



ACTLA
Alberta Civil Trial Lawyers Association

Submission to the Alberta Automobile Insurance Rate Board
2022 Annual Review
July 27, 2022



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Executive summary

The Alberta Civil Trial Lawyers Association (ACTLA) appreciates the opportunity to participate in the Alberta Automobile Insurance Rate Board's (AIRB) 2022 Annual review process. ACTLA is made up of 600+ members representing thousands of Albertans and legal professionals. We advocate for a strong civil justice system that protects Albertans' rights, provide continuing legal education and professional development, and promote and uphold the rule of law, administration of justice, and the public good.

ACTLA has retained Mr. Craig A. Allen, an independent consulting actuary with extensive experience in the Canadian insurance industry, to conduct a review of the preliminary Oliver Wyman report and associated historical data. Our submission is comprised of Mr. Allen's technical analysis and this summarizing foreword which provides additional detail and commentary on Mr. Allen's findings from an ACTLA perspective.

ACTLA regularly participates in the AIRB's review processes. Our previously submitted analyses, and our predictions of future trends, have been proven correct by our review of the latest data from Oliver Wyman. We have advised in previous submissions that the effect of increased premiums in the face of leveling bodily injury claims and other costs, and significantly reduced total claim costs due to COVID-19 would either lead to decreased premiums for consumers, or excess profits for insurance companies. Experience throughout the last number of annual and semi-annual reviews has shown the insurance industry is experiencing significant windfall profits in the Alberta auto insurance market while most claims cost-drivers for the industry continue on a downward trajectory.

While the trends noted above continue, we note new trends are also emerging. These include a pattern of revisions to Oliver Wyman's loss and loss adjustment expense (LAE) costs per vehicle for previous years and assumptions that private passenger driving patterns will return to a pre-COVID state which have not come to fruition. Additionally, while claims costs have stabilized between 2015-2019 and decreased significantly in 2020 and 2021 as a result of COVID-19, the operating expenses of the insurers have increased significantly more than the rate of inflation during the same period of time. These observations require more analysis as the AIRB establishes industry benchmarks for future coverages.

With supporting actuarial data included in Mr. Allen’s appended findings, ACTLA wishes to highlight the following findings for the AIRB regarding the most recent review of industry experience from Oliver Wyman:

- **Bodily injury claim costs continue their trend of stabilization and decline**

Inflation-adjusted bodily injury claims costs have been stable for the period of 2015-2019 and are now declining markedly associated with the COVID-19 pandemic and Government of Alberta policy changes. Contrary to key assertions made by the insurance industry, bodily injury claim costs are not the driving factor to premium increases. The period of excess-of-inflation growth of bodily injury claim costs ended in 2015 and has since stabilized. Since 2020, claims costs – across all coverages – have declined due to transportation disruptions while reforms initiated by Bill 41 in 2021 have further reduced inflation-adjusted bodily injury costs for the industry.

- **Loss and LAE costs per vehicle from prior accident years continue to be revised downward by Oliver Wyman**

Mr. Allen’s analysis notes that prior projections of bodily injury and LAE costs per vehicle for accident years 2011-2020 have all been adjusted downward. The downward variations in some cases are stark and range from a low of a 0.7% revision in for 2011 to a 11.2% variation in 2015. The continued reduction in estimates of prior-year claim costs for the industry, and the resulting lower claim costs than anticipated, affect profitability projections for prior accident years. The continued downward revisions further call into question the certainty of future projections and the need for legislative reforms initiated between 2018 and 2021, which were made under the auspice of an unprofitable industry experiencing acute cost pressures.

- **The insurance industry is experiencing significant profits**

In previous responses to annual and semi-annual reviews, ACTLA has submitted projections of the pre-tax profits of the private passenger auto insurance industry in Alberta via Mr. Allen’s analysis. This projection has since been revised for the claims experience observed in the 2021 accident year. Industry pre-tax profits for 2020 are now projected at \$894 million. For 2021, they are projected at \$1.434 billion. This analysis includes consideration of industry investment earnings on capital, a key factor in industry profitability, which Oliver Wyman advises is not captured in its reporting of the realization of the “7% of premium” profit provision.

- **The divergence between declining claims and industry costs and increasing premiums continues**

Albertans have seen dramatic increases to their premiums since 2018. Bill 41, associated regulatory changes, and reductions to the rate of pre- judgment interest enacted in 2021 resulted in both significant one-time and enduring claim cost reductions for the industry. The COVID-19 pandemic further caused a sharp decrease in claims costs beginning in 2020. The Government of Alberta also significantly reduced the Health Cost Recovery fee it collects from the industry by approximately 50% since 2018. This has cut costs for insurance companies by tens of millions annually. As industry costs decline and profits grow, Albertans continue to be subject, through 2021, to premium increases at rates greater than inflation. This experience continues in the latest Oliver Wyman report and underscores the need to not permit further premium increases until more equilibrium between industry costs, industry profits, and consumer premiums can be realized.

- **The operating expenses of Alberta auto insurers have increased more than the rate of inflation, while claims costs have declined**

While claims costs have stabilized between 2015-2019 and declined significantly post COVID, the operating expenses per vehicle of Alberta auto insurance companies has increased significantly more than the rate of inflation since 2015 (except for the anomaly of 2018). Oliver Wyman further suggests that operating expenses should be assessed at a significantly higher rate for 2022. There is no explanation provided for the increase in operating expenses. When auto insurance claims reduced significantly and most other industries reduced operating expenses for matters such as rent, advertising, executive compensation and other general administrative expenses during the pandemic, operating expenses per vehicle for Alberta auto insurers increased between 4.8%-6.4% per vehicle. When combined with the increase in insured vehicles, these operating expense increases are significant. It is submitted that further analysis of operating expenses should be considered prior to simply accepting the rates for the purposes of establishing the Benchmark rates to be applied.

- **Assumptions of a return to pre-pandemic driving patterns have not yet materialized**

COVID-19 effects on transportation habits and driving patterns continue to linger and may endure to a greater extent than assumed by Oliver Wyman. Industry benchmarks for 2022 as drafted by Oliver Wyman assume a return to pre-pandemic driving patterns. However, if experience from 2021 is to be drawn upon, it is unlikely this assumption will come to fruition and should be revised. In the latter half of 2021 frequency rates for both bodily

injury and collision remained noticeably down from 2019 at -23% and -28% respectively. It would appear COVID-related impacts on transportation and driving habits may be longer term than previously anticipated as hundreds of thousands of Alberta workers continue to work from home.

Additionally, the reduction in driving habits due to increased fuel costs will likely further reduce the driving pattern of Alberta passenger vehicles in the upcoming year. However, all of our assumptions for 2022 conservatively estimate a 5% reduction in driving patterns from the 2019 year, being the pre-COVID standard. Thus far, our estimates in past years have proven to be overly conservative, with actual auto insurance company profits far exceeding our projections.

In summary, the most recent Oliver Wyman report continues to demonstrate that inflation-adjusted claim costs are stable, and in some cases, declining. Combined with the effects of increases in premiums paid by consumers, the enduring impact of COVID-19 on driving patterns, industry savings associated with Bill 41 and other Government of Alberta policies, the auto insurance industry in Alberta is experiencing significant windfall profits.

Albertans have seen dramatic increases to their auto insurance premiums since 2018. Along with inflation and rising energy costs, large premium increases for auto insurance have been a major strain on many Albertans who continue to struggle with the ongoing affordability crisis. In the lieu of the above-described trends, ACTLA reiterates that the AIRB should not consider rate increases to premiums for basic and additional coverage for private passenger vehicles. At minimum, private passenger premiums should be frozen until the long-term impacts of COVID-19 can be observed in the industry and until the relationship between insurer costs and consumer premiums is brought back into some semblance of equilibrium.

Review of Experience, Alberta Private Passenger Automobile Insurance, as at December 31, 2021

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As Part of their Written Submission to the Alberta Automobile Insurance Rate Board 2022 Annual Review

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I. Executive Summary

The following are the findings of the analysis.

Finding 1:

The loss and LAE cost per vehicle for third party liability bodily injury coverage and for all coverages combined have been approximately stable, when adjusted for general inflation, for the 2015 through 2019 accident years. Beginning in 2020, the loss and LAE cost for the “moving” coverages has declined sharply in response to the reduction in vehicle traffic caused by the COVID-19 pandemic. Further, Bill 41 reduced the loss and LAE cost per vehicle for bodily injury coverage, beginning in accident year 2021. The effect is to reduce further the rate of increase in bodily injury claims costs.

Finding 2:

Oliver Wyman has reduced its loss and LAE costs per vehicle for all accident years between 2011 and 2020, compared to their previous analysis as at Dec. 2020. These reductions are in addition to previous reductions made by Oliver Wyman between Dec. 2017 and Dec. 2020 for accident years 2011 through 2017. With the reductions, the profitability of the Alberta private passenger auto insurance industry for the accident years 2011 through 2020 is higher than was previously estimated.

These reductions partly reverse increases in the loss and LAE costs made in 2017. A change in claim development patterns that began in 2017 has complicated the task of assessing loss and LAE costs for accident years 2016 and later.

Finding 3:

Industry pre-tax profits in 2020 and 2021 are projected at \$894 million and \$1.434 billion respectively, up from \$215 million in 2019. This result is due to a continuation throughout 2021 of the reduced level of claims activity that began with the COVID-19 pandemic, and the savings from Bill 41 that took effect in 2021.

Corresponding pre-tax profits using the Realized Profit Provision formula cited by Oliver Wyman are \$801 million for 2020 and \$927 million for 2021. Note that these amounts do not count the entirety of the industry’s profits, as they do not include the industry’s investment earnings on its capital.

Projected pre-tax profits for 2022 are \$581 million. This amount projects that the 2022 claims frequency will remain at 5% below the pre-pandemic level. It also makes the conservative assumption that the high levels of general inflation experienced in 2022 will be fully transmitted to all claims costs.

Finding 4:

Since 2018, through 2021 growth in premium income for the Alberta private passenger auto insurance industry has exceeded the rate of general inflation, while claims costs have declined, in keeping with the reduced claims activity that began with the COVID-19 pandemic, and the reforms in Bill 41.

These factors, along with a reduction in the amounts levied by the Alberta government for Health Cost Recovery have contributed to the much-increased level of profits beginning in 2020.

At the same time, a long-time trend of increases greater than general inflation in per-vehicle operating expenses, in particular general expenses and commissions, have somewhat reduced the level of profits in the industry.

Finding 5:

Oliver Wyman has assumed a return to pre-pandemic frequency levels for rate applications subject to 2022 benchmarks. However, frequency in the second half of 2021 has remained down significantly from the corresponding 2019 level (down 23% for bodily injury and 28% for collision). In light of this, I believe it conservative to extend through 2022 the 5% reduction from pre-pandemic levels initially projected in 2020 by J.S. Cheng & Partners, Inc. for the 2021 accident year.

II. Introduction

I have prepared this report as actuarial consultant to the Alberta Civil Trial Lawyers Association (“ACTLA”).

The report is part of ACTLA’s written submission to Alberta’s Automobile Insurance Rate Board (AIRB) for the 2022 Annual Review.

This report presents the results of my analysis of private passenger automobile insurance experience for Alberta.

III. Data Sources

I have based my analysis on data published by the General Insurance Statistical Agency (GISA) as at December 31, 2021. I have also reviewed in depth the analysis and conclusions of Oliver Wyman Limited (“Oliver Wyman”), consulting actuary to AIRB, in its 2022 Annual Review of Industry Experience – Preliminary Report as of December 31, 2021, dated June 28, 2022 (“Oliver Wyman 2022 Annual Review”).

This report makes reference to my report to AIRB dated July 28, 2021 that was included with ACTLA’s submission to the AIRB 2021 Annual Review.

IV. Identification

I am an independent consulting actuary based in New York, NY. I am a fellow of the Canadian Institute of Actuaries and of the Casualty Actuarial Society, and I have provided actuarial services in Canada and the U.S. for 35 years.

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July 27, 2022

V. Analysis

Below are the analyses that form the basis of this report.

A. The Trend in Bodily Injury Loss and LAE Cost per Vehicle Since 2015

Since 2015, the AIRB Benchmark trend rate for bodily injury (BI) coverage has projected annual increases in *ultimate loss and LAE costs per vehicle* (“loss cost”) that are significantly higher than corresponding annual increases in the Alberta Consumer Price Index (CPI). The Oliver Wyman 2022 Annual Review also selects a trend rate in excess of increases in the CPI for BI coverage. My analysis of the exposure data and claims projections prepared by GISA and by Oliver Wyman finds support for a lower BI loss cost trend, beginning in 2015.

1. Benchmark Trend Rate for Bodily Injury

Table 1 below shows that between 2015 and 2021, the AIRB Benchmark trend rate for BI coverage has projected increases in the BI loss cost well in excess of the annual rate of increase in the Alberta CPI.

(In the most recent periods, a sharp increase in general inflation has led to increases in the CPI greater than the benchmark trend rate. This increased rate of inflation may persist for a time. However, the Bank of Canada has announced its commitment to maintain its longstanding inflation target of 2%.¹)

¹ “The Governing Council is resolute in its commitment to price stability and will continue to take action as required to achieve the 2% inflation target.” <https://www.bankofcanada.ca/2022/07/fad-press-release-2022-07-13/>

Table 1: Benchmark Trend Rates for Bodily Injury, Compared to Increase in Consumer Price Index for Alberta

Effective Date	Past Trend Rate	Future Trend Rate	12-Month Increase in CPI ²
April 1, 2015	+2.0%	+2.0%	1.7%
Oct. 1, 2015	+4.5%	+4.5%	1.5%
April 1, 2016	+6.0%	+6.0%	1.3%
Oct. 1, 2016	+6.0%	+6.0%	1.0%
April 1, 2017	-1.0%	+7.5%	0.4%
Oct. 1, 2017	+7.5%	+7.5%	2.0%
April 1, 2018	+7.5%	+7.5%	2.8%
Oct. 1, 2018	+8.5%	+7.5%	2.1%
April 1, 2019	+8.5%	+7.5%	1.4%
Oct. 1, 2019	+8.5%	+7.5%	2.3%
April 1, 2020	+8.0%	+7.0%	1.6%
Oct. 1, 2020	+7.0%	+6.0%	0.8%
April 1, 2021	+7.0%	+5.0%	2.7%
Oct. 1, 2021	+7.0%	+5.0%	4.8%
April 1, 2022	+6.5%	+5.0%	8.4%

Table 2: Cumulative Increase Over the Period 2015 through 2022

	Past Trend Rate, April 1, 2022	Increase in CPI, June 2015 to June 2022
Accumulated Over 7 Years 2015 to 2022	+55.4%	+20.0%

The Oliver Wyman 2022 Annual Review selects for BI a past trend rate of 7.0% and a future trend rate of 5.0%.

² For the twelve months ending 3 months after effective date (e.g. for Effective Date Oct. 1, 2020, the CPI increase over the period Jan. 1, 2020 to Dec. 31, 2020)

2. Loss and LAE Cost per Vehicle Since Accident Year 2015, in 2016 Dollars

Figure 1 below shows my projections of inflation-adjusted loss and LAE costs per vehicle, for each accident year 2015 through 2021. These projections show approximate stability in inflation-adjusted loss and LAE costs per vehicle for the period 2015 through 2019. The subsequent accident years show a significant and notable reduction in these costs, occurring at the same time as the reduction in traffic volumes beginning in 2020, caused by the COVID-19 pandemic, and the reforms of bodily injury compensation beginning in 2021 brought about by Bill 41.

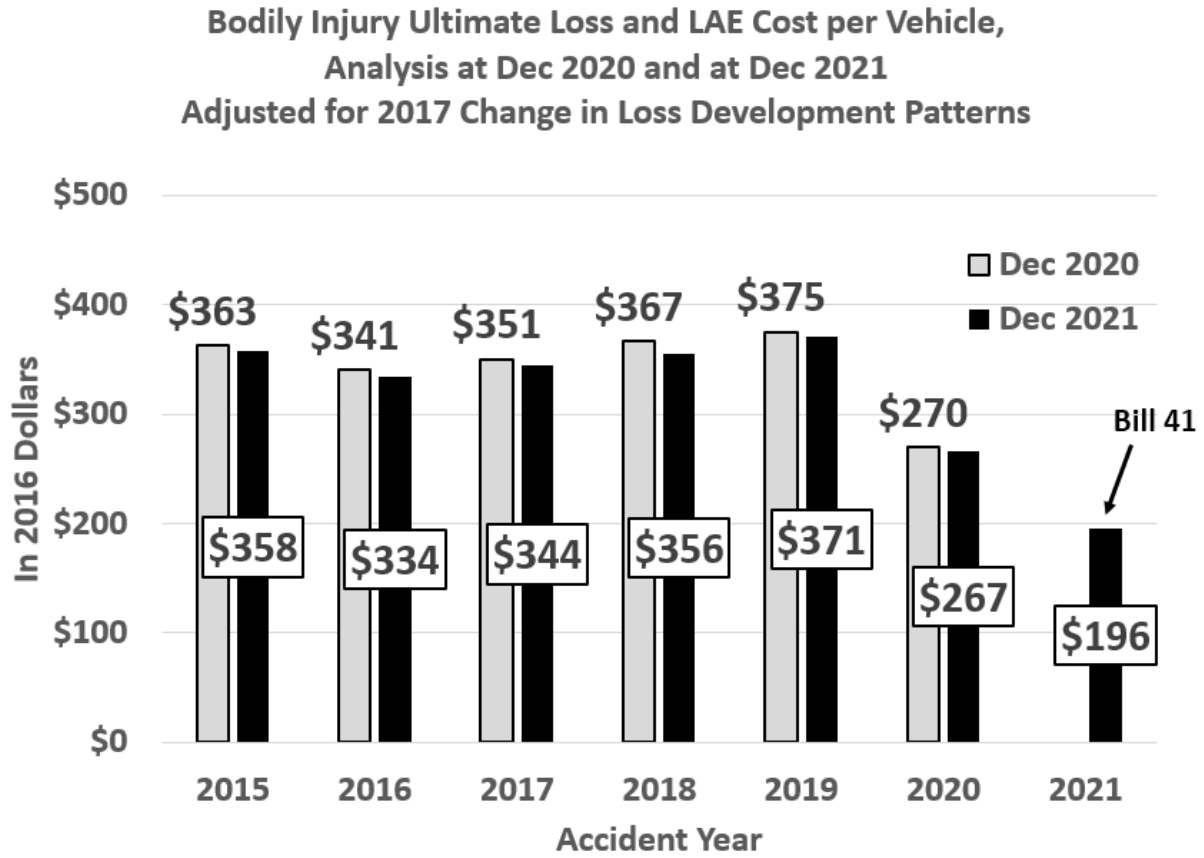
Figure 1 also compares the projections of inflation-adjusted loss and LAE made at Dec. 2021 to those that I made at Dec. 2020 for the 2021 Annual Review. It can be seen that developments over that period have stabilized even further the loss and LAE cost per vehicle for the pre-pandemic accident years 2015 through 2019.³

The amounts in Figure 1 are based on projections made by Oliver Wyman, with adjustments. I have made those adjustments in response to a distinct and continuing change in the actuarial development pattern, beginning in 2017. Figure 7 and Figure 8 below illustrate the change in pattern.

This change in the development pattern occurs at the same time as an advisory by GISA that large insurers had changed their claims handling and reserving practices. My adjustment assumes that the change in pattern reflects a change in the timing of recognition of claims costs that will not affect the claims' ultimate settlement values.

³ In the first half of 2021, there was a favorable shift in the development pattern, across almost all accident years (contributing to the favorable change in Oliver Wyman's claims estimates, seen on Figure 1 above. I believe that this favorable development reflects the reforms introduced in November 2020 under Bill 41, reducing the rate of pre-judgment interest on non-pecuniary loss.

Figure 1 – Projected Inflation-Adjusted Bodily Injury Loss and LAE Cost per Vehicle



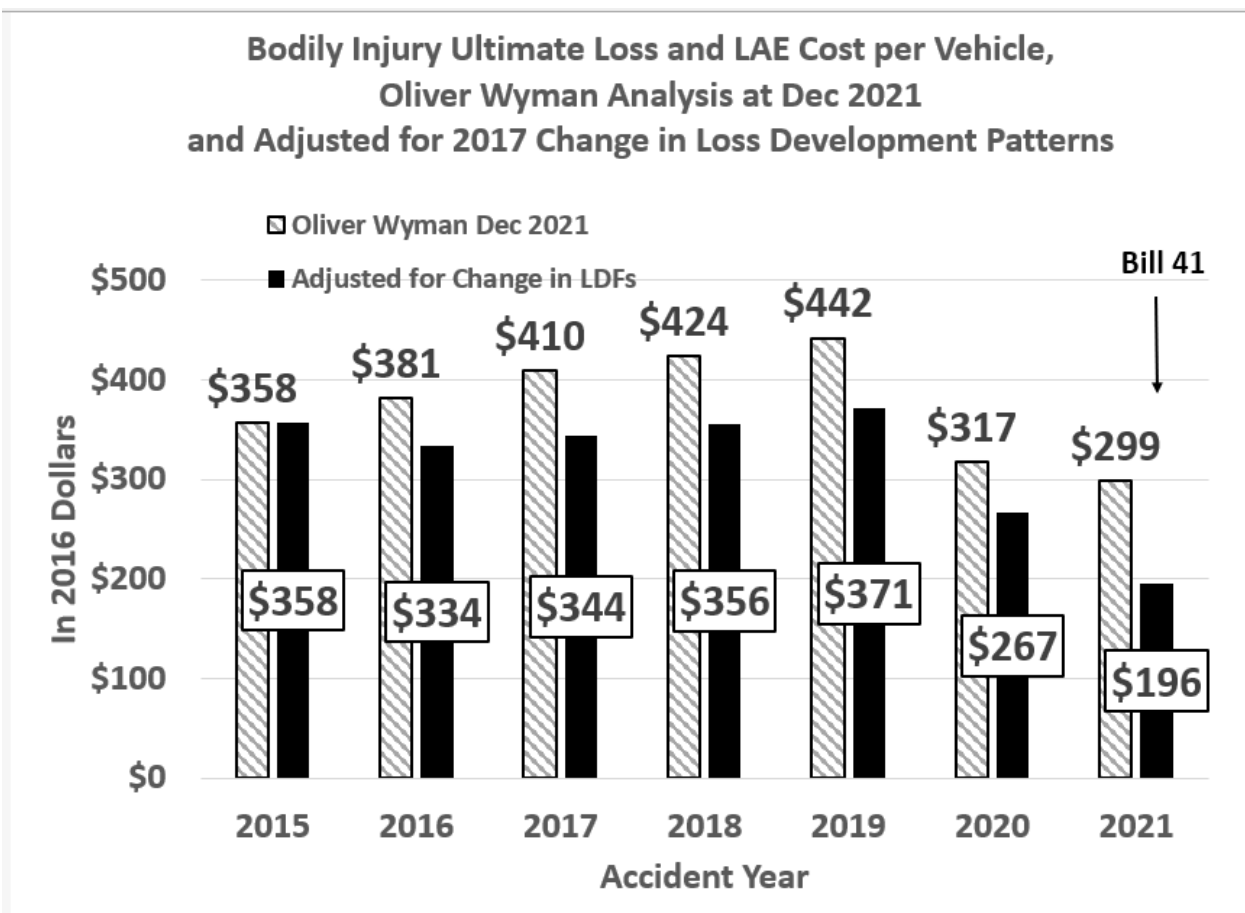
Source: Appendix Table A 2.3, Column [7]

2. Comparison to Oliver Wyman Loss and LAE Cost per Vehicle, in 2016 Dollars, Unadjusted for Change in Reserve Pattern

Oliver Wyman does not adjust for the change in the actuarial development pattern that begins in 2017. Figure 2 compares the unadjusted projections of loss and LAE per vehicle in 2016 dollars to those adjusted for the shift in the actuarial development pattern.

