August 28, 2024

Financial Services Regulatory Authority
5160 Yonge Street, 17th Floor
North York, ON M2N 6L9

Attention: Mr. Cong Wang, Director, Products and Approvals, FSRA

RE: OW Draft Ontario Private Passenger Vehicles Annual Review (Based on Industry Data Through December 31, 2023) dated July 26, 2024

Dear Mr. Wang,

Please find enclosed Facility Association's (FA) submission to the Financial Services Regulatory Authority of Ontario ("FSRA") Annual Review of Automobile Insurance Loss Experience. Our submission is in two parts. The first section provides FA's perspective on the current state of the insurance market in the province. The second section, addresses the draft Oliver Wyman ("OW") reports entitled "*Draft Ontario Private Passenger Vehicles Annual Review (Based on Industry Data Through December 31, 2023*" dated July 26, 2024 ("OW Report").

Any questions related to this submission may be directed to me by email at pgosselin@facilityassociation.com or by phone at 416-644-4968.

Best regards,

Philippe Gosselin, FCAS, FCIA
VP Actuarial & CRO

INTRODUCTION

FA's purpose is to ensure the availability of Automobile Insurance, and it is our continued position that this is best achieved through the availability of automobile insurance in the voluntary market in Ontario, providing consumers a choice in terms of both insurance provider and type and amount of coverage available[1]. We believe this corresponds with the Financial Services Regulatory Authority ("FSRA") mission of fostering a sustainable, competitive financial services sector and respond to market changes quickly.

Broadly speaking, we have some concern with potential availability issues in Ontario. We note that, except for 2020H1 to 2022H1 (impacted by COVID-19), the OW estimates of PPV loss ratios (indemnity, ALAE, and ULAE) have persisted at only a marginal improvement from their peak in 2017H2 and deteriorated in 2023, and, since 2015, have remained well above the 68% level we estimate would be consistent with the proposed benchmarks as per the OW Report. The lower loss ratios of 2020H1 to 2022H1 cannot be expected to continue as the pandemic restrictions and their economic impact recede, as shown by loss ratios starting from 2022H2 being relatively similar to pre COVID-19 levels.

It is challenging to promote both fairness and predictability in automobile insurance rates at a time when the underlying costs of benefits provided by the insurance product are very difficult to predict, as stated in several passages of the OW Report. This is especially the case following significant reforms, and challenges in the understanding of changes in frequency of accidents and claims, and their associated severity, both in relation to injured parties and to vehicle damage. Nonetheless, we believe promoting fairness and insurers' ability to set and predict their rates enhance availability and competition in the marketplace to the ultimate benefit of consumers.

FA's long-standing position has been that that benchmarking exercises should be used to inform regulators of considerations for rate filings, rather than to set specific targets, caps, or floors with respect to any one particular assumption. This approach opens the opportunity for insurers to reflect their own assessment of future costs in providing their product / service to the consumer, and allows them to set their rates based on their assessment of the competitive market in which they operate. This, we believe results in the greatest consumer choice in both providers and product, while maintaining fairness to all parties.

In contrast, setting specific values, floors or caps would adversely impact availability of voluntary automobile insurance in the province, to the extent that capital providers in the voluntary market take an adverse view of their ability to charge rates that they have assessed relative to the future costs and risk of providing insurance.

We believe it is important to lay the foundation for a flexible system, where insurers would be able to include their best estimates of future costs based on their own assumptions, judged by the regulators on their own merit and the basis of reasonableness, considering prediction uncertainty.

[1] Consumers in Ontario are required to purchase $200,000 of third party liability protection. However, it is clear that consumers see value in broader insurance coverage to protect them and their financial wellbeing, as less than 0.03% of private passenger vehicles were insured for the required minimum third party liability limit, according to 2023 data found in GISA industry data (the AUTO7501). Further, 89% purchased protection for their vehicle against collision/upset, and 71% purchased protection for their vehicle against theft and non-collision damage. We believe these statistics show a clear consumer appetite in the province for automobile insurance across many of the perils to which owning or operating an automobile exposes consumers.

Our concern from a voluntary market availability standpoint, is that benchmarks based on the OW Draft Report may act to discourage insurers from filing for rate changes and pull back from the market, reducing competition and availability.

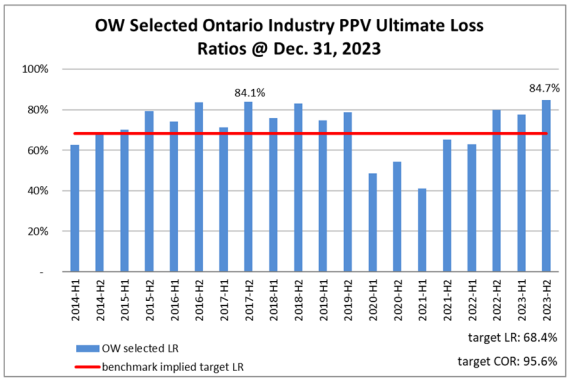
This being said, we **commend** FSRA's position that benchmarks are used to '***assist*** *FSRA in reviewing Private Passenger Automobile ("PPA") insurance rate filing applications based on statutory requirements*' as well as that '*As Benchmarks are developed based on the review of the industry data, they may not represent an individual insurer's business. FSRA indicated in the 2020-H2 Guidance that insurers are no longer permitted to directly adopt the Benchmarks without justification. FSRA requires that all actuarial assumptions be fully supported with an analysis of the insurers' own data, to the extent credible, regardless of whether FSRA Benchmarks are assumed*.'

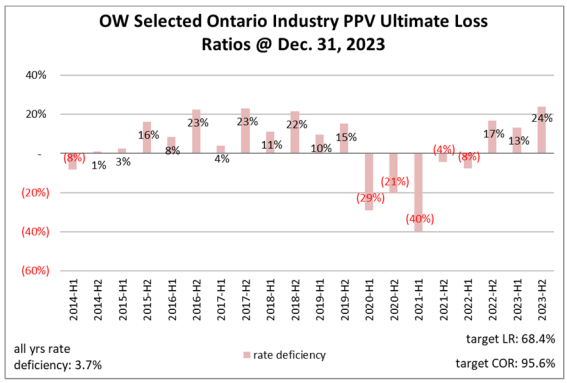
We would respectfully request that FSRA consider expanding the areas where it permits more flexibility for companies when selecting assumptions supporting their rate applications, first and foremost their profit provision (in terms of both the metric to use, and the level to target).

In considering these areas of potential flexibility, it is important to recognize the extent of the current estimated rate deficiency in the province. Based on our interpretation, the draft benchmark assumptions would indicate a target indemnity and claims expense ratios of approximately 68% for PPV. The chart below summarize the estimated rate deficiencies for PPV, by accident year, relative to this target level.

It is important to note that these are not estimates of actual hindsight rate deficiencies, nor do they represent FA models of required profitability. This is rather the estimated rate deficiency when applying the OW benchmark assumptions per the current draft benchmark report. We have not attempted to put claims or premium amounts "on-level" (i.e. adjusted claims for trends/reforms over time; adjusted premium levels for premium trend and rate changes).

*Industry Ontario **PPV** @ December 31, 2023 - OW selected indemnity, ALAE, ULAE LRs and implied rate deficiencies on basis of OW selected current benchmarks*





For PPV, if we exclude 2020H to 2022H1, the estimated weighted average rate deficiency would be about 12.6% or **greater than $10.9 billion in PPV premium shortfall over that 7.5-year period**. If we were to include 2020H1 to 2022H1, the weighted average rate deficiency would be about 3.7% or **greater than $4.4 billion in PPV premium shortfall over that 10-year period.**

The Ontario industry PPV loss ratios have been consistently higher than the target loss ratio of 68% since 2015, except 2020H1 to 2022H1 mainly due to impact of COVID-19, with continued deteriorating loss experience in 2022H2 and 2023.

In addition, FARM PPV written exposure had been increasing from 2017 to 2021, followed by decreases in written exposure in 2022 and 2023. However even with the decreases in recent years, written exposure in 2023 is still triple the written exposure in 2017. Indeed, FARM market share has more than tripled from 2017 to 2022, increasing from 0.03% in 2017 to 0.10% in 2022(2023 industry AIX data is not available at this time). With the increase of the FARM PPV written exposure and FARM PPV market share since 2017, albeit with decreases in 2022 and 2023, we are still concerned for the FARM rates' competitiveness and that it could be an early indicator of some availability issue in Ontario for private passenger vehicles.

In consideration of this increasing market share as well as profitability issues, FARM filed for a +12.1% rate increase effective June 1, 2022 and a +13.1% rate increase effective May 1, 2023, which have led to a decrease in exposures in 2022 and 2023. We anticipate that FARM PPV +9.8% rate increase and introduction of high theft exposure surcharge effective April 1, 2024 would further decrease FARM exposure.

