IBC BAC | Insurance Bureau of Canada
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July 27, 2020

Tim Bzowey
Executive Vice President, Auto/Insurance Products
Financial Services Regulatory Authority of Ontario
Auto Insurance Sector
5160 Yonge Street, 16th Floor
Toronto, Ontario M2N 6L9

Dear Mr. Bzowey,

Re: Loss Trend Benchmarks

Insurance Bureau of Canada (IBC) and its member property and casualty insurers welcome the opportunity to comment on the Financial Services Regulatory Authority of Ontario's (FSRA) *Loss Trend Benchmarks for Private Passenger Automobile Major Rate Filings* consultation. Ontario's private passenger vehicle auto insurance market is competitive, with 62 insurers having written premiums in 2019[1]. These insurers have different business models and target different consumer markets. They also have different philosophies on claims handling and reserving practices. Accordingly, projected ultimate claims costs and resulting trend rates will develop differently depending on each insurer's unique business model. Oliver Wyman's report acknowledged this, stating that its own trend rates *"… are based on industry data and* ***would not be expected to be the same as trend rates based on any individual insurer's own data.[2]"***

Though individual companies are expected to have different trend rates from those of the industry as a whole, IBC retained Dr. Ron Miller to conduct a parallel Ontario trend rate analysis based on available GISA data up to December 31, 2019. Several of Dr. Miller's trend rates differ markedly from those of Oliver Wyman. Differing trend rates highlight the reality that in the Ontario claims environment, two qualified actuaries looking at the same set of data can develop very different projections. Accordingly, it is important that FSRA recognize that despite operating in the same market, insurers have very different claims development expectations. It is critical that FSRA permit Ontario insurers to use different trend rates based on their individual experiences.

The rest of our response looks at the significant uncertainty of the GISA development factors that form the foundation of Oliver Wyman's analysis, Dr. Miller's parallel trend rates including additional caveats on GISA data and a history of loss cost changes following historical Ontario reforms.

[1] IBC with data from MSA
[2] Oliver Wyman report, page 65

GISA Development Factor Concerns

The GISA 2019 Ontario Actual Loss Ratio Exhibit references that several major insurers have changed their reserving and reporting practices in recent years. Notably:

- A major writer changed its bodily injury and accident benefit reserves and claims handling practices which led to large number of claims without payment and with a $1 case reserve for accident half-years 2016-2 to 2017-2[3]; and

- That **several major writers** corrected their historically under- or over-stated incurred and paid claim counts for various coverages for all accident half years between 2015-1 and 2019-1[4].

Dr. Miller uses stronger language in interpreting bodily injury claims in particularly, stating that:

> *"…the recent TPL-BI data is fraught with issues related to recent changes in reporting patterns by a number of major writers, which makes estimated ultimate loss costs for recent periods even more uncertain than usual…in the fullness of time the true ultimate loss costs for recent periods may prove to be materially different from current estimates, and the currently estimated short term forward trends here may prove to be inaccurate, possibly materially"*

Despite these concerns, Oliver Wyman's report states that FSRA believes that the GISA final selected development factors have fully accounted for these reporting issues. Yet the language used by GISA itself in its Actual Loss Ratio Exhibit suggests otherwise. GISA states that:

> *"…the selection of loss development factors, for Bodily Injury in particular, at the early ages of development is* ***subject to even greater uncertainty than usual***[5]*"*

This uncertainty is underscored by the significant differences in most trend rates between Oliver Wyman and Dr. Miller shown below. Given the heightened uncertainty around loss development factors, IBC recommends that in the future FSRA request that Oliver Wyman review published GISA loss development factors and include its findings in its final report.

Future Trend Rate Benchmarks

IBC retained Dr. Ron Miller to conduct a parallel future trend rate analysis, the results of which are included in IBC's submission. Oliver Wyman's and Dr. Miller's trend rates are shown in the table below.

[3] 2019 Actual Loss Ratio Exhibit, page 8
[4] Ibid, page 9
[5] Ibid, page 9

Oliver Wyman and Dr. Miller Future Trend Rates

	Oliver Wyman	Dr. Miller	Dr. Miller Difference
Accident Benefits	0.0%	+0.07%	+0.07 p/p
Bodily Injury	**-7.5%**	**-4.49%**	**+3.01 p/p**
DCPD	+9.2%	+8.53%	-0.67 p/p
Collision	**+9.1%**	**+12.38%**	**+3.28 p/p**
Comprehensive	**+6.4%**	**+20.22%**	**+13.82 p/p**
Total Coverages	**+3.59%**	**+5.46%**	**+1.87 p/p**

IBC with data from Oliver Wyman, Dr. Ron Miller

For some coverages, notably bodily injury, collision and comprehensive, Dr. Miller projects trend rates much higher than those of Oliver Wyman:

- Bodily injury costs will change by 3.01 percentage points less;
- Collision costs will increase by 3.28 percentage points more; and
- Comprehensive costs will increase by 13.82 percentage points more. The substantial difference between the two actuaries is because Oliver Wyman analyzed COMP-theft and non-theft combined, whereas Dr. Miller analyzed them separately. Dr. Miller found that theft costs beginning in 2017-1 have shown substantial annual increases.

Critically, on an all-coverage basis, Dr. Miller projects an increase of +5.46%, nearly two percentage points higher than Oliver Wyman's comparable figure of +3.59%. Across the entire industry, this difference is substantial, equal to additional claims of approximately $170 million. The wide range of trend rates developed by two respected actuaries highlights the difficulties of predicting how Ontario claims will develop.

Importance of a Competitive Market

FSRA has highlighted the importance of encouraging industry competition in order to benefit consumers. For example, in its most recent Budget consultation document, FSRA reiterated this priority, stating that:

> *"Older, inflexible regulatory frameworks hold back innovators and limit consumer choice and the economic benefits of industry competition and innovation"*

And that,

> *"FSRA is committed to supporting industry innovation, investment and growth, and to ensuring competition and continued new product availability."*

Part of encouraging competition is acknowledging that the dozens of PPV auto insurers have very different claims experiences because they target different consumer markets. As an example of how uniformly-applied trend rates can impact insurers differently depending on its consumer mix, consider the differing claims experiences that have already occurred following the 2016 reforms. GISA territorial data below highlights the 2016 reform claims impact by select geographies.

Accident Benefits Loss Cost Decreases by GISA Territory

	Ontario Overall	Ottawa	Greater Toronto Area	Hamilton	Grey-Bruce*
2016	$398	$313	$578	$361	$319
2018	$336	$238	$471	$322	$335
Percentage Change	**(16%)**	**(24%)**	(18%)	(11%)	**5%**

*IBC calculation with data from GISA exhibit AUTO3001-ON 2018. *Grey-Bruce territory also includes the areas surrounding Lake Simcoe, Parry Sound, Muskoka and Haliburton. 2019 accident year data is not available yet.*

In Ontario as a whole between 2016 and 2018, accident benefits loss costs decreased by 16%. Yet different regions saw very different rates of change. In Ottawa, accident benefits loss costs declined by 24%, while costs in Grey-Bruce actually *increased* by 5%. Insurers with different mixes of regional consumers have clearly had very different claims experience.

Similarly divergent claims experience was seen by gender. The table below shows the recent claims experience.

Accident Benefits Loss Cost Decreases by Gender

	Ontario	Male	Female
2016	$398	$398	$402
2018	$336	$314	$359
Percentage Change	**(16%)**	**(21%)**	**(11%)**

IBC calculation data from GISA exhibit AUTO2502-ON 2018, page 44. 2019 accident year data is not available yet.

Following the 2016 reforms, accident benefits loss costs for male drivers decreased at nearly twice the rate of female drivers.

Similarly varied claims experience can be shown based on any of the dozens of variables that insurers use to price their products. Therefore, any continued influence of the 2016 reforms will impact insurers differently depending on their consumer mix. Relying on a single actuary using all-industry data treats all companies, all books of business, and all geographic areas the same. This ultimately hinders competition in auto insurance.

Historical Impact of Reforms

Multiple consecutive years of stable or declining loss costs is rare in Ontario from an historical perspective. Following other recent Ontario reforms, claims costs fell for a year or two before increasing again. Several historical Ontario examples are highlighted below.

Bill 59 – Effective November 1, 1996

Bill 59, the *Automobile Insurance Rate Stability Act* decreased mandatory income replacement benefits from $1,000 to $400. The table below shows accident benefits loss costs before and after this reform.

Bill 59 Accident Benefits Loss Cost Impact

	1995	1996	1997	1998	1999	2000
AB Loss Costs	$260	**$251**	**$180**	$201	$240	$273
Year-Over-Year Change	-	-3%	**-29%**	+12%	+19%	+13%

IBC with data from GISA

In 1997, the first full year following the reforms, accident benefits loss costs fell by 29%. Cost stability only lasted for one year, as loss costs increased for each of the next three years.

Bill 198 – Effective October 1, 2003

Bill 198, the *Keeping the Promise for a Strong Economy Act* introduced pre-approved treatment of minor whiplash injuries and a one-year ban on cash-out settlements. The table below shows accident benefits loss costs before and after this reform.

Bill 198 Accident Benefits Loss Cost Impact

	2002	2003	2004	2005	2006	2007
AB Loss Costs	$354	**$331**	**$278**	$302	$331	$375
Year-Over-Year Change	-	-6%	**-16%**	9%	10%	13%

IBC with data from GISA

In the first full year following the reforms, accident benefits loss costs fell by 16%. Cost stability only lasted for one year, as loss costs increased steeply thereafter.

Ontario Regulation 34/10 (New SABS) – Effective September 1, 2010

Due to rapidly increasing accident benefits claims costs and driver premiums, the government reformed *Ontario Regulation 34/10* by including:

- The introduction of the *Minor Injury Guideline* $3,500 minor injury treatment cap;
- A reduction in med/rehab expenses from $100,000 to $50,000;
- The development of minor injury treatment guidelines; and
- A reduction in attendant care benefits for non-catastrophically injured claimants from $72,000 to $36,000.

The table below shows accident benefits loss costs before and after this reform.

Regulation 34/10 Accident Benefits Loss Cost Impact

	2009	2010	2011	2012	2013	2014	2015	2016
AB Loss Costs	$588	**$582**	**$325**	**$325**	$356	$356	$388	$387
Year-Over-Year Change	-	-1%	**-44%**	**0%**	9%	0%	9%	0%

IBC with data from GISA

As anticipated, accident benefits loss costs decreased considerably, falling by 44% in 2011, the first full year following the reforms and remained there in 2012. However, by 2013, loss costs were increasing again, leading to the most recent reforms in 2016.

Positive impacts of reforms on claims costs have often been short-lived because of changes to the claims environment, resulting from claimant behavioural adjustments to the reforms and from government or judicial decisions. Accordingly, several recent developments could lead to higher claims costs, such as:

- The pending government decision to eliminate juries at civil trials, which could increase claims costs because there is evidence that judge trials often award higher settlements than jury trials;
- The pending Civil Rules Committee decision to lower the discount rate that the courts use to set the present value of compensation for tort claims, which would increase the current value of settlements; and
- The recent *Tomec* decision which found that timelines for accident benefit entitlements outlined in the SABS may not be concrete and could lead to higher ultimate injury claim costs for past and present accident years.

Furthermore, though not a government or judicial decision, the impact of COVID-19 on future claims costs has yet to be determined. There are already signs that Ontarians are less willing to use public transit which could lead to greater vehicle use and claims than originally anticipated. There could also be increased use of income replacement benefits to account for income losses suffered during the economic fallout.

IBC expects that insurer-specific data will play an even more critical role than usual in determining the future impact of COVID-19 on claims costs.

Conclusion

The Ontario claims environment is notoriously difficult to predict. GISA cautioned that due to reporting changes by several major insurers, recent-stage claims development is subject to more uncertainty than usual. Oliver Wyman acknowledged that individual insurer trend rates are expected to be different from the industry as a whole. This view is corroborated by Dr. Miller's selection of different trend rates, some markedly so, for several coverages despite relying on the same GISA data set as Oliver Wyman.

Finally, several years of stable or declining accident benefits and bodily injury claims costs are very rare in Ontario and recent government and judicial developments could contribute to a return to rising claims costs. The long-term impact of COVID-19 adds an additional layer of uncertainty. For these reasons, it is critical that FSRA continue to encourage competition in the Ontario auto insurance industry and allow insurers greater flexibility in relying on their own claims data to develop trend rates used in upcoming rate filings.

Thank you again for the opportunity to comment on FSRA's *Loss Trend Benchmarks for Private Passenger Automobile Major Rate Filings* consultation. Please do not hesitate to contact me if you have any questions.

Sincerely,

Kim Donaldson
Vice President, Ontario

Attachments

Ontario Private Passenger (excl. Farmers) Forward Loss Cost Trends based on Projected Ultimates including ALAE and ULAE from GISA Loss Development Exhibit Data as of 31/12/2019

	Forward Loss Cost L+A+U Trend		RRM R^2	Loss Cost ~ 2017-1 Level Change				RRM 2021 Policy Year Projected Earned Loss Cost L+A+U		
Coverage or Sub-Coverage	**OW**	**RRM**	**Coefficient**	**OW****	**RRM****			**Exposure**	**per Car**	**per TPL-BI Car**
Third Party Liability - Bodily Injury Total (KoL 03,04,05,06,07)	**-7.50%**	**-4.49%**	94.3%		-8.5%			8,156,041	$200.59	$200.59
Third Party Liability - Property Damage (KoL 15)	4.20%	4.28%	86.1%					8,156,041	$11.52	$11.52
Third Party Liability - Direct Compensation Property Damage (KoL 12,14*,16,17*,18*,19*)	9.20%	8.53%	95.6%					8,156,041	$304.02	$304.02
Approximate Third Party Liability - Total (BI + PD + DCPD)	**2.09%**	**2.98%**		0.0%	-4.8%			8,156,041	$516.13	$516.13
Accident Benefits - Funeral (KoL 40,60*)	0.00%	-1.35%	94.7%					8,156,041	$0.42	$0.42
Accident Benefits - Death Benefits (KoL 42,62*)	0.00%	-1.22%	93.0%					8,156,041	$1.40	$1.40
Accident Benefits - Medical/Rehab/AC Total (KoL 41,61*,83*,93*,84*,94*,85*,95*,86*,96*,45*,65*,43*,63*,46*,66*,49*,87*,69*,97*)	**0.20%**	**-0.95%**	95.4%	-22.2%	-18.1%			8,156,041	$247.11	$247.11
Accident Benefits - Disability Income Total (KoL 44,80,64*,90*,81,91*,82,92*,48,68*)	**-0.40%**	**3.34%**	85.7%	-13.1%	-16.6%			8,156,041	$81.17	$81.17
Accident Benefits - Supplementary Benefits (KoL 37)	0.00%	0.00%	11.3%					8,156,041	$0.01	$0.01
Approximate Accident Benefits - Total (FB + DB + M/R/AC + DI + SB)	0.00%	0.07%		-20.2%	-17.7%			8,156,041	$330.11	$330.11
Uninsured Motorist Total (KoL 36*,38)	-7.00%	-3.03%	53.8%					8,156,041	$8.58	$8.58
Approximate Total Compulsory Coverages	1.17%	1.78%		-9.1%	-10.6%					$854.82
Underinsured Motorist - All (Cov 0x)	1.10%	3.74%	31.7%					7,925,512	$8.71	$8.46
Collision - Total (Cov 3x)	**9.10%**	**12.38%**	92.2%					5,497,951	$376.01	$253.47
All Perils - Total (Cov 4x)	**8.90%**	**7.96%**	91.2%					1,909,669	$493.17	$115.47
Comprehensive - Theft (Cov 8x & KoL 22,23,24)		36.14%	97.4%					5,739,438	$67.20	$47.29
Comprehensive - Other (Cov 8x & KoL 21,25,26,27,28,29)		9.59%	76.1%					5,739,438	$80.95	$56.96
Approximate Comprehensive - Total (Cov 8x)	**6.40%**	**20.22%**		0.0%	0.0%			5,739,438	$148.15	$104.25
Specified Perils - Total (Cov 2x)	6.40%	1.01%	51.8%					2,297	$22.82	$0.01
Approximate Total Optional Coverages	**8.35%**	**12.70%**		0.0%	0.0%					$481.66
Approximate Total All Covers	**3.59%**	**5.46%**		-7.0%	-8.1%					$1,336.48

* Kinds of Loss with an asterisk have had their claim count suppressed

** OW's effetive date for the ~ 2017-1 Level Change is 01/06/2016, versus RRM's 01/01/2017

GISA 31/12/2019 PPAxF Actual Loss Ratio Exhibit - Total All Coverages

AY	WE	EE	WP	EP	IN	LC	Avg. EP	Avg. LC	LR
2015	7,202,468	7,091,954	$10,479,888,396	$10,380,061,791	669,597	$7,739,880,565	$1,463.64	$1,091.36	74.6%
2016	7,535,689	7,283,803	$10,791,388,549	$10,506,327,190	707,960	$8,227,639,251	$1,442.42	$1,129.58	78.3%
2017	7,587,009	7,478,131	$10,937,659,174	$10,709,338,713	730,047	$8,229,850,662	$1,432.09	$1,100.52	76.8%
2018	7,767,958	7,664,489	$11,664,177,866	$11,237,724,057	770,489	$8,677,744,499	$1,466.21	$1,132.20	77.2%
2019	7,900,933	7,833,529	$12,913,377,604	$12,263,782,091	788,898	$8,987,289,113	$1,565.55	$1,147.28	73.3%
Total	37,994,057	37,351,906	$56,786,491,589	$55,097,233,842	3,666,991	$41,862,404,090	$1,475.08	$1,120.76	76.0%

Comments re Forward Loss Cost Trend Rates:

RRM's trend models (including fitted forward loss cost trends) are intended for use in estimating 2021 Policy Year loss costs, under the assumption that there will by then be no lingering effects of COVID-19 on loss costs - they may not be appropriate for the estimation of loss costs for earlier periods, or for that matter, for the 2021 Policy Year to the extent that this assumption proves to be false

No ad hoc changes in level or trend due to the 10/2018 legalization of cannabis or due to the 2020 COVID-19 Pandemic (for which there is not yet any data avalable form GISA which could be affected) have been included in the RRM trend models (or, it appears, also in the OW trend selections) - in particular, the 2020 COVID-19 Pandemic might have a material effect on claim costs in the short term for periods after 2019-2, to reflect the impact of possible effects such as reduced vehicle use, increased fraud, or altered claims administration, which may be occurring and might persist and affect claim costs into PY 2021

OW's forward appear not to be coupled with any recent level changes, except for AB-M/R/AC

Only (sub-)coverages with material Loss Costs matter: TPL-BI, TPL-DCPD, AB and its sub-coverages AB-M/R/AC and AB-DI, Collision, All Perils, Comprehensive

OW's forward loss trends = past trends (except for TPL-BI pre 01/04/2016, DCPD pre 2013, and AB pre 01/06/2016), while RRM's forward trends = past trends from 2017-1 for TPL-BI, AB-M/R/AC, Collition and Comprehensive, and from 2010-1 or earlier for other (sub)-coverages

Amongst the significant (sub-)coverages, and totals, OW versus RRM short term forward loss cost trends differ perhaps materially as follows:

- **TPL-BI:** both OW and RRM have material negative trends, with RRM about 3 percentage points above OW, but RRM also has a negative level change at 2017-1 while OW does not- ***the recent TPL-BI data is fraught with issues related to recent changes in reporting patterns by a number of major writers, which makes estimated utimate loss costs for recent periods even more uncertain than usual - in the fullness of time the true ultimate loss costs for recent periods may prove to be materially different from current estimates, and the currently estimated short term forward trends here may prove to be inaccurate, possibly materially***
- **TPL Total:** RRM is about 1 percentage above OW
- **AB M/R/AC:** RRM is about 1 percentage point below OW
- **AB DI:** RRM is about 3.75 percentage abvove OW
- **Collision:** RRM is about 3.25 percentage points above OW
- **All Perils:** RRM is about 1 percentage point below OW