It can be seen that the unadjusted projections increase from one accident year to the next for accident years 2015 through 2019. This pattern is the basis for Oliver Wyman’s selection for BI of 7.0% for past and 5.0% for future loss and LAE.

Figure 2: Bodily Injury Loss Cost, Oliver Wyman as at December 31, 2021

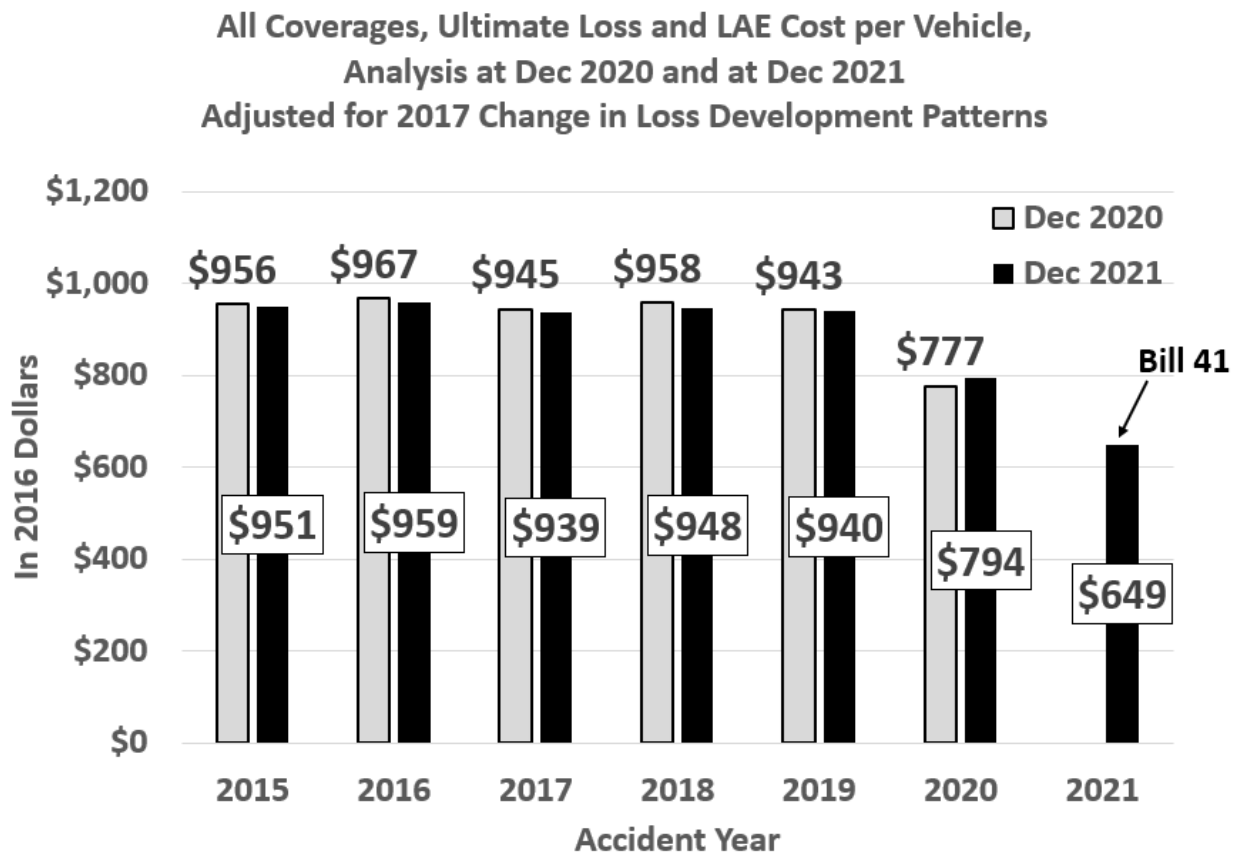


Source: Appendix Table A 2.3, Column [6]

B. The Trend in Loss and LAE Cost per Vehicle, All Coverages Combined, Since 2015

Figure 3 below shows that for all coverages combined, the Oliver Wyman loss and LAE projections, with the BI coverage adjusted for the change in the loss development pattern, shows stability in the inflation-adjusted loss cost over the accident years 2015 through 2019.

Figure 3 – Projected Inflation-Adjusted All-Coverage Loss and LAE Cost per Vehicle



Source: Appendix Table A 2.3, Column [8]

C. In-Depth Analysis of the Bodily Injury Loss Cost Projections

In light of the differing trend findings between Oliver Wyman's analysis and my findings, the next sections analyze the bases for my findings.

1. Favorable Development in Oliver Wyman's Projected Bodily Injury Loss and LAE Costs

Between Oliver Wyman's analysis as at Dec. 2020 (the 2021 Annual Review) and their analysis as at Dec. 2021 (the 2022 Annual Review) development for the bodily injury coverage has been favorable on all accident years since 2011.

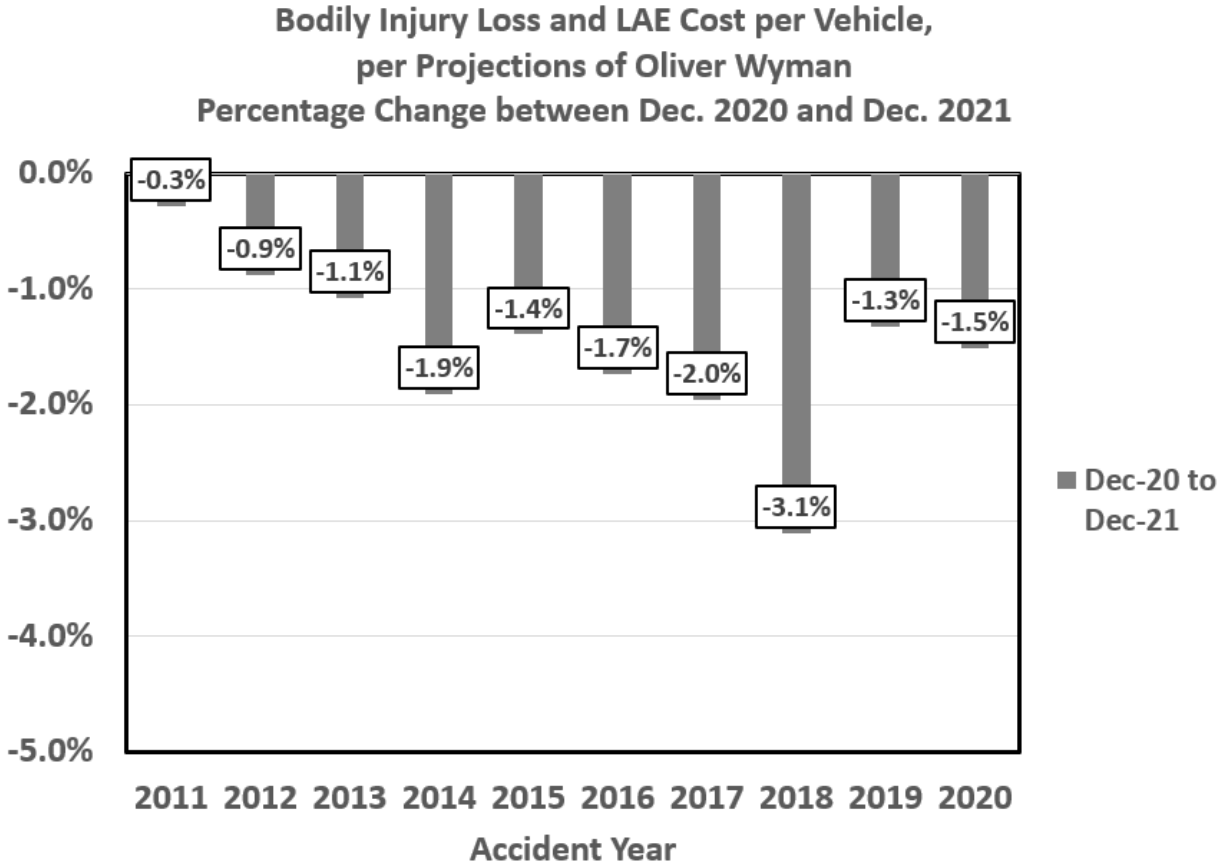
Figure 4 below illustrates the magnitude of favorable development between Dec. 2020 and Dec. 2021.

Figure 5 below illustrates the cumulative magnitude of net favorable development in successive Annual and Semi-Annual Reviews since Dec. 2017.

The development seen in these charts demonstrates the uncertainty that continues in the projected values of bodily injury coverages for these accident years. It indicates that the coverage has been more profitable than was indicated in previous Annual and Semi-Annual Reviews.

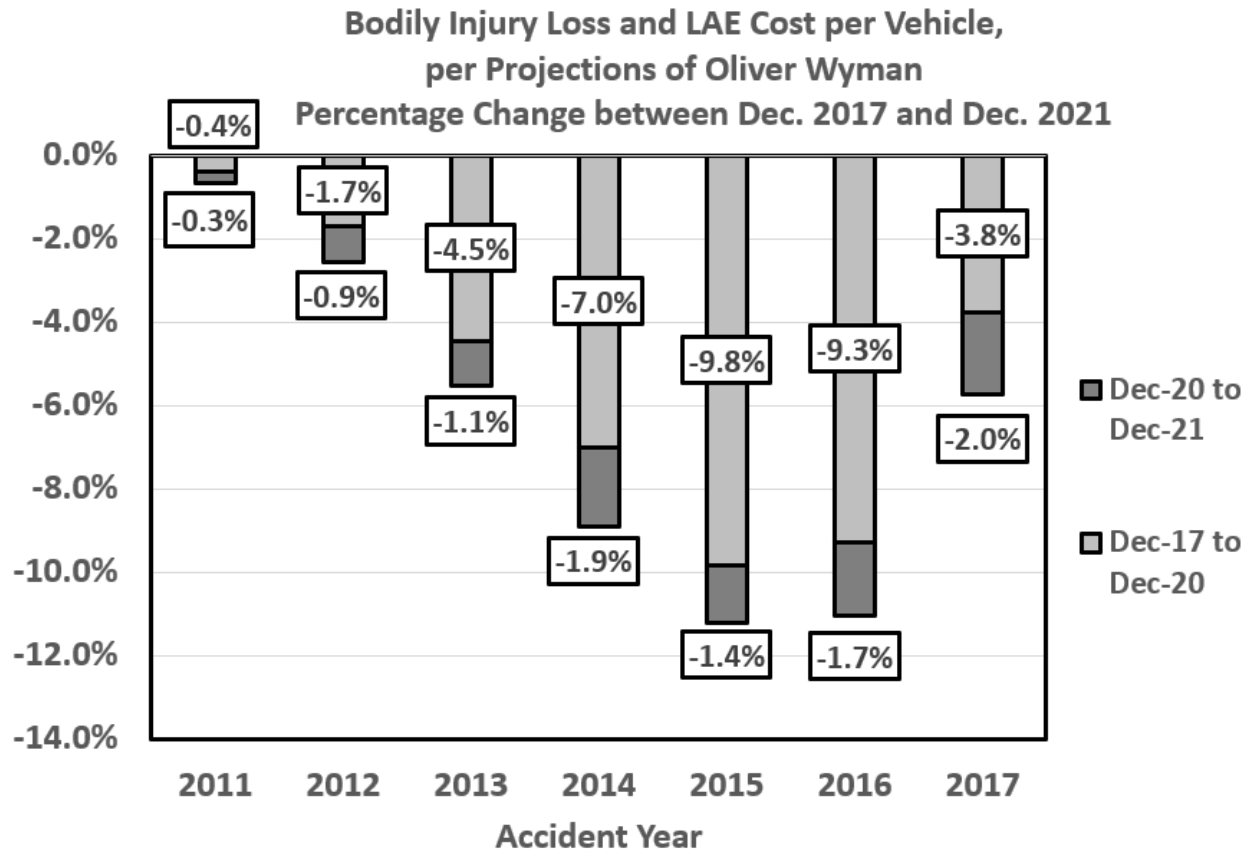
Further, these decreases reversed previous increases made between year-end 2016 and year-end 2017. The presence of decreases, after increases, across several accident years, points to the uncertainty about the remaining trajectory of the claim value projections.

Figure 4 – Development on Ultimate Loss and LAE Projections between Dec. 2020 and Dec. 2021



Source: Appendix Table A 3.1, Column [5]

Figure 5 – Development on Ultimate Loss and LAE Projections between Dec. 2017 and Dec. 2021

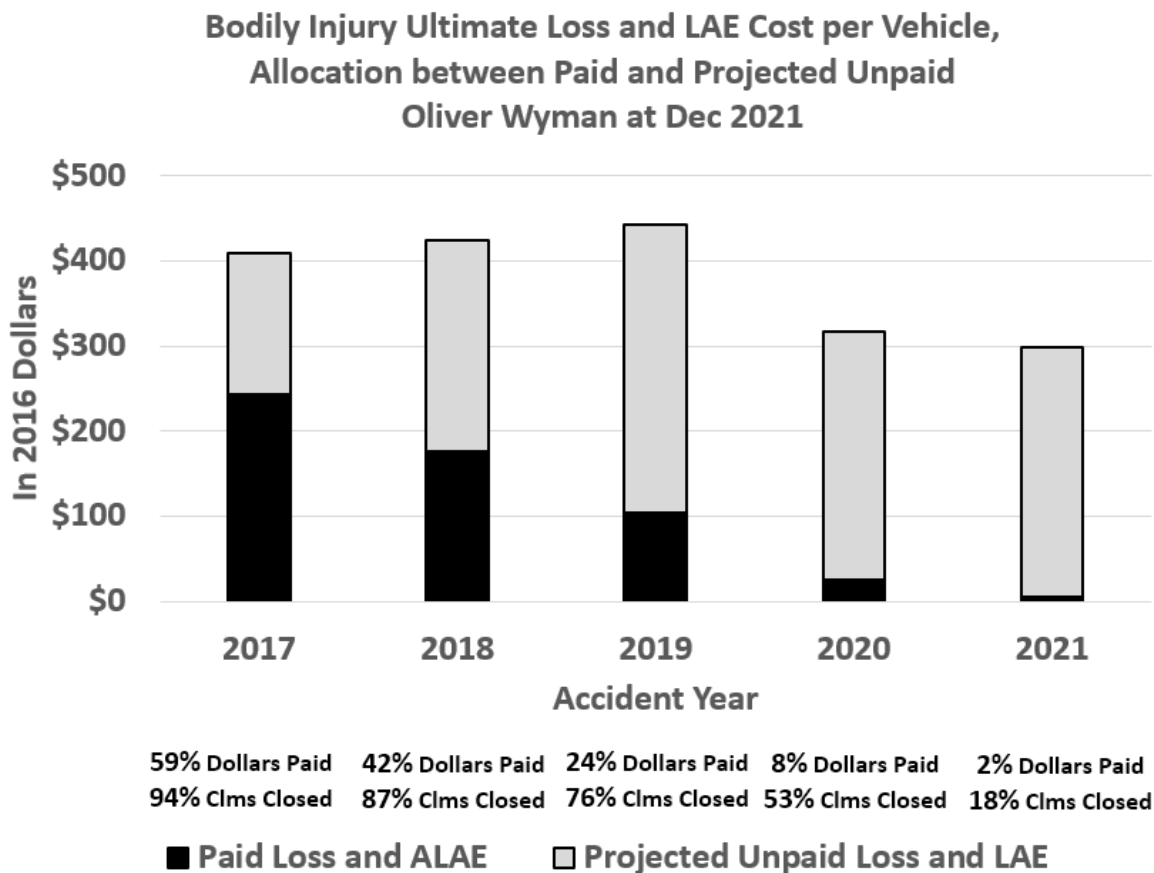


Source: Appendix Table A 3.1, Columns [4], [5]

2. Unpaid Amounts Dominate, in the Last Seven Accident Years

Figure 6 below illustrates that unpaid amounts continue to dominate the projected loss costs for the accident years 2017 and later. Thus, the proportion of dollars that remains open to change in either direction is relatively high.

Figure 6: Bodily Injury Loss Cost, Balance between Paid and Projected Unpaid Amounts, as at December 2021



Source: Appendix Table A 4.2, Columns [4], [7]; Appendix Table A 4.3, Columns [5], [6]

Note that the percentage of claims closed for each accident year is much higher than the percentage of dollars finalized. This pattern is common among insurance claims, as smaller claims are generally settled more quickly than larger claims. It also is consistent with Alberta’s Minor Injury Regulation working as intended – in streamlining the resolution of minor injury claims.

3. 2017 Changes in Claims Handling Practices, per GISA Notes to Users

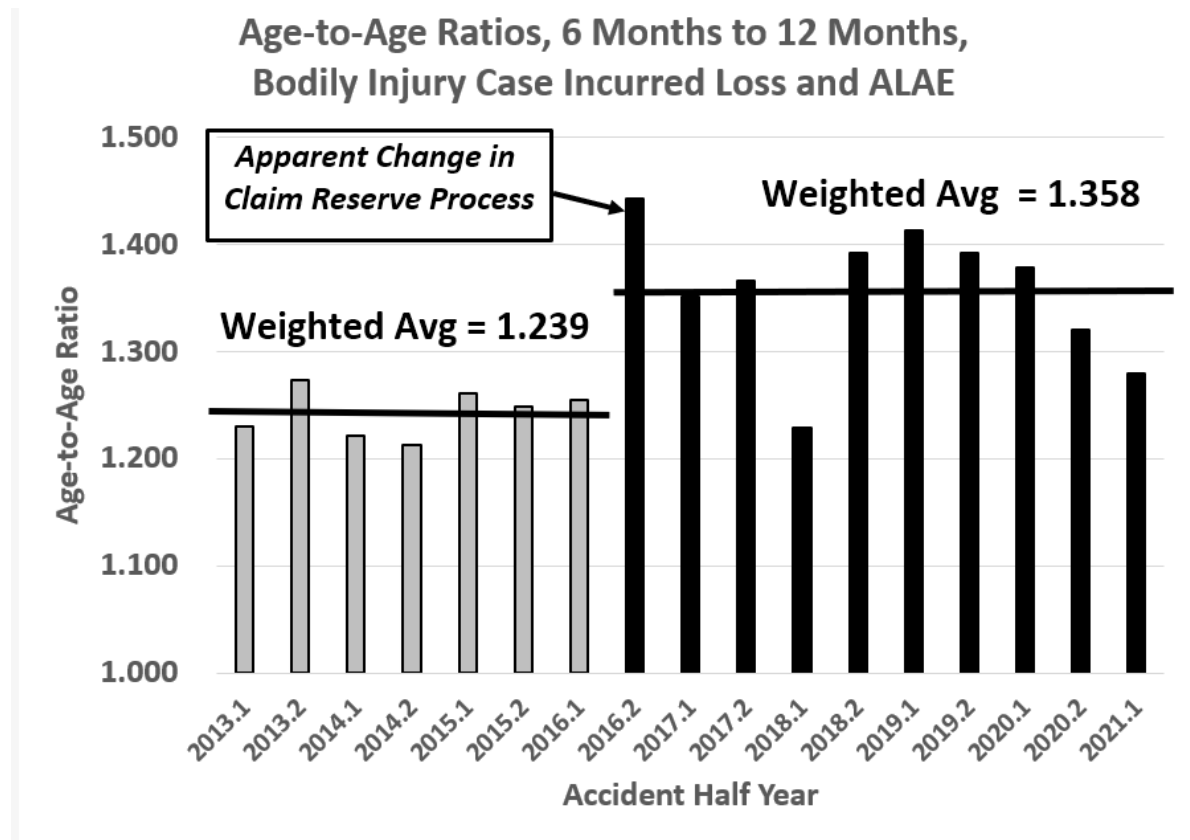
In publishing the private passenger automobile experience data for Alberta, GISA issued a bulletin of Notes to Users. These notes advise users of where to exercise caution in using the GISA exhibits.

- Note 12 advises that a large insurer has changed its claims handling practices for BI claims, increasing the rate at which it closes claims, beginning in the first half of 2017 and continuing in later calendar periods.
- Note 13 advises that a large insurer has strengthened its case reserving practice for BI claims, beginning with accident semester 2017-2, yielding increased case reserve amounts in calendar periods 2017-2 and later.

Evidence of changes in claims handling practices that coincide with these advisories can be seen in the ratios of case incurred loss and LAE at successive age intervals (i.e. age-to-age ratios in the loss development “triangle.”)

Figure 7 below presents the age-to-age ratios in the ten half-year intervals beginning in calendar year 2017, and compares them to those for the seven half-year intervals ending at calendar year 2016. It can be seen that there is a marked and persistent shift from an average ratio of 1.239 in the pre-2017 period to an average of 1.358 in calendar year 2017 and later.