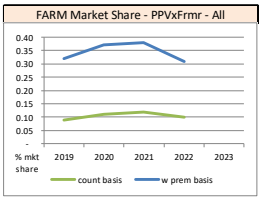
We commend FSRA's cooperation and understanding during FARM's filing review and approval process, supporting FARM towards achieving desired goals of reasonable profitability and minimizing our market share.

The chart below shows the Ontario PPV FARM market share since 2019. Please note that the 2023 industry data is not available at the time of this submission.

Written Premium is in $000s

Private Passenger Vehicles excluding Farmers	Year	FARM ON - PPVxFrmr - All			Industry ON - PPVxFrmr - All			FARM Market Share / AWP Comparison		
		Written Exposure (excl trailers) - policy	Written Premium	Average Written Premium	Written Exposure (excl trailers) - policy	Written Premium	Average Written Premium	FARM Market Share (veh counts)	FARM Market Share (w prem)	FARM / Industry AWP
PPVxFrmr	2019	6,957	41,103	5,908	7,904,569	12,970,006	1,641	0.09	0.32	360
PPVxFrmr	2020	8,910	48,876	5,486	7,898,793	13,172,129	1,668	0.11	0.37	329
PPVxFrmr	2021	9,584	50,557	5,275	8,025,648	13,259,522	1,652	0.12	0.38	319
PPVxFrmr	2022	8,017	42,104	5,252	8,121,995	13,755,428	1,694	0.10	0.31	310
PPVxFrmr	2023	7,532	42,776	5,679	-	-	n/a			n/a
	Total	41,000	225,416	5,498	31,951,005	53,157,086	1,664	0.13	0.42	330

FARM Market Share - PPVxFrmr - All



SPECIFIC COMMENTS REGARDING THE ANNUAL REVIEW OF INDUSTRY EXPERIENCE

This document represents the Facility Association ("FA") written submission to the Financial Services Regulatory Authority ("FSRA") with respect to the Oliver Wyman reports entitled "*Draft Ontario Private Passenger Vehicles Annual Review (Based on Industry Data Through December 31, 2023)*" dated July 26, 2024 ("OW Report").

In the next few pages, specific to the trends outlined in the OW Report, we discuss the following issues and our views more broadly over the following pages:

- Use of indemnity + ALAE + ULAE vs use of indemnity alone;
- Model complexity for reform parameters and reform impacts;
- Mobility parameter and Mobility Composite;
- Post-Pandemic Frequency Level and New Normal Factors;
- Consistency and transparency of trends selection approach; and
- Selection of loss trend rates and uncertainty.

Summary of Selection

Our position has not changed that:

> For each coverage, there are many possible models for frequency, severity, and loss costs that are valid and reasonable. The ultimate selection of models by insurers in developing their rates is a matter of judgment and interpretation that can differ among actuaries even when modeling the same data. Differences should be expected and be seen as healthy in a competitive environment. It is the nature of the actuarial science.
>
> Specifically, we feel it is important for regulators to consider that valid differences in actuarial judgment and opinion can lead to differing selections of ultimates, and differing trend results. Indeed, differing models can fit actual results equally well, and yet, due to their structure (i.e. the selected parameters included in each), result in divergent forecasts.
>
> We also believe regulators should allow the filing insurer to set their prices and market share on their views of ultimates and their selections of models describing frequency/severity/loss costs over time and as projected into the future. The rate review process should focus on whether the filing insurer's process to arrive at their forecast was reasonable (and consistent with the insurer's previous views / process / approach unless an explanation is provided as to what has changed and why). If so satisfied, we believe regulators should accept the filing insurer's view, even if it differs from the view of the regulator's actuary.
>
> Forcing all participants in the insurance market place to adopt a single view introduces systemic risk and potentially detracts from the competitive marketplace should certain participants reduce their risk appetite where they do not agree with the imposed view. This can lead to an overly prescriptive regulatory environment, which we believe is not the intention of regulators.

With that in mind and as stated previously, we commend FSRA's position on the use of benchmarks as laid out in their latest Annual Review Guidance (No. AU0132APP) issued on December 12, 2023.

1. Use of indemnity + ALAE + ULAE vs use of indemnity alone

OW uses indemnity plus allocated loss adjustment expense (ALAE) plus unallocated loss adjustment expense (ULAE) as the basis for loss amounts in their trend analysis.

Even though we understand that the combined indemnity and expense data is the norm in the industry, we would like to emphasize that the indemnity and expense data, as well as the underlying development and trend may be significantly different. Consequently, we should consider this if the analysis is based on the combination of both.

If the objective is to minimize any impacts or distortions in the data that may arise from insurers changing their mix of ULAE and ALAE over time, this can be achieved by modeling indemnity only data and recognizing that individual insurers are in a much better position to make direct adjustments for any shifts in their usage of ULAE vs ALAE over time, as they deem appropriate.

FA is analyzing the Ontario Industry PPV trends on an indemnity basis only and as explained above, this could result in different selections than those made by OW.

2. Model complexity for reform parameters and reform impacts

We appreciate that the OW Report includes the model design matrix in Appendix F with estimated coefficients for the parameters of the loss trend models. OW indicates that model complexity (or lack thereof, aka model parsimony) is considered in their model selection process[2].

We agree with this approach. FA similarly considers model complexity in its selection process, with a general preference of simple models over more complex models. We would also suggest that complexity reflects stakeholders' ability (ease or difficulty) to explain the model design and use the model output.

However, as mentioned in previous submissions, we still believe that, unfortunately with respect to the Accident Benefits reform factor approach, we would assess the OW models as complex. We believe the OW reform approach is overly complex in approach, and may lead to low variance / higher bias, resulting in future coefficient estimates that are at risk of significant change. The model design and output is, in our view, difficult to explain as both reform scalars and trends are modeled as changing over a period of time related to the most recent changes.

[2] *OW Report page 31 states "For this reason, we employ a holistic approach to modeling and consider several models with varying parameters fit to a range of accident periods to identify the underlying trends that occurred."*

OW Report Appendix F Page 4

Financial Services Regulatory Authority of Ontario
Private Passengers Vehicles (Excluding Farmers)

Selected Trend Model: Accident Benefits - Total Medical/Rehab
Data as of 31 Dec 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Observed			Covariates					Predicted		
Time	Frequency (000)	Severity	Loss Cost	Phase-in Reform Scalar Parameter	Phase-in Trend Parameter	Seasonality	Mobility	New Normal	Frequency (000)	Severity	Loss Cost
2012.25	6.792	32,118	218.14	0.00	0.000	0	0.00	0	6.945	32,633	219.26
2012.75	7.306	34,850	254.63	0.00	0.000	1	0.00	0	7.680	33,253	258.57
2013.25	7.207	33,240	239.54	0.00	0.000	0	0.00	0	7.120	33,884	235.22
2013.75	8.333	33,727	281.05	0.00	0.000	1	0.00	0	7.874	34,528	277.40
2014.25	7.417	33,702	249.96	0.00	0.000	0	0.00	0	7.299	35,183	252.35
2014.75	7.599	37,629	285.96	0.00	0.000	1	0.00	0	8.073	35,851	297.60
2015.25	7.819	35,504	277.60	0.00	0.000	0	0.00	0	7.483	36,532	270.72
2015.75	8.170	39,969	326.54	0.00	0.000	1	0.00	0	8.276	37,226	319.27
2016.25	7.762	38,477	298.64	0.01	0.003	0	0.00	0	7.672	37,855	289.81
2016.75	8.618	33,764	290.98	0.33	0.170	1	0.00	0	8.452	35,024	309.08
2017.25	7.718	30,600	236.17	0.83	0.583	0	0.00	0	7.762	30,846	239.35
2017.75	8.564	31,516	269.89	1.00	1.083	1	0.00	0	8.487	29,858	261.45
2018.25	7.709	29,803	229.75	1.00	1.583	0	0.00	0	7.779	30,425	231.23
2018.75	8.389	31,426	263.62	1.00	2.083	1	0.00	0	8.506	31,003	265.13
2019.25	7.612	31,572	240.32	1.00	2.583	0	0.00	0	7.796	31,592	234.49
2019.75	8.488	31,014	263.24	1.00	3.083	1	0.00	0	8.524	32,192	268.86
2020.25	4.358	37,676	164.19	1.00	3.583	0	(35.99)	0	4.500	35,423	161.96
2020.75	5.340	37,995	202.90	1.00	4.083	1	(33.22)	0	5.134	35,883	191.27
2021.25	4.122	35,738	147.33	1.00	4.583	0	(41.07)	0	4.171	37,182	155.57
2021.75	6.299	36,583	230.44	1.00	5.083	1	(20.38)	0	6.264	36,251	222.46
2022.25	5.797	32,403	187.85	1.00	5.583	0	(20.43)	0	5.737	36,943	196.63
2022.75	6.699	36,937	247.44	1.00	6.083	1	0.00	1	6.935	36,038	261.21
2023.25	6.423	36,802	236.39	1.00	6.583	0	0.00	1	6.356	36,723	231.02
2023.75	7.119	38,388	273.27	1.00	7.083	1	0.00	1	6.950	37,420	264.88