Comprehensive - Total: RRM is about 14 percentage points above OW - RRM analyses the coverage split between Theft and Other, while OW only looks at the total coverage - projected ultimate loss costs for Theft for recent periods starting about 2017-1 are showing consistently very large increases over the value 12 months earlier ***- unless the recent Theft data is fraught with unindentified recent reporting issues by major writers (which might change RRM's model), or something has happened very recently in the insurance environment to curb these forward trends, RRM expects extremely large and escalating short term forward loss costs***

- **Total Optional:** RRM is about 4.25 percentage poionts above OW - this is manly due to the difference in Collision and Comprehensive
- **Total All Coverages:** RRM is about 1.75 percentage points above OW - due to a combination of the issues discussed above

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Third Party Liability - Bodily Injury Total (KoL 03,04,05,06,07)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,731,334	444,876,743	4,736	502,632,077	0.173	106,130	184.02	162.88	113.0	2,772,320	0.157	121,371	190.59	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,829,823	475,221,526	5,526	635,133,680	0.195	114,936	224.44	167.93	133.7	2,865,101	0.183	123,798	226.74	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,941,343	495,284,012	4,737	567,703,863	0.161	119,845	193.01	168.39	114.6	2,828,191	0.171	118,244	201.89	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,950,461	525,575,234	5,686	699,644,483	0.193	123,047	237.13	178.13	133.1	2,922,842	0.199	120,609	240.19	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,870,887	531,078,394	5,199	631,256,797	0.181	121,419	219.88	184.99	118.9	2,885,188	0.186	115,198	213.87	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,975,929	588,655,628	6,271	798,219,792	0.211	127,287	268.23	197.81	135.6	2,981,746	0.217	117,501	254.43	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,905,827	640,329,962	5,646	686,705,198	0.194	121,627	236.32	220.36	107.2	2,943,334	0.202	112,230	226.55	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,986,756	757,987,413	5,497	699,591,974	0.184	127,268	234.23	253.78	92.3	2,996,352	0.177	137,314	243.63	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,931,824	819,874,685	4,036	606,545,426	0.138	150,284	206.88	279.65	74.0	2,913,522	0.125	157,323	196.09	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,007,799	889,804,072	4,538	712,393,987	0.151	156,984	236.85	295.83	80.1	3,011,029	0.145	160,468	233.28	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,969,536	893,736,256	3,851	616,529,099	0.130	160,096	207.62	300.97	69.0	2,972,239	0.136	153,269	207.72	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,087,170	931,499,258	4,625	753,111,570	0.150	162,835	243.95	301.73	80.8	3,071,711	0.158	156,334	247.11	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,043,445	920,823,709	4,358	668,396,796	0.143	153,372	219.62	302.56	72.6	3,032,139	0.147	149,321	220.03	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,148,733	967,450,844	5,139	849,139,229	0.163	165,234	269.68	307.25	87.8	3,133,615	0.172	152,306	261.77	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,101,579	967,913,939	5,018	761,297,045	0.162	151,713	245.45	312.07	78.7	3,093,246	0.160	145,473	233.08	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,210,608	1,023,234,753	5,751	882,994,238	0.179	153,538	275.02	318.70	86.3	3,196,768	0.187	148,382	277.29	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,181,769	1,028,506,814	4,953	729,401,203	0.156	147,265	229.24	323.25	70.9	3,155,585	0.174	141,725	246.90	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,268,340	1,077,751,388	6,097	886,288,786	0.187	145,365	271.17	329.75	82.2	3,261,193	0.203	144,559	293.73	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,200,180	1,088,992,431	6,065	824,774,246	0.190	135,989	257.73	340.29	75.7	3,219,180	0.189	138,074	261.54	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,294,856	1,166,010,425	7,801	1,050,054,911	0.237	134,605	318.70	353.89	90.1	3,326,916	0.221	140,835	311.15	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,229,723	1,172,075,792	7,647	925,075,419	0.237	120,972	286.43	362.90	78.9	3,284,057	0.206	134,517	277.05	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,334,893	1,243,417,403	8,079	1,005,035,588	0.242	124,401	301.37	372.85	80.8	3,344,291	0.222	134,846	298.68	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,274,003	1,312,124,701	6,234	795,991,853	0.190	127,686	243.12	400.77	60.7	3,252,892	0.187	127,518	238.29	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,377,110	1,445,413,605	6,913	937,198,827	0.205	135,570	277.52	428.00	64.8	3,361,757	0.210	132,001	277.12	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,336,208	1,458,644,961	5,928	805,657,837	0.178	135,907	241.49	437.22	55.2	3,318,449	0.189	127,953	241.22	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,429,875	1,513,639,143	6,832	941,706,094	0.199	137,838	274.56	441.31	62.2	3,429,507	0.212	132,451	280.53	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,371,246	1,496,160,237	6,347	810,312,862	0.188	127,669	240.36	443.80	54.2	3,385,326	0.190	128,389	244.19	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,484,409	1,576,719,742	7,943	998,237,081	0.228	125,675	286.49	452.51	63.3	3,498,622	0.214	132,902	283.98	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,417,327	1,568,509,474	6,694	835,480,679	0.196	124,810	244.48	458.99	53.3	3,453,551	0.192	128,826	247.19	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,536,491	1,656,506,999	7,671	982,196,095	0.217	128,040	277.73	468.40	59.3	3,569,131	0.216	133,355	287.48	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,481,651	1,679,634,190	7,014	896,958,377	0.201	127,881	257.62	482.42	53.4	3,523,151	0.194	129,265	250.23	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,610,302	1,759,152,948	7,902	1,086,207,571	0.219	137,460	300.86	487.26	61.7	3,641,060	0.217	133,810	291.02	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,577,867	1,748,976,554	6,832	881,683,991	0.191	129,052	246.43	488.83	50.4	3,594,154	0.195	129,706	253.31	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,705,935	1,783,772,412	7,948	1,105,072,557	0.214	139,038	298.19	481.33	62.0	3,714,439	0.219	134,266	294.60	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,662,884	1,708,710,372	6,307	836,106,131	0.172	132,568	228.26	466.49	48.9	3,666,588	0.171	135,493	231.23	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,815,247	1,733,910,295	7,221	1,034,926,836	0.189	143,322	271.26	454.47	59.7	3,789,297	0.184	142,083	261.21	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,761,487	1,687,074,946	5,734	814,113,400	0.152	141,980	216.43	448.51	48.3	3,740,481	0.158	139,519	220.86	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,903,001	1,713,211,256	6,499	961,322,352	0.167	147,919	246.30	438.95	56.1	3,865,663	0.171	146,304	249.49	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,857,072	1,673,364,458	5,393	705,023,631	0.140	130,729	182.79	433.84	42.1	3,815,864	0.140	130,729	182.79	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,976,457	1,716,817,634	6,440	955,446,492	0.162	148,361	240.28	431.75	55.7	3,943,569	0.158	150,651	238.30	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,892,765		5,302	784,322,524	0.136	147,932	201.48			3,892,765	0.136	147,932	201.48	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,023,044		5,903	915,672,588	0.147	155,127	227.61			4,023,044	0.147	155,127	227.61	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,971,217		5,017	764,229,048	0.126	152,327	192.44			3,971,217	0.126	152,327	192.44	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,104,121		5,586	892,214,068	0.136	159,736	217.39			4,104,121	0.136	159,736	217.39	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,051,250		4,747	744,650,344	0.117	156,853	183.81			4,051,250	0.117	156,853	183.81	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,186,833		5,285	869,356,530	0.126	164,481	207.64			4,186,833	0.126	164,481	207.64	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,156,041		10,325	1,636,044,704	0.127	158,449	200.59																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.830	-0.030	-0.029	N/A	N/A	0.023	N/A	0.020	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-1.872	-0.566	-0.144	-0.123	-0.049	0.112	N/A	0.084	N/A	-0.075	-0.084
Ultimate Claim Severity Beta Hat Parameter Estimates:													11.713	0.364	-0.042	0.034	-0.094	0.033	N/A	-0.026	N/A	0.030	0.026
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													5.236	-0.202	-0.186	-0.089	-0.143	0.145	N/A	0.058	N/A	-0.045	-0.058
Earned Car-Years of Exposure R*2 Statistic = 99.0%; T-Test Statistics on 35 Degrees of Freedom:													3,431.212	-4.665	-3.940	N/A	N/A	7.011	N/A	25.488	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 88.0%; T-Test Statistics on 31 Degrees of Freedom:													-66.657	-10.508	-2.836	-1.971	-0.654	5.593	N/A	10.216	N/A	-5.972	-2.487
Ultimate Claim Severity R*2 Statistic = 75.6%; T-Test Statistics on 31 Degrees of Freedom:													451.318	7.312	-0.899	0.587	-1.364	1.775	N/A	-3.448	N/A	2.546	0.829
Ultimate Claim Cost/Car-Year R*2 Statistic = 94.3%; T-Test Statistics on 31 Degrees of Freedom:													321.539	-6.471	-6.325	-2.464	-3.302	12.476	N/A	12.127	N/A	-6.242	-2.968
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	0.004	0.037	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	0.000	0.798	5.768	51.802	0.000	N/A	0.000	N/A	0.000	1.849
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	0.000	37.536	56.119	18.229	8.575	N/A	0.165	N/A	1.607	41.354
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	0.000	0.000	1.949	0.242	0.000	N/A	0.000	N/A	0.000	0.573
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,758,525.326	0.970	0.971	1.000	1.000	1.023	1.000	1.020	1.020	1.020	1.020
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.154	0.568	0.866	0.885	0.952	1.119	1.000	1.087	1.087	1.009	0.928
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													122,165.968	1.439	0.959	1.034	0.910	1.033	1.000	0.974	0.974	1.003	1.030
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													187.868	0.817	0.831	0.915	0.867	1.156	1.000	1.059	1.059	1.012	0.955

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Third Party Liability - Property Damage (KoL 15)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,713,987	27,535,995	5,288	17,206,038	0.195	3,254	6.34	10.15	62.5	2,758,418	0.164	3,853	6.33	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,801,978	28,822,247	5,538	21,161,188	0.198	3,821	7.55	10.29	73.4	2,851,517	0.169	4,014	6.76	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,914,174	29,397,713	4,573	16,741,552	0.157	3,661	5.74	10.09	56.9	2,814,680	0.164	3,853	6.33	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,935,399	31,031,666	5,097	20,863,006	0.174	4,093	7.11	10.57	67.2	2,909,678	0.169	4,014	6.76	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,861,615	33,380,829	4,998	18,204,091	0.175	3,642	6.36	11.67	54.5	2,872,089	0.164	3,853	6.33	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,972,169	38,515,372	5,150	22,090,572	0.173	4,289	7.43	12.96	57.4	2,969,025	0.169	4,014	6.76	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,907,851	39,169,021	4,798	17,785,686	0.165	3,707	6.12	13.47	45.4	2,930,670	0.164	3,853	6.33	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,992,663	42,158,862	4,587	16,880,301	0.153	3,680	5.64	14.09	40.0	2,988,856	0.168	4,029	6.77	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,936,275	45,332,549	4,437	19,802,952	0.151	4,463	6.74	15.44	43.7	2,910,584	0.163	3,911	6.37	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,011,975	49,302,729	4,368	18,550,623	0.145	4,247	6.16	16.37	37.6	3,008,819	0.166	4,137	6.85	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,971,168	45,765,520	4,407	18,996,209	0.148	4,310	6.39	15.40	41.5	2,969,950	0.160	4,031	6.46	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,083,721	44,762,009	4,789	21,041,839	0.155	4,394	6.82	14.52	47.0	3,070,189	0.163	4,263	6.94	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,040,064	42,448,353	4,404	20,561,704	0.145	4,669	6.76	13.96	48.4	3,030,527	0.157	4,155	6.54	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,147,497	42,463,786	4,985	23,054,142	0.158	4,625	7.32	13.49	54.3	3,132,810	0.160	4,394	7.04	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,100,311	41,922,574	5,091	22,810,856	0.164	4,481	7.36	13.52	54.4	3,092,339	0.155	4,282	6.63	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,208,988	43,600,327	5,122	23,819,333	0.160	4,650	7.42	13.59	54.6	3,196,708	0.157	4,528	7.13	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,179,574	43,414,200	4,815	20,485,210	0.151	4,254	6.44	13.65	47.2	3,155,412	0.152	4,413	6.72	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,267,093	44,505,908	5,084	24,173,765	0.156	4,755	7.40	13.62	54.3	3,261,910	0.155	4,667	7.22	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,194,377	42,895,773	4,736	23,040,042	0.148	4,865	7.21	13.43	53.7	3,219,771	0.150	4,548	6.81	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,290,457	43,031,455	4,764	22,783,803	0.145	4,782	6.92	13.08	52.9	3,328,441	0.152	4,810	7.32	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,227,542	41,869,925	4,514	22,415,812	0.140	4,966	6.95	12.97	53.5	3,285,443	0.147	4,687	6.90	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,333,862	44,075,249	5,020	24,579,552	0.151	4,896	7.37	13.22	55.8	3,344,203	0.149	4,980	7.44	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,270,888	44,658,140	4,711	24,267,482	0.144	5,151	7.42	13.65	54.3	3,250,337	0.144	4,919	7.09	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,374,445	47,498,031	4,946	25,448,289	0.147	5,145	7.54	14.08	53.6	3,360,039	0.146	5,297	7.73	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,333,124	47,734,391	4,969	24,677,149	0.149	4,966	7.40	14.32	51.7	3,316,633	0.141	5,256	7.39	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,427,255	49,451,078	4,916	25,955,323	0.143	5,280	7.57	14.43	52.5	3,428,572	0.143	5,659	8.07	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,368,433	48,770,558	4,805	25,170,356	0.143	5,238	7.47	14.48	51.6	3,384,280	0.137	5,615	7.71	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,482,656	50,448,783	5,168	30,199,944	0.148	5,844	8.67	14.49	59.9	3,498,503	0.139	6,047	8.41	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,415,896	49,239,784	4,689	25,298,140	0.137	5,395	7.41	14.41	51.4	3,453,308	0.134	6,000	8.04	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,537,190	50,326,271	4,831	31,112,210	0.137	6,440	8.80	14.23	61.8	3,569,860	0.136	6,461	8.77	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,481,660	49,230,066	4,643	30,257,582	0.133	6,517	8.69	14.14	61.5	3,523,743	0.131	6,411	8.38	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,611,920	50,765,052	4,575	33,403,583	0.127	7,301	9.25	14.05	65.8	3,642,673	0.133	6,903	9.15	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,579,562	53,118,267	4,585	32,942,148	0.128	7,185	9.20	14.84	62.0	3,595,615	0.128	6,849	8.74	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,501	57,306,060	4,929	35,484,211	0.133	7,199	9.56	15.44	61.9	3,716,971	0.129	7,376	9.54	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,670,084	55,517,007	4,424	29,585,073	0.121	6,687	8.06	15.13	53.3	3,668,953	0.125	7,318	9.12	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,821,468	57,415,822	5,170	38,004,153	0.135	7,351	9.94	15.02	66.2	3,792,784	0.126	7,881	9.95	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,769,866	57,381,413	4,560	37,243,574	0.121	8,167	9.88	15.22	64.9	3,743,787	0.122	7,819	9.51	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,909,182	61,522,182	4,621	38,835,685	0.118	8,404	9.93	15.74	63.1	3,870,143	0.123	8,420	10.37	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,857,342	62,662,532	4,346	37,572,035	0.113	8,645	9.74	16.25	60.0	3,820,147	0.119	8,355	9.92	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,979,375	65,666,702	4,785	47,536,746	0.120	9,935	11.95	16.50	72.4	3,949,081	0.120	8,997	10.82	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,898,065		4,515	40,308,823	0.116	8,927	10.34			3,898,065	0.116	8,927	10.34	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,029,628		4,729	45,460,892	0.117	9,613	11.28			4,029,628	0.117	9,613	11.28	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,977,572		4,497	42,893,050	0.113	9,538	10.78			3,977,572	0.113	9,538	10.78	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,111,818		4,710	48,375,422	0.115	10,271	11.76			4,111,818	0.115	10,271	11.76	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,058,700		4,479	45,642,954	0.110	10,191	11.25			4,058,700	0.110	10,191	11.25	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,195,685		4,691	51,476,805	0.112	10,974	12.27			4,195,685	0.112	10,974	12.27	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,171,203		9,189	94,106,246	0.112	10,242	11.52																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:														14.825	-0.027	-0.031	N/A	N/A	0.023	N/A	0.020	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:														-1.806	N/A	N/A	N/A	N/A	0.025	N/A	N/A	-0.017	-0.007	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:														8.257	N/A	N/A	N/A	N/A	0.041	N/A	N/A	0.030	0.036	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:														1.845	N/A	N/A	N/A	N/A	0.066	N/A	N/A	0.013	0.029	N/A
Earned Car-Years of Exposure R*2 Statistic = 99.1%; T-Test Statistics on 35 Degrees of Freedom:														3,500.477	-4.277	-4.218	N/A	N/A	7.204	N/A	26.322	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 77.3%; T-Test Statistics on 36 Degrees of Freedom:														-86.984	N/A	N/A	N/A	N/A	1.271	N/A	N/A	-3.839	-0.912	N/A
Ultimate Claim Severity R*2 Statistic = 94.3%; T-Test Statistics on 36 Degrees of Freedom:														369.068	N/A	N/A	N/A	N/A	1.915	N/A	N/A	6.322	4.196	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 86.1%; T-Test Statistics on 36 Degrees of Freedom:														84.898	N/A	N/A	N/A	N/A	3.185	N/A	N/A	2.839	3.448	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:														0.000	0.014	0.017	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:														0.000	N/A	N/A	N/A	N/A	21.186	N/A	N/A	0.048	36.778	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:														0.000	N/A	N/A	N/A	N/A	6.348	N/A	N/A	0.000	0.017	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:														0.000	N/A	N/A	N/A	N/A	0.299	N/A	N/A	0.739	0.146	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														2,744,528.627	0.973	0.970	1.000	1.000	1.023	1.000	1.020	1.020	1.020	1.020
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														0.164	1.000	1.000	1.000	1.000	1.026	1.000	1.000	0.983	0.976	0.976
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														3,852.933	1.000	1.000	1.000	1.000	1.042	1.000	1.000	1.031	1.068	1.068
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														6.331	1.000	1.000	1.000	1.000	1.068	1.000	1.000	1.013	1.043	1.043

