.0610	6.3%	0.0488	-0.0346	0.1566	1.56	0.211
	Montana	1	-0.3935	-32.5%	0.1232	-0.6349	-0.1520	10.20	0.0014
	North Carolina	1	-0.2769	-24.2%	0.0300	-0.3357	-0.2180	84.99	<0.0001
	Nebraska	1	-0.9850	-62.7%	0.0885	-1.1584	-0.8115	123.93	<0.0001
	New Hampshire	1	-0.3434	-29.1%	0.0759	-0.4921	-0.1948	20.50	<0.0001
	New Mexico	1	-0.0036	-0.4%	0.0617	-0.1244	0.1173	0.00	0.954
	Nevada	1	0.6164	85.2%	0.0397	0.5386	0.6942	241.15	<0.0001
	Ohio	1	-0.4482	-36.1%	0.0289	-0.5047	-0.3916	241.19	<0.0001
	Oklahoma	1	-0.1953	-17.7%	0.0480	-0.2893	-0.1013	16.57	<0.0001
	Rhode Island	1	0.2275	25.5%	0.0535	0.1226	0.3324	18.08	<0.0001
	South Carolina	1	0.1454	15.7%	0.0348	0.0773	0.2135	17.50	<0.0001
	South Dakota	1	-0.5204	-40.6%	0.1379	-0.7907	-0.2500	14.23	0.0002
	Tennessee	1	-0.4296	-34.9%	0.0398	-0.5076	-0.3516	116.42	<0.0001
	Virginia	1	-0.4338	-35.2%	0.0279	-0.4885	-0.3791	241.85	<0.0001
	Vermont	1	-0.1861	-17.0%	0.1274	-0.4359	0.0637	2.13	0.1442
	Wisconsin	1	-0.7328	-51.9%	0.0493	-0.8294	-0.6362	221.14	<0.0001
	West Virginia	1	-0.0766	-7.4%	0.0638	-0.2016	0.0484	1.44	0.2297
	Wyoming	1	-0.3550	-29.9%	0.1519	-0.6528	-0.0572	5.46	0.0195
	California	0	0	0	0	0	0		
Rated driver gender	Male	1	-0.0024	-0.2%	0.0139	-0.0296	0.0247	0.03	0.8613
	Unknown	1	0.2422	27.4%	0.0444	0.1552	0.3291	29.8	<0.0001
	Female	0	0	0	0	0	0		
Rated driver marital staus	Single	1	0.3391	40.4%	0.0149	0.3100	0.3682	521.08	<0.0001
	Unknown	1	0.1864	20.5%	0.0435	0.1011	0.2718	18.33	<0.0001
	Married	0	0	0	0	0	0		
Registered vehicle density	< 50	1	-0.6805	-49.4%	0.0282	-0.7358	-0.6253	582.88	<0.0001
	50–99	1	-0.6203	-46.2%	0.0236	-0.6666	-0.5740	688.59	<0.0001
	100–249	1	-0.5320	-41.3%	0.0199	-0.5710	-0.4930	715.79	<0.0001
	250–499	1	-0.4612	-36.9%	0.0208	-0.5020	-0.4204	490.76	<0.0001
	500–1,000	1	-0.3558	-29.9%	0.0193	-0.3936	-0.3180	340.54	<0.0001
	1,000+	0	0	0	0	0	0		
Hybrid status	Hybrid	1	0.0954	10.0%	0.0202	0.0558	0.135	22.29	<0.0001
	Conventional	0	0	0	0	0	0		

Highway Loss Data Institute

1005 N. Glebe Road, Suite 700
Arlington, VA 22201
+1 703 247 1600
iihs-hldi.org

The Highway Loss Data Institute is a nonprofit public service organization that gathers, processes, and publishes insurance data on the human and economic losses associated with owning and operating motor vehicles. DW201804 KW