CAC (MPI)

CAC (MPI) 2-1

Part and Chapter:	**CAC (MPI) 1-6 (a) and (b)**	**Page No.:**	**2**
PUB Approved Issue No:	**4c and 4d Interest Rate Forecast**		
Topic:	**Naïve Interest Rate Forecast**		
Sub Topic:			

Preamble to IR (If Any):

"a. Actual or expected changes in the BOC overnight rate are not material considerations in the selection of a best estimate interest rate forecast. Increases in the Bank of Canada (BoC) overnight rate do not necessarily result in increases in Government of Canada (GoC) 10-year bond yields.. .

b. . . . it does not necessarily follow that increases in the BoC overnight rate result in increases in the GoC 10-year bond yield."

Question:

Please explain how these assertions can be credible at any level of generality in light of the Bank of Canada's official document "Monetary Policy: How It Works, and What is Takes" which states unequivocally: "Following the announcement of the Bank's policy action to increase its target for the overnight rate, the actual overnight interest rate adjusts almost instantly. As the overnight interest rate rises, two responses are observed. First, the hike in the overnight rate leads to an increase in longer-term interest rates in Canada. This increase occurs because there is an entire spectrum of financial assets, ranging from overnight loans to 30-year bonds, and their rates tend to move together" (https://www.bankofcanada.ca/publications/books-and-monographs/why-monetary-policy-matters/4-monetary-policy/ , section 4.1)

Rationale for Question:

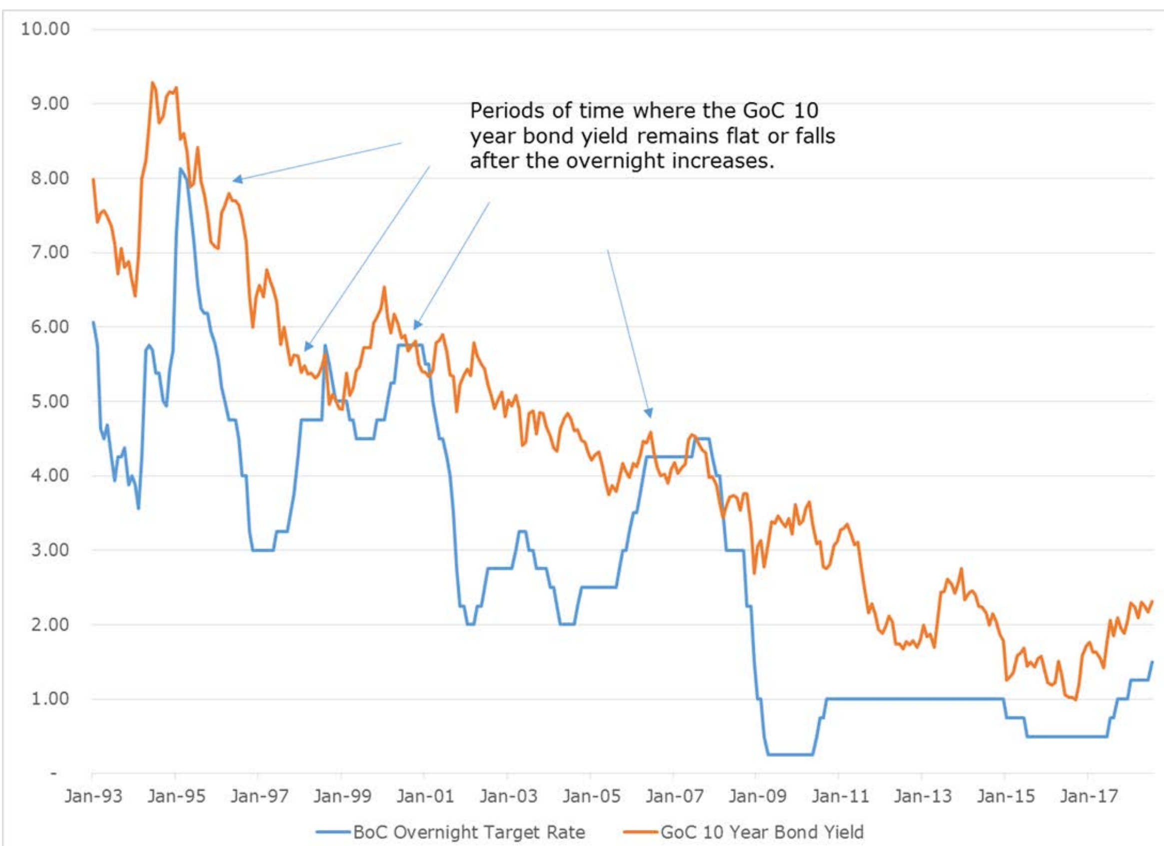
MPI has asserted that recent increases in the Bank of Canada policy rate will not necessarily affect the 10 year Government of Canada bond rate to justify the use of a naïve interest rate forecast.

RESPONSE:

Analysis using Historical Data

Historical data since 1993 indicates that increases in the overnight rate do not necessarily mean that the GoC 10 year bond yield will increase over the short term (1 to 1.5 year outlook period).

Figure 1: Bank of Canada Overnight Rate and GoC 10 Year Bond Year 1993 to Present



As shown in *Figure 1*, over a long horizon (more than two years outlook) the Government of Canada (GoC) 10 year bond yield has followed the general direction of the overnight rate downwards. However, rate setting is based on interest rates with an outlook of less than two years (i.e. short term outlook). There are various 1 year periods where the overnight rate increased significantly, and the Bank of Canada 10 year bond yield fell. *Figure 2* shows a few notable instances over a multi-decade span where the magnitude of both the overnight rate increase and the GoC 10 year bond yield decrease was significant.

Figure 2: Overnight and GoC 10 Year Bond Yield Divergence when Overnight Rate Increases over 1 Year

Line No.	1 Year Outlook	Overnight Rate Change (%)	GoC 10 Year Bond Yield Change (%)	Divergence (%)
1	Oct 1994 to Oct 1995	1.25	-1.57	2.82
2	Jan 1997 to Jan 1998	1.75	-1.17	2.92
3	Jan 2000 to Jan 2001	0.75	-1.15	1.90
4	May 2002 to May 2003	1.00	-1.09	2.09
5	Jun 2004 to June 2005	0.50	-1.09	1.59
6	Oct 2009 to Oct 2010	0.75	-0.61	1.36

Figure 3 below shows this same analysis over a 1.5 year outlook period. This outlook period is relevant because the new money yield used for setting rates in the 2019 GRA is calculated as of September 1, 2019, which is an outlook period of 1.5 years from the naïve forecast that was set using the February 28, 2018 GoC 10 year bond yield. An example of extreme divergence of the overnight rate and the GoC 10 year bond yield was seen over the 1.5 year period ending September 1998. The overnight rate increased by 2.50% and the GoC 10 year bond yield decreased by 1.81%, for a divergence of 4.31%.

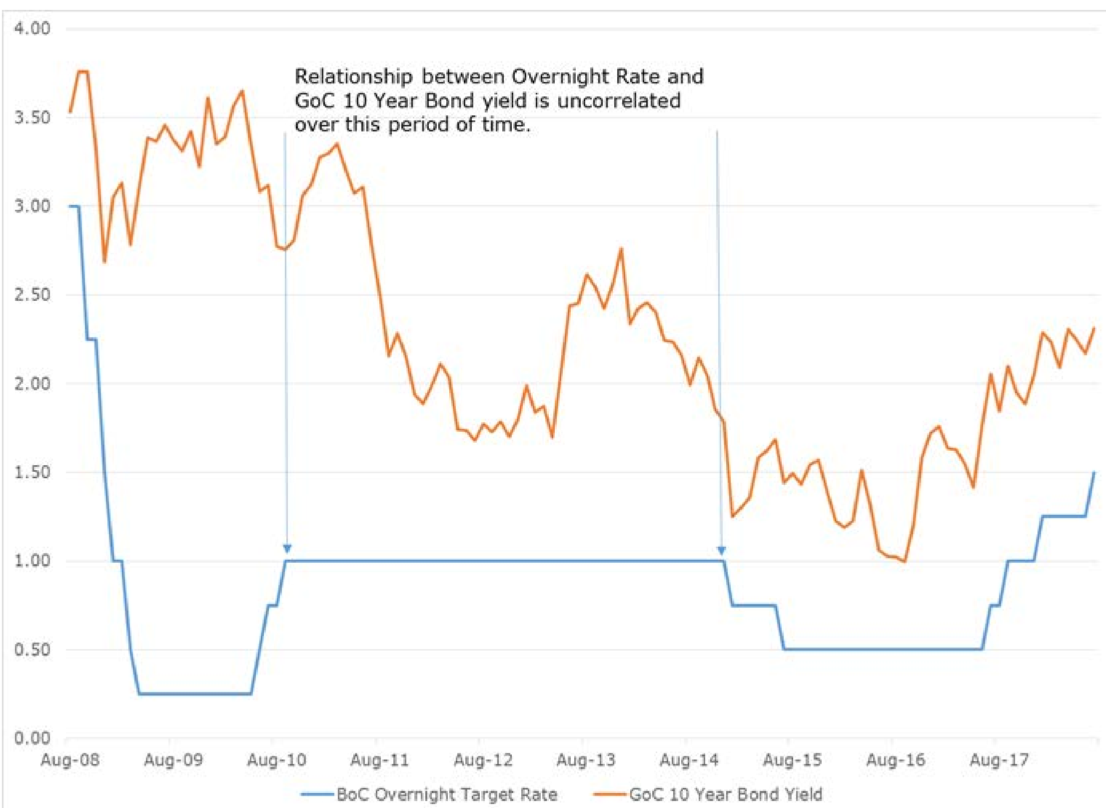
Figure 3: Overnight and GoC 10 Year Bond Yield Divergence when Overnight Rate Increases over 1.5 Years

Line No.	1 Year Outlook	Overnight Rate Change (%)	GoC 10 Year Bond Yield Change (%)	Divergence (%)
1	Mar 1997 to Sept 1998	2.50	-1.81	4.31
2	Mar 2002 to Sep 2003	0.75	-1.23	1.98
3	Jun 2004 to Dec 2005	1.25	-0.86	2.11
4	Mar 2010 to Sep 2011	0.75	-1.41	2.16

Bank of Canada Article

Christopher Ragan wrote the article that was published in the Bank of Canada Review in Winter 2006-2007, written between 2004 and 2005. Financial markets have changed since the article was published, due in part to the impact of the Global Financial Crisis in 2008/2009, which was followed by historically low interest rates. Figure 4 provides the last 10 years of history for both variables.

Figure 4: 10 Years of History: Bank of Canada Overnight Rate and GoC 10 Year Bond Yield (%)



A few observations about *Figure 4*:

- Since the article was written there was yet another divergence of interest rates in the short term when the overnight rate increased. The overnight rate as of May 2010 was 0.25% and the GoC 10 year bond yield was 3.35%. By September 2010, the overnight rate increased by 0.75% to 1.00% and the GoC 10 year bond yield fell by 0.59% to 2.76%.
- The correlation coefficient of monthly movements between the overnight rate and the GoC 10 year bond yield over the last 10 years (August 2008 to July 2018) is r = 0.23, indicating little strength in the relationship between the relative movements of the two variables.
- See *PUB (MPI) 2-39* for discussion of correlation for the two year period ending August 2018.

In sum, increases in the Bank of Canada overnight rate do not necessarily result in increases in Government of Canada 10-year bond yields, particularly over the short-term (1 to 1.5 years).

CAC (MPI) 2-2

Part and Chapter:	**PART VI INV.2.1.2**	**Page No.:**	**1,459 - 1,462; 1,469; 1,633**
PUB Approved Issue No:	**14. Risk Assessment and Risk Management** **21. Asset Liability Management Study**		
Topic:	**CAC's 18 Recommendations**		
Sub Topic:	**Recommendation #10. Minimum Risk Portfolio (Follow-up question to CAC (MPI) 1-83)**		

Preamble to IR (If Any):

In CAC (MPI) 1-83 (response b), MPI said it relies on the nominal, rather than real, Liability Benchmark because it "has identified inflation as a risk and believes that the risk of sustained high inflation is low". In response c, MPI said "a nominal benchmark is better (more appropriate and effective) given the Corporation's outlook for inflation".

In response to PUB (MPI) 1-80 (b), MPI said:

> "MPI has a long-term inflation forecast of 2.0%, which is based upon historical inflation and the Bank of Canada's inflation target." Since the Bank of Canada (BoC) adopted its explicit inflation target in March 1991, inflation has averaged at 1.9%. The Corporation therefore believes that the risk of inflation significantly exceeding the BoC's 2% inflation target is low. Further, given the low real yields currently available on Real Return Bonds (RRBs), the cost of obtaining protection from a high inflation scenario is substantial.
>
> Mercer states at page 7 of the Phase 2 Report, that dollar and duration matching of liabilities is "challenging with RRBs. The Canadian RRB market consists of 15 issues of which only 7 are liquid and all are government issued. Further, RRBs are traditionally indexed to Canadian Consumer Price Index, while Basic Liabilities are indexed to other drivers."