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Third Party Liability - Direct Compensation Propreprty Damage (KoL 12,14*,16,17*,18*,19*)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates					Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Claim Cost	$/Car Earned Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,722,980	423,474,777	105,029	366,132,660	3.857	3,486	134.46	155.52	86.5	2,758,991	3.708	3,740	138.64	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,825,292	449,621,976	117,373	434,068,971	4.154	3,698	153.64	159.14	96.5	2,851,397	3.757	3,920	147.26	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,934,361	467,291,679	107,544	387,564,609	3.665	3,604	132.08	159.25	82.9	2,815,517	3.705	3,795	140.63	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,939,031	510,207,905	110,748	432,713,028	3.768	3,907	147.23	173.60	84.8	2,909,816	3.755	3,978	149.37	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,855,326	538,546,982	102,939	400,564,288	3.605	3,891	140.29	188.61	74.4	2,873,201	3.703	3,852	142.64	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,956,209	616,456,672	107,597	465,521,815	3.640	4,327	157.47	208.53	75.5	2,969,432	3.753	4,037	151.51	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,886,801	647,941,047	103,699	443,197,906	3.592	4,274	153.53	224.45	68.4	2,932,067	3.701	3,909	144.68	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,968,999	701,684,172	91,219	411,678,076	3.072	4,513	138.66	236.34	58.7	2,985,291	3.363	4,257	143.15	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,911,747	719,352,148	89,363	387,142,968	3.069	4,332	132.96	247.05	53.8	2,903,974	2.973	4,283	127.33	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	2,983,276	747,501,468	89,365	402,237,047	2.996	4,501	134.83	250.56	53.8	3,001,235	3.013	4,489	135.25	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,954,701	726,495,849	87,539	381,034,394	2.963	4,353	128.96	245.88	52.4	2,963,470	2.971	4,347	129.15	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,079,027	739,926,639	92,094	425,447,629	2.991	4,620	138.18	240.31	57.5	3,062,724	3.011	4,556	137.18	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,038,238	720,514,433	84,133	374,512,592	2.769	4,451	123.27	237.15	52.0	3,024,185	2.970	4,411	131.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,144,600	735,777,935	93,776	434,222,451	2.982	4,630	138.09	233.98	59.0	3,125,473	3.010	4,623	139.14	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,099,304	713,084,876	93,932	433,364,974	3.031	4,614	139.83	230.08	60.8	3,086,145	2.968	4,477	132.87	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,207,927	725,476,579	95,977	462,222,323	2.992	4,816	144.09	226.15	63.7	3,189,508	3.008	4,692	141.13	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,179,690	720,993,167	97,784	440,730,554	3.075	4,507	138.61	226.75	61.1	3,149,374	2.966	4,543	134.77	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,266,944	743,207,275	99,608	468,832,790	3.049	4,707	143.51	227.49	63.1	3,254,854	3.006	4,762	143.15	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,198,416	720,702,293	97,885	435,347,445	3.060	4,448	136.11	225.33	60.4	3,213,898	2.965	4,611	136.70	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,293,122	730,448,364	97,098	456,444,513	2.949	4,701	138.61	221.81	62.5	3,321,539	3.004	4,833	145.20	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,228,055	713,169,740	95,794	427,611,675	2.968	4,464	132.47	220.93	60.0	3,279,744	2.963	4,680	138.66	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,333,258	732,078,709	103,176	485,228,331	3.095	4,703	145.57	219.63	66.3	3,340,009	2.928	4,656	136.33	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,271,715	729,123,222	95,922	444,814,218	2.932	4,637	135.96	222.86	61.0	3,249,739	2.834	4,325	122.56	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,374,662	751,958,153	97,830	467,937,086	2.899	4,783	138.66	222.82	62.2	3,358,582	2.908	4,631	134.66	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,334,907	745,906,952	91,082	418,539,730	2.731	4,595	125.50	223.67	56.1	3,316,320	2.904	4,581	133.02	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,428,856	773,906,568	99,477	478,684,343	2.901	4,812	139.60	225.70	61.9	3,427,392	2.980	4,905	146.15	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,371,096	771,027,726	96,937	464,245,549	2.876	4,789	137.71	228.72	60.2	3,384,264	2.976	4,852	144.37	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,484,423	808,796,006	108,152	549,647,434	3.104	5,082	157.74	232.12	68.0	3,497,612	3.053	5,195	158.63	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,418,250	796,307,048	109,864	549,826,433	3.214	5,005	160.85	232.96	69.0	3,453,601	3.049	5,139	156.69	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,538,101	794,682,238	106,827	558,425,964	3.019	5,227	157.83	224.61	70.3	3,569,271	3.129	5,502	172.16	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,483,330	757,822,521	114,072	609,921,456	3.275	5,347	175.10	217.56	80.5	3,524,358	3.125	5,443	170.06	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,613,546	771,681,997	113,347	645,989,818	3.137	5,699	178.77	213.55	83.7	3,642,398	3.206	5,828	186.85	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,582,048	742,794,139	112,530	641,845,070	3.141	5,704	179.18	207.37	86.4	3,596,565	3.202	5,765	184.57	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,791	767,178,023	126,047	767,717,072	3.396	6,091	206.83	206.69	100.1	3,717,023	3.285	6,173	202.80	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,669,889	793,343,197	116,891	711,721,782	3.185	6,089	193.94	216.18	89.7	3,670,251	3.281	6,106	200.32	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,818,539	867,030,520	134,085	879,722,613	3.511	6,561	230.38	227.06	101.5	3,793,177	3.367	6,538	220.10	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,766,406	889,032,381	125,961	833,715,807	3.344	6,619	221.36	236.04	93.8	3,745,447	3.362	6,467	217.42	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,905,194	986,003,266	134,349	954,142,841	3.440	7,102	244.33	252.49	96.8	3,870,892	3.450	6,924	238.88	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,853,880	1,055,486,102	132,098	938,102,558	3.428	7,102	243.42	273.88	88.9	3,822,183	3.445	6,850	235.97	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,974,389	1,200,904,677	139,348	1,022,062,558	3.506	7,335	257.16	302.16	85.1	3,950,198	3.535	7,334	259.27	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,900,492		137,693	998,933,591	3.530	7,255	256.10			3,900,492	3.530	7,255	256.10	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,031,130		146,024	1,134,315,504	3.622	7,768	281.39			4,031,130	3.622	7,768	281.39	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,980,405		143,986	1,106,386,019	3.617	7,684	277.96			3,980,405	3.617	7,684	277.96	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,113,719		152,698	1,256,330,577	3.712	8,228	305.40			4,113,719	3.712	8,228	305.40	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,061,955		150,567	1,225,396,798	3.707	8,139	301.68			4,061,955	3.707	8,139	301.68	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,198,001		159,677	1,391,470,463	3.804	8,714	331.46			4,198,001	3.804	8,714	331.46	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,176,357		303,365	2,485,759,652	3.710	8,194	304.02																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:														14.825	-0.030	-0.029	N/A	N/A	0.023	N/A	0.020	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:														1.311	-0.218	-0.056	N/A	N/A	0.014	N/A	-0.001	N/A	0.025	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:														8.223	0.077	-0.115	N/A	N/A	0.040	N/A	0.015	N/A	0.043	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:														4.928	-0.142	-0.171	N/A	N/A	0.053	N/A	0.014	N/A	0.068	N/A
Earned Car-Years of Exposure R*2 Statistic = 99.0%; T-Test Statistics on 35 Degrees of Freedom:														3,386.026	-4.571	-3.887	N/A	N/A	6.879	N/A	25.575	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 85.5%; T-Test Statistics on 34 Degrees of Freedom:														72.353	-6.270	-1.926	N/A	N/A	1.087	N/A	-0.107	N/A	4.005	N/A
Ultimate Claim Severity R*2 Statistic = 96.3%; T-Test Statistics on 34 Degrees of Freedom:														476.841	2.308	-4.116	N/A	N/A	3.328	N/A	2.926	N/A	7.194	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 95.6%; T-Test Statistics on 34 Degrees of Freedom:														240.382	-3.598	-5.164	N/A	N/A	3.759	N/A	2.367	N/A	9.589	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:														0.000	0.006	0.043	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:														0.000	0.000	6.246	N/A	N/A	28.461	N/A	91.581	N/A	0.032	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:														0.000	2.719	0.023	N/A	N/A	0.211	N/A	0.608	N/A	0.000	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:														0.000	0.101	0.001	N/A	N/A	0.064	N/A	2.378	N/A	0.000	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														2,745,037.625	0.971	0.971	1.000	1.000	1.023	1.000	1.020	1.020	1.020	1.020
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														3.708	0.804	0.945	1.000	1.000	1.014	1.000	0.999	0.999	1.025	1.025
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														3,725.782	1.080	0.891	1.000	1.000	1.040	1.000	1.015	1.015	1.059	1.059
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														138.153	0.868	0.842	1.000	1.000	1.055	1.000	1.014	1.014	1.085	1.085

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Accident Benefits - Funeral (KoL 40,60*)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out-lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,612,611	616,182,695	328	2,192,017	0.013	6,683	0.84	235.85	0.4	2,700,523	0.011	6,707	0.76	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,703,311	640,420,571	382	2,587,413	0.014	6,773	0.96	236.90	0.4	2,789,936	0.014	6,836	0.94	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,815,932	664,527,712	310	2,085,255	0.011	6,727	0.74	235.99	0.3	2,756,770	0.011	6,707	0.76	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,831,592	710,530,083	369	2,722,977	0.013	7,379	0.96	250.93	0.4	2,848,045	0.014	6,836	0.94	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,860,798	774,520,654	285	1,972,727	0.010	6,922	0.69	270.74	0.3	2,814,189	0.011	6,707	0.76	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,966,799	889,957,316	400	2,800,469	0.013	7,001	0.94	299.97	0.3	2,907,364	0.014	6,836	0.94	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,896,602	999,852,778	313	2,146,560	0.011	6,858	0.74	345.18	0.2	2,872,803	0.011	6,707	0.76	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,979,855	1,202,042,883	371	2,502,447	0.012	6,745	0.84	403.39	0.2	2,954,436	0.014	6,830	0.93	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,925,523	1,291,067,849	305	2,096,794	0.010	6,875	0.72	441.31	0.2	2,906,052	0.011	6,682	0.73	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,001,192	1,324,800,271	404	2,506,502	0.013	6,204	0.84	441.42	0.2	3,002,269	0.013	6,786	0.87	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,960,878	1,256,962,500	323	1,951,558	0.011	6,042	0.66	424.52	0.2	2,966,579	0.010	6,634	0.67	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,078,978	1,256,812,684	371	2,479,250	0.012	6,683	0.81	408.19	0.2	3,064,800	0.012	6,737	0.80	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,038,070	1,212,554,616	328	2,101,217	0.011	6,406	0.69	399.12	0.2	3,028,368	0.009	6,585	0.62	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,144,172	1,230,872,820	378	2,506,465	0.012	6,631	0.80	391.48	0.2	3,128,635	0.011	6,688	0.74	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,098,547	1,194,366,238	321	2,050,136	0.010	6,387	0.66	385.46	0.2	3,091,443	0.009	6,538	0.57	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,207,341	1,218,552,656	331	2,190,567	0.010	6,618	0.68	379.93	0.2	3,193,798	0.010	6,639	0.68	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,178,859	1,204,572,097	263	1,711,769	0.008	6,509	0.54	378.93	0.1	3,155,832	0.008	6,490	0.53	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,266,405	1,254,961,276	290	2,018,467	0.009	6,960	0.62	384.20	0.2	3,260,319	0.010	6,591	0.63	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,198,659	1,279,976,952	224	1,470,137	0.007	6,563	0.46	400.16	0.1	3,221,562	0.008	6,443	0.49	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,293,420	1,411,954,260	264	1,869,859	0.008	7,083	0.57	428.72	0.1	3,328,226	0.009	6,543	0.58	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,228,357	1,543,409,852	228	1,475,727	0.007	6,472	0.46	478.08	0.1	3,288,661	0.007	6,396	0.45	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,335,564	1,773,854,485	286	1,907,952	0.009	6,671	0.57	531.80	0.1	3,341,934	0.008	6,506	0.54	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,280,500	1,769,113,864	206	1,301,639	0.006	6,319	0.40	539.28	0.1	3,248,155	0.007	6,389	0.43	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,385,347	1,839,679,320	260	1,698,837	0.008	6,534	0.50	543.42	0.1	3,355,699	0.008	6,529	0.53	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,341,384	1,861,058,923	236	1,549,326	0.007	6,565	0.46	556.97	0.1	3,315,808	0.007	6,422	0.42	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,431,979	1,921,369,728	281	1,858,442	0.008	6,614	0.54	559.84	0.1	3,425,592	0.008	6,562	0.52	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,373,610	1,873,158,747	214	1,358,478	0.006	6,348	0.40	555.24	0.1	3,384,870	0.006	6,454	0.42	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,486,732	1,859,063,399	274	1,722,648	0.008	6,287	0.49	533.18	0.1	3,496,941	0.008	6,595	0.51	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,420,277	1,766,199,237	199	1,259,904	0.006	6,331	0.37	516.39	0.1	3,455,371	0.006	6,487	0.41	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,539,700	1,713,781,017	279	1,765,219	0.008	6,327	0.50	484.16	0.1	3,569,776	0.008	6,629	0.51	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,484,953	1,562,935,952	208	1,321,865	0.006	6,355	0.38	448.48	0.1	3,527,340	0.006	6,520	0.41	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,613,636	1,551,400,230	254	1,637,262	0.007	6,446	0.45	429.32	0.1	3,644,127	0.007	6,663	0.50	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,581,791	1,520,445,701	231	1,442,870	0.006	6,246	0.40	424.49	0.1	3,600,808	0.006	6,553	0.40	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,480	1,526,818,650	301	2,102,693	0.008	6,986	0.57	411.38	0.1	3,720,028	0.007	6,697	0.49	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,670,797	1,484,021,908	235	1,581,726	0.006	6,731	0.43	404.28	0.1	3,675,806	0.006	6,587	0.40	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,819,228	1,547,475,436	313	1,958,906	0.008	6,258	0.51	405.18	0.1	3,797,509	0.007	6,731	0.49	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,767,241	1,540,202,196	225	1,595,538	0.006	7,091	0.42	408.84	0.1	3,752,366	0.006	6,620	0.39	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,905,068	1,624,611,472	261	1,767,805	0.007	6,773	0.45	416.03	0.1	3,876,604	0.007	6,765	0.48	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,853,761	1,653,780,378	201	1,395,662	0.005	6,944	0.36	429.13	0.1	3,830,521	0.006	6,654	0.39	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,973,426	1,780,987,147	270	1,873,198	0.007	6,938	0.47	448.22	0.1	3,957,347	0.007	6,799	0.47	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,910,304		223	1,488,862	0.006	6,688	0.38			3,910,304	0.006	6,688	0.38	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,039,771		276	1,884,560	0.007	6,834	0.47			4,039,771	0.007	6,834	0.47	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,991,748		223	1,499,421	0.006	6,722	0.38			3,991,748	0.006	6,722	0.38	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,123,912		276	1,897,926	0.007	6,869	0.46			4,123,912	0.007	6,869	0.46	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,074,889		224	1,510,055	0.005	6,756	0.37			4,074,889	0.005	6,756	0.37	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,209,805		277	1,911,386	0.007	6,904	0.45			4,209,805	0.007	6,904	0.45	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,199,489		500	3,408,687	0.006	6,819	0.42																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.804	-0.009	-0.033	N/A	N/A	0.022	N/A	0.021	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-4.478	N/A	N/A	N/A	N/A	0.191	N/A	N/A	-0.073	0.055	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													8.811	N/A	N/A	N/A	N/A	0.019	N/A	N/A	-0.007	0.012	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													-0.273	N/A	N/A	N/A	N/A	0.210	N/A	N/A	-0.081	0.067	N/A
Earned Car-Years of Exposure R*2 Statistic = 98.9%; T-Test Statistics on 35 Degrees of Freedom:													2,983.295	-1.228	-3.841	N/A	N/A	5.927	N/A	22.936	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 93.3%; T-Test Statistics on 36 Degrees of Freedom:													-179.591	N/A	N/A	N/A	N/A	8.012	N/A	N/A	-13.787	5.710	N/A
Ultimate Claim Severity R*2 Statistic = 18.8%; T-Test Statistics on 36 Degrees of Freedom:													639.967	N/A	N/A	N/A	N/A	1.452	N/A	N/A	-2.485	2.340	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 94.7%; T-Test Statistics on 36 Degrees of Freedom:													-11.889	N/A	N/A	N/A	N/A	9.584	N/A	N/A	-16.484	7.614	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	22.761	0.049	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	0.000	N/A	N/A	0.000	0.000	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	15.519	N/A	N/A	1.774	2.496	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	0.000	N/A	N/A	0.000	0.000	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,686,641.850	0.991	0.968	1.000	1.000	1.023	1.000	1.021	1.021	1.021	1.021
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.011	1.000	1.000	1.000	1.000	1.210	1.000	1.000	0.929	0.982	0.982
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													6,706.702	1.000	1.000	1.000	1.000	1.019	1.000	1.000	0.993	1.005	1.005
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.761	1.000	1.000	1.000	1.000	1.234	1.000	1.000	0.923	0.987	0.987