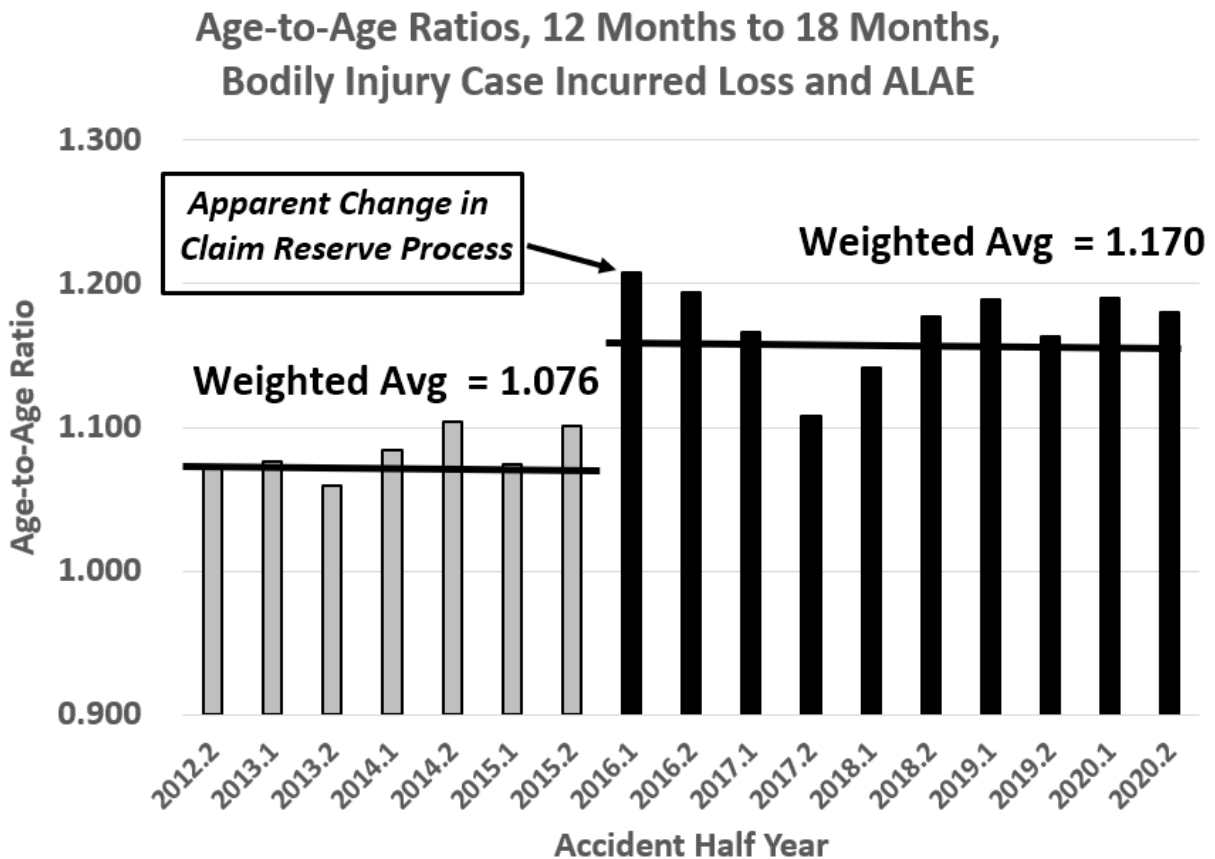
Figure 7: Age-to-Age Ratios, 6 Months to 12 Months



Source: Appendix Table A 5.1

Figure 8 shows a similar discontinuous and ongoing shift for the ratios from 12 months to 18 months, from an average ratio of 1.076 in the pre-2017 period to an average of 1.170 in the latter period.

Figure 8: Age-to-Age Ratios, 12 Months to 18 Months



Source: Appendix Table A 5.2

These shifts could indicate a change in claims handling practices, in particular rules and policies that lead claims staff to set case reserves at a higher level with a given set of facts having emerged. Such a shift would not imply a change in the nature of the underlying claims costs – rather it would indicate a change in the *estimates* and *predictions* of those claims costs, as made by claims staff and management.

The following are the reasons that suggest to me that the shift in pattern is a matter of reserving practice, rather than an increase the underlying loss cost.

- First is that the shift has occurred at precisely the time that the GISA advisories in Notes 12 and 13 note a shift in claims handling practice. The term “strengthening” is used in Note 13, which often suggests a one-time disruption in the level of reserves, and a later return to “normal.” However, in this case, the rise in the age-to-age factors takes hold in new cohorts of claims. It is possible for a change in claims handling policy to roll out over the life cycle of the claims – since certain facts that interact with the new procedures may take time to emerge. The pattern observed in Figures 7 and 8 would be consistent with this change.
- Second, the shift in the pattern happened some two years after the major court decision *McLean v. Parmar* in 2015, suggesting that the change did not arise from that decision.
- As will be seen in the next section, the rise in the reserve level hasn’t been accompanied by a rise in claim dollars paid.

Once a new process for setting case reserves has been established, has been applied to all open claims, and has been in operation *throughout the life cycle* of several accident-year cohorts of claims, the unadjusted actuarial process for determining ultimate loss costs will operate satisfactorily. Where the new pattern increases the age-to-age ratio at an earlier age, the age-to-age ratios at later ages will be expected to *decrease* from the previous pattern. In effect, the growth cycle is shifted to an earlier age.

In the case of the Alberta 2017 shift, the second phase, the decrease in age-to-age ratios at a later age, has not yet been observable. For the accident years 2016 and later, “the other shoe hasn’t dropped.” There has not been a shift in the pattern at later ages i.e. a decrease to offset the higher ratios seen at the 6-12 month and 12-18 month intervals. Thus, the unadjusted chain-ladder method applies age-to-age factors drawn from accident years that follow the old pattern (2015 and prior) to claims cohorts (accident years 2016 and later) that fall under the new pattern.

In the sections that follow, I make adjustments to case incurred losses and loss development ratios that are designed to re-establish consistency between accelerated case incurred amounts for accident years 2016 and later, and loss development factors drawn from accident years 2015 and earlier.

4. The Test of Increasing Case Reserves against Payments to Date

As stated in the previous section, the change in loss development patterns at the 6-12 month and 12-18 month intervals, toward higher levels of case reserves at an earlier age, may indicate a change in case reserving practices separate from the underlying loss cost. The alternative would be for the transitions to higher case incurred amounts to signal an increase in the underlying loss cost.

My finding in the tests below is that they indicate that there is only a change in reserving practices, and not an increase in the underlying loss amount.

For this test, the tables below compare case incurred loss costs with corresponding paid loss costs for accident years at ages 36 and 48 months.

One caveat about this test is that the amounts paid through those intervals represent only a small portion of the ultimate dollars paid for an accident year, and also represent the smaller and less involved claims. However, on the other hand, the absence of significant changes in amounts paid to date is evidence that increases in case reserves reflect reserving practices rather than a change in underlying loss costs.

Table 3 below shows a steady increase in the average case incurred loss and LAE per vehicle between accident years 2016 and 2019. In contrast, the average paid loss and LAE per vehicle for the same accident years does not increase.

That the increase in average case incurred amounts is not mirrored by an increase in paid amounts supports the hypothesis that there is only a change in reserving practices, and not an increase in the underlying loss amount.

Table 3: Case Incurred and Cumulative Paid Loss and LAE, Age 24 Months, Accident Years 2016 through 2019

Accident Year	Case Incurred Loss and LAE (000s), Age 36 Months	Cumulative Paid Loss and LAE (000s), Age 36 Months	Case Incurred Loss and LAE per Vehicle, Age 36 Months, 2016 Dollars	Cumulative Paid Loss and LAE per Vehicle, Age 36 Months, 2016 Dollars	Percentage of Reported Claims Closed, Age 36 Months
2016	\$721,333	\$285,467	\$267	\$106	83.0%
2017	\$793,186	\$300,712	\$291	\$110	81.9%
2018	\$861,471	\$298,138	\$301	\$104	78.1%
2019	\$904,383	\$307,424	\$308	\$105	75.2%

Table 4 below shows the same phenomenon through 48 months, i.e. an increase in average case incurred amounts per vehicle and an absence of an increase in average paid amounts per vehicle.

(One caution is that the absence of an increase in the paid amount per vehicle may be due to the reduced percentage of reported claims settled at 48 months, for each of the accident years 2017 and 2018. Still, it should be noted that the progression in average payments, as claims close, may not be smooth, since claims don't necessarily close in a predictable order.)

Table 4: Case Incurred and Cumulative Paid Loss and LAE, Age 36 Months, Accident Years 2016 through 2018

Accident Year	Case Incurred Loss and LAE (000s), Age 48 Months	Cumulative Paid Loss and LAE (000s), Age 48 Months	Case Incurred Loss and LAE per Vehicle, Age 48 Months, 2016 Dollars	Cumulative Paid Loss and LAE per Vehicle, Age 48 Months, 2016 Dollars	Percentage of Reported Claims Closed, Age 48 Months
2016	\$839,250	\$464,262	\$311	\$172	90.0%
2017	\$917,939	\$500,104	\$337	\$183	88.9%
2018	\$980,026	\$502,910	\$343	\$176	86.3%

D. Specific Adjustments Made for the Change in Loss Development Patterns

An acceleration in loss development patterns has a double, reinforcing effect, amplifying both the current case incurred amounts, and the loss development factors that are calibrated from the new development patterns.

Thus, the process of adjusting the loss development process to a consistent basis throughout the life cycle of the accident year requires two adjustments. The first is an adjustment to the case incurred amounts for the affected accident years to a level of adequacy consistent with the later age-to-age intervals. The second adjustment is to the loss development factors for earlier ages – to undo the “front-loading” of loss development.

1. Adjustments to Case Incurred Amounts

As seen in Figure 7, the average age-to-age ratio for the interval 6-12 months has increased from 1.239 to 1.358 for accident semesters from 2016.2 through 2021.1. Thus, an adjustment to the case incurred amounts for these accident semesters, by the multiplier $1.239/1.358 = 0.913$ is applied. This multiplier will partially restore the level of adequacy of the case incurred loss and LAE amounts to the levels seen prior to the shift that took place in calendar year 2017.

Similarly, a multiplier of $1.076/1.170 = 0.920$, taken from Figure 8, is applied for accident semesters 2016.1 through 2020.2 to provide the remaining restoration to the level of adequacy that existed prior to calendar year 2017.

Table 5 below calculates the adjustment factors to case incurred amounts, by accident semester.

Table 5: Adjustment Factors for Case Incurred Loss and ALAE

Accident Semester	[1] Adjustment Factor for Age 6-12 Months	[2] Adjustment Factor for Age 12-18 Months	[3] Total Adjustment Factor [1] x [2]
2015.1	1.000	1.000	1.000
2015.2	1.000	1.000	1.000
2016.1	1.000	0.920	0.920
2016.2	0.913	0.920	0.840
2017.1	0.913	0.920	0.840
2017.2	0.913	0.920	0.840
2018.1	0.913	0.920	0.840
2018.2	0.913	0.920	0.840
2019.1	0.913	0.920	0.840
2019.2	0.913	0.920	0.840
2020.1	0.913	0.920	0.840
2020.2	0.913	0.920	0.840
2021.1	0.913	1.000	0.913
2021.2	1.000	1.000	1.000

Source: Appendix Tables A 5.1, A 5.2

2. Adjustments to Loss Development Factors

The only two development factors to ultimate that are affected by the shift in the intervals from 6-12 months and from 12-18 months are the factors from 6 months to ultimate and from 12 months to ultimate.

Table 6 below calculates the adjustment factors to case incurred amounts, by accident semester.

Table 6: Adjustment Factors for Loss Development Factors

Accident Semester	[1] Adjustment Factor for Age 6-12 Months	[2] Adjustment Factor for Age 12-18 Months	[3] Total Adjustment Factor [1] x [2]
2015.1	1.000	1.000	1.000
2015.2	1.000	1.000	1.000
2016.1	1.000	1.000	1.000
2016.2	1.000	1.000	1.000
2017.1	1.000	1.000	1.000
2017.2	1.000	1.000	1.000
2018.1	1.000	1.000	1.000
2018.2	1.000	1.000	1.000
2019.1	1.000	1.000	1.000
2019.2	1.000	1.000	1.000
2020.1	1.000	1.000	1.000
2020.2	1.000	1.000	1.000
2021.1	1.000	0.920	0.920
2021.2	0.913	0.920	0.840

Source: Appendix Tables A 5.1, A 5.2

3. Calculation of Ultimate Loss and LAE Cost per Vehicle, Using Adjustments

Table 7 below illustrates the complete process for the affected accident semesters, of adjusting both the case incurred loss and LAE amounts, and the loss development factors to which they are applied. The result, at the right-hand column, is the series of inflation-adjusted loss costs seen in Figure 2.

Table 7: Calculation of Ultimate Loss and LAE Cost per Vehicle, with Adjustments for Change in Loss Development Pattern

Accident Semester	Earned Vehicles	Oliver Wyman Ultimate Loss and LAE at Dec. 2021 (000s)	Adjustmt Factor for Case Incurred Loss and ALAE	Adjustmt Factor for LDFs	Adjusted Ultimate Loss and LAE at Dec. 2021 (000s)	Additional Impact of Bill 41 (000s)	Loss and LAE Cost per Vehicle	Alberta CPI (June)	Loss and LAE Cost per Vehicle in 2016 Dollars (CPI 135.2)
2015.1	1,302,864	\$420,881	1.000	1.000	\$420,881				
2015.2	1,349,402	\$522,551	1.000	1.000	\$522,551		\$356	134.5	\$358
2016.1	1,324,199	\$461,333	0.920	1.000	\$424,426				
2016.2	1,354,525	\$568,826	0.840	1.000	\$477,791		\$337	136.3	\$334
2017.1	1,323,296	\$513,791	0.840	1.000	\$431,564				
2017.2	1,369,399	\$603,855	0.840	1.000	\$507,214		\$349	136.9	\$344
2018.1	1,348,624	\$576,442	0.840	1.000	\$484,188				
2018.2	1,399,149	\$635,044	0.840	1.000	\$533,412		\$370	140.7	\$356
2019.1	1,372,115	\$610,554	0.840	1.000	\$512,841				
2019.2	1,410,723	\$688,110	0.840	1.000	\$577,985		\$392	142.7	\$371
2020.1	1,371,391	\$444,189	0.840	1.000	\$373,101				
2020.2	1,409,015	\$501,919	0.840	1.000	\$421,592		\$286	145.0	\$267
2021.1	1,380,808	\$415,633	0.913	0.920	\$349,115	\$84,229			
2021.2	1,427,310	\$508,119	1.000	0.840	\$426,800	\$87,066	\$215	148.9	\$196

Source: Appendix Tables A 2.1, A 2.2 and A 2.3

E. The Impact of COVID-19

The rate of intake of moving-coverage claims remains well below the level of 2019, the last year before the beginning of the COVID-19 pandemic. For this reason, I have extended for one year my use of a 5% projected reduction in claims from its level absent the pandemic, for moving coverages.

Oliver Wyman's Guidance

Oliver Wyman states on p. 3 of its 2022 Annual Review report that:

“Current projections of mileage and mobility (cell phone data) indicate a return to pre-pandemic levels [of traffic] in 2022. Consistent with those projections, our analysis and loss trend selections assume a return to pre-pandemic frequency levels for rate applications subject to the proposed benchmarks.”

However, Oliver Wyman also acknowledges on p. 35 (with which I concur) that “there remains uncertainty as to the new normal traffic patterns and claim frequency levels during the time periods during which rate programs that use these benchmarks may be in effect.”

Returning to p. 3, Oliver Wyman points out competing forces that will help determine the “lasting impacts of the pandemic with respect to future frequency rates,” namely:

- “Will the increase of remote and hybrid work result in a sustained lower frequency level?” or
- “Will increased use of private vehicles with reduced use of public transit offset effects of remote and hybrid work.”

The second of these effects may have lesser force in rural areas of Alberta. In these regions, there are less comprehensive networks of public transit, with the result that pre-pandemic transit ridership was likely not at a higher level than the post-pandemic level. (On the other hand, those regions may have less opportunity for remote and hybrid work, to the extent that their economies are based on sectors like agriculture, mineral extraction and forestry.)

Oliver Wyman reasonably continues to acknowledge on p. 35 (as it did in its 2021 Annual Review report) that there is a possibility of rating programs under the benchmarks “intended to be in effect while COVID-19 continues to impact claims costs.” For these programs, Oliver Wyman provides the guidance that “the historical loss cost data (to which these trend rates will apply to) should be (i) adjusted to fully remove any impact of COVID-19 and (ii) then adjusted to the degree that COVID-19 is expected to impact claims costs during the proposed rating program.”

J.S. Cheng and Partners, Inc.'s Guidance

J.S. Cheng and Partners, Inc. ("Cheng") in its May 27, 2020 report "Actuarial Modelling for the Automobile Insurance Advisory Committee," (Appendix 5.8, p. 156), proposed that COVID-19-related traffic reductions would cause a reduction in 2021 of 5% in loss and LAE cost, compared to what it would have been absent the pandemic. The reduction proposed for 2022 was 2.5%.

The reduction in claims activity from the pre-pandemic level has persisted throughout 2021, with a greater magnitude than forecast in Cheng's report (Oliver Wyman reports a BI claim frequency per vehicle of 4.99 per thousand vehicles in the second semester of 2021, compared to a corresponding frequency of 6.51 for the second semester of 2019, a 24% reduction).

Thus, I believe that extending for one year Cheng's 5% COVID-19-related reduction in moving-coverage loss and LAE cost below the pre-pandemic level is a conservative projection for 2022.

F. Bill 41

In November of 2020, the Government passed a series of reforms (Bill 41) reducing the level of compensation for bodily injuries in auto accidents in Alberta.

IBC Estimates of Claims Cost Reduction

The IBC, in its report "Driving Change: Auto Insurance that Works,"⁴ published a projection that changes to the definition of a minor injury in the Minor Injury Regulation (MIR) would reduce claims costs by \$76 per earned vehicle. Further, the report also provided that the reduction in prejudgment interest (PJI) for non-pecuniary damages would reduce costs by \$15 per earned vehicle. The publication does not provide an estimate of the further savings to arise from the limitation in the number of expert reports under Bill 41.

Reductions in claims costs, in the calculation of industry pre-tax profit, are based on these amounts.

Alberta Superintendent of Insurance Bulletin

I have been provided with Interpretation Bulletin 04-2020 issued by the Alberta Superintendent of Insurance on December 16, 2020. The bulletin advises that the provision in Bill 41 that reduces the rate of prejudgment interest on nonpecuniary damages applies "regardless of whether a cause of action arose before, on or after the coming into force date of the amendment to the rate of prejudgment interest, for judgments given on or after the coming into force date."

⁴ "Driving Change: Auto Insurance that Works," Insurance Bureau of Canada, March 6, 2020, p. 6.

My interpretation of this bulletin is that the Superintendent intends that the reduction in the prejudgment interest rate does apply to automobile accidents that occurred before Bill 41 took effect (approximately the end of 2020), that were not yet finalized at that date. This can be expected to reduce the loss cost for accident years prior to 2021. However, I understand that the applicability of this provision to accident years prior to 2021 is currently under challenge in the courts.

Realized loss development patterns for accident semesters prior to 2021 suggest that insurers have reduced their estimates of claims costs, to reflect anticipated savings due to the reduction of the PJI rate. With that finding, and with uncertainty about the outcome of the litigation around the provision, I have made no adjustment, beyond what is reflected in insurance company case reserves, for accident years prior to 2021.

Remaining Accident Year 2021 Impact

For accident year 2021, the combined impact of Bill 41 was estimated by the IBC to be \$76 plus \$15 per earned vehicle, totalling \$91. Table 8 estimates that \$30 per vehicle has already been recognized in the estimated loss and LAE cost for accident year 2021 in Table 7. Thus, there remains \$61 per vehicle in savings for accident year 2021 for Bill 41.

Table 8: Estimated Impact of Bill 41, Recognized to Date at Dec. 31, 2021

Acc Yr	Severity in 2021 Dollars	Reduction in Severity in 2021	Reduction in Loss and LAE Cost per Vehicle
2017	\$57,891		
2018	\$61,429		
2019	\$62,911		
2020	\$66,471		
2021	\$59,975	\$6,496	\$30

Source: Appendix Table A 6.1

G. Operating Expenses

The analyses below show that operating expenses per vehicle for the industry have been increasing at the relatively high rate of between 6.4% and 7.8% in most years. And further that such percentage increases are higher than the corresponding increases for loss and LAE.

Operating expenses include

- premium tax,
- general administrative expenses, including head office costs, and
- commissions and other acquisition costs.

Below is the operating expense provision, with each accident year's provision assigned the benchmark for the following April. For the purposes of estimating pre-tax profit for the industry, the operating expense provision from the benchmarks is applied to each year's earned premium.