		Frequency Model	Severity Model	Direct Loss Cost Model
A.	Intercept	(48.174)	(65.319)	(136.034)
B.	Time	0.025	0.038	0.070
C.	Phase-in Reform Scalar Parameter		(0.296)	(0.279)
D.	Phase-in Trend Parameter	(0.023)		(0.056)
E.	Seasonality	0.088		0.130
F.	Mobility	0.015	(0.002)	0.011
G.	New Normal	(0.213)		(0.071)

We question whether the additional complexity is necessary. In particular, the OW Accident Benefits - Total Medical/Rehab and Accident Benefits - Total Disability Income models introduced two complexities:

- **non-binary explanatory variables for the reform periods** – that is, fractional factors applied to accident half data to give weight over time to differentiate between claims arising that were subject to reforms and those that were not:
    - 0.00 for accident halves 2015-H2 and prior
    - 0.01 for accident half 2016-H1
    - 0.33 for accident half 2016-H2
    - 0.83 for accident half 2017-H1
    - 1.00 for accident halves 2017-H2 and subsequent

  The factors were determined to give weight over time to differentiate between claims arising that were subject to reforms / changes and those that were not. We have no general issue on the approach, but it does raise the question as to whether it results in "better" estimates than a simpler model that picks a single period as the point at which to determine the scalar change.

- **staggered variable for time related to the reform impacts** – we recognize that this was set to align with the effective date of the reform, but contend this approach has led to a fragile model:

- 0.000 for accident halves 2015-H2 and prior
- 0.003 for accident half 2016-H1 (an increase of 0.003)
- 0.170 for accident half 2016-H2 (an increase of 0.167, rather than 0.50)
- 0.583 for accident half 2017-H1 (an increase of 0.413, rather than 0.50)
- 1.083 for accident halves 2017-H2 and increasing by 0.50 for each subsequent accident half

For temporal spacing, the first three intervals are unusual, and we would ask whether this is necessary.

We applied the OW design matrix (OW Report Appendix F Page 4) to the FA Accident Benefits - Total Medical/Rehab data set. The charts below show the model output of the OW Accident Benefits - Total Medical/Rehab design matrix applies to FA Accident Benefit - Total Medical/Rehab data set with OW explanatory variables values for the 2016 reform and mobility variables.

Model 1 Loss Cost Output – OW Accident Benefit – Total Medical/Rehab Design Matrix applied to FA Accident Benefits - Total Medical/Rehab data set[3] with OW explanatory variables for reform and OW mobility variables (OW Report Appendix F Page 4)

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9886	0.9774	0.9699	0.0381	25	15	7

Runs-Test Result: 1.5289 RESIDUALS RUNS RANDOM ; residuals normal

parameters with p-value >5%: 0 (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(148.944)	15.984	(9.318)	0.0%	(182.526)	(115.362)	(148.944)	7
Season	0.134	0.016	8.610	0.0%	0.101	0.167	0.134	6
All Years	0.077	0.008	9.652	0.0%	0.060	0.093	0.077	5
Scalar 1	(0.277)	0.039	(7.129)	0.0%	(0.359)	(0.196)	(0.277)	4
Trend 1	(0.085)	0.013	(6.557)	0.0%	(0.112)	(0.058)	(0.085)	3
Scalar 2	0.011	0.001	10.698	0.0%	0.009	0.013	0.011	2
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	(0.147)	0.055	(2.681)	1.5%	(0.262)	(0.032)	(0.147)	1
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9886	0.9774	0.9699	0.0381	25	15	7

Runs-Test Result: 1.5289 RESIDUALS RUNS RANDOM ; residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted	
past	8.0%		8.0%	'22H1	=> last period in "past"
future	(0.8%)		(0.8%)		

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.077	0.008	9.652	0.0%	0.060	0.093	0.077
AY+1	(0.008)	0.011	(0.740)	46.9%	(0.031)	0.015	(0.008)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Scalar 1 refers to 2016 Scalar Phase parameter, Trend 1 refers to 2016 Trend Phase parameter, Scalar 2 refers to Mobility parameter, and Scalar 3 refers to New Normal parameter.

In FA's general loss trend modeling approach, scalars are introduced in models as dummy variables, taking values of 0 or 1, and the staggered variable for time increase by 0.5. The models results based on FA's approach, with changing of explanatory and staggered variables are summarized below:

[3] *The time period of 2011-H2 to 2023-H2 is bases on ME trend models description on OW Report Page 54.*

Model 2 Loss Cost Output – OW Accident Benefit – Total Medical/Rehab Design Matrix applied to FA Accident Benefit – Total Medical/Rehab data set, change the explanatory variables at 2016-H1 from (0.01) to 0 and the stagger variables at 2016-H1 from (0.003) to 0, no other changes

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9887	**0.9776**	**0.9701**	0.0380	25	15	7

Runs-Test Result: 1.5289 **RESIDUALS RUNS RANDOM** ; residuals normal

 # parameters with p-value >5% **0** (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(148.497)	15.873	(9.355)	0.0%	(181.846)	(115.149)	(148.497)	7
Season	0.134	0.016	8.660	0.0%	0.102	0.167	0.134	6
All Years	0.076	0.008	9.691	0.0%	0.060	0.093	0.076	5
Scalar 1	(0.277)	0.039	(7.164)	0.0%	(0.358)	(0.196)	(0.277)	4
Trend 1	(0.084)	0.013	(6.565)	0.0%	(0.111)	(0.057)	(0.084)	3
Scalar 2	0.011	0.001	10.741	0.0%	0.009	0.013	0.011	2
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	(0.147)	0.055	(2.693)	1.5%	(0.262)	(0.032)	(0.147)	1
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9887	**0.9776**	**0.9701**	0.0380	25	15	7

Runs-Test Result: 1.5289 **RESIDUALS RUNS RANDOM** ; residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted	
past	**7.9%**		**7.9%**	**'22H1**	**=> last period in "past"**
future	**(0.8%)**		**(0.8%)**		

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.076	0.008	9.691	0.0%	0.060	0.093	0.076
AY+1	(0.008)	0.011	(0.743)	46.7%	(0.031)	0.015	(0.008)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Model 1 and model 2 are statistically similar as the model 2 parameter coefficients are within one standard error of the model 1. So changes of the explanatory variable at 2016-H1 from (0.01) to 0 and the stagger variable at 2016-H1 from (0.003) to 0 have no significant impact on the model results. To simplify the model, these variables should be removed from model design matrix.

Model 3 Loss Cost Output – OW Accident Benefit – Total Medical/Rehab Design Matrix applied to FA Accident Benefit - Total Medical/Rehab data set, change the explanatory variables at 2016-H1 to 2017-H1 from (0.01, 0.33, 0.83) to FA standard value (0, 1, 1), no other changes

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9879	**0.9759**	**0.9695**	0.0384	25	15	6

Runs-Test Result: 0.7739 **RESIDUALS RUNS RANDOM** ; residuals normal

 # parameters with p-value >5% **0** (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(162.406)	17.137	(9.477)	0.0%	(198.273)	(126.539)	(162.406)	6
Season	0.146	0.016	9.231	0.0%	0.113	0.179	0.146	5
All Years	0.083	0.009	9.788	0.0%	0.065	0.101	0.083	4
Scalar 1	(0.226)	0.032	(7.021)	0.0%	(0.293)	(0.159)	(0.226)	3
Trend 1	(0.123)	0.010	(12.490)	0.0%	(0.143)	(0.102)	(0.123)	2
Scalar 2	0.009	0.001	13.278	0.0%	0.008	0.011	0.009	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9879	**0.9759**	**0.9695**	0.0384	25	15	6

Runs-Test Result: 0.7739 **RESIDUALS RUNS RANDOM** ; residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted	
past	**8.7%**		**8.7%**	**'22H1**	**=> last period in "past"**
future	**(3.9%)**		**(3.9%)**		

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.083	0.009	9.788	0.0%	0.065	0.101	0.083
AY+1	(0.039)	0.005	(8.226)	0.0%	(0.049)	(0.029)	(0.039)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Where Scalar 3 is not statistically significant and removed from the model. Model 3 is statistically different from models 1 and 2. Changing explanatory variables at 2016-H2 to 2017-H1 from (0.33, 0.83) to FA standard value (1, 1) has statistically significant impact on the model results.