Question:

a) Sustained inflation vs. high inflation: To what extent was MPI's low risk assessment related to "sustained high inflation" based on the "sustained" (i.e. presumably low volatility) component vs. the "high" (i.e. level) component?

b) Appropriateness: How does the **Nominal** Liability Benchmark provide a more **appropriate** objective for managing the portfolio than the **Real** Liability Benchmark?

c) Standard effectiveness: Does the **Nominal** Liability Benchmark provide a more or less effective standard against which performance can be measured, compared to the **Real** Liability Benchmark?

d) Accountability: Would MPI agree that the **Real** Liability Benchmark would make MPI more accountable (compared to using a **Nominal** Liability Benchmark)? If not, why not?

e) To what extent would MPI agree with CAC's assessments, in the table below, of:

   i. the **importance** of the characteristics (column 1) regarding the desirable characteristics of benchmarks noted by Mercer when selecting a liability benchmark (i.e. nominal vs. real)?

   ii. the **assessments** about the Real Liability Benchmark vs. the Nominal Liability Benchmark (columns 2 and 3)?

Desirable Benchmark Characteristic (per Mercer)	CAC's Assessment		
	(1) Importance of Characteristic	(2) Real Liability Benchmark	(3) Nominal Liability Benchmark
a. Specified in advance	n/a*	No material difference	
b. Appropriate	High	**Real Liability Benchmark is more consistent with the desire to reduce risk, given a low tolerance for risk**	
c. Unambiguous	n/a*	No material difference	
d. Measurable	n/a*	No material difference	
e. Accountable	High	**Real Liability Benchmark would hold MPI more accountable** by measuring the difference in performance between the portfolio and the benchmark caused by changes in factors that impact the liabilities (inflation and **real** interest rates)	
f. Investable	Lower	**Real Liability Benchmark is less investable**, given the large weight to RRBs in the Real Liability Benchmark (66% for Basic, 81% for Pension), compared to 0% RRBs in the Nominal Liability Benchmark	

* Importance does not need to be assessed because CAC believes there is no material difference in this regard between the real and nominal liability benchmarks (i.e. both benchmarks are a) specified in advance, c) unambiguous, and d) measureable.

Rationale for Question:

The rationale provided by MPI for selecting the **nominal** liability benchmark (rather than **real**) seems inconsistent with the desirable characteristics of benchmarks that were described by Mercer. In other words, it is not clear why the **nominal** liability benchmark is "more appropriate and effective" than the **real** liability benchmark. It is also not clear how much weight was given to the various benchmark characteristics in making MPI's decision.

RESPONSE:

a) MPI based its low risk assessment of inflation primarily upon the expected *level* rather than the expected *volatility* of inflation.

b) Early in the project, MPI indicated that it was comfortable focusing on mitigating nominal interest rate risk over real risk.

As indicated in the response to CAC 1-84(b): "During the early stages of the project, MPI advised that they were comfortable with a fixed 2% inflation assumption and that they were less concerned with inflation risk (in particular, the risk of long-term inflation materially exceeding 2%) than nominal interest rate risk (in particular, the risk of buying fixed income securities with duration much shorter than liabilities). Accordingly, it was agreed to model liabilities assuming 2% inflation and utilize a nominal liability benchmark."

Given MPI's investment objectives and risk tolerance, the Nominal Liability Benchmark is a more appropriate objective.

c) Given MPI's investment objectives and risk tolerance, a Nominal Liability Benchmark provides a more effective standard than a Real Liability Benchmark.

d) MPI would be equally accountable using a real or nominal liability benchmark.

e) MPI and Mercer believe that each of the characteristics in the table are important when selecting a liability benchmark, regardless of whether the benchmark selected is nominal or real.

Desirable Benchmark Characteristic (per Mercer)	CAC's Assessment		
	(1) Importance of Characteristic	(2) Real Liability Benchmark	(3) Nominal Liability Benchmark
a. Specified in advance	n/a*	No material difference	
b. Appropriate	High	**Real Liability Benchmark is more consistent with the desire to reduce risk, given a low tolerance for risk**	See response to CAC 1-84(b)
c. Unambiguous	n/a*	No material difference	
d. Measurable	n/a*	No material difference	
e. Accountable	High	**Real Liability Benchmark would hold MPI more accountable** by measuring the difference in performance between the portfolio and the benchmark caused by changes in factors that impact the liabilities (inflation and **real** interest rates)	See response to CAC 1-84(b)
f. Investable	Lower	**Real Liability Benchmark is less investable**, given the large weight to RRBs in the Real Liability Benchmark (66% for Basic, 81% for Pension), compared to 0% RRBs in the Nominal Liability Benchmark	Agree some RRB's are more difficult to purchase.

* Importance does not need to be assessed because CAC believes there is no material difference in this regard between the real and nominal liability benchmarks (i.e. both benchmarks are a) specified in advance, c) unambiguous, and d) measureable.

CAC (MPI) 2-3

Part and Chapter:	PART VI INV	Page No.:	1459-1462; 1654; 1755; 1749; 1765
PUB Approved Issue No:	21. Asset Liability Management Study		
Topic:	CAC's 18 Recommendations		
Sub Topic:	Recommendation #13. No Over-Reliance on Quantitative Modeling (Follow-up question to CAC (MPI) 1-84)		

Preamble to IR (If Any):

In CAC (MPI) 1-84 (response e), Mercer said:

> There is tracking error or basis risk any time one uses a portfolio of marketable fixed income securities to proxy liabilities. Whether the tracking error/basis risk is 'material' depends on one's interpretation of what is 'material'. Given MPI's overall risk tolerance, return objectives, modelling budget, asset class constraints and the scope of the project, Mercer is supportive with MPI's decision to make its asset allocation decisions based off of the liability benchmarks analysis used.

Question:

a) Original question (unchanged): Would MPI and Mercer agree that there is material tracking error* or basis risk between the Nominal Liability Benchmark and the Real Liability Benchmark for:
   i. Basic liabilities?
   ii. Pension liabilities?

   * Tracking error measures the standard deviation of the return difference between two groups of assets or liabilities (e.g. actual portfolio vs. benchmark). Basis risk refers to the risk that two portfolios (including

liability benchmarks) will experience different performance/growth, arising from imperfect correlations (not = 1.0), for example.

b) In answering the above question, how was 'materiality' interpreted by MPI?

c) To what extent would MPI agree that materiality could be assessed, for the purpose above, in relation to:

   i. MPI's tracking error vs. the traditional benchmark portfolio (i.e. policy portfolio, which excludes active management)?

   ii. MPI's permitted tracking error arising from allowable deviations from its duration policy?

Rationale for Question:

The initial question posed by CAC was not answered. (i.e. CAC's question **does not** relate to the tracking error of the **actual** portfolio.) Instead, CAC's question relates to the significance of the difference between the **Nominal** Liability Benchmark and the **Real** Liability Benchmark, with tracking error being a familiar basis for quantifying the difference between the two portfolios (in this case, **two benchmark** portfolios).

RESPONSE:

a) Mercer responds: The response to CAC 1-84 (e) interpreted the question as a discussion of the tracking error between the proxy benchmark and the actual liabilities. CAC's follow-up question (CAC 2-3 (a)) has clarified that their interest in this topic is with respect to the variation in the tracking error between the two Benchmarks (rather than the Benchmarks and the actual liabilities). The variation in future returns between the Nominal Liability Benchmark and the Real Liability Benchmark can be summarized via the anticipated volatility (standard deviation) between the two portfolios. The anticipated volatility between these two portfolios using the forward rate assumptions used for the ALM project is 4.5%. While we would agree that this variation is material, we continue to support the decision to hedge the nominal liability benchmark for the reasons outlined elsewhere.

b) While materiality was not explicitly defined, MPI accepts Mercer's characterization of 4.5% tracking error as material. Materiality is typically defined in terms of dollars in order to ensure that it is intuitive (i.e. % of net income, % of normal annual revenue, % of the total investment portfolio, etc.).

c) We agree that the tracking error of MPI's actual investment portfolio vs. MPI's benchmark portfolio is one way to assess materiality. We also agree that tracking error arising from deviations from the duration policy is one way to assess materiality. MPI's policy requires the duration of the bond portfolio to be within 0.25 years of the duration of the liabilities so "allowable deviations from its duration policy" are very small.

CAC (MPI) 2-4

Part and Chapter:	PART VI INV	Page No.:	1459-1462; 1481; 1520; 1532; 1614
PUB Approved Issue No:	14. Risk Assessment and Risk Management 21. Asset Liability Management Study		
Topic:	CAC's 18 Recommendations		
Sub Topic:	Recommendation #15. Effectiveness of Duration Policy (Follow-up question to CAC (MPI) 1-86)		

Preamble to IR (If Any):

In CAC (MPI) 1-86 (response h ii), Mercer said:

> Given the current environment, we support decisions by institutional investors such as MPI to hedge nominal interest rate risk before hedging real interest rate risk. We share MPI's view that over the long-term it is unlikely that inflation will persistently exceed 2% per annum. Fully hedging both nominal and real interest rate risk would materially reduce return expectations and significantly limit MPI's investment opportunity set.

Question:

a) Persistently exceed: To what extent is Mercer's support/view to "hedge nominal interest rate risk before hedging real interest rate risk" based on the "persistence" (i.e. presumably low volatility) component vs. the "excess" (i.e. level) component?

b) Can MPI/Mercer explain if hedging **both** nominal and real interest rate risk (at the same time) is possible, or do you have to pick one basis or the other?

c) What evidence can Mercer/MPI provide regarding the material reduction of return expectations arising from "fully hedging both nominal and real interest rate risk"? (Ideally, the response uses the capital market assumptions included in the Asset/Liability Study to quantify the reduction of return expectations.)

d) Would MPI/Mercer agree that MPI's investment opportunity set would only be "significantly limited" if MPI decides that "**fully** hedging" interest rate risk is the chosen strategy? In other words, couldn't the opportunity set be kept larger if **real** interest rate risk is only **partially** hedged?

e) Can Mercer confirm the time horizon (years) when it indicates that in "the long-term it is unlikely that inflation will persistently exceed 2% per annum"?

Rationale for Question:

There are a number of underlying assumptions that may have informed the responses from MPI/Mercer, and it is important to make those assumptions clear when interpreting the responses to certain questions. For example, the term "fully hedging" is used, but a strategy to pursue full (rather than partial) hedging represents a constraint – and it is unclear what impact the constraint itself has on the answers to some questions.

RESPONSE:

a) Mercer's support to "hedge nominal interest rate risk before hedging real interest rate risk" is driven more by our views on the expected level of future inflation than the volatility of future inflation.

b) Hedging both nominal and real interest rate risk at the same time is possible, particularly if one is willing to use derivative overlays to extend duration and achieve exposure to RRB's synthetically. Completely hedging both with physical bonds would significantly limit investment options and result in at least some tracking error.

c) Please see the table below:

Figure 1: Expected Returns

	Basic.1	Basic.3	With RRBs
	Nominal Benchmark	Recommended Portfolio	Real Benchmark
Fixed Income	**100%**	**100%**	**100%**
T-Bills	0%	0%	26%
Short-term Bonds (Prov.)	28%	0%	8%
Mid-term Bonds (Prov.)	18%	28%	0%
Long-term Bonds (Prov.)	54%	32%	0%
Real Return Bonds	0%	0%	66%
Mid-term Bonds (Corp.)	0%	9%	0%
Long-term Bonds (Corp.)	0%	11%	0%
MUSH Bonds	0%	20%	0%
Expected Return	**2.80%**	**3.12%**	**2.43%**

The table above compares expected returns for Basic.1 (the Nominal Benchmark), Basic.3 (the Recommended Portfolio) and the Real Liability Benchmark. The calculation uses the capital market assumptions of the Asset/Liability Study (that is the expected returns based on projected yields implied by the forward yield curve as of August 31, 2017). It illustrates the reduced return expectations for the Real Liability Benchmark.

d) Agreed. The opportunity set would be larger if real interest rate risk was only partially hedged.

e) Mercer does not specifically assign a number of years when referring to the long-term, but generally refers to the 'short-term' as 1-3 years, the 'mid-term' as 3-10 years, and the 'long-term' as 10 years or more.

