

**BULLETIN: 08-2020**  
**DATE: NOVEMBER 24, 2020**

## **Bulletin to All Stakeholders**

### **Guidance on Reform Factors**

#### **Purpose:**

The Automobile Insurance Rate Board (AIRB) is issuing this Bulletin to provide all automobile insurers guidance on reform factors for filing of any rate change.

#### **Background:**

##### Reforms

The Government of Alberta announced reforms to the province's automobile insurance framework on October 30, 2020. The amendments to the Insurance Act ([Bill 41](#)), [Minor Injury Regulation \(MIR\)](#), [Diagnostic and Treatment Protocols Regulation \(DTPR\)](#) and [Automobile Accident Insurance Benefits Regulation \(AAIBR\)](#) include several changes which are to be reflected in any filing for changes to a rating program reviewed after November 1, 2020.

It has come to our attention some insurers may not have the data required to reflect these changes in their rating program, specifically the impacts related to:

1. **Insurance Act – Prejudgement Interest** (Effective upon Royal Assent)  
Prejudgment Interest paid on non-pecuniary damages will now fluctuate with current interest rates, as it already does with pecuniary damages.
2. **Minor Injury Regulation** (Effective for accidents occurring on or after November 1, 2020)  
The MIR was amended as follows:
  - The definition of a “minor injury” was updated to include clinically associated sequelae of sprains, strains or whiplash-associated disorder injuries, whether physical or psychological in nature, that do not result in a serious impairment; and
  - Dentists were added as eligible health professionals able to act as certified examiners under the MIR, with their scope limited to temporomandibular joint injuries.
3. **Diagnostic and Treatment Protocols Regulation** (Effective October 29, 2020)  
The DTPR was amended as follows:
  - Dentists, psychologists and occupational therapists are now considered adjunct therapists and the new benefit for treatment by any combination of these adjunct therapists is \$1,000.
4. **Automobile Accident Insurance Benefits Regulation** (Effective October 29, 2020, applicable to both new and existing claims)  
The AAIBR was amended as follows:
  - Clarification was included that Section B - Accident Benefits can be used for any medically necessary equipment, vehicle modifications and home modifications; and
  - Benefit amounts were increased:

- chiropractic services from \$750 to \$1,000;
- massage therapy and acupuncture from \$250 to \$350;
- funeral expenses from \$5,000 to \$6,150;
- grief counselling from \$400 to \$500;
- employed disability income benefits from \$400 to \$600 per week;
- non-earner disability income benefits from the current \$135 for 26 weeks, to \$200 for 104 weeks; and
- psychological, physical therapy, and occupational therapy services from \$600 to \$750.

#### Guidance on Reform Factors

The changes outlined in this Bulletin have an impact on insurers rating programs, and are expected to be reflected in the calculation of rate indications. The AIRB is sharing reports completed by Oliver, Wyman Limited (Oliver Wyman) on behalf of Treasury Board and Finance (shared with consent) and the AIRB:

- Cost Implications of Change to the Automobile Insurance System – August 25, 2020 (August Report). Readers should note not all options costed have been adopted, refer to the footnotes for references to approved changes.
- Costing of Section B Benefit Changes – November 20, 2020 (November Report)

The reform factors related to each coverage are as follows:

- Bodily injury impact is a reduction ranging from -18% to -20%<sup>123</sup>
- Accident benefits impact is an increase ranging from +6% to +8%<sup>45</sup>

#### **Action Required:**

Insurers are expected to reflect the cost changes associated with Reforms in all filings for rate changes to rating programs submitted or under review after November 1, 2020. Application of reform factors other than those listed above should be supported.

Insurers may reference the attached Oliver Wyman Costing Documents (August 2020 and November 2020) when preparing to file for a change to a rating program.

Should you have any questions relating to this Bulletin, please contact the AIRB by phone at (780) 427-5428 or by email [tbf.airb@gov.ab.ca](mailto:tbf.airb@gov.ab.ca).

*“Original signed”*

Laurie Balfour, MBA, CPA, CMA  
Executive Director

#### **Attachments:**

1. Cost Implications of Change to the Automobile Insurance System – August 25, 2020 (August Report)
2. Costing of Section B Benefit Changes – November 20, 2020 (November Report)

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<sup>1</sup> Reference for bodily injury change - change to the definition of a minor injury – August Report – page 52

<sup>2</sup> Reference for bodily injury change - prejudgment interest – August Report – Page 54

<sup>3</sup> Reference for bodily injury change - accident benefit change offset – November Report

<sup>4</sup> Reference for accident benefits change - change in the MIR – August Report – Page 52

<sup>5</sup> Reference for accident benefits changes – November Report

# **COST IMPLICATIONS OF CHANGES TO THE AUTOMOBILE INSURANCE SYSTEM**

Treasury Board and Finance Ministry,  
Province of Alberta

25 August 2020

## **CONFIDENTIALITY**

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## CONTENTS

<b>1.</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
1.1.	Purpose and Scope.....	1
1.2.	Summary of Key Findings.....	1
1.3.	Relevant Comments .....	2
<b>2.</b>	<b>BACKGROUND .....</b>	<b>3</b>
2.1.	Current Minor Injury Regulation in Alberta .....	3
2.2.	Proposed Reforms.....	4
2.3.	Report Organization.....	5
<b>3.</b>	<b>2019 CLOSED CLAIM STUDY .....</b>	<b>6</b>
3.1.	Background .....	6
3.2.	Data Collection.....	6
3.3.	Alberta 2010/2012/2017 CCS Database .....	7
<b>4.</b>	<b>UNDERSTANDING THE CURRENT ALBERTA MINOR INJURY DEFINITION .....</b>	<b>8</b>
4.1.	What injuries do the MIR Claimants in Alberta Have? .....	8
4.2.	MIR Claimants with Pain & Suffering Amounts Higher Than Cap.....	9
<b>5.</b>	<b>OUT OF PROVINCE CLAIMS .....</b>	<b>10</b>
5.1.	Percentage of Out of Province Claims. ....	10
<b>6.</b>	<b>COST IMPACT– PERCENTAGE CHANGE ESTIMATES.....</b>	<b>11</b>
6.1.	Change to the Definition of “Minor” in the Regulations .....	11
6.2.	Prejudgment Interest (PJI) .....	13
6.3.	Income Replacement - Lost Wages.....	13
6.4.	Combination of Minor Injury Definition, PJI and Lost Wage Changes .....	14
6.5.	Claims Frequency .....	14
6.6.	Impact on Accident Benefits of Bodily Injury Changes and DTPR Expansion .....	14
<b>7.</b>	<b>CURRENT REQUIRED AVERAGE PREMIUM – 2021 .....</b>	<b>16</b>
7.1.	Required Average Premium Estimate – Current Regulations.....	16
<b>8.</b>	<b>ESTIMATED REQUIRED AVERAGE PREMIUM UNDER PROPOSED CHANGES.....</b>	<b>18</b>
8.1.	Proposed Changes.....	18
8.2.	Premium Summary Tables .....	18
8.3.	Comparison to IBC .....	20

<b>9.</b>	<b>INCREASE IN CAP AMOUNT .....</b>	<b>22</b>
<b>10.</b>	<b>APPENDICES.....</b>	<b>23</b>

# 1. EXECUTIVE SUMMARY

## 1.1. Purpose and Scope

Oliver, Wyman Limited (Oliver Wyman) was retained by the Treasury Board and Finance Ministry for the Province of Alberta (MOF) to provide actuarial consulting services in regard to possible changes to the Minor Injury Regulations (MIR) and other benefit levels of the automobile insurance system.

In addition, the MOF asked Oliver Wyman to compare our findings to that of the Insurance Bureau of Canada's (IBC) who retained Dr. Ronald Miller for a similar analysis.

In this report we provide the background to this study; summarize our key findings; and discuss the data we considered, the methodology we applied, and the key assumptions that we made. We also comment on the uncertainty surrounding our estimates and the limitations of our study. Additional discussion and supporting exhibits are presented in our Appendices.

## 1.2. Summary of Key Findings

The MOF has asked Oliver Wyman to provide a cost estimate of the change in loss amounts and premium levels if changes to the current bodily injury product, including the MIR and diagnostic treatment protocol regulations (DTPR) were introduced. We are asked to provide estimates on these bases:

1. A change to the current Alberta minor injury definition: Amend the definition of "minor injury" in the MIR to include sprains, strains, whiplash, and temporomandibular joint (TMJ, or jaw joint) injuries that do not involve damage to teeth, bone or cartilage, as well as any clinically-associated sequelae of a sprain, strain or whiplash injury, whether physical or psychological in nature, that do not result in a serious impairment.
2. A change to the current fixed 4% prejudgment interest (PJI) rate on non-pecuniary loss amounts to a floating rate, the same as that for pecuniary loss amounts, starting from the date of notice.
3. A change to the award for past and future lost income from 100% of gross income to 70% of gross income.
4. A change to the DTPR to include dentists, psychologists and occupational therapists at fixed rates and each subject to a \$750 limit.
5. A change to the cap amount beginning January 1, 2021 to \$8,000.

We estimate that the combination of items 1, 2, 3 and 4 described above could reduce the private passenger average premium per vehicle by 8.2% for all coverages combined.

In addition, we suggest an additional provision for a range of possible changes to the bodily injury claims frequency rate should be considered.

- A 5% bodily injury frequency rate reduction would further reduce our estimate of the change in cost from -8.2% for all coverages combined to -8.6%.
- A 10% bodily injury frequency rate reduction would further reduce our estimate of the change in cost from -8.2% to -8.9%.

Without consideration for any possible changes to the claims frequency rate<sup>1</sup>, our finding of an 8.2% reduction is consistent with, but slightly less of a reduction than, that of IBC (at 8.4%).

If a higher cap amount of \$8,000 is introduced in 2021 (item #5), we estimate the passenger average premium for all coverages would increase by approximately 0.6%.

### 1.3. Relevant Comments

It is important to note that due to a lack of sufficiently detailed data and the nature of any forecast, the estimates we present in this report are based on numerous assumptions, both explicit and implicit. Our findings are sensitive to these assumptions and are particularly sensitive to certain assumptions.

- There is significant uncertainty as to the impact that any changes to the MIR may have on bodily injury coverage claim frequency rates as some claimants may change their decision as to whether or not to pursue a claim.
- Changes to the definition add to the initial uncertainty as to which claimants meet the new definition. As a result, the cost impact may not be fully realized until that uncertainty reduces.
- Due to the nature of claim settlements, we assume the same percentage savings that would apply to the pain and suffering head of damage for the minor injury definition change would apply proportionately across all heads of damages.

While we believe our assumptions to be reasonable, to the extent that they prove not to be valid, the actual experience that emerges may be materially different than we have estimated.

\* \* \* \* \*

We developed the estimates in this report in accordance with the Principles promulgated by the Casualty Actuarial Society and the applicable Actuarial Standards of Practice issued by the Actuarial Standards Board (Canada).

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<sup>1</sup> Based on our review, we assume the IBC study did not take into consideration possible changes in frequency.



## 2. BACKGROUND

As background and reference, we provide excerpts of the current minor injury legislation in Alberta, describe the minor injury definition option, as well as other changes, under consideration.

### 2.1. Current Minor Injury Regulation in Alberta

Below we provide relevant excerpts from the current minor injury regulation in Alberta.

#### Definitions

- (h) “minor injury”, in respect of an accident, means
  - (i) a sprain,
  - (ii) a strain, or
  - (iii) a WAD injury caused by that accident that does not result in a serious impairment;
- (h.1) “minor injury amount” means the total amount recoverable under section 6 as damages for non-pecuniary loss for all minor injuries sustained by a claimant as a result of an accident;
- (h.) “prescribed” means established by the Minister under section 803 of the Act;
- (i.) “serious impairment”, in respect of a claimant, means an impairment of a physical or cognitive function:
  - (i) that results in a substantial inability to perform the:
    - (A) essential tasks of the claimant’s regular employment, occupation or profession, despite reasonable efforts to accommodate the claimant’s impairment and the claimant’s reasonable efforts to use the accommodation to allow the claimant to continue the claimant’s employment, occupation or profession,
    - (B) essential tasks of the claimant’s training or education in a program or course that the claimant was enrolled in or had been accepted for enrolment in at the time of the accident, despite reasonable efforts to accommodate the claimant’s impairment and the claimant’s reasonable efforts to use the accommodation to allow the claimant to continue the claimant’s training or education, or
    - (C) normal activities of the claimant’s daily living,
  - (ii) that has been ongoing since the accident, and
  - (iii) that is expected not to improve substantially;
- (j.) “sprain” means an injury to one or more tendons or ligaments, or to both;
- (k.) “strain” means an injury to one or more muscles;
- (n) “WAD injury” means a whiplash-associated disorder other than one that exhibits one or both of the following:
  - (i) objective, demonstrable, definable and clinically relevant neurological signs;
  - (ii) a fracture to or a dislocation of the spine.

- (2) For the purposes of this Regulation, an injury in respect of an accident involving or surrounding the temporomandibular joint is a sprain, strain or WAD injury unless the injury involves
- (a) damage to bone or teeth, or
  - (b) damage to or displacement of the articular disc.
- (3) Subsection (2) applies only in respect of an injury described in that subsection that occurs on or after June 1, 2018.

## 2.2. Proposed Reforms

### **Proposed Minor Injury Definition**

The MOF is considering the following change to the minor injury definition:

Minor Injury: includes sprains, strains, whiplash, and temporomandibular joint (TMJ, or jaw joint) injuries that do not involve damage to teeth, bone or cartilage, as well as any clinically-associated sequelae of a sprain, strain or whiplash injury, whether physical or psychological in nature, that do not result in a serious impairment.

### **Prejudgment Interest Rate Change**

The prejudgment interest rate applied to non-pecuniary amounts is fixed at 4%, whereas the rate applied to pecuniary amounts changes each year in accordance with market conditions. The MOF is considering changing the 4% fixed rate applied to non-pecuniary loss amounts to a floating rate, the same as that applied to pecuniary amounts based on the Alberta Judgment Interest Rate Regulation<sup>2</sup>.

### **Income Replacement - Lost Wages**

The MOF is considering changing the current level of compensation for lost past and future income in a bodily injury settlement from 100% to 70% of gross income.

### **Diagnostic Treatment Protocol Regulations (DTPR) – Expansion**

The MOF is considering including dentists, psychologists and occupational therapists at fixed fees under the DTPR with separate limits of \$750 each, instead of these treatment providers outside of the DTPR.

### **Increase the Cap amount to \$8,000 effective January 1, 2021**

The MOF is considering increasing the current indexed cap amount (at \$5,296 in 2020) to \$8,000 effective January 1, 2021. We consider this cap amount change separately from the definition changes described above, and it would offset some of the resulting savings from those changes.

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<sup>2</sup> Regulation is presented in Appendix A.

## 2.3. Report Organization

The MOF retained Oliver Wyman to estimate the cost impact changes described in Section 2.2. We describe our analysis in this report.

- In Section 3, we describe a new private passenger automobile closed claims study which collected data necessary to estimate the impact of changes under consideration.
- In Section 4, we discuss our observations of the injury types for claimants subject to the MIR cap.
- In Section 5, we discuss our consideration of out-of-province accidents.
- In Section 6, we discuss our estimate of the percentage change to bodily injury loss amounts for the various changes under consideration: minor injury definition, PJI rate change, and lost wages<sup>3</sup>.
- In Section 7 we discuss our estimate of the required average premium for accident year 2021 under the current regulation before any amendments that are under consideration.
- In Section 8, we provided an estimate of the dollar and percentage change to the average required private passenger automobile insurance premiums – both bodily injury and all coverages – for the amendments under consideration - minor injury definition, PJI rate change and lost wages.
- In Section 9, we provided an estimate of the increase in costs if the MIR cap was increased to \$8,000 effective January 1, 2021.

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<sup>3</sup> We use the term “lost wages” to include reduced future earning capacity.

### 3. 2019 CLOSED CLAIM STUDY

#### 3.1. Background

The costing of changes to the minor injury definition typically requires the analysis of claim data that is more detailed than that collected under the Superintendent's Automobile Statistical Plan. The level of detail that is needed is typically provided through special "closed claim studies" (CCS).

In 2018, the MOF commissioned a claims cost study be designed to assess all the cost drivers affecting the automobile insurance industry in Alberta. This was referred to as Phase 1 of the CCS and was completed by J. S. Cheng & Partners Inc. (JSCP).

In 2019, following the completion of Phase 1, the data was collected and summarized. Oliver Wyman was provided the Phase 2 report (dated November 7, 2019 prepared by JSCP) that summarized the data collected, as well as the detailed database. We refer to this as the Alberta 2010/2012/2017 CCS Database (or CCS database).

#### 3.2. Data Collection

Amongst other information, including if the claimant was subject to the cap (MIR- Yes), the CCS Database collected injury information for each claimant using the following groupings in question #14:

*Please describe the claimant's injuries. Select all that apply.*

- a. Sprain or strain
- b. Whiplash Associated Disorder (WAD) I
- c. WAD II
- d. WAD III
- e. Any a. to d., plus Temporomandibular Joint (TMJ) injury with no damage to bone or teeth or displacement of articular disc
- f. Any a. to d., plus TMJ injury with objective damage to bone or teeth or displacement of articular disc
- g. Any a. to d. with duration lasting longer than six months (i.e. a chronic injury)
- h. Any a. to d. resulting in impairment of a physical or cognitive function
- i. Concussion
- j. Bony injuries, lacerations, burns, etc.
- k. Catastrophic injury, e.g. paralysis or brain injury
- l. Psychological injury or Post-Traumatic Stress Disorder (PTSD)
- m. Other, please specify

And, for those claimants not settled within the MIR, the CCS study questionnaire asked why the claimant was excluded (question #20):

*Which injury or injuries caused the claim to be resolved outside the MIR? Select all that apply.*

- a. WAD III
- b. Any WAD, plus TMJ injury with no damage to bone or teeth or displacement of articular disc
- c. Any WAD, plus TMJ injury with objective damage to bone or teeth, or displacement of articular disc
- d. Any WAD with duration lasting more than six months
- e. Any WAD resulting in impairment of a physical or cognitive function
- f. Concussion

- g. Bony injuries, lacerations, burns, etc.*
- h. Catastrophic injury, e.g. paralysis or brain injury*
- i. Psychological injury or PTSD*
- j. Pre-existing condition*
- k. Other(s), please specify\**

### 3.3. Alberta 2010/2012/2017 CCS Database

The data collected included samples of claimant data with claims closed in calendar years 2010, 2012 and 2017, with a total claimant count of 2,404 over the three closing years combined.

In our review of the data we found some issues with the claimant data such as illogical dates and/or mismatch of paid amounts by head of damage to the stated total. In total there were 177 claimant records from 2010, 2012 and 2017, combined, with data issues. Due to the timing of our review, we did not address these data issues and instead excluded these records from our analysis.

In addition, there were 70 claimant records (3% of the total) for occurrences outside the province. While these out-of-province claimant records represent approximately 3% of the total number of claimant records, they represent approximately 12.5%<sup>4</sup> of the total loss amounts (due to a few large claims). These out-of-province claims are not directly affected by the changes under consideration, but our findings are dependent upon the distribution of out-of-province versus in-province loss amounts.

This Alberta 2010/2012/2017 CCS Database serves as the basis for our analysis of changes to the current minor injury definition and other changes to the bodily injury claim amount in Alberta that are under consideration. Our analysis of this Alberta 2010/2012/2017 CCS database includes 670, 687 and 800 claimant records (after exclusion of possible problematic data and out-of-province data) for closing years 2010, 2012 and 2017, respectively; a total of 2,157 claimant records.

A summary of the database is presented in Appendix B, Exhibits 1 & 2.

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<sup>4</sup> The out-of-province loss amounts of 12.5% is calculated as the ratio to the loss amounts for the 2,157 claimants included in our analysis and the out-of-province claimants.

## 4. UNDERSTANDING THE CURRENT ALBERTA MINOR INJURY DEFINITION

### 4.1. What injuries do the MIR Claimants in Alberta Have?

We reviewed the Alberta 2010/2012/2017 CCS distribution of injury types for those identified in the study data as being a minor injury claimant (i.e., MIR – Yes) and therefore subject to the cap.

- Of the 670 claimants closed in 2010, 83% (555) were subject to the cap.
- Of the 687 claimants closed in 2012, 76% (519) were subject to the cap.
- Of the 800 claimants closed in 2017, 65% (520) were subject to the cap.

In total, across all three years, 1,594<sup>5</sup> of the 2,157 claimants included in our analysis (or 74%) were subject to the cap.

#### Strain and Sprain

While the vast majority of MIR claimants had either a strain, sprain, WAD<sup>6</sup> I or WAD II type injuries, some MIR claimants had WAD III type injuries (11 in 2010, 1 in 2012 and 5 in 2017). The majority of claimants with a WAD III injury were not labelled as subject to the MIR.

#### Other Minor Injuries

- Injuries such as contusions and lacerations that would generally be considered as minor are not identified in the CCS survey, but we assume are included under “other.” There were 19, 20 and 25 claimants in years 2010, 2012 and 2017, respectively, with an “other” injury type and coded as a MIR claimant. The use of the “other” injury category was more prevalent for claimants not subject to the MIR.
- A few claimants with *any WAD, Sprain, Strain plus TMJ injury with no objective damage*, were included as a MIR claimant - with 6, 8, and 3 claimants in years 2010, 2012 and 2017, respectively.
- There were no claimants with *any WAD, Sprain, Strain plus TMJ injury with objective damage* coded as a MIR claimant.
- A few claimants with *any WAD, Sprain, Strain plus TMJ injury with duration more than six months*, were coded as a MIR claimant - with 2, 3, and 8 claimants in years 2010, 2012 and 2017, respectively.
- A few claimants with *concussions* were coded as a MIR claimant – with 2, 3, and 12 claimants in years 2010, 2012 and 2017, respectively.
- No claimants with *any WAD, Sprain, Strain resulting in impairment of a physical or cognitive function*, were coded as MIR claimants.

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<sup>5</sup> We identified several claimant records identified as MIR in the database, but with pain and suffering awards well in excess of the cap. Due to our analysis approach this possible/likely mislabeling does not affect our cost reduction estimates.

<sup>6</sup> WAD is a medical term which is the abbreviation for “whiplash associated disorder.”

- A few claimants with *Bony injuries, lacerations, burns, etc.* were coded as MIR claimants – with 4, 6, and 4 claimants in years 2010, 2012 and 2017, respectively.
- A few claimants with *Psychological injury or Post-Traumatic Stress Disorder (PTSD)* were coded as MIR claimants – with 2, 3, and 3 claimants in years 2010, 2012 and 2017, respectively.

## 4.2. MIR Claimants with Pain & Suffering Amounts Higher Than Cap

Despite claimants coded as subject to MIR, we identified 90 claimants with a pain and suffering loss amount in excess of the cap, although, generally, the amounts in excess of the cap were relatively small<sup>7</sup>. We assume this was due to a mis-allocation of the total paid loss amount amongst the heads of damages for those claimants.