Model 4 Loss Cost Output – OW Accident Benefit – Total Medical/Rehab Design Matrix applied to FA Accident Benefit - Total Medical/Rehab data set, change the explanatory variables at 2016-H1 to 2017-H1 from (0.01, 0.33, 0.83) to FA standard value (0, 1, 1) and the stagger variables at 2016-H1 to 2017-H1 from (0.003, 0.170, 0.583, +0.50) to FA standard value (0, 0.25, 0.75, +0.50), no other changes

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9882	**0.9765**	**0.9704**	0.0378	25	15	6

Runs-Test Result: 0.9095 **RESIDUALS RUNS RANDOM** ; residuals normal

 # parameters with p-value >5% **0** (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(162.578)	16.889	(9.626)	0.0%	(197.928)	(127.228)	(162.578)	6
Season	0.145	0.016	9.319	0.0%	0.112	0.177	0.145	5
All Years	0.083	0.008	9.941	0.0%	0.066	0.101	0.083	4
Scalar 1	(0.208)	0.031	(6.669)	0.0%	(0.274)	(0.143)	(0.208)	3
Trend 1	(0.122)	0.010	(12.687)	0.0%	(0.142)	(0.102)	(0.122)	2
Scalar 2	0.009	0.001	13.452	0.0%	0.008	0.011	0.009	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9882	**0.9765**	**0.9704**	0.0378	25	15	6

Runs-Test Result: 0.9095 **RESIDUALS RUNS RANDOM** ; residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted
past	**8.7%**		**8.7%**	**'22H1 => last period in "past"**
future	**(3.8%)**		**(3.8%)**	

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.083	0.008	9.941	0.0%	0.066	0.101	0.083
AY+1	(0.039)	0.005	(8.277)	0.0%	(0.049)	(0.029)	(0.039)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Where Scalar 3 is not statistically significant and removed from the model.

Model 3 and model 4 are statistically similar, so changing the stagger variables at 2016-H1 to 2017-H1 from (0.003, 0.170, 0.583, +0.50) to FA standard value (0, 0.25, 0.75, +0.50) has no statistically significant impact on the model results. To simplify the model, the stagger variables could use the FA standard value that is commonly used.

In summary, we would view two takeaways:

1. the minor weights (0.01 and 0.003) given to 2016-H1 for scalar and trend do not appear to be necessary from a statistical standpoint, as such, we recommend replacing them with 0;
2. the additional temporal differences introduced for trend at 2016-H2 to 2017-H1 (0.170, 0.583) do not appear to be necessary from a statistical standpoint, as such, we recommend replacing with standard values (0.25, 0.75).

The OW Report estimates Bill 15 and Bill 91 reforms coefficient is -27.9% (24.3% decrease) in Accident Benefit - Total Medical/Rehab loss cost based on industry PPV data as December 31, 2023 in (Appendix F page 4). However, using FA's approach and FA data set (model 4 above), the estimated Bill 15 and Bill 91 reform coefficient is -20.8% +/-3.1% (18.8% decrease based on model 4) in Accident Benefit - Total Medical/Rehab loss cost.

FA trend analysis as at December 31, 2023 selected model estimates Bill 15 and Bill 91 reform scalar coefficient is -17.0% +/-5.0% (15.6% decrease) in medical & rehabilitation loss cost that is statistically different to OW Report estimated reform impact (24.3% decrease) in medical & rehabilitation loss cost.

However, FA trend analysis as at December 31, 2023 selected model estimates Bill 15 and Bill 91 reform impact in disability income loss cost is not significant.

3. Mobility Parameter and Mobility Composite

OW Report includes estimated mobility composite factors for 2020-H1 to 2022-H1 on Table 20 (see below).

Table 20: Average Mobility Composite

	Average Mobility					
Scenario	**2020-1**	**2020-2**	**2021-1**	**2021-2**	**2022-1**	**2022-2**
Projection	-36.0	-33.2	-41.1	-20.4	-20.4	-4.0

OW Report Appendix F page 1 provides BI model design matrix, where the OW model design matrix for BI doesn't include New Normal parameter (see below).

Selected Trend Model: Third Party Liability - Bodily Injury
Data as of 31 Dec 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Observed			Covariates			Predicted		
Time	Frequency (000)	Severity	Loss Cost	2016 Trend Change	Seasonality	Mobility	Frequency (000)	Severity	Loss Cost
2012.25	1.765	136,192	240.36	0.00	0	0.00	1.861	127,245	236.51
2012.75	1.979	139,799	276.67	0.00	1	0.00	2.131	129,299	284.92
2013.25	1.861	128,826	239.75	0.00	0	0.00	1.861	131,387	240.99
2013.75	2.256	126,951	286.37	0.00	1	0.00	2.131	133,508	290.32
2014.25	1.939	126,317	244.92	0.00	0	0.00	1.861	135,664	245.56
2014.75	2.126	129,083	274.41	0.00	1	0.00	2.131	137,854	295.83
2015.25	1.971	132,012	260.18	0.00	0	0.00	1.861	140,080	250.22
2015.75	2.174	143,539	312.02	0.00	1	0.00	2.131	142,341	301.44
2016.25	1.877	135,267	253.91	0.00	0	0.00	1.861	144,640	254.97
2016.75	2.109	148,835	313.94	0.50	1	0.00	2.070	146,975	301.34
2017.25	1.699	140,606	238.89	1.00	0	0.00	1.758	149,348	250.05
2017.75	1.905	157,203	299.43	1.50	1	0.00	1.955	151,759	295.53
2018.25	1.579	152,434	240.73	2.00	0	0.00	1.660	154,209	245.23
2018.75	1.760	159,071	279.95	2.50	1	0.00	1.846	156,699	289.83
2019.25	1.497	154,741	231.70	3.00	0	0.00	1.567	159,229	240.50
2019.75	1.756	161,234	283.15	3.50	1	0.00	1.744	161,800	284.24
2020.25	0.936	181,379	169.79	4.00	0	(35.99)	0.992	164,412	161.29
2020.75	1.152	171,968	198.07	4.50	1	(33.22)	1.138	167,066	196.28
2021.25	0.829	173,697	144.05	5.00	0	(41.07)	0.885	169,764	149.92
2021.75	1.283	170,167	218.25	5.50	1	(20.38)	1.239	172,505	220.46
2022.25	1.131	148,479	167.89	6.00	0	(20.43)	1.052	175,290	182.83
2022.75	1.410	180,032	253.82	6.50	1	0.00	1.468	178,120	268.12
2023.25	1.234	183,039	225.92	7.00	0	0.00	1.247	180,996	222.48
2023.75	1.343	207,975	279.24	7.50	1	0.00	1.387	183,918	262.95

		Frequency Model	Severity Model	Direct Loss Cost Model
A.	Intercept	0.621	(52.704)	(32.348)
B.	Time		0.032	0.019
C.	2016 Trend Change	(0.057)		(0.038)
D.	Seasonality	0.135		0.177
E.	Mobility	0.011		0.011

We applied the OW design matrix above to the FA BI data set. The chart below shows the loss cost model output of the OW BI design matrix apply to FA BI loss cost data set with OW mobility variables.

Model 1 Output – OW BI Design Matrix applied to FA BI loss cost data set[4] with OW mobility variables (OW Report Appendix F Page 1)

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9824	**0.9652**	**0.9586**	0.0389	26	14	5

Runs-Test Result: 1.4959 **RESIDUALS RUNS RANDOM** ; residuals normal

 # parameters with p-value >5% **0** (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(42.713)	11.865	(3.600)	0.2%	(67.388)	(18.038)	(42.713)	5
Season	0.167	0.016	10.744	0.0%	0.135	0.199	0.167	4
All Years	0.024	0.006	4.042	0.1%	0.012	0.036	0.024	3
Scalar 1	-	-	-	n/a	-	-	-	0
Trend 1	(0.043)	0.009	(4.957)	0.0%	(0.061)	(0.025)	(0.043)	2
Scalar 2	0.011	0.001	15.799	0.0%	0.010	0.013	0.011	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9824	**0.9652**	**0.9586**	0.0389	26	14	5

Runs-Test Result: 1.4959 **RESIDUALS RUNS RANDOM** ; residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted	
past	**2.4%**		**2.4%**	'22H1	=> last period in "past"
future	**(1.9%)**		**(1.9%)**		

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.024	0.006	4.042	0.1%	0.012	0.036	0.024
AY+1	(0.019)	0.004	(4.819)	0.0%	(0.027)	(0.011)	(0.019)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The Trend 1 refers to 2016 Trend Change and Scalar 2 refers to Mobility parameter, they are all statistically significant at 5% p-value level.

We appreciate the inclusion of mobility composite, but we are still not sure about "*By applying the fitted parameter's coefficient to the mobility, we are able to estimate the effect of the COVID-19 pandemic on claims experience*". In addition, we are unable to derive the Combined New Normal Factor based on the OW PPV BI loss cost mobility coefficient of 1.1% and OW Mobility Composite factors provided in Table 20 to match to the factors on Table 23 (see below). As a result, the OW model design and output are, in our view, difficult to explain and use; we would appreciate OW to provide more information on how to derive the COVID-19 adjustment factors.