CAC (MPI) 2-5

Part and Chapter:	**Part VI INV, Appendix 13**	**Page No.:**	**1614, 1723, 1788**
PUB Approved Issue No:	**21. Asset Liability Management Study**		
Topic:	**Risk Management**		
Sub Topic:	**Risk Tolerance in Basic and Pension (Follow-up question to CAC (MPI) 1-96)**		

Preamble to IR (If Any):

In CAC (MPI) 1-96 (response a), MPI said "prudent fiscal management requires the Corporation to avoid causing a negative impact on the Consolidated Financial Statements of the Province of Manitoba".

Question:

a) Under what circumstances, if any, could there be a "**negative** impact on the Consolidated Financial Statements of the Province of Manitoba" and at the same time be a "**positive** impact for ratepayers"?

   i. Describe the circumstances or triggering events.

   ii. Describe how the Province's Consolidated Financial Statements are negatively impacted in the above circumstances/events.

b) Are there any accounting treatments related to the Consolidated Financial Statements of the Province of Manitoba that may impact MPI's investment-related decisions that are noteworthy? If so, what are they?

Rationale for Question:

To understand how any accounting treatment in the Consolidated Financial Statements of the Province of Manitoba, or other consideration relevant to the Province of Manitoba, might impact MPI's decisions related to risk tolerance and/or portfolio design.

RESPONSE:

a) At the outset, MPI cautions that this question seeks a response that is speculative in nature, and further, MPI's response to CAC (MPI) 1-96 did not specifically reference scenarios that positively impact ratepayers, and negatively impact the consolidated financial statements of the Province. However, the relationship between the ratepayer and MPI's shareholder, in the rate setting context is worthy of some consideration, even in the hypothetical.

There are two key pathways for MPI's financial results to negatively impact the consolidated financial statements of the Province. The first is through negative net income to MPI's (predominantly Basic's) operations, which impacts the Province's consolidated income statement. The second is through elevated risk in the investment portfolio coupled with inadequate capitalization, such that the risk, magnitude and impact of loss would be greater in the face of a major adverse event.

For the first pathway, the timescale is relevant to establishing if impacts are positive or negative for a given stakeholder. Over a short term, say one year, a rate decrease driven by an aggressive interest rate forecast, resulting in policies being sold for less than the cost of coverage, would be beneficial to ratepayers. Basic would, with a high degree of probability, earn negative net income that year, which would negatively impact the Province's consolidated financial statements.

Over a medium term, say 2-3 years, there could be lingering effects on net income and capitalization, as retained earnings are drawn down, potentially triggering management action including RSR rebuilding fees. Over the medium term, both ratepayers and province's consolidated financial statements could be negatively impacted on a net basis, even factoring in the short term benefit to ratepayers from a lower rates in the first year.

The second pathway is more appropriately considered over the longer term, say 3-8 years, where a scenario could unfold as such: rates are set low on the basis of aggressive interest rate forecasts, and capitalization is drawn down to the bare minimum. A rare, unexpected and adverse event, say a global financial crisis, depletes the reserves of Basic beyond the ability of transfers from MPI's Extension line to maintain Basic's satisfactory financial condition. Remedial action including transfers from the Province, along with management action, could be needed.

In this scenario, ratepayers are arguably negatively impacted on balance (notwithstanding the sustained low rates enjoyed prior to the adverse event), as they now face potential rate increases, rebuilding fees, and indirectly through impacts to government finances.

The Province's consolidated financial statements could be negatively impacted by the following:

i. Basic's negative net income impacting the Province's income statement;

ii. A reduction in assets on Basic's balance sheet, which translates to a reduction of assets on the provincial balance sheet. This loss could be exacerbated if higher risk assets are held by Basic; and

iii. Credit rating downgrade resulting from impacts to Province's income statement and balance sheet.

Here, harm to Basic's financial condition, and the Province's consolidated balance sheet could be amplified with higher risk equities and alternatives supporting the claims liabilities.

As the Province aims to restore fiscal sustainability, balance the budget, and secure a strong credit rating; MPI strives to do its part by limiting variability in earnings. This reduction in volatility will benefit rate payers through stable and predictable rates while also benefiting all Manitoban's through MPI's contribution to a strong Provincial financial position.

b) The Province of Manitoba and MPI follow different accounting principles (Public Sector Accounting versus International Financial Reporting Standards). Provincial accounting treatments have no effect on the Corporation's investment-related decisions.

CAC (MPI) 2-6

Part and Chapter:	**Part VI INV.17**	**Page No.:**	**81-82**
PUB Approved Issue No:	**8. Performance of the Investment Portfolio**		
Topic:	**Investments**		
Sub Topic:	**Investment Policy Statement – Material Changes (Follow-up question to PUB (MPI) 1-29)**		

Preamble to IR (If Any):

In PUB (MPI) 1-29, MPI said:

> As a result of this change to the claims discount rate methodology, the marketable bond duration was required to match to the claims liability duration. MUSH bonds were removed from the duration matching calculation because MUSH bonds are a poor hedge against changes in interest rates. MUSH bonds are measured at amortized cost, and are not sensitive to changes in interest rates. This lack of sensitivity creates basis risk (valuation on two different bases). When there are fluctuations in market interest rates, marketable bond yields change and MUSH bond yields do not change.

Question:

a) Was the decision to stop investing in MUSH bonds based, in part, on the accounting treatment for MUSH bonds?

b) If so, how important was the accounting treatment in that investment decision?

Rationale for Question:

To understand the extent to which accounting treatments influence investment decisions, given the different accounting treatments for different asset classes.

RESPONSE:

a) The accounting treatment of MUSH bonds was a minor consideration in the decision to stop investing in them. MPI based its decision primarily on the fact that it expects the issuance of new MUSH bonds to be minimal.

b) See the response to Part (a).

CAC (MPI) 2-7

Part and Chapter:	CAC (MPI) 1-96	Page No.:	3, 5 and 6
PUB Approved Issue No:	21. Asset Liability Management Study		
Topic:	Risk Management		
Sub Topic:	Risk Tolerance in Basic and Pension		

Preamble to IR (If Any):

In response to CAC (MPI) 1-96 a) MPI states:

"Claims liability estimates have risk related to mortality, asset liability mismatch, investment returns, technological improvements, and societal/legal factors. These liabilities are long-term in nature and are subject to significant interest rate risk. They also require a high level of liquidity to pay claims. The Corporation has varying levels of control over these factors."

In response to CAC (MPI) 1-96 b) MPI states:

"• a move toward a formula based method for pricing and capital targets;"

In response to CAC (MPI) 1-96 e) MPI states:

"The Corporation has some control over the funded status of the plan, the stability of its business and whether the plan is open or closed, while other factors are not within its control."

Question:

a) Please elaborate and discuss the concept of "high level of liquidity" in the context of MPI's Basic Insurance monthly cash flow requirements vs. the actual cash inflow on a daily basis. Please discuss the frequency at which MPI has drawn on its line of credit to fund operations.

b) Please define and discuss what is meant by “a formula based method for pricing and capital targets”.

c) For greater clarity please explain the differences between an open vs. a closed pension plan.

Rationale for Question:

To better understand MPI’s cash liquidity requirements in relation to claim payments and to clarify the concepts in questions b) and c).

RESPONSE:

a) The Corporations’ claims liabilities require a high level of liquidity in the short-term, mostly to settle physical damage claims. Current claims obligations are generally funded by cash generated from ongoing operations while overall funding requirements are met by the Corporation’s Asset Liability Matching (ALM) program. To ensure that policyholder obligations will always be met, MPI backs its claim liabilities with high quality, investment-grade securities that offer a good level of liquidity. MPI has not drawn on its line of credit to fund operations in the last 10 years.

b) The Corporation already has a ratemaking formula that is used for the pricing of Basic insurance. The inputs into the ratemaking formula can be regularly updated to produce a rate indication at various points in time. For example, it is not uncommon for MPI to update the rate indication based on the latest interest rates at the rate hearings in October. The most significant pricing risks faced by MPI are the lag from the regulatory cycle (1-2 years) and the use of biased forecasts (e.g. standard interest rate forecast). In theory, MPI rates could be updated ‘dynamically’ such that current policyholder renewal rates are based on the latest information. This approach would involve the PUB approving a ratemaking formula that could be updated based on certain constraints (e.g. use of interest rates from the prior month to update current renewal rates). Such an approach would significantly reduce pricing risk for Basic.

For capital targets, Basic insurance could follow a program similar to that used by SGI where there is a target MCT level with various rules used to automatically build or release toward that target over time (again, with some constraints based on more extreme circumstances).

c) An open pension plan is one that is still accepting new members. A closed pension plan is one that is not accepting new members.

CAC (MPI) 2-8

Part and Chapter:	Part V Driver Safety Rating	Page No.:	9
PUB Approved Issue No:	17. Driver Safety Rating		
Topic:	Primary Driver Model		
Sub Topic:			

Preamble to IR (If Any):

In response to CAC (MPI) 1-51 the Corporation states "By allowing registered owners the ability to declare a primary driver, the Primary Driver Model does not address the perceived inequalities raised by the PUB. The Corporation believes that some customers may simply declare the best-rated driver as the primary driver for all vehicles in the household."

Question:

a) Given that the Corporation has never asked for primary or occasional driver information, please provide the basis for the Corporation's statement in the preamble.

b) Would the Corporation consider asking for primary driver information starting as soon as possible with the goal of analyzing how often the primary driver differs from the registered owner and the potential impact on premiums if premiums were based on primary driver?

Rationale for Question:

To fully understand the Corporation's response to CAC (MPI) 1-51 and ask for consideration of a sample test.

RESPONSE:

a) The Corporation's statement is based on the belief that customers will act in their own self-interest (within the confines of the rules) by choosing the option that provides them with the greatest financial benefit (i.e. lower rates). This belief is neither unreasonable nor a particularly large assumption to make in the circumstances.

b) While the Corporation will consider the possibility of asking for primary driver information in the future, key dates and timelines for the DSR initiative have not yet been determined.

CAC (MPI) 2-9

Part and Chapter:	Part V Driver Safety Rating	Page No.:	10
PUB Approved Issue No:	17. Driver Safety Rating		
Topic:	Residual Risk Model		
Sub Topic:			

Preamble to IR (If Any):

In Response to CAC (MPI) 1-52 the Corporation states "Driver premium is currently used in the vehicle premium rate calculation as a positive (favorable) revenue stream to lower vehicle premiums. The Corporation assumes that this treatment of driver premiums will continue under the Residual Risk Model."

Question:

With reference to CAC (MPI) 1-52 please give the Corporation's opinion on the equity of any additional premium collected from "non-owners" being factored in to the overall rate indication.

Rationale for Question:

To fully understand the Residual Risk Model and how non-owner premium would be used in the rate indication.

RESPONSE:

MPI believes that it is equitable from a rate setting perspective to continue to use the income generated from driver premiums to reduce the rates for vehicle premiums, regardless of the methodology used to determine the appropriate driver premiums. One of the objectives of the current DSR model, and of any improvements to the DSR model, is to make the allocation of the premiums paid by drivers and vehicle owners more equitable.

CAC (MPI) 2-10

Part and Chapter:	Part VIII, Annual Reports, AR Appendix 2	Page No.:	4 and 5
PUB Approved Issue No:	17. Driver Safety Rating		
Topic:	Movement of drivers down the DSR scale		
Sub Topic:			

Preamble to IR (If Any):

On page 4 of AR Appendix 2 an explanation is given relating to the increase in earned premiums and it states:

"Total earned revenues for the three months ended May increased from the previous year by $23.2 million. This increase is primarily attributed to motor vehicle earned revenues which increased by $19.2 million or 6.8%. The increase in earned revenues is primarily due to the growth in the number of vehicles on the road in Manitoba, and the value of these vehicles and **movement of drivers down the Drivers Safety Rating scale resulted in higher premiums." (emphasis added).**

On page 5 of AR Appendix it states:

"As approved by the Public Utilities Board (PUB), effective March 1, 2018, there was a 2.6 per cent overall rate increase to average Basic insurance rates for the 2018/19 insurance year and the equivalent of a 1.8 per cent increase for demerit drivers."

Question:

Please explain, and if possible, provide a statistical analysis of the impact the 1.8% premium rate increase, effective March 1, 2018, for demerit drivers has had on movements on the DSR rating scale, if any.

Rationale for Question:

To gain a fuller understanding of the impact the 1.8% rate increase for demerit drivers has had on the DSR rating scale movements.

RESPONSE:

The statement in the quarterly report should have also reflected the PUB approved increase for demerit drivers. The driver premium increase for demerit drivers was effective March 1, 2018. One year of data is needed to do the impact analysis. MPI will provide this analysis after March 1, 2019.