A summary of claimant injury types is presented in Appendix C, Exhibit 3; and reasons why claim is not minor in Exhibit 4.

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<sup>7</sup> 30 of these 90 claimants had differences of more than \$1,000 of the cap amount established for that accident year.

## 5. OUT OF PROVINCE CLAIMS

To assess the impact of changing the Alberta minor injury definition, we first identified claims from out of the province. These out-of-province claims are excluded from the cost impact of any changes in the MIR definition, PJI or lost wages, as these claimants would not be subject to the Alberta regulations or legislation.

### 5.1. Percentage of Out of Province Claims.

On average, the 2010/2012/2017 CCS data sample identified approximately 3% of the total claimants as out-of-province claimants; and represented approximately 12.5% of the total loss amounts. We noted that the disproportionately higher loss amount than claimant count (12.5% versus 3%) was due to a few very large claims. We expect this to be due to the random nature of the small sample of out-of-province claims. Specifically, over 2010/2012/2017, of the 11 claimants with loss amounts paid in excess of \$500,000, 4 of the 11 are out-of-province; one of which is the highest total claim amount (of the entire sample of files 2,404) at approximately \$1.5 million.

While the Alberta Automobile Statistical Plan (ASP) does not identify these out-of-province claims in the (complete) industry database, they are identified in the Ontario, Nova Scotia and New Brunswick ASP. In the case of Ontario, over the last ten years the percentage of both number of claims and the loss amounts for out of province accidents was 2%. We found a similar alignment between the distribution of the number of claims and loss amounts in Nova Scotia at 3.5% and New Brunswick at 5.5% of each province's respective totals.

In a closed claim study conducted in Alberta in 2006, the out of province number of claimants and loss amounts were 0.9% and 1.1% of the totals, respectively.

Given this, we assume that the 3% claimant count from the 2010/2012/2017 CCS data sample estimate is not unreasonable. However, we find the proportion of out-of-province losses to the total (at 12.5%) to be too high and should instead be consistent with the claim count distribution.

As a result, in our cost estimates of the impact of the reform changes under consideration in Section 6, we adjust the distribution between MIR, Non-MIR and Out-of-Province. Doing so modestly increases the savings for the changes under consideration.

It is likely that Dr. Miller also made an adjustment for this out-of-province issue, as this out-of-province category is presented as 8.5% of the total loss amounts in a preliminary study by Dr. Miller.

Additional details on out-of-province claimants in Appendix A, Exhibit 1.



## 6. COST IMPACT– PERCENTAGE CHANGE ESTIMATES

In Sections 6.1 to 6.5 we discuss our estimate of the percentage change in loss amounts for the changes under consideration in Alberta with use of the Alberta 2010/2012/2017 CCS Database.

In Section 6.1 we discuss the cost impact of the change to the minor injury definition.

In Section 6.2 we discuss the cost impact of the change to PJI.

In Section 6.3 we discuss the change for lost wages, including reduced future earning capacity from 100% to 70% of gross.

In Section **Error! Reference source not found.** we provide the summary of our findings as they affect bodily injury.

In Section 6.5 we discuss consideration of a possible change to the bodily injury claims frequency rate.

In Section 6.6 we discuss the impact of the MIR changes on the Accident Benefits, as well as the expansion of DTPR to include dentists, psychologists, and occupational therapists.

In Section 7, we discuss our approach to estimate the ultimate loss amounts for accident year 2021 under the *current regulations* (before any adjustment for changes that are under consideration). Our approach is based upon the GISA industry-wide automobile statistical plan data as of December 31, 2019, and the associated required premium under the current regulations.

In Section 8 we apply the percentage change in costs that we describe in Sections 6.1 to 6.5 to our estimate of the average industry loss cost based that we describe in Section 7. The resulting calculation provides the estimated reduction in loss amounts and the *required* premium for the reforms under consideration.

### 6.1. Change to the Definition of “Minor” in the Regulations

The MOF is considering the following minor injury definition:

Minor Injury: includes sprains, strains, whiplash, and temporomandibular joint (TMJ, or jaw joint) injuries that do not involve damage to teeth, bone or cartilage, as well as any clinically-associated sequelae of a sprain, strain or whiplash injury, whether physical or psychological in nature, that do not result in a serious impairment.

Using the 2010/2012/2017 CCS Database, we assume that any claimant currently identified as a “minor” claimant subject to the MIR would continue as such. In addition, claimants (currently not identified as minor) with any of the following injuries would also be considered as “minor”:

- *Any sprain, strain, WAD I, II or III, plus Temporomandibular Joint (TMJ) injury with no damage to bone or teeth or displacement of articular disc.*
- *Any sprain, strain, WAD I, II or III, with duration lasting longer than six months.*
- Any sprain, strain, WAD I, II or III, resulting in an impairment physical or cognitive in nature
- Psychological injury or post-traumatic stress disorder (PTSD)

Based on our assumption, we calculate a shift in the number of claimants from the non-MIR to the MIR category as follows:

- 97 of the 800 claimants closed in 2017 shift from non-MIR to MIR (+12% increase).
- 194 of the 2,157 claimants closed in 2012/2012/2017 shift from non-MIR to MIR (+9% increase)

We project each of the individual claimant loss amounts to a common cost level by projecting the loss amounts for each claimant to October 16, 2017 (the most recent observed accident date in the data base) using our selected annual severity trend rate of 6.0%. We then apply the 2017 cap to each claimant file.

As a result of the pain and suffering cap for the additional 194 claimants that we identified would now be considered “minor,” we estimate the pain and suffering award would reduce by 13.6% for closing year 2017 and 14.6% for all closing years combined. We select an average of 14.1%, and present our more detailed calculations in Appendix D, Exhibits 5.1 and 5.2.

The shift to a MIR claimant status will reduce the pain and suffering amount due to the application of the cap, but in addition, due to the nature of claim settlement processes, other heads of damages will also likely see a reduction. We offer two alternatives: (i) a proportionate reduction to the allocated loss adjustment expenses (ALAE), and (ii) the same percentage reduction across all heads of damages and ALAE.

- If we assume the same percentage reduction as estimated for the pain and suffering award would apply to the allocated loss adjustment expenses for the bodily injury coverage, the percentage reduction for bodily injury loss amounts is 8.4% for closing year 2017 and 8.7% for all closing years combined. We select an average of 8.5%.
- If we assume the same percentage reduction as estimated for the pain and suffering award would apply across all heads of damages for the bodily injury coverage, including the allocated loss adjustment expenses, the percentage reduction for bodily injury loss amounts we select is 14.1%.

Based on our judgment, we assume the later is more likely.

### **Additional Considerations**

Changes to the MIR, specifically, the minor injury definition intended to increase the number of claimants that meet the new definition and be subject to the cap could result in:

- A lower average claim amount in aggregate, since more claimants would be subject to the cap: The timing of when the effect is fully realized is uncertain, and whether it will be coincident with the date of the MIR definition change or phased-in over several years as interpretation solidifies.
- A possible change in the claims frequency rate: However, it is difficult to predict if a definition change will affect a claimant’s decision to pursue the claim, resulting in a subsequent decline in the frequency rate. In our analysis we assume three frequency change scenarios: no change (0%), -5% and -10%. We discuss this further in Section 6.5.

## 6.2. Prejudgment Interest (PJI)

The MOF is considering a change to the current fixed 4% prejudgment interest rate on non-pecuniary loss amounts to a floating rate, the same as that for pecuniary loss amounts, starting from the date of notice rather than the accident date.

Using the 2010/2012/2017 CCS database, we substituted our estimate of the PJI using the floating rate established annually (that varies by year) under the Alberta Judgment Interest Regulation<sup>8</sup> and assumed the application of the prejudgment interest begins at the date of notice.

We understand the allocation of the final settlement amounts across heads of damages is sometimes based on judgment when completing a (hindsight) closed claim study. As such, we are not able to match the non-pecuniary prejudgment interest amount stated in the 2010/2012/2017 CCS database for some claimant files based on our calculations. We differ, in aggregate, by approximately 5%. We find this to be reasonable in the circumstances.

Using our estimate of the PJI on non-pecuniary award with a 4% rate, we then calculated the difference if instead we substituted the fixed 4% rate for the prescribed rates that varied by year over the projection period; and the earning of interest begins at the date of notice.

On this basis, we estimate an approximate:

- 0.8% reduction in total bodily injury loss amounts for the 2010 year.
- 1.7% reduction in total bodily injury loss amounts for the 2012 year.
- 2.9% reduction in total bodily injury loss amounts for the 2017 year.

There is a smaller reduction for the older years (with claims closed in 2010 and 2012<sup>9</sup>), as the prevailing floating rates at that time were closer to the fixed 4% rate.

Given the relevance of the more recent lower interest rates in 2017, we select a reduction of 2.9%.

In a preliminary study prepared by Dr. Miller, a range of reduction estimates (2.4% to 4.1% of bodily injury loss amounts) for the 2017 closed year based on three alternative interest rates were provided:

- 2.4% at an interest rate of 2.20%
- 3.7% at an interest rate of 0.87%
- 4.1% at an interest rate of 0.53%

We summarize our findings in Appendix E, Exhibit 7.1.

## 6.3. Income Replacement - Lost Wages

The MOF is considering a change to the current award of 100% of gross wages to 70% of gross wages.

Past and future income is approximately 18% of the total bodily injury loss amount across 2010/2012/2017.

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<sup>8</sup> See Appendix A.

<sup>9</sup> Claims closed in 2010 and 2012 would include claimants with accident dates that occurred many years earlier.

Using the 2010/2012/2017 CCS database, we reduced the past and future lost wages by 30% to reflect the payment reduction from 100% to 70% of gross wages. As a result of this change, we calculate the total bodily injury loss amount would reduce by the following percentages:

- 5.4% reduction in total bodily injury loss amounts for the 2010 year.
- 6.1% reduction in total bodily injury loss amounts for the 2012 year.
- 5.0% reduction in total bodily injury loss amounts for the 2017 year.

Given the relevance of 2017, we select a 5.0% reduction.

We summarize our findings in Appendix F, Exhibit 6.1.

#### 6.4. Combination of Minor Injury Definition, PJI and Lost Wage Changes

The sum of these individual changes (minor injury definition, PJI and lost wages) is 22.0% of the bodily injury loss amounts. However, as there is some overlap of the impact of these three changes amongst the heads of damages for bodily injury, the combination of these changes is less than the sum of the individual changes.

We estimate the combination of changes to be approximately 20.2% of the total bodily injury claims costs, assuming the same proportionate reduction as pain and suffering across all heads of damages.

We present the details of our calculation in Appendix G, Exhibit 8.1 & 8.2.

#### 6.5. Claims Frequency

Any changes to the Alberta automobile system that limits the amount of payment to a claimant may influence the propensity of claimants with more minor injuries to pursue a bodily injury claim. Evidence of changes in the claims frequency rates are associated with coincident changes in Regulations in several provinces.

Based on our judgement, we take this possibility into consideration by assuming: no change, 5% and 10% reductions in total claim count, and we assume the reduction in loss amount would be from the minor injury claimant category.

#### 6.6. Impact on Accident Benefits of Bodily Injury Changes and DTPR Expansion

It is generally agreed that there is a direct correlation between coverages such as bodily injury and accident benefits. That is, if there are more bodily injury claims, there are likely to be more accident benefits claims and vice versa; although it is not a 1-1 relationship.

A more broadly defined minor injury definition may result in a reduction in the bodily injury claim amount, and possibly frequency rate - if claimants categorized as minor under the amended definition decide not to pursue their bodily injury claim.

This, in turn, may affect the accident benefits coverage. It is plausible that a reduction in the bodily injury claim severity and frequency rate would influence the accident benefits claims claim severity

amount and frequency rate too. However, we would expect a more tempered reduction than for bodily injury.

The minor injury definition changes the MOF is considering will likely reduce the bodily injury claim amounts, and, in turn, likely reduce the loss amounts for the medical-rehabilitation and disability income components of the accident benefits coverage due to the positive correlation between these bodily injury and accident benefits coverages.

The MOF is considering expanding the list of adjunct therapists in the DTPR to include dentists, psychologists, and occupational therapists at fixed rates/fee schedules with \$750 limits, each. This may introduce a reduction in costs due to the standardized fee schedule within the DTPR framework. However, there is no additional information to quantify the impact, if any.

As an indication of the usage of dentists and psychologists, we observe the following:

The 2010/2012/2017 CCS reported:

- A total of 17 MIR claimants and 118 non-MIR claimants with *TMJ* that may have consulted a dentist. This represents 6.3% of the 2,157 claimants we reviewed.
- A total of 8 MIR claimants and 157 non-MIR claimants with *Psychological injury or Post-Traumatic Stress Disorder (PTSD)* that may have consulted a psychologist. This represents 7.7% of the 2,157 claimants we reviewed.

We observe a shift to greater identification of these injury types associated with dentists and psychologists in closed year 2017 (alone);

- A total of 3 MIR claimants and 68 non-MIR claimants with *TMJ* that may have consulted a dentist. This represents 8.9% of the 800 claimants (in closed year 2017) we reviewed.
- A total of 3 MIR claimants and 86 non-MIR claimants with *Psychological injury or Post-Traumatic Stress Disorder (PTSD)* that may have consulted a psychologist. This represents 11.1% of the 800 claimants (in closed year 2017) we reviewed.

Based on our judgement, we have assumed 50% of the percentage reduction we estimate for bodily injury will apply to these the accident benefits medical-rehabilitation and disability income subcoverages<sup>10</sup>.

<sup>10</sup> In Table 6 we present our estimate of a \$141 reduction (or -8.2%) in average required premiums across all coverages for the changes under consideration. This is split between a \$9 reduction for accident benefits and \$132 for bodily injury, as presented in Table 5.

## 7. CURRENT REQUIRED AVERAGE PREMIUM – 2021

### 7.1. Required Average Premium Estimate – Current Regulations

We calculate the required average premium for accident year 2021 as a baseline upon which to measure the change in premiums for the alternative minor injury definition and other changes, including DTPR, that are under consideration.

To determine the required average premium for the 2021 accident year by individual coverage, we perform the following analysis:

- We estimate the average ultimate claim and allocated claim handling expense per earned vehicle using our estimates as presented in our Alberta Private Passenger Loss Trend Report as of December 31, 2019.
- We assume future claim costs will increase (trend) at an average annual rate of approximately +5% based on our recent review of claim experience through to December 31, 2019. (We trend claim costs separately by coverage.)
- We determine the ultimate claim costs for each of the three accident years: 2017, 2018 and 2019. We project the estimated claim costs, including allocated loss adjustment expenses, to the midpoint of accident year 2021, July 1, 2021.
- We assign increasing weights of 20%/30%/50% to the projected loss costs of three accident years: 2017, 2018, and 2019. This represents our weighted average 2021 accident year loss cost. We perform this for each coverage separately.
- We include with this 2021 ultimate loss cost provision an allowance for unallocated loss adjustment expenses (ULAE) using the factors provided by GISA. We assume the provision for 2019 (the latest provision) would be a reasonable provision for 2021.
- We include the health levy provision using the current 4.74% of premium for 2020 (the latest provision) and assume this would be a reasonable provision for 2021.
- We assume the average over the last three years, 2017 to 2019, of industry pre-tax return on investment rate for companies writing automobile insurance in Alberta would be reasonable for 2021; a rate of 3.4%.
- We use Industry experience to determine the claim payment pattern for each coverage, assuming loss amounts are paid, on average, in the middle of the year. Using this claim payment pattern and the selected industry pre-tax return on investment rate of 3.4%, we calculate a discount factor for each coverage that we multiply by the average loss and adjustment expense cost per vehicle described in the step above.
- Based on GISA's 2019 expense exhibit, we include a total 26.0% provision for expenses; with commission and premium based on a percentage of written premiums and all other expenses as a percentage of earned premium.
- We assume the 2019 expenses as reported by GISA is a reasonable provision for 2021.
- We include a dollar amount provision for all general expenses (everything except commissions and premium taxes) based on the costs reported by insurers to GISA. Our calculation assumes the

average expense cost per vehicle is distributed proportionately across all coverages based on the premium volume by coverage. We assume that the general expense costs of \$68 for 2019 (as based on the GISA expense exhibit) will increase at an annual rate of 2.0% which is in line with recent CPI in Alberta.

- We assume there is, on average, a three-month delay in receiving premiums. This is based on an assumption that roughly 1/3 of vehicles pay premiums monthly; and the remainder within 2 months. However, we are unable to confirm the degree to which finance fees have been considered in the expense data reported to GISA - as some insurers reduce their general expense ratios by the net finance fees collected and others do not.<sup>11</sup>
- We include a provision for profit at 7% of premium, as established by the Board.

Based on these assumptions, we calculate the required average premium is \$1,716 for all coverages. In addition, we calculate the required average premium for each coverage; with bodily injury at \$676. Our estimate of the average premium across all coverages considers the number of vehicles insured for each of the coverages. Our summary is presented in Appendix H, Exhibit 5.3.

Our estimate of the required average premium for all coverages is consistent with Dr. Miller's at \$1,709.

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<sup>11</sup> Our general findings are not affected by this issue.

## 8. ESTIMATED REQUIRED AVERAGE PREMIUM UNDER PROPOSED CHANGES

### 8.1. Proposed Changes

#### Minor Injury Definition Change

As discussed in Section 6.1, we estimate a change in the minor injury definition would shift some claimants from the non-MIR category to the MIR category, and therefore be subject to the cap, with a 14.1% reduction in the pain and suffering head of damage that we assume may extend across all heads of damages.

#### PJI

As discussed in Section **Error! Reference source not found.**, we estimate a change in the provision for PJI on non-pecuniary amounts based on a floating rate rather than fixed at 4%. We estimate a 2.9% reduction in the bodily injury loss amounts.

#### Lost Wages

As discussed in Section **Error! Reference source not found.**, we estimate a change in the provision lost wages based on a change from 100% of wages to 70% of wages. We estimate a 5.0% reduction in the bodily injury loss amounts.

### 8.2. Premium Summary Tables

In Table 1 we present the 2021 required average bodily injury premium, and the reduction in average premium for each of these changes (as note above) under consideration, separately. In addition, we include a provision for a possible decrease to the claims frequency rate, a range of 0%, -5% and -10%.

In Table 2, we present these findings for bodily injury from Table 1 as a percentage change.

In Tables 3 we present the 2021 required average premium for all coverages combined, and the reduction in average premium for each of these changes under consideration, separately. We include our estimate of the impact on accident benefits as discussed in Section 6.5. In addition, we include a provision for a possible decrease to the claims frequency rate, a range of 0%, -5% and -10%.

In Table 4, we present these findings for all coverages combined from Table 3 as a percentage change.

In Appendix I, Exhibit 5.5<sup>12</sup>, we present our premium calculations for the minor injury definition change assuming a proportionate reduction across all heads of damages.

In Appendix J, Exhibit 6.2, we present our premium calculations for the lost wages change.

<sup>12</sup> In Exhibit 5.4, similar calculations are presented assuming the reduction in the pain and suffering amount does not affect other heads of damages, only ALAE.



In Appendix J, Exhibit 7.2, we present our premium calculations for the PJI change.

**Table 1: Estimated Required Premium - Bodily Injury**

Frequency Reduction	Current Definition	Minor Injury Definition-only	PJI-only	Lost Wages-only
0%	676	586	644	658
5%	676	581	N/A	N/A
10%	676	576	N/A	N/A

**Table 2: Percent Change in Estimated Required Premium – Bodily Injury**

Frequency Reduction	Minor Injury Definition-only	PJI-only	Lost Wages-only
0%	-13.3%	-4.7%	-2.7%
5%	-14.1%	N/A	N/A
10%	-14.8%	N/A	N/A

**Table 3: Estimated Required Premium – All Coverages**

Frequency Reduction	Current Definition	Minor Injury Definition-only	PJI-only	Lost Wages-only
0%	1,716	1,620	1,684	1,698
5%	1,716	1,615	N/A	N/A
10%	1,716	1,609	N/A	N/A

**Table 4: Percent Change in Estimated Required Premium – All Coverages**

Frequency Reduction	Minor Injury Definition-only	PJI-only	Lost Wages-only
0%	-5.6%	-1.8%	-1.1%
5%	-5.9%	N/A	N/A
10%	-6.2%	N/A	N/A

In addition, due to the overlap of the impact of the changes, in Table 5 and Table 6, we present the range of required premiums based on the combined three options under consideration (minor injury definition, PJI and Lost Wages) and the percent change to required premiums for accident year 2021.

**Table 5: Estimated Required Premium - Bodily Injury**

Frequency Reduction	Current Definition	All Proposed Changes	\$ Change	% Change
0%	676	544	132	-19.5%
5%	676	539	137	-20.2%
10%	676	534	142	-21.0%

**Table 6: Estimated Required Premium – All Coverages**

Frequency Reduction	Current Definition	All Proposed Changes	\$ Change	% Change
0%	1,716	1,575	141	-8.2%
5%	1,716	1,569	147	-8.6%
10%	1,716	1,564	152	-8.9%

In Appendix K, Exhibit 8.4<sup>13</sup>, we present our calculations for these premium calculations.

### 8.3. Comparison to IBC

In IBC's Briefing Note dated July 15, 2020, the estimated current average premium for the accident year 2021 under the current Alberta automobile system is \$1,709, marginally less than Oliver Wyman's estimate at \$1,716.

IBC estimates that the combination of the following changes, the same as those discussed in this report:

- minor injury definition,
- PJI,
- lost wages, and
- DTPR to include dentists, psychologists and occupational therapists at \$750 each<sup>14</sup>,

would reduce the total average premium for all coverages from \$1,709 to \$1,566; a reduction of \$143 or 8.4%.

Our finding of an 8.2% reduction in the average premium for all coverages, prepared independently of IBC's, is similar.

<sup>13</sup> In Exhibit 8.3, similar premium calculations are presented assuming the reduction in the pain and suffering amount does not affect other heads of damages, only ALAE.

<sup>14</sup> IBC does not provide a separate premium estimate for the change to the DTPR, but does so for each of the other changes.

It is our understanding the data used by IBC excluded one of the insurers included in the 2010/2012/2017 CCS database provided to us. In addition, like Oliver Wyman, IBC excluded claimant data files due to errors that were identified. This differences in the data analyzed, along with different implicit and explicit assumptions in our methodology, contribute to the minor difference in the findings between IBC and Oliver Wyman.

## 9. INCREASE IN CAP AMOUNT

In Section 2.7 we discussed that the MOF is considering increasing the current indexed cap amount (at \$5,296 in 2020) to \$8,000 effective January 1, 2021. As this cap amount increase could be in addition to the other changes, or a stand-alone change, we consider this cap amount increase separately.

Using the 2010/2012/2017 CCS database, we projected all loss amounts using our estimated bodily injury severity trend rate to an average accident date of July 1, 2021. We assume that the cap would increase by 1% in 2021 to \$5,349. For those claimants with a cap amount at the maximum (as prescribed for each year), we assume those same claimants would again be eligible for the full cap amount, \$8,000 instead of \$5,349. This is a simplifying assumption which may modestly overstate the percentage increase in the total bodily injury loss amounts.