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Accident Benefits - Death Benefits (KoL 42,62*)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates					Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,612,611	616,182,695	234	7,722,803	0.009	33,003	2.96	235.85	1.3	2,700,523	0.008	33,665	2.80	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,703,311	640,420,571	286	9,385,319	0.011	32,816	3.47	236.90	1.5	2,789,936	0.010	33,235	3.42	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,815,932	664,527,712	225	7,790,498	0.008	34,624	2.77	235.99	1.2	2,756,770	0.008	33,665	2.80	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,831,592	710,530,083	286	9,600,688	0.010	33,569	3.39	250.93	1.4	2,848,045	0.010	33,235	3.42	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,860,798	774,520,654	211	7,591,888	0.007	35,981	2.65	270.74	1.0	2,814,189	0.008	33,665	2.80	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,966,799	889,957,316	294	10,698,731	0.010	36,390	3.61	299.97	1.2	2,907,364	0.010	33,235	3.42	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,896,602	999,852,778	230	7,979,838	0.008	34,695	2.75	345.18	0.8	2,872,803	0.008	33,665	2.80	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,979,855	1,202,042,883	290	10,078,036	0.010	34,752	3.38	403.39	0.8	2,954,436	0.010	33,170	3.38	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,925,523	1,291,067,849	230	7,521,474	0.008	32,702	2.57	441.31	0.6	2,906,052	0.008	33,401	2.67	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,001,192	1,324,800,271	271	8,040,143	0.009	29,668	2.68	441.42	0.6	3,002,269	0.010	32,716	3.11	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,960,878	1,256,962,500	225	7,201,275	0.008	32,006	2.43	424.52	0.6	2,966,579	0.007	32,879	2.43	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,078,978	1,256,812,684	276	8,903,817	0.009	32,260	2.89	408.19	0.7	3,064,800	0.009	32,205	2.83	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,038,070	1,212,554,616	229	6,957,212	0.008	30,381	2.29	399.12	0.6	3,028,368	0.007	32,365	2.21	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,144,172	1,230,872,820	276	8,633,448	0.009	31,281	2.75	391.48	0.7	3,128,635	0.008	31,701	2.57	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,098,547	1,194,366,238	247	7,921,568	0.008	32,071	2.56	385.46	0.7	3,091,443	0.006	31,859	2.01	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,207,341	1,218,552,656	265	7,247,767	0.008	27,350	2.26	379.93	0.6	3,193,798	0.008	31,206	2.34	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,178,859	1,204,572,097	183	6,327,056	0.006	34,574	1.99	378.93	0.5	3,155,832	0.006	31,361	1.83	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,266,405	1,254,961,276	214	5,941,338	0.007	27,763	1.82	384.20	0.5	3,260,319	0.007	30,718	2.13	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,198,659	1,279,976,952	178	5,145,179	0.006	28,906	1.61	400.16	0.4	3,221,562	0.005	30,871	1.67	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,293,420	1,411,954,260	188	5,603,872	0.006	29,808	1.70	428.72	0.4	3,328,226	0.006	30,238	1.94	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,228,357	1,543,409,852	164	4,629,896	0.005	28,231	1.43	478.08	0.3	3,288,661	0.005	30,389	1.52	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,335,564	1,773,854,485	185	6,058,139	0.006	32,747	1.82	531.80	0.3	3,341,934	0.006	29,851	1.78	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,280,500	1,769,113,864	147	4,497,474	0.004	30,595	1.37	539.28	0.3	3,248,155	0.005	30,256	1.44	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,385,347	1,839,679,320	202	6,159,050	0.006	30,490	1.82	543.42	0.3	3,355,699	0.006	29,975	1.74	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,341,384	1,861,058,923	160	5,237,845	0.005	32,737	1.57	556.97	0.3	3,315,808	0.005	30,468	1.42	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,431,979	1,921,369,728	205	5,971,183	0.006	29,128	1.74	559.84	0.3	3,425,592	0.006	30,185	1.72	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,373,610	1,873,158,747	141	4,709,548	0.004	33,401	1.40	555.24	0.3	3,384,870	0.005	30,682	1.40	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,486,732	1,859,063,399	201	6,096,460	0.006	30,331	1.75	533.18	0.3	3,496,941	0.006	30,396	1.70	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,420,277	1,766,199,237	144	4,540,024	0.004	31,528	1.33	516.39	0.3	3,455,371	0.004	30,897	1.39	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,539,700	1,713,781,017	200	6,331,323	0.006	31,657	1.79	484.16	0.4	3,569,776	0.005	30,610	1.68	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,484,953	1,562,935,952	145	4,748,980	0.004	32,752	1.36	448.48	0.3	3,527,340	0.004	31,113	1.37	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,613,636	1,551,400,230	172	5,630,100	0.005	32,733	1.56	429.32	0.4	3,644,127	0.005	30,824	1.66	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,581,791	1,520,445,701	158	4,613,852	0.004	29,202	1.29	424.49	0.3	3,600,808	0.004	31,332	1.35	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,480	1,526,818,650	206	6,232,683	0.006	30,256	1.68	411.38	0.4	3,720,028	0.005	31,040	1.64	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,670,797	1,484,021,908	170	5,269,098	0.005	30,995	1.44	404.28	0.4	3,675,806	0.004	31,551	1.34	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,819,228	1,547,475,436	221	7,557,100	0.006	34,195	1.98	405.18	0.5	3,797,509	0.005	31,258	1.62	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,767,241	1,540,202,196	164	5,172,886	0.004	31,542	1.37	408.84	0.3	3,752,366	0.004	31,773	1.32	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,905,068	1,624,611,472	191	5,971,775	0.005	31,266	1.53	416.03	0.4	3,876,604	0.005	31,477	1.60	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,853,761	1,653,780,378	136	3,928,261	0.004	28,884	1.02	429.13	0.2	3,830,521	0.004	31,995	1.30	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,973,426	1,780,987,147	207	6,556,251	0.005	31,673	1.65	448.22	0.4	3,957,347	0.005	31,698	1.58	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,910,304		156	5,036,258	0.004	32,220	1.29			3,910,304	0.004	32,220	1.29	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,039,771		197	6,302,696	0.005	31,920	1.56			4,039,771	0.005	31,920	1.56	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,991,748		157	5,078,192	0.004	32,446	1.27			3,991,748	0.004	32,446	1.27	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,123,912		198	6,355,176	0.005	32,144	1.54			4,123,912	0.005	32,144	1.54	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,074,889		157	5,120,476	0.004	32,673	1.26			4,074,889	0.004	32,673	1.26	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,209,805		198	6,408,092	0.005	32,369	1.52			4,209,805	0.005	32,369	1.52	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,199,489		354	11,478,310	0.004	32,384	1.40																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.804	-0.009	-0.033	N/A	N/A	0.022	N/A	0.021	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-4.788	N/A	N/A	N/A	N/A	0.211	N/A	N/A	-0.079	0.059	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													10.424	N/A	N/A	N/A	N/A	-0.013	N/A	N/A	-0.016	0.023	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													1.031	N/A	N/A	N/A	N/A	0.198	N/A	N/A	-0.094	0.082	N/A
Earned Car-Years of Exposure R*2 Statistic = 98.9%; T-Test Statistics on 35 Degrees of Freedom:													2,983.295	-1.228	-3.841	N/A	N/A	5.927	N/A	22.936	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 93.5%; T-Test Statistics on 36 Degrees of Freedom:													-183.368	N/A	N/A	N/A	N/A	8.450	N/A	N/A	-14.118	5.913	N/A
Ultimate Claim Severity R*2 Statistic = 28.9%; T-Test Statistics on 36 Degrees of Freedom:													515.192	N/A	N/A	N/A	N/A	-0.664	N/A	N/A	-3.650	2.926	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 93.0%; T-Test Statistics on 36 Degrees of Freedom:													34.657	N/A	N/A	N/A	N/A	6.968	N/A	N/A	-14.880	7.182	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	22.761	0.049	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	0.000	N/A	N/A	0.000	0.000	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	51.077	N/A	N/A	0.082	0.592	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	0.000	N/A	N/A	0.000	0.000	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,686,641.850	0.991	0.968	1.000	1.000	1.023	1.000	1.021	1.021	1.021	1.021
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.008	1.000	1.000	1.000	1.000	1.235	1.000	1.000	0.924	0.981	0.981
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													33,664.627	1.000	1.000	1.000	1.000	0.987	1.000	1.000	0.984	1.007	1.007
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2.803	1.000	1.000	1.000	1.000	1.219	1.000	1.000	0.910	0.988	0.988

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Accident Benefits - Medical/Rehabilitation/Attendant Care Total (KoL 41,61*,83*,93*,84*,94*,85*,95*,86*,96*,45*,65*,43*,63*,46*,66*,49*,87*,69*,97*)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out-lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,612,611	616,182,695	26,576	460,349,295	1.017	17,322	176.20	235.85	74.7	2,700,523	0.974	18,111	176.35	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,703,311	640,420,571	28,841	584,915,209	1.067	20,281	216.37	236.90	91.3	2,789,936	1.052	19,893	209.28	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,815,932	664,527,712	26,884	515,288,920	0.955	19,167	182.99	235.99	77.5	2,756,770	1.006	19,600	197.17	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,831,592	710,530,083	30,026	674,015,917	1.060	22,448	238.03	250.93	94.9	2,848,045	1.087	21,528	233.99	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,860,798	774,520,654	29,022	643,503,293	1.014	22,173	224.94	270.74	83.1	2,814,189	1.039	21,212	220.46	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,966,799	889,957,316	33,288	804,505,678	1.122	24,168	271.17	299.97	90.4	2,907,364	1.123	23,298	261.63	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,896,602	999,852,778	32,519	705,480,394	1.123	21,694	243.55	345.18	70.6	2,872,803	1.074	22,955	246.50	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,979,855	1,202,042,883	27,736	637,923,338	0.931	23,000	214.08	403.39	53.1	2,954,436	0.931	23,878	222.32	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,925,523	1,291,067,849	23,206	516,355,829	0.793	22,251	176.50	441.31	40.0	2,906,052	0.714	22,673	161.77	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,001,192	1,324,800,271	23,603	636,601,800	0.786	26,971	212.12	441.42	48.1	3,002,269	0.769	25,789	198.25	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,960,878	1,256,962,500	21,112	552,937,225	0.713	26,191	186.75	424.52	44.0	2,966,579	0.733	26,314	192.89	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,078,978	1,256,812,684	24,422	743,841,949	0.793	30,458	241.59	408.19	59.2	3,064,800	0.790	29,931	236.39	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,038,070	1,212,554,616	22,403	664,030,310	0.737	29,640	218.57	399.12	54.8	3,028,368	0.753	30,540	229.99	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,144,172	1,230,872,820	24,657	880,405,324	0.784	35,706	280.01	391.48	71.5	3,128,635	0.811	34,738	281.86	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,098,547	1,194,366,238	23,627	849,376,945	0.763	35,949	274.12	385.46	71.1	3,091,443	0.774	35,445	274.23	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,207,341	1,218,552,656	25,297	1,011,560,520	0.789	39,987	315.39	379.93	83.0	3,193,798	0.834	40,317	336.07	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,178,859	1,204,572,097	23,633	942,342,267	0.743	39,874	296.44	378.93	78.2	3,155,832	0.795	41,137	326.97	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,266,405	1,254,961,276	25,950	1,162,721,291	0.794	44,806	355.96	384.20	92.6	3,260,319	0.856	46,791	400.71	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,198,659	1,279,976,952	25,669	1,248,574,746	0.802	48,641	390.34	400.16	97.5	3,221,562	0.817	47,744	389.86	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,293,420	1,411,954,260	30,035	1,724,058,594	0.912	57,402	523.49	428.72	122.1	3,328,226	0.880	54,306	477.78	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,228,357	1,543,409,852	30,035	1,698,197,359	0.930	56,541	526.03	478.08	110.0	3,288,661	0.839	55,411	464.85	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,335,564	1,773,854,485	29,705	1,202,515,240	0.891	40,482	360.51	531.80	67.8	3,341,934	0.823	44,142	363.12	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,280,500	1,769,113,864	24,827	774,941,996	0.757	31,214	236.23	539.28	43.8	3,248,155	0.712	30,673	218.43	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,385,347	1,839,679,320	25,917	818,238,561	0.766	31,571	241.70	543.42	44.5	3,355,699	0.764	32,989	251.88	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,341,384	1,861,058,923	22,694	737,578,897	0.679	32,501	220.74	556.97	39.6	3,315,808	0.725	31,826	230.58	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,431,979	1,921,369,728	25,067	884,159,139	0.730	35,272	257.62	559.84	46.0	3,425,592	0.777	34,229	265.89	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,373,610	1,873,158,747	24,298	823,600,241	0.720	33,896	244.13	555.24	44.0	3,384,870	0.737	33,023	243.41	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,486,732	1,859,063,399	29,041	991,972,147	0.833	34,158	284.50	533.18	53.4	3,496,941	0.790	35,516	280.68	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,420,277	1,766,199,237	25,372	865,157,062	0.742	34,099	252.95	516.39	49.0	3,455,371	0.750	34,265	256.95	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,539,700	1,713,781,017	26,828	1,039,911,448	0.758	38,762	293.79	484.16	60.7	3,569,776	0.804	36,851	296.29	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,484,953	1,562,935,952	27,127	977,846,347	0.778	36,047	280.59	448.48	62.6	3,527,340	0.763	35,553	271.24	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,613,636	1,551,400,230	29,453	1,186,431,435	0.815	40,282	328.32	429.32	76.5	3,644,127	0.818	38,237	312.77	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,581,791	1,520,445,701	27,972	1,077,574,357	0.781	38,523	300.85	424.49	70.9	3,600,808	0.776	36,890	286.33	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,480	1,526,818,650	32,176	1,128,473,431	0.867	35,072	304.05	411.38	73.9	3,720,028	0.832	39,675	330.17	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,670,797	1,484,021,908	28,523	894,498,604	0.777	31,361	243.68	404.28	60.3	3,675,806	0.785	31,039	243.54	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,819,228	1,547,475,436	32,921	1,081,104,826	0.862	32,839	283.07	405.18	69.9	3,797,509	0.835	32,561	272.03	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,767,241	1,540,202,196	29,238	872,983,376	0.776	29,858	231.73	408.84	56.7	3,752,366	0.787	30,642	241.22	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,905,068	1,624,611,472	32,806	1,045,437,075	0.840	31,867	267.71	416.03	64.3	3,876,604	0.838	32,145	269.44	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,853,761	1,653,780,378	29,300	894,761,537	0.760	30,538	232.18	429.13	54.1	3,830,521	0.790	30,250	238.93	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,973,426	1,780,987,147	34,384	1,098,036,016	0.865	31,935	276.34	448.22	61.7	3,957,347	0.841	31,734	266.87	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,910,304		30,987	925,379,493	0.792	29,863	236.65			3,910,304	0.792	29,863	236.65	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,039,771		34,085	1,067,839,820	0.844	31,328	264.33			4,039,771	0.844	31,328	264.33	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,991,748		31,737	935,658,601	0.795	29,482	234.40			3,991,748	0.795	29,482	234.40	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,123,912		34,910	1,079,701,377	0.847	30,928	261.81			4,123,912	0.847	30,928	261.81	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,074,889		32,505	946,051,890	0.798	29,105	232.17			4,074,889	0.798	29,105	232.17	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,209,805		35,755	1,091,694,692	0.849	30,533	259.32			4,209,805	0.849	30,533	259.32	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,199,489		67,434	2,026,153,273	0.822	30,046	247.11																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:														14.804	-0.009	-0.033	N/A	N/A	0.022	N/A	0.021	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:														-0.035	-0.439	-0.186	-0.003	N/A	0.061	N/A	0.033	-0.006	-0.010	-0.014
Ultimate Claim Severity Beta Hat Parameter Estimates:														9.785	-0.126	-0.684	-0.197	N/A	0.054	N/A	0.079	0.070	-0.112	-0.050
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:														5.145	-0.565	-0.870	-0.200	N/A	0.115	N/A	0.112	0.064	-0.122	-0.064
Earned Car-Years of Exposure R*2 Statistic = 98.9%; T-Test Statistics on 35 Degrees of Freedom:														2,983.295	-1.228	-3.841	N/A	N/A	5.927	N/A	22.936	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 88.1%; T-Test Statistics on 31 Degrees of Freedom:														-0.913	-8.581	-4.362	-0.057	N/A	3.806	N/A	1.797	-0.297	-0.927	-0.546
Ultimate Claim Severity R*2 Statistic = 98.0%; T-Test Statistics on 31 Degrees of Freedom:														291.455	-2.809	-18.243	-4.409	N/A	3.847	N/A	4.945	4.176	-12.086	-2.218
Ultimate Claim Cost/Car-Year R*2 Statistic = 95.4%; T-Test Statistics on 31 Degrees of Freedom:														115.320	-9.451	-17.459	-3.367	N/A	6.149	N/A	5.258	2.889	-9.887	-2.136
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:														0.000	22.761	0.049	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:														36.831	0.000	0.013	95.500	N/A	0.062	N/A	8.207	76.879	36.115	58.899
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:														0.000	0.853	0.000	0.012	N/A	0.056	N/A	0.003	0.022	0.000	3.404
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:														0.000	0.000	0.000	0.204	N/A	0.000	N/A	0.001	0.699	0.000	4.070
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														2,686,641.850	0.991	0.968	1.000	1.000	1.023	1.000	1.021	1.021	1.021	1.021
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														0.966	0.645	0.830	0.997	1.000	1.063	1.000	1.033	1.027	1.017	1.003
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														17,757.021	0.881	0.504	0.821	1.000	1.056	1.000	1.082	1.161	1.038	0.987
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:														171.492	0.568	0.419	0.819	1.000	1.122	1.000	1.118	1.192	1.056	0.990

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Accident Benefits - Disability Income Total (KoL 44,80,64*,90*,81,91*,82,92*,48,68*)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out-lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,612,611	616,182,695	10,490	182,073,322	0.402	17,357	69.69	235.85	29.5	2,700,523	0.357	18,115	64.60	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,703,311	640,420,571	11,640	222,934,801	0.431	19,152	82.47	236.90	34.8	2,789,936	0.400	18,669	74.73	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,815,932	664,527,712	10,345	183,115,346	0.367	17,701	65.03	235.99	27.6	2,756,770	0.385	18,275	70.38	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,831,592	710,530,083	11,906	242,819,364	0.420	20,395	85.75	250.93	34.2	2,848,045	0.432	18,834	81.42	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,860,798	774,520,654	11,551	207,572,029	0.404	17,970	72.56	270.74	26.8	2,814,189	0.416	18,436	76.69	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,966,799	889,957,316	13,255	263,805,757	0.447	19,902	88.92	299.97	29.6	2,907,364	0.467	19,000	88.71	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,896,602	999,852,778	12,403	226,167,654	0.428	18,235	78.08	345.18	22.6	2,872,803	0.449	18,599	83.55	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,979,855	1,202,042,883	10,903	220,208,306	0.366	20,197	73.90	403.39	18.3	2,954,436	0.362	21,514	77.91	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,925,523	1,291,067,849	8,420	187,142,520	0.288	22,226	63.97	441.31	14.5	2,906,052	0.250	23,637	59.15	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,001,192	1,324,800,271	8,505	202,120,558	0.283	23,765	67.35	441.42	15.3	3,002,269	0.281	24,360	68.43	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,960,878	1,256,962,500	7,735	186,000,256	0.261	24,047	62.82	424.52	14.8	2,966,579	0.270	23,846	64.45	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,078,978	1,256,812,684	9,245	230,277,382	0.300	24,908	74.79	408.19	18.3	3,064,800	0.303	24,575	74.56	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,038,070	1,212,554,616	8,441	209,143,910	0.278	24,777	68.84	399.12	17.2	3,028,368	0.292	24,057	70.22	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,144,172	1,230,872,820	9,570	252,958,934	0.304	26,432	80.45	391.48	20.6	3,128,635	0.328	24,792	81.23	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,098,547	1,194,366,238	9,305	240,626,445	0.300	25,860	77.66	385.46	20.1	3,091,443	0.315	24,269	76.51	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,207,341	1,218,552,656	10,402	270,318,988	0.324	25,987	84.28	379.93	22.2	3,193,798	0.354	25,011	88.51	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,178,859	1,204,572,097	10,094	240,712,600	0.318	23,847	75.72	378.93	20.0	3,155,832	0.340	24,484	83.36	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,266,405	1,254,961,276	11,602	292,419,763	0.355	25,204	89.52	384.20	23.3	3,260,319	0.382	25,232	96.43	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,198,659	1,279,976,952	11,756	292,879,004	0.368	24,913	91.56	400.16	22.9	3,221,562	0.368	24,700	90.83	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,293,420	1,411,954,260	14,542	376,480,567	0.442	25,889	114.31	428.72	26.7	3,328,226	0.413	25,456	105.07	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,228,357	1,543,409,852	15,063	357,296,601	0.467	23,720	110.67	478.08	23.1	3,288,661	0.397	24,919	98.96	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,335,564	1,773,854,485	12,074	307,956,573	0.362	25,506	92.33	531.80	17.4	3,341,934	0.318	28,080	89.36	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,280,500	1,769,113,864	7,760	220,763,980	0.237	28,449	67.30	539.28	12.5	3,248,155	0.215	30,207	64.83	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,385,347	1,839,679,320	7,773	239,047,297	0.230	30,754	70.61	543.42	13.0	3,355,699	0.232	31,445	73.04	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,341,384	1,861,058,923	6,515	212,660,992	0.195	32,642	63.64	556.97	11.4	3,315,808	0.215	31,092	67.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,431,979	1,921,369,728	7,298	257,561,354	0.213	35,292	75.05	559.84	13.4	3,425,592	0.233	32,366	75.48	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,373,610	1,873,158,747	6,904	228,504,098	0.205	33,097	67.73	555.24	12.2	3,384,870	0.216	32,003	69.23	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,486,732	1,859,063,399	8,526	275,245,615	0.245	32,283	78.94	533.18	14.8	3,496,941	0.234	33,314	78.00	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,420,277	1,766,199,237	7,290	241,836,358	0.213	33,174	70.71	516.39	13.7	3,455,371	0.217	32,940	71.54	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,539,700	1,713,781,017	8,086	276,083,055	0.228	34,143	78.00	484.16	16.1	3,569,776	0.235	34,289	80.60	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,484,953	1,562,935,952	7,754	263,988,614	0.222	34,045	75.75	448.48	16.9	3,527,340	0.218	33,904	73.93	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,613,636	1,551,400,230	8,826	314,433,497	0.244	35,626	87.01	429.32	20.3	3,644,127	0.236	35,293	83.29	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,581,791	1,520,445,701	8,053	293,306,638	0.225	36,422	81.89	424.49	19.3	3,600,808	0.219	34,897	76.40	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,480	1,526,818,650	8,977	305,204,626	0.242	33,999	82.23	411.38	20.0	3,720,028	0.237	36,327	86.08	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,670,797	1,484,021,908	7,867	255,161,769	0.214	32,434	69.51	404.28	17.2	3,675,806	0.208	31,645	65.83	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,819,228	1,547,475,436	9,026	289,203,859	0.236	32,041	75.72	405.18	18.7	3,797,509	0.225	32,942	74.16	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,767,241	1,540,202,196	7,567	259,358,354	0.201	34,275	68.85	408.84	16.8	3,752,366	0.209	32,572	68.03	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,905,068	1,624,611,472	8,607	292,551,526	0.220	33,990	74.92	416.03	18.0	3,876,604	0.226	33,906	76.64	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,853,761	1,653,780,378	7,664	255,753,658	0.199	33,371	66.36	429.13	15.5	3,830,521	0.210	33,526	70.30	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,973,426	1,780,987,147	9,373	312,497,737	0.236	33,340	78.65	448.22	17.5	3,957,347	0.227	34,899	79.20	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,910,304		8,232	284,064,492	0.211	34,508	72.65			3,910,304	0.211	34,508	72.65	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,039,771		9,204	330,623,167	0.228	35,921	81.84			4,039,771	0.228	35,921	81.84	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,991,748		8,437	299,664,920	0.211	35,518	75.07			3,991,748	0.211	35,518	75.07	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,123,912		9,433	348,780,533	0.229	36,973	84.58			4,123,912	0.229	36,973	84.58	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,074,889		8,647	316,122,103	0.212	36,558	77.58			4,074,889	0.212	36,558	77.58	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,209,805		9,668	367,935,077	0.230	38,056	87.40			4,209,805	0.230	38,056	87.40	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,199,489		18,087	665,576,977	0.221	36,799	81.17																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.804	-0.009	-0.033	N/A	N/A	0.022	N/A	0.021	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-1.050	-0.662	-0.656	-0.055	N/A	0.077	N/A	0.077	N/A	-0.073	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													9.802	0.231	0.174	-0.127	N/A	0.026	N/A	0.009	N/A	0.020	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													4.147	-0.431	-0.482	-0.182	N/A	0.103	N/A	0.086	N/A	-0.053	N/A
Earned Car-Years of Exposure R*2 Statistic = 98.9%; T-Test Statistics on 35 Degrees of Freedom:													2,983.295	-1.228	-3.841	N/A	N/A	5.927	N/A	22.936	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 94.2%; T-Test Statistics on 33 Degrees of Freedom:													-31.873	-10.439	-11.252	-0.890	N/A	3.379	N/A	7.977	N/A	-5.092	N/A
Ultimate Claim Severity R*2 Statistic = 96.4%; T-Test Statistics on 33 Degrees of Freedom:													453.068	5.546	4.537	-3.113	N/A	1.718	N/A	1.390	N/A	2.132	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 85.7%; T-Test Statistics on 33 Degrees of Freedom:													160.736	-8.684	-10.568	-3.747	N/A	5.757	N/A	11.355	N/A	-4.716	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	22.761	0.049	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	0.000	0.000	38.005	N/A	0.188	N/A	0.000	N/A	0.001	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	0.000	0.007	0.381	N/A	9.518	N/A	17.397	N/A	4.052	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	0.000	0.000	0.068	N/A	0.000	N/A	0.000	N/A	0.004	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,686,641.850	0.991	0.968	1.000	1.000	1.023	1.000	1.021	1.021	1.021	1.021
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.350	0.516	0.519	0.946	1.000	1.080	1.000	1.080	1.080	1.004	1.004
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													18,074.819	1.260	1.190	0.881	1.000	1.026	1.000	1.009	1.009	1.029	1.029
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													63.228	0.650	0.617	0.834	1.000	1.108	1.000	1.090	1.090	1.033	1.033