CAC (MPI) 2-11

Part and Chapter:	Part VI RSR.4	Page No.:	4
PUB Approved Issue No:	7. Update of DCAT, target capital analysis and the target Basic total equity threshold levels based upon methodology approved in Board Order 130/70		
Topic:	RSR lower threshold		
Sub Topic:			

Preamble to IR (If Any):

In response to CAC (MPI) 1-12 a) the Corporation states “Maintaining the RSR at minimum levels does not protect rate payers against rebuilding fees. With no buffer to absorb rate volatility, the RSR is rendered ineffective.”

In response to CAC (MPI) 1-17 a) the Corporation states “The Corporation’s position is that managing the RSR in the same manner as the recent past, is far from optimal, inconsistent with its purpose of the RSR, and is of no benefit to rate payers.”

Question:

a) Does the Corporation believe it is better to have higher premiums now to ensure the RSR is above the minimum level rather than have higher premium when the RSR actually falls below the minimum level? If so, please elaborate as to why.

b) Please explain why the management of the RSR “in the same manner as the recent past” is harmful to rate payers, given that no large rate increases have been required in the recent past.

Rationale for Question:

To understand why the Corporation feels the RSR should be kept above the minimum level required.

RESPONSE:

a) MPI's Basic rates are set on a break-even basis using Accepted Actuarial Practice and are among the lowest rates in Canada for comparable coverage.

MPI's Basic program remains the most undercapitalized automobile insurance program in Canada. The actual MCT ratio for Basic was 44% as of February 28, 2018, while the current PUB ordered minimum capital target (2018 GRA) for Basic equated to a 31% MCT ratio. Owing mostly to changes to the investment portfolio, Basic's projected MCT ratio at Feb 28, 2019 is 70%. Public automobile insurers in Quebec, Saskatchewan, and British Columbia all have MCT targets or MCT minimum capital requirements of 100%. Federally regulated insurers have minimum regulatory capital requirements of 150% MCT. Having said that, MPI has provided extensive evidence in past GRA's, including the comparatives to other public insurers above, that MPI should have an upper RSR target based on an MCT ratio, and that the appropriate level is 100% MCT.

MPI does not agree that it is better to "have higher premiums when the RSR actually falls below the minimum level" because that would represent poor fiscal management of the Basic program. Such an approach is a reactionary strategy that creates rate instability for customers, and risks negatively impacting the consolidated financial statements of the Province.

Prudent fiscal management requires MPI build capital in advance of adverse events, so as to protect ratepayers against rebuilding fees, and insulate the province's consolidated financial statements. Accordingly, MPI intends to bring a Capital Management Plan that includes a rebuild/release provision, in the 2020 GRA.

By contrast to this application, MPI is asking for higher rates only to <u>maintain</u> its capital position.

b) The deficiencies in the current approach to the management of the Rate Stabilization Reserve *and* the use of a biased interest rate forecasting are well documented in the 2019 GRA. 2017/18 marked the fourth consecutive year in which the Board of Directors directed a transfer to Basic RSR in order for Basic to meet a satisfactory financial condition. Between 2013/14 and 2016/17 the Basic line of business suffered net income losses totaling $250 million. Absent these transfers, ratepayers would have faced approximately a 25% rate increase over this period of time (based on the rule of thumb that $10 million in revenue requirement equals approximately a 1% rate increase).

This particular Information Request from the Consumers' Association of Canada (CAC) suggests that the CAC is interested in only the lowest possible rates (in the near-term) and lowest possible capitalization for MPI's Basic program. CAC continues to support approaches that are not based on best estimates (e.g. interest rate forecasting), are not based on industry best practice (e.g. MCT 100%), and do not create stability for customers (e.g. increasing premiums *after* an adverse event occurs). The direction pursued by the CAC is not a fiscally prudent approach to the management of Manitoba's public automobile insurance program and is not in the best interests of MPI's stakeholders.

CAC (MPI) 2-12

Part and Chapter:	**Part VI** **RSR**	**Page No.:**	**9**
PUB Approved Issue No:	**7. Update of DCAT, target capital analysis and the target Basic total equity threshold levels based upon methodology approved in Board Order 130/70**		
Topic:	**The use of the MCT as a RSR target**		
Sub Topic:			

Preamble to IR (If Any):

In response to CAC (MPI) 1-14 the Corporation states "that using the MCT ratio as a means to express the dollar estimates of the minimum RSR target results in a best estimate."

Question:

a) Given the MCT is a calculation based on a set of financial statements why does the Corporation believe that it is necessary to convert the financial statements resulting from the DCAT scenarios into an MCT ratio?

b) How does the MCT ratio give more information than the dollar amount required at the same MCT ratio level?

c) Does the Corporation agree that any MCT ratio target chosen for the Corporation would be arbitrary as the Corporation has no regulatory set MCT ratio level requirements?

Rationale for Question:

To understand the Corporation's renewed focus on the MCT ratio calculation.

RESPONSE:

a) The Dynamic Capital Adequacy Test (DCAT) provides a lower and upper target for a specific point in time, that being the beginning of the rating year (March 1, 2019). By converting the DCAT target numbers into a Minimum Capital Test (MCT) ratio, the Corporation can forecast lower and upper targets. The Corporation can also estimate what the lower and upper DCAT targets would be if circumstances (i.e. risk levels) change in the future.

RSR Fig. 11 shows how the MCT ratio can be used to forecast future RSR targets. Specifically, this table shows how planned changes to the Corporation's investment portfolio affect the RSR targets. For both the lower and upper DCAT-calculated RSR targets, the equivalent MCT ratio remained essentially unchanged before and after the assumed transition to the lower risk investment portfolio.

b) The Corporation believes that the MCT ratio provides a target that reasonably estimates the amount of capital the Corporation will need in future years as a result of changes in growth in the balance sheet.

c) The Corporation does not agree that any MCT ratio target chosen for the Corporation would be arbitrary as the MCT ratio is based on the DCAT analysis of the appropriate lower and upper targets.

CAC (MPI) 2-13

Part and Chapter:	**CAC (MPI) 1-74 (b)**	**Page No.:**	
PUB Approved Issue No:	**7. Update of DCAT, target capital analysis and the target Basic total equity threshold levels based upon methodology approved in Board Order 130/70**		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In information request CAC (MPI) 1 – 74 (b), CAC requested MPI to explain how the use of the MCT ratio is justified for rate-setting purposes. MPI responded that the MCT is a standard industry measure of capitalization that can be forecast into future years but did not address why the MCT ratio is appropriate for ratemaking.

Question:

a) Please explain why the MCT ratio is appropriate for ratemaking for a crown-owned monopoly insurer such as MPI.

b) Please explain how MPI determined that a 70% MCT ratio was optimal for rate-setting purposes.

c) Please provide references to prior PUB Orders where the MCT ratio has been used as the basis for the determination of an approved rate increase.

Rationale for Question:

To understand the applicability of the MCT ratio as the basis for the calculation of the Corporation's requested rate increase.

RESPONSE:

a) Per the response to CAC (MPI) 1-74(b), the Minimum Capital Test (MCT) ratio is used to “determine whether capitalization is maintained”, and is not used for ratemaking. MPI’s position is that a Net Capital Maintenance Provision, equivalent to an additional 2.1% overall rate increase, is required to generate the additional premiums needed to maintain capital adequacy. MPI uses the MCT ratio as a means of determining capital adequacy and maintains the adequacy of its capital by ensuring the MCT ratio at fiscal year-end 2019/20 remains unchanged from fiscal year-end 2018/19.

b) See the response to (a) above.

c) See the response to (a) above.

CAC (MPI) 2-14

Part and Chapter:	Part VI RSR	Page No.:	4
PUB Approved Issue No:	7. Update of DCAT and target capital analysis		
Topic:	Lower RSR target, satisfactory financial condition and best estimates		
Sub Topic:			

Preamble to IR (If Any):

In response to CAC (MPI) 1-21 the Corporation states "The Corporation will no longer use an interest rate forecast in its DCAT reports if it believes the forecast is not a best estimate MPI cannot cede control of its forecasts."

Question:

Please confirm the Corporation would respond to a Board order requiring the Corporation to use a different interest rate forecast, for the purposes of rate setting, than in the Corporation's current DCAT report.

Rationale for Question:

To understand the Corporation's response.

RESPONSE:

MPI will comply with PUB Orders setting rates for service pursuant to *The Crown Corporations Governance and Accountability Act*, subject to the outcome of review and appeal mechanisms, where appropriate.

CAC (MPI) 2-15

Part and Chapter:	Part VI DCAT	Page No.:	16
PUB Approved Issue No:	7. Update of DCAT		
Topic:	Maximum Capital Target		
Sub Topic:			

Preamble to IR (If Any):

From page 16 of Part VI, DCAT:

> *11.21. For fiscal year 2017/18, the upper threshold for Basic Total Equity will be $325 million, based on the iterative modelling of a 1-in-40 scenario over a two-year time horizon after routine management / regulatory actions.*
>
> **Reason for partial adoption: The methodology is not based on best estimate forecasting assumptions; however, MPI is willing to use the two-year time horizon as it should be a viable amount of time to respond to adverse events.**

Question:

Please explain why using the iterative modelling of a 1-in-40 scenario over a two-year time horizon after routine management/regulatory actions is not based on best estimate forecasting assumptions.

Rationale for Question:

To understand why the Corporation is not continuing to follow the Board's direction from Board Order 130/17.

RESPONSE:

For reasons previously provided in other Information Requests, the Corporation does not agree with the CAC's assertion that the Corporation has not complied with directives under Board Order 130/17.

In Board Order 130/17, the Board states that the iterative modeling approach is not a best estimate:

> *The Corporation has noted its reservations about the iterative modeling approach, namely that creating the modified financial forecast requires significant transfers from its competitive lines that do not reflect best estimate expectations**. The Board agrees that such transfers are not best estimate** expectations, but rather sees these transfers as a theoretical means to an end, that "end" being the testing of Basic's resilience to adverse circumstances when operating at about the proposed threshold level.*

The Corporation maintains that creating a modified forecast that assumes transfers from other lines of business over the forecast period to reduce the minimum required capital levels is not a best estimate.

CAC (MPI) 2-16

Part and Chapter:	**Part I** **OV 4.3**	**Page No.:**	**18**
PUB Approved Issue No:	**20. Capital Maintenance Provision**		
Topic:	**Consensus on the requirement for a CMP**		
Sub Topic:			

Preamble to IR (If Any):

In response to CAC (MPI) 1-72 the Corporation states "After hearing from PUB advisers and representatives from SGI and the CAC, the Corporation agreed that it was appropriate to include a Capital Maintenance Provision in the 2019 GRA."

Question:

Where in the transcript of the technical conference referenced in the preamble does the CAC indicate support for the inclusion of a Capital Maintenance Provision in the 2019 GRA?

Rationale for Question:

To understand why the Corporation feels that consensus on the need for a Capital Maintenance Provision was reached.

RESPONSE:

The above quote does not state that the CAC indicated support for the inclusion of the Capital Maintenance Provision (CMP) in the 2019 General Rate Application (GRA). MPI appreciates hearing the CAC's position on matters in order to gain a different perspective, but retains the last word on the content of its applications.

As stated throughout the Application, the Corporation's Board of Directors believes in prudent fiscal management. PUB Order 130/17 supports a CMP and SGI, who has one, spoke to its merits. After considering all positions advanced, including the position taken by the CAC, the Corporation understood that the consensus position favoured a CMP and agreed that its inclusion in the 2019 GRA was appropriate.

CAC (MPI) 2-17

Part and Chapter:	CAC (MPI) 1-72	Page No.:	
PUB Approved Issue No:	20. Capital Maintenance Provision		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In the response to CAC (MPI) 1 – 72, MPI indicates that "… the Corporation believes a consensus, that is, a judgement arrived at by most of those concerned, exists for the inclusion of a Capital Maintenance Provision in the 2019/20 GRA".

Question:

Please clarify and elaborate on what is meant by " a judgement arrived at by most of those concerned".

Rationale for Question:

To further clarify why MPI believes that a consensus was reached at the Capital Maintenance Provision technical conference.

RESPONSE:

Please see response to *CAC 2-16*.

CAC (MPI) 2-18

Part and Chapter:	Part V Ratemaking	Page No.:	Page 31
PUB Approved Issue No:	20. Capital Maintenance Provision		
Topic:	Capital Maintenance Methodology		
Sub Topic:			

Preamble to IR (If Any):

In response to PUB (MPI) 1-17 a) the Corporation states "Under the previous approach to rate setting and capital management (i.e. 2017 GRA and prior), the Corporation's Basic rates were forecasted to essentially produce a net income of zero over the rating period. This approach, on average, would result in an RSR (capital) balance that was forecasted by design to remain constant in absolute dollar terms over time and declining in relative terms."

In response to CAC (MPI) 1-74 c) the Corporation states "Unlike most other insurers, MPI does not have a natural means to grow and/or maintain capital."