On this basis, we estimate a 1.5% increase to total increase to bodily injury loss costs due to this change. We calculate this 1.5% increase to bodily injury loss cost would increase the estimated average required premium for bodily injury by 1.4% (\$676 to \$685), and for all coverages by 0.6% (\$1,716 to \$1,725).

In addition, in contrast to amendments to the automobile system that may limit payment amounts, and possibly reduce the claims frequency rate, amendments that may increase the payment amount could possibly increase the claims frequency rate. We do not include a provision for this possibility.

We present these calculations in Appendix L, Exhibits 9.1 & 9.2.

## 10. APPENDICES

- Appendix A:** Alberta's Prejudgment Interest Rate as of December 31, 2019.
- Appendix B:** Exhibit 1 - Summary of CCS data by head of damage, closing year and exclusions.  
Exhibit 2 - Summary of claimants by MIR and non-MIR.
- Appendix C:** Exhibit 3 - Summary of injury types; MIR versus Non-MIR.  
Exhibit 4 - Summary of reasons why claimant is non-MIR.
- Appendix D:** Exhibit 5.1 & 5.2 - Minor Injury Definition Change – Cost Reduction % Estimates.
- Appendix E:** Exhibit 6.1 - Change to Income Loss – Cost Reduction % Estimates.
- Appendix F:** Exhibit 7.1 - Change to PJI– Cost Reduction % Estimates.
- Appendix G:** Exhibit 8.1 & 8.2 – All Changes Combined– Cost Reduction % Estimates.
- Appendix H:** Exhibit 5.3 – Current System Required Average Premium Accident Year 2021.
- Appendix I:** Exhibit 5.4 & 5.5 – Change in MIR Definition - Average Premium Accident Year 2021.
- Appendix J:** Exhibit 6. 2 & 7.2 – Change in Income Loss & PJI - Average Premium Accident Year 2021.
- Appendix K:** Exhibit 8.3. & 8.4 – All Changes Combined - Average Premium Accident Year 2021.
- Appendix L:** Exhibit 9.1. & 9.2 – \$8,000 Cap - Increase % and Average Premium Accident Year 2021.

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Province of Alberta

## JUDGMENT INTEREST ACT

# JUDGMENT INTEREST REGULATION

### **Alberta Regulation 215/2011**

With amendments up to and including Alberta Regulation 178/2019

Current as of December 3, 2019

### Office Consolidation

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(Consolidated up to 178/2019)

**ALBERTA REGULATION 215/2011**

**Judgment Interest Act**

**JUDGMENT INTEREST REGULATION**

**Calculation of interest**

- 1** For the purposes of section 4 of the *Judgment Interest Act*,
- (a) the interest rate from January 1, 1993 to December 31, 1993 is prescribed at 6% per year;
  - (b) the interest rate from January 1, 1994 to December 31, 1994 is prescribed at 4.5% per year;
  - (c) the interest rate from January 1, 1995 to December 31, 1995 is prescribed at 5.25% per year;
  - (d) the interest rate from January 1, 1996 to December 31, 1996 is prescribed at 5.5% per year;
  - (e) the interest rate from January 1, 1997 to December 31, 1997 is prescribed at 3.5% per year;
  - (f) the interest rate from January 1, 1998 to December 31, 1998 is prescribed at 3.5% per year;
  - (g) the interest rate from January 1, 1999 to December 31, 1999 is prescribed at 4% per year;
  - (h) the interest rate from January 1, 2000 to December 31, 2000 is prescribed at 6.25% per year;
  - (i) the interest rate from January 1, 2001 to December 31, 2001 is 6.25% per year;
  - (j) the interest rate from January 1, 2002 to December 31, 2002 is prescribed at 5.25% per year;
  - (k) the interest rate from January 1, 2003 to December 31, 2003 is prescribed at 4.5% per year;
  - (l) the interest rate from January 1, 2004 to December 31, 2004 is prescribed at 3.75% per year;
  - (m) the interest rate from January 1, 2005 to December 31, 2005 is prescribed at 3.40% per year;

- (n) the interest rate from January 1, 2006 to December 31, 2006 is prescribed at 3.50% per year;
- (o) the interest rate from January 1, 2007 to December 31, 2007 is prescribed at 4% per year;
- (p) the interest rate from January 1, 2008 to December 31, 2008 is prescribed at 4.25% per year;
- (q) the interest rate from January 1, 2009 to December 31, 2009 is prescribed at 2.75% per year;
- (r) the interest rate from January 1, 2010 to December 31, 2010 is prescribed at 0.825% per year;
- (s) the interest rate from January 1, 2011 to December 31, 2011 is prescribed at 1.85% per year;
- (t) the interest rate from January 1, 2012 to December 31, 2012 is prescribed as 1.20% per year;
- (u) the interest rate from January 1, 2013 to December 31, 2013 is prescribed at 1.40% per year;
- (v) the interest rate from January 1, 2014 to December 31, 2014 is prescribed at 1.10% per year;
- (w) the interest rate from January 1, 2015 to December 31, 2015 is prescribed at 1.05% per year;
- (x) the interest rate from January 1, 2016 to December 31, 2016 is prescribed at 0.55% per year;
- (y) the interest rate from January 1, 2017 to December 31, 2017 is prescribed at 0.53% per year;
- (z) the interest rate from January 1, 2018 to December 31, 2018 is prescribed at 0.87% per year;
- (aa) the interest rate from January 1, 2019 to December 31, 2019 is prescribed at 2.2% per year;
- (bb) the interest rate from January 1, 2020 to December 31, 2020 is prescribed at 1.5% per year.

AR 215/2011 s1;203/2012;197/2013;213/2014;  
191/2015;205/2016;224/2017;197/2018;178/2019

### Repeal

- 2** The *Judgment Interest Regulation* (AR 364/84) is repealed.









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Appendix B  
Exhibit 1

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Summary of Claims Experience

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Included In Analysis				Excluded From Analysis				
	Closing Year 2010	Closing Year 2012	Closing Year 2017	Total	Unknown MIR Flag	Invalid Date	Outside of Alberta	Total Settlement Not Equal to Sum of Individual Pieces	Total
Number of Claimants	670	687	800	2,157	47	58	70	72	247
Number of Claims	508	527	595	1,630	42	39	49	54	184
Claimant/Claim Ratio	1.32	1.30	1.34	1.32	1.12	1.49	1.43	1.33	1.34
Past Loss Of Income	691,584	1,432,192	1,623,006	3,746,782	42,855	819,123	391,885	160,819	1,414,682
Past Medical/Rehabilitation	96,625	134,869	351,502	582,997	7,000	37,276	116,492	8,566	169,334
Past Housekeeping	196,472	271,034	551,173	1,018,679	16,250	99,850	67,700	55,362	239,162
Past Care	51,719	35,929	75,044	162,692	1,895	13,652	119,427	5,500	140,474
Past Other	101,751	196,853	546,253	844,857	43,187	140,156	99,143	30,952	313,437
Past Fatal Accident Act Damages	0	18,000	82,000	100,000	284,948	0	0	0	284,948
Total Past Pecuniary Losses	1,138,151	2,088,877	3,228,979	6,456,006	396,135	1,110,057	794,647	261,199	2,562,037
Pain and Suffering	4,864,450	7,017,429	14,057,812	25,939,691	655,376	2,025,414	2,553,436	1,484,383	6,718,609
Loss of Consortium	0	10,500	30,000	40,500	0	1,000	0	0	1,000
Non-P Fatal Accident Act Damages	4,136	131,903	0	136,039	753,500	0	0	0	753,500
Total Non Pecuniary Losses	4,868,586	7,159,832	14,087,812	26,116,230	1,408,876	2,026,414	2,553,436	1,484,383	7,473,109
Loss of Earning Capacity	915,747	1,315,662	2,492,628	4,724,037	37,000	1,010,020	1,060,500	163,929	2,271,449
Future Medical/Rehabilitation	172,715	189,907	346,183	708,805	7,584	102,362	92,000	30,597	232,543
Future Housekeeping	50,711	208,852	408,210	667,773	8,000	179,900	76,144	45,707	309,751
Future Care	139,112	282,392	752,149	1,173,653	26,398	365,039	236,410	50,450	678,297
Future Other	7,073	24,022	79,023	110,118	32	108,000	18,964	7,652	134,647
Future Pecuniary Losses	1,285,357	2,020,835	4,078,193	7,384,385	79,014	1,765,321	1,484,018	298,334	3,626,687
Other Costs	234,408	341,290	754,521	1,330,219	18,436	256,049	604,570	80,215	959,270
Disbursements	224,502	382,038	677,202	1,283,742	17,551	271,622	159,619	42,008	490,800
Total Other Losses	458,909	723,328	1,431,723	2,613,961	35,987	527,671	764,189	122,223	1,450,070
Prejudgment Interest on Pecuniary	73,878	122,696	109,253	305,826	18,695	210,948	43,252	2,355	275,251
Prejudgment Interest on Non-Pecuniary	353,278	496,612	832,319	1,682,210	19,002	478,184	192,550	101,629	791,365
Total Pre-judgment Interest	427,156	619,308	941,572	1,988,036	37,697	689,132	235,802	103,984	1,066,616
Total ALAE Paid	745,134	858,517	1,021,611	2,625,262	50,726	1,201,829	952,901	71,863	2,277,319
Total	8,923,292	13,470,698	24,789,890	47,183,880	2,008,434	7,320,425	6,784,993	2,341,986	18,455,838
Total Company Settlement + ALAE	8,923,296	13,470,706	24,789,887	47,183,889	2,008,434	7,320,424	6,784,993	1,309,216	17,423,068
Difference	(4)	(9)	3	(9)	(0)	0	(0)	1,032,770	1,032,770

Note

- (6) Excluded claims where MIR flag was unknown  
 (7) Excluded Claims with inconsistent accident date, report date, or close date, or accident date before 10/1/2004 (Introduction of MIR)  
 (8) Excluded Claims where total settlement recorded in the database was not equal to the sum of the individual components



Appendix B  
Exhibit 2

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Summary of Claims Experience by MIR

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) (2) / sum(2)	(11) (3) / sum(3)	(12) (4) / sum(4)	(13) (5) / sum(5)	(14) (6) / sum(6)	(15) (7) / sum(7)	(16) (8) / sum(8)	(17) (9) / sum(9)
Distribution																
MIR	Number of Claimant	Total Past Pecuniary Losses	Total Non Pecuniary Losses	Future Pecuniary Losses	Total Other Losses	Total Pre- judgment Interest	Total ALAE Paid	Total Indemnity and ALAE	Number of Claimant	Total Past Pecuniary Losses	Total Non Pecuniary Losses	Future Pecuniary Losses	Total Other Losses	Total Pre- judgment Interest	Total ALAE Paid	Total Indemnity and ALAE
Closing Year 2010																
Yes	555	407,421	1,705,250	106,958	167,109	60,555	304,350	2,751,644	83%	36%	35%	8%	36%	14%	41%	31%
No	115	730,730	3,163,335	1,178,399	291,801	366,600	440,783	6,171,648	17%	64%	65%	92%	64%	86%	59%	69%
Total	670	1,138,151	4,868,586	1,285,357	458,909	427,156	745,134	8,923,292	100%	100%	100%	100%	100%	100%	100%	100%
Closing Year 2012																
Yes	519	384,169	1,607,045	86,361	87,114	28,349	158,904	2,351,942	76%	18%	22%	4%	12%	5%	19%	17%
No	168	1,704,708	5,552,787	1,934,474	636,215	590,960	699,613	11,118,756	24%	82%	78%	96%	88%	95%	81%	83%
Total	687	2,088,877	7,159,832	2,020,835	723,328	619,308	858,517	13,470,698	100%	100%	100%	100%	100%	100%	100%	100%
Closing Year 2017																
Yes	520	267,419	1,907,688	75,130	47,143	25,171	45,871	2,368,421	65%	8%	14%	2%	3%	3%	4%	10%
No	280	2,961,560	12,180,125	4,003,063	1,384,581	916,401	975,739	22,421,469	35%	92%	86%	98%	97%	97%	96%	90%
Total	800	3,228,979	14,087,812	4,078,193	1,431,723	941,572	1,021,611	24,789,890	100%	100%	100%	100%	100%	100%	100%	100%
Total	2,157	6,456,006	26,116,230	7,384,385	2,613,961	1,988,036	2,625,262	47,183,880								
Control	#N/A	6,456,006	26,116,230	7,384,385	2,613,961	1,988,036	2,625,262	47,183,880								
Difference	#N/A	0	0	0	0	0	0	0								

Note

Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
Other Costs includes: Disbursements and Total Other Damages  
Total Pre-Judgment Interest includes: Pre-Judgment Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

Worksheet Control Difference

#N/A

Appendix C  
Exhibit 3

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Summary of Claimant Injury Profile - Number of Claimants

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) (2) / SUM((2),(6))	(11) (3) / SUM((3),(7))	(12) (4) / SUM((4),(8))	(13) (5) / SUM((5),(9))
	Claimant Minor Injury Flag = Y				Claimant Minor Injury Flag = N				Percent Capped by MIR			
Injury	This Injury Only	This and at least one other Injury	Not this Injury	Total	This Injury Only	This and at least one other Injury	Not this Injury	Total	This Injury Only	This and at least one other Injury	Not this Injury	Total
Closing Year 2010												
Sprain or strain	96	248	211	555	4	48	63	115	96%	84%	77%	83%
WAD I	22	24	509	555	0	2	113	115	100%	92%	82%	83%
WAD II	168	220	167	555	4	60	51	115	98%	79%	77%	83%
WAD III	7	4	544	555	2	12	101	115	78%	25%	84%	83%
Any WAD, Sprain, Strain plus TMJ injury with no damage	0	6	549	555	0	11	104	115		35%	84%	83%
Any WAD, Sprain, Strain plus TMJ injury with objective damage	0	0	555	555	1	6	108	115	0%	0%	84%	83%
Any WAD, Sprain, Strain plus chronic injury	0	2	553	555	0	19	96	115		10%	85%	83%
Any WAD, Sprain, Strain resulting in impairment of a physical or cognitive function	0	0	555	555	1	3	111	115	0%	0%	83%	83%
Concussion	0	2	553	555	0	11	104	115		15%	84%	83%
Bony injuries, lacerations, burns, etc.	0	4	551	555	5	41	69	115	0%	9%	89%	83%
Catastrophic injury, e.g. paralysis or brain injury	0	0	555	555	1	2	112	115	0%	0%	83%	83%
Psychological injury or Post-Traumatic Stress Disorder (PTSD)	1	1	553	555	0	24	91	115	100%	4%	86%	83%
Other	5	14	536	555	2	29	84	115	71%	33%	86%	83%
Closing Year 2012												
Sprain or strain	81	220	218	519	3	68	97	168	96%	76%	69%	76%
WAD I	24	27	468	519	0	5	163	168	100%	84%	74%	76%
WAD II	175	200	144	519	5	86	77	168	97%	70%	65%	76%
WAD III	0	1	518	519	4	7	157	168	0%	13%	77%	76%
Any WAD, Sprain, Strain plus TMJ injury with no damage	1	7	511	519	1	21	146	168	50%	25%	78%	76%
Any WAD, Sprain, Strain plus TMJ injury with objective damage	0	0	519	519	0	10	158	168		0%	77%	76%
Any WAD, Sprain, Strain plus chronic injury	0	3	516	519	5	38	125	168	0%	7%	80%	76%
Any WAD, Sprain, Strain resulting in impairment of a physical or cognitive function	0	0	519	519	0	10	158	168		0%	77%	76%
Concussion	0	3	516	519	0	20	148	168		13%	78%	76%
Bony injuries, lacerations, burns, etc.	0	6	513	519	5	51	112	168	0%	11%	82%	76%
Catastrophic injury, e.g. paralysis or brain injury	0	0	519	519	0	2	166	168		0%	76%	76%
Psychological injury or Post-Traumatic Stress Disorder (PTSD)	0	3	516	519	1	46	121	168	0%	6%	81%	76%
Other	4	16	499	519	1	35	132	168	80%	31%	79%	76%
Closing Year 2017												
Sprain or strain	68	153	299	520	1	123	156	280	99%	55%	66%	65%
WAD I	42	8	470	520	0	3	277	280	100%	73%	63%	65%
WAD II	223	154	143	520	5	188	87	280	98%	45%	62%	65%
WAD III	4	1	515	520	1	15	264	280	80%	6%	66%	65%
Any WAD, Sprain, Strain plus TMJ injury with no damage	0	3	517	520	3	49	228	280	0%	6%	69%	65%
Any WAD, Sprain, Strain plus TMJ injury with objective damage	0	0	520	520	1	15	264	280	0%	0%	66%	65%
Any WAD, Sprain, Strain plus chronic injury	0	8	512	520	7	141	132	280	0%	5%	80%	65%
Any WAD, Sprain, Strain resulting in impairment of a physical or cognitive function	0	0	520	520	0	12	268	280		0%	66%	65%
Concussion	1	11	508	520	0	54	226	280	100%	17%	69%	65%
Bony injuries, lacerations, burns, etc.	0	4	516	520	3	57	220	280	0%	7%	70%	65%
Catastrophic injury, e.g. paralysis or brain injury	0	0	520	520	0	3	277	280		0%	65%	65%
Psychological injury or Post-Traumatic Stress Disorder (PTSD)	0	3	517	520	3	83	194	280	0%	3%	73%	65%
Other	6	19	495	520	3	94	183	280	67%	17%	73%	65%

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Summary of Claimant Injury Profile - Number of Claimants  
Reason Why Claimant Was Not Subject to MIR Cap  
Claimant Minor Injury Flag = N

(1)	(2)	(3)	(4)	(5)	(6)	(7) (2) / (6)	(8) (3) / (6)	(9) (4) / (6)	(10) (5) / (6)
Injury	Claimant Minor Injury Flag = N					Distribution			
	This Reason Only	This and At Least One Other Known Reason	Some Other Known Reason	Reason Not Specified in Data	Total	This Reason Only	This and At Least One Other Known Reason	Some Other Known Reason	Reason Not Specified in Data
Closing Year 2010									
Condition = Fatality	0	0	106	9	115	0%	0%	92%	8%
WAD III	5	7	94	9	115	4%	6%	82%	8%
Any WAD, plus TMJ injury with no damage to bone or teeth or displacement of articular disc	6	5	95	9	115	5%	4%	83%	8%
Any WAD, plus TMJ injury with objective damage to bone or teeth, or displacement of articular disc	3	3	100	9	115	3%	3%	87%	8%
Any WAD with duration lasting more than six months	2	14	90	9	115	2%	12%	78%	8%
Any WAD resulting in impairment of a physical or cognitive function	0	4	102	9	115	0%	3%	89%	8%
Concussion	1	8	97	9	115	1%	7%	84%	8%
Bony injuries, lacerations, burns, etc.	22	16	68	9	115	19%	14%	59%	8%
Catastrophic injury, e.g. paralysis or brain injury	1	2	103	9	115	1%	2%	90%	8%
Psychological injury or PTSD	9	16	81	9	115	8%	14%	70%	8%
Pre-existing condition	2	5	99	9	115	2%	4%	86%	8%
Other(s)	15	12	79	9	115	13%	10%	69%	8%
Closing Year 2012									
Condition = Fatality	2	0	160	6	168	1%	0%	95%	4%
WAD III	6	6	150	6	168	4%	4%	89%	4%
Any WAD, plus TMJ injury with no damage to bone or teeth or displacement of articular disc	6	10	146	6	168	4%	6%	87%	4%
Any WAD, plus TMJ injury with objective damage to bone or teeth, or displacement of articular disc	4	9	149	6	168	2%	5%	89%	4%
Any WAD with duration lasting more than six months	13	39	110	6	168	8%	23%	65%	4%
Any WAD resulting in impairment of a physical or cognitive function	1	9	152	6	168	1%	5%	90%	4%
Concussion	3	15	144	6	168	2%	9%	86%	4%
Bony injuries, lacerations, burns, etc.	24	30	108	6	168	14%	18%	64%	4%
Catastrophic injury, e.g. paralysis or brain injury	0	3	159	6	168	0%	2%	95%	4%
Psychological injury or PTSD	8	30	124	6	168	5%	18%	74%	4%
Pre-existing condition	4	19	139	6	168	2%	11%	83%	4%
Other(s)	12	19	131	6	168	7%	11%	78%	4%
Closing Year 2017									
Condition = Fatality	0	1	273	6	280	0%	0%	98%	2%
WAD III	1	14	259	6	280	0%	5%	93%	2%
Any WAD, plus TMJ injury with no damage to bone or teeth or displacement of articular disc	8	41	225	6	280	3%	15%	80%	2%
Any WAD, plus TMJ injury with objective damage to bone or teeth, or displacement of articular disc	2	14	258	6	280	1%	5%	92%	2%
Any WAD with duration lasting more than six months	45	121	108	6	280	16%	43%	39%	2%
Any WAD resulting in impairment of a physical or cognitive function	0	12	262	6	280	0%	4%	94%	2%
Concussion	7	45	222	6	280	3%	16%	79%	2%
Bony injuries, lacerations, burns, etc.	10	45	219	6	280	4%	16%	78%	2%
Catastrophic injury, e.g. paralysis or brain injury	0	4	270	6	280	0%	1%	96%	2%
Psychological injury or PTSD	10	72	192	6	280	4%	26%	69%	2%
Pre-existing condition	1	58	215	6	280	0%	21%	77%	2%
Other(s)	13	51	210	6	280	5%	18%	75%	2%

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Savings Under Alternative Minor Injury Definition  
Closing Year 2017