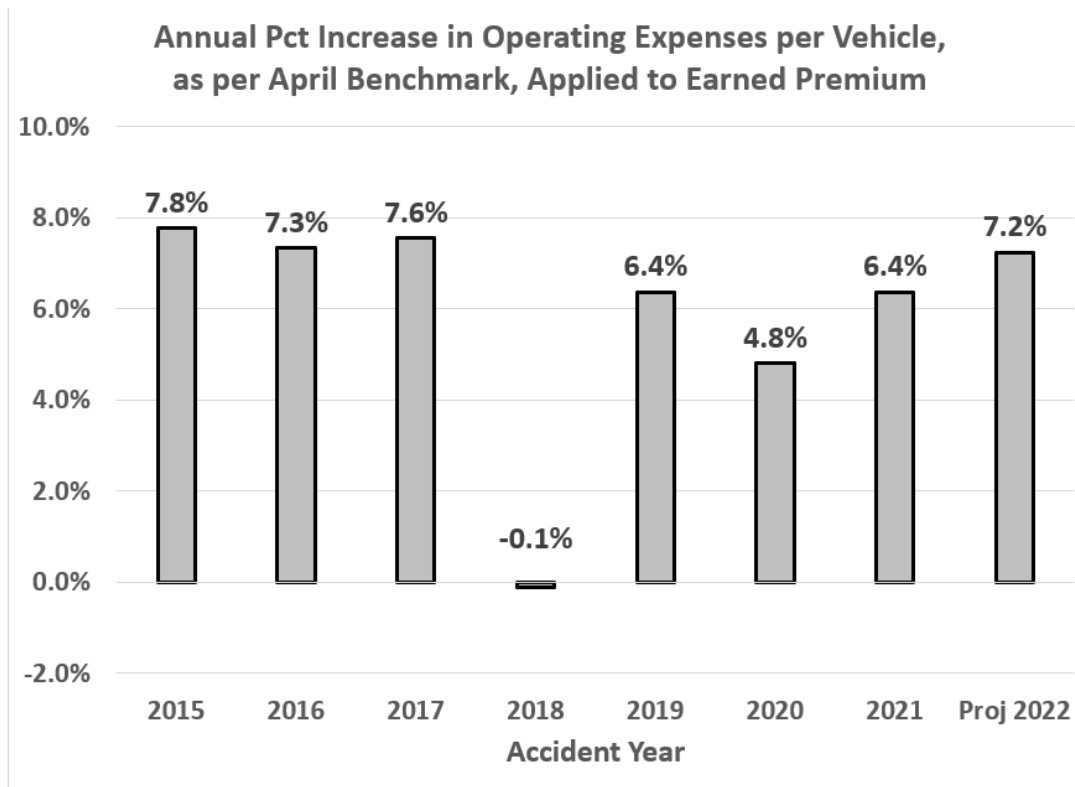
Table 9: Operating Expense Provision by Accident Year

Accident Year	Earned Premium per Earned Vehicle	Operating Expense Pct	Operating Expense per Earned Vehicle	Pct Increase in Oper Exp per Vehicle	Commission and Other Acqn Expense per Earned Vehicle	Increase in Commission and Other Acqn Expense per Earned Vehicle	General Expense per Earned Vehicle	Pct Increase in General Exp per Vehicle	All-Covg Loss and LAE per Earned Vehicle	Pct Increase in All-Covg Loss and LAE per per Vehicle
2014	\$1,134	24.2%	\$275		\$171		\$71.47		\$887	
2015	\$1,165	25.4%	\$296	7.8%	\$176	2.7%	\$73.38	2.7%	\$946	6.6%
2016	\$1,189	26.7%	\$318	7.3%	\$187	6.2%	\$83.26	13.5%	\$967	2.3%
2017	\$1,229	27.8%	\$342	7.6%	\$197	5.3%	\$95.84	15.1%	\$951	-1.7%
2018	\$1,283	26.6%	\$341	-0.1%	\$194	-1.5%	\$96.20	0.4%	\$986	3.7%
2019	\$1,359	26.7%	\$363	6.4%	\$207	6.7%	\$101.96	6.0%	\$993	0.6%
2020	\$1,463	26.0%	\$380	4.8%	\$221	6.9%	\$105.34	3.3%	\$852	-14.2%
2021	\$1,556	26.0%	\$405	6.4%	\$237	7.1%	\$110.50	4.9%	\$715	-16.0%
2022	\$1,601	27.1%	\$434	7.2%	\$253	7.0%	\$120.10	8.7%		

Source: Appendix Table A 7.1, Table A 7.2

Figure 9 below shows each accident year's increase in operating expense per vehicle.

Figure 9: Annual Percentage Increase in Operating Expenses per Vehicle



It can be seen from Figure 9 that the annual percentage increase in operating expenses per vehicle since 2015 has, in all but two years, been between 6.4% and 7.8%.

Further, Figure 10 below shows that in most recent years, operating expenses per vehicle have been growing at a significantly higher rate than loss and LAE per vehicle.

Figure 10: Comparison between Annual Percentage Increases in Operating Expenses per Vehicle, and Loss and LAE per Vehicle

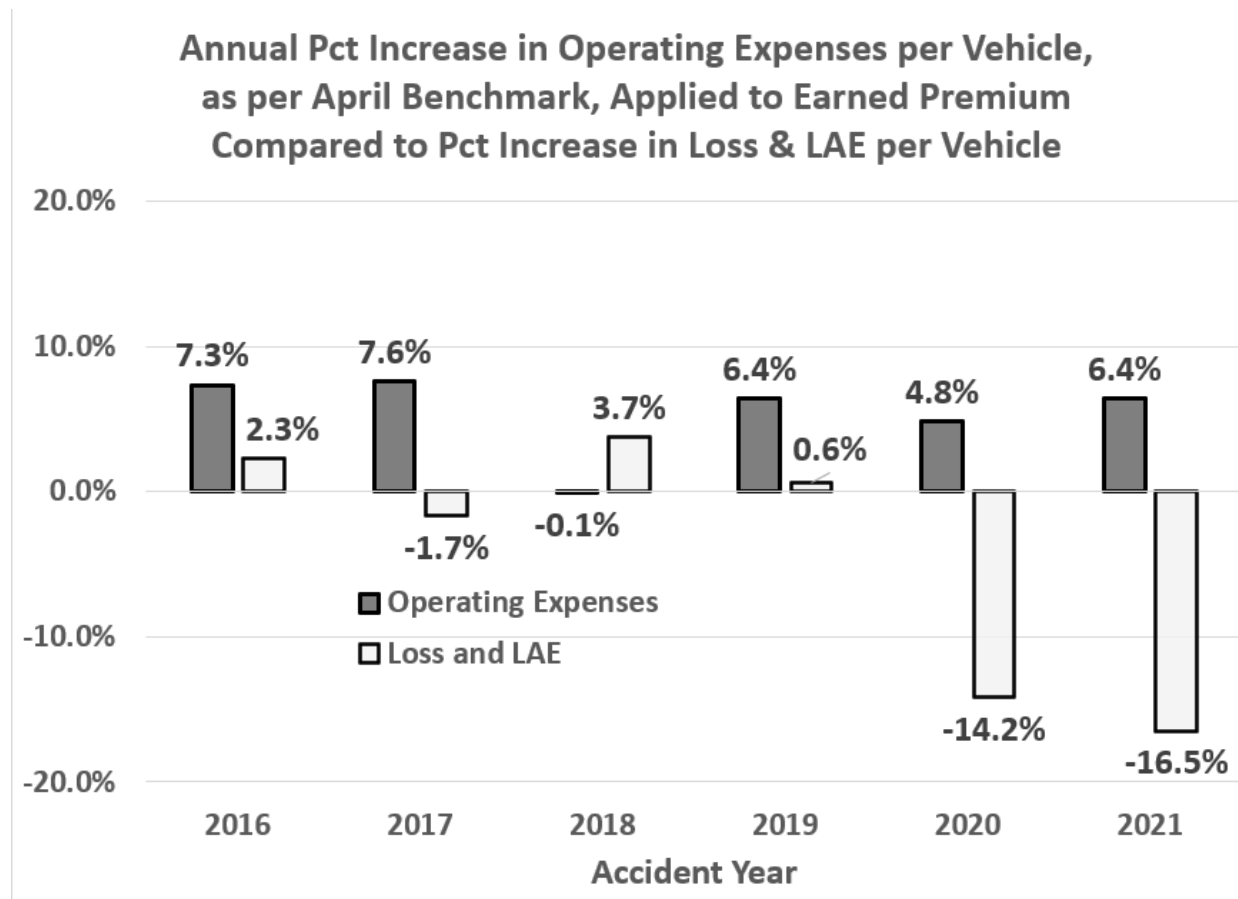
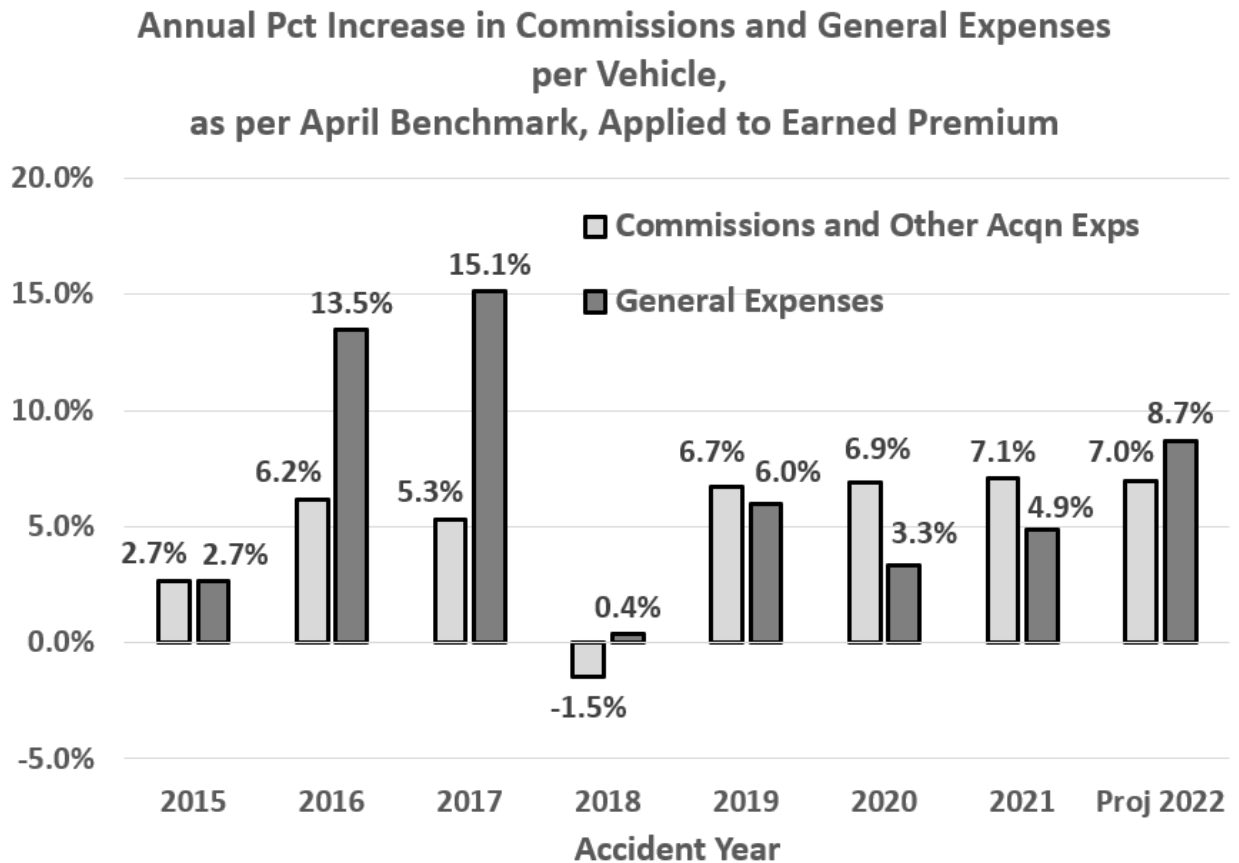


Figure 11 below shows each accident year’s increase in operating expense per vehicle, broken down into commissions/other acquisition expenses and general expenses. Both categories of expense have increased in most years at well above the rate of general inflation.

Figure 11: Annual Percentage Increase in Commissions and Other Acquisition Expenses, and in General Expenses, per Vehicle



H. Health Cost Recovery

The analysis below finds that since 2020, the Alberta Government has significantly reduced the total amount of Health Cost Recovery levied to the industry, which has contributed to the increase in the pre-tax profits of the industry.

Table 10 shows the Health Cost Recovery assessment factors, as set out by the Alberta Government, and applied to written third party liability premium, between 2011 and 2022.

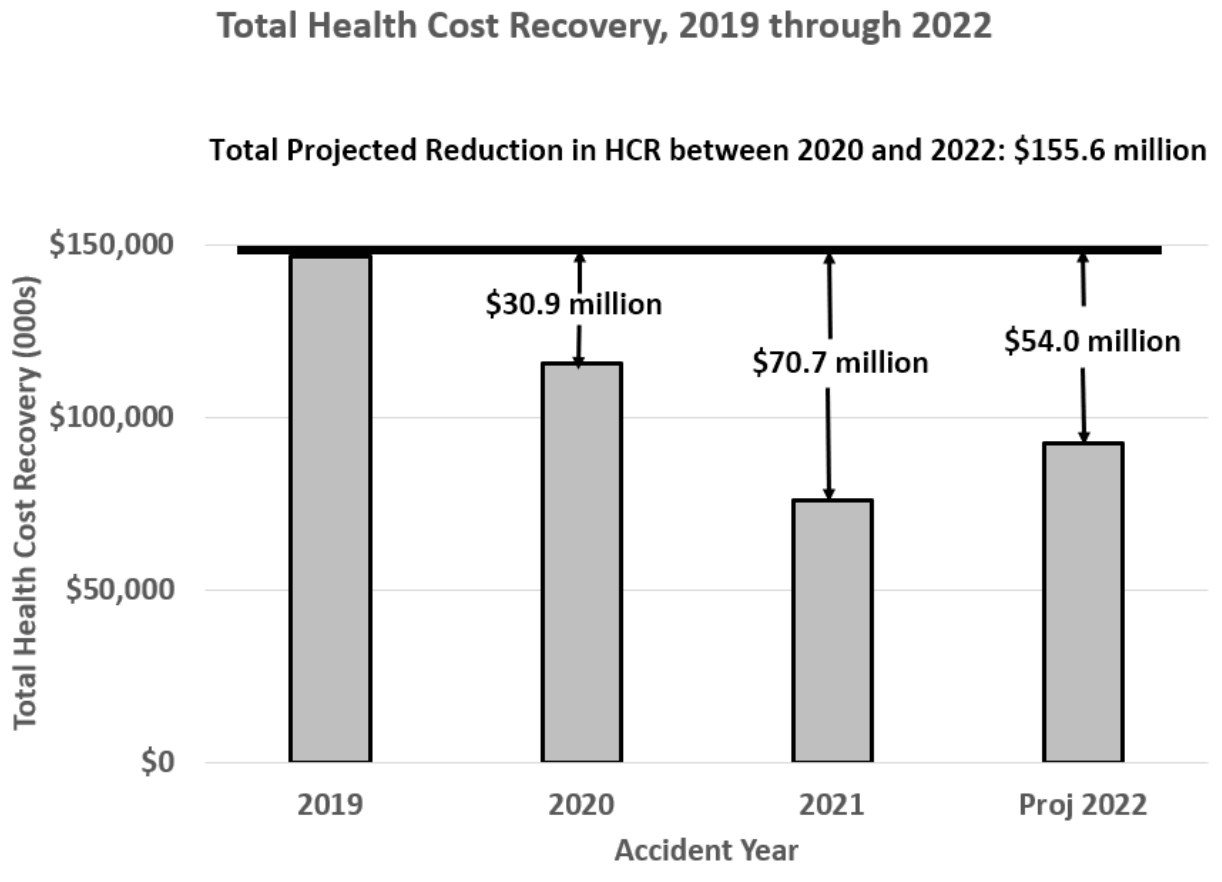
Table 10: Health Cost Recovery by Year

Accident Year	Health Cost Recovery Assessment Factor	Third Party Liability Written Premium (000s)	Health Cost Recovery (000s)
2011	6.99%	\$1,174,169	\$82,074
2012	6.10%	\$1,240,429	\$75,666
2013	4.80%	\$1,329,371	\$63,810
2014	5.00%	\$1,454,759	\$72,738
2015	6.44%	\$1,574,992	\$101,429
2016	5.90%	\$1,696,693	\$100,105
2017	5.67%	\$1,815,100	\$102,916
2018	7.04%	\$1,977,327	\$139,204
2019	6.70%	\$2,185,573	\$146,433
2020	4.74%	\$2,437,671	\$115,546
2021	2.94%	\$2,577,029	\$75,765
2022	3.55%	\$2,604,651	\$92,465

It can be seen that the assessment factor for 2020, which was announced in December 2019, was set at a lower level than in most of the previous decade. And that the assessment factors for 2020 and 2021 were set at levels significantly below that.

Figure 12 below shows that since 2019 and projected through 2022, the total amount of Health Cost Recovery cost borne by the private passenger auto insurance industry in Alberta has declined by \$155.6 million. This reduction has increased the pre-tax profits of the industry from what they would have otherwise been.

Figure 12: Projected Reduction in Total Health Cost Recovery 2019 through 2022



I. Industry Costs, Compared to Rising Premiums, 2018 through 2021

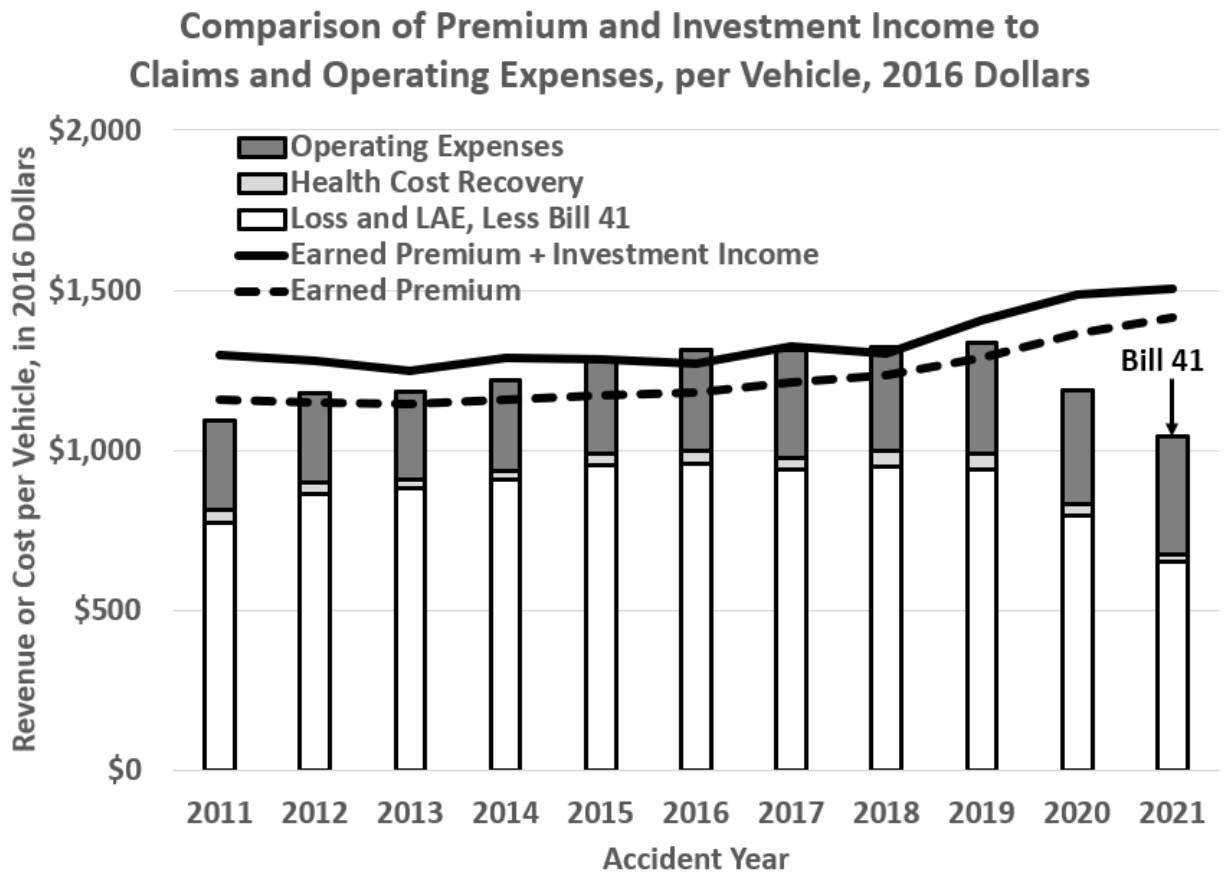
Figure 13 below shows yearly revenues (premium and investment income) and costs (loss and LAE, Health Cost Recovery and operating expenses) for the industry from 2011 through 2021, inflation-adjusted to 2016 dollars.

Since 2018, insurers have taken rate increases at greater than the rate of general inflation for the Alberta private passenger auto insurance line. In addition, Bill 41 in late 2020 reduced the costs of bodily injury coverage by strengthening the Minor Injuries Regulation and reducing the rate of prejudgment interest on general damages. Further, the reduction in the PJI rate applies to claims that have remained open from pre-2021 accident years.

These measures were taken at a time where the costs of claims had been stable, when adjusted for general inflation. While these measures may have been required to remedy the industry’s unprofitability between 2015 and 2018, claims cost stability after 2015 was followed by the COVID-19 pandemic, which caused a sharp decrease in claims costs beginning in 2020. Further, the average rate of premium per vehicle, adjusted for general inflation, has continued to increase through 2020 and 2021.

Figure 13 illustrates the divergence between the increase in premium and the decrease in industry costs

Figure 13: Inflation-Adjusted Premium, Investment Income, Claims Costs and Operating Expenses per Vehicle, 2011 to 2021



Source: Appendix Table A 8.3

J. Profitability of the Alberta Private Passenger Automobile Insurance Industry

Throughout the analyses below, profit for the industry is measured using the method employed by J.S. Cheng and Partners Inc. (“Cheng”) in its 2007 analysis of Alberta auto insurance reform.⁵

Other methods of calibrating the industry profit are cited in Oliver Wyman’s report. These methods include the “Realized Profit Provision,” applying to the whole industry the formula used by AIRB in assessing whether rate applications meet the benchmark profit margin of 7%. They also include the profit report AUTO9501-AB prepared by GISA. Sections below will find some consistency between the results of the Cheng method and the Realized Profit Provision. They will also cite the differences that account for lower profit amounts reported in the GISA Profit Report.

Bill 41 and Prejudgment Interest on Nonpecuniary Damages

I have been provided with Interpretation Bulletin 04-2020 issued by the Alberta Superintendent of Insurance on December 16, 2020. The bulletin advises that the provision in Bill 41 that reduces the rate of prejudgment interest on nonpecuniary damages applies “regardless of whether a cause of action arose before, on or after the coming into force date of the amendment to the rate of prejudgment interest, for judgments given on or after the coming into force date.”

My interpretation of this statement is that the reduction in the prejudgment interest rate does apply to automobile accidents that occurred before Bill 41 took effect (approximately the end of 2020), that were not yet finalized at that date. This can be expected to reduce the loss cost for accident years prior to 2021.

Based on an analysis of claim development patterns in the first half of 2021, and the analysis provided in my report for the 2021 Annual Review I have concluded that the savings on prejudgment interest for accident years prior to 2021 are reflected in Oliver Wyman’s analysis. It should also be noted that this provision is currently being challenged in the courts.

⁵ “REPORT ON THE REVIEW of Insurance Reform – Premium and Claim Analysis by Gordon G. Smith and Theresa K. Reichert of Deloitte and Touche LLP,” J.S. Cheng and Partners, Inc., March 29, 2007

1. Results by Year, 2011 to 2019

Table 11 below calculates industry pre-tax profit using the claims costs from the Oliver Wyman December 2021 report, adjusted for the 2017 change in loss development patterns. With claims costs at this level, including the impact on PJI of Bill 41, total pre-tax profit for the period increases to \$1.075 billion, including a pre-tax profit of more than \$215 million for 2019.