Question:

If the Corporation were to set minimum and maximum RSR target levels based on the DCAT scenarios and the board approved methodology would the RSR band not move up in dollar terms as the Corporation's risk grows in dollar terms? If not, please explain why not. If so, please explain the need for a Capital Maintenance Provision.

Rationale for Question:

To understand why a Capital Maintenance Provision is required if the DCAT is used to set the RSR band.

RESPONSE:

The question and associated rationale appear to confuse the purpose and effect of the RSR Targets (upper and lower), with the purpose and effect of the RSR Balance (total equity).

The purpose of the minimum RSR target level is to identify the minimum amount of total equity needed for Basic to meet satisfactory financial condition, and define the amount of total equity below which some immediate remedial action needs to be taken (in the past four years, that remedial action has been transfers of equity from competitive lines of business to ensure satisfactory financial condition).

Without diminishing the importance of RSR Targets, increasing or decreasing the upper and lower targets only changes the trigger point for remedial actions (transfers, RSR rebuilding fees, RSR Rebates). Changing the RSR Targets with the risk profile of Basic does not change the total equity balance or put ‘money in the bank’.

Well-designed RSR targets will adjust with the risk profile of Basic, and accurately reflect the minimum amount of total equity required for satisfactory financial condition. The RSR targets sought by MPI in this application achieve both.

The purpose of the Capital Maintenance Provision is to ensure that the RSR Balance, total equity as measured by the Minimum Capital Test (MCT) ratio, which compares capital available to capital required, at fiscal year-end 2019/20 is unchanged from fiscal year-end 2018/19.

The minimum and maximum RSR target levels along with the Capital Maintenance Provision can be used in conjunction to create rate stability for Manitobans. This is done by ensuring the Corporation has sufficient capital levels and that it does not diminish over time as a result of a growing business.

In short, while the RSR target levels will move over time based on changes to the company’s risk profile and resulting DCAT analysis – the CMP is needed to ensure that the actual capital position does not deteriorate with changes in Basic's risk profile, as measured by the MCT ratio.

CAC (MPI) 2-19

Part and Chapter:	**CAC (MPI) 1-18, CMMG (MPI) 1-11 and PF.9 Statement of Financial Position – 0.0% Rate Change**	**Page No.:**	
PUB Approved Issue No:	**1. Requested vehicle rate and any changes to other fees and discounts** **7. Update of DCAT, target capital analysis and the target Basic total equity threshold levels based upon methodology approved in Board Order 130/17** **20. Capital Maintenance Provision**		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

MPI provides information on the projected financial impacts of 0.1% and 0.0% rate increases in response to CAC (MPI)1-18 and PF.9 Statement of Financial Position – 0.0%. The 0.0% rate change scenario is projected to increase the Total Equity balance from $254 million in 2018/19 to $257 million in 2019/20. The 0.1% rate change scenario using a 50/50 interest rate forecast is projected to increase the Total Equity balance from $263 million in 2018/19 to $277 million in 2019/20.

Question:

a) Please confirm that under the 0.0% rate change scenario the RSR balance is forecast to increase by approximately $46 million or 22% between 2017/18 ($211 million) and 2019/20 ($257 million).
b) Please confirm that under the 0.1% rate change scenario using a 50/50 interest rate forecast the RSR balance is forecast to increase by approximately $66 million or 31% between 2017/18 ($211 million) and 2019/20 ($277 million).
c) Please confirm that under the requested 2.2% rate increase the RSR balance is forecast to increase by approximately $69 million or 33% between 2017/18 ($211 million) and 2019/20 ($280 million).

d) Please confirm that there are is no depletion of the forecast RSR balance for 2019/20 under either of the rate change scenarios referenced in the preamble.
e) Please confirm that Basic would be assessed as having a satisfactory financial condition for 2019/20 under either of the rate change scenarios referenced in the preamble.

Rationale for Question:

To understand if a rate increase is required to prevent depletion in the forecast RSR balance or unsatisfactory financial condition assessments.

RESPONSE:

a) through d)

The dollar figures cited are confirmed, however the dollar figures were requested without the context of the MCT score, and are therefore missing critical contextual information.

Additional relevant context is as follows:

i. The 0.1% rate increase is designed to recover the cost of issuing the new policies. There is no profit provision, and breakeven ratemaking does not consider forecasted movements in the RSR balance.

ii. While there is no depletion in the RSR balance between fiscal year 2018/19 and 2019/20, the MCT ratio declined in fiscal year 2019/20 without a capital maintenance provision. MPI is applying for a 2.1% Net CMP on the basis that the MCT ratio for year-end 2019/20 be the same as for year-end 2018/19.

iii. MPI notes that in the three scenarios referenced in questions (a) to (c), a significant portion of the increase occurred in fiscal year 2018/19. E.g. under the 0.0% rate change scenario referenced in question (a),

$43.6 million of the $46.4 million increase occurred in fiscal year 2018/19. The primary reason for the large increase in fiscal year 2018/19 is due to various changes related to ALM and claims discount rate changes in 2018/19. As a result of this, the Corporation expects a larger than normal increase in equity levels.

e) Under either of the rate change scenarios mentioned above, the RSR balance for 2019/20 is forecasted to be in excess of the proposed lower RSR target. However, *Basic's future assessment of meeting a satisfactory financial condition is mainly a result of the MPI Board of Directors' past willingness to transfer funds from Extension to Basic, totaling approximately $250 million over the past 4 years*, and far less a result of the rate change requirement in the test year (equal to roughly $1 million, or 0.1% rate increase).

CAC (MPI) 2-20

Part and Chapter:	CAC (MPI) 1-14 (b) and CAC (MPI) 1-20	Page No.:	
PUB Approved Issue No:	20. Capital Maintenance Provision		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In the response to CAC (MPI) 1 – 14 (b), MPI indicates that the estimates of the 1-in-40 DCAT-based minimum RSR target and capital required for the 100% MCT have both declined by approximately 30%, based on forecasted implementation of the Corporation's new investment portfolio. In the response to CAC (MPI) 1 – 20, MPI clarifies that the MPI estimate of the minimum amount of the RSR has declined from $201 million for the 2018/19 fiscal year to $143 million for the 2019/20 fiscal year, reflecting the planned implementation of the new Basic investment portfolio in the 2019/20 fiscal year.

Question:

a) Please explain how MPI reconciles the lowering of the RSR range for 2019/20 due to lower risk with the proposal to implement a Capital Maintenance Provision and associated rate increase for the purposes of protecting against the growth in Basic's risk profile.

b) Please explain why MPI believes that it is fair to ratepayers to implement a 2.2% rate increase when there is a lowering of its risk profile.

Rationale for Question:

To understand why the rate increase that is driven by the proposed Capital Maintenance Provision is necessary when the DCAT RSR range is significantly decreasing because of lower corporate risk.

RESPONSE:

a) As outlined in CAC 2-18, the purpose of the lower RSR target (the minimum of the range) is to identify the minimum amount required for the Corporation to meet satisfactory financial condition. The purpose of the Capital Maintenance Provision is to ensure that the Minimum Capital Test (MCT) ratio, which compares capital available to capital required, at fiscal year-end 2019/20 is unchanged from fiscal year-end 2018/19.

   The forecasted implementation of the Corporation's new investment portfolio has lowered the minimum of the RSR range as of February 28, 2019. However, a Capital Maintenance Provision is required to offset the decline in the MCT ratio from February 28, 2019 to February 29, 2020.

b) The Corporation is applying for a 0.1% rate increase with a 2.1% Capital Maintenance Provision. The Corporation believes that the 2.1% Capital Maintenance Provision is fair to rate payers because: i) it represents the increased risk associated with the natural growth of the business as a result of the new policy holders; and ii) it maintains the capital level that protects rate payers from potential rate shock from future unforeseen adverse events.

CAC (MPI) 2-21

Volume and Chapter:	**CAC (MPI) 1-75 (a) (i) (ii)**	**Page No.:**	
PUB Approved Issue No:	**20. Capital Maintenance Provision**		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In the response to CAC (MPI) 1 – 74 (a) (i), MPI confirms that if investment income earned by the RSR is applied to the break-even cost of policies instead of the - Net CMP - that a rate reduction of 1.1% would be indicated. However, in the response to CAC (MPI) 1 – 74 (a) (ii), MPI indicates that if the CPM proposal is not accepted that the overall rate increase based on break-even rates would be 0.1%.

Question:

a) Please confirm that if the PUB applied the investment income earned by the RSR to the break-even cost of policies and rejected the CMP proposal that the resulting rate reduction would be 1.1%.
b) Please confirm that under the treatment of the investment income assumed in part (a) of the question, the PUB would have rejected a 3.3% rate increase resulting from the CMP proposal.

Rationale for Question:

To clarify the impact of the CMP proposal assuming that investment income earned by the RSR is applied by the PUB to the break-even cost of policies.

RESPONSE:

a) Per the response to *CAC (MPI) 1-75* part (a) sub (i), MPI confirms that applying only the investment income earned on the RSR would indicate a required overall rate decrease for 2019/20 of 1.1%.

However, MPI's application is for an additional 2.1% required overall rate increase from Net CMP, comprising both the CMP and the investment income earned on the RSR. MPI's position is that these two components must be considered together.

b) MPI confirms that the CMP portion of the Net CMP results in an additional 3.3% required overall rate increase. However, per the response to part (a), MPI's position is that both the CMP and the investment income earned on the RSR must be considered together.

In the 2018 GRA, MPI explained that to reject the CMP and rebate RSR investment income through rates would be to sell policies at a loss, contrary to breakeven ratemaking.

In Order 130/17, the PUB recognized the need to protect Basic's capital position against depletion due to the natural growth in Basic's risk profile. The PUB further recognized the conceptual overlap between Basic retaining the investment income on the RSR and a CMP. Accordingly, the Order did not direct MPI to apply the RSR investment income against rates.

MPI's proposal in the 2019 GRA sets the pure breakeven cost of policies at a 0.1% increase, and applies investment income on the RSR against the additional revenue required to maintain Basic's MCT ratio over the rating year. This has reduced the CMP rate requirement from 3.3% to 2.1%. If the RSR investment income is instead used to offset rates, the breakeven cost of policies in the 2019 GRA will be – 1.1%; however, the rate now required to maintain capital will be 3.3%.

The RSR investment has effectively been used for a capital maintenance purpose, as advocated for by MPI in the 2018 GRA, and as recommended by the PUB in the ensuing Order (130/17).

CAC (MPI) 2-22

Part and Chapter:	**CAC (MPI) 1-17 (b)**	**Page No.:**	
PUB Approved Issue No:	**7. Update of DCAT, target capital analysis and the target Basic total equity threshold levels based upon methodology approved in Board Order 130/17** **20. Capital Maintenance Provision**		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In the response to CAC (MPI) 1 – 17 (b), MPI indicates that "the likelihood of the RSR balance falling below the minimum RSR target depends on the position of the current RSR balance within the RSR range".

Question:

a) Please confirm that for 2018/19, the forecast RSR balance at the end of the fiscal year as a percentage of the top of the RSR range is 58% ($254 million/$438 million) under the MPI methodology and 78% ($254 million/$325 million) under the PUB approved methodology.

b) Please confirm that for 2019/20, and assuming no rate change, the forecast RSR balance at the end of the fiscal year as a percentage of the top of the RSR range is 84% ($257 million/$305 million) under the MPI methodology and 102% ($257 million/$251 million) under the PUB approved methodology.

c) Please confirm that for 2019/20, and assuming a 2.2% rate increase, the forecast RSR balance at the end of the fiscal year as a percentage of the top of the RSR range is 92% ($280 million/$305 million) under the MPI methodology and 112% ($280 million/$251 million) under the PUB approved methodology.

Rationale for Question:

To understand the projected financial condition of MPI in 2018/19 and 2019/20 under various rate change scenarios.

RESPONSE:

The values quoted in the question are from the beginning of the stated year. The responses below provide the figures as requested in the question.

a) For 2018/19 (or beginning of year 2019/20), the forecast RSR balance at the end of the fiscal year as a percentage of the top of the RSR range is 53% ($254 million/ $478 million) under the MPI methodology (101% MCT Ratio) and 74% ($254 million/ $341 million) under the PUB approved methodology (70% MCT Ratio).

b) For 2019/20 (or beginning of year 2020/21), and assuming no rate change, the forecast RSR balance at the end of the fiscal year as a percentage of the top of the RSR range is 76% ($257 million/$337 million) under the MPI methodology and 94% ($257 million/$273 million) under the PUB approved methodology.

c) For 2019/20 (or beginning of year 2020/21), and assuming a 2.2% rate increase, the forecast RSR balance at the end of the fiscal year as a percentage of the top of the RSR range is 83% ($280 million/$337 million) under the MPI methodology and 103% ($280 million/$273 million) under the PUB approved methodology.