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Category	Number of Claimant	Trended Total Past Pecuniary Losses	Trended Pain and Suffering	Trended Other Non Pecuniary Losses	Trended Future Pecuniary Losses	Trended Total Other Losses	Trended Total Pre-judgment Interest	Trended Total ALAE Paid	Trended Total Indemnity and ALAE
<b>Current Alberta Definition</b>									
<b>Non-Minor Claimants</b>									
Total Payment	280	3,895,312	15,666,095	44,161	5,170,833	1,858,860	1,215,013	1,393,572	29,243,846
Percentage of All Claimants	35%	93%	89%	100%	98%	97%	98%	96%	92%
Average Payment per Claimant		13,912	55,950	158	18,467	6,639	4,339	4,977	104,442
<b>Minor Claimants</b>									
Total Payment	520	310,813	2,032,645	0	88,763	59,691	30,214	53,907	2,576,033
Percentage of All Claimants	65%	7%	11%	0%	2%	3%	2%	4%	8%
Average Payment per Claimant		598	3,909	0	171	115	58	104	4,954
<b>All Claimants</b>									
Total Payment	800	4,206,125	17,698,740	44,161	5,259,596	1,918,551	1,245,227	1,447,479	31,819,879
Average Payment per Claimant		5,258	22,123	55	6,574	2,398	1,557	1,809	39,775
<b>Alternative Definition with ALAE Reduction</b>									
<b>Non-Minor Claimants</b>									
Total Payment	183	3,211,795	12,729,907	44,161	4,625,357	1,510,900	995,558	1,193,722	24,311,400
Percentage of All Claimants	23%	76%	84%	100%	88%	79%	80%	96%	83%
Average Payment per Claimant		17,551	69,562	241	25,275	8,256	5,440	6,523	132,849
<b>Minor Claimants</b>									
Total Payment	617	994,331	2,499,329	0	634,238	407,650	249,669	51,791	4,837,009
Percentage of All Claimants	77%	24%	16%	0%	12%	21%	20%	4%	17%
Average Payment per Claimant		1,612	4,051	0	1,028	661	405	84	7,840
<b>All Claimants</b>									
Total Payment	800	4,206,125	15,229,236	44,161	5,259,596	1,918,551	1,245,227	1,245,513	29,148,408
Average Payment per Claimant		5,258	19,037	55	6,574	2,398	1,557	1,557	36,436
<b>A. Reduction</b>									
		0	2,469,504	0	0	0	0	201,967	2,671,471
		0.0%	14.0%	0.0%	0.0%	0.0%	0.0%	14.0%	8.4%
<b>Alternative Definition with All Heads of Damage Reduction</b>									
<b>Non-Minor Claimants</b>									
Total Payment	183	3,211,795	12,729,907	44,161	4,625,357	1,510,900	995,558	1,193,722	24,311,400
Percentage of All Claimants	23%	76%	84%	100%	88%	79%	80%	96%	83%
Average Payment per Claimant		17,551	69,562	241	25,275	8,256	5,440	6,523	132,849
<b>Minor Claimants</b>									
Total Payment	617	407,450	2,499,329	0	0	139,955	75,923	51,791	3,174,448
Percentage of All Claimants	77%	10%	16%	0%	0%	7%	6%	4%	11%
Average Payment per Claimant		660	4,051	0	0	227	123	84	5,145
<b>All Claimants</b>									
Total Payment	800	3,619,245	15,229,236	44,161	4,625,357	1,650,855	1,071,481	1,245,513	27,485,848
Average Payment per Claimant		4,524	19,037	55	5,782	2,064	1,339	1,557	34,357
<b>B. Reduction</b>									
		586,880	2,469,504	0	634,238	267,695	173,746	201,967	4,334,031
		14.0%	14.0%	0.0%	12.1%	14.0%	14.0%	14.0%	13.6%

Minor Injury Frequency Reduction	Total Savings including ALAE Reduction		Total Savings including Reduction to All Heads of Damage	
	Percentage Reduction		Percentage Reduction	
0% Reduction	2,671,471	8.4%	4,334,031	13.6%
5% Reduction	2,831,975	8.9%	4,532,187	14.2%
10% Reduction	2,992,479	9.4%	4,730,344	14.9%
(16)	(17)	(18)		
	Implied BI Loss Cost Allocation			
Category	Current Definition	Alternative Definition		
Non-Minor Claimants	93%	83%		
Minor Claimants	8%	17%		

**Note**  
Trended to 10/16/17 (max observed accident date) using BI severity trend of +6.0%  
Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
Other Costs includes: Disbursements and Total Other Damages  
Total Pre-Judgment Interest includes: Pre-Judgment Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

Appendix D  
Exhibit 5.1 All

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Savings Under Alternative Minor Injury Definition  
All Closing Years

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Category	Number of Claimant	Trended Total Past Pecuniary Losses	Trended Pain and Suffering	Trended Other Non Pecuniary Losses	Trended Future Pecuniary Losses	Trended Total Other Losses	Trended Total Pre-judgment Interest	Trended Total ALAE Paid	Trended Total Indemnity and ALAE
<b>Current Alberta Definition</b>									
<b>Non-Minor Claimants</b>									
Total Payment	563	8,311,324	30,919,395	291,508	11,006,415	3,583,767	3,012,350	3,564,504	60,689,264
Percentage of All Claimants	26%	84%	83%	99%	96%	87%	94%	80%	86%
Average Payment per Claimant		14,763	54,919	518	19,550	6,365	5,351	6,331	107,796
<b>Minor Claimants</b>									
Total Payment	1,594	1,618,718	6,448,481	2,141	406,547	520,931	190,026	875,262	10,062,105
Percentage of All Claimants	74%	16%	17%	1%	4%	13%	6%	20%	14%
Average Payment per Claimant		1,016	4,045	1	255	327	119	549	6,312
<b>All Claimants</b>									
Total Payment	2,157	9,930,042	37,367,876	293,649	11,412,962	4,104,698	3,202,376	4,439,767	70,751,370
Average Payment per Claimant		4,604	17,324	136	5,291	1,903	1,485	2,058	32,801
<b>Alternative Definition with ALAE Reduction</b>									
<b>Non-Minor Claimants</b>									
Total Payment	369	6,989,103	24,486,136	290,748	9,671,598	2,677,717	2,374,678	2,708,092	49,198,072
Percentage of All Claimants	17%	70%	77%	99%	85%	65%	74%	72%	76%
Average Payment per Claimant		18,941	66,358	788	26,210	7,257	6,435	7,339	133,328
<b>Minor Claimants</b>									
Total Payment	1,788	2,940,939	7,386,786	2,901	1,741,364	1,426,981	827,698	1,078,805	15,405,474
Percentage of All Claimants	83%	30%	23%	1%	15%	35%	26%	28%	24%
Average Payment per Claimant		1,645	4,131	2	974	798	463	603	8,616
<b>All Claimants</b>									
Total Payment	2,157	9,930,042	31,872,921	293,649	11,412,962	4,104,698	3,202,376	3,786,898	64,603,546
Average Payment per Claimant		4,604	14,777	136	5,291	1,903	1,485	1,756	29,951
<b>A. Reduction</b>									
		0	5,494,955	0	0	0	0	652,869	6,147,824
		0.0%	14.7%	0.0%	0.0%	0.0%	0.0%	14.7%	8.7%
<b>Alternative Definition with All Heads of Damage Reduction</b>									
<b>Non-Minor Claimants</b>									
Total Payment	369	6,989,103	24,486,136	290,748	9,671,598	2,677,717	2,374,678	2,708,092	49,198,072
Percentage of All Claimants	17%	70%	77%	99%	85%	65%	74%	72%	76%
Average Payment per Claimant		18,941	66,358	788	26,210	7,257	6,435	7,339	133,328
<b>Minor Claimants</b>									
Total Payment	1,788	1,480,724	7,386,786	0	63,086	823,385	356,787	1,078,805	11,189,573
Percentage of All Claimants	83%	15%	23%	0%	1%	20%	11%	28%	17%
Average Payment per Claimant		828	4,131	0	35	461	200	603	6,258
<b>All Claimants</b>									
Total Payment	2,157	8,469,827	31,872,921	290,748	9,734,683	3,501,101	2,731,466	3,786,898	60,387,645
Average Payment per Claimant		3,927	14,777	135	4,513	1,623	1,266	1,756	27,996
<b>B. Reduction</b>									
		1,460,215	5,494,955	2,901	1,678,279	603,597	470,910	652,869	10,363,725
		14.7%	14.7%	1.0%	14.7%	14.7%	14.7%	14.7%	14.6%

Minor Injury Frequency Reduction	Total Savings including ALAE Reduction	Percentage Reduction	Total Savings including Reduction to All Heads of Damage	Percentage Reduction
0% Reduction	6,147,824	8.7%	10,363,725	14.6%
5% Reduction	6,643,348	9.4%	11,044,527	15.6%
10% Reduction	7,138,872	10.1%	11,725,328	16.6%

(16)

(17)

(18)

Implied BI Loss Cost Allocation

Category	Current Definition	Alternative Definition
Non-Minor Claimants	86%	76%
Minor Claimants	14%	24%

Note

Trended to 10/16/17 (max observed accident date) using BI severity trend of +6.0%  
Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
Other Costs includes: Disbursements and Total Other Damages  
Total Pre-Judgment Interest includes: Pre-Judgment Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

**Selected Allocation of Bodily Injury Loss Costs And Savings Estimates**

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Exhibit 5.1 2017	Exhibit 5.1 All	Selected	Exhibit 5.1 2017	Exhibit 5.1 All	Selected
	Current Definition			Alternative Definition		
Category	Closing Year 2017	All Closing Years	Selected	Closing Year 2017	All Closing Years	Selected
Non-Minor Claimants	92%	86%	86%	83%	76%	77%
Minor Claimants	8%	14%	11%	17%	24%	20%
Non-Minor; Jurisdiction Outside of Alberta	NA	NA	3%	NA	NA	3%
Total	100%	100%	100%	100%	100%	100%
(8)	(9)	(10)	(11)			
	Exhibit 5.1 2017	Exhibit 5.1 All	Selected			
	Alternative Definition					
Minor Injury Frequency Reduction	Closing Year 2017	All Closing Years	Selected			
Total Savings including ALAE Reduction						
0% Reduction	8.4%	8.7%	8.5%			
5% Reduction	8.9%	9.4%	9.1%			
10% Reduction	9.4%	10.1%	9.7%			
Total Savings including Reduction to All Heads of Damage						
0% Reduction	13.6%	14.6%	14.1%			
5% Reduction	14.2%	15.6%	14.9%			
10% Reduction	14.9%	16.6%	15.7%			

Appendix E  
Exhibit 6.1

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Savings Under Change to 70% of Gross Past and Future Income Loss

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Category	Number of Claimant	Past Loss Of Income	Other Past Pecuniary Losses	Pain and Suffering	Other Non Pecuniary Losses	Loss of Earning Capacity	Other Future Pecuniary Losses	Total Other Losses	Total Pre-judgment Interest	Total ALAE Paid	Total Indemnity and ALAE
<b>Closing Year 2010</b>											
<b>Current (100% of Past and Future Income Loss)</b>											
Total Payment	670	691,584	446,566	4,864,450	4,136	915,747	369,610	458,909	427,156	745,134	8,923,292
Average Payment per Claimant		1,032	667	7,260	6	1,367	552	685	638	1,112	13,318
<b>Alternative (70% of Past and Future Income Loss)</b>											
Total Payment	670	484,109	446,566	4,864,450	4,136	641,023	369,610	458,909	427,156	745,134	8,441,093
Average Payment per Claimant		723	667	7,260	6	957	552	685	638	1,112	12,599
<b>A. Reduction</b>		207,475	0	0	0	274,724	0	0	0	0	482,199
Average Payment per Claimant		30%	0%	0%	0%	30%	0%	0%	0%	0%	5%
<b>Closing Year 2012</b>											
<b>Current (100% of Past and Future Income Loss)</b>											
Total Payment	687	1,432,192	656,686	7,017,429	142,403	1,315,662	705,173	723,328	619,308	858,517	13,470,698
Average Payment per Claimant		2,085	956	10,215	207	1,915	1,026	1,053	901	1,250	19,608
<b>Alternative (70% of Past and Future Income Loss)</b>											
Total Payment	687	1,002,534	656,686	7,017,429	142,403	920,963	705,173	723,328	619,308	858,517	12,646,342
Average Payment per Claimant		1,459	956	10,215	207	1,341	1,026	1,053	901	1,250	18,408
<b>A. Reduction</b>		429,657	0	0	0	394,698	0	0	0	0	824,356
Average Payment per Claimant		30%	0%	0%	0%	30%	0%	0%	0%	0%	6%
<b>Closing Year 2017</b>											
<b>Current (100% of Past and Future Income Loss)</b>											
Total Payment	800	1,623,006	1,605,973	14,057,812	30,000	2,492,628	1,585,565	1,431,723	941,572	1,021,611	24,789,890
Average Payment per Claimant		2,029	2,007	17,572	38	3,116	1,982	1,790	1,177	1,277	30,987
<b>Alternative (70% of Past and Future Income Loss)</b>											
Total Payment	800	1,136,104	1,605,973	14,057,812	30,000	1,744,840	1,585,565	1,431,723	941,572	1,021,611	23,555,200
Average Payment per Claimant		1,420	2,007	17,572	38	2,181	1,982	1,790	1,177	1,277	29,444
<b>A. Reduction</b>		486,902	0	0	0	747,788	0	0	0	0	1,234,690
Average Payment per Claimant		30%	0%	0%	0%	30%	0%	0%	0%	0%	5%
<b>All Closing Years</b>											
<b>Current (100% of Past and Future Income Loss)</b>											
Total Payment	2,157	3,746,782	2,709,225	25,939,691	176,539	4,724,037	2,660,348	2,613,961	1,988,036	2,625,262	47,183,880
Average Payment per Claimant		1,737	1,256	12,026	82	2,190	1,233	1,212	922	1,217	21,875
<b>Alternative (70% of Past and Future Income Loss)</b>											
Total Payment	2,157	2,622,747	2,709,225	25,939,691	176,539	3,306,826	2,660,348	2,613,961	1,988,036	2,625,262	47,183,880
Average Payment per Claimant		1,216	1,256	12,026	82	1,533	1,233	1,212	922	1,217	21,875
<b>A. Reduction</b>		1,124,034	0	0	0	1,417,211	0	0	0	0	2,541,245
Average Payment per Claimant		30%	0%	0%	0%	30%	0%	0%	0%	0%	5%
<b>Total Savings</b>											
Closing Year											
2010	5.4%										
2012	6.1%										
2017	5.0%										
All	5.4%										
<b>Selected</b>	<b>5.0%</b>										

Note

Values are untrended (cancels out in savings percentage calculation)  
 Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
 Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
 Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
 Other Costs includes: Disbursements and Total Other Damages  
 Total Pre-Judgment Interest includes: Pre-Judgment Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

# Appendix F

## Exhibit 7.1

Alberta Ministry of Finance								
Private Passenger Automobile								
Fall 2020 Reform Costing								
Savings Under Change to Non-Pecuniary Pre-Judgment Interest								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Category	Number of Claimant	Total Non Pecuniary Losses	Prejudgment Interest on Non-Pecuniary	OW Calculated Prejudgment Interest on Non-Pecuniary	Delta	All Other Settlement Costs	Total ALAE Paid	Total Indemnity and ALAE
Included in PJI Calculation	2,114	25,619,503	1,627,000	1,743,600	(116,600)	16,103,643	2,533,138	45,883,284
Exclusions per Exhibit 1	247	7,473,109	791,365			7,914,044	2,277,319	18,455,838
Additional Excludes Due to missing Settlement Date	43	496,726	55,210			656,536	92,124	1,300,596
Closing Year 2010								
Current (PJI based on 4% interest accumulated between accident date and settlement date)								
Total Payment	653	4,798,748		347,853		2,921,203	733,477	8,805,451
Average Payment per Claimant		7,349		533		4,474	1,123	13,485
Alternative (PJI based on variable interest accumulated between report date and settlement date)								
Total Payment	653	4,798,748		278,344		2,921,203	733,477	8,731,772
Average Payment per Claimant		7,349		426		4,474	1,123	13,372
A. Reduction								
Average Payment per Claimant		0		69,509		0	0	69,509
		0%		20%		0%	0%	0.8%
Closing Year 2012								
Current (PJI based on 4% interest accumulated between accident date and settlement date)								
Total Payment	682	6,962,332		492,644		4,545,736	795,104	12,776,785
Average Payment per Claimant		10,209		722		6,665	1,166	18,734
Alternative (PJI based on variable interest accumulated between report date and settlement date)								
Total Payment	682	6,962,332		273,788		4,545,736	795,104	12,576,960
Average Payment per Claimant		10,209		401		6,665	1,166	18,441
A. Reduction								
Average Payment per Claimant		0		218,856		0	0	218,856
		0%		44%		0%	0%	1.7%
Closing Year 2017								
Current (PJI based on 4% interest accumulated between accident date and settlement date)								
Total Payment	779	13,858,423		903,103		8,636,704	1,004,556	24,301,048
Average Payment per Claimant		17,790		1,159		11,087	1,290	31,195
Alternative (PJI based on variable interest accumulated between report date and settlement date)								
Total Payment	779	13,858,423		206,653		8,636,704	1,004,556	23,706,336
Average Payment per Claimant		17,790		265		11,087	1,290	30,432
A. Reduction								
Average Payment per Claimant		0		696,450		0	0	696,450
		0%		77%		0%	0%	2.9%
All Closing Years								
Current (PJI based on 4% interest accumulated between accident date and settlement date)								
Total Payment	2,114	25,619,503		1,743,600		16,103,643	2,533,138	45,883,284
Average Payment per Claimant		12,119		825		7,618	1,198	21,704
Alternative (PJI based on variable interest accumulated between report date and settlement date)								
Total Payment	2,114	25,619,503		758,785		16,103,643	2,533,138	45,883,284
Average Payment per Claimant		12,119		359		7,618	1,198	21,704
A. Reduction								
Average Payment per Claimant		0		984,815		0	0	984,815
		0%		56%		0%	0%	2.1%
Closing Year								
Total Savings								
2010								0.8%
2012								1.7%
2017								2.9%
All								2.1%
Selected								2.9%

### Note

Values are untrended (cancels out in savings percentage calculation)

Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages

Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages

Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages

Other Costs includes: Disbursements and Total Other Damages

Total Pre-Judgment Interest includes: Pre-Judgement Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary



Appendix G  
Exhibit 8.1 2017

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Savings Under Combined Alternative Minor Injury Definition, Change to 70% of Past and Future Income Loss, and Non-Pecuniary Pre-Judgment Interest  
Closing Year 2017

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Category	Number of Claimant	Trended Past Loss Of Income	Trended Other Past Pecuniary Losses	Trended Pain and Suffering	Trended Other Non Pecuniary Losses	Trended Loss of Earning Capacity	Trended Other Future Pecuniary Losses	Trended Total Other Losses	Trended Prejudgment Interest on Non-Pecuniary	Trended Prejudgment Interest on Pecuniary	Trended Total ALAE Paid	Total Indemnity and ALAE
<b>Current Alberta Definition</b>												
<b>Non-Minor Claimants</b>												
Total Payment	280	2,006,347	1,888,965	15,666,095	44,161	3,233,362	1,937,471	1,858,860	1,072,918	142,095	1,393,572	29,243,846
Percentage of All Claimants	35%	93%	92%	89%	100%	99%	97%	97%	98%	96%	96%	92%
Average Payment per Claimant		7,166	6,746	55,950	158	11,548	6,920	6,839	3,832	507	4,977	104,442
<b>Minor Claimants</b>												
Total Payment	520	144,344	166,469	2,032,645	0	20,797	67,966	59,691	24,732	5,482	53,907	2,576,033
Percentage of All Claimants	65%	7%	8%	11%	0%	1%	3%	3%	2%	4%	4%	8%
Average Payment per Claimant		278	320	3,909	0	40	131	115	48	11	104	4,954
<b>All Claimants</b>												
Total Payment	800	2,150,692	2,055,433	17,698,740	44,161	3,254,159	2,005,437	1,918,551	1,097,650	147,577	1,447,479	31,819,879
Average Payment per Claimant		2,688	2,569	22,123	55	4,068	2,507	2,398	1,372	184	1,809	39,775
<b>Alternative Definition with ALAE Reduction (including PJI and Loss of Income Savings)</b>												
<b>Non-Minor Claimants</b>												
Total Payment	183	1,201,605	1,495,216	12,729,907	44,161	2,075,695	1,660,079	1,510,900	200,190	120,698	1,193,722	22,232,173
Percentage of All Claimants	23%	80%	73%	84%	100%	91%	83%	79%	80%	82%	96%	83%
Average Payment per Claimant		6,566	8,171	69,562	241	11,343	9,071	8,256	1,094	660	6,523	121,487
<b>Minor Claimants</b>												
Total Payment	617	303,879	560,217	2,499,329	0	202,217	345,358	407,650	50,980	26,879	51,791	4,448,300
Percentage of All Claimants	77%	20%	27%	16%	0%	9%	17%	21%	20%	18%	4%	17%
Average Payment per Claimant		493	908	4,051	0	328	560	661	83	44	84	7,210
<b>All Claimants</b>												
Total Payment	800	1,505,484	2,055,433	15,229,236	44,161	2,277,911	2,005,437	1,918,551	251,170	147,577	1,245,513	26,680,473
Average Payment per Claimant		1,882	2,569	19,037	55	2,847	2,507	2,398	314	184	1,557	33,351
<b>A. Reduction</b>												
		645,208	0	2,469,504	0	976,248	0	0	846,480	0	201,967	5,139,406
		30.0%	0.0%	14.0%	0.0%	30.0%	0.0%	0.0%	77.1%	0.0%	14.0%	16.2%
<b>Alternative Definition with All Heads of Damage Reduction (including PJI and Loss of Income Savings)</b>												
<b>Non-Minor Claimants</b>												
Total Payment	183	1,201,605	1,495,216	12,729,907	44,161	2,075,695	1,660,079	1,510,900	200,190	120,698	1,193,722	22,232,173
Percentage of All Claimants	23%	80%	73%	84%	100%	91%	83%	79%	80%	82%	96%	83%
Average Payment per Claimant		6,566	8,171	69,562	241	11,343	9,071	8,256	1,094	660	6,523	121,487
<b>Minor Claimants</b>												
Total Payment	617	93,819	273,423	2,499,329	0	0	65,539	139,955	15,934	6,287	51,791	3,146,078
Percentage of All Claimants	77%	6%	13%	16%	0%	0%	3%	7%	6%	4%	4%	12%
Average Payment per Claimant		152	443	4,051	0	0	106	227	26	10	84	5,099
<b>All Claimants</b>												
Total Payment	800	1,295,424	1,768,639	15,229,236	44,161	2,075,695	1,725,618	1,650,855	216,124	126,986	1,245,513	25,378,251
Average Payment per Claimant		1,619	2,211	19,037	55	2,595	2,157	2,064	270	159	1,557	31,723
<b>B. Reduction</b>												
		855,268	286,794	2,469,504	0	1,178,464	279,818	267,695	881,526	20,591	201,967	6,441,628
		39.8%	14.0%	14.0%	0.0%	36.2%	14.0%	14.0%	80.3%	14.0%	14.0%	20.2%

Minor Injury Frequency Reduction	Total Savings including ALAE Reduction	Percentage Reduction	Total Savings including Reduction to All Heads of Damage	Percentage Reduction
0% Reduction	5,139,406	16.2%	6,441,628	20.2%
5% Reduction	5,299,910	16.7%	6,639,784	20.9%
10% Reduction	5,460,414	17.2%	6,837,941	21.5%
(19)	(20)	(21)		
	Implied BI Loss Cost Allocation			
Category	Current Definition	Alternative Definition		
Non-Minor Claimants	92%	83%		
Minor Claimants	8%	17%		

**Notes:**  
Trended to 10/16/17 (max observed accident date) using BI severity trend of +6.0%  
Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
Other Costs includes: Disbursements and Total Other Damages  
Total Pre-Judgment Interest includes: Pre-Judgement Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