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Accident Benefits - Supplementary Benefits (KoL 37)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Earned Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,612,611	616,182,695	7	79,878	0.000	11,411	0.03	235.85	0.0	2,700,523	0.000	8,120	0.00	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,703,311	640,420,571	6	421,728	0.000	70,288	0.16	236.90	0.1	2,789,936	0.000	19,822	0.02	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,815,932	664,527,712	3	243,077	0.000	81,026	0.09	235.99	0.0	2,756,770	0.000	8,120	0.00	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,831,592	710,530,083	1	11,213	0.000	11,213	0.00	250.93	0.0	2,848,045	0.000	19,822	0.02	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,860,798	774,520,654	0	6,476	0.000	0	0.00	270.74	0.0	2,814,189	0.000	8,120	0.00	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,966,799	889,957,316	4	164,815	0.000	41,204	0.06	299.97	0.0	2,907,364	0.000	19,822	0.02	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,896,602	999,852,778	9	466,321	0.000	51,813	0.16	345.18	0.0	2,872,803	0.000	8,120	0.00	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,979,855	1,202,042,883	3	15,237	0.000	5,079	0.01	403.39	0.0	2,954,436	0.000	19,822	0.02	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,925,523	1,291,067,849	1	197,201	0.000	197,201	0.07	441.31	0.0	2,906,052	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,001,192	1,324,800,271	2	88,141	0.000	44,071	0.03	441.42	0.0	3,002,269	0.000	19,822	0.02	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,960,878	1,256,962,500	2	2,315	0.000	1,158	0.00	424.52	0.0	2,966,579	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,078,978	1,256,812,684	4	165,925	0.000	41,481	0.05	408.19	0.0	3,064,800	0.000	19,822	0.02	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,038,070	1,212,554,616	1	439	0.000	439	0.00	399.12	0.0	3,028,368	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,144,172	1,230,872,820	7	38,814	0.000	5,545	0.01	391.48	0.0	3,128,635	0.000	19,822	0.02	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,098,547	1,194,366,238	1	48,874	0.000	48,874	0.02	385.46	0.0	3,091,443	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,207,341	1,218,552,656	6	167,568	0.000	27,928	0.05	379.93	0.0	3,193,798	0.000	19,822	0.02	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,178,859	1,204,572,097	1	91,307	0.000	91,307	0.03	378.93	0.0	3,155,832	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,266,405	1,254,961,276	4	190,013	0.000	47,503	0.06	384.20	0.0	3,260,319	0.000	19,822	0.02	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,198,659	1,279,976,952	2	230,806	0.000	115,403	0.07	400.16	0.0	3,221,562	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,293,420	1,411,954,260	3	268,143	0.000	89,381	0.08	428.72	0.0	3,328,226	0.000	19,822	0.02	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,228,357	1,543,409,852	1	40,649	0.000	40,649	0.01	478.08	0.0	3,288,661	0.000	8,120	0.00	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,335,564	1,773,854,485	3	7,934	0.000	2,645	0.00	531.80	0.0	3,341,934	0.000	19,822	0.02	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,280,500	1,769,113,864	2	69,262	0.000	34,631	0.02	539.28	0.0	3,248,155	0.000	8,120	0.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,385,347	1,839,679,320	7	34,031	0.000	4,862	0.01	543.42	0.0	3,355,699	0.000	19,822	0.02	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,341,384	1,861,058,923	1	13,413	0.000	13,413	0.00	556.97	0.0	3,315,808	0.000	8,120	0.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,431,979	1,921,369,728	4	25,793	0.000	6,448	0.01	559.84	0.0	3,425,592	0.000	19,822	0.02	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,373,610	1,873,158,747	1	94	0.000	94	0.00	555.24	0.0	3,384,870	0.000	8,120	0.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,486,732	1,859,063,399	2	25,108	0.000	12,554	0.01	533.18	0.0	3,496,941	0.000	19,822	0.02	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,420,277	1,766,199,237	2	543	0.000	272	0.00	516.39	0.0	3,455,371	0.000	8,120	0.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,539,700	1,713,781,017	5	911,742	0.000	182,348	0.26	484.16	0.1	3,569,776	0.000	19,822	0.02	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,484,953	1,562,935,952	4	72,282	0.000	18,071	0.02	448.48	0.0	3,527,340	0.000	8,120	0.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,613,636	1,551,400,230	4	44,860	0.000	11,215	0.01	429.32	0.0	3,644,127	0.000	19,822	0.02	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,581,791	1,520,445,701	0	2,022	0.000	0	0.00	424.49	0.0	3,600,808	0.000	8,120	0.00	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,711,480	1,526,818,650	2	26,262	0.000	13,131	0.01	411.38	0.0	3,720,028	0.000	19,822	0.02	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,670,797	1,484,021,908	1	31,029	0.000	31,029	0.01	404.28	0.0	3,675,806	0.000	8,120	0.00	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,819,228	1,547,475,436	3	51,580	0.000	17,193	0.01	405.18	0.0	3,797,509	0.000	19,822	0.02	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,767,241	1,540,202,196	6	91,555	0.000	15,259	0.02	408.84	0.0	3,752,366	0.000	8,120	0.00	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,905,068	1,624,611,472	4	138,130	0.000	34,533	0.04	416.03	0.0	3,876,604	0.000	19,822	0.02	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,853,761	1,653,780,378	3	51,755	0.000	17,252	0.01	429.13	0.0	3,830,521	0.000	8,120	0.00	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,973,426	1,780,987,147	10	266,546	0.000	26,655	0.07	448.22	0.0	3,957,347	0.000	19,822	0.02	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,910,304		2	18,177	0.000	8,120	0.00			3,910,304	0.000	8,120	0.00	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,039,771		5	89,413	0.000	19,822	0.02			4,039,771	0.000	19,822	0.02	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,991,748		2	18,555	0.000	8,120	0.00			3,991,748	0.000	8,120	0.00	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,123,912		5	91,276	0.000	19,822	0.02			4,123,912	0.000	19,822	0.02	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,074,889		2	18,942	0.000	8,120	0.00			4,074,889	0.000	8,120	0.00	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,209,805		5	93,177	0.000	19,822	0.02			4,209,805	0.000	19,822	0.02	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,199,489		7	110,596	0.000	15,914	0.01																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.804	-0.009	-0.033	N/A	N/A	0.022	N/A	0.021	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-9.768	N/A	N/A	N/A	N/A	0.668	N/A	N/A	N/A	N/A	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													9.002	N/A	N/A	N/A	N/A	0.892	N/A	N/A	N/A	N/A	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													-5.371	N/A	N/A	N/A	N/A	1.561	N/A	N/A	N/A	N/A	N/A
Earned Car-Years of Exposure R*2 Statistic = 98.9%; T-Test Statistics on 35 Degrees of Freedom:													2,983.295	-1.228	-3.841	N/A	N/A	5.927	N/A	22.936	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 21.4%; T-Test Statistics on 38 Degrees of Freedom:													-66.544	N/A	N/A	N/A	N/A	3.218	N/A	N/A	N/A	N/A	N/A
Ultimate Claim Severity R*2 Statistic = 5.0%; T-Test Statistics on 38 Degrees of Freedom:													20.223	N/A	N/A	N/A	N/A	1.418	N/A	N/A	N/A	N/A	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 11.3%; T-Test Statistics on 38 Degrees of Freedom:													-10.720	N/A	N/A	N/A	N/A	2.202	N/A	N/A	N/A	N/A	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	22.761	0.049	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	0.264	N/A	N/A	N/A	N/A	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	16.445	N/A	N/A	N/A	N/A	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	3.378	N/A	N/A	N/A	N/A	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,686,641.850	0.991	0.968	1.000	1.000	1.023	1.000	1.021	1.021	1.021	1.021
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.000	1.000	1.000	1.000	1.000	1.951	1.000	1.000	1.000	1.000	1.000
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													8,120.244	1.000	1.000	1.000	1.000	2.441	1.000	1.000	1.000	1.000	1.000
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.005	1.000	1.000	1.000	1.000	4.762	1.000	1.000	1.000	1.000	1.000

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:38 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Uninsured Motorist - Total (KoL 36*,38)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Earned Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,708,232	28,174,793	833	17,465,470	0.031	20,967	6.45	10.40	62.0	2,741,810	0.027	25,002	6.76	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,801,657	29,015,739	896	27,932,378	0.032	31,175	9.97	10.36	96.3	2,834,979	0.031	27,854	8.55	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,873,281	29,218,211	874	23,804,337	0.030	27,236	8.28	10.17	81.5	2,797,609	0.031	26,985	8.33	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,908,995	30,400,016	887	31,227,592	0.030	35,206	10.73	10.45	102.7	2,892,674	0.035	30,063	10.53	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,845,011	31,170,084	870	27,229,418	0.031	31,298	9.57	10.96	87.4	2,854,542	0.035	29,126	10.27	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,955,830	35,353,984	1,131	33,605,695	0.038	29,713	11.37	11.96	95.1	2,951,542	0.040	32,448	12.98	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,893,532	38,680,258	1,172	32,232,220	0.041	27,502	11.14	13.37	83.3	2,912,635	0.040	31,437	12.66	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,980,517	44,285,400	1,263	39,367,316	0.042	31,170	13.21	14.86	88.9	2,978,711	0.045	34,814	15.53	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,926,763	45,838,619	1,153	34,153,137	0.039	29,621	11.67	15.66	74.5	2,907,337	0.042	33,131	13.84	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	3,005,958	46,706,839	1,326	40,280,748	0.044	30,378	13.40	15.54	86.2	3,006,131	0.043	36,039	15.52	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,967,180	44,848,721	1,233	32,726,329	0.042	26,542	11.03	15.11	73.0	2,966,504	0.039	34,093	13.42	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,081,801	45,141,809	1,367	37,311,596	0.044	27,295	12.11	14.65	82.7	3,067,308	0.041	37,087	15.05	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	3,037,809	44,084,928	1,234	32,061,350	0.041	25,982	10.55	14.51	72.7	3,026,875	0.037	35,084	13.01	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,139,911	45,615,864	1,234	48,263,745	0.039	39,112	15.37	14.53	105.8	3,129,731	0.038	38,164	14.59	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,088,104	45,477,858	1,155	38,651,156	0.037	33,464	12.52	14.73	85.0	3,088,475	0.035	36,103	12.62	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,201,986	47,944,322	1,265	46,268,219	0.040	36,576	14.45	14.97	96.5	3,193,424	0.036	39,273	14.15	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,179,948	48,431,714	1,085	46,072,672	0.034	42,463	14.49	15.23	95.1	3,151,328	0.033	37,152	12.23	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,267,042	50,934,469	1,062	56,253,985	0.033	52,970	17.22	15.59	110.4	3,258,413	0.034	40,414	13.72	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,197,695	51,464,362	969	47,021,597	0.030	48,526	14.70	16.09	91.4	3,215,460	0.031	38,232	11.86	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,292,893	55,332,187	1,118	60,816,622	0.034	54,398	18.47	16.80	109.9	3,324,724	0.032	41,588	13.30	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,227,448	58,531,728	940	52,370,325	0.029	55,713	16.23	18.14	89.5	3,280,898	0.029	39,342	11.50	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,332,949	65,274,099	1,092	58,265,102	0.033	53,356	17.48	19.58	89.3	3,342,008	0.030	42,796	12.90	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,270,338	64,877,738	920	50,056,992	0.028	54,410	15.31	19.84	77.2	3,248,980	0.028	40,485	11.16	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,373,441	66,071,578	936	53,456,606	0.028	57,112	15.85	19.59	80.9	3,359,382	0.028	44,040	12.51	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,332,062	65,423,513	854	34,172,739	0.026	40,015	10.26	19.63	52.2	3,315,099	0.026	41,662	10.82	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,426,805	67,675,678	914	38,137,680	0.027	41,726	11.13	19.75	56.4	3,427,749	0.027	45,319	12.13	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,369,563	66,695,762	760	36,283,447	0.023	47,741	10.77	19.79	54.4	3,382,564	0.024	42,872	10.49	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,483,607	68,315,290	812	44,472,775	0.023	54,769	12.77	19.61	65.1	3,497,507	0.025	46,636	11.76	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,416,723	66,773,859	737	34,621,575	0.022	46,976	10.13	19.54	51.8	3,451,403	0.023	44,118	10.17	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,537,530	68,519,214	777	39,361,005	0.022	50,658	11.13	19.37	57.4	3,568,684	0.024	47,991	11.41	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,482,620	66,800,090	739	33,626,042	0.021	45,502	9.66	19.18	50.3	3,521,642	0.022	45,400	9.86	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,611,152	68,599,735	689	36,550,543	0.019	53,049	10.12	19.00	53.3	3,641,310	0.022	49,386	11.06	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,579,232	66,824,982	719	35,288,862	0.020	49,080	9.86	18.67	52.8	3,593,310	0.020	46,719	9.56	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,708,789	66,486,166	772	39,630,803	0.021	51,335	10.69	17.93	59.6	3,715,414	0.021	50,820	10.72	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,667,341	64,177,625	700	29,432,638	0.019	42,047	8.03	17.50	45.9	3,666,437	0.019	48,076	9.27	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,816,436	66,116,432	795	33,815,229	0.021	42,535	8.86	17.32	51.1	3,791,026	0.020	52,297	10.40	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,764,032	64,796,966	716	26,039,102	0.019	36,367	6.92	17.21	40.2	3,741,053	0.018	49,473	8.99	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,902,653	65,672,017	743	35,281,591	0.019	47,485	9.04	16.83	53.7	3,868,176	0.019	53,816	10.08	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,852,086	66,319,424	665	41,839,577	0.017	62,917	10.86	17.22	63.1	3,817,186	0.017	50,910	8.72	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,973,210	70,474,015	820	28,972,340	0.021	35,332	7.29	17.74	41.1	3,946,897	0.018	55,380	9.78	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,894,869		629	32,938,254	0.016	52,390	8.46			3,894,869	0.016	52,390	8.46	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	4,027,220		670	38,188,481	0.017	56,989	9.48			4,027,220	0.017	56,989	9.48	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,974,133		605	32,590,045	0.015	53,912	8.20			3,974,133	0.015	53,912	8.20	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	4,109,178		644	37,784,768	0.016	58,645	9.20			4,109,178	0.016	58,645	9.20	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	4,055,011		581	32,245,516	0.014	55,478	7.95			4,055,011	0.014	55,478	7.95	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,192,803		619	37,385,323	0.015	60,349	8.92			4,192,803	0.015	60,349	8.92	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	8,164,875		1,225	70,016,555	0.015	57,150	8.58																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.819	-0.022	-0.030	N/A	N/A	0.023	N/A	0.020	N/A	N/A	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-3.644	N/A	N/A	N/A	N/A	0.060	N/A	0.133	-0.192	N/A	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													10.108	N/A	N/A	N/A	N/A	0.070	N/A	0.076	-0.048	N/A	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													1.859	N/A	N/A	N/A	N/A	0.130	N/A	0.209	-0.240	N/A	N/A
Earned Car-Years of Exposure R*2 Statistic = 99.4%; T-Test Statistics on 35 Degrees of Freedom:													4,213.658	-4.180	-4.913	N/A	N/A	8.767	N/A	31.628	N/A	N/A	N/A
Ultimate Claim Frequency R*2 Statistic = 93.9%; T-Test Statistics on 36 Degrees of Freedom:													-74.388	N/A	N/A	N/A	N/A	2.579	N/A	8.510	-11.275	N/A	N/A
Ultimate Claim Severity R*2 Statistic = 52.3%; T-Test Statistics on 36 Degrees of Freedom:													75.977	N/A	N/A	N/A	N/A	1.105	N/A	1.802	-1.030	N/A	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 53.8%; T-Test Statistics on 36 Degrees of Freedom:													15.507	N/A	N/A	N/A	N/A	2.280	N/A	5.478	-5.752	N/A	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	0.019	0.002	N/A	N/A	0.000	N/A	0.000	N/A	N/A	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	1.414	N/A	0.000	0.000	N/A	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	27.669	N/A	7.997	30.967	N/A	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	2.864	N/A	0.000	0.000	N/A	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,728,035.560	0.978	0.971	1.000	1.000	1.024	1.000	1.020	1.020	1.020	1.020
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.026	1.000	1.000	1.000	1.000	1.062	1.000	1.142	0.942	0.942	0.942
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													24,529.433	1.000	1.000	1.000	1.000	1.072	1.000	1.079	1.029	1.029	1.029
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													6.415	1.000	1.000	1.000	1.000	1.139	1.000	1.233	0.970	0.970	0.970