The financial condition of Basic is best understood by the objective measure of MCT, rather than the ‘percentage of the upper RSR target’. As stated often in past GRA’s MCT is a measure used across the Property and Casualty insurance industry, reflects relevant risks of MPI, and allows for comparison to other insurers.

CAC (MPI) 2-23

Part and Chapter:	CAC (MPI) 1-73	Page No.:	
PUB Approved Issue No:	20. Capital Maintenance Provision		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In the response to CAC (MPI) 1 – 73, MPI provides its position on phasing-in the rate impacts of the Capital Maintenance Provision over a five-year period.

Question:

Please explain if MPI believes that it is appropriate to phase-in the impacts on ratepayers of major changes to the rate-setting methodology.

Rationale for Question:

To understand MPI's view on the merits of phasing-in major changes to the rate-setting methodology.

RESPONSE:

The following guides MPI's approach to ratemaking:

- "Appropriate premiums based upon Accepted Actuarial Practice (AAP)" per Part 1, Overview, page 4, which is one of the Corporation's three pillars for prudent fiscal management. Further, per Part 1, Overview, page 10, "In the context of Basic's not for profit business model of breakeven rate making this means that the premiums must be sufficient to cover the costs of delivering the coverage.

It is a foundational principle that Basic Insurance is self-sustaining; the costs of coverage and service delivery of the Basic Insurance program must be paid for by the premiums charged to customers to purchase the coverage."

- Stable and predictable rates for Manitobans.

For changes to ratemaking methodology, regardless of whether they are major or minor, MPI is obligated to set rates appropriately based upon AAP and after taking into consideration rate stability and predictability. The treatment of each change, whether to phase-in gradually or apply immediately, depends on the magnitude of the change and its impact to policyholders.

While the CMP has an effect on the overall rate request, the process for determining breakeven rates is separate from the process of determining the level of capital required to maintain the current capital position.

CAC (MPI) 2-24

Part and Chapter:	**CAC (MPI) 1-13 (a)**	**Page No.:**	
PUB Approved Issue No:	**7. Update of DCAT, target capital analysis and the target Basic total equity threshold levels based upon methodology approved in Board Order 130/17** **20. Capital Maintenance Provision**		
Topic:			
Sub Topic:			

Preamble to IR (If Any):

In the response to CAC (MPI) 1 – 13 (a), MPI states that "The amount of time that it takes to move toward the 'optimal' RSR target, along with the proposed definition of the 'optimal RSR target' will be determined as part of MPI's Capital Management Plan. MPI will provide a Capital Management Plan in the 2020/21 GRA".

Question:

Please explain if MPI believes it is appropriate for the PUB to review and approve the optimal capital structure and appropriate time frame to achieve the optimal target first, before it reviews the specific components/proposals of the Capital Management Plan (the CMP and Capital Build/Release Provision).

Rationale for Question:

To understand MPI's view on the most appropriate approach to seek regulatory review and approval of the Capital Management Plan and the underlying components of the plan.

RESPONSE:

MPI will present its Capital Management Plan in the 2020 GRA, at which time the PUB and stakeholders will have an opportunity to review the approach. MPI does not believe it is necessary at this time for the PUB to review the optimal capital target or the appropriate time frame to achieve optimal capital target as these components are not being presented by MPI in the 2019 GRA.

CAC (MPI) 2-25

Part and Chapter:	**CAC (MPI) 1-1**	**Page No.:**	**2**
PUB Approved Issue No:	**1. Requested vehicle rate and any changes to other fees and discounts** **14. Risk assessment and risk management** **20. Capital Maintenance Provision** **21. Asset Liability Management Study**		
Topic:	**Consumer/ratepayer engagement**		
Sub Topic:			

Preamble to IR (If Any):

The response, in part, on page 2 states:

> "• The rate indication is itself generally treated as confidential by MPI until the time of filing, which necessarily precludes public consultation in advance of filing."

Question:

Please elaborate on the pros and cons of engaging ratepayers, by way of statistically valid focus groups, to determine ratepayers understanding of the concept and necessity of the Basic Insurance Rate Stabilization Reserve (RSR) and the Capital Maintenance Provision (CMP), which maintains the RSR at current risk levels.

Rationale for Question:

To assess ways to engage ratepayers to better understand and support the concepts of RSR and CMP without divulging future potential rate indications.

RESPONSE:

Assessing ratepayers understanding of and support for the concepts of RSR or CMP through statistically valid focus groups in no way assists the Corporation in making decisions on the establishment and maintenance of the reserves required under section 18 of *The Manitoba Public Insurance Corporation Act* (the "Act"). Indeed, section 18 of the Act makes use of mandatory language as it concerns establishing and maintaining sufficient reserves.

MPI's requests for rate increases and capital provisions are founded in accepted actuarial practice and prudent fiscal management. Broader public understanding and/or support for the rate requests, while desirable, does not influence MPI's decision to apply for rates or capital provisions as mandated under the Act.

The Public Utilities Board process is designed to determine just and reasonable rates that are in the public interest. As explained in response to *CAC (MPI) 1-1*, a number of avenues are available to the general public to have their voices heard, and issues advanced. Presently, public comments are not subject to testing, and do not assist the Public Utilities Board in making decisions related to approving changes to the rates charged with respect to compulsory driver and vehicle insurance. MPI maintains that the 'right' decision is not necessarily the popular decision, and does not believe advancing evidence that MPI's rate request is popular (or not popular) would be compelling, or determinative of just and reasonable rates.

With that said, MPI does conduct public opinion polling related to MPI's value equation, which is one factor that guides the corporate approach to rate setting at a strategic level. Attached as Appendix 1 is a report on MPI's public opinion survey, testing various factors that comprise "good value" in the minds of Manitobans. The quadrant graph on page 2 shows that "maintaining stable and fair rates" is the most influential determinant of "good value" (as indicated by the highest Beta score on the vertical axis). This is the 'customer opinion' basis for MPI's insistence on having an appropriate RSR range, and capitalization within the range that reduces the likelihood of RSR rebuilding fees (compliance with Accepted Actuarial Practice, and prudent fiscal management are the other key bases for MPI's insistence on adequate and sustained capitalization). The mean rating along the horizontal axis indicates that Manitobans' opinion of MPI's rate stability is relatively low. This means that "maintaining stable and fair rates" has the most influence on Manitoban's perceptions of good value, but also has among the most room for improvement.

Finally, while the break-even rate request is distinct from the CMP provision, MPI expects that the subtle but important differences between the 0.1% break even rate request, and the 2.1% CMP provision, are not as important to the general public who face an overall 2.2% increase. In this regard, a focus group consultation on a 2.1% CMP provision would be 'incomplete', and possibly misleading insofar as the general public is likely to be concerned with the combined impact.

In response to *CAC (MPI) 1-1*, MPI stated that the rate indication is treated confidentially, but should have specified that both the rate indication and the CMP provision are treated as confidential until the time of filing.

Executive Summary: Value Equation Quadrant Analysis

An Analysis of the 2017 Rolling Poll Results

Manitoba Public Insurance's value equation[1]

Price	+	**Coverage**	+	**Service**	+	**Access**	=	**Value**
Affordable insurance		*Comprehensive protection against the cost of collisions*		*Service where and when you need it*		*Easily attainable coverage and services that do not discriminate*		*For all Manitobans*

Highlights:

- The value equation was developed and published as a communications tool, to illustrate the aspects of value that Manitoba Public Insurance brings to Manitobans. This analysis continues to demonstrate that the attributes in the equation do a good job of explaining variance in *good value* as a descriptor of Manitoba Public Insurance; variables in the model explain 74% of the variance in ratings of *good value*. The model has strong explanatory power over time.
- As seen in the past, price-related variables have a strong impact on views of value. The Corporation's ability to *maintain stable and fair rates* is the strongest driver (of the variables tested) of *good value* as a descriptor of Manitoba Public Insurance. Manitobans' rating of the impact that *the cost of vehicle insurance* has on their views of the Corporation also influences their ratings of value (moderate driver).
- Being *service-minded* and being *fair* (as a descriptor of the Corporation) are moderate drivers of ratings of *good value* as is ratings for *feeling protected* when dealing with the Corporation.
- Customer Research has reviewed the value equation regression model using a comparison of linear and logistic regression models. To confirm the validity of the linear regression approach, a logistic regression was performed in 2018. Findings were similar to the linear regression, confirming the validity of the current approach[2]. Results indicate that the current approach (linear regression) remains a valid method with strong explanatory power.

How to interpret the charts:

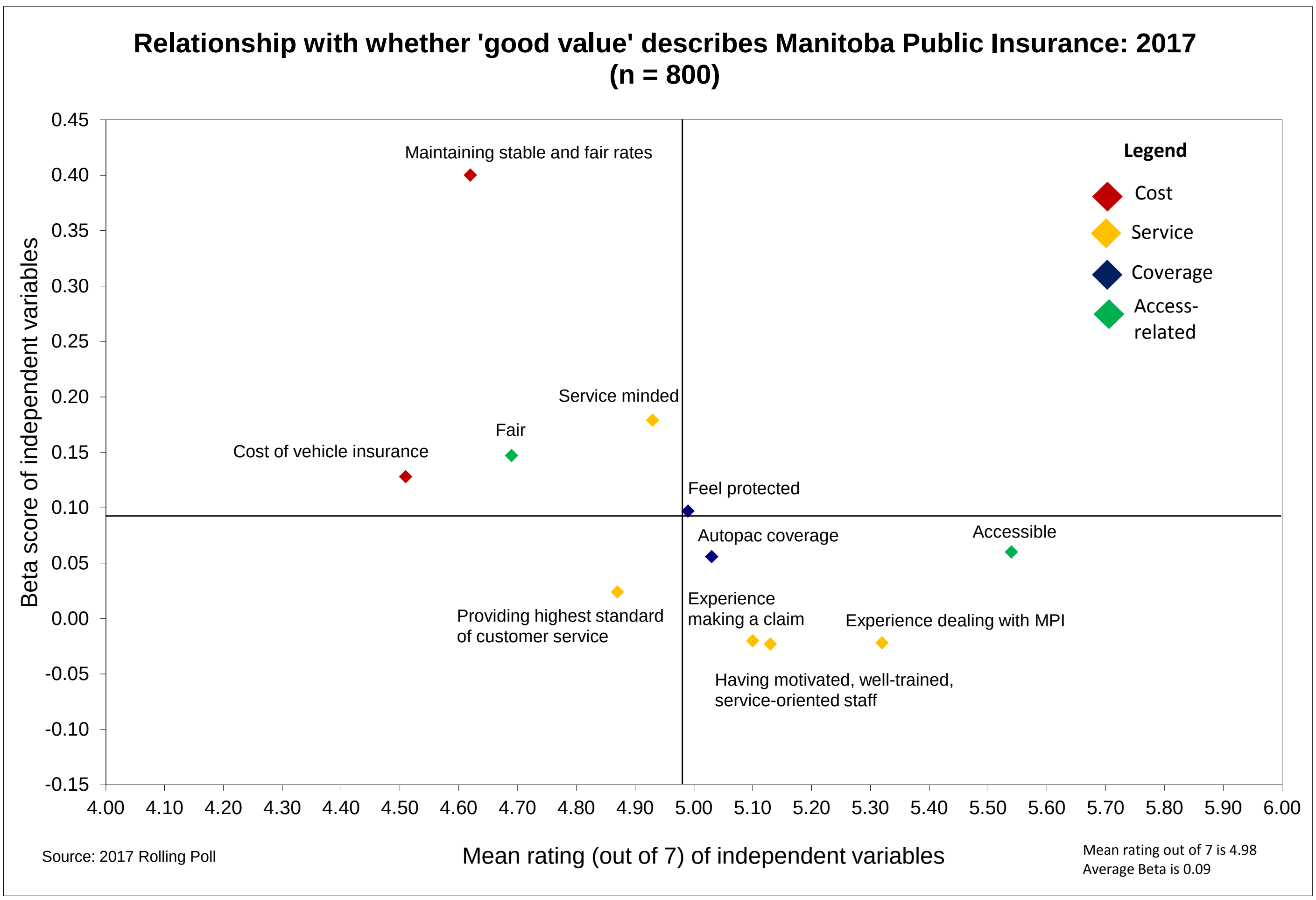
- The Beta score is represented on the vertical axis. The Beta score is a standardized way of reporting the amount of impact an independent variable has on a dependent variable. This analysis examines how much impact variables (which represent the attributes in the value equation) have on Manitobans' rating of *good value* as a descriptor of the Corporation. The higher a variable appears in the chart (vertically) the greater the impact that attribute has on ratings of *good value* as a descriptor of the Corporation.
- Mean scores are represented on the horizontal axis. The mean scores for each independent variable are based on a seven point response scale. The questions (and response scales) are included in Appendix A.
- The axes in quadrant analysis are different for each chart. The placement of the horizontal quadrant line is determined by averaging the Betas of the variables in the chart; and the

placement of the vertical quadrant line is determined by averaging the mean scores of all variables in the chart.