Table 11: Annual Profit and Loss, Alberta Private Passenger Auto Insurance, Using Claims Amounts per Oliver Wyman Analysis as at Dec 2021, Adjusted for 2017 Loss Development Pattern Change

(Thousands of Dollars)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Premium	\$2,476,400	\$2,579,400	\$2,729,300	\$2,923,200	\$3,089,300	\$3,186,100	\$3,308,500	\$3,524,600	\$3,783,000	
Less: Claims Costs	\$1,653,100	\$1,940,500	\$2,094,900	\$2,286,900	\$2,508,600	\$2,590,600	\$2,559,800	\$2,710,100	\$2,762,300	
Less: Oper. Expenses	\$604,300	\$629,400	\$665,900	\$707,400	\$784,700	\$850,700	\$919,800	\$937,600	\$1,010,000	
Less: Health Cost Recovery	\$82,100	\$75,700	\$63,800	\$72,700	\$101,400	\$100,100	\$102,900	\$139,200	\$146,300	
Plus: Investment Income	\$297,500	\$288,200	\$242,900	\$321,800	\$303,700	\$244,900	\$307,100	\$203,800	\$351,000	
Total Profit, Pre-Tax	\$434,500	\$222,000	\$147,500	\$178,000	-\$1,700	-\$110,500	\$33,200	-\$58,400	\$215,200	\$1,059,800

Source: Appendix Table A 9.1

2. Results by Year, 2020, 2021 and Projections for 2022

Table 2 below presents projected pre-tax profit for the industry for 2020 through 2022, using Cheng's method, with adjustments for the 2017 loss development pattern change made to claims costs and trends from the Oliver Wyman Dec. 2021 analysis.

The projection for 2022, is largely based on a continuation forward of premium components from the 2021 year, and claims amounts from the pre-COVID 2019 accident year, with the following adjustments:

- The projected earned premium for 2022 partially captures premium rate increases taken through late 2021. This done by adjusting the 2021 earned premium upward to the level of written premium in the second half of 2021. Since few company groups sought approval for rate increases in late 2021 and early 2022, this approach is an approximation of the premium to be earned in 2022.

- Claims trends from the Dec. 2021 Oliver Wyman analysis are replaced by increases in the Alberta CPI from June 2019 through June 2022, to reflect general inflation, across all coverages. This is consistent with the stability seen (in 2016 dollars) in loss and LAE cost per vehicle for all coverages combined. This makes the conservative assumption that the high rate of general inflation seen in the 12 months ending June 2022 (8.4%) will be transmitted fully to claims costs.
- Claims costs between the 2019 level and the 2021 level are increased by the growth in the number of earned exposures between 2019 and 2021. As with the projected 2022 premium, no change is forecast in the number of earned exposures between 2021 and 2022
- Claims costs for the comprehensive, all perils and specified perils coverages are increased for a catastrophe loading. The loading is derived by reducing the 2019 claims experience by the 2019 catastrophe factor of 1.269 and then increasing the provision by the catastrophe factor for the last 5 years of 1.549, as reported on p. 77 of the Oliver Wyman 2022 Annual Review report. The net effect is to increase the 2019 claims by 22%.
- Projected claims costs for the 2022 accident year are reduced, for the moving coverages, by 5% for ongoing effects into 2022 of the COVID-19 disruption. The factor of 5% is drawn from the analysis by J.S. Cheng and Partners, Inc. in its May 2020 report⁶ to the Automobile Insurance Advisory Committee. The factor was projected for 2021 in the Cheng report. However, claims frequency in 2021 has been approximately equal to that of 2020. It is thus projected that any resumption of pre-pandemic claims activity is delayed one year from that projected in the Cheng report.
- Projected claims costs for the 2021 accident year are reduced by \$46 per earned vehicle for changes to the definition of a minor injury in the Minor Injury Regulation (MIR), enacted in Bill 41. (It is approximated that this change takes effect on Jan. 1, 2021.) A saving of \$76 per vehicle is provided by IBC in its report “Driving Change: Auto Insurance that Works” issued on March 6, 2020.⁷ I have estimated that savings of \$30 per vehicle are already incorporated in my projections of bodily injury claims costs for 2021. For the 2022 accident year, I have used the full reduction estimated by IBC of \$76 per vehicle.

⁶ Actuarial Modelling for the Automobile Insurance Advisory Committee, J.S. Cheng and Partners, Inc., May 27, 2020, Appendix 5.8, p. 156.

⁷ “Driving Change: Auto Insurance that Works,” Insurance Bureau of Canada, March 6, 2020, p. 6.

- Projected claims costs for the 2021 and 2022 accident years are reduced by \$15 per earned vehicle for changes to the prejudgment interest rate for non-pecuniary damages. (It is approximated that this change takes effect on Jan. 1, 2021.) The saving of \$15 per vehicle is also provided by IBC in its report “Driving Change: Auto Insurance that Works” issued on March 6, 2020.
- Projected claims costs for the 2021 and 2022 accident years can be expected to be reduced for the restriction in Bill 41 on the number of expert reports. An estimate of the magnitude of savings has not been made, but additional savings can be expected.

Table 12: Projected Annual Profit, 2020, 2021 and Projected 2022, Alberta Private Passenger Auto Insurance, Using Claims Amounts per Oliver Wyman Analysis as at December 2021, Adjusted for 2017 Loss Development Pattern Change

(Thousands of Dollars)

	Actual 2020	Actual 2021	Projected 2022*	Total
Premium	\$4,068,000	\$4,370,400	\$4,496,800	
Less: Claims Costs	\$2,368,700	\$2,179,800	\$3,102,600	
Less: Operating Expenses	\$1,057,700	\$1,136,300	\$1,218,600	
Less: Health Cost Recovery	\$115,500	\$75,800	\$92,500	
Plus: Investment Income	\$368,100	\$284,600	\$242,700	
Total Profit, Pre-Tax, Excl. Bill 41	\$894,200	\$1,263,100	\$325,800	\$2,483,100
Plus: Further Savings from Bill 41		\$171,300	\$255,500	\$438,000
Total Profit, Pre-Tax, Incl. Bill 41	\$894,200	\$1,434,400	\$581,400	\$2,910,000

Source: Appendix A 9.2

Detailed calculations used to determine the amounts in Tables 11 and 12 are shown in the Appendix.

3. Other Methods of Calibrating Profit

Oliver Wyman cites two methods of calculating insurance industry profit: the “Realized Profit Provision” and the GISA profit report (AUTO9501-AB). While these methods have similar objectives to the Cheng method, the methods capture different financial components, with data compiled in different groupings.

a) “Realized Profit Provision” as per AIRB Benchmarks – as Calculated by Oliver Wyman

The “Realized Profit Provision” is the actual pre-tax profit, calculated by the formula that is used in benchmark rate filings to determine whether the rates meet the 7% profit provision approved by AIRB in the benchmarks.

As described by Oliver Wyman, applying this formula provides “a hindsight high level review of the realization of the 7% premium profit target insurers may include in their rate setting models during the last five years for private passenger vehicles in Alberta.”⁸

The formula, as stated on p. 18 of the Oliver Wyman 2022 Annual Review report, is as follows:

Realized Profit Provision = 1 – Discounted Loss & LAE Ratio – Expense Ratio (including health levy)⁹

As stated by Oliver Wyman, “if the actual loss amounts are higher or lower than expected, the realized profit provision as a percentage of premium will be higher or lower than the target 7%.”¹⁰

Oliver Wyman tabulates the realized profit provision percentages, presented below in Table 13, for each of the calendar years 2013 through 2021. By multiplying the Realized Profit Provision percentages by earned premium for each accident year, a dollar amount of pre-tax profit can be estimated.

Note, as stated by Oliver Wyman, that this realized profit provision does not include investment income earned on capital supporting the private passenger vehicle policies.¹¹ By contrast, the pre-tax profit as calculated by the Cheng method *includes* investment income earned on capital supporting the private passenger vehicle policies.

⁸ p. 19, Oliver Wyman 2022 Annual Review

⁹ p. 18, Oliver Wyman 2022 Annual Review

¹⁰ p. 17, Oliver Wyman 2022 Annual Review

¹¹ p. 17, Oliver Wyman 2022 Annual Review

Table 13: Realized Profit Provision by Year from 2013 to 2021

Year	Realized Profit Provision Percentage, per Oliver Wyman	Earned Premium (000s)	Realized Profit Provision, per Formula in Benchmark, in Dollars (000s)
2013	3.0%	\$2,729,252	\$81,878
2014	3.5%	\$2,923,219	\$102,313
2015	-2.1%	\$3,089,345	(\$64,876)
2016	-8.5%	\$3,186,089	(\$270,818)
2017	-3.7%	\$3,308,529	(\$122,416)
2018	-5.2%	\$3,524,579	(\$183,278)
2019	2.5%	\$3,782,997	\$94,575
2020	19.7%	\$4,068,065	\$801,409
2021	21.2%	\$4,370,402	\$926,525

Source of Realized Profit Percentages: Oliver Wyman 2022 Annual Review report, Table 5, p. 18

Footnote 28 on p. 17 of the Oliver Wyman 2022 Annual Review Report suggests a common rule of thumb, used by insurers in rate applications, to add investment income earned on capital. That rule of thumb attributes \$1 of capital to every \$2 of premium. Investment income is then earned on that level of capital at the rates shown on Table 4 on p. 16 of the Oliver Wyman 2022 Annual Review report.

Table 14: Realized Profit Provision, Plus Investment Income on Capital, 2013-2021

Year	Assumed Pre-tax Return on Capital	Realized Profit Provision , plus Rule-of-Thumb Investment Income Earned on Capital, per Oliver Wyman	Realized Profit Provision , plus Rule-of-Thumb Investment Income Earned on Capital, in Dollars (000s)
2013	3.41%	4.71%	\$128,411
2014	3.41%	5.21%	\$152,154
2015	3.31%	-0.45%	(\$13,748)
2016	2.78%	-7.11%	(\$226,531)
2017	3.69%	-1.86%	(\$61,373)
2018	2.24%	-4.08%	(\$143,803)
2019	4.23%	4.62%	\$174,585
2020	4.17%	21.79%	\$886,228
2021	2.71%	22.56%	\$985,744

Source: Appendix Table A 10.1

b) Comparison of the Three Profit Measures

The second compilation of private passenger auto insurance industry profits described by Oliver Wyman is the GISA profit report, AUTO9501-AB_2021.

Table 15 below compares the pre-tax profits of the Realized Profit Provision (including investment income on capital) and of the Cheng method to those compiled by the GISA profit report. All three results shown in Table 15 include an estimate of investment income earned on capital.

**Table 15: Pre-tax Profit - Realized Profit Provision, Cheng Method, and GISA Profit Report
AUTO9501**

Year	Realized Pre-tax Profit Provision, plus Rule-of-Thumb Investment Income Earned on Capital, in Dollars (000s)	Cheng Method, Pre-Tax Profit in Dollars (000s)	GISA Pre-Tax Profit in Dollars (000s)
2011	Not Published by Oliver Wyman	\$434,481	Not Published by GISA
2012	Not Published by Oliver Wyman	\$222,012	\$168,030
2013	\$128,411	\$147,528	(\$77,219)
2014	\$152,154	\$178,000	\$27,758
2015	(\$13,748)	(\$1,652)	(\$26,780)
2016	(\$226,531)	(\$110,455)	(\$380,370)
2017	(\$61,373)	\$33,162	(\$190,239)
2018	(\$143,803)	(\$58,444)	(\$223,304)
2019	\$174,585	\$215,203	(\$140,031)
2020	\$886,228	\$894,211	\$69,985
2021	\$985,744	\$1,434,357	\$518,693
2013-2019	\$9,696	\$403,342	(\$1,010,185)
2020-2021	\$1,871,972	\$2,328,568	\$588,678

Table 15 shows results for the Realized Profit Provision (plus Investment Income on Capital) that are not exactly equal to, but largely consistent with, those of the Cheng method.

It is logical that the Realized Profit Provision as used for the benchmark will produce estimates of profit parallel to that of the Cheng method. Both methods are based on an approach that Oliver Wyman describes as follows:

Using accident year events that are “based on incurred loss amounts as reported by insurers through the automobile statistical plan (ASP) to GISA and a provision for loss development as

described in Section 6 of this report. Adjustment factors supplied by GISA are applied to the loss amounts to include internal claims handling expenses.”¹²

It can be seen from Table 15 that the GISA pre-tax profit amounts are much lower than those of the Realized Profit Provision (plus Investment Income on Capital) and of the Cheng method.

As described by Oliver Wyman, and as analyzed in my reports for the 2021 Annual Review and the 2020 Annual Review, the GISA profit report compiles a different picture of the industry’s profitability than that of the Realized Profit Provision, and also that of the Cheng method. **This makes it difficult to directly compare the GISA profit report to the other two measures of profit.**

In addition to the difficulty in directly comparing these sources of information, GISA advises in its Notes to Users for its profit report that the report “should not be used to assess whether current rates are adequate to cover future costs.”¹³

c) Oliver Wyman’s Description of Key Characteristics of the GISA Profit Report

Oliver Wyman lists the following key characteristics of the GISA Profit Report¹⁴ that differ from those that underlie its calculation of the Realized Profit Provision (and which also underlie the Cheng method that I have used).

- Losses are presented on a ***calendar year basis***. This “represents the amount paid during the year plus the change in the held loss reserve amounts between the end and the beginning of the year.”¹⁵ Thus, in the GISA Profit report, the claims costs reported in a given year will combine results for current-year accidents and changes to prior-year accidents, ***combining results for accidents of several years***.
- Loss amounts, premiums and expenses are reported net of reinsurance. In contrast, the Realized Profit Provision calculations and the Cheng method calculations are performed gross of reinsurance.
- The GISA Profit Report “includes all investment income, including from supporting capital and cash flow.” As stated previously, the Realized Profit Provision does not include this income. However, this is a point of consistency between the GISA Profit Report and the calculations in the Cheng method.

For discount rates, provisions for adverse deviation (PFAD) and loss adjustment expenses, Oliver Wyman explains that the GISA profit report does not explicitly disclose these amounts. They are

¹² p. 19, Oliver Wyman 2022 Annual Review

¹³ p. 7, Item 4, Notes to Users, Automobile Insurance Financial Information Profit and Loss Report, Private Passenger Automobile, Alberta, 2021, AUTO9501-AB_2021

¹⁴ p. 20, Oliver Wyman 2022 Annual Review

¹⁵ p. 19, Oliver Wyman 2022 Annual Review

specific to individual insurers, and are embedded in amounts submitted by those insurers to GISA, and are then aggregated with other insurers.

Oliver Wyman provides the following detail around that point:¹⁶

- Discount rates specific to each insurance company underlie the loss data provided to GISA to be compiled into the GISA Profit Report. As stated by Oliver Wyman, “the discount rate used by each insurer is not stated by the insurer in the ... submission to GISA, and therefore the impact of the discount factor cannot be stated....” In contrast, the Discount Factor for the Realized Profit Provision is disclosed on Table 5 on p. 19 of the Oliver Wyman 2022 Annual Review report. The losses used in the Cheng method are not discounted.
- The provision for adverse deviation (PFAD) amount included by each insurer in its submission for the GISA Profit Report “is not separately submitted to GISA, and therefore the PFAD included in the AUTO9501 Exhibit is not explicitly stated or provided.” No PFAD is used for the Realized Profit Provision or the Cheng method.
- Loss adjustment expenses for the GISA Profit Report “are included with the loss amounts submitted by each insurer and are not separately stated. By contrast, for the Realized Profit Provision (and the Cheng method), the provision for unallocated loss adjustment expenses, is explicitly “included by a factor determined by GISA based on aggregated submissions by insurers.”

The above factors listed by Oliver Wyman may contribute to the anomalous result seen in the GISA Profit Report in Table 16 below: Table 16 below shows that net claims and adjustment expenses reported for 2020 are ***higher*** than those for 2019, even though it is known that the sharp reduction in traffic in that year brought about many fewer accidents. This suggests that the claims amounts combine various changing reinsurance agreements, and may include changes in projected loss amounts in a number of different accident years besides 2020.

¹⁶ p. 20, Oliver Wyman 2022 Annual Review

Table 16: Net Claims and Adjustment Expenses, per GISA Profit Report, 2013-2021

Year	Net Claims and Adjustment Expenses (000s)
2013	\$2,219,500
2014	\$2,442,356
2015	\$2,448,800
2016	\$2,793,458
2017	\$2,432,172
2018	\$2,714,996
2019	\$2,725,545
2020	\$2,888,031
2021	\$2,362,214

Source: GISA Profit Report AUTO9501 - AB

Section 11 of the Appendix provides a detailed description of the differences between the Cheng method and the attributes of the GISA Profit Report. This description was previously provided in my reports that were submitted by ACTLA to the 2020 and 2021 Annual Reviews.

VI. Conclusions

The following are the findings of this analysis.

Finding 1:

The loss and LAE cost per vehicle for third party liability bodily injury coverage and for all coverages combined have been approximately stable, when adjusted for general inflation, for the 2015 through 2019 accident years. Beginning in 2020, the loss and LAE cost for the “moving” coverages has declined sharply in response to the reduction in vehicle traffic caused by the COVID-19 pandemic. Further, Bill 41 reduced the loss and LAE cost per vehicle for bodily injury coverage, beginning in accident year 2021. The effect is to reduce further the rate of increase in bodily injury claims costs.

Finding 2:

Oliver Wyman has reduced its loss and LAE costs per vehicle for all accident years between 2011 and 2020, compared to their previous analysis as at Dec. 2020. These reductions are in addition to previous reductions made by Oliver Wyman between Dec. 2017 and Dec. 2020 for accident years 2011 through 2017. With the reductions, the profitability of the Alberta private passenger auto insurance industry for the accident years 2011 through 2020 is higher than was previously estimated.

These reductions partly reverse increases in the loss and LAE costs made in 2017. A change in claim development patterns that began in 2017 has complicated the task of assessing loss and LAE costs for accident years 2016 and later.

Finding 3:

Industry pre-tax profits in 2020 and 2021 are projected at \$894 million and \$1.434 billion respectively, up from \$215 million in 2019. This result is due to a continuation throughout 2021 of the reduced level of claims activity that began with the COVID-19 pandemic, and the savings from Bill 41 that took effect in 2021.

Corresponding pre-tax profits using the Realized Profit Provision formula cited by Oliver Wyman are \$801 million for 2020 and \$927 million for 2021. Note that these amounts do not count the entirety of the industry’s profits, as they do not include the industry’s investment earnings on its capital.

Projected pre-tax profits for 2022 are \$581 million. This amount projects that the 2022 claims frequency will remain at 5% below the pre-pandemic level. It also makes the conservative assumption that the high levels of general inflation experienced in 2022 will be fully transmitted to all claims costs.

Finding 4:

Since 2018, through 2021 growth in premium income for the Alberta private passenger auto insurance industry has exceeded the rate of general inflation, while claims costs have declined, in keeping with the reduced claims activity that began with the COVID-19 pandemic, and the reforms in Bill 41.

These factors, along with a reduction in the amounts levied by the Alberta government for Health Cost Recovery have contributed to the much-increased level of profits beginning in 2020.

At the same time, a long-time trend of increases greater than general inflation in per-vehicle operating expenses, in particular general expenses and commissions, have somewhat reduced the level of profits in the industry.

Finding 5:

Oliver Wyman has assumed a return to pre-pandemic frequency levels for rate applications subject to 2022 benchmarks. However, frequency in the second half of 2021 has remained down significantly from the corresponding 2019 level (down 23% for bodily injury and 28% for collision). In light of this, I believe it conservative to extend through 2022 the 5% reduction from pre-pandemic levels initially projected in 2020 by J.S. Cheng & Partners, Inc. for the 2021 accident year.