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Underinsured Motorist - Total (Cov 0x)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,418,389	31,997,779	103	12,392,141	0.004	120,312	5.12	13.23	38.7	2,574,129	0.004	150,306	5.59	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,492,495	33,511,052	124	18,435,331	0.005	148,672	7.40	13.44	55.0	2,666,581	0.004	167,119	6.49	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,594,470	35,094,373	89	13,270,210	0.003	149,103	5.11	13.53	37.8	2,628,292	0.004	150,306	5.59	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,788,392	37,575,520	139	24,134,707	0.005	173,631	8.66	13.48	64.2	2,722,690	0.004	167,119	6.49	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,775,967	37,508,719	132	14,324,468	0.005	108,519	5.16	13.51	38.2	2,683,595	0.004	150,306	5.59	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,898,090	40,222,817	119	21,557,318	0.004	181,154	7.44	13.88	53.6	2,779,979	0.004	167,119	6.49	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,835,316	40,304,352	109	14,276,739	0.004	130,979	5.04	14.22	35.4	2,740,061	0.004	150,306	5.59	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,922,616	42,155,473	100	15,289,406	0.003	152,894	5.23	14.42	36.3	2,868,150	0.004	168,159	6.52	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,881,487	42,010,769	89	15,402,130	0.003	173,058	5.35	14.58	36.7	2,856,523	0.004	154,083	5.69	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	2,962,479	43,074,244	122	21,138,583	0.004	173,267	7.14	14.54	49.1	2,959,119	0.004	175,623	6.73	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,920,889	42,098,859	114	20,804,751	0.004	182,498	7.12	14.41	49.4	2,916,628	0.004	161,924	5.91	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	3,027,626	43,765,888	96	19,043,042	0.003	198,365	6.29	14.46	43.5	3,021,382	0.004	184,560	6.98	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	2,984,177	43,573,918	82	15,243,736	0.003	185,899	5.11	14.60	35.0	2,977,998	0.004	170,163	6.13	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	3,089,925	45,703,974	121	27,318,864	0.004	225,776	8.84	14.79	59.8	3,084,956	0.004	193,951	7.25	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	3,046,567	45,559,450	109	20,300,398	0.004	186,242	6.66	14.95	44.6	3,040,659	0.004	178,822	6.36	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	3,155,079	48,052,403	128	27,349,229	0.004	213,666	8.67	15.23	56.9	3,149,868	0.004	203,821	7.52	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	3,127,988	48,747,216	122	20,287,936	0.004	166,295	6.49	15.58	41.6	3,104,639	0.004	187,922	6.59	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	3,216,725	51,463,060	104	23,277,523	0.003	223,822	7.24	16.00	45.2	3,216,145	0.004	214,192	7.80	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	3,149,704	51,760,626	82	15,938,625	0.003	194,373	5.06	16.43	30.8	3,169,964	0.003	197,485	6.84	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	3,243,240	55,044,608	121	31,654,905	0.004	261,611	9.76	16.97	57.5	3,283,817	0.004	225,092	8.09	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	3,178,049	55,321,829	98	20,874,577	0.003	213,006	6.57	17.41	37.7	3,236,665	0.003	207,534	7.10	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	3,277,363	57,799,675	102	24,637,721	0.003	241,546	7.52	17.64	42.6	3,281,258	0.004	204,820	7.20	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	3,212,748	57,403,880	95	24,793,459	0.003	260,984	7.72	17.87	43.2	3,165,026	0.003	163,515	5.43	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	3,308,997	60,066,127	113	23,694,262	0.003	209,684	7.16	18.15	39.4	3,278,702	0.003	186,373	6.42	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	3,264,954	58,349,340	97	16,776,623	0.003	172,955	5.14	17.87	28.8	3,231,623	0.003	171,836	5.63	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	3,356,141	59,731,887	97	17,307,001	0.003	178,423	5.16	17.80	29.0	3,347,690	0.003	195,857	6.66	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	3,302,997	59,198,983	110	17,307,069	0.003	157,337	5.24	17.92	29.2	3,299,620	0.003	180,580	5.84	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	3,415,976	61,628,719	108	20,604,074	0.003	190,778	6.03	18.04	33.4	3,418,130	0.003	205,824	6.91	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	3,350,722	60,694,829	116	23,025,060	0.003	198,492	6.87	18.11	37.9	3,369,049	0.003	189,769	6.06	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	3,466,012	62,456,002	86	13,733,757	0.002	159,695	3.96	18.02	22.0	3,490,052	0.003	216,297	7.16	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,410,746	60,942,174	118	24,852,473	0.003	210,614	7.29	17.87	40.8	3,439,938	0.003	199,426	6.28	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,534,635	63,159,164	107	25,477,004	0.003	238,103	7.21	17.87	40.3	3,563,487	0.003	227,304	7.43	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,503,637	63,542,511	123	24,090,628	0.004	195,859	6.88	18.14	37.9	3,512,319	0.003	209,574	6.52	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	3,621,603	66,485,519	140	32,037,579	0.004	228,840	8.85	18.36	48.2	3,638,468	0.003	238,871	7.71	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	3,573,715	65,056,482	119	24,950,502	0.003	209,668	6.98	18.20	38.4	3,584,140	0.003	220,238	6.76	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	3,710,214	67,006,539	131	35,585,933	0.004	271,648	9.59	18.06	53.1	3,708,559	0.003	251,026	8.00	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	3,657,177	66,554,193	110	29,768,266	0.003	270,621	8.14	18.20	44.7	3,651,064	0.003	231,445	7.02	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	3,782,765	69,631,796	132	29,745,560	0.003	225,345	7.86	18.41	42.7	3,777,805	0.003	263,800	8.30	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	3,725,969	69,408,654	128	30,091,262	0.003	235,088	8.08	18.63	43.4	3,719,236	0.003	243,223	7.28	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	3,837,077	72,427,796	113	28,516,230	0.003	252,356	7.43	18.88	39.4	3,848,344	0.003	277,223	8.61	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	3,788,682		112	28,610,818	0.003	255,599	7.55			3,788,682	0.003	255,599	7.55	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	3,920,201		120	35,012,458	0.003	291,330	8.93			3,920,201	0.003	291,330	8.93	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	3,859,425		113	30,235,887	0.003	268,606	7.83			3,859,425	0.003	268,606	7.83	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	3,993,399		121	37,001,134	0.003	306,155	9.27			3,993,399	0.003	306,155	9.27	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	3,931,488		113	31,953,258	0.003	282,274	8.13			3,931,488	0.003	282,274	8.13	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	4,067,964		122	39,102,765	0.003	321,734	9.61			4,067,964	0.003	321,734	9.61	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	7,925,512		234	69,050,457	0.003	295,001	8.71																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.756	0.021	-0.043	N/A	N/A	0.025	N/A	0.021	N/A	N/A	-0.002
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-5.595	N/A	-0.017	N/A	N/A	0.043	N/A	N/A	-0.013	N/A	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													11.920	N/A	-0.288	N/A	N/A	0.106	N/A	N/A	0.050	N/A	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													1.721	N/A	-0.305	N/A	N/A	0.149	N/A	N/A	0.037	N/A	N/A
Earned Car-Years of Exposure R*2 Statistic = 96.9%; T-Test Statistics on 34 Degrees of Freedom:													1,620.728	1.374	-2.551	N/A	N/A	3.742	N/A	9.954	N/A	N/A	-0.308
Ultimate Claim Frequency R*2 Statistic = 23.9%; T-Test Statistics on 36 Degrees of Freedom:													-126.902	N/A	-0.165	N/A	N/A	0.934	N/A	N/A	-1.322	N/A	N/A
Ultimate Claim Severity R*2 Statistic = 57.1%; T-Test Statistics on 36 Degrees of Freedom:													269.524	N/A	-2.745	N/A	N/A	2.275	N/A	N/A	5.073	N/A	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 31.7%; T-Test Statistics on 36 Degrees of Freedom:													30.987	N/A	-2.317	N/A	N/A	2.554	N/A	N/A	2.991	N/A	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	17.835	1.540	N/A	N/A	0.067	N/A	0.000	N/A	N/A	76.004
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	N/A	87.005	N/A	N/A	35.649	N/A	N/A	19.461	N/A	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	N/A	0.938	N/A	N/A	2.896	N/A	N/A	0.001	N/A	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	N/A	2.631	N/A	N/A	1.504	N/A	N/A	0.499	N/A	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,560,763.236	1.021	0.958	1.000	1.000	1.025	1.000	1.021	1.021	1.021	1.019
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.004	1.000	0.983	1.000	1.000	1.044	1.000	1.000	0.987	0.987	0.987
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													150,306.155	1.000	0.750	1.000	1.000	1.112	1.000	1.000	1.051	1.051	1.051
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													5.589	1.000	0.737	1.000	1.000	1.161	1.000	1.000	1.037	1.037	1.037

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Collision - Total (Cov 3x)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	1,886,085	372,781,107	82,470	320,394,185	4.373	3,885	169.87	197.65	85.9	1,889,229	4.509	3,768	169.89	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	1,953,786	388,231,147	88,566	367,939,362	4.533	4,154	188.32	198.71	94.8	1,950,492	4.307	4,088	176.07	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,043,712	396,946,336	85,351	331,620,011	4.176	3,885	162.26	194.23	83.5	1,930,923	4.346	4,068	176.79	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,012,910	424,603,267	84,394	363,852,340	4.193	4,311	180.76	210.94	85.7	1,993,538	4.151	4,414	183.22	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	1,946,838	443,532,234	82,436	356,012,180	4.234	4,319	182.87	227.82	80.3	1,973,537	4.188	4,392	183.97	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,010,055	497,655,169	81,872	398,619,649	4.073	4,869	198.31	247.58	80.1	2,037,535	4.001	4,766	190.67	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	1,956,293	516,632,798	80,334	389,682,582	4.106	4,851	199.19	264.09	75.4	2,017,092	4.037	4,743	191.45	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	1,984,399	551,638,775	66,490	327,165,185	3.351	4,921	164.87	277.99	59.3	2,019,055	3.605	4,963	178.90	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	1,924,769	554,051,381	67,595	314,639,323	3.512	4,655	163.47	287.85	56.8	1,937,901	3.411	4,696	160.16	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	1,975,186	557,481,519	63,633	313,215,802	3.222	4,922	158.58	282.24	56.2	2,000,742	3.278	4,951	162.30	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	1,972,280	539,829,249	65,074	309,890,719	3.299	4,762	157.12	273.71	57.4	1,980,669	3.327	4,789	159.34	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	2,056,467	551,848,526	64,077	337,169,691	3.116	5,262	163.96	268.35	61.1	2,044,897	3.198	5,049	161.47	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	2,030,101	535,256,008	61,122	300,729,299	3.011	4,920	148.14	263.66	56.2	2,024,381	3.246	4,883	158.52	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	2,101,498	545,427,697	67,054	335,780,901	3.191	5,008	159.78	259.54	61.6	2,090,027	3.120	5,149	160.64	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	2,077,455	539,177,106	73,390	363,086,582	3.533	4,947	174.77	259.54	67.3	2,069,058	3.167	4,980	157.71	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	2,151,716	553,611,948	68,703	362,210,282	3.193	5,272	168.34	257.29	65.4	2,136,153	3.044	5,251	159.82	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	2,144,444	551,155,899	68,424	352,102,518	3.191	5,146	164.19	257.02	63.9	2,114,721	3.090	5,078	156.90	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	2,209,010	568,477,433	66,801	367,091,867	3.024	5,495	166.18	257.34	64.6	2,183,296	2.969	5,355	159.00	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	2,165,335	555,113,342	65,730	335,266,984	3.036	5,101	154.83	256.36	60.4	2,161,391	3.014	5,179	156.10	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	2,221,654	559,672,515	62,456	329,769,230	2.811	5,280	148.43	251.92	58.9	2,231,480	2.897	5,461	158.18	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	2,177,012	524,202,877	59,047	313,909,360	2.712	5,316	144.19	240.79	59.9	2,209,092	2.941	5,281	155.30	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	2,245,515	524,144,239	61,456	350,735,985	2.737	5,707	156.19	233.42	66.9	2,250,630	2.693	5,604	150.94	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	2,206,420	505,210,896	61,898	348,371,090	2.805	5,628	157.89	228.97	69.0	2,198,647	2.640	5,477	144.58	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	2,273,410	502,535,056	58,899	349,185,406	2.591	5,929	153.60	221.05	69.5	2,269,944	2.603	5,823	151.59	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	2,248,831	489,162,249	56,728	326,141,352	2.523	5,749	145.03	217.52	66.7	2,247,170	2.712	5,678	153.99	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	2,313,887	496,704,221	59,540	358,625,909	2.573	6,023	154.99	214.66	72.2	2,320,040	2.674	6,037	161.46	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	2,278,071	487,718,918	61,483	357,476,841	2.699	5,814	156.92	214.09	73.3	2,296,763	2.786	5,887	164.02	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	2,358,781	505,062,764	66,887	411,630,884	2.836	6,154	174.51	214.12	81.5	2,371,242	2.747	6,260	171.97	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	2,325,833	498,929,746	72,365	422,303,330	3.111	5,836	181.57	214.52	84.6	2,347,451	2.862	6,104	174.70	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	2,418,277	514,690,786	65,890	412,845,579	2.725	6,266	170.72	212.83	80.2	2,423,574	2.822	6,490	183.17	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	2,391,583	514,328,249	73,251	453,482,285	3.063	6,191	189.62	215.06	88.2	2,399,258	2.940	6,329	186.07	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	2,491,749	542,276,384	68,970	452,408,652	2.768	6,559	181.56	217.63	83.4	2,477,061	2.899	6,729	195.09	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	2,475,396	540,446,317	73,030	487,333,982	2.950	6,673	196.87	218.33	90.2	2,452,208	3.020	6,562	198.18	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	2,550,943	570,849,810	77,613	559,306,592	3.043	7,206	219.25	223.78	98.0	2,531,728	2.979	6,976	207.80	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	2,507,558	583,302,766	75,106	525,014,753	2.995	6,990	209.37	232.62	90.0	2,503,589	3.114	6,870	213.93	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	2,588,767	620,387,010	83,761	636,512,683	3.236	7,599	245.87	239.65	102.6	2,579,130	3.093	7,448	230.40	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	2,541,626	623,523,962	83,827	628,320,276	3.298	7,495	247.21	245.32	100.8	2,547,678	3.246	7,407	240.41	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	2,627,183	670,913,331	85,067	691,327,730	3.238	8,127	263.14	255.37	103.0	2,624,549	3.224	8,030	258.92	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	2,592,244	699,538,716	87,241	705,011,159	3.365	8,081	271.97	269.86	100.8	2,592,543	3.383	7,985	270.17	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	2,669,100	785,863,763	88,427	743,051,656	3.313	8,403	278.39	294.43	94.6	2,670,767	3.361	8,658	290.97	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	2,638,198		93,036	800,965,441	3.526	8,609	303.60			2,638,198	3.526	8,609	303.60	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	2,717,800		95,206	888,664,906	3.503	9,334	326.98			2,717,800	3.503	9,334	326.98	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	2,684,657		98,681	915,949,963	3.676	9,282	341.18			2,684,657	3.676	9,282	341.18	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	2,765,661		100,983	1,016,239,336	3.651	10,063	367.45			2,765,661	3.651	10,063	367.45	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	2,731,934		104,669	1,047,441,365	3.831	10,007	383.41			2,731,934	3.831	10,007	383.41	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	2,814,364		107,110	1,162,128,021	3.806	10,850	412.93			2,814,364	3.806	10,850	412.93	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	5,497,951		205,687	2,067,280,022	3.741	10,051	376.01																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.446	-0.062	-0.027	N/A	N/A	0.021	N/A	0.022	N/A	N/A	-0.004
Ultimate Claim Frequency Beta Hat Parameter Estimates:													1.515	-0.138	-0.109	N/A	N/A	-0.027	N/A	-0.037	0.012	0.052	0.015
Ultimate Claim Severity Beta Hat Parameter Estimates:													8.215	-0.058	0.009	N/A	N/A	0.043	N/A	0.077	-0.057	0.017	0.039
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													5.125	-0.196	-0.100	N/A	N/A	0.016	N/A	0.040	-0.045	0.068	0.054
Earned Car-Years of Exposure R*2 Statistic = 98.4%; T-Test Statistics on 34 Degrees of Freedom:													2,446.789	-6.304	-2.419	N/A	N/A	4.871	N/A	16.091	N/A	N/A	-0.894
Ultimate Claim Frequency R*2 Statistic = 92.3%; T-Test Statistics on 32 Degrees of Freedom:													42.022	-2.850	-2.776	N/A	N/A	-1.816	N/A	-2.149	0.677	5.590	0.706
Ultimate Claim Severity R*2 Statistic = 98.7%; T-Test Statistics on 32 Degrees of Freedom:													433.892	-2.290	0.415	N/A	N/A	5.459	N/A	8.513	-6.051	3.414	3.618
Ultimate Claim Cost/Car-Year R*2 Statistic = 92.2%; T-Test Statistics on 32 Degrees of Freedom:													124.680	-3.555	-2.243	N/A	N/A	0.921	N/A	2.036	-2.193	6.476	2.286
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	0.000	2.105	N/A	N/A	0.003	N/A	0.000	N/A	N/A	37.782
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	0.758	0.913	N/A	N/A	7.868	N/A	3.928	50.312	0.000	48.558
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	2.875	68.068	N/A	N/A	0.001	N/A	0.000	0.000	0.176	0.101
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	0.120	3.192	N/A	N/A	36.406	N/A	5.012	3.571	0.000	2.905
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													1,878,946.818	0.940	0.974	1.000	1.000	1.021	1.000	1.022	1.022	1.022	1.018
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													4.551	0.871	0.897	1.000	1.000	0.973	1.000	0.964	0.976	1.027	1.042
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													3,696.052	0.944	1.009	1.000	1.000	1.044	1.000	1.080	1.020	1.037	1.078
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													168.202	0.822	0.904	1.000	1.000	1.016	1.000	1.041	0.995	1.065	1.124