- Notes for interpreting variables in each of the four quadrants:
  - in the top right quadrant are variables which have greater than average influence on *good value* (as a descriptor of the Corporation) and are rated higher than the average (on a 7-point scale) of variables in the chart
  - in the top left quadrant are variables which have greater than average influence on *good value* (as a descriptor of the Corporation) but are rated lower than the average (on a 7-point scale) of variables in the chart
  - in the bottom left quadrant are variables which have less than average influence on *good value* (as a descriptor of the Corporation) and are rated lower than the average (on a 7-point scale) of variables in the chart
  - in the bottom right quadrant are variables which have less than average influence on *good value* (as a descriptor of the Corporation) however, they are rated higher than the average (on a 7-point scale) of variables in the chart

2017 Results

The chart below shows results for Manitoba (eleven-variable model[3]) for October 2017.



- **Cost-related variables**: *Maintaining stable and fair rates* has consistently been the strongest driver of *good value* as a descriptor of Manitoba Public Insurance. In each of the eight years this regression analysis has been conducted, this variable has had the greatest impact on ratings of *good value*. Impressions of *the cost of vehicle insurance* have also been a moderate to key driver of perceptions of value, consistently over time.

- While the majority of Manitobans give Manitoba Public Insurance positive ratings for these cost-related variables, when compared to other variables in the analysis, the cost-related variables have a lower mean score, which shows Manitoban are less positive about cost than some of the other variables in the equation. They have also been consistently rated lower in the past.

- **Coverage-related variables**: Ratings of *feeling protected* are a moderate driver of *good value*.

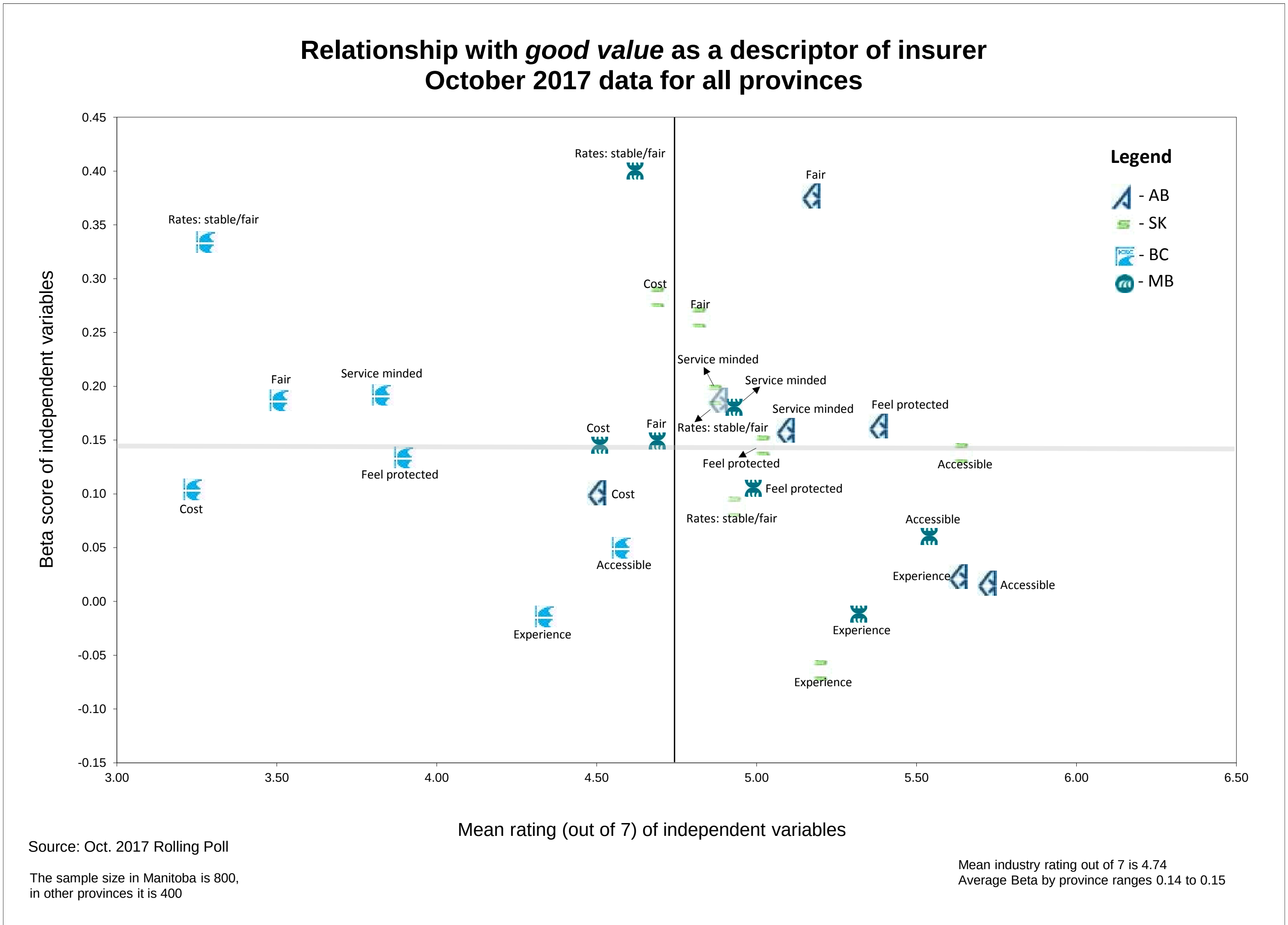
- **Service-related variables**: *service-minded* as a descriptor of Manitoba Public Insurance has moderate impact on views of value in 2017 and in previous years. Other service-related variables have no impact on Manitobans' ratings of value in 2017, though some have had minimal impact as drivers in past years. The service related variables that do not have impact in the 2017 analysis include:
  - *experience dealing with Manitoba Public Insurance* (no impact)
  - *providing the highest standard of customer service* (no impact)
  - *experience making a claim*[4] (no impact)
  - *having motivated, well-trained, service-oriented staff* (no impact)

- **Access-related variables:** the variable *fair* has moderate impact on ratings of value, while *accessible* has minimal impact.

Compared to other provinces:

- The Manitoba results discussed in prior sections of this summary are based on an 11 variable model. The Western Province Poll includes only a sub-set of the questions from the full Manitoba Poll; as a result, the model run in Western Provinces is based on a 7 variable model. To maintain comparability, the Manitoba results are also run in a 7 variable model. While the results between the two models are generally consistent, slight differences may occur.
- The impact of independent variables on the ratings of *good value* are highlighted below:
  - *maintaining stable and fair rates* is a key driver of *good value* in both Manitoba and British Columbia in 2017. It is has a moderate impact on ratings of *good value* in Alberta. In Saskatchewan, this variable had a minimal impact on *good value* in 2017.
  - the *cost of vehicle insurance* is a key driver of *good value* in Saskatchewan 2017, it should be noted that in 2015 its impact was minimal. This variable is a moderate driver of *good value* in Manitoba, and has minimal impact in both Alberta and British Columbia in 2017.
  - the attribute *fair* as a descriptor of one's vehicle insurer is a key driver in both Alberta and Saskatchewan in 2017 and a moderate driver in British Columbia and Manitoba.
  - *experience* dealing with their auto insurer has minimal or no influence on residents' view of *good value* in all provinces.
  - being *accessible* also has a minimal impact on the ratings of *good value* in Saskatchewan and Manitoba and no impact in Alberta and British Columbia.
  - *feeling protected* has a moderate impact on residents' ratings of *good value* in Alberta and Saskatchewan and has minimal impact in British Columbia and Manitoba[5].
  - being *service-minded* has a moderate impact on the ratings of *good value* in all provinces.

The chart below shows results for October 2017 for Manitoba (seven-variable model[6]) and other western provinces.



Current results compared to previous years:

- Overall, Manitoba Public Insurance continues to see the same patterns in results over time.
- *Maintaining stable and fair rates* has been the strongest driver of *good value* in Manitoba in every year that the analysis on the value equation has been conducted. This continues to be the case this year. The impact that the *cost of vehicle insurance* has on *good value* has also been consistent over time.
- As in previous years, the following continue to have minimal or no impact on good value:
  - *providing the highest standard of customer service*
  - *experience making a claim*
  - *having motivated, well-trained, service-oriented staff*

Predictive value of the equation:

- The attributes in the value equation do a good job of explaining variance in ratings of value. In Manitoba the model explains 74%[7] of the variance in ratings of *good value* as a descriptor of

Manitoba Public Insurance. This shows that collectively the variables in the model account for most of the variance in ratings of value.

- The model has shown overtime to consistently offer strong predictive value. In past years, the attributes in the equation have explained between 68% and 76% of the variance in *good value*.[8]
- The model also has good predictive value when tested on data from western provinces.[9] In 2017, the model explained between 71% and 75% in the variance in *good value* when run on data from western provinces. The MPI Value Equation model is particularly strong considering some sources show that while ‘pure science’ studies require R-squared values to be over 60%, in human behaviour studies, R-squared values as low as 10% can still be acceptable.[10]

Terms and Methodology:

- Definitions and methodology are consistent with analysis used to conduct the value equation quadrant analysis in previous years.
- In this report, the items listed in the value equation (price, coverage, service and access) are referred to as ‘attributes’. The survey questions that are included in the model are referred to as ‘variables’.
- The intent of a linear regression is to find the best fit linear relationship between independent variables and a dependent variable.[11] The goal is to determine to what extent independent variables impact the dependent variable. To confirm the validity of the linear regression approach, a logistic regression was performed in 2018. Findings were similar to the linear regression, confirming the validity of the current approach[12]. The full model containing all predictors was statistically significant, and *maintaining stable rates* remained the strongest predictor.
- In this analysis, variables with Beta scores that are close to or above the mean Beta score (but less than 0.25) are reported as having *moderate* impact. Variables with Beta scores that are over 0.25 are reported as key drivers, or reported as having *strong* impact. Variables with Beta scores that are below the mean are reported as having minimal impact. Variables with scores of 0.05 or less are considered to have no influence on *good value*. Values that are between -0.05 and zero are also considered no influence.
- Beta coefficients allow you to compare the relative contribution of each independent variable in the prediction of the dependent variable.[13]
- The R-square value shows how well a model fits the data.[14]
- Two regressions were run on Manitoba 2017 data; one that included 11 variables in the model and another that included seven variables in the model.[15] The first regression (11 variables) included all the survey questions that are related to the attributes in the value equation. The second regression (with seven variables) was run to provide results that were comparable to models run for data from Saskatchewan, Alberta and British Columbia. In the Western Province Poll fewer question are asked, and as a result, the western province chart has only seven variables. To make Manitoba results comparative for inclusion in that chart, the regression was run on Manitoban data with the seven variables. Beta scores are impacted by the number of variables included in a model. For this reason, the Beta scores are slightly different in each of the two models produced for this report.

Appendix A: Questions Used In The Regression Analysis

Dependent variable – value:

- ***Good value as a descriptor of Manitoba Public Insurance***
  Q23: Please tell me how much you agree or disagree with this description of Manitoba Public Insurance using a scale of 1 to 7, where 1 means strongly disagree and 7 means strongly agree.... Manitoba Public Insurance is... Good value

Price related independent variables:

- ***Maintaining fair and stable rates***
  Q36. Using a scale of 1 to 7, where 1 means a very poor job and 7 means an excellent job, what kind of job is Manitoba Public Insurance doing in terms of: Maintaining stable and fair rates
- ***Cost***
  Q17. People's impressions of Manitoba Public Insurance are often influenced by a number of different things. I'm going to read a list of factors that may have a negative or positive impact on how you currently feel about Manitoba Public Insurance. As I read each, please rate it on a 1 to 7 scale, where 1 means very negative impact and 7 means very positive impact. What impact does the... Cost of vehicle insurance ...have on how you currently feel about Manitoba Public Insurance.