Appendix

1. Consumer Price Index for Alberta

Table A 1.1: Consumer Price Index for Alberta, and 12-Month Change in CPI

Date	Consumer Price Index, All Items, Alberta	12-Month Change in CPI
December 2013	129.1	
June 2014	132.3	
December 2014	131.5	1.9%
June 2015	134.5	1.7%
December 2015	133.5	1.5%
June 2016	136.3	1.3%
December 2016	134.9	1.0%
June 2017	136.9	0.4%
December 2017	137.6	2.0%
June 2018	140.7	2.8%
December 2018	140.5	2.1%
June 2019	142.7	1.4%
December 2019	143.7	2.3%
June 2020	145.0	1.6%
December 2020	144.8	0.8%
June 2021	148.9	2.7%
December 2021	151.7	4.8%
June 2022	161.4	8.4%

Source: Statistics Canada

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000413>

2. Calculation of Loss and LAE Cost per Vehicle, from Oliver Wyman Report as at December 2021

Table A 2.1: Bodily Injury, Adjusted for 2017 Reserve Change, Ultimate Loss and LAE, by Accident Semester

Acc Semester	[1] Third Party Liability Earned Car Years	[2] Third Party Liability Earned Car Years	[3] Bodily Injury Loss and LAE (000s)	[4] Adj Factor for Case Incurred Loss&LAE 6 to 12 Mos	[5] Adj Factor for Case Incurred Loss&LAE 12 to 18 Mos	[6] Adj Factor for LDF 6 to 12 Mos	[7] Adj Factor for LDF 12 to 18 Mos	[8] Adjusted Bodily Injury Loss and LAE (000s)	[9] Additional Impact of Bill 41	[10] Adjusted Bodily Injury Loss and LAE, Net of Bill 41 (000s)	[11] Adjusted Bodily Injury Loss and LAE, Net of Bill 41 (000s)
2011.1	1,128,676		\$247,164	1.000	1.000	1.000	1.000	\$247,164		\$247,164	
2011.2	1,178,555	2,307,231	\$322,230	1.000	1.000	1.000	1.000	\$322,230		\$322,230	\$569,394
2012.1	1,171,059		\$298,516	1.000	1.000	1.000	1.000	\$298,516		\$298,516	
2012.2	1,220,908	2,391,966	\$359,092	1.000	1.000	1.000	1.000	\$359,092		\$359,092	\$657,608
2013.1	1,210,580		\$324,348	1.000	1.000	1.000	1.000	\$324,348		\$324,348	
2013.2	1,269,813	2,480,393	\$408,513	1.000	1.000	1.000	1.000	\$408,513		\$408,513	\$732,861
2014.1	1,257,070		\$346,713	1.000	1.000	1.000	1.000	\$346,713		\$346,713	
2014.2	1,319,764	2,576,834	\$461,831	1.000	1.000	1.000	1.000	\$461,831		\$461,831	\$808,544
2015.1	1,302,864		\$420,881	1.000	1.000	1.000	1.000	\$420,881		\$420,881	
2015.2	1,349,402	2,652,266	\$522,551	1.000	1.000	1.000	1.000	\$522,551		\$522,551	\$943,432
2016.1	1,324,199		\$461,333	1.000	0.920	1.000	1.000	\$424,426		\$424,426	
2016.2	1,354,525	2,678,724	\$568,826	0.913	0.920	1.000	1.000	\$477,791		\$477,791	\$902,217
2017.1	1,323,296		\$513,791	0.913	0.920	1.000	1.000	\$431,564		\$431,564	
2017.2	1,369,399	2,692,694	\$603,855	0.913	0.920	1.000	1.000	\$507,214		\$507,214	\$938,778
2018.1	1,348,624		\$576,442	0.913	0.920	1.000	1.000	\$484,188		\$484,188	
2018.2	1,399,149	2,747,772	\$635,044	0.913	0.920	1.000	1.000	\$533,412		\$533,412	\$1,017,600
2019.1	1,372,115		\$610,554	0.913	0.920	1.000	1.000	\$512,841		\$512,841	
2019.2	1,410,723	2,782,838	\$688,110	0.913	0.920	1.000	1.000	\$577,985		\$577,985	\$1,090,826
2020.1	1,371,391		\$444,189	0.913	0.920	1.000	1.000	\$373,101		\$373,101	
2020.2	1,409,015	2,780,406	\$501,919	0.913	0.920	1.000	1.000	\$421,592		\$421,592	\$794,693
2021.1	1,380,808		\$415,633	0.913	1.000	1.000	0.920	\$349,115	\$84,229	\$264,886	
2021.2	1,427,310	2,808,117	\$508,119	1.000	1.000	0.913	0.920	\$426,800	\$87,066	\$339,734	\$604,620

Source:

[1], [3] Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Columns (3), (7)

[8]: [3] x [4] x [5] x [6] x [7]

[9]: [2] x (\$76 - \$30 + \$15) for 2021.1 and 2021.2

[10]: [8] – [9]

Table A 2.2: All Coverages, with Bodily Injury Adjusted for 2017 Reserve Change, Ultimate Loss and LAE by Coverage, by Accident Semester

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Acc Semester	Adjusted Bodily Injury Loss and LAE, Net of Bill 41 (000s)	Property Damage Loss and LAE (000s)	Accident Benefits Loss and LAE (000s)	Collision Loss and LAE (000s)	Comprehensive Loss and LAE (000s)	All Perils Loss and LAE (000s)	Specifd. Perils Loss and LAE (000s)	Underinsd Motorsts Loss and LAE (000s)	All Covgs Loss and LAE (000s)	All Covgs Loss and LAE (000s)
2011.1	\$247,164	\$179,039	\$39,613	\$201,615	\$79,717	\$3,760	\$211	\$2,407	\$753,526	
2011.2	\$322,230	\$175,584	\$49,328	\$186,660	\$152,989	\$5,000	\$384	\$7,419	\$899,594	\$1,653,120
2012.1	\$298,516	\$163,969	\$44,611	\$177,206	\$84,559	\$2,907	\$201	\$3,822	\$775,791	
2012.2	\$359,092	\$207,615	\$60,018	\$225,606	\$296,893	\$5,893	\$740	\$8,858	\$1,164,715	\$1,940,506
2013.1	\$324,348	\$185,299	\$45,865	\$200,862	\$138,297	\$5,102	\$350	\$2,611	\$902,734	
2013.2	\$408,513	\$225,910	\$58,927	\$250,567	\$238,514	\$5,148	\$360	\$4,248	\$1,192,187	\$2,094,921
2014.1	\$346,713	\$201,139	\$46,290	\$222,576	\$90,880	\$3,636	\$288	\$2,466	\$913,988	
2014.2	\$461,831	\$231,194	\$61,783	\$259,957	\$344,012	\$6,825	\$648	\$6,660	\$1,372,910	\$2,286,898
2015.1	\$420,881	\$215,512	\$58,169	\$239,590	\$118,591	\$4,189	\$281	\$11,210	\$1,068,423	
2015.2	\$522,551	\$234,225	\$77,157	\$256,380	\$333,472	\$6,205	\$589	\$9,561	\$1,440,140	\$2,508,563
2016.1	\$424,426	\$195,555	\$59,097	\$218,866	\$189,002	\$4,189	\$482	\$7,051	\$1,098,668	
2016.2	\$477,791	\$228,523	\$80,815	\$272,662	\$413,772	\$6,996	\$676	\$10,707	\$1,491,942	\$2,590,610
2017.1	\$431,564	\$224,553	\$78,795	\$260,007	\$148,833	\$4,771	\$403	\$5,940	\$1,154,866	
2017.2	\$507,214	\$242,450	\$89,401	\$286,301	\$263,272	\$5,229	\$741	\$10,353	\$1,404,961	\$2,559,827
2018.1	\$484,188	\$246,956	\$93,922	\$288,063	\$141,449	\$5,196	\$562	\$10,022	\$1,270,358	
2018.2	\$533,412	\$235,452	\$90,075	\$286,435	\$279,296	\$6,136	\$657	\$8,275	\$1,439,738	\$2,710,096
2019.1	\$512,841	\$235,157	\$93,884	\$283,000	\$142,432	\$4,189	\$445	\$7,894	\$1,279,842	
2019.2	\$577,985	\$238,420	\$108,823	\$277,094	\$266,540	\$6,111	\$609	\$6,877	\$1,482,459	\$2,762,301
2020.1	\$373,101	\$165,021	\$76,702	\$194,402	\$400,780	\$4,786	\$884	\$5,685	\$1,221,361	
2020.2	\$421,592	\$176,661	\$96,788	\$198,928	\$237,909	\$3,969	\$684	\$10,806	\$1,147,337	\$2,368,698
2021.1	\$264,886	\$152,151	\$88,004	\$147,578	\$122,450	\$3,508	\$520	\$2,243	\$781,340	
2021.2	\$339,734	\$212,427	\$122,591	\$223,320	\$315,718	\$6,941	\$830	\$5,645	\$1,227,205	\$2,008,545

Source:

[1]: Table A 2.1, Column [10]

[2] to [8]: Oliver Wyman 2022 Annual Review, Appendix B, Column (7)

[9]: Sum of Columns [1] through [8]

Table A 2.3: Ultimate Loss and LAE Cost per Earned Vehicle by Accident Year, in 2016 Dollars

Accident Year	[1] Oliver Wyman Adjusted Bodily Injury Loss and LAE Cost per Earned Vehicle	[2] Adjusted Bodily Injury Loss and LAE Cost per Earned Vehicle	[3] All Coverages Loss and LAE Cost per Earned Vehicle	[4] Alberta CPI (June)	[5] Alberta CPI 2016	[6] Oliver Wyman Bodily Injury Loss and LAE Cost per Earned Vehicle, in 2016 Dollars	[7] Adjusted Bodily Injury Loss and LAE Cost per Earned Vehicle, in 2016 Dollars	[8] All Coverages Loss and LAE Cost per Earned Vehicle, in 2016 Dollars
2011	\$247	\$247	\$716	125.3	135.2	\$266	\$266	\$773
2012	\$275	\$275	\$811	126.9	135.2	\$293	\$293	\$864
2013	\$295	\$295	\$845	129.8	135.2	\$308	\$308	\$880
2014	\$314	\$314	\$887	132.3	135.2	\$321	\$321	\$907
2015	\$356	\$356	\$946	134.5	135.2	\$358	\$358	\$951
2016	\$385	\$337	\$967	136.3	135.2	\$381	\$334	\$959
2017	\$415	\$349	\$951	136.9	135.2	\$410	\$344	\$939
2018	\$441	\$370	\$986	140.7	135.2	\$424	\$356	\$948
2019	\$467	\$392	\$993	142.7	135.2	\$442	\$371	\$940
2020	\$340	\$286	\$852	145.0	135.2	\$317	\$267	\$794
2021	\$329	\$215	\$715	148.9	135.2	\$299	\$196	\$649

Source:

[1]:]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (14)

[2]: Table A 2.1, Column [11]/ Table A 2.1, Column [2]

[3]: Table A 2.2, Column [10]/ Table A 2.1, Column [2]

[6]: [1] x [5] / [4]

[7]: [2] x [5] / [4]

[8]: [3] x [5] / [4]

3. Favorable Development, Bodily Injury, Dec 2017 to Dec 2021, Accident Years 2011 through 2017

Table A 3.1: Percentage Change in Oliver Wyman Ultimate Loss and LAE, Bodily Injury, Dec 2017 to Dec. 2021, Accident Years 2011 through 2017

Accident Year	[1] Oliver Wyman Annual Ultimate Loss Cost and LAE, Bodily Injury, by Accident Year, as at Dec 2017	[2] Oliver Wyman Annual Ultimate Loss Cost and LAE, Bodily Injury, by Accident Year, as at Dec 2020	[3] Oliver Wyman Annual Ultimate Loss Cost and LAE, Bodily Injury, by Accident Year, as at Dec 2021	[4] Percentage Change by Accident Year, Dec. 2017 to Dec. 2020	[5] Percentage Change by Accident Year, Dec. 2020 to Dec. 2021
2011	\$248.42	\$247.47	\$246.79	-0.4%	-0.3%
2012	\$282.13	\$277.34	\$274.92	-1.7%	-0.9%
2013	\$312.63	\$298.66	\$295.46	-4.5%	-1.1%
2014	\$343.92	\$319.85	\$313.77	-7.0%	-1.9%
2015	\$400.07	\$360.72	\$355.71	-9.8%	-1.4%
2016	\$431.49	\$391.35	\$384.57	-9.3%	-1.7%
2017	\$439.97	\$423.35	\$415.07	-3.8%	-2.0%
2018		\$455.05	\$440.90		-3.1%
2019		\$472.92	\$466.67		-1.3%
2020		\$345.49	\$340.28		-1.5%

Sources:

[1]: Annual Review of Industry Experience – Final Report as of December 31, 2017, Private Passenger Vehicles, Alberta Automobile Insurance Rate Board; Prepared by Oliver Wyman, September 19, 2018; (*“Oliver Wyman 2018 Annual Review”*); Appendix B, Page 1, Column (14)

[2]: Annual Review of Industry Experience – Final Report as of December 31, 2020, Private Passenger Vehicles, Alberta Automobile Insurance Rate Board; Prepared by Oliver Wyman, September 8, 2021; (*“Oliver Wyman 2021 Annual Review”*); Appendix B, Page 1, Column (14)

[3]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (14)

[4]: [2] / [1] - 1

[5]: [3] / [2] - 1

4. Paid Claim Dollars and Closed Claim Counts, Bodily Injury

Table A 4.1: Ultimate Incurred and Paid Dollars and Ultimate and Closed Claim Counts, by Accident Semester, Bodily Injury

Accident Semester	[1] Third Party Liability Earned Car Years	[2] Oliver Wyman Bodily Injury Ultimate Incurred Loss and LAE (in Thousands)	[3] Bodily Injury Paid Loss and ALAE (in Thousands)	[4] Bodily Injury Ultimate Claim Count	[5] Bodily Injury Closed Claim Count
2011.1	1,128,676	\$247,164	\$221,494	7,013	7,010
2011.2	1,178,555	\$322,230	\$290,255	7,008	7,009
2012.1	1,171,059	\$298,516	\$266,700	6,658	6,653
2012.2	1,220,908	\$359,092	\$319,087	7,742	7,725
2013.1	1,210,580	\$324,348	\$283,559	7,170	7,154
2013.2	1,269,813	\$408,513	\$349,883	8,617	8,585
2014.1	1,257,070	\$346,713	\$298,326	7,566	7,537
2014.2	1,319,764	\$461,831	\$389,030	8,823	8,762
2015.1	1,302,864	\$420,881	\$333,547	8,092	8,013
2015.2	1,349,402	\$522,551	\$404,254	8,829	8,692
2016.1	1,324,199	\$461,333	\$346,429	7,762	7,578
2016.2	1,354,525	\$568,826	\$392,220	9,066	8,740
2017.1	1,323,296	\$513,791	\$325,091	8,616	8,250
2017.2	1,369,399	\$603,855	\$339,751	9,069	8,408
2018.1	1,348,624	\$576,442	\$269,513	8,743	7,833
2018.2	1,399,149	\$635,044	\$233,397	8,835	7,491
2019.1	1,372,115	\$610,554	\$179,177	8,951	7,126
2019.2	1,410,723	\$688,110	\$128,247	9,190	6,600
2020.1	1,371,391	\$444,189	\$48,756	5,967	3,567
2020.2	1,409,015	\$501,919	\$28,953	6,343	2,915
2021.1	1,380,808	\$415,633	\$11,650	5,849	1,782
2021.2	1,427,310	\$508,119	\$2,949	7,123	517

Sources:

[1], [3], [5]:

Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[2]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (7)

[4]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (4)

Table A 4.2: Ultimate Incurred and Paid Dollars and Ultimate and Closed Claim Counts, by Accident Year, Bodily Injury

Accident Year	[1] Third Party Liability Earned Car Years	[2] Oliver Wyman Bodily Injury Ultimate Incurred Loss and LAE (000s)	[3] Bodily Injury Paid Loss and ALAE (000s)	[4] Bodily Injury Paid Loss and ALAE as Pct of Ultimate Incurred Loss and LAE	[5] Bodily Injury Ultimate Claim Count	[6] Bodily Injury Closed Claim Count	[7] Bodily Injury Closed Claim Count as Pct of Ultimate
2011	2,307,231	\$569,394	\$511,750	90%	14,021	14,019	100%
2012	2,391,966	\$657,608	\$585,787	89%	14,400	14,378	100%
2013	2,480,393	\$732,861	\$633,441	86%	15,787	15,739	100%
2014	2,576,834	\$808,544	\$687,356	85%	16,389	16,299	99%
2015	2,652,266	\$943,432	\$737,800	78%	16,921	16,705	99%
2016	2,678,724	\$1,030,159	\$738,649	72%	16,828	16,318	97%
2017	2,692,694	\$1,117,646	\$664,843	59%	17,685	16,658	94%
2018	2,747,772	\$1,211,486	\$502,910	42%	17,578	15,324	87%
2019	2,782,838	\$1,298,664	\$307,424	24%	18,141	13,726	76%
2020	2,780,406	\$946,108	\$77,709	8%	12,310	6,482	53%
2021	2,808,117	\$923,752	\$14,599	2%	12,972	2,299	18%

Source:

[1], [3], [6]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[2]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (7)

[4]: [3]/[2]

[5]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (4)

[7]: [6]/[5]

Table A 4.3: Paid and Ultimate Loss and LAE per Vehicle, Nominal and in 2016 Dollars, Bodily Injury

Accident Year	[1] Oliver Wyman Bodily Injury Ultimate Loss and LAE per Vehicle	[2] Bodily Injury Paid Loss and ALAE per Vehicle	[3] Alberta CPI (June)	[4] Alberta CPI (Avg for 2016)	[5] Oliver Wyman Bodily Injury Ultimate Loss and LAE per Vehicle in 2016 Dollars	[6] Bodily Injury Paid Loss and ALAE per Vehicle, in 2016 Dollars
2011	\$247	\$222	125.3	135.2	\$266	\$239
2012	\$275	\$245	126.9	135.2	\$293	\$261
2013	\$295	\$255	129.8	135.2	\$308	\$266
2014	\$314	\$267	132.3	135.2	\$321	\$273
2015	\$356	\$278	134.5	135.2	\$358	\$280
2016	\$385	\$276	136.3	135.2	\$381	\$274
2017	\$415	\$247	136.9	135.2	\$410	\$244
2018	\$441	\$183	140.7	135.2	\$424	\$176
2019	\$467	\$110	142.7	135.2	\$442	\$105
2020	\$340	\$28	145.0	135.2	\$317	\$26
2021	\$329	\$5	148.9	135.2	\$299	\$5

Source:

[1]: Table A 4.2 Column [2]/ Table A 4.2 Column [1]

[2]: Table A 4.2 Column [3]/ Table A 4.2 Column [1]

[5]: [1] x [4] / [3]

[6]: [2] x [4] / [3]

5. Calculation of Ultimate Loss and LAE Amounts, Adjusted for Change in Loss Development Pattern, Bodily Injury

Table A 5.1: Calculation of Adjustment Factors for Change in Loss Development Pattern, 6-12 Months

Accident Semester	[1] Case Incurred Loss and ALAE, Age 6 Months (in Thousands)	[2] Case Incurred Loss and ALAE, Age 12 Months (in Thousands)	[3] Weighted Average Age- to-Age Ratio
2012.2	\$147,335	\$177,626	
2013.1	\$122,754	\$150,964	
2013.2	\$158,085	\$201,330	
2014.1	\$139,295	\$170,205	
2014.2	\$181,499	\$220,251	
2015.1	\$157,887	\$199,168	
2015.2	\$193,905	\$242,166	
2016.1	\$156,971	\$197,097	
Subtotal for Pre-2017 Calendar Period	\$1,257,731	\$1,558,808	1.239
2016.2	\$174,369	\$251,531	
2017.1	\$169,629	\$229,155	
2017.2	\$202,756	\$277,061	
2018.1	\$197,315	\$242,620	
2018.2	\$199,756	\$278,187	
2019.1	\$182,157	\$257,440	
2019.2	\$210,044	\$292,335	
2020.1	\$136,535	\$188,246	
2020.2	\$161,095	\$212,770	
2021.1	\$135,089	\$172,900	
Subtotal for 2017-and- Later Calendar Period	\$1,768,745	\$2,402,245	1.358

Adjustment Factor = 1.239 / 1.358 = 0.913

Sources:

[1], [2]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

Table A 5.2: Calculation of Adjustment Factor for Change in Loss Development Pattern, 12-18 Months

Accident Semester	[1] Case Incurred Loss and ALAE, Age 12 Months (in Thousands)	[2] Case Incurred Loss and ALAE, Age 18 Months (in Thousands)	[3] Weighted Average Age- to-Age Ratio
2012.2	\$161,246	\$164,395	
2012.2	\$177,626	\$190,638	
2013.1	\$150,964	\$162,433	
2013.2	\$201,330	\$213,249	
2014.1	\$170,205	\$184,617	
2014.2	\$220,251	\$243,195	
2015.1	\$199,168	\$213,997	
2015.2	\$242,166	\$266,694	
Subtotal for Pre-2017 Calendar Period	\$1,522,956	\$1,639,217	1.076
2016.1	\$197,097	\$238,040	
2016.2	\$251,531	\$300,285	
2017.1	\$229,155	\$267,360	
2017.2	\$277,061	\$306,885	
2018.1	\$242,620	\$277,037	
2018.2	\$278,187	\$327,553	
2019.1	\$257,440	\$306,207	
2019.2	\$292,335	\$338,924	
2020.1	\$188,245	\$224,112	
2020.2	\$212,770	\$251,148	
Subtotal for 2017-and- Later Calendar Period	\$2,426,441	\$2,837,551	1.170

Adjustment Factor = 1.076 / 1.170 = 0.920

Sources:

[1], [2]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

6. Realized Impact of Bill 41

Table A 6.1: Impact of Bill 41 on Recognized Bodily Injury Loss and LAE to Date

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Acc Yr	Earned Vehicles	Incurred Loss and LAE (000s) per Table 7	Ultimate Claim Count	Severity	Alberta CPI (June)	Alberta CPI for 2021	Severity in 2021 Dollars	Reduction in Severity in 2021	Frequency x Reduction in Severity
2017	2,692,694	\$938,778	17,685	\$53,083	136.9	149.3	\$57,891		
2018	2,747,772	\$1,017,600	17,578	\$57,891	140.7	149.3	\$61,429		
2019	2,782,838	\$1,090,826	18,141	\$60,130	142.7	149.3	\$62,911		
2020	2,780,406	\$794,693	12,310	\$64,557	145.0	149.3	\$66,471		
2021	2,808,117	\$775,915	12,972	\$59,815	148.9	149.3	\$59,975	\$6,496	\$30

Sources:

[1]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[2]: Appendix Table A 2.1, Column [8]

[3]: Appendix Table A 4.2, Column [5]

[4]: [2] / [3]

[7]: [4] x [6] / [5]

[8]: [7]₂₀₂₀ - [7]₂₀₂₁

[9]: [8]₂₀₂₁ x [3]₂₀₂₁ / [1]₂₀₂₁

7. Growth in Operating Expenses

Table A 7.1: Growth in Operating Expenses per Vehicle by Category, 2014 to 2022

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Accident Year	Earned Premium per Earned Vehicle	Benchmark	Operating Expense Pct	Operating Expense per Earned Vehicle	Pct Increase in Oper Exp per Vehicle	General Expense Pct	General Expense per Earned Vehicle	Pct Increase in General Exp per Vehicle	Commissions and Other Acqn Expense Pct	Commissions and Other Acqn Expense per Earned Vehicle	Pct Increase in Commissions and Other Acqn Exp per Vehicle
2014	\$1,134	April 2015	24.2%	\$275		6.3%	\$71.47		15.1%	\$171	
2015	\$1,165	April 2016	25.4%	\$296	7.8%	6.3%	\$73.38	2.7%	15.1%	\$176	2.7%
2016	\$1,189	April 2017	26.7%	\$318	7.3%	7.0%	\$83.26	13.5%	15.7%	\$187	6.2%
2017	\$1,229	April 2018	27.8%	\$342	7.6%	7.8%	\$95.84	15.1%	16.0%	\$197	5.3%
2018	\$1,283	April 2019	26.6%	\$341	-0.1%	7.5%	\$96.20	0.4%	15.1%	\$194	-1.5%
2019	\$1,359	April 2020	26.7%	\$363	6.4%	7.5%	\$101.96	6.0%	15.2%	\$207	6.7%
2020	\$1,463	April 2021	26.0%	\$380	4.8%	7.2%	\$105.34	3.3%	15.1%	\$221	6.9%
2021	\$1,556	April 2022	26.0%	\$405	6.4%	7.1%	\$110.50	4.9%	15.2%	\$237	7.1%
2022	\$1,601	Oliver Wyman Annual Review 2022	27.1%	\$434	7.2%	7.5%	\$120.10	8.7%	15.8%	\$253	7.0%

Source:

[1]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[2]: The April after the end of the Accident Year

[3], [6], [9]: Operating Expenses Section, Oliver Wyman Reports

[4]: [1] x [3]

[7]: [1] x [6]

[10]: [1] x [9]

[5], [8], [11]: Pct Increase in [4], [7], [10] respectively

Table A 7.2: Growth in Claims Costs per Vehicle

Accident Year	[1] All Coverages Loss and LAE Cost per Earned Vehicle	[2] Pct. Increase in All-Coverages Loss and LAE per Earned Vehicle
2014	\$887	
2015	\$946	6.6%
2016	\$967	2.3%
2017	\$951	-1.7%
2018	\$986	3.7%
2019	\$993	0.6%
2020	\$852	-14.2%
2021	\$715	-16.0%