BI	Mobility Composite	COVID Adj Factor	Est. COVID Effective Factors on Claim	New Normal Factor	Est. Combined New Normal Factor	OW Combined New Normal Factor	Diff
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Semester	OW Table 20	=1/(1+[1]/100)	=[2]*exp(1.10%)	=exp(0.00%)	=[3]*[4]	BI - OW Tab 23	=[5] - [6]
201901		1.000	1.000	1.000	1.000	1.000	-
201902		1.000	1.000	1.000	1.000	1.000	-
202001	-35.99	1.562	1.580	1.000	1.580	1.503	7.7%
202002	-33.22	1.497	1.514	1.000	1.514	1.457	5.7%
202101	-41.07	1.697	1.716	1.000	1.716	1.592	12.4%
202102	-20.38	1.256	1.270	1.000	1.270	1.260	1.0%
202201	-20.43	1.257	1.271	1.000	1.271	1.260	1.1%
202202		1.000	1.000	1.000	1.000	1.000	-
202301		1.000	1.000	1.000	1.000	1.000	-
202302		1.000	1.000	1.000	1.000	1.000	-
Mobility Coefficient from BI Model			1.10%				
New Normal Coefficient from BI Model				0.00%			

In the FA general approach, scalars are introduced in models as dummy variables, taking values of 0 or 1. The model results based on FA approach, with only replacing Scalar 2 temporal variables of mobility to 1, are summarized below.

[4] *The time period is bases on BI frequency model description on OW Report Page 44.*

Model 2 Output – OW BI Design Matrix applied to FA BI data set, only change the mobility variables at 2020-H1 to 2022-H1 from (-35.99, -33.22, -41.07, -20.38 and -20.43) to FA standard value (1, 1, 1, 1, and 1), no other changes

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9451	**0.8933**	**0.8730**	0.0680	26	14	5

Runs-Test Result: 2.1999 **RESIDUALS RUNS NOT RANDOM** Residuals NOT normal

 # parameters with p-value >5% **0** (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(38.153)	20.757	(1.838)	8.0%	(81.320)	5.013	(38.153)	5
Season	0.179	0.027	6.628	0.0%	0.123	0.236	0.179	4
All Years	0.022	0.010	2.090	4.9%	0.000	0.043	0.022	3
Scalar 1	-	-	-	n/a	-	-	-	0
Trend 1	(0.039)	0.015	(2.568)	1.8%	(0.071)	(0.007)	(0.039)	2
Scalar 2	(0.327)	0.040	(8.201)	0.0%	(0.410)	(0.244)	(0.327)	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9451	**0.8933**	**0.8730**	0.0680	26	14	5

Runs-Test Result: 2.1999 **RESIDUALS RUNS NOT RANDOM** Residuals NOT normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted
past	**2.2%**		**2.2%**	**'22H1 => last period in "past"**
future	**(1.8%)**		**(1.8%)**	

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.022	0.010	2.090	4.9%	0.000	0.043	0.022
AY+1	(0.018)	0.007	(2.479)	2.2%	(0.033)	(0.003)	(0.018)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The model indicates Scalar 2 (COVID-19 impact) parameter is significant and estimates of the Scalar 2 coefficient is -32.7% +/-4.0% (27.9% decrease) and the estimated COVID-19 adjustment factor will be 1.386. This is easy to explain that the estimated average COVID-19 impact is about a 27.9% decrease comparing to pre-pandemic based on the industry data as at December 31, 2023 and the estimated COVID-19 adjustment factor is about 1.386 for 2020H1 to 2022H1.

4. Post-Pandemic Frequency Level and New Normal Factors

OW considers 2022-2 to be a potential starting point for the post-pandemic frequency level and provides Combined New Normal Factor (from page 92 to page 97) when applied to historical experience period data, the Combined New Normal Factor would adjust that experience data for the combination of (1) unwinding the influence of the COVID-19 pandemic, and (2) "new normal" of the post-pandemic era.

The OW Combined New Normal Factor by coverage and accident semester are summarized below.

Accident Semester	New Normal Factor					
	BI	PD	DCPD	AccBen	CL	AP
201901	1.000	1.000	0.743	0.832	0.785	1.000
201902	1.000	1.000	0.743	0.832	0.785	1.000
202001	1.503	1.469	1.388	1.444	1.376	1.401
202002	1.457	1.427	1.323	1.384	1.318	1.365
202101	1.592	1.552	1.517	1.561	1.490	1.469
202102	1.260	1.243	1.058	1.137	1.079	1.210
202201	1.260	1.244	1.059	1.138	1.080	1.211
202202	1.000	1.000	1.000	1.000	1.000	1.000
202301	1.000	1.000	1.000	1.000	1.000	1.000
202302	1.000	1.000	1.000	1.000	1.000	1.000

As OW Report provides "Combined New Normal Factors" that reflect the influence of COVID-19 and the new normal post-pandemic era, but does not provide additional information on how the factors were

derived, we focus on testing OW PPV models that provided in Appendix F[5] for BI, DCPD, and Collision to gain more insight on the Combined New Normal Factors based on FA data set.

BI Loss Model - OW Appendix F Page 1

Selected Trend Model: Third Party Liability - Bodily Injury
Data as of 31 Dec 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Observed			Covariates			Predicted		
Time	Frequency (000)	Severity	Loss Cost	2016 Trend Change	Seasonality	Mobility	Frequency (000)	Severity	Loss Cost
2012.25	1.765	136,192	240.36	0.00	0	0.00	1.861	127,245	236.51
2012.75	1.979	139,799	276.67	0.00	1	0.00	2.131	129,299	284.92
2013.25	1.861	128,826	239.75	0.00	0	0.00	1.861	131,387	240.99
2013.75	2.256	126,951	286.37	0.00	1	0.00	2.131	133,508	290.32
2014.25	1.939	126,317	244.92	0.00	0	0.00	1.861	135,664	245.56
2014.75	2.126	129,083	274.41	0.00	1	0.00	2.131	137,854	295.83
2015.25	1.971	132,012	260.18	0.00	0	0.00	1.861	140,080	250.22
2015.75	2.174	143,539	312.02	0.00	1	0.00	2.131	142,341	301.44
2016.25	1.877	135,267	253.91	0.00	0	0.00	1.861	144,640	254.97
2016.75	2.109	148,835	313.94	0.50	1	0.00	2.070	146,975	301.34
2017.25	1.699	140,606	238.89	1.00	0	0.00	1.758	149,348	250.05
2017.75	1.905	157,203	299.43	1.50	1	0.00	1.955	151,759	295.53
2018.25	1.579	152,434	240.73	2.00	0	0.00	1.660	154,209	245.23
2018.75	1.760	159,071	279.95	2.50	1	0.00	1.846	156,699	289.83
2019.25	1.497	154,741	231.70	3.00	0	0.00	1.567	159,229	240.50
2019.75	1.756	161,234	283.15	3.50	1	0.00	1.744	161,800	284.24
2020.25	0.936	181,379	169.79	4.00	0	(35.99)	0.992	164,412	161.29
2020.75	1.152	171,968	198.07	4.50	1	(33.22)	1.138	167,066	196.28
2021.25	0.829	173,697	144.05	5.00	0	(41.07)	0.885	169,764	149.92
2021.75	1.283	170,167	218.25	5.50	1	(20.38)	1.239	172,505	220.46
2022.25	1.131	148,479	167.89	6.00	0	(20.43)	1.052	175,290	182.83
2022.75	1.410	180,032	253.82	6.50	1	0.00	1.468	178,120	268.12
2023.25	1.234	183,039	225.92	7.00	0	0.00	1.247	180,996	222.48
2023.75	1.343	207,975	279.24	7.50	1	0.00	1.387	183,918	262.95

		Frequency Model	Severity Model	Direct Loss Cost Model
A.	Intercept	0.621	(52.704)	(32.348)
B.	Time		0.032	0.019
C.	2016 Trend Change	(0.057)		(0.038)
D.	Seasonality	0.135		0.177
E.	Mobility	0.011		0.011

[5] *OW in Appendix F provides models with mobility parameter for BI, PD, DCPD, ME, DI, DB & FU, CL, AP, and UA, and New Normal parameter at 2022-H2 for DCPD, ME, DI and CL.*

Model Output – OW PPV BI Frequency Model (with seasonality, 2016 Trend Change, and mobility) applied to FA BI data set - based on 2011-H1[6] to 2023-H2 data

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9879	**0.9760**	**0.9728**	0.0445	26	14	4

Runs-Test Result: 2.4257 RESIDUALS RUNS NOT RANDOM Residuals normal

parameters with p-value >5%: 0 (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. 95% Lower	C.I. 95% Upper	Selected Coeff.	
	1	2						
Intercept	0.617	0.015	42.541	0.0%	0.587	0.647	0.617	4
Season	0.134	0.018	7.554	0.0%	0.098	0.171	0.134	3
All Years	-	-	-	n/a	-	-	-	0
Scalar 1	-	-	-	n/a	-	-	-	0
Trend 1	(0.060)	0.004	(15.573)	0.0%	(0.068)	(0.052)	(0.060)	2
Scalar 2	0.011	0.001	13.723	0.0%	0.009	0.013	0.011	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9879	**0.9760**	**0.9728**	0.0445	26	14	4

Runs-Test Result: 2.4257 RESIDUALS RUNS NOT RANDOM Residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted		
past	**0.0%**		**0.0%**		'22H1	=> last period in "past"
future	**(5.8%)**		**(5.8%)**			

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. 95% Lower	C.I. 95% Upper	Selected Coeff.
All Yrs or AY	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1	(0.060)	0.004	(15.573)	0.0%	(0.068)	(0.052)	(0.060)
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The model outputs based on FA BI data set are consistent with the results from OW Report.