Appendix G  
Exhibit 8.1 All

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Savings Under Combined Alternative Minor Injury Definition, Change to 70% of Past and Future Income Loss, and Non-Pecuniary Pre-Judgment Interest  
All Closing Years

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Category	Number of Claimant	Trended Past Loss Of Income	Trended Other Past Pecuniary Losses	Trended Pain and Suffering	Trended Other Non Pecuniary Losses	Trended Loss of Earning Capacity	Trended Other Future Pecuniary Losses	Trended Total Other Losses	Trended Prejudgment Interest on Non-Pecuniary	Trended Prejudgment Interest on Pecuniary	Trended Total ALAE Paid	Total Indemnity and ALAE
<b>Current Alberta Definition</b>												
<b>Non-Minor Claimants</b>												
Total Payment	563	5,047,574	3,263,750	30,919,395	291,508	7,333,055	3,673,360	3,583,767	2,548,627	463,723	3,564,504	60,689,264
Percentage of All Claimants	26%	85%	82%	83%	99%	98%	94%	87%	95%	89%	80%	86%
Average Payment per Claimant		8,965	5,797	54,919	518	13,025	6,525	6,365	4,527	824	6,331	107,796
<b>Minor Claimants</b>												
Total Payment	1,594	878,338	740,179	6,448,481	2,141	157,959	248,588	520,931	135,016	55,609	875,262	10,062,105
Percentage of All Claimants	74%	15%	18%	17%	1%	2%	6%	13%	5%	11%	20%	14%
Average Payment per Claimant		551	464	4,045	1	99	156	327	85	35	549	6,312
<b>All Claimants</b>												
Total Payment	2,157	5,926,112	4,003,930	37,367,876	293,649	7,491,015	3,921,947	4,104,698	2,683,643	518,732	4,439,767	70,751,370
Average Payment per Claimant		2,747	1,856	17,324	136	3,473	1,818	1,903	1,244	240	2,058	32,801
<b>Alternative Definition with ALAE Reduction (including PJI and Loss of Income Savings)</b>												
<b>Non-Minor Claimants</b>												
Total Payment	369	3,140,204	2,503,098	24,486,136	290,748	4,656,471	3,019,496	2,677,717	867,221	381,905	2,708,092	44,731,087
Percentage of All Claimants	17%	76%	63%	77%	99%	89%	77%	65%	74%	74%	72%	76%
Average Payment per Claimant		8,510	6,783	66,358	788	12,619	8,183	7,257	2,350	1,035	7,339	121,222
<b>Minor Claimants</b>												
Total Payment	1,788	1,008,075	1,500,832	7,386,786	2,901	587,239	902,452	1,426,981	300,655	136,827	1,078,805	14,331,553
Percentage of All Claimants	83%	24%	37%	23%	1%	11%	23%	35%	26%	26%	28%	24%
Average Payment per Claimant		564	839	4,131	2	328	505	798	168	77	603	8,015
<b>All Claimants</b>												
Total Payment	2,157	4,148,279	4,003,930	31,872,921	293,649	5,243,710	3,921,947	4,104,698	1,167,876	518,732	3,786,898	59,062,640
Average Payment per Claimant		1,923	1,856	14,777	136	2,431	1,818	1,903	541	240	1,756	27,382
<b>A. Reduction</b>												
		1,777,834	0	5,494,955	0	2,247,304	0	0	1,515,768	0	652,869	11,688,730
		30.0%	0.0%	14.7%	0.0%	30.0%	0.0%	0.0%	56.5%	0.0%	14.7%	16.5%
<b>Alternative Definition with All Heads of Damage Reduction (including PJI and Loss of Income Savings)</b>												
<b>Non-Minor Claimants</b>												
Total Payment	369	3,140,204	2,503,098	24,486,136	290,748	4,656,471	3,019,496	2,677,717	867,221	381,905	2,708,092	44,731,087
Percentage of All Claimants	17%	76%	63%	77%	99%	89%	77%	65%	74%	74%	72%	76%
Average Payment per Claimant		8,510	6,783	66,358	788	12,619	8,183	7,257	2,350	1,035	7,339	121,222
<b>Minor Claimants</b>												
Total Payment	1,788	398,070	912,053	7,386,786	0	0	325,729	823,385	128,919	60,547	1,078,805	11,114,293
Percentage of All Claimants	83%	10%	23%	23%	0%	0%	8%	20%	11%	12%	28%	19%
Average Payment per Claimant		223	510	4,131	0	0	182	461	72	34	603	6,216
<b>All Claimants</b>												
Total Payment	2,157	3,538,273	3,415,151	31,872,921	290,748	4,656,471	3,345,224	3,501,101	996,139	442,453	3,786,898	55,845,380
Average Payment per Claimant		1,640	1,583	14,777	135	2,159	1,551	1,623	462	205	1,756	25,890
<b>B. Reduction</b>												
		2,387,839	588,779	5,494,955	2,901	2,834,543	576,723	603,597	1,687,504	76,280	652,869	14,905,989
		40.3%	14.7%	14.7%	1.0%	37.8%	14.7%	14.7%	62.9%	14.7%	14.7%	21.1%

Minor Injury Frequency Reduction	Total Savings including ALAE Reduction		Total Savings including Reduction to All Heads of Damage	
	Percentage Reduction		Percentage Reduction	
0% Reduction	11,688,730	16.5%	14,905,989	21.1%
5% Reduction	12,184,254	17.2%	15,586,791	22.0%
10% Reduction	12,679,778	17.9%	16,267,593	23.0%
(19)	(20)	(21)		
	Implied BI Loss Cost Allocation			
Category	Current Definition	Alternative Definition		
Non-Minor Claimants	86%	76%		
Minor Claimants	14%	24%		

**Notes:**  
Trended to 10/16/17 (max observed accident date) using BI severity trend of +6.0%  
Total Past Pecuniary Losses includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
Total Non Pecuniary Losses includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
Future Pecuniary Losses includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
Other Costs includes: Disbursements and Total Other Damages  
Total Pre-Judgment Interest includes: Pre-Judgement Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

**Savings Under Combined Alternative Minor Injury Definition, Change to 70% of Past and Future Income Loss, and Non-Pecuniary Pre-Judgment Interest**

(1)	(2) Exhibit 8.1 2017	(3) Exhibit 8.1 All	(4) Selected
	Alternative Definition		
Minor Injury Frequency Reduction	Closing Year 2017	All Closing Years	Selected
	<b>Total Savings including ALAE Reduction</b>		
0% Reduction	16.2%	16.5%	16.3%
5% Reduction	16.7%	17.2%	16.9%
10% Reduction	17.2%	17.9%	17.5%
	<b>Total Savings including Reduction to All Heads of Damage</b>		
0% Reduction	20.2%	21.1%	20.7%
5% Reduction	20.9%	22.0%	21.4%
10% Reduction	21.5%	23.0%	22.2%

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Current Minor Injury Definition

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	Estimated Average Required Premium
Third Party Liability	Bodily Injury: Non-Minor Claimants	455.12	0.860	391.62	1.008	21.10%	7.0%	549	33.3	582
Third Party Liability	Bodily Injury: Minor Claimants	57.16	0.860	49.19	1.008	21.10%	7.0%	69	4.2	73
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20
<i>Third Party Liability</i>	<i>Bodily Injury</i>	<i>528.13</i>	<i>0.860</i>	<i>454.44</i>	<i>1.008</i>	<i>21.10%</i>	<i>7.0%</i>	<i>637</i>	<i>38.7</i>	<i>676</i>
Third Party Liability	Property Damage	180.19	0.968	174.44	1.008	21.10%	7.0%	245	14.8	259
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66
Third Party Liability	Total	753.35	0.894	673.17	1.008	21.10%	7.0%	943.98	57.25	1,001.23
Accident Benefits	Total	83.64	0.946	79.12	1.008	21.10%	7.0%	110.95	6.86	117.81
<b>Basic</b>		<b>836.99</b>	<b>0.899</b>	<b>752.29</b>	<b>1.008</b>	<b>21.10%</b>	<b>7.0%</b>	<b>1,054.93</b>	<b>64.11</b>	<b>1,119.04</b>
Collision	Total	279.78	0.985	275.72	1.008	21.10%	7.0%	386.64	23.12	410
Comprehensive	Total	222.02	0.978	217.09	1.008	21.10%	7.0%	304.42	18.65	323
All Perils	Total	527.63	0.981	517.50	1.008	21.10%	7.0%	725.69	43.92	770
Specified Perils	Total	65.80	0.978	64.39	1.008	21.10%	7.0%	90.29	5.52	96
Underinsured	Total	8.56	0.805	6.90	1.008	21.10%	7.0%	9.67	0.59	10
<b>Package</b>	<b>Weighted</b>	<b>1,247.52</b>	<b>0.925</b>	<b>1,153.85</b>	<b>1.008</b>	<b>21.10%</b>	<b>7.0%</b>	<b>1,618.03</b>	<b>98.18</b>	<b>1,716.21</b>
	Fixed Expense	70.01	1.000	70.01	1.008	21.10%	7.0%	98.18		

Note

- (3) Per Alberta Private Passenger Vehicles 2020 Annual Review; HL provision based on 4.74% of estimated TPL street premium; Allocation of BI implied by Exhibit 5
- (4) Based on investment rate of 3.39% (3-year industry average) and selected payment pattern
- (5) (3) \* (4)
- (6) Based on investment rate of 3.39% (3-year industry average) and assumed three month delay
- (7) Based on total expense provision of 26.00% and assumption that 50% of general and other acquisition expenses are fixed
- (8) AIRB benchmark
- (9) (5) \* (6) / (1 - (7) - (8))
- (10) Based on assumption that 50% of general and other acquisition expenses (4.90%) are fixed
- (11) (9) + (10)

Appendix I  
Exhibit 5.4

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Savings Under Alternative Minor Injury Definition  
Pain&Suffering Reduction Applied to ALAE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		See Note	Exhibit 5.3	(3) * (4)	Exhibit 5.3	Exhibit 5.3	Exhibit 5.3	(5) * (6) / (1 - (7) - (8))	Exhibit 5.3	(9) + (10)	Exhibit 5.3	(11) - (12)
Estimated Average Required Premium												
Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
0% Frequency Reduction: BI Loss Cost Savings = 8.5%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	372.70	0.860	320.70	1.008	21.10%	7.0%	450	33.3	483	582	(99)
Third Party Liability	Bodily Injury: Minor Claimants	94.46	0.860	81.28	1.008	21.10%	7.0%	114	4.2	118	73	45
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	483.01	0.860	415.62	1.008	21.10%	7.0%	583	38.7	621	676	(54)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	709.58	0.896	635.65	1.008	21.10%	7.0%	891.37	57.25	948.62	1,001.23	(52.61)
Accident Benefits	Total	80.07	0.946	75.74	1.008	21.10%	7.0%	106.21	6.86	113.07	117.81	(4.74)
										Basic:	1,061.69	1,119.04
										All Other Coverage:	597.17	597.17
										Total All Coverages:	1,658.86	1,716.21
										Reduction %:		(57.35)
												0.00
												(57.35)
												-3.3%
5% Frequency Reduction: BI Loss Cost Savings = 9.1%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	372.70	0.860	320.70	1.008	21.10%	7.0%	450	33.3	483	582	(99)
Third Party Liability	Bodily Injury: Minor Claimants	91.28	0.860	78.55	1.008	21.10%	7.0%	110	4.2	114	73	41
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	479.83	0.860	412.88	1.008	21.10%	7.0%	579	38.7	618	676	(58)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	706.40	0.896	632.91	1.008	21.10%	7.0%	887.53	57.25	944.78	1,001.23	(56.45)
Accident Benefits	Total	79.82	0.946	75.50	1.008	21.10%	7.0%	105.88	6.86	112.74	117.81	(5.07)
										Basic:	1,057.52	1,119.04
										All Other Coverage:	597.17	597.17
										Total All Coverages:	1,654.69	1,716.21
										Reduction %:		(61.52)
												0.00
												(61.52)
												-3.6%
10% Frequency Reduction: BI Loss Cost Savings = 9.7%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	372.70	0.860	320.70	1.008	21.10%	7.0%	450	33.3	483	582	(99)
Third Party Liability	Bodily Injury: Minor Claimants	88.10	0.860	75.81	1.008	21.10%	7.0%	106	4.2	110	73	37
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	476.65	0.860	410.14	1.008	21.10%	7.0%	575	38.7	614	676	(62)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	703.22	0.896	630.18	1.008	21.10%	7.0%	883.69	57.25	940.94	1,001.23	(60.29)
Accident Benefits	Total	79.56	0.946	75.26	1.008	21.10%	7.0%	105.54	6.86	112.40	117.81	(5.41)
										Basic:	1,053.35	1,119.04
										All Other Coverage:	597.17	597.17
										Total All Coverages:	1,650.51	1,716.21
										Reduction %:		(65.69)
												0.00
												(65.69)
												-3.8%

Note

Bodily injury allocation and savings per Exhibit 5.3. Assume 50% of bodily injury savings percentage applicable to accident benefits

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Savings Under Alternative Minor Injury Definition  
Pain&Suffering Reduction Applied to All Heads of Damage

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		See Note	Exhibit 5.3	(3) * (4)	Exhibit 5.3	Exhibit 5.3	Exhibit 5.3	(5) * (6) / (1 - (7) - (8))	Exhibit 5.3	(9) + (10)	Exhibit 5.3	(11) - (12)
Estimated Average Required Premium												
Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
0% Frequency Reduction: BI Loss Cost Savings = 14.1%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	349.14	0.860	300.43	1.008	21.10%	7.0%	421	33.3	455	582	(128)
Third Party Liability	Bodily Injury: Minor Claimants	88.49	0.860	76.14	1.008	21.10%	7.0%	107	4.2	111	73	38
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	453.48	0.860	390.21	1.008	21.10%	7.0%	547	38.7	586	676	(90)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	680.05	0.897	610.24	1.008	21.10%	7.0%	855.73	57.25	912.99	1,001.23	(88.24)
Accident Benefits	Total	77.73	0.946	73.53	1.008	21.10%	7.0%	103.11	6.86	109.97	117.81	(7.84)
										Basic:	1,022.96	(96.08)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,620.12	(96.08)
										Reduction %:	1,716.21	-5.6%
5% Frequency Reduction: BI Loss Cost Savings = 14.9%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	349.14	0.860	300.43	1.008	21.10%	7.0%	421	33.3	455	582	(128)
Third Party Liability	Bodily Injury: Minor Claimants	84.31	0.860	72.54	1.008	21.10%	7.0%	102	4.2	106	73	33
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	449.29	0.860	386.61	1.008	21.10%	7.0%	542	38.7	581	676	(95)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	675.87	0.898	606.64	1.008	21.10%	7.0%	850.68	57.25	907.94	1,001.23	(93.29)
Accident Benefits	Total	77.40	0.946	73.22	1.008	21.10%	7.0%	102.67	6.86	109.53	117.81	(8.28)
										Basic:	1,017.47	(101.57)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,614.63	(101.57)
										Reduction %:	1,716.21	-5.9%
10% Frequency Reduction: BI Loss Cost Savings = 15.7%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	349.14	0.860	300.43	1.008	21.10%	7.0%	421	33.3	455	582	(128)
Third Party Liability	Bodily Injury: Minor Claimants	80.12	0.860	68.94	1.008	21.10%	7.0%	97	4.2	101	73	28
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	445.11	0.860	383.00	1.008	21.10%	7.0%	537	38.7	576	676	(100)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	671.68	0.898	603.04	1.008	21.10%	7.0%	845.63	57.25	902.89	1,001.23	(98.34)
Accident Benefits	Total	77.07	0.946	72.90	1.008	21.10%	7.0%	102.23	6.86	109.09	117.81	(8.72)
										Basic:	1,011.98	(107.06)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,609.14	(107.06)
										Reduction %:	1,716.21	-6.2%

Note

Bodily injury allocation and savings per Exhibit 5.3. Assume 50% of bodily injury savings percentage applicable to accident benefits

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Savings Under Change to 70% of Gross Past and Future Income Loss

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		See Note	Exhibit 5.3	(3) * (4)	Exhibit 5.3	Exhibit 5.3	Exhibit 5.3	(5) * (6) / (1 - (7) - (8))	Exhibit 5.3	(9) + (10)	Exhibit 5.3	(12) - (11)

Estimated Average Required Premium
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Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
BI Loss Cost Savings = 5.0%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	431.75	0.860	371.51	1.008	21.10%	7.0%	521	33.3	554	582	28
Third Party Liability	Bodily Injury: Minor Claimants	54.23	0.860	46.66	1.008	21.10%	7.0%	65	4.2	70	73	4
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	501.82	0.860	431.81	1.008	21.10%	7.0%	606	38.7	644	676	32
Third Party Liability	Property Damage	180.19	0.968	174.44	1.008	21.10%	7.0%	245	14.8	259	259	0
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	753.35	0.864	650.54	1.008	21.10%	7.0%	912.24	57.25	969.49	1,001.23	31.74
Accident Benefits	Total	83.64	0.946	79.12	1.008	21.10%	7.0%	110.95	6.86	117.81	117.81	-
										Basic:	1,087.30	(31.74)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,684.47	(31.74)
										Reduction %:		-1.8%

Note

Bodily injury allocation per Exhibit 5.3. Bodily injury saving per Exhibit 6.1.

Appendix J  
Exhibit 7.2

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Savings Under Change to Non-Pecuniary Pre-Judgment Interest

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		See Note	Exhibit 5.3	(3) * (4)	Exhibit 5.3	Exhibit 5.3	Exhibit 5.3	(5) * (6) / (1 - (7) - (8))	Exhibit 5.3	(9) + (10)	Exhibit 5.3	(12) - (11)

Estimated Average Required Premium

Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
<b>0% Frequency Reduction: BI Loss Cost Savings = 2.9%</b>												
Third Party Liability	Bodily Injury: Non-Minor Claimants	441.67	0.860	380.05	1.008	21.10%	7.0%	533	33.3	566	582	16
Third Party Liability	Bodily Injury: Minor Claimants	55.48	0.860	47.74	1.008	21.10%	7.0%	67	4.2	71	73	2
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
<i>Third Party Liability</i>	<i>Bodily Injury</i>	<i>512.99</i>	<i>0.860</i>	<i>441.42</i>	<i>1.008</i>	<i>21.10%</i>	<i>7.0%</i>	<i>619</i>	<i>38.7</i>	<i>658</i>	<i>676</i>	<i>18</i>
Third Party Liability	Property Damage	180.19	0.968	174.44	1.008	21.10%	7.0%	245	14.8	259	259	0
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	753.35	0.876	660.15	1.008	21.10%	7.0%	925.71	57.25	982.97	1,001.23	18.26
Accident Benefits	Total	83.64	0.946	79.12	1.008	21.10%	7.0%	110.95	6.86	117.81	117.81	-
										<b>Basic:</b>	<b>1,100.78</b>	<b>1,119.04</b>
										<b>All Other Coverage:</b>	<b>597.17</b>	<b>597.17</b>
										<b>Total All Coverages:</b>	<b>1,697.94</b>	<b>1,716.21</b>
										<b>Reduction %:</b>		<b>(18.26)</b>
												<b>0.00</b>
												<b>(18.26)</b>
												<b>-1.1%</b>

Notes

Bodily injury allocation per Exhibit 5.3. Bodily injury saving per Exhibit 7.1.



Appendix K  
Exhibit 8.3 Combined

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Savings Under Combined Alternative Minor Injury Definition, Change to 70% of Past and Future Income Loss, and Non-Pecuniary Pre-Judgment Interest  
Pain&Suffering Reduction Applied to ALAE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		See Note	Exhibit 5.3	(3) * (4)	Exhibit 5.3	Exhibit 5.3	Exhibit 5.3	(5) * (6) / (1 - (7) - (8))	Exhibit 5.3	(9) + (10)	Exhibit 5.3	(11) - (12)
Estimated Average Required Premium												
Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
0% Frequency Reduction: BI Loss Cost Savings = 16.3%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	339.87	0.860	292.45	1.008	21.10%	7.0%	410	33.3	443	582	(139)
Third Party Liability	Bodily Injury: Minor Claimants	86.14	0.860	74.12	1.008	21.10%	7.0%	104	4.2	108	73	35
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	441.85	0.860	380.20	1.008	21.10%	7.0%	533	38.7	572	676	(104)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	668.42	0.898	600.23	1.008	21.10%	7.0%	841.70	57.25	898.96	1,001.23	(102.28)
Accident Benefits	Total	76.81	0.946	72.66	1.008	21.10%	7.0%	101.89	6.86	108.75	117.81	(9.06)
										Basic:	1,007.70	(111.34)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,604.87	(111.34)
										Reduction %:		-6.5%
5% Frequency Reduction: BI Loss Cost Savings = 16.9%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	339.87	0.860	292.45	1.008	21.10%	7.0%	410	33.3	443	582	(139)
Third Party Liability	Bodily Injury: Minor Claimants	82.96	0.860	71.38	1.008	21.10%	7.0%	100	4.2	104	73	31
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	438.67	0.860	377.46	1.008	21.10%	7.0%	529	38.7	568	676	(108)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	665.24	0.898	597.50	1.008	21.10%	7.0%	837.86	57.25	895.12	1,001.23	(106.11)
Accident Benefits	Total	76.56	0.946	72.42	1.008	21.10%	7.0%	101.55	6.86	108.41	117.81	(9.40)
										Basic:	1,003.53	(115.51)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,600.70	(115.51)
										Reduction %:		-6.7%
10% Frequency Reduction: BI Loss Cost Savings = 17.5%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	339.87	0.860	292.45	1.008	21.10%	7.0%	410	33.3	443	582	(139)
Third Party Liability	Bodily Injury: Minor Claimants	79.78	0.860	68.65	1.008	21.10%	7.0%	96	4.2	100	73	27
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	435.49	0.860	374.73	1.008	21.10%	7.0%	525	38.7	564	676	(112)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	662.06	0.898	594.76	1.008	21.10%	7.0%	834.02	57.25	891.28	1,001.23	(109.95)
Accident Benefits	Total	76.30	0.946	72.18	1.008	21.10%	7.0%	101.22	6.86	108.08	117.81	(9.73)
										Basic:	999.36	(119.68)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,596.52	(119.68)
										Reduction %:		-7.0%

Note

Bodily injury allocation and savings per Exhibit 8.2. Assume 50% of bodily injury savings percentage applicable to accident benefits

Appendix K  
Exhibit 8.4 Combined

Alberta Ministry of Finance  
Private Passenger Automobile  
Fall 2020 Reform Costing

Accident Year 2021 Projected Average Required Premium  
Savings Under Combined Alternative Minor Injury Definition, Change to 70% of Past and Future Income Loss, and Non-Pecuniary Pre-Judgment Interest  
Pain&Suffering Reduction Applied to All Heads of Damage