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: All Perils - Total (Cov 4x)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics									Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	356,329	114,274,132	30,885	91,942,320	8.668	2,977	258.03	320.70	80.5	408,536	9.051	2,866	259.42	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	385,920	125,785,571	34,914	110,990,878	9.047	3,179	287.60	325.94	88.2	423,943	8.703	3,189	277.56	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	403,422	132,841,010	35,643	108,522,795	8.835	3,045	269.01	329.29	81.7	417,380	8.982	3,196	287.09	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	435,813	152,211,745	36,859	128,069,278	8.458	3,475	293.86	349.26	84.1	433,120	8.266	3,493	288.73	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	450,207	164,903,800	37,346	128,943,679	8.295	3,453	286.41	366.28	78.2	426,414	8.166	3,438	280.72	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	480,717	192,593,525	38,335	146,002,449	7.975	3,809	303.72	400.64	75.8	442,495	7.852	3,825	300.35	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	474,580	206,045,324	36,792	139,657,355	7.753	3,796	294.28	434.16	67.8	435,645	7.757	3,765	292.01	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	494,649	226,519,098	31,259	135,019,115	6.319	4,319	272.96	457.94	59.6	460,507	6.744	4,226	285.03	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	498,709	232,056,253	29,316	124,178,348	5.878	4,236	249.00	465.31	53.5	461,834	6.037	4,141	249.98	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	499,457	228,448,925	27,023	122,230,196	5.410	4,523	244.73	457.39	53.5	479,251	5.829	4,486	261.49	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	471,130	207,645,316	26,965	117,023,856	5.723	4,340	248.39	440.74	56.4	471,831	5.782	4,299	248.56	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	478,892	202,903,330	28,198	133,301,888	5.888	4,727	278.35	423.69	65.7	489,625	5.583	4,658	260.01	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	476,216	195,659,778	25,569	111,496,118	5.369	4,361	234.13	410.86	57.0	482,045	5.538	4,463	247.15	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	493,187	200,304,610	28,139	127,219,082	5.706	4,521	257.95	406.14	63.5	500,223	5.347	4,835	258.54	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	487,796	193,385,644	29,071	129,705,062	5.960	4,462	265.90	396.45	67.1	492,479	5.304	4,633	245.76	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	506,755	196,762,168	26,935	133,960,034	5.315	4,973	264.35	388.28	68.1	511,051	5.121	5,020	257.08	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	505,206	196,252,581	26,368	135,415,212	5.219	5,136	268.04	388.46	69.0	503,139	5.337	4,909	261.99	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	516,669	202,010,479	24,968	135,023,227	4.832	5,408	261.33	390.99	66.8	522,114	4.905	5,211	255.62	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	505,881	195,437,233	27,538	133,644,747	5.444	4,853	264.18	386.33	68.4	514,030	4.866	4,994	242.98	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	517,718	193,288,880	23,703	125,396,871	4.578	5,290	242.21	373.35	64.9	533,415	4.698	5,410	254.18	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	506,047	183,818,286	20,781	109,891,136	4.107	5,288	217.16	363.24	59.8	525,157	4.660	5,184	241.61	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	514,597	185,587,008	21,982	119,811,213	4.272	5,450	232.83	360.65	64.6	511,100	4.446	5,233	232.64	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	504,220	180,163,809	24,363	120,930,929	4.832	4,964	239.84	357.31	67.1	476,890	4.434	4,686	207.79	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	521,113	182,026,663	23,946	123,951,874	4.595	5,176	237.86	349.30	68.1	505,352	4.435	5,107	226.49	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	521,041	180,729,061	23,075	108,256,619	4.429	4,692	207.77	346.86	59.9	508,061	4.557	4,922	224.33	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	540,541	185,296,831	25,281	134,498,464	4.677	5,320	248.82	342.80	72.6	538,383	4.736	5,450	258.12	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	541,803	185,652,893	24,391	121,974,128	4.502	5,001	225.13	342.66	65.7	541,269	4.684	5,171	242.18	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	568,493	198,250,265	28,457	162,470,126	5.006	5,709	285.79	348.73	82.0	573,572	4.894	5,738	280.83	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	563,951	197,355,462	27,851	150,695,280	4.939	5,411	267.21	349.95	76.4	576,647	4.814	5,432	261.46	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	588,797	202,096,535	26,938	162,994,093	4.575	6,051	276.83	343.24	80.7	611,062	4.814	5,920	284.99	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	586,906	199,663,654	28,733	163,547,398	4.896	5,692	278.66	340.20	81.9	614,338	4.947	5,706	282.27	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	614,096	211,103,909	29,041	176,148,399	4.729	6,066	286.84	343.76	83.4	651,003	4.948	6,219	307.68	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	619,483	215,076,442	30,380	181,133,017	4.904	5,962	292.39	347.19	84.2	654,493	5.084	5,994	304.74	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	667,230	235,522,175	34,788	231,614,013	5.214	6,658	347.13	352.98	98.3	693,553	5.283	6,637	350.65	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	691,946	247,989,658	35,604	221,297,307	5.145	6,216	319.82	358.39	89.2	697,272	5.225	6,297	329.00	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	753,714	274,010,824	41,205	285,950,507	5.467	6,940	379.39	363.55	104.4	738,886	5.312	6,909	367.03	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	770,835	286,114,290	44,616	302,136,099	5.788	6,772	391.96	371.17	105.6	742,847	5.519	6,690	369.20	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	820,224	321,130,758	45,123	336,163,353	5.501	7,450	409.84	391.52	104.7	787,181	5.490	7,274	399.32	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	821,925	342,323,942	45,515	324,801,067	5.538	7,136	395.17	416.49	94.9	791,401	5.519	6,948	383.46	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	853,672	380,138,151	48,108	355,797,076	5.635	7,396	416.78	445.30	93.6	838,632	5.520	7,573	417.97	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	843,129		48,082	351,755,661	5.703	7,316	417.20			843,129	5.703	7,316	417.20	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	893,447		51,464	411,990,364	5.760	8,005	461.12			893,447	5.760	8,005	461.12	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	898,237		52,645	404,577,233	5.861	7,685	450.41			898,237	5.861	7,685	450.41	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	951,845		56,348	473,857,112	5.920	8,410	497.83			951,845	5.920	8,410	497.83	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	956,948		57,641	465,330,783	6.023	8,073	486.27			956,948	6.023	8,073	486.27	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	1,014,059		61,695	545,014,111	6.084	8,834	537.46			1,014,059	6.084	8,834	537.46	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	1,909,669		114,076	941,788,757	5.974	8,256	493.17																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													12.915	0.037	-0.139	N/A	N/A	0.026	N/A	0.021	N/A	0.042	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													2.216	-0.203	-0.042	N/A	N/A	-0.014	0.022	-0.051	0.008	0.070	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													7.938	0.031	-0.144	N/A	N/A	0.061	0.009	0.091	-0.053	0.012	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													5.549	-0.172	-0.186	N/A	N/A	0.048	0.031	0.039	-0.045	0.082	N/A
Earned Car-Years of Exposure R*2 Statistic = 94.6%; T-Test Statistics on 34 Degrees of Freedom:													565.812	0.842	-3.755	N/A	N/A	1.670	N/A	3.206	N/A	5.332	N/A
Ultimate Claim Frequency R*2 Statistic = 94.9%; T-Test Statistics on 32 Degrees of Freedom:													53.732	-3.729	-1.022	N/A	N/A	-0.793	1.686	-2.641	0.406	8.036	N/A
Ultimate Claim Severity R*2 Statistic = 98.7%; T-Test Statistics on 32 Degrees of Freedom:													340.104	1.007	-6.244	N/A	N/A	6.364	1.232	8.245	-4.615	2.376	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 91.2%; T-Test Statistics on 32 Degrees of Freedom:													129.072	-3.031	-4.371	N/A	N/A	2.694	2.287	1.943	-2.116	8.999	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	40.581	0.065	N/A	N/A	10.417	N/A	0.293	N/A	0.001	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	0.074	31.424	N/A	N/A	43.345	10.144	1.267	68.738	0.000	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	32.152	0.000	N/A	N/A	0.000	22.683	0.000	0.006	2.365	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	0.480	0.012	N/A	N/A	1.115	2.897	6.085	4.220	0.000	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													406,355.029	1.038	0.870	1.000	1.000	1.027	1.000	1.022	1.022	1.065	1.065
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													9.168	0.816	0.959	1.000	1.000	0.987	1.022	0.950	0.958	1.028	1.028
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,801.823	1.032	0.865	1.000	1.000	1.063	1.009	1.095	1.038	1.050	1.050
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													256.875	0.842	0.830	1.000	1.000	1.049	1.031	1.040	0.994	1.080	1.080

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Comprehensive - Theft (Cov 8x & KoL 22,23,24)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,205,680	280,006,527	15,071	84,928,492	0.683	5,635	38.50	126.95	30.3	2,170,196	0.640	6,036	38.66	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,251,383	288,613,879	16,648	96,308,123	0.739	5,785	42.78	128.19	33.4	2,222,466	0.696	6,129	42.69	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,262,203	293,137,874	14,772	83,020,992	0.653	5,620	36.70	129.58	28.3	2,209,550	0.640	6,036	38.66	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,268,198	301,621,783	17,208	98,161,129	0.759	5,704	43.28	132.98	32.5	2,262,768	0.696	6,129	42.69	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,229,710	303,674,506	14,303	88,386,702	0.641	6,180	39.64	136.19	29.1	2,249,618	0.640	6,036	38.66	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,280,555	321,183,099	15,010	99,116,747	0.658	6,603	43.46	140.84	30.9	2,303,802	0.696	6,129	42.69	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,230,854	324,213,712	12,319	85,980,768	0.552	6,980	38.54	145.33	26.5	2,290,413	0.640	6,036	38.66	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,245,339	337,474,646	12,560	87,628,904	0.559	6,977	39.03	150.30	26.0	2,289,387	0.589	6,618	39.01	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,195,365	331,690,144	10,543	73,230,599	0.480	6,946	33.36	151.09	22.1	2,221,555	0.443	7,105	31.50	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	2,235,020	318,073,358	10,028	67,401,958	0.449	6,721	30.16	142.31	21.2	2,275,062	0.450	7,353	33.11	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,243,151	298,247,550	7,934	59,935,839	0.354	7,554	26.72	132.96	20.1	2,261,840	0.387	7,381	28.54	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	2,353,927	294,158,313	8,468	63,346,087	0.360	7,481	26.91	124.96	21.5	2,316,318	0.393	7,639	30.00	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	2,301,105	278,705,393	7,861	60,512,859	0.342	7,698	26.30	121.12	21.7	2,302,857	0.337	7,667	25.86	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	2,359,048	276,557,645	8,300	69,013,735	0.352	8,315	29.25	117.23	25.0	2,358,322	0.343	7,935	27.19	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	2,345,541	267,784,412	7,515	62,057,873	0.320	8,258	26.46	114.17	23.2	2,344,617	0.294	7,964	23.44	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	2,411,946	266,979,627	7,151	65,245,472	0.296	9,124	27.05	110.69	24.4	2,401,088	0.299	8,243	24.64	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	2,417,924	266,453,097	6,288	52,898,719	0.260	8,413	21.88	110.20	19.9	2,387,134	0.257	8,273	21.24	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	2,472,259	271,155,905	6,478	54,071,240	0.262	8,347	21.87	109.68	19.9	2,444,629	0.261	8,563	22.32	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	2,445,739	265,240,950	5,990	47,410,816	0.245	7,915	19.39	108.45	17.9	2,430,422	0.224	8,594	19.24	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	2,491,933	262,608,580	6,083	53,345,298	0.244	8,770	21.41	105.38	20.3	2,488,960	0.227	8,895	20.23	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	2,461,170	245,677,068	4,226	37,036,729	0.172	8,764	15.05	99.82	15.1	2,474,496	0.195	8,928	17.44	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	2,517,237	245,010,638	4,003	39,996,197	0.159	9,992	15.89	97.33	16.3	2,512,521	0.172	9,618	16.53	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	2,492,508	240,662,914	3,648	36,949,263	0.146	10,129	14.82	96.55	15.4	2,476,654	0.131	10,081	13.19	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	2,541,850	238,330,066	3,856	41,148,933	0.152	10,671	16.19	93.76	17.3	2,536,305	0.139	10,499	14.60	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	2,530,581	232,021,541	3,403	33,510,632	0.134	9,847	13.24	91.69	14.4	2,521,565	0.125	10,604	13.25	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	2,578,831	231,883,104	3,227	34,483,415	0.125	10,686	13.37	89.92	14.9	2,582,298	0.133	11,044	14.66	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	2,556,534	228,506,800	2,851	31,496,389	0.112	11,047	12.32	89.38	13.8	2,567,291	0.119	11,155	13.31	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	2,616,633	236,084,114	3,132	35,927,132	0.120	11,471	13.73	90.22	15.2	2,629,126	0.127	11,618	14.72	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	2,598,867	234,974,312	2,677	34,124,503	0.103	12,747	13.13	90.41	14.5	2,613,847	0.114	11,734	13.36	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	2,667,586	235,677,173	2,980	35,840,380	0.112	12,027	13.44	88.35	15.2	2,676,803	0.121	12,221	14.79	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	2,657,875	231,540,402	2,769	35,498,114	0.104	12,820	13.36	87.11	15.3	2,661,246	0.109	12,344	13.42	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	2,736,412	238,544,164	3,215	44,298,370	0.117	13,779	16.19	87.17	18.6	2,725,344	0.116	12,856	14.86	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	2,729,554	239,458,877	2,679	34,563,677	0.098	12,902	12.66	87.73	14.4	2,709,505	0.104	12,985	13.48	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	2,776,550	240,906,999	3,341	45,568,474	0.120	13,639	16.41	86.76	18.9	2,774,765	0.110	13,523	14.92	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	2,746,311	233,592,926	3,046	42,197,417	0.111	13,853	15.37	85.06	18.1	2,751,294	0.105	13,940	14.61	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	2,798,300	239,998,240	3,613	49,847,283	0.129	13,797	17.81	85.77	20.8	2,802,575	0.124	15,122	18.83	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	2,763,306	244,976,409	3,739	56,298,878	0.135	15,057	20.37	88.65	23.0	2,771,468	0.125	15,909	19.89	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	2,821,765	265,133,320	4,362	76,992,337	0.155	17,651	27.29	93.96	29.0	2,823,125	0.149	17,258	25.63	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	2,794,436	274,957,618	3,950	74,679,898	0.141	18,906	26.72	98.39	27.2	2,791,791	0.149	18,156	27.08	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	2,847,963	292,447,079	4,884	96,499,321	0.171	19,758	33.88	102.69	33.0	2,843,826	0.177	19,696	34.89	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	2,812,262		5,004	103,680,390	0.178	20,721	36.87			2,812,262	0.178	20,721	36.87	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	2,864,679		6,054	136,072,952	0.211	22,478	47.50			2,864,679	0.211	22,478	47.50	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	2,832,884		6,013	142,181,578	0.212	23,647	50.19			2,832,884	0.212	23,647	50.19	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	2,885,685		7,274	186,602,953	0.252	25,653	64.67			2,885,685	0.252	25,653	64.67	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	2,853,656		7,225	194,979,986	0.253	26,987	68.33			2,853,656	0.253	26,987	68.33	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	2,906,845		8,741	255,897,014	0.301	29,276	88.03			2,906,845	0.301	29,276	88.03	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	5,739,438		14,563	385,706,852	0.254	26,486	67.20																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.586	-0.048	-0.017	N/A	N/A	0.015	N/A	0.018	N/A	N/A	-0.011
Ultimate Claim Frequency Beta Hat Parameter Estimates:													-0.446	-0.299	-0.309	N/A	N/A	0.084	N/A	N/A	-0.137	0.090	0.223
Ultimate Claim Severity Beta Hat Parameter Estimates:													8.705	0.144	0.077	N/A	N/A	0.015	N/A	N/A	0.038	0.013	0.081
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													3.655	-0.155	-0.232	N/A	N/A	0.099	N/A	N/A	-0.099	0.103	0.304
Earned Car-Years of Exposure R*2 Statistic = 98.6%; T-Test Statistics on 34 Degrees of Freedom:													3,244.011	-6.488	-2.045	N/A	N/A	4.513	N/A	17.396	N/A	N/A	-2.862
Ultimate Claim Frequency R*2 Statistic = 98.9%; T-Test Statistics on 33 Degrees of Freedom:													-14.599	-5.692	-4.905	N/A	N/A	3.467	N/A	N/A	-12.728	6.106	6.738
Ultimate Claim Severity R*2 Statistic = 97.5%; T-Test Statistics on 33 Degrees of Freedom:													367.659	3.529	1.577	N/A	N/A	0.818	N/A	N/A	4.569	1.094	3.180
Ultimate Claim Cost/Car-Year R*2 Statistic = 97.4%; T-Test Statistics on 33 Degrees of Freedom:													125.905	-3.106	-3.871	N/A	N/A	4.312	N/A	N/A	-9.655	7.312	9.678
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	0.000	4.870	N/A	N/A	0.007	N/A	0.000	N/A	N/A	0.715
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	0.000	0.002	N/A	N/A	0.148	N/A	N/A	0.000	0.000	0.000
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	0.125	12.444	N/A	N/A	41.938	N/A	N/A	0.007	28.169	0.320
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	0.388	0.048	N/A	N/A	0.014	N/A	N/A	0.000	0.000	0.000
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,160,467.367	0.953	0.983	1.000	1.000	1.015	1.000	1.018	1.018	1.018	1.007
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													0.640	0.741	0.734	1.000	1.000	1.087	1.000	1.000	0.872	0.955	1.193
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													6,035.892	1.155	1.080	1.000	1.000	1.015	1.000	1.000	1.039	1.052	1.141
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													38.658	0.856	0.793	1.000	1.000	1.104	1.000	1.000	0.906	1.004	1.361