Based on the coefficient of 1.1% for mobility parameter and mobility composite provided in OW Report Appendix F page 1, we calculated the Combined New Normal Factor shown below.

BI	Mobility Composite	COVID Adj Factor	Est. COVID Effective Factors on Claim	New Normal Factor	Est. Combined New Normal Factor	OW Combined New Normal Factor	Diff
Accident Semester	[1] OW Table 20	[2] =1/(1+[1]/100)	[3] =[2]*exp(1.10%)	[4] =exp(0.00%)	[5] =[3]*[4]	[6] BI - OW Tab 23	[7] =[5] - [6]
201901		1.000	1.000	1.000	1.000	1.000	-
201902		1.000	1.000	1.000	1.000	1.000	-
202001	-35.99	1.562	1.580	1.000	1.580	1.503	7.7%
202002	-33.22	1.497	1.514	1.000	1.514	1.457	5.7%
202101	-41.07	1.697	1.716	1.000	1.716	1.592	12.4%
202102	-20.38	1.256	1.270	1.000	1.270	1.260	1.0%
202201	-20.43	1.257	1.271	1.000	1.271	1.260	1.1%
202202		1.000	1.000	1.000	1.000	1.000	-
202301		1.000	1.000	1.000	1.000	1.000	-
202302		1.000	1.000	1.000	1.000	1.000	-
Mobility Coefficient from BI Model			1.10%				
New Normal Coefficient from BI Model				0.00%			

Our estimated combined new normal factors on column [5] don't match with OW Combined New Normal Factors provided on Table 23.

We would appreciate if OW can provide more detailed information associated with how the Mobility Composites and Mobility Coefficient interact and how the Combined New Normal Factors are derived.

[6] *The time period is bases on BI frequency model description on OW Report Page 44.*

DCPD Loss Model - OW Appendix F Page 3

Selected Trend Model: Direct Compensation
Data as of 31 Dec 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Observed					Predicted		
Time	Frequency (000)	Severity	Loss Cost	Mobility	New Normal	Frequency (000)	Severity	Loss Cost
2012.25	27.300	4,595	125.45	0.00	0	29.761	4,454	132.55
2012.75	29.002	4,811	139.54	0.00	0	30.067	4,604	138.43
2013.25	28.751	4,790	137.71	0.00	0	30.377	4,759	144.57
2013.75	31.039	5,087	157.88	0.00	0	30.689	4,920	150.98
2014.25	32.149	5,004	160.89	0.00	0	31.005	5,086	157.68
2014.75	30.209	5,229	157.97	0.00	0	31.324	5,257	164.68
2015.25	32.766	5,346	175.17	0.00	0	31.646	5,435	171.98
2015.75	31.398	5,699	178.95	0.00	0	31.972	5,618	179.61
2016.25	31.434	5,707	179.41	0.00	0	32.301	5,807	187.58
2016.75	33.999	6,095	207.22	0.00	0	32.633	6,003	195.91
2017.25	31.895	6,094	194.37	0.00	0	32.969	6,206	204.60
2017.75	35.123	6,570	230.75	0.00	0	33.308	6,415	213.67
2018.25	33.482	6,648	222.60	0.00	0	33.651	6,631	223.15
2018.75	34.475	7,127	245.71	0.00	0	33.997	6,855	233.05
2019.25	34.294	7,122	244.26	0.00	0	34.347	7,086	243.39
2019.75	34.674	7,458	258.59	0.00	0	34.700	7,325	254.19
2020.25	19.997	7,455	149.08	(35.99)	0	18.826	7,572	142.56
2020.75	20.819	7,513	156.42	(33.22)	0	19.952	7,828	156.18
2021.25	16.597	7,250	120.33	(41.07)	0	17.600	8,092	142.42
2021.75	24.728	8,029	198.54	(20.38)	0	25.423	8,365	212.66
2022.25	24.904	8,578	213.64	(20.43)	0	25.661	8,647	221.89
2022.75	27.126	9,419	255.49	0.00	1	27.501	8,939	245.82
2023.25	27.705	9,526	263.92	0.00	1	27.784	9,240	256.73
2023.75	28.538	10,026	286.13	0.00	1	28.070	9,552	268.12

		Frequency Model	Severity Model	Implied Loss Cost Model
A.	Intercept	(37.804)	(125.105)	(169.816)
B.	Time	0.020	0.066	0.087
C.	Mobility	0.017		0.017
D.	New Normal	(0.294)		(0.294)

Model Output – OW PPV DCPD Frequency Model (with time, mobility, and New Normal) applied to FA DCPD data set - based on 2013-H1[7] to 2023-H2 data

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9850	**0.9701**	**0.9652**	0.0373	22	18	4

Runs-Test Result: 1.8479 **RESIDUALS RUNS RANDOM** ; residuals normal

parameters with p-value >5%: **0** (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.	
	1	2						
Intercept	(38.023)	8.740	(4.350)	0.0%	(56.386)	(19.660)	(38.023)	4
Season	-	-	-	n/a	-	-	-	0
All Years	0.021	0.004	4.749	0.0%	0.011	0.030	0.021	3
Scalar 1	0.017	0.001	20.296	0.0%	0.015	0.019	0.017	2
Trend 1	-	-	-	n/a	-	-	-	0
Scalar 2	(0.292)	0.037	(7.872)	0.0%	(0.370)	(0.214)	(0.292)	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9850	**0.9701**	**0.9652**	0.0373	22	18	4

Runs-Test Result: 1.8479 **RESIDUALS RUNS RANDOM** ; residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted
past	**2.1%**		**2.1%**	'22H1 => last period in "past"
future	**2.1%**		**2.1%**	

Cumulative Trends (summed coefficients)	fitted coeff	S.E.	t-Stat	p-value	C.I. Lower	95% Upper	Selected Coeff.
All Yrs or AY	0.021	0.004	4.749	0.0%	0.011	0.030	0.021
AY+1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The model outputs based on FA DCPD data set are consistent with the results from OW report.

[7] *The time period is bases on DCPD frequency model description on OW Report Page 51.*

Based on the coefficient of 1.7% for mobility parameter and mobility composites on Table 20, as well as the New Normal coefficient of -29.4% provided in OW Report Appendix F page 3, we calculated the Combined New Normal Factor shown below.

DCPD	Mobility Composite	COVID Adj Factor	Est. COVID Effective Factors on Claim	New Normal Factor	Est. Combined New Normal Factor	OW Combined New Normal Factor	Diff
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Semester	OW Table 20	=1/(1+[1]/100)	=[2]*exp(1.70%)	=exp(-29.40%)	=[3]*[4]	DCPD - OW Tab 25	=[5] - [6]
201901		1.000	1.000	0.745	0.745	0.743	0.2%
201902		1.000	1.000	0.745	0.745	0.743	0.2%
202001	-35.99	1.562	1.589	0.745	1.184	1.388	(20.4%)
202002	-33.22	1.497	1.523	0.745	1.135	1.323	(18.8%)
202101	-41.07	1.697	1.726	0.745	1.286	1.517	(23.1%)
202102	-20.38	1.256	1.277	0.745	0.952	1.058	(10.6%)
202201	-20.43	1.257	1.278	0.745	0.953	1.059	(10.6%)
202202		1.000	1.000	1.000	1.000	1.000	-
202301		1.000	1.000	1.000	1.000	1.000	-
202302		1.000	1.000	1.000	1.000	1.000	-
Mobility Coefficient from DCPD Model			1.70%				
New Normal Coefficient from DCPD Model				-29.40%			

Our estimated combined new normal factors on column [5] don't match with OW Combined New Normal Factor provided on Table 25.