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		See Note	Exhibit 5.3	(3) * (4)	Exhibit 5.3	Exhibit 5.3	Exhibit 5.3	(5) * (6) / (1 - (7) - (8))	Exhibit 5.3	(9) + (10)	Exhibit 5.3	(11) - (12)
Estimated Average Required Premium												
Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
0% Frequency Reduction: BI Loss Cost Savings = 20.7%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	321.67	0.860	276.78	1.008	21.10%	7.0%	388	33.3	421	582	(161)
Third Party Liability	Bodily Injury: Minor Claimants	81.53	0.860	70.15	1.008	21.10%	7.0%	98	4.2	103	73	29
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	419.04	0.860	360.57	1.008	21.10%	7.0%	506	38.7	544	676	(132)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	645.61	0.899	580.60	1.008	21.10%	7.0%	814.17	57.25	871.43	1,001.23	(129.80)
Accident Benefits	Total	75.00	0.946	70.95	1.008	21.10%	7.0%	99.49	6.86	106.35	117.81	(11.46)
										Basic:	977.78	(141.26)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,574.94	(141.26)
										Reduction %:	1,716.21	-8.2%
5% Frequency Reduction: BI Loss Cost Savings = 21.4%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	321.67	0.860	276.78	1.008	21.10%	7.0%	388	33.3	421	582	(161)
Third Party Liability	Bodily Injury: Minor Claimants	77.34	0.860	66.55	1.008	21.10%	7.0%	93	4.2	98	73	24
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	414.85	0.860	356.97	1.008	21.10%	7.0%	501	38.7	539	676	(137)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	641.42	0.900	577.00	1.008	21.10%	7.0%	809.12	57.25	866.38	1,001.23	(134.85)
Accident Benefits	Total	74.67	0.946	70.64	1.008	21.10%	7.0%	99.05	6.86	105.91	117.81	(11.90)
										Basic:	972.29	(146.75)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,569.45	(146.75)
										Reduction %:	1,716.21	-8.6%
10% Frequency Reduction: BI Loss Cost Savings = 22.2%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	321.67	0.860	276.78	1.008	21.10%	7.0%	388	33.3	421	582	(161)
Third Party Liability	Bodily Injury: Minor Claimants	73.16	0.860	62.95	1.008	21.10%	7.0%	88	4.2	92	73	19
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	410.67	0.860	353.37	1.008	21.10%	7.0%	496	38.7	534	676	(142)
Third Party Liability	Property Damage	181.54	0.968	175.74	1.008	21.10%	7.0%	246	14.8	261	259	2
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	637.24	0.900	573.40	1.008	21.10%	7.0%	804.07	57.25	861.33	1,001.23	(139.90)
Accident Benefits	Total	74.34	0.946	70.32	1.008	21.10%	7.0%	98.61	6.86	105.47	117.81	(12.34)
										Basic:	966.80	(152.24)
										All Other Coverage:	597.17	0.00
										Total All Coverages:	1,563.96	(152.24)
										Reduction %:	1,716.21	-8.9%

Note

Bodily injury allocation and savings per Exhibit 8.2. Assume 50% of bodily injury savings percentage applicable to accident benefits

# Appendix L

## Exhibit 9.1

### Alberta Ministry of Finance Private Passenger Automobile Fall 2020 Reform Costing

#### Forecast Accident Year 2021 Comparison Between \$5,349 and \$8,000 Cap on Pain and Suffering

(1)	(2)	(3)	(4)	(5) (4) - (3)	(6) (5) / (3)	(7)	(8) (3) + (7)	(9) (4) + (7)	(10) (9) - (8)	(11) (10) / (8)
Category	Number of Claimant	Trended Pain and Suffering Assuming \$5,349 Cap	Trended Pain and Suffering Assuming \$8,000 Cap	Difference	Percent	Trended Total Non-Pain and Suffering Losses and ALAE	Total Trended Losses and ALAE Assuming \$5,349 Cap	Total Trended Losses and ALAE Assuming \$8,000 Cap	Difference	Percent
<b>Closing Year 2010 Data (trended @ 6% to 07/01/21)</b>										
<b>Non-Minor Claimants</b>										
Total Payment	115	7,427,007	7,427,007	0	0.0%	7,438,358	14,865,365	14,865,365	0	0.0%
Average Payment per Claimant		64,583	64,583	0	0.0%	64,681	129,264	129,264	0	0.0%
<b>Minor Claimants</b>										
Total Payment	555	2,717,268	3,347,843	630,575	23.2%	2,340,752	5,058,020	5,688,595	630,575	12.5%
Average Payment per Claimant		4,896	6,032	1,136	23.2%	4,218	9,114	10,250	1,136	12.5%
<b>All Claimants</b>										
Total Payment	670	10,144,275	10,774,850	630,575	6.2%	9,779,110	19,923,385	20,553,960	630,575	3.2%
Average Payment per Claimant		15,141	16,082	941	6.2%	14,596	29,736	30,678	941	3.2%
<b>Closing Year 2012 Data (trended @ 6% to 07/01/21)</b>										
<b>Non-Minor Claimants</b>										
Total Payment	168	11,506,811	11,506,811	0	0.0%	12,660,806	24,167,617	24,167,617	0	0.0%
Average Payment per Claimant		68,493	68,493	0	0.0%	75,362	143,855	143,855	0	0.0%
<b>Minor Claimants</b>										
Total Payment	519	2,307,180	2,879,789	572,609	24.8%	1,470,312	3,777,492	4,350,101	572,609	15.2%
Average Payment per Claimant		4,445	5,549	1,103	24.8%	2,833	7,278	8,382	1,103	15.2%
<b>All Claimants</b>										
Total Payment	687	13,813,991	14,386,600	572,609	4.1%	14,131,118	27,945,109	28,517,719	572,609	2.0%
Average Payment per Claimant		20,108	20,941	833	4.1%	20,569	40,677	41,511	833	2.0%
<b>Closing Year 2017 Data (trended @ 6% to 07/01/21)</b>										
<b>Non-Minor Claimants</b>										
Total Payment	280	19,446,216	19,446,216	0	0.0%	16,853,970	36,300,186	36,300,186	0	0.0%
Average Payment per Claimant		69,451	69,451	0	0.0%	60,193	129,644	129,644	0	0.0%
<b>Minor Claimants</b>										
Total Payment	520	2,338,741	2,848,271	509,530	21.8%	674,503	3,013,245	3,522,774	509,530	16.9%
Average Payment per Claimant		4,498	5,477	980	21.8%	1,297	5,795	6,775	980	16.9%
<b>All Claimants</b>										
Total Payment	800	21,784,957	22,294,487	509,530	2.3%	17,528,473	39,313,431	39,822,960	509,530	1.3%
Average Payment per Claimant		27,231	27,868	637	2.3%	21,911	49,142	49,779	637	1.3%
<b>All Data (trended @ 6% to 07/01/21)</b>										
<b>Non-Minor Claimants</b>										
Total Payment	563	38,380,034	38,380,034	0	0.0%	36,953,135	75,333,169	75,333,169	0	0.0%
Average Payment per Claimant		68,171	68,171	0	0.0%	65,636	133,807	133,807	0	0.0%
<b>Minor Claimants</b>										
Total Payment	1,594	7,363,189	9,075,903	1,712,715	23.3%	4,485,567	11,848,756	13,561,471	1,712,715	14.5%
Average Payment per Claimant		4,619	5,694	1,074	23.3%	2,814	7,433	8,508	1,074	14.5%
<b>All Claimants</b>										
Total Payment	2,157	45,743,223	47,455,937	1,712,715	3.7%	41,438,702	87,181,925	88,894,639	1,712,715	2.0%
Average Payment per Claimant		21,207	22,001	794	3.7%	19,211	40,418	41,212	794	2.0%
Closing Year	Total Cost									
2010	3.2%									
2012	2.0%									
2017	1.3%									
All	2.0%									
<b>Selected</b>	<b>1.5%</b>									

#### Note

Total Non-Pecuniary Losses and ALAE Includes: Total Past Pecuniary Losses, Total Non Pecuniary Losses (ex Pain and Suffering), Future Pecuniary Losses, Other Costs, and Total Pre-Judgment Interest  
Total Past Pecuniary Losses Includes: Past Loss Of Income, Past Medical/Rehabilitation, Past Housekeeping, Past Care, Past Other, and Past Fatal Accident Act Damages  
Total Non Pecuniary Losses Includes: Pain and Suffering, Loss of Consortium, and Non-P Fatal Accident Act Damages  
Future Pecuniary Losses Includes: Loss of Earning Capacity, Future Medical/Rehabilitation, Future Housekeeping, Future Care, and Future Other Damages  
Other Costs Includes: Disbursements and Total Other Damages  
Total Pre-Judgment Interest Includes: Pre-Judgment Interest on Pecuniary, and Pre-Judgment Interest on Non-Pecuniary

Alberta Ministry of Finance

Private Passenger Automobile

### Fall 2020 Reform Costing

**Projected Required Premium**

### Comparison Between \$5,349 and \$8,000 Cap on Pain and Suffering

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
										Estimated Average Required Premium		
Coverage	Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Projected Discounted Loss Cost per Car incl LAE	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	New Definition	Current Definition	Change
0% Frequency Reduction: BI Loss Cost Savings = 1.5%												
Third Party Liability	Bodily Injury: Non-Minor Claimants	462.16	0.860	397.67	1.008	21.10%	7.0%	558	33.3	591	582	8
Third Party Liability	Bodily Injury: Minor Claimants	58.05	0.860	49.95	1.008	21.10%	7.0%	70	4.2	74	73	1
Third Party Liability	Bodily Injury: Jurisdiction Outside of Alberta	15.84	0.860	13.63	1.008	21.10%	7.0%	19	1.2	20	20	0
Third Party Liability	Bodily Injury	536.05	0.860	461.26	1.008	21.10%	7.0%	647	38.7	685	676	10
Third Party Liability	Property Damage	180.19	0.968	174.44	1.008	21.10%	7.0%	245	14.8	259	259	0
Third Party Liability	Health Levy	45.03	0.983	44.29	1.008	21.10%	7.0%	62	3.8	66	66	0
Third Party Liability	Total	753.35	0.903	679.99	1.008	21.10%	7.0%	953.54	57.25	1,010.79	1,001.23	9.56
Accident Benefits	Total	83.64	0.946	79.12	1.008	21.10%	7.0%	110.95	6.86	117.81	117.81	-
Basic:										1,128.60	1,119.04	9.56
All Other Coverage:										597.17	597.17	0.00
Total All Coverages:										1,725.77	1,716.21	9.56
Increase %:												0.6%

## Notes

- |      |   |
|------|---|
| (3)  | Per Alberta Private Passenger Vehicles 2020 Annual Review; HL provision based on 4.74% of estimated TPL street premium; Allocation of BI implied by Exhibit 5 |
| (4)  | Based on investment rate of 3.39% and selected payment pattern  |
| (5)  | (3) * (4)   |
| (6)  | Based on investment rate of 3.39% and assumed three month delay   |
| (7)  | Based on total expense provision of 26.00% and assumption that 50% of general and other acquisition expenses are fixed  |
| (8)  | AIIRB benchmark   |
| (9)  | (5) * (6) / (1 - (7) - (8))   |
| (10) | Based on assumption that 50% of general and other acquisition expenses (4.90%) are fixed  |
| (11) | (9) + (10)  |
| (12) | Exhibit 5.3   |
| (13) | (12) - (11)   |

# **COSTING OF SECTION B BENEFIT CHANGES**

**ALBERTA AUTOMOBILE INSURANCE RATE BOARD**

November 20, 2020

## CONTENTS

<b>1.</b>	<b>Executive Summary .....</b>	<b>1</b>
1.1.	Purpose and Scope.....	1
1.2.	Actuarial Findings.....	1
1.3.	Relevant Comments .....	3
<b>2.</b>	<b>Data .....</b>	<b>6</b>
<b>3.</b>	<b>Assumptions and Description of Exhibits .....</b>	<b>7</b>
<b>4.</b>	<b>Distribution and Use .....</b>	<b>10</b>
<b>5.</b>	<b>Consideration and Limitations .....</b>	<b>11</b>
<b>6.</b>	<b>Definition of Key Terms .....</b>	<b>12</b>
6.1.	Insurance Coverages .....	12
6.2.	Other Terms .....	13
<b>7.</b>	<b>Exhibits .....</b>	<b>18</b>

## LIST OF TABLES

Table 1 Accident Benefits – Medical.....	2
Table 2 Accident Benefits – Funeral .....	2
Table 3 Accident Benefits – Disability Income .....	2
Table 4 Accident Benefits – Medical.....	4
Table 5 Accident Benefits – Disability Income .....	5
Table 6 Accident Benefits – Disability Income .....	5
Table 7: Selected Utilization Rates .....	7

# 1. EXECUTIVE SUMMARY

## 1.1. Purpose and Scope

The Alberta Automobile Insurance Rate Board (the Board) requested Oliver, Wyman Limited (Oliver Wyman) to provide estimates of the increase in private passenger vehicle Section B claim costs and Basic Coverage premiums.

These increases are associated with the regulation under consideration that expands the current Section B benefits in Alberta. The specific changes of the regulation are as follows:

- Medical Benefits
  - Chiropractic services limit increased to \$1,000 from \$750.
  - Massage therapy services limit increased to \$500 from \$250.
  - Acupuncture service limit increased to \$350 from \$250.
  - Psychological therapy service limit increased to \$750 from \$600.
  - Physical therapy service limit increased to \$750 from \$600.
  - Occupational therapy service limit increased to \$750 from \$600.
- Funeral Benefits
  - Increased funeral services limit to \$6,150 from \$5,000
  - Increased grief counsel limit to \$500 from \$400
- Disability Income Benefits
  - Increased disability income benefit to \$600/week from \$400/week
  - Increased student benefit to \$200/week for a maximum of 104 weeks from \$135/week for a maximum of 26 weeks.
- Death Benefits and Uninsured Motorist Benefits
  - No changes

This report includes several technical insurance and actuarial terms that may not be familiar to readers who do not regularly review actuarial reports. Those readers may find it useful to review Section 6 of this report before proceeding.

## 1.2. Actuarial Findings

We developed our estimates using the data provided to us and external information and assumptions that we believe are appropriate for use in evaluating this exposure. This report presents the analysis underlying our estimates. We present the findings of that analysis in Table 1 through Table 3 below.

**Table 1 Accident Benefits – Medical  
Estimated Reform Impact**

Treatment	Change in Cost Per Vehicle			Change in Required Premium		
	Section B	Section A	Net Basic Coverage	Section B	Section A	Net Basic Coverage
Chiropractic Treatments	1.62	(0.89)	0.72	2.14	(1.19)	0.96
Massage Therapy	1.32	(0.73)	0.59	1.75	(0.97)	0.79
Acupuncture Treatments	0.29	(0.16)	0.13	0.39	(0.22)	0.17
Psychological Therapy	0.44	(0.24)	0.20	0.58	(0.32)	0.26
Physical Therapy	0.97	(0.54)	0.43	1.29	(0.71)	0.58
Occupational Therapy	0.44	(0.24)	0.20	0.58	(0.32)	0.26
<b>Total</b>	<b>5.09</b>	<b>(2.81)</b>	<b>2.28</b>	<b>6.75</b>	<b>(3.73)</b>	<b>3.02</b>

**Table 2 Accident Benefits – Funeral  
Estimated Reform Impact**

	Change in Cost Per Vehicle			Change in Required Premium		
	Section B	Section A	Net Basic Coverage	Section B	Section A	Net Basic Coverage
Total	0.05	(0.03)	0.02	0.07	(0.04)	0.03

**Table 3 Accident Benefits – Disability Income  
Estimated Reform Impact**

	Change in Cost Per Vehicle			Change in Required Premium		
	Section B	Section A	Net Basic Coverage	Section B	Section A	Net Basic Coverage
Weekly Benefit	3.42	(1.89)	1.53	4.53	(2.50)	2.03
Non-Earner Benefit	3.83	(2.12)	1.72	5.08	(2.81)	2.28
<b>Total</b>	<b>7.25</b>	<b>(4.01)</b>	<b>3.24</b>	<b>9.62</b>	<b>(5.31)</b>	<b>4.30</b>

These estimates are “actuarial central estimates” and represent expected values over the range of reasonably possible outcomes.



### 1.3. Relevant Comments

The change in claims costs and premiums presented in this report are intended to be guideline estimates that will serve as the basis for further discussion of the regulation.

In particular we note that data needed to properly cost the expanded benefits is not available from the General Insurance Statistical Agency (GISA). Insurers report data to GISA in compliance with the requirements of the Automobile Statistical Plan (ASP). The exposure (insured vehicle counts), premium, and claim data reported to, and available from, GISA for Section B coverage in Alberta is at the sub-coverage level; that is, separately for Medical Benefits, Disability Income Benefits, Death Benefits, Funeral Benefits, and Uninsured Motorist Benefits. Section B data at a more detailed level for various types of services such as chiropractic, grief counseling; or for disability income payments by week is not available. And in the case of increased Section B benefits that would be expected to cause a shift in costs from Section A to Section B, there is no data available regarding the percentage of claimants who are not at fault for which a shift in claim costs between these two coverage sections would be expected.

Such detailed data could be collected either through a data call to (or survey of) insurers or a closed claim study designed to capture this information – both of which are beyond the scope of our costing.

The only source of more readily available information of this nature is the Ontario Health Claims Database (HCDB), which, as we discuss later, we use to some extent.

As a result of the data limitations, our cost estimates are largely based on our assumptions and judgments. While we believe our assumptions and judgments to be reasonable, we are unable to fully support them with actual data.

In recognition of the need to exercise considerable judgment, we provide a range of cost estimates for the benefit expansions under consideration. Even so, our findings are subject to a high degree of uncertainty. While there is uncertainty surrounding our reform estimates for accident -benefits funeral, we do not present the impact under alternative assumptions because the estimates are relatively small.

In Table 4, we present the estimated increase in claim costs under various scenarios for accident benefits – medical. The ranges of cost estimates are determined by varying the following assumptions.

- The assumed percent of claimants to receive the various treatments
- The assumed not-at-fault percentage (50% to 80%)

**Table 4 Accident Benefits – Medical  
Change in Cost Per Vehicle – Alternative Assumptions**

Change in Cost Per Vehicle				
Treatment	Percent of Claimants	Section B	Section A	Net Basic Coverage
Chiropractic Treatments	75%	2.20	(0.94) - (1.5)	1.27 - 0.71
Chiropractic Treatments	55%	1.62	(0.69) - (1.1)	0.93 - 0.52
Chiropractic Treatments	25%	0.73	(0.31) - (0.5)	0.42 - 0.24
Massage Therapy	75%	2.20	(0.94) - (1.5)	1.27 - 0.71
Massage Therapy	45%	1.32	(0.56) - (0.9)	0.76 - 0.42
Massage Therapy	25%	0.73	(0.31) - (0.5)	0.42 - 0.24
Acupuncture Treatments	50%	0.59	(0.25) - (0.4)	0.34 - 0.19
Acupuncture Treatments	25%	0.29	(0.12) - (0.2)	0.17 - 0.09
Acupuncture Treatments	10%	0.12	(0.05) - (0.08)	0.07 - 0.04
Psychological Therapy	50%	0.88	(0.37) - (0.6)	0.51 - 0.28
Psychological Therapy	25%	0.44	(0.19) - (0.3)	0.25 - 0.14
Psychological Therapy	10%	0.18	(0.07) - (0.12)	0.1 - 0.06
Physical Therapy	75%	1.32	(0.56) - (0.9)	0.76 - 0.42
Physical Therapy	55%	0.97	(0.41) - (0.66)	0.56 - 0.31
Physical Therapy	25%	0.44	(0.19) - (0.3)	0.25 - 0.14
Occupational Therapy	50%	0.88	(0.37) - (0.6)	0.51 - 0.28
Occupational Therapy	25%	0.44	(0.19) - (0.3)	0.25 - 0.14
Occupational Therapy	10%	0.18	(0.07) - (0.12)	0.1 - 0.06

In Table 5 and Table 6, we present the estimated increase in claim costs under various scenarios for accident benefits – disability income. The ranges of cost estimates are determined by varying the following assumptions.

- The assumed average increase in duration for non-earners.
- The estimated average increased incremental cost per disability claimant.
- The assumed not-at-fault percentage (50% to 80%).

**Table 5 Accident Benefits – Disability Income**  
**Change in Cost Per Vehicle – Alternative Duration Assumptions**

Change in Cost Per Vehicle			
Estimated Increase in Duration for Non-Earners	Section B	Section A	Net Basic Coverage
25%	2.67	(1.14) - (1.82)	1.54 - 0.85
50%	3.83	(1.63) - (2.61)	2.2 - 1.23
100%	6.16	(2.62) - (4.19)	3.54 - 1.97
300%	15.45	(6.57) - (10.51)	8.88 - 4.94

**Table 6 Accident Benefits – Disability Income**  
**Change in Cost Per Vehicle – Alternative Cost per Claimant Assumptions**

Change in Cost Per Vehicle			
Estimated Increase in Duration for Non-Earners	Section B	Section A	Net Basic Coverage
10%	1.25	(0.53) - (0.85)	0.72 - 0.4
27%	3.42	(1.45) - (2.32)	1.96 - 1.09
50%	6.27	(2.67) - (4.27)	3.61 - 2.01

\* \* \* \* \*

We developed the estimates in this report in accordance with the Principles promulgated by the Casualty Actuarial Society and the applicable Actuarial Standards of Practice issued by the Actuarial Standards Board.

Please direct all questions related to this report to the undersigned.

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## 2. DATA

We consider information from the following sources as well as other sources noted later in this report:

- Oliver Wyman's Annual Review Report prepared for the Alberta Automobile Insurance Rate Board (the Oliver Wyman 2020 AR Report), which in part is based on Industry data as of December 31, 2019 provided by GISA
- The Insurance Bureau of Canada's (IBC's) HCBD Standard Report dated September 2016 (the IBC HCBD Report)
- Wage data per Statistics Canada.<sup>1</sup>
- Ontario ASP data on the distribution of disability income costs between wage-earners and non-wage earners.

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<sup>1</sup> Statistics Canada. Table 11-10-0240-01 Distribution of employment income of individuals by sex and work activity, Canada, provinces and selected census metropolitan areas

### 3. ASSUMPTIONS AND DESCRIPTION OF EXHIBITS

Our calculations are presented in “back-to-front” order in the attached exhibits. That is, summary results are followed by the underlying detailed calculations which are, in turn, followed by data summaries. The exhibits presenting our analysis are described below in the same back-to-front order.

The exhibits contain “control” totals and “control differences” at the bottom of many of the columns of information. These are internal quality control mechanisms and may be disregarded by external reviewers.

#### Exhibit 3 – Summary of Data

In Exhibit 3.2, we present an allocation of the estimated ultimate claim counts and amounts used in the Oliver Wyman 2020 AR Report to accident benefits sub-coverages. This allocation is based on an independent review of loss development factors and ultimate loss amounts by sub-coverage.

In Exhibit 3.1, we present our estimates of forecasted frequency, severity, and loss cost estimates by accident benefits sub-coverage using the allocated ultimate loss amounts in Exhibit 3.2. We note the incremental frequency and severity trend assumptions by sub-coverage yield a slightly different loss cost estimate than presented in our Annual Review Report. Therefore, we re-allocate the loss costs to sub-coverage proportionally to our indications in order to match the estimates in our previous report.