[1]: Appendix Table A 2.3, Column [3]

[2]: Pct. Increase in [1]

8. Industry Costs, Compared to Rising Premiums, 2018 through 2021

Table A 8.1: Items of Revenue and Expense, in Nominal Dollars

Accident Year	[1] Earned Vehicles	[2] Earned Premium (000s)	[3] Investment Income (000s)	[4] Incurred Loss and LAE (000s)	[5] Health Cost Recovery (000s)	[6] Operating Expenses (000s)
2011	2,307,231	\$2,476,448	\$297,481	\$1,653,120	\$82,074	\$604,253
2012	2,391,966	\$2,579,376	\$288,176	\$1,940,506	\$75,666	\$629,368
2013	2,480,393	\$2,729,252	\$242,944	\$2,094,921	\$63,810	\$665,937
2014	2,576,834	\$2,923,219	\$321,836	\$2,286,898	\$72,738	\$707,419
2015	2,652,266	\$3,089,345	\$303,690	\$2,508,563	\$101,429	\$784,694
2016	2,678,724	\$3,186,089	\$244,857	\$2,590,610	\$100,105	\$850,686
2017	2,692,694	\$3,308,529	\$307,148	\$2,559,827	\$102,916	\$919,771
2018	2,747,772	\$3,524,579	\$203,815	\$2,710,096	\$139,204	\$937,538
2019	2,782,838	\$3,782,997	\$351,001	\$2,762,301	\$146,433	\$1,010,060
2020	2,780,406	\$4,068,065	\$368,087	\$2,368,698	\$115,546	\$1,057,697
2021	2,808,117	\$4,370,402	\$284,568	\$2,179,840	\$75,765	\$1,136,305

Source:

[1], [2]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[3]: Tables A 9.1, A 9.2, Row [16]

[4]: Table A 2.2, Column [10]

[5]: Tables A 9.1, A 9.2, Row [8]

[6]: Tables A 9.1, A 9.2, Row [5]

Table A 8.2: Items of Revenue and Expense, per Vehicle, in Nominal Dollars

Accident Year	[1] Earned Premium per Vehicle	[2] Earned Premium plus Investment Income per Vehicle	[3] Incurred Loss and LAE per Vehicle	[4] Health Cost Recovery per Vehicle	[5] Operating Expenses per Vehicle
2011	\$1,073	\$1,202	\$716	\$36	\$262
2012	\$1,078	\$1,199	\$811	\$32	\$263
2013	\$1,100	\$1,198	\$845	\$26	\$268
2014	\$1,134	\$1,259	\$887	\$28	\$275
2015	\$1,165	\$1,279	\$946	\$38	\$296
2016	\$1,189	\$1,281	\$967	\$37	\$318
2017	\$1,229	\$1,343	\$951	\$38	\$342
2018	\$1,283	\$1,357	\$986	\$51	\$341
2019	\$1,359	\$1,486	\$993	\$53	\$363
2020	\$1,463	\$1,596	\$852	\$42	\$380
2021	\$1,556	\$1,658	\$715	\$27	\$405

Source:

[1]: Table A 8.1, [2] / [1]

[2]: Table A 8.1, ([2] + [3]) / [1]

[3]: Table A 8.1, [4] / [1]

[4]: Table A 8.1, [5] / [1]

[5]: Table A 8.1, [6] / [1]

Table A 8.3: Items of Revenue and Expense, per Vehicle, in 2016 Dollars

Accident Year	[1] Earned Premium per Vehicle, in 2016 Dollars	[2] Earned Premium plus Investment Income per Vehicle in 2016 Dollars	[3] Incurred Loss and LAE per Vehicle in 2016 Dollars	[4] Health Cost Recovery per Vehicle in 2016 Dollars	[5] Operating Expenses per Vehicle in 2016 Dollars
2011	\$1,158	\$1,297	\$773	\$38	\$283
2012	\$1,149	\$1,277	\$864	\$34	\$280
2013	\$1,146	\$1,248	\$880	\$27	\$280
2014	\$1,159	\$1,287	\$907	\$29	\$281
2015	\$1,171	\$1,286	\$951	\$38	\$297
2016	\$1,180	\$1,270	\$959	\$37	\$315
2017	\$1,213	\$1,326	\$939	\$38	\$337
2018	\$1,233	\$1,304	\$948	\$49	\$328
2019	\$1,288	\$1,407	\$940	\$50	\$344
2020	\$1,364	\$1,488	\$794	\$39	\$355
2021	\$1,413	\$1,505	\$649	\$24	\$367

Source:

Table A 8.2, Adjusted to 2016 CPI

9. Profit and Loss for the Alberta Private Passenger Auto Insurance Industry

A. 2011 to 2019, Based on Oliver Wyman Claims Costs, Dec. 2021 Analysis, Adjusted for 2017 Loss Development Pattern Change

Table A 9.1: Estimated Profit and Loss, 2011 through 2019
(Dollar Amounts in Thousands)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
[1] Premium Earned, Current Year ⁽¹⁾	\$2,476,448	\$2,579,376	\$2,729,252	\$2,923,219	\$3,089,345	\$3,186,089	\$3,308,529	\$3,524,579	\$3,782,997	
[2] Premium Earned, Prior Year ⁽¹⁾	\$2,446,722	\$2,476,448	\$2,579,376	\$2,729,252	\$2,923,219	\$3,089,345	\$3,186,089	\$3,308,529	\$3,524,579	
[3] Claims ⁽²⁾	\$1,653,120	\$1,940,506	\$2,094,921	\$2,286,898	\$2,508,563	\$2,590,610	\$2,559,827	\$2,710,096	\$2,762,301	
[4] Expense Ratio ⁽³⁾	24.4%	24.4%	24.4%	24.2%	25.4%	26.7%	27.8%	26.6%	26.7%	
[5] Op Expenses = [1] * [4]	\$604,253	\$629,368	\$665,937	\$707,419	\$784,694	\$850,686	\$919,771	\$937,538	\$1,010,060	
[6] TPL Premium Written ⁽¹⁾	\$1,174,169	\$1,240,429	\$1,329,371	\$1,454,759	\$1,574,992	\$1,696,693	\$1,815,100	\$1,977,327	\$2,185,573	
[7] Health Cost Recovery Pct	6.99%	6.10%	4.80%	5.00%	6.44%	5.90%	5.67%	7.04%	6.70%	
[8] Health Cost Recovery \$ = [6] * [7]	\$82,074	\$75,666	\$63,810	\$72,738	\$101,429	\$100,105	\$102,916	\$139,204	\$146,433	
[9] U/W Profit = [1] – [3] – [5] – [8]	\$137,000	-\$66,164	-\$95,416	-\$143,836	-\$305,341	-\$355,312	-\$273,986	-\$262,259	-\$135,798	
[10] Premium Leverage ⁽⁴⁾	0.94	0.96	0.94	0.92	0.93	0.93	0.93	1.02	1.01	
[11] Allocated Equity, Current Year = [1] / [10]	\$2,634,543	\$2,684,640	\$2,892,906	\$3,163,002	\$3,319,984	\$3,422,789	\$3,546,023	\$3,471,821	\$3,752,948	
[12] Allocated Equity, Prior Year = [2] / [10]	\$2,602,920	\$2,577,512	\$2,734,043	\$2,953,125	\$3,141,456	\$3,318,857	\$3,414,795	\$3,259,005	\$3,496,582	
[13] Average Allocated Equity = ([11] + [12])/2	\$2,618,731	\$2,631,076	\$2,813,474	\$3,058,063	\$3,230,720	\$3,370,823	\$3,480,409	\$3,365,413	\$3,624,765	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.81	1.89	1.87	1.69	1.82	1.81	1.81	1.83	1.83	
[15] Investment Yield Rates ⁽⁶⁾	4.0%	3.8%	3.0%	3.9%	3.3%	2.6%	3.1%	2.1%	3.4%	
[16] Investment Income = [15]*[13] * (1 + [14])	\$297,481	\$288,176	\$242,944	\$321,836	\$303,690	\$244,857	\$307,148	\$203,815	\$351,001	
[17] Total Profit, Pre-Tax, = [9] + [16]	\$434,481	\$222,012	\$147,528	\$178,000	-\$1,652	-\$110,455	\$33,162	-\$58,444	\$215,203	\$1,059,836

Sources:

- (1): Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)
- (2): Table A2.2, Column [10]
- (3): AIRB Benchmark Expense Ratio, April of subsequent year
- (4): Table A 9.5, Column [3]
- (5): Table A 9.5, Column [12]
- (6): Table A 9.5, Column [6]

B. 2020, 2021 and Projected 2022, Based on Oliver Wyman Claims Costs, Dec. 2021 Analysis, Adjusted for 2017 Loss Development Pattern Change

Table A 9.2: Estimated Profit and Loss, 2020, 2021 and Projection for 2022

(Dollar Amounts in Thousands)

	2020	2021	Projected 2022	Total
[1] Premium Earned, Current Year ⁽¹⁾	\$4,068,065	\$4,370,402	\$4,496,771	
[2] Premium Earned, Prior Year ⁽¹⁾	\$3,782,997	\$4,068,065	\$4,370,402	
[3] Claims ⁽²⁾	\$2,368,698	\$2,008,545	\$2,847,024	
[4] Expense Ratio ⁽³⁾	26.0%	26.0%	27.1%	
[5] Operating Expenses = [1] * [4]	\$1,057,697	\$1,136,305	\$1,218,625	
[6] TPL Premium Written ⁽¹⁾	\$2,437,671	\$2,577,029	\$2,604,651	
[7] Health Cost Recovery Pct	4.74%	2.94%	3.55%	
[8] Health Cost Recovery \$ = [6] * [7]	\$115,546	\$75,765	\$92,465	
[9] U/W Profit = [1] – [3] – [5] – [8]	\$526,125	\$978,493	\$83,118	
[10] Premium Leverage ⁽⁴⁾	1.04	1.00	1.00	
[11] Allocated Equity, Current Year = [1] / [10]	\$3,913,877	\$4,354,715	\$4,480,630	
[12] Allocated Equity, Prior Year = [2] / [10]	\$3,639,614	\$4,053,463	\$4,354,715	
[13] Average Allocated Equity = ([11] + [12])/2	\$3,776,746	\$4,204,089	\$4,417,673	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.82	1.75	1.75	
[15] Investment Yield Rates ⁽⁶⁾	3.5%	2.5%	2.0%	
[16] Investment Income = [15]*[13] * (1 + [14])	368,087	284,568	242,728	
[17] Total Profit, Pre-Tax = [9] + [16]	\$894,211	\$1,434,357	\$581,385	\$2,909,953

Sources:

- (1): For 2020, 2021, Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)
For 2022, Table A 9.3 Column [9] Total
- (2): For 2020, 2021, Table A 2.2, Column [10]
For 2021, Table A9.4
- (3): For 2020, AIRB Benchmark Expense Ratio, April 2021
For 2021, AIRB Benchmark Expense Ratio, April 2022
For 2022, Recommended Benchmark, Table 19, p. 79, Oliver Wyman 2022 Annual Review
- (4): Table A 9.5, Column [3], 2020 for 2020, 2021 for 2021 and 2022
- (5): Table A 9.5, Column [12], 2020 for 2020, 2021 for 2021 and 2022
- (6): For 2020 and 2021 Table A 9.5, Column [6], 2020, 2021
For 2022, Reduced by judgment to 2.0% to recognize volatility in 2022 financial markets

Table A 9.3: Calculation of 2022 Earned Premium at the Level of Written Premium in Second Half of 2021

(Dollar Amounts in Thousands)

Coverage	[1] Accident Semester	[2] Earned Premium (000s)	[3] Earned Vehicles (000s)	[4] Average Earned Premium per Vehicle = [2] / [3]	[5] Written Premium (000s)	[6] Written Vehicles (000s)	[7] Average Written Premium per Vehicle = [5] / [6]	[8] On-Level Factor = [7] _{2021.2} / [4]	[9] Earned Premium at Level of Written Premium, 2021-2 (000s) = [2] * [8]
Third Party Liability	2021.1	\$1,224,321	1,381	\$887				1.038	\$1,270,970
	2021.2	\$1,296,240	1,427	\$908	\$1,316,935	1,431	\$920	1.014	\$1,313,773
Accident Benefits	2021.1	\$116,867	1,381	\$85				1.114	\$130,213
	2021.2	\$128,109	1,428	\$90	\$134,906	1,431	\$94	1.051	\$134,618
Un/Underinsured Motorists	2021.1	\$40,877	1,343	\$30				1.021	\$41,732
	2021.2	\$42,659	1,386	\$31	\$43,096	1,387	\$31	1.010	\$43,073
Collision	2021.1	\$390,028	1,003	\$389				1.019	\$397,380
	2021.2	\$403,138	1,032	\$391	\$411,041	1,037	\$396	1.014	\$408,848
Comprehensive	2021.1	\$343,980	1,171	\$294				1.056	\$363,160
	2021.2	\$360,617	1,189	\$303	\$373,297	1,204	\$310	1.023	\$368,734
All Perils	2021.1	\$9,667	12	\$812				1.044	\$10,096
	2021.2	\$11,329	14	\$836	\$12,982	15	\$848	1.014	\$11,490
Specified Perils	2021.1	\$1,248	12	\$103				1.076	\$1,343
	2021.2	\$1,322	12	\$110	\$1,444	13	\$111	1.014	\$1,341
Total		\$4,370,402							\$4,496,772

Source: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

Table A 9.4: Projected 2022 Claims Costs, Under Oliver Wyman Claim Cost Assumptions and CPI Trend, Adjusted for 2017 Change in Loss Development Pattern

(Dollar Amounts in Thousands)

	Bodily Injury	Property Damage	Accident Benefits	Un/Under Insured Motorist	Collision	Comprehensive	All Perils	Specified Perils	All Coverages
Base Line ⁽¹⁾	\$1,090,826	\$473,577	\$202,707	\$14,771	\$560,094	\$408,972	\$10,300	\$1,054	\$2,762,301
Growth in Number of Vehicles, 2019-2021	+0.9%	+0.9%	+0.4%	-0.6%	-1.6%	+10.4%	+10.7%	+0.9%	
Past Trend for 2019 to 2021	+2.1%	+2.1%	+2.1%	+2.1%	+2.1%	+2.1%	+2.1%	+2.1%	
Future Trend for 2021 to 2022	+8.4%	+8.4%	+8.4%	+8.4%	+8.4%	+8.4%	+8.4%	+8.4%	
Catastrophe Load						+22%	+22%	+22%	
COVID-19 Impact ⁽²⁾	-5%	-5%	-5%	-5%	-5%	0	0	0	
Claims Costs Excl. Bill 41	\$1,182,731	\$513,477	\$219,853	\$15,943	\$598,208	\$555,051	\$15,691	\$1,610	\$3,102,563
Bill 41, Change in MIR Definition ⁽³⁾	-\$213,417								-\$213,417
Bill 41, Change in PJI ⁽⁴⁾ Definition	-\$42,122								-\$42,122
Claims Costs Incl. Bill 41	\$927,192	\$513,477	\$219,853	\$15,943	\$598,208	\$555,051	\$15,691	\$1,610	\$2,847,024

(1): 2019 Incurred Loss and LAE, Source, Table A 2.2.

(2): Reduction for moving coverages: 5% in 2022, as per the 2021 recommendation in the report "Actuarial Modelling for the Automobile Insurance Advisory Committee," J.S. Cheng and Partners, Inc., May 27, 2020, Appendix 5.8, p. 156.

(3): Savings from the change in the definition of MIR are estimated at 2,808,117 vehicles in 2021 multiplied by the IBC estimated saving of \$76 per vehicle. This estimate per vehicle was published in "Driving Change: Auto Insurance that Works," Insurance Bureau of Canada, March 6, 2020, p. 6.

(4): Savings from the reduction of prejudgment interest on non-pecuniary damages are estimated at 2,808,117 vehicles in 2021 multiplied by the IBC estimated saving of \$15 per vehicle. This estimate per vehicle was published in "Driving Change: Auto Insurance that Works," Insurance Bureau of Canada, March 6, 2020, p. 6.

Table A 9.5: Ratios for the Insurance Industry Operating in Canada, from P&C Returns Filed with OSFI
(Dollar Amounts in Millions)

		[1]	[2]	[3]	[4]	[5]	[6]
		Net Written Premium	Total Equity	Premium Leverage = [1]/[2]	Net Investmt Income	Total Investmts	Investmt Yield Rate = [4] / [5]
2011	Canadian	\$27,808	\$26,028		\$2,667	\$61,412	
	Foreign Cdn Mortgage	\$7,844	\$11,900		\$888	\$26,524	
	Total	\$35,652	\$37,928	0.94	\$3,555	\$87,936	4.0%
2012	Canadian	\$30,178	\$27,098		\$2,820	\$66,767	
	Foreign Cdn Mortgage	\$7,656	\$12,280		\$811	\$28,898	
	Total	\$37,834	\$39,378	0.96	\$3,631	\$95,665	3.8%
2013	Canadian	\$31,089	\$28,087		\$2,164	\$67,162	
	Foreign Cdn Mortgage	\$7,735 \$0	\$13,065 \$0		\$755 \$0	\$29,974 \$0	
	Total	\$38,824	\$41,152	0.94	\$2,919	\$97,136	3.0%
2014	Canadian	\$32,585	\$29,595		\$3,016	\$73,246	
	Foreign Cdn Mortgage	\$7,865 \$0	\$14,173 \$0		\$859 \$0	\$25,815 \$0	
	Total	\$40,450	\$43,768	0.92	\$3,875	\$99,061	3.9%
2015	Canadian	\$34,109	\$31,295		\$2,543	\$80,005	
	Foreign Cdn Mortgage	\$6,718 \$0	\$12,580 \$0		\$958 \$0	\$25,119 \$0	
	Total	\$40,827	\$43,875	0.93	\$3,501	\$105,124	3.3%
2016	Canadian	\$35,128	\$32,088		\$2,184	\$73,650	
	Foreign Cdn Mortgage	\$6,909 \$0	\$13,072 \$0		\$422 \$0	\$27,093 \$0	
	Total	\$42,037	\$45,160	0.93	\$2,606	\$100,743	2.6%
2017	Canadian	\$34,620	\$31,119		\$2,601	\$69,101	
	Foreign Cdn Mortgage	\$6,964 \$0	\$13,450 \$0		\$425 \$0	\$27,202 \$0	
	Total	\$41,584	\$44,569	0.93	\$3,026	\$96,303	3.1%
2018	Canadian	\$37,140	\$25,054		\$1,339	\$59,282	
	Foreign Cdn Mortgage	\$8,249 \$975	\$15,208 \$5,408		\$526 \$229	\$30,231 \$8,213	
	Total	\$46,364	\$45,670	1.02	\$2,094	\$97,726	2.1%
2019	Canadian	\$37,172	\$26,140		\$2,454	\$62,492	
	Foreign Cdn Mortgage	\$9,014 \$1,150	\$15,543 \$5,277		\$797 \$265	\$31,879 \$8,423	
	Total	\$47,336	\$46,960	1.01	\$3,516	\$102,794	3.4%
2020	Canadian	\$41,921	\$29,351		\$2,695	\$67,685	
	Foreign Cdn Mortgage	\$10,360 \$1,674	\$17,033 \$5,526		\$958 \$233	\$35,481 \$9,222	
	Total	\$53,955	\$51,910	1.04	\$3,886	\$112,388	3.5%
2021	Canadian	\$43,465	\$33,234		\$2,028	\$55,382	
	Foreign Cdn Mortgage	\$12,118 \$2,086	\$18,765 \$5,463		\$326 \$210	\$38,756 \$9,926	
	Total	\$57,669	\$57,462	1.00	\$2,564	\$104,064	2.5%

Source: OSFI, Financial Data for Property and Casualty Companies

<https://www.osfi-bsif.gc.ca/Eng/wt-ow/Pages/FINDAT-pc.aspx>

Note that amounts for “Canadian” insurers prior to 2018 include “Canadian Mortgage Insurers.” For consistency, the amounts for Canadian Mortgage Insurers are added to the industry total for 2018 through 2021.

Table A 9.5 (cont'd): Ratios for the Insurance Industry Operating in Canada, from P&C Returns Filed with OSFI

(Dollar Amounts in Millions)

		[7] Gross Unpaid Claims & LAE	[8] Gross Unearned Premium Reserve	[9] Ceded Unpaid Claims & LAE	[10] Ceded Unearned Premium Reserve	[11] Net Reserves = [7] + [8] - [9] - [10]	[12] Reserves/ Equity = [11]/[2]
2011	Canadian	\$41,294	\$17,529	\$7,592	\$1,208		
	Foreign	\$18,547	\$3,508	\$2,631	\$800		
	Cdn Mortgage	\$0					
	Total	\$59,841	\$21,037	\$10,223	\$2,008	\$68,647	1.81
2012	Canadian	\$44,612	\$19,237	\$8,069	\$1,732		
	Foreign	\$19,383	\$4,528	\$2,757	\$947		
	Cdn Mortgage	\$0					
	Total	\$63,995	\$23,765	\$10,826	\$2,679	\$74,255	1.89
2013	Canadian	\$47,586	\$20,624	\$9,263	\$2,384		
	Foreign	\$20,024	\$4,478	\$3,026	\$941		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$67,610	\$25,102	\$12,289	\$3,325	\$77,098	1.87
2014	Canadian	\$49,939	\$21,876	\$10,610	\$2,690		
	Foreign	\$15,539	\$4,180	\$3,226	\$1,022		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$65,478	\$26,056	\$13,836	\$3,712	\$73,986	1.69
2015	Canadian	\$55,298	\$23,848	\$11,579	\$3,684		
	Foreign	\$15,770	\$4,443	\$3,023	\$1,109		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$71,068	\$28,291	\$14,602	\$4,793	\$79,964	1.82
2016	Canadian	\$58,090	\$24,574	\$15,077	\$3,590		
	Foreign	\$17,878	\$4,573	\$3,645	\$1,148		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$75,968	\$29,147	\$18,722	\$4,738	\$81,655	1.81
2017	Canadian	\$58,646	\$25,688	\$17,103	\$4,101		
	Foreign	\$17,766	\$4,599	\$3,734	\$1,154		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$76,412	\$30,287	\$20,837	\$5,255	\$80,607	1.81
2018	Canadian	\$56,273	\$23,361	\$14,779	\$3,782		
	Foreign	\$19,125	\$5,171	\$4,082	\$1,130		
	Cdn Mortgage	\$152	\$3,102	\$0	\$0		
	Total	\$75,550	\$31,634	\$18,861	\$4,912	\$83,411	1.83
2019	Canadian	\$57,733	\$25,220	\$16,057	\$4,679		
	Foreign	\$20,060	\$5,998	\$4,285	\$1,471		
	Cdn Mortgage	\$172	\$3,295	\$0	\$0		
	Total	\$77,965	\$34,513	\$20,342	\$6,150	\$85,986	1.83
2020	Canadian	\$64,020	\$27,188	\$18,717	\$5,070		
	Foreign	\$22,599	\$ 6,998	\$4,941	\$1,848		
	Cdn Mortgage	\$235	\$3,945	\$0	\$0		
	Total	\$86,854	\$38,131	\$23,658	\$6,918	\$94,409	1.82
2021	Canadian	\$65,786	\$28,710	\$18,604	\$5,709		
	Foreign	\$24,731	\$8,001	\$5,390	\$2,054		
	Cdn Mortgage	\$115	\$4,814	\$0	\$0		
	Total	\$90,632	\$41,525	\$23,994	\$7,763	\$100,400	1.75

Source: OSFI, Financial Data for Property and Casualty Companies

<https://www.osfi-bsif.gc.ca/Eng/wt-ow/Pages/FINDAT-pc.aspx>

Note that amounts for “Canadian” insurers prior to 2018 include “Canadian Mortgage Insurers.” For consistency, the amounts for Canadian Mortgage Insurers are added to the industry total for 2018 through 2021.