We would appreciate if OW can provide more detailed information associated with how the Mobility Composites and Mobility Coefficient interact and how the Combined New Normal Factors are derived.

CL Loss Model - OW Appendix F Page 8

Selected Trend Model: Collision
Data as of 31 Dec 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Observed			Covariates			Predicted		
Time	Frequency (000)	Severity	Loss Cost	Seasonality	Mobility	New Normal	Frequency (000)	Severity	Loss Cost
2012.25	25.226	5,749	145.03	0	0.00	0	27.354	5,139	140.57
2012.75	25.735	6,023	155.00	1	0.00	0	27.695	5,507	152.53
2013.25	26.991	5,814	156.93	0	0.00	0	28.042	5,474	153.51
2013.75	28.357	6,153	174.49	1	0.00	0	28.392	5,867	166.57
2014.25	31.113	5,835	181.56	0	0.00	0	28.747	5,832	167.64
2014.75	27.249	6,265	170.71	1	0.00	0	29.106	6,250	181.90
2015.25	30.627	6,191	189.62	0	0.00	0	29.470	6,212	183.07
2015.75	27.673	6,559	181.51	1	0.00	0	29.838	6,657	198.64
2016.25	29.469	6,681	196.88	0	0.00	0	30.211	6,617	199.91
2016.75	30.403	7,211	219.25	1	0.00	0	30.588	7,092	216.92
2017.25	29.846	7,017	209.43	0	0.00	0	30.971	7,049	218.31
2017.75	32.111	7,668	246.24	1	0.00	0	31.358	7,554	236.88
2018.25	32.797	7,569	248.25	0	0.00	0	31.749	7,509	238.40
2018.75	32.364	8,172	264.48	1	0.00	0	32.146	8,047	258.68
2019.25	33.646	8,110	272.86	0	0.00	0	32.548	7,999	260.34
2019.75	32.670	8,575	280.16	1	0.00	0	32.955	8,572	282.49
2020.25	20.940	8,639	180.90	0	(35.99)	0	19.033	8,521	162.17
2020.75	20.578	8,716	179.36	1	(33.22)	0	20.121	9,131	183.74
2021.25	16.472	8,395	138.28	0	(41.07)	0	18.024	9,077	163.60
2021.75	24.017	9,279	222.85	1	(20.38)	0	25.203	9,727	245.15
2022.25	26.127	9,703	253.51	0	(20.43)	0	25.497	9,669	246.52
2022.75	27.695	10,811	299.41	1	0.00	1	27.872	10,362	288.80
2023.25	28.613	10,683	305.68	0	0.00	1	28.220	10,300	290.65
2023.75	28.360	11,218	318.15	1	0.00	1	28.573	11,038	315.38

		Frequency Model	Severity Model	Implied Loss Cost Model
A.	Intercept	(46.670)	(118.632)	(172.210)
B.	Time	0.025	0.063	0.088
C.	Seasonality		0.038	0.038
D.	Mobility	0.016		0.016
E.	New Normal	(0.242)		(0.242)

Model Output – OW PPV CL Frequency Model (with time, mobility, and New Normal) applied to FA CL data set - based on 2014-H1[8] to 2023-H2 data

FITTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9656	0.9324	0.9197	0.0522	20	20	4

Runs-Test Result: 2.1999 RESIDUALS RUNS NOT RANDOM Residuals normal

parameters with p-value >5%: 0 (intercept specifically not included)

	Coefficients	S.E.	t-Stat	p-value	C.I. 95% Lower	C.I. 95% Upper	Selected Coeff.	
	1	2						
Intercept	(46.752)	14.807	(3.157)	0.6%	(78.142)	(15.362)	(46.752)	4
Season	-	-	-	n/a	-	-	-	0
All Years	0.025	0.007	3.389	0.4%	0.009	0.040	0.025	3
Scalar 1	0.016	0.001	12.554	0.0%	0.013	0.018	0.016	2
Trend 1	-	-	-	n/a	-	-	-	0
Scalar 2	(0.241)	0.056	(4.319)	0.1%	(0.359)	(0.123)	(0.241)	1
Trend 2	-	-	-	n/a	-	-	-	0
Scalar 3	-	-	-	n/a	-	-	-	0
Trend 3	-	-	-	n/a	-	-	-	0
Scalar 4	-	-	-	n/a	-	-	-	0
Trend 4	-	-	-	n/a	-	-	-	0

SELECTED TREND STRUCTURE REGRESSION STATISTICS

Multiple R	R^2	Adjusted R^2	S.E. of Estimate	# of Obs. n	# of Obs. Excluded	# parameters p
0.9656	0.9324	0.9197	0.0522	20	20	4

Runs-Test Result: 2.1999 RESIDUALS RUNS NOT RANDOM Residuals normal

	Fitted Annual	Previous Selected	Selected Annual	selected = fitted
past	2.5%		2.5%	'22H1 => last period in "past"
future	2.5%		2.5%	

Cumulative Trends (summed coefficients)

	fitted coeff	S.E.	t-Stat	p-value	C.I. 95% Lower	C.I. 95% Upper	Selected Coeff.
All Yrs or AY	0.025	0.007	3.389	0.4%	0.009	0.040	0.025
AY+1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AY+1+2+3+4	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The model outputs based on FA CL data set are consistent with the results from OW report.

Based on the coefficient of 1.6% for mobility parameter and mobility composites on Table 20, as well as the New Normal coefficient of -24.2% provided in OW Report Appendix F page 8, we calculated the Combined New Normal Factor shown below.

CL	Mobility Composite	COVID Adj Factor	Est. COVID Effective Factors on Claim	New Normal Factor	Est. Combined New Normal Factor	OW Combined New Normal Factor	Diff
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Semester	OW Table 20	=1/(1+[1]/100)	=[2]*exp(1.60%)	=exp(-24.20%)	=[3]*[4]	CL - OW Tab 27	=[5] - [6]
201901		1.000	1.000	0.785	0.785	0.785	-
201902		1.000	1.000	0.785	0.785	0.785	-
202001	-35.99	1.562	1.587	0.785	1.246	1.376	(13.0%)
202002	-33.22	1.497	1.522	0.785	1.195	1.318	(12.3%)
202101	-41.07	1.697	1.724	0.785	1.354	1.490	(13.6%)
202102	-20.38	1.256	1.276	0.785	1.002	1.079	(7.7%)
202201	-20.43	1.257	1.277	0.785	1.003	1.080	(7.7%)
202202		1.000	1.000	1.000	1.000	1.000	-
202301		1.000	1.000	1.000	1.000	1.000	-
202302		1.000	1.000	1.000	1.000	1.000	-
Mobility Coefficient from CL Model			1.60%				
New Normal Coefficient from CL Model				-24.20%			

Our estimated combined new normal factors on column [5] don't match with OW Combined New Normal Factors provided on Table 27.

We would appreciate if OW can provide more detailed information associated with how the Mobility Composites and Mobility Coefficient interact and how the Combined New Normal Factors are derived.

5. Consistency and transparency of trends selection approach

We notice inconsistency and general lack of explanation in trends selection approach with regards to choosing between combined frequency and severity model versus direct loss cost model among various coverages.

For example for PPV Bodily Injury, OW Report states:

[8] *The time period is bases on BI frequency model description on OW Report Page 66.*

> To assess reasonableness, we also include a model fit to the observed loss costs directly with the same parameterization as implied by our frequency and severity models. The model fit to loss costs directly, rather than on a combination of frequency and severity, results in a slightly lower trend rate prior to April 1, 2016, a slightly higher trend rate after April 1, 2016, and a slightly higher adjusted R-squared (0.954).
>
> We base our selection on the direct loss cost model. We select a loss cost trend rate of +1.9% prior to April 1, 2016, and -1.9%[61] thereafter.

As the direct loss cost model has slightly higher adjusted R-squared, it makes sense to select it for the final selection.

However, for PPV DCPD, OW Report states:

> To assess reasonableness, we also include a model fit to the observed loss costs directly with the same parameterization as implied by our frequency and severity models. The model fit to loss costs directly, rather than on a combination of frequency and severity, results in a slightly higher trend rate and a slightly higher adjusted R-squared (0.952).
>
> We base our selection on the combined frequency and severity model. We select a loss cost trend rate of +9.1%.

Even though the direct loss cost model for DCPD has slightly higher adjusted R-squared, OW selected the combined frequency and severity model for the final selection with no rationale provided.

It would be helpful to clearly document rationale and reasons in the selection approach, especially when different approaches are used for different coverages, in order to avoid any unconscious bias in selecting assumptions to achieve predetermined results.

Also, we noted an inconsistency for 2016 Trend Change stagger variable between the coverages:

- for BI, 2016 Trend Change stagger variable at 2016.75 is 0.5;
- for Comprehensive – Theft, 2016 Trend Change stagger variable at 2016.25 is 0.25.