#### Exhibit 2 – Key Assumptions and Calculation of Expected Severity Increase

In Exhibit 2, we present our calculation of the expected severity increase due to the reform by sub-coverage based on the following assumptions:

- Medical Benefits
  - We assume there are, on average, 1.15 medical claimants for each medical claim in Alberta.
  - Based on information in the IBC HCBD Standard Report<sup>2</sup> we assume utilization rates presented in Table 7. Due to the uncertainty in our estimates, we vary this assumption in our presentation of different scenarios in Section 1.2.

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**Table 7: Selected Utilization Rates**

Treatment	Percent of Claimants Receiving Treatment
Chiropractic Treatments	55%
Massage Therapy	45%
Acupuncture Treatments	25%
Psychological Therapy	25%
Physical Therapy	55%
Occupational Therapy	25%

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<sup>2</sup> The most recent report available to us at this time is dated September 2016.

- Funeral Benefits
  - Grief counseling costs are reported as funeral costs under the ASP; hence the funeral claim costs reported by GISA include funeral benefit costs and grief counseling costs.
  - The experience in Alberta and other jurisdictions in which Section B funeral benefits have been increased indicates that claim costs (including loss adjustment expenses) have increased dollar-for-dollar (approximately) with the increase in benefit maximum benefit amount. Therefore, we assume the change in the limit equals the expected severity increase (utilization = 100%).
- Disability Income
  - As there is no data available on the split of the costs between those eligible for the maximum weekly benefit of \$400 and \$135 for wage earners and non-wage earners, respectively, we reviewed Ontario data, which shows the split to be approximately 77% wage earners and 23% non-wage earners. However, due to a surge in the amount allocated to non-wage earners in the recent past in Ontario, we judgmentally assume a 80%/20% wage-earners/non-wage earners split in Alberta.
  - In Exhibit 2.2, we estimate that the increase in the weekly benefit from \$400 to \$600 will result approximately 27% increase in the amount paid. We base this on the following:
    - Injured individuals in Alberta are eligible for a weekly benefit of 80% of their gross average weekly wage, to a maximum of \$400 if they are deemed employed. This maximum weekly benefit is proposed to increase to \$600.
    - The benefit is not payable during the first seven days of the disability.
    - Those individuals eligible for the \$600 maximum weekly benefit are limited to 104 weeks.
    - We consider employment statistics for Alberta compiled by Statistics Canada to determine the percentage distribution between claimants at the \$400 level versus the \$600 level. These statistics are for the total population in Alberta aged 15 years and older.
    - Based on Statistics Canada's annual wage data, we estimate the average weekly employment income for individuals in Alberta by income range. The gross average weekly income that we calculate is based only on those sources of income related to employment, and does not include any income related to investments or assets.
    - In determining the actual weekly benefit for those that are deemed employed, any other collateral sources from other income replacement plans are considered in the final determination of the maximum weekly payment. We assume that 70% of those individuals with gross annual employment incomes at \$25,000 and higher will have collateral sources at 60% of the gross weekly wage amount.
  - We assume the increase in the weekly benefit for non-earners will be fully realized.
  - There is currently no data available regarding the current average duration of this benefit. Nor is the data available to estimate how the average duration will change with the extension to 104 weeks. We assume there will be, on average, a 50% increase in the duration of this benefit, which reflects the breadth of services available and current economic conditions that may lead to greater usage of this benefit.

## **Exhibit 1 – Estimated Increase in Average Premium per Vehicle**

In Exhibit 1.3 we summarize the expected frequency, severity and loss cost before and after consideration of the reform.

In Exhibit 1.2 we calculate the increase in Section B required premium based on the loss costs from Exhibit 1.3 and the assumptions made in our Annual Review.

In Exhibit 1.1 we calculate the net change in the basic coverage required loss cost and premium for each of the reform changes based on the following assumptions:

- 85% of the incremental costs associated would be transferred from Section A costs. This is a judgment that we make to recognize that for various reasons it is likely that there won't be a dollar-for-dollar reduction in Section A tort recoveries for the additional benefits paid under Section B (i.e., "slippage").
- The percentage of claimants that are not at-fault is in the range of 50% to 80%. We use a midpoint of 65% for our central estimate.
  - This is a judgment that we make based on assumptions made in other similar costing studies that have been performed in Canada.
  - We note that this is a key assumption, as it "drives" our estimate of the additional Section B costs that will shift from Section A. The at-fault claimants receiving the higher Section B benefits account for much of the additional costs to the system.

## 4. DISTRIBUTION AND USE

- **Usage and Responsibility of Client** – Oliver Wyman prepared this report for the sole use of the Board for the stated purpose. This report includes important considerations, assumptions, and limitations and, as a result, is intended to be read and used only as a whole. This report may not be separated into, or distributed, in parts other than by the client to whom this report was issued, as needed, in the case of distribution to the Board's directors, officers, or employees. All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client named herein.
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## 5. CONSIDERATION AND LIMITATIONS

- **Data Verification** – For our analysis, we relied on data and information provided by the Board and GISA without independent audit. Though we have reviewed the data for reasonableness and consistency, we have not audited or otherwise verified this data. Our review of data may not always reveal imperfections. We have assumed that the data provided is both accurate and complete. The results of our analysis are dependent on this assumption. If this data or information is inaccurate or incomplete, our findings and conclusions might therefore be unreliable.
- **Rounding and Accuracy** – Our models may retain more digits than those displayed. Also, the results of certain calculations may be presented in the exhibits with more or fewer digits than would be considered significant. As a result, there may be rounding differences between the results of calculations presented in the exhibits and replications of those calculations based on displayed underlying amounts. Also, calculation results may not have been adjusted to reflect the precision of the calculation.
- **Unanticipated Changes** – We developed our conclusions based on an analysis of the data provided by the Board and GISA and on the estimation of the outcome of many contingent events. We developed our estimates from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new types of losses not sufficiently represented in historical databases or which are not yet quantifiable. Also, we assumed that the client named herein will remain a going concern, and we have not anticipated any impacts of potential insolvency, bankruptcy, or any similar event.
- **Internal / External Changes** – The sources of uncertainty affecting our estimates are numerous and include factors internal and external to insurers writing business in Alberta. Internal factors include items such as changes in claim reserving or settlement practices. The most significant external influences include, but are not limited to, changes in the legal, social, or regulatory environment surrounding the claims process. Uncontrollable factors such as general economic conditions also contribute to the variability.
- **Uncertainty Inherent in Projections** – While this analysis complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this analysis should recognize that our projections involve estimates of future events and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, we do not guarantee that the emergence of actual losses will correspond to the projections in this analysis.

## 6. DEFINITION OF KEY TERMS

To assist the reader in understanding our report, in this section we define and explain several insurance terms.

### 6.1. Insurance Coverages

We begin with a general description of the insurance coverages. We note that throughout this discussion of the insurance coverages, the term “insured” is generally used to mean the owner, and family of the owner of the policy, as well as any passengers or other drivers using the car with the owner’s permission.

#### Third Party Liability (TPL)

There are two parts to this Basic Coverage:

Bodily Injury (BI) coverage protects the insured against liability arising from an accident that causes bodily injury to another person. Coverage amounts available in Alberta range from the legal minimum of \$200,000 per claim to well over \$2,000,000 per claim.

Property Damage (PD) coverage protects the insured against liability arising from an accident that causes damage to the property of another person.

All drivers must purchase at least the legally required minimum amount of TPL coverage available in Alberta.

#### Accident Benefits (AB)

This Basic Coverage provides for such items as reimbursement of lost income, medical care costs, and funeral costs; it also provides benefits to the dependents of a deceased insured.

#### Underinsured Motorist (UIM)

This Additional Coverage protects the insured if he or she is caused bodily injury by an at-fault driver who is insured, but who does not have sufficient insurance to cover the liability. In this case the insured collects, from his or her own insurer, the amount of the damage that is in excess of the at-fault driver’s liability coverage and up to the limit of UIM coverage purchased.

#### Collision

This Additional Coverage generally provides coverage (subject to a deductible) for damage to the insured’s vehicle arising out of a collision.

#### Comprehensive

This Additional Coverage generally provides coverage (subject to a deductible) for damage to the insured’s vehicle arising out of a peril other than collision (e.g., theft, vandalism, flood, hail, fire, etc.).

#### All Perils

This Additional Coverage combines the coverages for both collision and comprehensive into one coverage, subject to a common deductible level.

### Specified Perils

This Additional Coverage, like collision and comprehensive, provides coverage (subject to a deductible) for specific perils to the insured's vehicle.

## **6.2. Other Terms**

### Accident Year

Accident year is the year in which an incident that gives rise to a claim occurred, regardless of when the claim is actually reported to an insurance company. For example, a claim reported on January 15, 2016 for injuries suffered in an automobile accident that occurred on December 15, 2015, is considered to be an accident year 2015 claim.

### Allocated Loss Adjustment Expense (ALAE)

ALAE is the claim and settlement expense that can be associated directly with individual claims (e.g., legal expenses). (See ULAE).

### Base Rate and Rate Differentials

Insurers generally determine the premium for a particular insured by multiplying a base rate by a series of rate differentials (or rate factors, or rate relativities) that reflect the particular characteristics of the insured. The terms rate differentials, rate factors and rate relativities are used interchangeably. Typically, there is one base rate for each combination of coverage and rating territory. For example, assume a base rate for the TPL coverage of \$200 in Territory #1 and a base rate for the TPL coverage of \$300 in Territory #2. Also, assume the rate differential for a married male driver, age 40, is 1.25. The TPL premium for this driver would be \$250 in Territory #1 (\$200 times 1.25) and \$375 in Territory #2 (\$300 times 1.25).

### Case Reserve

The Case Reserve is the provision established by insurance companies for the payment of future losses and claim related expenses associated with a particular claim.

### Claim Frequency

Claim Frequency is the average number of claims that occur in a year, per insured vehicle. Claim frequency is a measure of the incidence of automobile claims. For example, if an insurance company provided insurance on 100 vehicles in year 2015 and 5 TPL claims occurred during 2015, the company's TPL claim frequency for 2015 would be 5 percent.

### Claim Severity

Claim Severity is the average reported incurred loss and ALAE per claim. Claim severity is a measure of the average cost of automobile claims. For example, if the 5 claims in the previous example resulted in a total incurred loss and ALAE of \$100,000, the claim severity would be \$20,000.

### Claim Count Development

Claim Count Development refers to the change in the number of reported claims for a particular accident year over time. (See Loss Development).

### CLEAR

CLEAR refers to Canadian Loss Experience Automobile Rating, a system of categorizing Private Passenger vehicles, by make and model-year, for physical damage coverage rating purposes. CLEAR was developed

by the Vehicle Information Centre of Canada (VICC), a part of the Insurance Bureau of Canada. CLEAR considers such elements as the reparability and damageability of the make and model-year. (See MSRP).

#### Combined Ratio

Combined Ratio is a common measure of premium adequacy. This is the sum of the loss ratio plus the expense ratio (operating expenses divided by written premium). A combined ratio in excess of 100 percent is an indication of premium inadequacy, before consideration of profit and investment income.

#### Earned Premium

Earned Premium is the amount of written premium that is associated with the portion of the policy term that has expired. For example, assume an automobile policy with a 12-month term is sold on January 1 for \$1,000. The amount of earned premium would be \$500 on June 30.

#### Exposure Unit

Exposure unit is a measure of loss potential. In Private Passenger vehicle insurance, the exposure unit that is commonly used is the number of insured vehicles. For example, all else being equal, it would be expected that the cost to an insurance company to insure 50 cars would be twice the cost to insure 25 cars.

#### Health Cost Recovery Assessment

As per Provincial legislation, each insurer is assessed to achieve a target amount set by Government. The Minister of Finance publishes the assessment percentage applied to Third Party Liability written premiums every year. GISA calculates and provides the assessment as a percentage of earned third party liability premiums. Under the legislation, the Government has no subrogation rights against the at-fault parties who are insured by policies of TPL insurance; but instead, collects the assessment.

#### Loss Cost (Pure Premium)

Loss Cost is the average incurred loss and ALAE per insured vehicle. The loss cost is the product of claim frequency and claim severity. Using the above example, a claim frequency of 5 percent, multiplied by a claim severity of \$20,000, produces a TPL loss cost of \$1,000.

#### Loss Development

Loss Development is the amount by which reported incurred losses and ALAE for a particular accident year change over time. The two main reasons why reported incurred losses and ALAE amounts change (or develop) over time are:

- Reported incurred losses and ALAE only include case reserve estimates on claims for which the claim adjuster has knowledge, i.e., case reserves are only established on the claims that have been reported to the insurance company. Since typically some period of time elapses between the time of the incident and when it is reported as a claim, the number of reported claims for an accident year would be expected to increase over time. Claims that are reported after the close of an accident year are referred to as “late-reported” claims; and
- Reported incurred losses and ALAE also develop because, for a number of reasons, the initial case reserves established by claims adjusters, cannot fully and accurately reflect the amount the claim will ultimately settle at. We further note that, over time, the percentage by which reported incurred losses and ALAE develop for a given accident year should decline. This is because as accident years become more mature (i.e., become older), fewer reserve estimates are adjusted to reflect newly

reported late claims, actual payments, and additional information that becomes available to the claims adjuster.

#### Loss Ratio

Loss ratio is the common measure of premium adequacy. Loss ratio is usually defined as estimated ultimate incurred losses and ALAE, divided by earned premium. But the ultimate incurred losses and ALAE may also include provisions for ULAE and the Health Cost Recovery assessment. A loss ratio that exceeds a company's break-even loss ratio (100 percent less budgeted expenses) would suggest premium inadequacy.

#### Loss Reserving Methods: Incurred Loss Method and Paid Loss Method

Loss reserving methods are often based on historical data grouped into a triangle format. A common approach is to have the rows represent the accident years, and the columns representing the value of the loss at specific dates, such as 12 months, 24 months, 36 months etc., from the beginning of the accident year. The historical changes in the loss data from period to period is reviewed to estimate a pattern to predict how current accident years losses will change over time as claims are settled and closed. The Incurred Loss Method refers to the triangle method of analysis, based on reported incurred losses. The Paid Loss Method refers to the triangle method of analysis, based on paid losses.

#### MSRP

MSRP refers to the Manufacturer's Suggested Retail Price, and is a system of categorizing Private Passenger vehicles, by make and model-year, for rating purposes for physical damage coverages, according to the original price of the vehicle. (See CLEAR).

#### Operating Expenses

Insurance company expenses, other than ALAE and ULAE, are typically categorized as Commissions, Other Acquisition, General, Taxes, Licenses, and Fees.

#### Paid Losses

The total aggregate dollar amount of losses paid on all reported claims as of a certain date.

#### Premium Drift

Premium Drift is a more general term, and refers to the changes in the amount of premium collected by insurance companies that are attributed to the purchase of newer and more expensive cars (i.e., rate group drift) as well as to changes in the amount of insurance coverage that is purchased (e.g., the purchase of higher limits of liability coverage would increase the amount of premium collected by insurance companies, while the purchase of higher physical damage deductibles would reduce the amount of premium collected by insurance companies). (See Rate Group Drift).

#### Rate Group Drift

Rate Group Drift refers to the amount of additional premium collected by insurance companies that is attributed to the purchase of newer and more expensive cars by insureds. The premiums charged by insurance companies are higher for newer and more expensive cars. Therefore, as insureds purchase newer and more expensive cars, the amount of premium collected by insurance companies increases. (See Premium Drift).

#### Ratemaking Methods: Pure Premium Method and Loss Ratio Method

The Pure Premium Method of ratemaking develops indicated rates that are expected to provide for the expected losses and expenses, and provide for the expected profit. The Loss Ratio Method of ratemaking develops indicated rate changes rather than indicated rates.

#### Rating Territory

Automobile premiums vary by the principal garaging location of the vehicle. Based on Insurance Bureau of Canada's automobile statistical plan, Alberta is currently divided into three areas, or rating territories, of principal garaging location; and, therefore, has three separate sets of rates depending upon which of the three territories the vehicle is principally garaged. (See Statistical Territory)

#### Reported Incurred Loss

The sum of:

- the total aggregate dollar amount of losses paid on all reported claims as of a certain date (referred to as the valuation date), and
- the total aggregate dollar amount of losses set in reserve by the claim adjusters on each open claim (referred to as "case reserves") as of a certain date (the same evaluation date as for the paid claim amounts).

For example, if two claims were filed against an insurance company, one that settled for \$50,000 and the other that was open with a paid amount of \$25,000 and a "case reserve" (i.e., the claim adjuster's estimate of the dollars still to be paid on the claim) of \$30,000, then the total reported incurred loss on the two claims would be \$105,000 (the sum of \$50,000, \$25,000, and \$30,000).

#### Reserve

A Reserve is the aggregate provision identified by an insurance company for the payment of future losses and claim related expenses associated with claims that have been incurred.

#### Surplus

Surplus is the amount of assets of an insurance company in excess of its liabilities.

#### Statistical Territory

Automobile premiums vary by the principal garaging location of the vehicle. Alberta is divided into four statistical territories, of principal garaging location. Specific statistical territories are grouped together to represent a specific rating territory. In some cases there is one statistical territory in a rating territory, in other cases the rating territory comprises two or more statistical territories. (See Rating Territory).

#### Total Return on Equity

Total Return on Equity (ROE) refers to an insurer's profit as a percentage of its surplus, where profit is the sum of (i) underwriting profit, and (ii) investment income earned on both the underwriting operations of the company and on the surplus carried by the company.

#### Unallocated Loss Adjustment Expense (ULAE)

ULAE is the claim and settlement related expense that cannot be associated directly with individual claims (e.g., claim adjuster salaries). (See ALAE).

#### Underwriting Profit

Underwriting Profit is defined as earned premium, less reported incurred losses and ALAE, less ULAE, less operational expenses.

Underwriting Profit Margin

Underwriting Profit Margin is the provision that is included in the insurance premium for underwriting profit to be earned by the company.

Ultimate Incurred Loss

Ultimate Incurred Loss is an estimate of the total amount of loss dollars that will ultimately be paid to settle all claims that occur during a particular accident year.

Written Premium

Written Premium represents the total amount of premium charged by an insurance company for the insurance policies it has sold. It is generally compiled over a one-year period.

## 7. EXHIBITS



**Province of Alberta**  
**Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)**

**Net Basic Coverage**  
**Data as of 12/31/19**

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Exhibit 1.2 Allocated per Exhibit 2	- (2) * PCT_NAF * SLIP	(2) + (3)		Per (2):(4) and Exhibit 1.2 Profit, Discount, Expense, Premium Delay	
	Estimated Change in Cost Per Vehicle			Estimated Change in Required Premium		

	Section B	Section A	Net Basic Coverage	Section B	Section A	Net Basic Coverage
<b>Accident Benefits - Medical Expenses</b>						
Chiropractic Treatments	1.62	(0.89)	0.72	2.14	(1.19)	0.96
Massage Therapy	1.32	(0.73)	0.59	1.75	(0.97)	0.79
Acupuncture Treatments	0.29	(0.16)	0.13	0.39	(0.22)	0.17
Psychological Therapy	0.44	(0.24)	0.20	0.58	(0.32)	0.26
Physical Therapy	0.97	(0.54)	0.43	1.29	(0.71)	0.58
Occupational Therapy	0.44	(0.24)	0.20	0.58	(0.32)	0.26
Total	5.09	(2.81)	2.28	6.75	(3.73)	3.02
<b>Accident Benefits - Funeral</b>						
Total	0.05	(0.03)	0.02	0.07	(0.04)	0.03
<b>Accident Benefits - Disability Income</b>						
Weekly Benefit	3.42	(1.89)	1.53	4.53	(2.50)	2.03
Non-Earner Benefit	3.83	(2.12)	1.72	5.08	(2.81)	2.28
Total	7.25	(4.01)	3.24	9.62	(5.31)	4.30
<b>Total</b>	<b>12.39</b>	<b>(6.84)</b>	<b>5.54</b>			<b>7.35</b>

Province of Alberta  
Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)

**Change in Required Premium  
Data as of 12/31/19**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Exhibit 1.3		Oliver Wyman 2020 AR Report			(2) * (3) * (4) / (1 - (5) - (6))	Oliver Wyman 2020 AR Report	(8) + (7)
Sub-Coverage	Projected Ultimate Losses & LAE per Car	Loss Discount Factor	Premium Delay Factor	Est. Variable Expense Margin	Profit Margin Provision	Required Premium Excl Fixed Expense	Estimated Fixed Expense	Required Premium INCL Fixed Expense
<b>Prior To Reforms</b>								
Accident Benefits - Death Benefits	0.68	0.946	1.008	21.1%	7.0%	0.91	0.06	0.96
Accident Benefits - Disability Income	15.68	0.946	1.008	21.1%	7.0%	20.80	1.28	22.08
Accident Benefits - Excess	0.01	0.946	1.008	21.1%	7.0%	0.01	0.00	0.01
Accident Benefits - Funeral	0.24	0.946	1.008	21.1%	7.0%	0.32	0.02	0.34
Accident Benefits - Medical Expenses	66.93	0.946	1.008	21.1%	7.0%	88.78	5.45	94.23
Accident Benefits - Uninsured	0.10	0.946	1.008	21.1%	7.0%	0.14	0.01	0.14
Accident Benefits - Total	83.64	0.946	1.008	21.1%	7.0%	110.95	6.81	117.76
<b>Post Reforms</b>								
Accident Benefits - Death Benefits	0.68	0.946	1.008	21.1%	7.0%	0.91	0.06	0.96
Accident Benefits - Disability Income	22.93	0.946	1.008	21.1%	7.0%	30.42	1.28	31.69
Accident Benefits - Excess	0.01	0.946	1.008	21.1%	7.0%	0.01	0.00	0.01
Accident Benefits - Funeral	0.29	0.946	1.008	21.1%	7.0%	0.39	0.02	0.41
Accident Benefits - Medical Expenses	72.01	0.946	1.008	21.1%	7.0%	95.52	5.45	100.97
Accident Benefits - Uninsured	0.10	0.946	1.008	21.1%	7.0%	0.14	0.01	0.14
Accident Benefits - Total	96.03	0.946	1.008	21.1%	7.0%	127.38	6.81	134.19
<b>Change</b>								
Accident Benefits - Death Benefits	0.00	0.946	1.008	21.1%	7.0%	-	0.00	0.00
Accident Benefits - Disability Income	7.25	0.946	1.008	21.1%	7.0%	9.62	0.00	9.62
Accident Benefits - Excess	0.00	0.946	1.008	21.1%	7.0%	-	0.00	0.00
Accident Benefits - Funeral	0.05	0.946	1.008	21.1%	7.0%	0.07	0.00	0.07
Accident Benefits - Medical Expenses	5.09	0.946	1.008	21.1%	7.0%	6.75	0.00	6.75
Accident Benefits - Uninsured	0.00	0.946	1.008	21.1%	7.0%	-	0.00	0.00
Accident Benefits - Total	12.39	0.946	1.008	21.1%	7.0%	16.43	0.00	16.43