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Comprehensive - Other (Cov 8x & KoL 21,25,26,27,28,29)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out-lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	2,205,680	280,006,527	109,252	103,406,617	4.953	946	46.88	126.95	36.9	2,170,196	4.625	976	45.16	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	2,251,383	288,613,879	114,312	124,259,736	5.077	1,087	55.19	128.19	43.1	2,222,466	4.492	1,138	51.10	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	2,262,203	293,137,874	112,795	115,169,972	4.986	1,021	50.91	129.58	39.3	2,209,550	5.092	1,170	59.58	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	2,268,198	301,621,783	107,058	121,501,191	4.720	1,135	53.57	132.98	40.3	2,262,768	4.492	1,138	51.10	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	2,229,710	303,674,506	100,466	106,045,717	4.506	1,056	47.56	136.19	34.9	2,249,618	4.625	976	45.16	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	2,280,555	321,183,099	97,493	116,329,744	4.275	1,193	51.01	140.84	36.2	2,303,802	4.492	1,138	51.10	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	2,230,854	324,213,712	89,334	96,395,547	4.004	1,079	43.21	145.33	29.7	2,290,413	4.625	976	45.16	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	2,245,339	337,474,646	72,803	99,107,665	3.242	1,361	44.14	150.30	29.4	2,289,387	3.241	1,391	45.07	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	2,195,365	331,690,144	60,304	72,997,279	2.747	1,210	33.25	151.09	22.0	2,221,555	2.412	1,463	35.29	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	2,235,020	318,073,358	54,387	87,189,291	2.433	1,603	39.01	142.31	27.4	2,275,062	2.349	1,716	40.31	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	2,243,151	298,247,550	50,052	73,061,822	2.231	1,460	32.57	132.96	24.5	2,261,840	2.427	1,482	35.96	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	2,353,927	294,158,313	55,187	117,055,574	2.344	2,121	49.73	124.96	39.8	2,316,318	2.364	1,737	41.07	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	2,301,105	278,705,393	48,073	74,165,738	2.089	1,543	32.23	121.12	26.6	2,302,857	2.442	1,500	36.64	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	2,359,048	276,557,645	55,845	102,035,733	2.367	1,827	43.25	117.23	36.9	2,358,322	2.379	1,759	41.85	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	2,345,541	267,784,412	52,282	85,853,166	2.229	1,642	36.60	114.17	32.1	2,344,617	2.457	1,519	37.33	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	2,411,946	266,979,627	56,730	101,495,154	2.352	1,789	42.08	110.69	38.0	2,401,088	2.394	1,781	42.64	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	2,417,924	266,453,097	69,467	146,862,121	2.873	2,114	60.74	110.20	55.1	2,387,134	2.756	1,885	51.95	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	2,472,259	271,155,905	55,755	104,831,350	2.255	1,880	42.40	109.68	38.7	2,444,629	2.409	1,803	43.45	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	2,445,739	265,240,950	70,371	128,257,256	2.877	1,823	52.44	108.45	48.4	2,430,422	2.489	1,557	38.75	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	2,491,933	262,608,580	58,795	105,137,206	2.359	1,788	42.19	105.38	40.0	2,488,960	2.424	1,826	44.27	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	2,461,170	245,677,068	52,911	82,898,680	2.150	1,567	33.68	99.82	33.7	2,474,496	2.504	1,577	39.49	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	2,517,237	245,010,638	55,634	99,387,879	2.210	1,786	39.48	97.33	40.6	2,512,521	2.440	1,849	45.10	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	2,492,508	240,662,914	77,642	127,822,288	3.115	1,646	51.28	96.55	53.1	2,476,654	2.520	1,597	40.23	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	2,541,850	238,330,066	70,649	115,427,638	2.779	1,634	45.41	93.76	48.4	2,536,305	2.455	1,872	45.96	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	2,530,581	232,021,541	69,416	91,865,602	2.743	1,323	36.30	91.69	39.6	2,521,565	2.536	1,617	40.99	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	2,578,831	231,883,104	74,524	156,454,023	2.890	2,099	60.67	89.92	67.5	2,582,298	2.687	2,221	59.68	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	2,556,534	228,506,800	64,979	94,422,853	2.542	1,453	36.93	89.38	41.3	2,567,291	2.552	1,637	41.77	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	2,616,633	236,084,114	74,857	168,139,452	2.861	2,246	64.26	90.22	71.2	2,629,126	2.737	2,300	62.95	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	2,598,867	234,974,312	68,694	110,253,853	2.643	1,605	42.42	90.41	46.9	2,613,847	2.568	1,657	42.56	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	2,667,586	235,677,173	65,993	130,630,401	2.474	1,979	48.97	88.35	55.4	2,676,803	2.502	1,943	48.62	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	2,657,875	231,540,402	67,945	108,767,010	2.556	1,601	40.92	87.11	47.0	2,661,246	2.584	1,678	43.37	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	2,736,412	238,544,164	68,880	137,730,284	2.517	2,000	50.33	87.17	57.7	2,725,344	2.517	1,968	49.53	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	2,729,554	239,458,877	74,516	131,801,009	2.730	1,769	48.29	87.73	55.0	2,709,505	2.600	1,699	44.19	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	2,776,550	240,906,999	69,352	163,237,381	2.498	2,354	58.79	86.76	67.8	2,774,765	2.756	2,334	64.32	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	2,746,311	233,592,926	67,263	131,888,887	2.449	1,961	48.02	85.06	56.5	2,751,294	2.590	1,770	45.85	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	2,798,300	239,998,240	65,892	166,687,157	2.355	2,530	59.57	85.77	69.5	2,802,575	2.562	2,352	60.26	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	2,763,306	244,976,409	73,562	171,838,545	2.662	2,336	62.19	88.65	70.1	2,771,468	2.655	2,250	59.75	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	2,821,765	265,133,320	68,178	194,701,249	2.416	2,856	69.00	93.96	73.4	2,823,125	2.503	2,732	68.37	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	2,794,436	274,957,618	67,164	154,863,410	2.403	2,306	55.42	98.39	56.3	2,791,791	2.413	2,282	55.06	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	2,847,963	292,447,079	69,116	180,209,768	2.427	2,607	63.28	102.69	61.6	2,843,826	2.303	2,833	65.23	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	2,812,262		66,306	175,678,444	2.358	2,650	62.47			2,812,262	2.358	2,650	62.47	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	2,864,679		65,855	225,633,423	2.299	3,426	78.76			2,864,679	2.299	3,426	78.76	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	2,832,884		64,476	193,934,864	2.276	3,008	68.46			2,832,884	2.276	3,008	68.46	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	2,885,685		64,037	249,081,140	2.219	3,890	86.32			2,885,685	2.219	3,890	86.32	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	2,853,656		62,697	214,088,482	2.197	3,415	75.02			2,853,656	2.197	3,415	75.02	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	2,906,845		62,270	274,965,533	2.142	4,416	94.59			2,906,845	2.142	4,416	94.59	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	5,739,438		126,737	464,602,316	2.208	3,666	80.95																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													14.586	-0.048	-0.017	N/A	N/A	0.015	N/A	0.018	N/A	N/A	-0.011
Ultimate Claim Frequency Beta Hat Parameter Estimates:													1.532	-0.654	N/A	N/A	N/A	-0.029	0.048	N/A	0.006	N/A	-0.042
Ultimate Claim Severity Beta Hat Parameter Estimates:													6.884	0.398	N/A	N/A	N/A	0.153	0.090	N/A	0.012	N/A	0.114
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													3.810	-0.256	N/A	N/A	N/A	0.124	0.139	N/A	0.019	N/A	0.073
Earned Car-Years of Exposure R*2 Statistic = 98.6%; T-Test Statistics on 34 Degrees of Freedom:													3,244.011	-6.488	-2.045	N/A	N/A	4.513	N/A	17.396	N/A	N/A	-2.862
Ultimate Claim Frequency R*2 Statistic = 89.4%; T-Test Statistics on 34 Degrees of Freedom:													42.707	-13.374	N/A	N/A	N/A	-1.039	2.239	N/A	1.434	N/A	-1.440
Ultimate Claim Severity R*2 Statistic = 90.8%; T-Test Statistics on 34 Degrees of Freedom:													187.947	7.973	N/A	N/A	N/A	5.310	4.123	N/A	2.783	N/A	3.879
Ultimate Claim Cost/Car-Year R*2 Statistic = 76.1%; T-Test Statistics on 34 Degrees of Freedom:													88.730	-4.369	N/A	N/A	N/A	3.662	5.386	N/A	3.572	N/A	2.106
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	0.000	4.870	N/A	N/A	0.007	N/A	0.000	N/A	N/A	0.715
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													0.000	0.000	N/A	N/A	N/A	30.609	3.181	N/A	16.067	N/A	15.903
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	0.000	N/A	N/A	N/A	0.001	0.023	N/A	0.873	N/A	0.046
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	0.011	N/A	N/A	N/A	0.084	0.001	N/A	0.108	N/A	4.263
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													2,160,467.367	0.953	0.983	1.000	1.000	1.015	1.000	1.018	1.018	1.018	1.007
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													4.625	0.520	1.000	1.000	1.000	0.971	1.049	1.000	1.006	1.006	0.965
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													976.310	1.490	1.000	1.000	1.000	1.165	1.095	1.000	1.013	1.013	1.135
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													45.157	0.774	1.000	1.000	1.000	1.132	1.149	1.000	1.019	1.019	1.096

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020

Ontario Private Passenger Automobile (excluding Farmers)

Valuation Date: 20191231
Data Basis: Direct All-Industry Calendar/Accident Year Data (incl. Facility Association)
Coverage/KoL: Specified Perils - Total (Cov 2x)
Data Source: GISA All-Industry Loss Development Exhibit
Item: Projected Total Industry Experience for the Policy Year starting 01/01/2021
Description: Historical Estimated and Future Projected All-Industry Ultimate Accident Half-Year Experience (excluding Health Levy but including ALAE & ULAE)

	Historical Estimated Ultimate Statistics & Future Projected Ultimate Statistics										Fitted Regression Estimates				Independent Variables for Regression									
Acc. Half Year	Car-Years Earned Exposure	Pro Rata $ Earned Premium	# Claim Count	$ Claim Amount	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	$/Car Premium	% Loss Ratio	Car-Years Earned Exposure	% Claim Freqcy	$ Claim Severity	$/Car Loss Cost	OldP/ Prior Level	03-2P/ Prior Level	10-2P/ Prior Level	17-1E/ Prior Level	19-1E/ Out- lier	2nd Hlf Yr Level	Wthr Cat Level	OldP/ Prior Trend	03-2P/ Prior Trend	10-2P/ Prior Trend	17-1E/ Prior Trend
20001	9,776	497,029	145	303,470	1.483	2,093	31.04	50.84	61.1	9,188	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
20002	9,249	542,078	166	436,271	1.795	2,628	47.17	58.61	80.5	9,081	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000
20011	9,396	634,743	179	514,349	1.905	2,873	54.74	67.55	81.0	9,203	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	0.000	2.000	1.250	0.000	0.000	0.000
20012	9,092	731,743	172	573,618	1.892	3,335	63.09	80.48	78.4	9,096	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	1.000	0.000	1.750	0.000	0.000	0.000
20021	9,190	772,916	94	378,374	1.023	4,025	41.17	84.10	49.0	9,218	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	0.000	0.000	0.000
20022	8,849	666,201	136	608,784	1.537	4,476	68.80	75.29	91.4	9,110	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	1.000	0.000	2.750	0.000	0.000	0.000
20031	8,821	675,993	74	416,720	0.839	5,631	47.24	76.63	61.6	9,232	1.236	4,037	49.91	1.000	0.000	0.000	0.000	0.000	0.000	0.000	3.250	0.000	0.000	0.000
20032	8,757	785,767	78	441,819	0.891	5,664	50.45	89.73	56.2	9,168	1.212	4,054	49.12	1.000	0.500	0.000	0.000	0.000	1.000	0.000	3.750	0.125	0.000	0.000
20041	9,622	1,006,804	72	339,046	0.748	4,709	35.24	104.64	33.7	9,335	1.141	4,105	46.82	1.000	1.000	0.000	0.000	0.000	0.000	0.000	4.250	0.500	0.000	0.000
20042	9,347	865,300	86	437,509	0.920	5,087	46.81	92.58	50.6	9,227	1.052	4,174	43.92	1.000	1.000	0.000	0.000	0.000	1.000	0.000	4.750	1.000	0.000	0.000
20051	9,348	740,017	63	483,858	0.674	7,680	51.76	79.16	65.4	9,350	0.971	4,244	41.20	1.000	1.000	0.000	0.000	0.000	0.000	0.000	5.250	1.500	0.000	0.000
20052	9,378	662,861	68	328,619	0.725	4,833	35.04	70.68	49.6	9,241	0.896	4,315	38.65	1.000	1.000	0.000	0.000	0.000	1.000	0.000	5.750	2.000	0.000	0.000
20061	9,564	571,922	60	210,448	0.627	3,507	22.00	59.80	36.8	9,365	0.826	4,387	36.26	1.000	1.000	0.000	0.000	0.000	0.000	0.000	6.250	2.500	0.000	0.000
20062	9,070	468,452	76	377,723	0.838	4,970	41.65	51.65	80.6	9,256	0.762	4,460	34.01	1.000	1.000	0.000	0.000	0.000	1.000	0.000	6.750	3.000	0.000	0.000
20071	8,768	417,018	70	339,916	0.798	4,856	38.77	47.56	81.5	9,380	0.703	4,535	31.90	1.000	1.000	0.000	0.000	0.000	0.000	0.000	7.250	3.500	0.000	0.000
20072	8,774	389,627	67	430,756	0.764	6,429	49.09	44.41	110.6	9,271	0.649	4,611	29.93	1.000	1.000	0.000	0.000	0.000	1.000	0.000	7.750	4.000	0.000	0.000
20081	8,846	389,497	61	293,891	0.690	4,818	33.22	44.03	75.5	9,395	0.599	4,688	28.07	1.000	1.000	0.000	0.000	0.000	0.000	2.250	8.250	4.500	0.000	0.000
20082	9,179	399,287	64	265,902	0.697	4,155	28.97	43.50	66.6	9,285	0.553	4,767	26.34	1.000	1.000	0.000	0.000	0.000	1.000	0.000	8.750	5.000	0.000	0.000
20091	9,520	410,752	66	314,533	0.693	4,766	33.04	43.15	76.6	9,410	0.510	4,846	24.70	1.000	1.000	0.000	0.000	0.000	0.000	0.000	9.250	5.500	0.000	0.000
20092	9,842	413,510	43	160,056	0.437	3,722	16.26	42.01	38.7	9,300	0.470	4,927	23.17	1.000	1.000	0.000	0.000	0.000	1.000	0.000	9.750	6.000	0.000	0.000
20101	9,913	412,581	49	223,695	0.494	4,565	22.57	41.62	54.2	9,425	0.434	5,010	21.74	1.000	1.000	0.000	0.000	0.000	0.000	0.000	10.250	6.500	0.000	0.000
20102	9,596	408,227	43	186,646	0.448	4,341	19.45	42.54	45.7	8,855	0.408	5,081	20.75	1.000	1.000	0.500	0.000	0.000	1.000	0.000	10.750	7.000	0.125	0.000
20111	8,723	438,318	52	236,677	0.596	4,551	27.13	50.25	54.0	8,149	0.400	5,127	20.50	1.000	1.000	1.000	0.000	0.000	0.000	0.000	11.250	7.500	0.500	0.000
20112	7,485	433,866	36	160,855	0.481	4,468	21.49	57.96	37.1	7,347	0.399	5,160	20.60	1.000	1.000	1.000	0.000	0.000	1.000	0.000	11.750	8.000	1.000	0.000
20121	6,866	397,222	14	57,735	0.204	4,124	8.41	57.85	14.5	6,793	0.399	5,194	20.70	1.000	1.000	1.000	0.000	0.000	0.000	0.000	12.250	8.500	1.500	0.000
20122	6,074	345,367	21	159,632	0.346	7,602	26.28	56.86	46.2	6,125	0.398	5,228	20.81	1.000	1.000	1.000	0.000	0.000	1.000	1.750	12.750	9.000	2.000	0.000
20131	5,591	317,026	16	82,479	0.286	5,155	14.75	56.70	26.0	5,663	0.397	5,262	20.91	1.000	1.000	1.000	0.000	0.000	0.000	0.000	13.250	9.500	2.500	0.000
20132	4,902	276,057	22	133,257	0.449	6,057	27.18	56.32	48.3	5,106	0.397	5,296	21.02	1.000	1.000	1.000	0.000	0.000	1.000	2.000	13.750	10.000	3.000	0.000
20141	4,561	250,332	14	149,248	0.307	10,661	32.72	54.89	59.6	4,720	0.396	5,331	21.12	1.000	1.000	1.000	0.000	0.000	0.000	0.000	14.250	10.500	3.500	0.000
20142	4,105	215,061	17	114,786	0.414	6,752	27.96	52.39	53.4	4,256	0.396	5,366	21.23	1.000	1.000	1.000	0.000	0.000	1.000	0.000	14.750	11.000	4.000	0.000
20151	3,868	288,815	12	41,227	0.310	3,436	10.66	74.67	14.3	3,935	0.395	5,401	21.33	1.000	1.000	1.000	0.000	0.000	0.000	0.000	15.250	11.500	4.500	0.000
20152	3,415	192,095	16	53,540	0.469	3,346	15.68	56.25	27.9	3,548	0.394	5,436	21.44	1.000	1.000	1.000	0.000	0.000	1.000	0.000	15.750	12.000	5.000	0.000
20161	3,187	165,173	10	63,602	0.314	6,360	19.96	51.83	38.5	3,280	0.394	5,471	21.55	1.000	1.000	1.000	0.000	0.000	0.000	0.000	16.250	12.500	5.500	0.000
20162	2,921	152,414	7	59,484	0.240	8,498	20.36	52.18	39.0	2,958	0.393	5,507	21.66	1.000	1.000	1.000	0.000	0.000	1.000	1.750	16.750	13.000	6.000	0.000
20171	2,689	141,731	10	48,619	0.372	4,862	18.08	52.71	34.3	2,734	0.393	5,543	21.77	1.000	1.000	1.000	1.000	0.000	0.000	0.000	17.250	13.500	6.500	0.250
20172	2,457	133,924	19	140,723	0.773	7,406	57.27	54.51	105.1	2,465	0.392	5,579	21.87	1.000	1.000	1.000	1.000	0.000	1.000	0.750	17.750	14.000	7.000	0.750
20181	2,243	123,253	10	31,861	0.446	3,186	14.20	54.95	25.9	2,279	0.392	5,615	21.98	1.000	1.000	1.000	1.000	0.000	0.000	1.250	18.250	14.500	7.500	1.250
20182	2,101	114,650	8	40,485	0.381	5,061	19.27	54.57	35.3	2,055	0.391	5,652	22.09	1.000	1.000	1.000	1.000	0.000	1.000	1.000	18.750	15.000	8.000	1.750
20191	1,953	106,980	8	57,883	0.410	7,235	29.64	54.78	54.1	1,900	0.390	5,689	22.21	1.000	1.000	1.000	1.000	1.000	0.000	0.000	19.250	15.500	8.500	2.250
20192	1,852	106,324	8	41,508	0.432	5,189	22.41	57.41	39.0	1,713	0.390	5,726	22.32	1.000	1.000	1.000	1.000	0.000	1.000	0.000	19.750	16.000	9.000	2.750
20201	1,584		6	35,527	0.389	5,763	22.43			1,584	0.389	5,763	22.43	1.000	1.000	1.000	1.000	0.000	0.000	0.250	20.250	16.500	9.500	3.250
20202	1,428		6	32,194	0.389	5,801	22.54			1,428	0.389	5,801	22.54	1.000	1.000	1.000	1.000	0.000	1.000	0.700	20.750	17.000	10.000	3.750
20211	1,320		5	29,914	0.388	5,839	22.66			1,320	0.388	5,839	22.66	1.000	1.000	1.000	1.000	0.000	0.000	0.250	21.250	17.500	10.500	4.250
20212	1,191		5	27,107	0.387	5,877	22.77			1,191	0.387	5,877	22.77	1.000	1.000	1.000	1.000	0.000	1.000	0.700	21.750	18.000	11.000	4.750
20221	1,101		4	25,187	0.387	5,915	22.88			1,101	0.387	5,915	22.88	1.000	1.000	1.000	1.000	0.000	0.000	0.250	22.250	18.500	11.500	5.250
20222	992		4	22,824	0.386	5,953	23.00			992	0.386	5,953	23.00	1.000	1.000	1.000	1.000	0.000	1.000	0.700	22.750	19.000	12.000	5.750
PYWtd	2,297		9	52,405	0.387	5,893	22.82																	
Earned Car-Years of Exposure Beta Hat Parameter Estimates:													9.125	0.010	-0.055	N/A	N/A	-0.013	N/A	0.002	N/A	-0.184	N/A
Ultimate Claim Frequency Beta Hat Parameter Estimates:													0.212	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.161	0.158	N/A
Ultimate Claim Severity Beta Hat Parameter Estimates:													8.303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.033	-0.020	N/A
Ultimate Claim Cost/Car-Year Beta Hat Parameter Estimates:													3.910	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.128	0.138	N/A
Earned Car-Years of Exposure R*2 Statistic = 99.5%; T-Test Statistics on 34 Degrees of Freedom:													492.240	0.267	-1.843	N/A	N/A	-0.979	N/A	0.293	N/A	-28.763	N/A
Ultimate Claim Frequency R*2 Statistic = 73.1%; T-Test Statistics on 37 Degrees of Freedom:													2.411	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-7.629	4.157	N/A
Ultimate Claim Severity R*2 Statistic = 14.4%; T-Test Statistics on 37 Degrees of Freedom:													89.667	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.493	-0.505	N/A
Ultimate Claim Cost/Car-Year R*2 Statistic = 51.8%; T-Test Statistics on 37 Degrees of Freedom:													37.458	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-5.102	3.054	N/A
Earned Car-Years of Exposure Two-Sided T-Test Tail Probability %:													0.000	79.132	7.410	N/A	N/A	33.433	N/A	77.115	N/A	0.000	N/A
Ultimate Claim Frequency Two-Sided T-Test Tail Probability %:													2.098	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	0.018	N/A
Ultimate Claim Severity Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.381	61.683	N/A
Ultimate Claim Cost/Car-Year Two-Sided T-Test Tail Probability %:													0.000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.001	0.417	N/A
Earned Car-Years of Exposure Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													9,184.807	1.010	0.946	1.000	1.000	0.988	1.000	1.002	1.002	0.834	0.834
Ultimate Claim Frequency Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													1.236	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.851	0.997	0.997
Ultimate Claim Severity Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													4,037.444	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.034	1.013	1.013
Ultimate Claim Cost/Car-Year Exponentiated Beta Hat Parameter Estimates, with Cumulative Trend:													49.911	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.880	1.010	1.010

Note: 1. Earned Exposure, Frequency, Severity, and Loss Cost are projected by Linear Regression on their Natural Logarithms
2. Regression Equation is: Ln Y = X x Beta + Epsilon, where X is matrix of independent variables, and Epsilon is distributed Normal (0, I x Sigma*2)
3. Independent Variables with Beta Hat and T Statistic and T Tail Probability = N/A have been judgmentally omitted from the Regression

Time: 12:48:39 p.m. July 09, 2020