10. Realization of Profit Provision, Plus Investment Income on Capital

The table below performs the calculations, according to the “rule of thumb” cited by Oliver Wyman, for the Realized Profit Provision including investment income on capital.

Table A 10.1: Realized Profit Provision Including Investment Income on Capital, by Year from 2013 to 2021

Year	[1] Realized Profit Provision Percentage, per Oliver Wyman	[2] Ratio of Capital to Premium, by Rule of Thumb Cited by Oliver Wyman	[3] Pre-tax Rate of Investment Return on Capital	[4] Realized Profit Provision Percentage, Including Investment Income on Capital	[5] Earned Premium (000s)	[6] Realized Profit Provision, Including Investment Income on Capital, in Dollars (000s)
2013	3.0%	0.50	3.41%	4.71%	\$2,729,252	\$128,411
2014	3.5%	0.50	3.41%	5.21%	\$2,923,219	\$152,154
2015	-2.1%	0.50	3.31%	-0.45%	\$3,089,345	(\$13,748)
2016	-8.5%	0.50	2.78%	-7.11%	\$3,186,089	(\$226,531)
2017	-3.7%	0.50	3.69%	-1.86%	\$3,308,529	(\$61,373)
2018	-5.2%	0.50	2.24%	-4.08%	\$3,524,579	(\$143,803)
2019	2.5%	0.50	4.23%	4.62%	\$3,782,997	\$174,585
2020	19.7%	0.50	4.17%	21.79%	\$4,068,065	\$886,228
2021	21.2%	0.50	2.71%	22.56%	\$4,370,402	\$985,744

Source:

[1]: Oliver Wyman 2022 Annual Review, Table 5, p. 18

[2]: Oliver Wyman 2022 Annual Review, Footnote 28, p. 17

[3]: Oliver Wyman 2022 Annual Review, Table 18, p. 78, for 2015 through 2021.

Oliver Wyman 2022 Annual Review, p. 16, Average for 2017 to 2021 (3.41%), for 2013 and 2014

[4]: [1] + [2] x [3]

[5]: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[6]: [4] x [5]

11. GISA Profit/Loss Report AUTO9501-AB

In 2020 the Alberta Ministry of Treasury Board and Finance reported that the Alberta private passenger auto insurance industry sustained an after-tax loss of \$667.3 million over the years 2013 through 2018. The Ministry reported that it obtained this amount from the annual Profit and Loss report published by GISA. (On a pre-tax basis, the reported amounts show a pre-tax loss over this period of \$870.4 million.)

The analyses in this report calculate industry profit by using the same method that J.S. Cheng and Partners, Inc. (“Cheng”) used in its 2007 analysis of Alberta auto insurance reform.¹⁷ Over the 2013 to 2018 period, and using claims costs from the Oliver Wyman Dec. 2021 analysis, with adjustments to the Oliver Wyman claims costs, for the apparent change in the claims reserving process starting in 2017 the Cheng method shows a pre-tax profit of \$188.1 million over the same period.

The following outlines differences in the two results, and suggests that the calculations using Cheng’s method have the attributes of transparency and consistency, both between companies and from year to year.

a) GISA Profit/Loss Report, 2013 to 2021

The amounts for Alberta p in the GISA annual Profit and Loss report¹⁸, for 2013 through 2021, broken down into the major revenue and expense items, are as in Table A 10.1 below:

Table A 11.1: GISA Profit and Loss Report, Alberta Private Passenger Auto Insurance

(Thousands of Dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Premium and Other Revenue	\$2,685,200	\$2,985,000	\$3,032,000	\$3,097,200	\$2,848,700	\$3,225,600	\$3,262,800	\$3,691,100	\$3,829,300	
Less: Claims Costs	\$2,219,500	\$2,442,400	\$2,448,800	\$2,793,500	\$2,432,200	\$2,715,000	\$2,726,000	\$2,888,000	\$2,362,200	
Less: Expenses	\$708,800	\$751,500	\$802,100	\$866,500	\$829,400	\$860,500	\$906,600	\$983,900	\$1,101,600	
Plus: Investment Income	\$165,900	\$236,600	\$192,100	\$182,400	\$222,500	\$126,600	\$229,800	\$250,800	\$153,200	
Total Profit, Pre-Tax	-\$77,200	\$27,700	-\$26,800	-\$380,400	-\$190,400	-\$223,300	-\$140,000	\$70,000	\$518,700	-\$421,700
Less: Income Taxes	-\$17,700	\$27,700	-\$9,800	-\$78,500	-\$61,200	-\$63,600	-\$35,400	\$37,600	\$120,000	
Total Profit, After Tax	-\$59,500	\$0	-\$17,000	-\$301,900	-\$129,200	-\$159,700	-\$104,700	\$32,400	\$398,700	-\$340,900

¹⁷ “REPORT ON THE REVIEW of Insurance Reform – Premium and Claim Analysis by Gordon G. Smith and Theresa K. Reichert of Deloitte and Touche LLP,” J.S. Cheng and Partners, Inc., March 29, 2007

¹⁸ AUTO9501-AB

b) Attributes of the GISA Profit and Loss Report

In preparing its annual Profit and Loss Report, GISA's statistical service provider, the Insurance Bureau of Canada (IBC) collects and aggregates financial data submitted by each licensed automobile insurer in nine jurisdictions in Canada, including Alberta.

Some of this data is taken directly from the insurer's Property and Casualty (P&C) return filed with its regulator (usually OSFI). However, other data is not reported in the P&C at the Alberta and private passenger auto level of detail. Thus, these data items must be allocated to Alberta and private passenger auto based on other individual company information.

In the Notes to Users and in the General Disclaimers published with the report (provided in Section 7 in the Appendix), GISA advises users to be aware of the following issues. These issues bear on the consistency and reliability of the report, depending on the user's purpose.

- The reporting insurers have used their own company-specific allocation methodology, which thus may vary from insurer to insurer, and from year to year.
- The quality of the report is dependent on the accuracy of the data filed by insurers. For amounts taken directly from the P&C Return, GISA relies on the work of the insurer's internal and external auditors. However, for the data items allocated to finer levels of detail, GISA advises that no independent audit has been performed.
- Since the report was first published for 2012, GISA has advised that "the reliability of the information is expected to improve over time, as GISA fine-tunes the processes and requirements for the collection and reporting of the financial information in subsequent years." This suggests that the processes used in the earlier years (i.e. back to 2013) may be of poorer quality, and may produce less consistent and reliable results.
- The report is based on insurers' fiscal year. Thus, the claims costs reported in a given year will combine current-year accidents and changes to prior-year accidents, combining results for accidents of several years. GISA advises that such data may also be subject to abnormal accounting activity in a particular year.
- The report is primarily on a net basis. Thus it does not report amounts ceded by the insurers to reinsurers, limiting the report's transparency regarding these amounts. GISA advises that a major insurance group was identified to have reported its reinsurance contrary to instructions. While this issue has been identified as specific to Ontario, it illustrates that issues can arise in the consistency of data reporting. Further, it is seen in Table A.9.1 that the net earned premium reported for 2017 shows a marked decrease compared to that of 2016. This was followed by a rebound in the net earned premium in 2018. This pattern is not seen in the gross earned premiums for 2016 through 2018, thus suggesting a significant yet unknown variation in reinsurance reported.

It is noted that GISA advises that its Profit and Loss Report should not be used to assess whether current rates are adequate to cover future costs.

c) Comparison of the Cheng Method to the GISA Profit and Loss Report

By contrast, Cheng's method of allocating insurer operating results to Alberta and to private passenger auto has the following attributes:

- It uses claims and premium data specific to Alberta private passenger auto for individual accident years.
- Allocations to Alberta and private passenger auto of equity, expenses and investment income are based on ratios drawn from industry-wide financial statistics, that aggregate financial amounts taken directly from insurers' P&C returns. These financial statistics have thus been subject to insurers' internal and external audit processes.
- Allocations based on these industry-wide statistics are consistent and transparent, using the same allocation method for all insurers and from year to year.

These attributes can be expected to provide a more transparent measure of industry-wide profitability than a measure based on allocation processes that are not subject to audit, that vary between insurers and that vary from one year to the next year.

12. Loss and ALAE Dollar and Count Triangles

Table A 12.1: Loss and ALAE Incurred, Bodily Injury

(in thousands)

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	\$125,730	\$133,891	\$133,993	\$140,110	\$153,119	\$168,234	\$183,071	\$191,723	\$203,468	\$206,782
2011.02	\$149,121	\$171,113	\$179,144	\$194,363	\$210,816	\$229,263	\$243,350	\$257,564	\$268,776	\$273,774
2012.01	\$133,650	\$161,246	\$164,395	\$177,049	\$197,651	\$213,666	\$225,539	\$233,536	\$246,873	\$254,609
2012.02	\$147,335	\$177,626	\$190,638	\$211,508	\$228,276	\$251,222	\$270,044	\$281,383	\$296,732	\$306,201
2013.01	\$122,754	\$150,964	\$162,433	\$177,339	\$197,480	\$217,747	\$238,976	\$253,470	\$266,653	\$281,920
2013.02	\$158,085	\$201,330	\$213,249	\$236,592	\$263,728	\$292,902	\$317,538	\$335,729	\$348,764	\$355,478
2014.01	\$139,295	\$170,205	\$184,617	\$203,851	\$231,400	\$251,932	\$271,379	\$286,887	\$301,751	\$305,972
2014.02	\$181,499	\$220,251	\$243,195	\$279,311	\$314,681	\$345,024	\$373,204	\$397,499	\$408,096	\$414,908
2015.01	\$157,887	\$199,168	\$213,997	\$243,680	\$279,567	\$309,808	\$333,893	\$346,601	\$354,238	\$363,291
2015.02	\$193,905	\$242,166	\$266,694	\$309,810	\$360,044	\$396,524	\$416,011	\$434,570	\$442,669	\$452,641
2016.01	\$156,971	\$197,097	\$238,040	\$275,068	\$309,202	\$335,497	\$364,451	\$383,846	\$399,780	\$411,400
2016.02	\$174,369	\$251,531	\$300,285	\$341,647	\$385,835	\$424,328	\$455,404	\$478,245	\$491,645	\$498,423
2017.01	\$169,629	\$229,155	\$267,360	\$302,718	\$347,424	\$386,855	\$418,904	\$434,059	\$442,703	\$451,274
2017.02	\$202,756	\$277,054	\$306,885	\$353,893	\$406,332	\$452,614	\$483,880	\$503,519	\$519,576	
2018.01	\$197,315	\$242,619	\$277,037	\$323,219	\$383,966	\$422,615	\$450,453	\$477,506		
2018.02	\$199,756	\$278,187	\$327,553	\$385,626	\$438,855	\$467,253	\$502,520			
2019.01	\$182,157	\$257,440	\$306,207	\$353,241	\$393,880	\$447,262				
2019.02	\$210,044	\$292,335	\$340,118	\$394,012	\$457,122					
2020.01	\$136,535	\$188,246	\$224,112	\$257,936						
2020.02	\$161,095	\$212,770	\$251,148							
2021.01	\$135,089	\$172,901								
2021.02	\$154,178									

Table A 12.2: Loss and ALAE Incurred, Age-to-Age Ratios, Bodily Injury

Accident Semester	Age-to-Age Interval in Months								
	6-12	12-18	18-24	24-30	30-36	36-42	42-48	48-54	54-60
2011.01	1.065	1.001	1.046	1.093	1.099	1.088	1.047	1.061	1.016
2011.02	1.147	1.047	1.085	1.085	1.088	1.061	1.058	1.044	1.019
2012.01	1.206	1.020	1.077	1.116	1.081	1.056	1.035	1.057	1.031
2012.02	1.206	1.073	1.109	1.079	1.101	1.075	1.042	1.055	1.032
2013.01	1.230	1.076	1.092	1.114	1.103	1.097	1.061	1.052	1.057
2013.02	1.274	1.059	1.109	1.115	1.111	1.084	1.057	1.039	1.019
2014.01	1.222	1.085	1.104	1.135	1.089	1.077	1.057	1.052	1.014
2014.02	1.214	1.104	1.149	1.127	1.096	1.082	1.065	1.027	1.017
2015.01	1.261	1.074	1.139	1.147	1.108	1.078	1.038	1.022	1.026
2015.02	1.249	1.101	1.162	1.162	1.101	1.049	1.045	1.019	1.023
2016.01	1.256	1.208	1.156	1.124	1.085	1.086	1.053	1.042	1.029
2016.02	1.443	1.194	1.138	1.129	1.100	1.073	1.050	1.028	1.014
2017.01	1.351	1.167	1.132	1.148	1.113	1.083	1.036	1.020	1.019
2017.02	1.366	1.108	1.153	1.148	1.114	1.069	1.041	1.032	
2018.01	1.230	1.142	1.167	1.188	1.101	1.066	1.060		
2018.02	1.393	1.177	1.177	1.138	1.065	1.075			
2019.01	1.413	1.189	1.154	1.115	1.136				
2019.02	1.392	1.163	1.158	1.160					
2020.01	1.379	1.191	1.151						
2020.02	1.321	1.180							
2021.01	1.280								

Table A 12.3: Loss and ALAE Paid, Bodily Injury

(in thousands)

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	4,815	13,610	10,693	11,350	18,255	14,458	15,615	20,446	16,844	22,319
2011.02	3,956	15,672	16,913	17,705	24,688	21,126	28,206	19,079	28,017	18,896
2012.01	4,521	16,203	13,275	16,236	23,439	22,395	24,328	20,259	21,092	21,174
2012.02	4,041	17,571	15,795	20,597	29,653	19,561	33,176	24,112	29,916	19,226
2013.01	3,561	13,057	14,879	18,060	23,547	23,836	27,685	20,724	22,983	28,733
2013.02	4,194	16,400	21,737	25,579	29,857	25,702	33,590	31,564	34,049	26,533
2014.01	4,387	18,818	14,593	20,207	27,386	25,436	29,366	27,515	27,325	26,967
2014.02	4,230	21,470	21,874	22,750	35,674	33,616	44,350	38,780	42,024	31,113
2015.01	4,925	15,404	15,748	20,288	31,539	38,538	31,580	36,596	29,456	32,829
2015.02	4,375	17,928	19,560	26,685	54,887	47,560	45,028	39,677	38,891	30,314
2016.01	5,487	15,305	18,536	30,570	39,768	38,345	34,468	44,470	29,115	33,831
2016.02	3,736	19,832	26,896	34,665	52,522	41,952	58,071	40,694	44,670	31,826
2017.01	5,029	18,097	19,697	33,279	40,602	48,755	44,585	43,793	32,292	39,249
2017.02	4,737	17,517	29,561	32,245	51,392	55,393	55,823	48,513	44,865	
2018.01	4,677	17,224	18,438	31,183	48,753	51,753	52,623	45,086		
2018.02	4,524	16,416	24,777	30,640	49,950	52,760	54,510			
2019.01	4,815	16,192	19,796	29,732	46,165	62,594				
2019.02	3,941	17,678	22,455	28,237	56,009					
2020.01	3,454	8,813	12,235	24,279						
2020.02	2,988	9,712	16,266							
2021.01	2,534	9,118								
2021.02	2,949									

Table A 12.4: Loss and ALAE Paid, Age-to-Age Ratios, Bodily Injury

Accident Semester	Age-to-Age Interval in Months								
	6-12	12-18	18-24	24-30	30-36	36-42	42-48	48-54	54-60
2011.01	2.827	0.786	1.061	1.608	0.792	1.080	1.309	0.824	1.325
2011.02	3.961	1.079	1.047	1.394	0.856	1.335	0.676	1.468	0.674
2012.01	3.584	0.819	1.223	1.444	0.955	1.086	0.833	1.041	1.004
2012.02	4.348	0.899	1.304	1.440	0.660	1.696	0.727	1.241	0.643
2013.01	3.667	1.140	1.214	1.304	1.012	1.162	0.749	1.109	1.250
2013.02	3.910	1.325	1.177	1.167	0.861	1.307	0.940	1.079	0.779
2014.01	4.289	0.775	1.385	1.355	0.929	1.155	0.937	0.993	0.987
2014.02	5.076	1.019	1.040	1.568	0.942	1.319	0.874	1.084	0.740
2015.01	3.128	1.022	1.288	1.555	1.222	0.819	1.159	0.805	1.115
2015.02	4.097	1.091	1.364	2.057	0.867	0.947	0.881	0.980	0.779
2016.01	2.789	1.211	1.649	1.301	0.964	0.899	1.290	0.655	1.162
2016.02	5.308	1.356	1.289	1.515	0.799	1.384	0.701	1.098	0.712
2017.01	3.599	1.088	1.690	1.220	1.201	0.914	0.982	0.737	1.215
2017.02	3.698	1.688	1.091	1.594	1.078	1.008	0.869	0.925	
2018.01	3.682	1.071	1.691	1.563	1.062	1.017	0.857		
2018.02	3.629	1.509	1.237	1.630	1.056	1.033			
2019.01	3.363	1.223	1.502	1.553	1.356				
2019.02	4.486	1.270	1.258	1.983					
2020.01	2.552	1.388	1.984						
2020.02	3.250	1.675							
2021.01	3.599								

Table A 12.5: Reported Claim Count, Bodily Injury

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	8,415	8,009	7,645	7,322	7,245	7,176	7,172	7,127	7,095	7,063
2011.02	8,069	8,287	7,615	7,464	7,303	7,190	7,162	7,119	7,076	7,050
2012.01	7,868	7,635	7,209	7,049	6,926	6,806	6,783	6,749	6,721	6,686
2012.02	7,970	8,650	8,249	8,119	7,958	7,884	7,884	7,842	7,793	7,795
2013.01	7,398	7,562	7,304	7,266	7,237	7,239	7,274	7,253	7,233	7,213
2013.02	8,448	9,139	8,718	8,702	8,764	8,729	8,757	8,715	8,695	8,688
2014.01	7,867	7,843	7,617	7,627	7,690	7,646	7,661	7,650	7,632	7,612
2014.02	8,605	8,989	8,714	8,801	8,940	8,930	8,941	8,909	8,878	8,862
2015.01	8,058	8,125	7,984	8,068	8,213	8,170	8,179	8,152	8,144	8,133
2015.02	7,891	8,778	8,647	8,785	8,887	8,894	8,919	8,908	8,892	8,875
2016.01	7,328	7,549	7,585	7,626	7,807	7,822	7,859	7,823	7,802	7,797
2016.02	7,737	8,825	8,741	8,887	9,111	9,133	9,171	9,160	9,134	9,115
2017.01	7,831	8,153	8,180	8,396	8,662	8,665	8,710	8,688	8,672	8,661
2017.02	7,242	8,520	8,512	8,812	9,117	9,155	9,197	9,159	9,130	
2018.01	7,685	8,145	8,177	8,410	8,772	8,806	8,844	8,822		
2018.02	7,054	8,264	8,241	8,596	8,915	8,906	8,938			
2019.01	7,476	8,173	8,222	8,545	8,951	9,016				
2019.02	7,135	8,323	8,448	8,897	9,230					
2020.01	5,073	5,441	5,546	5,771						
2020.02	5,266	5,857	5,898							
2021.01	4,980	5,399								
2021.02	5,717									

Table A 12.6: Closed Claim Count, Bodily Injury

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	1,020	3,333	4,704	5,475	6,130	6,324	6,464	6,614	6,698	6,788
2011.02	810	3,310	4,613	5,431	6,098	6,311	6,481	6,583	6,703	6,772
2012.01	855	3,046	4,316	5,087	5,739	5,935	6,103	6,250	6,331	6,416
2012.02	758	3,291	4,782	5,775	6,630	6,854	7,043	7,203	7,322	7,410
2013.01	732	2,921	4,371	5,364	6,125	6,357	6,539	6,682	6,811	6,916
2013.02	733	3,383	5,234	6,388	7,246	7,568	7,790	7,969	8,160	8,286
2014.01	806	3,366	4,772	5,673	6,441	6,693	6,912	7,094	7,242	7,333
2014.02	764	3,756	5,431	6,475	7,358	7,706	7,991	8,195	8,410	8,535
2015.01	964	3,557	5,029	5,928	6,750	7,110	7,342	7,540	7,716	7,800
2015.02	819	3,581	5,122	6,328	7,343	7,746	8,033	8,230	8,393	8,494
2016.01	896	3,058	4,597	5,575	6,384	6,737	6,993	7,208	7,327	7,436
2016.02	701	3,498	5,319	6,395	7,322	7,723	8,085	8,305	8,493	8,633
2017.01	993	3,518	5,049	6,123	7,010	7,441	7,737	7,965	8,115	8,250
2017.02	792	3,389	5,064	6,146	7,128	7,596	7,942	8,216	8,408	
2018.01	959	3,296	4,737	5,784	6,766	7,219	7,573	7,833		
2018.02	771	3,127	4,638	5,707	6,627	7,112	7,491			
2019.01	985	3,289	4,683	5,578	6,565	7,126				
2019.02	749	3,158	4,496	5,605	6,600					
2020.01	714	2,001	2,896	3,567						
2020.02	516	1,938	2,915							
2021.01	542	1,782								
2021.02	517									

Source: Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)