Province of Alberta  
Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)

**Change in Loss Cost  
Data as of 12/31/19**

(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8) SUM((2):(7))	(9)
		Accident Benefits - Death	Accident Benefits - Disability	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical	Accident Benefits - Uninsured	Accident Benefits - Total	Cross Reference
<b>Prior To Reform</b>									
A.1	Frequency	0.02	1.08	0.00	0.04	10.23	0.00	11.37	Exhibit 3.1
A.2	Severity	32,238	14,524	7,649	5,834	6,545	101,743	7,356	Exhibit 3.1
A.3	Loss Cost	0.68	15.68	0.01	0.24	66.93	0.10	83.64	A.1 * A.2 / 1000
B.	Reform Severity Increase		46%		1,250	497		1,089	Exhibit 2
<b>Post Reform</b>									
C.1	Frequency	0.02	1.08	0.00	0.04	10.23	0.00	11.37	A.1
C.2	Severity	32,238	21,238	7,649	7,084	7,042	101,743	8,446	A.2 + B.
C.3	Loss Cost	0.68	22.93	0.01	0.29	72.01	0.10	96.03	C.1 * C.2 / 1000

Province of Alberta  
Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)

**Key Assumptions and Calculation of Expected Severity Increases**

Data as of 12/31/19

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Per Regulation		(3) - (2)	See Report	See Report	See Report	(4) * (5) * (6) * (7)
	Previous Limit	New Limit	Change in Limit	Percent Claimants Receiving Treatment	Percent of Benefit Utilized	Number of Claimants / Claim	Expected Severity Increase
<b>Accident Benefits - Medical Expenses</b>							
Chiropractic Treatments	750	1,000	250	55%	100%	1.15	158
Massage Therapy	250	500	250	45%	100%	1.15	129
Acupuncture Treatments	250	350	100	25%	100%	1.15	29
Psychological Therapy	600	750	150	25%	100%	1.15	43
Physical Therapy	600	750	150	55%	100%	1.15	95
Occupational Therapy	600	750	150	25%	100%	1.15	43
							<b>497</b>
<b>Accident Benefits - Funeral</b>							
Funeral Services	5,000	6,150	1,150	100%	100%	1	1,150
Grief Counsel	400	500	100	100%	100%	1	100
							<b>1,250</b>
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Per Regulation		See Report	See Report	(1 + (12)) * (1 + (13)) - 1	See Report	
	Previous Weekly Benefit	New Weekly Benefit	Percentage Increase in Weekly Benefit	Assumed Percentage Change in Duration	Percentage Severity Increase	Weight	
<b>Accident Benefits - Disability Income</b>							
Weekly Benefit	400	600	27%	0%	27%	80%	
Non-Earner Benefit	135	200	48%	50%	122%	20%	
					<b>46%</b>		

Province of Alberta  
Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)

**Change in Weekly Disability Income**  
**Data as of 12/31/19**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	See Report	Midpoint (1)	(3) / 52	See Text			(6) *			#VALUE!	* (11) + * (1 - (11))
Annual Income Range	Wage Earner Distribution	Midpoint Gross Annual Income	Midpoint Gross Weekly Income	% With collateral Sources	Estimated Weekly Disability Income Benefit @ 0%		Average Collateral Benefit at 60%	Estimated Weekly Disability Income Benefit @ 60%		Estimated Weekly Disability Income Benefit: Weighted Average	
					Current	Proposed		Current	Proposed	Current	Proposed
< \$5,000 (including losses)	11%	2,500	48	0%	38	38		38	38	38	38
\$5,000 to \$9,999	7%	7,500	144	0%	115	115		115	115	115	115
\$10,000 to \$19,999	12%	15,000	288	0%	231	231		231	231	231	231
\$20,000 to \$29,999	9%	25,000	481	0%	385	385		385	385	385	385
\$30,000 to \$39,999	9%	35,000	673	0%	400	538		400	538	400	538
\$40,000 to \$49,999	9%	45,000	865	70%	400	600	519	301	371	331	440
\$50,000 to \$59,999	8%	55,000	1,058	70%	400	600	635	327	411	349	468
\$60,000 to \$69,999	6%	65,000	1,250	70%	400	600	750	348	444	363	491
\$70,000 to \$79,999	6%	75,000	1,442	70%	400	600	865	365	472	375	511
\$80,000 to \$89,999	5%	85,000	1,635	70%	400	600	981	379	496	385	527
\$90,000 to \$99,999	5%	95,000	1,827	70%	400	600	1,096	391	517	394	542
\$100,000 and over	14%	110,000	2,115	70%	400	600	1,269	400	543	400	560
Total	100%	615,000	11,827	36%	318	433	459	296	364	303	385
										<b>Change:</b>	<b>27.2%</b>

Province of Alberta  
Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)

**Allocation of Accident Benefits Loss Cost to Sub-Coverages**  
**Data as of 12/31/19**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
			per Exhibit 1.4						Per Selected Trend Rates				(2) * (8)	(3) * (9)	(4) * (10)	(5) * (11)	(8) * (12)	(7) * (13)	Selected	
Ultimate Frequency								Trend Factor (to 7/1/21)					Trended Ultimate Frequency							
Accident Semester	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Weights	
Selected Trend Rates							-6.0%	0.0%	0.0%	-6.0%	0.0%	0.0%								
2010.1	0.035	1.019	0.002	0.067	8.415	0.006	0.499	1.000	1.000	0.499	1.000	1.000	0.018	1.019	0.002	0.034	8.415	0.006		
2010.2	0.062	1.163	0.000	0.103	9.744	0.002	0.514	1.000	1.000	0.514	1.000	1.000	0.032	1.163	0.000	0.053	9.744	0.002		
2011.1	0.028	1.047	0.000	0.052	9.553	0.001	0.530	1.000	1.000	0.530	1.000	1.000	0.015	1.047	0.000	0.028	9.553	0.001		
2011.2	0.048	1.125	0.001	0.086	9.101	0.002	0.547	1.000	1.000	0.547	1.000	1.000	0.026	1.125	0.001	0.047	9.101	0.002		
2012.1	0.054	1.023	0.000	0.077	8.777	0.004	0.564	1.000	1.000	0.564	1.000	1.000	0.030	1.023	0.000	0.043	8.777	0.004		
2012.2	0.044	1.208	0.000	0.083	9.717	0.003	0.582	1.000	1.000	0.582	1.000	1.000	0.026	1.208	0.000	0.048	9.717	0.003		
2013.1	0.032	1.056	0.000	0.058	9.692	0.003	0.600	1.000	1.000	0.600	1.000	1.000	0.019	1.056	0.000	0.035	9.692	0.003		
2013.2	0.046	1.176	0.001	0.082	10.759	0.003	0.619	1.000	1.000	0.619	1.000	1.000	0.028	1.176	0.001	0.051	10.759	0.003		
2014.1	0.036	1.004	0.000	0.060	9.764	0.000	0.639	1.000	1.000	0.639	1.000	1.000	0.023	1.004	0.000	0.039	9.764	0.000		
2014.2	0.043	1.191	0.000	0.080	10.581	0.002	0.659	1.000	1.000	0.659	1.000	1.000	0.028	1.191	0.000	0.052	10.581	0.002		
2015.1	0.031	1.025	0.000	0.049	9.682	0.005	0.679	1.000	1.000	0.679	1.000	1.000	0.021	1.025	0.000	0.033	9.682	0.005	2.5%	
2015.2	0.042	1.126	0.000	0.076	10.419	0.004	0.701	1.000	1.000	0.701	1.000	1.000	0.030	1.126	0.000	0.053	10.419	0.004	2.5%	
2016.1	0.033	0.986	0.001	0.051	9.170	0.001	0.723	1.000	1.000	0.723	1.000	1.000	0.024	0.986	0.001	0.037	9.170	0.001	5.0%	
2016.2	0.039	1.114	0.000	0.070	10.602	0.004	0.745	1.000	1.000	0.745	1.000	1.000	0.029	1.114	0.000	0.052	10.602	0.004	5.0%	
2017.1	0.026	1.036	0.000	0.047	10.150	0.002	0.769	1.000	1.000	0.769	1.000	1.000	0.020	1.036	0.000	0.036	10.150	0.002	7.5%	
2017.2	0.030	1.153	0.000	0.051	10.550	0.000	0.793	1.000	1.000	0.793	1.000	1.000	0.023	1.153	0.000	0.040	10.550	0.000	7.5%	
2018.1	0.027	1.092	0.001	0.051	10.484	0.001	0.818	1.000	1.000	0.818	1.000	1.000	0.022	1.092	0.001	0.042	10.484	0.001	15.0%	
2018.2	0.026	1.039	0.000	0.058	10.089	0.002	0.844	1.000	1.000	0.844	1.000	1.000	0.022	1.039	0.000	0.049	10.089	0.002	15.0%	
2019.1	0.020	1.040	0.003	0.038	10.224	0.000	0.870	1.000	1.000	0.870	1.000	1.000	0.017	1.040	0.003	0.033	10.224	0.000	20.0%	
2019.2	0.022	1.145	0.001	0.047	10.257	0.000	0.897	1.000	1.000	0.897	1.000	1.000	0.020	1.145	0.001	0.042	10.257	0.000	20.0%	
Total	0.04	1.09	0.00	0.06	9.92	0.00	Selected Forecasted Frequency							0.021	1.080	0.001	0.041	10.226	0.001	
Control	0.04	1.09	0.00	0.06	9.92	0.00														
Difference	0.00	0.00	0.00	0.00	0.00	0.00														

Ultimate Severity (including LAE)								Trend Factor (to 7/1/21)					Trended Ultimate Severity (Including LAE)									
Accident Semester	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Weights			
Selected Trend Rates							0.0%	5.5%	0.0%	0.0%	12.0%	0.0%										
2010.1	25,201	7,950	7,229	6,002	2,847	201,856	1,000	1,826	1,000	1,000	3,579	1,000	25,201	14,519	7,229	6,002	10,188	201,856				
2010.2	24,246	9,961		6,509	2,887	259,821	1,000	1,778	1,000	1,000	3,381	1,000	24,246	17,712		6,509	9,761	259,821				
2011.1	46,741	7,520		5,718	2,641	196,352	1,000	1,731	1,000	1,000	3,195	1,000	46,741	13,018		5,718	8,440	196,352				
2011.2	27,007	10,008	1,049	6,068	3,119	129,790	1,000	1,685	1,000	1,000	3,019	1,000	27,007	16,869	1,049	6,068	9,416	129,790				
2012.1	21,053	9,134		6,680	2,917	226,557	1,000	1,641	1,000	1,000	2,853	1,000	21,053	14,989		6,680	8,321	226,557				
2012.2	41,014	9,816		6,095	3,282	100,733	1,000	1,598	1,000	1,000	2,696	1,000	41,014	15,682		6,095	8,846	100,733				
2013.1	21,691	9,554		6,050	2,796	33,747	1,000	1,555	1,000	1,000	2,547	1,000	21,691	14,860		6,050	7,122	33,747				
2013.2	40,311	9,662	1,161	5,896	2,942	164,624	1,000	1,514	1,000	1,000	2,407	1,000	40,311	16,630	1,161	5,896	7,061	164,624				
2014.1	23,021	8,615		5,419	2,738	22,468	1,000	1,474	1,000	1,000	2,274	1,000	23,021	12,701		5,419	6,226	22,468				
2014.2	29,505	9,933		5,629	3,180	50,103	1,000	1,435	1,000	1,000	2,149	1,000	29,505	14,258		5,629	6,834	50,103				
2015.1	47,459	9,882		5,725	3,232	173,016	1,000	1,397	1,000	1,000	2,031	1,000	47,459	13,809		5,725	6,562	173,016	2.5%			
2015.2	26,164	14,586		5,935	3,819	87,404	1,000	1,361	1,000	1,000	1,919	1,000	26,164	19,845		5,935	7,327	87,404	2.5%			
2016.1	22,022	11,032	92	5,700	3,581	93,877	1,000	1,325	1,000	1,000	1,813	1,000	22,022	14,612	92	5,700	6,492	93,877	5.0%			
2016.2	50,119	12,303		5,506	3,935	318,213	1,000	1,290	1,000	1,000	1,713	1,000	50,119	15,865		5,506	6,741	318,213	5.0%			
2017.1	26,129	12,711		5,840	4,364	92,271	1,000	1,256	1,000	1,000	1,619	1,000	26,129	15,959		5,840	7,065	92,271	7.5%			
2017.2	51,976	11,860		6,256	4,589		1,000	1,222	1,000	1,000	1,530	1,000	51,976	14,497		6,256	7,019		7.5%			
2018.1	43,298	13,415	2,248	7,358	5,006	18,610	1,000	1,190	1,000	1,000	1,445	1,000	43,298	15,964	2,248	7,358	7,235	18,610	15.0%			
2018.2	31,597	12,444		6,232	4,855	465,292	1,000	1,159	1,000	1,000	1,366	1,000	31,597	14,418		6,232	6,630	465,292	15.0%			
2019.1	32,406	13,650	7,558	5,457	5,287		1,000	1,128	1,000	1,000	1,290	1,000	32,406	15,397	7,558	5,457	6,822		20.0%			
2019.2	23,815	13,359	30,811	6,127	5,533		1,000	1,098	1,000	1,000	1,219	1,000	23,815	14,671	30,811	6,127	6,747		20.0%			
Total	29,452	10,031	8,452	5,493	3,427	155,575							Selected Forecasted Severity			33,784	15,221	8,015	6,114	6,859	106,621	
Control	29,452	10,031	8,452	5,493	3,427	155,575							Re-Allocated Selected Forecasted Severity			32,238	14,524	7,649	5,834	6,545	101,743	
Difference	0	0	0	0	0	0							Loss Cost Prior to Reform			0.72	16.43	0.01	0.25	70.13	0.11	87.65
													Re-Allocated Loss Cost Prior to Reform			0.68	15.68	0.01	0.24	66.93	0.10	83.64

Worksheet Control Difference  
0

Province of Alberta  
Alberta Automobile Insurance Board - Private Passengers Vehicles (Excluding Farmers)

Sub-Coverage Allocation of Ultimates  
Data as of 12/31/19

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (3) / SUM(3):(8)	(10) (4) / SUM(3):(8)	(11) (5) / SUM(3):(8)	(12) (6) / SUM(3):(8)	(13) (7) / SUM(3):(8)	(14) (8) / SUM(3):(8)	(15) (11) * (18)	(16) (12) * (20)	(17) (13) *	(18) (14) *	(19) (15) *	(20) (16) *
Selected Ultimate Claim Counts								Allocation						Allocation of Accident Benefits - Total Selected Ultimate Claim Counts					
Accident Semester	Accident Benefits - Total	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured
2010.1	10,503	39	1,121	2	74	9,261	7	0.4%	10.7%	0.0%	0.7%	88.2%	0.1%	39	1,121	2	74	9,261	7
2010.2	12,705	71	1,335	0	118	11,180	2	0.6%	10.5%	0.0%	0.9%	88.0%	0.0%	71	1,335	0	118	11,180	2
2011.1	12,054	32	1,182	0	59	10,781	1	0.3%	9.8%	0.0%	0.5%	89.4%	0.0%	32	1,182	0	59	10,780	1
2011.2	12,214	57	1,326	1	101	10,727	3	0.5%	10.9%	0.0%	0.8%	87.8%	0.0%	57	1,326	1	101	10,727	3
2012.1	11,637	63	1,198	0	90	10,282	5	0.5%	10.3%	0.0%	0.8%	88.4%	0.0%	63	1,198	0	90	10,282	5
2012.2	13,505	54	1,476	0	101	11,873	3	0.4%	10.9%	0.0%	0.7%	87.9%	0.0%	54	1,476	0	101	11,872	3
2013.1	13,135	39	1,280	0	70	11,743	4	0.3%	9.7%	0.0%	0.5%	89.4%	0.0%	39	1,280	0	70	11,742	4
2013.2	15,333	58	1,495	1	104	13,673	3	0.4%	9.7%	0.0%	0.7%	89.2%	0.0%	58	1,495	1	104	13,672	3
2014.1	13,669	46	1,263	0	76	12,284	2	0.3%	9.2%	0.0%	0.6%	89.9%	0.0%	46	1,263	0	76	12,282	2
2014.2	15,697	57	1,572	0	105	13,962	3	0.4%	10.0%	0.0%	0.7%	88.9%	0.0%	57	1,571	0	105	13,961	3
2015.1	14,047	40	1,334	0	64	12,601	7	0.3%	9.5%	0.0%	0.5%	89.7%	0.0%	40	1,334	0	64	12,603	7
2015.2	15,722	57	1,518	0	102	14,040	5	0.4%	9.7%	0.0%	0.6%	89.3%	0.0%	57	1,518	0	102	14,040	5
2016.1	13,548	44	1,304	1	67	12,133	2	0.3%	9.6%	0.0%	0.5%	89.5%	0.0%	44	1,304	1	67	12,130	2
2016.2	16,024	52	1,509	0	95	14,363	5	0.3%	9.4%	0.0%	0.6%	89.6%	0.0%	52	1,509	0	95	14,363	5
2017.1	14,913	34	1,373	0	62	13,443	3	0.2%	9.2%	0.0%	0.4%	90.1%	0.0%	34	1,373	0	62	13,442	3
2017.2	16,154	40	1,581	0	70	14,460	0	0.3%	9.8%	0.0%	0.4%	89.5%	0.0%	40	1,581	0	70	14,463	0
2018.1	15,738	37	1,474	2	69	14,159	1	0.2%	9.4%	0.0%	0.4%	89.9%	0.0%	37	1,474	2	69	14,156	1
2018.2	15,706	37	1,455	0	82	14,131	3	0.2%	9.3%	0.0%	0.5%	90.0%	0.0%	37	1,455	0	82	14,129	3
2019.1	15,542	27	1,428	4	53	14,039	0	0.2%	9.2%	0.0%	0.3%	90.3%	0.0%	27	1,428	4	53	14,031	0
2019.2	16,206	31	1,619	2	67	14,499	0	0.2%	10.0%	0.0%	0.4%	89.4%	0.0%	31	1,617	2	67	14,489	0
Total	284,053	914	27,841	13	1,627	253,632	57	0.3%	9.8%	0.0%	0.6%	89.3%	0.0%	914	27,838	13	1,627	253,604	57
Control	284,053	914	27,841	13	1,627	253,632	57												
Difference	0	0	0	0	0	0	0												
Selected Ultimate Claim Amount and ALAE Estimate								Allocation						Allocation of Accident Benefits - Total: Selected Ultimate Claim Amount and ALAE Estimate					
Accident Semester	Accident Benefits - Total	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured	Accident Benefits - Death Benefits	Accident Benefits - Disability Income	Accident Benefits - Excess	Accident Benefits - Funeral	Accident Benefits - Medical Expenses	Accident Benefits - Uninsured
2010.1	34,577	892	8,086	13	403	23,927	1,248	2.6%	23.4%	0.0%	1.2%	69.2%	3.6%	892	8,088	13	403	23,932	1,248
2010.2	44,076	1,557	12,063	0	697	29,278	459	3.5%	27.4%	0.0%	1.6%	66.5%	1.0%	1,558	12,069	0	697	29,292	459
2011.1	35,977	1,362	8,113	0	308	25,995	169	3.8%	22.6%	0.0%	0.9%	72.3%	0.5%	1,363	8,120	0	308	26,017	169
2011.2	44,977	1,402	12,122	1	560	30,560	325	3.1%	27.0%	0.0%	1.2%	68.0%	0.7%	1,403	12,124	1	560	30,564	325
2012.1	40,325	1,211	10,021	1	551	27,463	1,051	3.0%	24.9%	0.0%	1.4%	68.2%	2.6%	1,212	10,027	1	551	27,482	1,052
2012.2	51,849	2,022	13,264	0	564	35,677	282	3.9%	25.6%	0.0%	1.1%	68.9%	0.5%	2,024	13,274	0	564	35,705	283
2013.1	42,247	767	11,117	0	385	29,853	113	1.8%	26.3%	0.0%	0.9%	70.7%	0.3%	767	11,120	0	385	29,861	113
2013.2	52,889	2,119	13,125	1	557	36,555	491	4.0%	24.8%	0.0%	1.5%	69.2%	0.9%	2,120	13,135	1	558	36,584	491
2014.1	42,095	964	9,934	0	376	30,707	38	2.3%	23.6%	0.0%	0.9%	73.1%	0.1%	966	9,952	0	377	30,762	38
2014.2	57,097	1,532	14,259	0	540	40,551	128	2.7%	25.0%	0.0%	0.9%	71.1%	0.2%	1,534	14,261	0	541	40,614	128
2015.1	51,955	1,716	11,948	0	332	36,917	1,025	3.3%	23.0%	0.0%	0.6%	71.1%	2.0%	1,717	11,952	0	332	36,929	1,025
2015.2	71,007	1,347	20,052	0	548	48,566	422	1.9%	28.3%	0.0%	0.8%	68.5%	0.6%	1,348	20,072	0	549	48,614	422
2016.1	54,671	888	13,225	0	350	39,925	132	1.6%	24.3%	0.0%	0.6%	73.2%	0.2%	890	13,261	0	351	40,036	132
2016.2	73,525	2,415	17,140	0	482	52,162	1,422	3.3%	23.3%	0.0%	0.7%	70.9%	1.9%	2,412	17,118	0	481	52,095	1,420
2017.1	71,099	817	15,937	1	331	53,587	213	1.2%	22.5%	0.0%	0.5%	75.6%	0.3%	820	15,985	1	332	53,748	214
2017.2	80,315	1,903	16,966	5	396	60,061	0	2.4%	21.4%	0.0%	0.5%	75.7%	0.0%	1,926	17,176	6	400	60,806	0
2018.1	84,261	1,431	17,819	4	455	63,863	12	1.7%	21.3%	0.0%	0.5%	76.4%	0.0%	1,442	17,963	4	459	64,380	12
2018.2	81,572	1,048	16,427	0	461	62,218	1,287	1.3%	20.2%	0.0%	0.6%	76.4%	1.6%	1,050	16,454	0	462	62,318	1,289
2019.1	85,818	788	17,313	27	256	65,907	0	0.9%	20.5%	0.0%	0.3%	78.2%	0.0%	800	17,586	27	260	66,945	0
2019.2	92,944	650	19,099	54	360	70,865	0	0.7%	21.0%	0.1%	0.4%	77.8%	0.0%	664	19,501	56	368	72,355	0
Total	1,193,074	26,832	278,030	108	8,912	864,638	8,815	2.3%	23.4%	0.0%	0.8%	72.8%	0.7%	26,909	279,258	110	8,938	869,039	8,820
Control	1,193,074	26,832	278,030	108	8,912	864,638	8,815												
Difference	0	0	0	0	0	0	0												

Worksheet Control Difference  
0



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