As the trend is based on half accident year data, we believe the stagger variable at 2016.75 should be 0.25 rather than 0.5, and we tested that replacing 0.5 by 0.25 has no significant impact on the BI model output. As such for consistency, it would be better to use 0.25 rather than 0.5 for BI 2016 Trend Change stagger variable at 2016.75.

6. Selection of Loss Trends Rates and Uncertainty

As stated on Page 3 of the OW Report:

> *"The COVID-19 pandemic affected loss costs beginning in 2020-1 mainly driven by a decline in the claims frequency rate. Current projections of mileage and mobility (based on cell phone data) indicate a return to pre-pandemic mobility levels in the second half of 2022. We believe 2022-2 may be the start of a "new-normal" with remote and hybrid work models commonplace, and the pandemic restrictions behind us.*
>
> *Our loss trend selections are intended to be isolated from the influence of the COVID-19 pandemic."*

We agree with the assumption of return to pre-pandemic level, and loss trend should reflect the impacts of the COVID-19 pandemic and the post-pandemic new normal on the claims experience.

We have completed our own loss trend analysis using Ontario PPV Industry Experience as of December 31, 2023 with the inclusion of 2014 to 2023 data points and tested impacts of the COVID-19 and new economic environment, and we would like to provide FSRA with a summary of our selections of the past and future trends and how they compared with the preliminary selections from the OW Reports.

Ontario Industry Trends as at December 31, 2023

Coverage	Ontario PPV FA Loss Cost Trend as at:2023-12		Ontario PPV OW Loss Cost Trend as at:2023-12		Loss Cost Trend Change Between FA and OW	
	past	future	past	future	past	future
BI	3.0%	3.0%	1.9%	(1.9%)	1.1%	4.9%
PD	7.2%	7.2%	1.7%	4.8%	5.5%	2.4%
DCPD	9.8%	9.8%	9.1%	9.1%	0.7%	0.7%
ME	0.9%	0.9%	7.3%	1.4%	(6.4%)	(0.5%)
DI	0.3%	0.3%	5.8%	(1.8%)	(5.5%)	2.1%
DB	(1.1%)	(1.1%)	(2.1%)	(2.1%)	1.0%	1.0%
FE	(1.2%)	(1.2%)	(2.1%)	(2.1%)	0.9%	0.9%
UA	(0.1%)	(0.1%)	(9.8%)	3.5%	9.7%	(3.6%)
UM	-	-	3.3%	3.3%	(3.3%)	(3.3%)
CL	10.2%	10.2%	9.2%	9.2%	1.0%	1.0%
CM	12.7%	12.7%	13.6%	13.6%	(0.9%)	(0.9%)
SP	8.4%	8.4%	13.6%	13.6%	(5.2%)	(5.2%)
AP	6.9%	6.9%	8.8%	8.8%	(1.9%)	(1.9%)

Note: the past and future trends cut-off date between FA and OW may be different

We estimate that the OW PPV future trend selections at the coverage level will translate to an overall loss cost future trend rate of 5.7%, while the FA estimated PPV overall loss cost future trend rate will be 6.5% using ON PPV industry 2023 ultimate indemnity as weights.

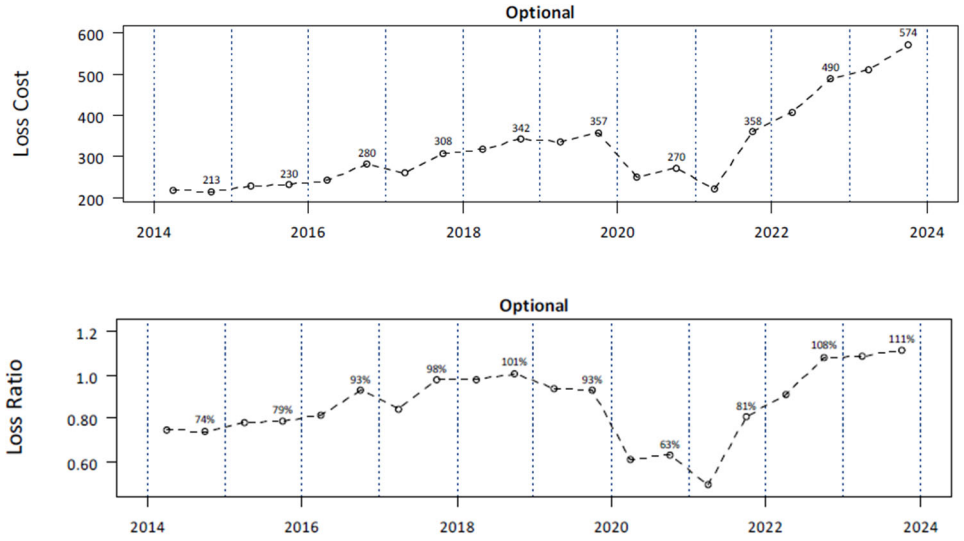
The difference between FA estimated future loss cost trend rates and OW preliminary loss cost trend rates would be due to many reasons such as: indemnity only or indemnity plus expenses, design matrix, using different values of the explanatory variables for the reform and mobility parameters.

We also compare the OW preliminary loss cost trends as of December 31, 2023 to FSRA current benchmark loss cost trends as of December 31, 2022 (see below). The OW increased future trends for Bodily Injury, Medical/Rehab, Uninsured Auto and Underinsured Motorist, but decreased future trends for physical damage coverages.

Coverage	Ontario PPV OW Loss Cost Trend as at:2023-12		Ontario PPV FSRA Loss Cost Trend as at:2022-12		Loss Cost Trend Change Between 2023-12 vs 2022-12	
	past	future	past	future	past	future
BI	1.9%	(1.9%)	(3.4%)	(3.4%)	5.3%	1.5%
PD	1.7%	4.8%	4.7%	4.7%	(3.0%)	0.1%
DCPD	9.1%	9.1%	8.8%	15.2%	0.3%	(6.1%)
ME	7.3%	1.4%	0.2%	0.2%	7.1%	1.2%
DI	5.8%	(1.8%)	(1.3%)	(1.3%)	7.1%	(0.5%)
DB	(2.1%)	(2.1%)	(1.7%)	(1.7%)	(0.4%)	(0.4%)
FE	(2.1%)	(2.1%)	(1.7%)	(1.7%)	(0.4%)	(0.4%)
UA	(9.8%)	3.5%	0.1%	0.1%	(9.9%)	3.4%
UM	3.3%	3.3%	2.2%	2.2%	1.1%	1.1%
CL	9.2%	9.2%	8.8%	15.2%	0.4%	(6.0%)
CM	13.6%	13.6%	10.4%	16.8%	3.2%	(3.2%)
SP	13.6%	13.6%	10.4%	16.8%	3.2%	(3.2%)
AP	8.8%	8.8%	10.0%	16.4%	(1.2%)	(7.6%)

Note: the past and future trends cut-off date between FA and FSRA may be different

The OW Report Figure 5 and 6 provide loss cost and loss ratio summary for Optional coverage (see charts below). Loss cost and loss ratios as of December 31, 2023 for optional coverages have been increasing since 2021 and continued to increase to 2023-2.



We would appreciate to have rationale for the decreasing of future trends selections for the optional coverages including DCPD, CL, CM, SP and AP.

With uncertain economic condition and the increasing loss cost and loss ratio for optional coverages, we would suggest FSRA consider increasing the future trends for physical damage coverages.

Finally, we appreciate the OW Reports' recommendation/mention regarding recent higher inflation:

> *"The recent claim experience is exceptional due to the COVID-19 pandemic and the recent spike in inflation. Potential future inflation scenarios add uncertainty to the selected future trend rate." (OW Report Page 3)*
>
> *"… when selecting the future trend rate, we suggest consideration of:*
>
> - *The correlation of the historical CPI index with historical claim cost changes; and any recent pattern of changes (stabilizing, rising or falling) in the CPI.*
> - *The actual change in claim costs data that has emerged during the period of high inflation and the subsequent period of inflation rates returning towards pre-pandemic rates.*
> - *The anticipated future CPI during the rating program period given the Federal Government's actions to curb inflation through interest rates.*
> - *The impact of economic conditions and general high inflation on vehicle usages." (OW Report Page 4)*
>
> *"The recent rise in inflation that began in late 2021 affects the past loss cost levels; and any stabilization, moderation or increase in future inflation will affect future loss cost levels." (OW Report page 41)*
>
> *"Additionally, given the dynamic nature of the recent inflation environment, we recognize insurers may find an inflationary adjustment is required at the time of filing." (OW Report page 45)*

The recent rise in inflation, rise in vehicle thefts, and significant increase in the prices of used cars are just other indicators of pressure points affecting our industry.

The projection of future loss trend rate needs is subject to **considerable uncertainty** and FSRA should consider this when review individual rate filings.