Coverage related independent variables:

- ***Autopac coverage*** (this question asked only in Manitoba)
  Q18. People's impressions of Manitoba Public Insurance are often influenced by a number of different things. I'm going to read a list of factors that may have a negative or positive impact on how you currently feel about Manitoba Public Insurance. As I read each, please rate it on a 1 to 7 scale, where 1 means very negative impact and 7 means very positive impact. What impact does the... Autopac coverage provided by Manitoba Public Insurance ...have on how you currently feel about the corporation.
- ***Feel protected***
  Q34 I'm going to read some words that might describe how people feel when dealing with Manitoba Public Insurance. As I read each, please tell me how much you agree or disagree with the description using a scale of 1 to 7, where 1 means strongly disagree and 7 means strongly agree. When dealing with Manitoba Public Insurance you feel... Protected

Service related independent variables:

- ***Customer service*** (this question asked only in Manitoba)
  Q37. Using a scale of 1 to 7, where 1 means a very poor job and 7 means an excellent job, what kind of job is Manitoba Public Insurance doing in terms of: Providing the highest standard of customer service
- ***Motivated well trained staff*** (this question asked only in Manitoba)
  Q41. Using a scale of 1 to 7, where 1 means a very poor job and 7 means an excellent job, what kind of job is Manitoba Public Insurance doing in terms of:....Having motivated, well trained, service-oriented staff
- ***Service minded***
  Q29.Please tell me how much you agree or disagree with this description of Manitoba Public Insurance using a scale of 1 to 7, where 1 means strongly disagree and 7 means strongly agree... ...Manitoba Public Insurance is... Service minded

- ***Claims experience*** (this question asked only in Manitoba)
  Q20. People's impressions of Manitoba Public Insurance are often influenced by a number of different things. I'm going to read a list of factors that may have a negative or positive impact on how you currently feel about Manitoba Public Insurance. As I read each, please rate it on a 1 to 7 scale, where 1 means very negative impact and 7 means very positive impact. What impact does... Experience making a claim ...have on how you currently feel about Manitoba Public Insurance.
- ***Experience***
  Q16. Using a scale of 1 to 7, where 1 means very poor and 7 means excellent, please rate the kind of experiences you've had dealing with Manitoba Public Insurance. We are looking for your experience overall, with everything from paying your premium to calling them for information. Please think about your experience over the last few years.

Access related independent variables *(access as defined in the communication tool: easily attainable coverage that does not discriminate):*

- ***Fair***
  Q27.Please tell me how much you agree or disagree with this description of Manitoba Public Insurance using a scale of 1 to 7, where 1 means strongly disagree and 7 means strongly agree.... ... Manitoba Public Insurance is... Fair
- ***Accessible***
  Q22. Please tell me how much you agree or disagree with this description of Manitoba Public Insurance using a scale of 1 to 7, where 1 means strongly disagree and 7 means strongly agree..... ....Manitoba Public Insurance is... Accessible

Endnotes

[1] As published in corporate communications such as the Manitoba Public Insurance Annual Report.
[2] The independent variables used in the logistic regression were the same as the 11 variables in the linear regression. Dependent variable is "likelihood of Manitobans think MPI is good value". Q23 was recoded to a binary variable: scales 1-4 were recoded to 0 (no, not good value), scales 5-7 were recoded to 1 (yes, good value).
[3] Two regressions were run on Manitoba 2017 data; one that included 11 variables in the model and another that included seven variables in the model. The first regression included all the survey questions we have that are related to the attributes in the value equation. The second regression (with seven variables) was run to provide results that were comparable to models run for data from Saskatchewan, Alberta and British Columbia. In the Western Province Poll fewer question are asked, and as a result, the western province chart has only seven variables. To make our results comparative for inclusion in that chart, the regression was run on Manitoban data with the seven variables.
[4] It should be noted that this question has a high proportion of missing data (8%). The proportion of missing data for other variables in the model range from 1% to 4%. Missing data proportions may be higher for the *'experience making a claim'* question because people who do not have claim experience may chose not to answer the question (though they may answer based on what they have read, seen or heard).
[5] While *feeling protected* is a moderate driver of *good value* in the Manitoba-specific 11 variable model, it has a *minimal impact* on *good value* in the 7 variable, Western provinces model.
[6] See footnote three.
[7] This R-squared is for the model where we included 11 variables. The model (Manitoba) where we included only seven variables has the same R-squared (74%).
[8] R-squared values for previous years are as follows: 68% in 2003; 73% in 2007; 74% in 2008; 73% in 2009; 76% in 2011; 76% in 2013; and 72% in 2015.
[9] The R-squared values are as follows: 74% in Saskatchewan; 75% in Alberta; and 71% in British Columbia. In 2011, cost-related questions were added to the western province poll; this improved the predictive value of the model.
[10] Based on Customer Research's work on the regression analysis conducted on the Corporations' Value Equation; initial modeling was developed in conjunction with Prairie Research Associates. Further discussion of R-Squared is offered on the Research Gate discussion website:

- By Han Pin Fung: He references Hair et al. (2011) and Hair et al. (2013) suggested that in scholarly research that focuses on marketing issues, R-squared values of 75% (0.75) may be described as substantial, R-squared values of 50% (0.50) may be described as moderate and R-squared values of 25% (0.25) may be described as weak. Accessed on April 11, 2018, accessed at: https://www.researchgate.net/post/R-squared_values_between_1_and_5_in_linear_regression_social_science.
- By Peterson K. Ozili of the University of Essex: A high R-square of above 60%(0.60) is required for studies in the 'pure science' field because the behaviour of molecules and/or particles can be reasonably predicted to some degree of accuracy in science research; while an R-square as low as 10% is generally accepted for studies in the field of arts, humanities and social sciences because human behaviour cannot be accurately predicted. Accessed on April 11, 2018, accessed at: https://www.researchgate.net/post/what_is_the_acceptable_r-squared_value.

[11] Definition accessed on June 21, 2016, accessed at: http://www.statistics.com/index.php?page=glossary&term_id=390
[12] The independent variables used in the logistic regression were the same as the 11 variables in the linear regression. Dependent variable is "likelihood of Manitobans think MPI is good value". Q23 was recoded to a binary variable: scales 1-4 were recoded to 0 (no, not good value), scales 5-7 were recoded to 1 (yes, good value).
[13] Definition accessed on June 21, 2016, accessed at: http://www.statsoft.com/textbook/statistics-glossary/b/?button=0#Beta%20Coefficients.
[14] Definition accessed on June 21, 2016, accessed at: http://www.statsoft.com/textbook/multiple-regression/#cresidual.
[15] A full list of the questions is included in Appendix A.

CAC (MPI) 2-26

Part and Chapter:	Part VIII, EAR Attachment B and Part V Claims Incurred	Page No.:	Page 15
PUB Approved Issue No:	10. Claims Forecasting		
Topic:	Increase in Weekly Indemnity Ultimates		
Sub Topic:			

Preamble to IR (If Any):

CAC (MPI) 1-35 was not fully answered.

Question:

a) Please provide the impact on the rate indication of the $55.8 million increase in ultimate loss estimates for Weekly Indemnity for the 2010/11 through 2016/17 accident years, assuming no other changes to the rate indication.

b) Would the Corporation determine the cost of engaging a third party to review its reserving practices given the large dollar amounts involved on longer term claims?

c) Is it the Corporation’s opinion that the estimated Ultimates were too low for the Weekly Indemnity coverage in the February 2017 evaluation?

Rationale for Question:

To understand the impact of the increase in Weekly Indemnity claims and request an external review of the Corporation’s reserving practices to ensure they are now adequate.

RESPONSE:

a) Per *CAC (MPI) 1-35(d)*, "The rise in ultimate loss estimates for Weekly Indemnity increased the ultimate forecast for 2019/20 accident year by approximately $8.0 million", which is approximately a 0.8% impact on the rate indication. However, there was a corresponding decrease in ultimate loss estimates for Accident Benefits Other – Indexed which decreased the ultimate forecast for 2019/20 accident year by approximately $5.3 million, which is approximately a -0.5% impact on the rate indication.

b) See the response to *CAC (MPI) 1-35(c)*. A third party does review the Corporation's reserves on an annual basis; its external auditor. In addition, the external auditor performed a peer review in 2017/18, which review included a determination that MPI's reserves were adequate (PwC made minor recommendations for change).

c) For the reasons cited in *CAC (MPI) 1-35(e)*, the estimated ultimates for Weekly Indemnity were too low in the February 2017 Review of Policy Liabilities.

CAC (MPI) 2-27

Part and Chapter:	Part IV Service Delivery Model	Page No.:	17 to 18
PUB Approved Issue No:	10. Claims Forecasting		
Topic:	Centralized Reserving		
Sub Topic:			

Preamble to IR (If Any):

The Corporation states, in response to CAC (MPI) 1-37 that “Starting at 24 months, and annually thereafter, the centralized reserving team evaluates and updates each claim utilizing standardized guidelines and calculators developed by the actuarial team, to establish reserves on all claims.”

Question:

a) What mortality table is used in the calculators developed by the actuarial team?
b) Why does the centralized reserving team only review claims at 24 months if the claim is determined to be catastrophic in nature prior to that?
c) Does the Corporation agree that earlier intervention may impact psychological injury severity in a positive way for the Corporation?

Rationale for Question:

To fully understand the new reserving methodology.

RESPONSE:

a) The current mortality table used is from the Canadian Institute of Actuaries research paper entitled “Accident Benefits Long-Term Disability Losses” published in July 1992.

b) The centralized reserving team also establishes reserves on claims identified as catastrophic or where the overall exposure is anticipated to be greater than one million dollars at the outset of the claim (or as soon as possible) as opposed to waiting until 24 months has elapsed.

c) It is anticipated that earlier claim intervention in terms of actively case managing psychological claims will have positive impacts on severity. *Part IV SDM.1.9.1 Current State of PIPP* discusses the workforce planning currently underway to increase case manager capacity and allow more effort to be focused on earlier claim intervention. While earlier case management intervention is important and anticipated to have an impact on severity, establishing lifetime reserves earlier than 24 months will not have a positive impact on severity. This would artificially inflate the potential exposure on claims as sufficient time needs to elapse prior to establishing lifetime reserves (to determine if the claimant can make a successful return to health). Reserving based on the individual medical information and rehabilitation plan in the first 24 months will continue to result in an accurate reflection of the anticipated exposure.

CAC (MPI) 2-28

Part and Chapter:	Part VIII, Annual Reports, AR Appendix 2	Page No.:	4
PUB Approved Issue No:	10. Claims forecasting (including PIPP)		
Topic:	Bodily injury claims decrease by $51.3 million		
Sub Topic:			

Preamble to IR (If Any):

On page 4 of AR Appendix 2 it explains the decrease in claims incurred quarter over quarter and it states:

"Claims costs for the three months ended May 31, 2018 decreased by $30.6 million or 11.6% compared to last year due primarily to a decrease of $26.1 million or 22.9% in bodily injury claims incurred and a decrease of $4.3 million or 3.1% in physical damage claims incurred. **The $26.1 million increase in bodily injury claims was impacted by a decrease of $51.3 million due to the interest rate adjustment on unpaid claims.** Claims expense increased by $0.2 million or 0.5% from the previous year, offset by a decrease in road safety and loss prevention expenses of $0.4 million or $15.5%." (**Emphasis added)**

On page 7 of AR Appendix 2, MPI reports an Underwriting Income of $3.2 million for the 1st Quarter of 2018/19 compared to last year's Underwriting Loss of ($47.0) million; mainly due to increased Earned Revenues of $23 million and decreased claims costs of $31 million offset by increased expenses of about $4 million.

Question:

a) Please prepare a chart comparing this year's quarter (actual and budget) to last year's quarter (actual and budget) claims incurred by coverage, covers and average per cover. Please explain any significant changes by cover quarter over quarter for both 'actuals' and 'budget'.

b) Please provide a detailed analysis, including and describing the various assumptions and changes in assumptions, comprising the $51.3 million change in bodily injury unpaid claims. Please elaborate if MPI is expecting any changes to this year's (2018/19) claims incurred budget and/or future claims incurred projections. Please explain.

Rationale for Question:

To gain a fuller understanding of the significant change to unpaid claims in the first quarter of 2018/19 fiscal year (noting the 1st quarter reports an underwriting income) and the impact this may have on rating year claims incurred forecasts.

RESPONSE:

a) See the figure below for a Basic direct claims incurred comparison for both actuals and budget for the first quarter.

Figure 1: Basic Direct Claims Incurred for the three month ending May 31

Line No.	Direct Claims Incurred	2018A	2017A	Difference	2018B	2017B	Difference
1	*($000)*						
2	Accident Benefits - Pre Mar 1/94	($125)	($79)	($46)	$0	$0	$0
3	Public Liability - Pre Mar 1/94	$0	$0	$0	$0	$0	$0
4	Public Liability - Post Mar 1/94	$1,543	$1,040	$503	$1,064	$982	$82
5	Income replacement indemnity	$25,329	$15,075	$10,254	$25,728	$23,011	$2,717
6	Death Payments	$2,276	$1,816	$460	$2,982	$3,118	($136)
7	Permanent impairment	$6,705	$8,665	($1,960)	$8,306	$6,773	$1,533
8	Personal care	$12,788	$243	$12,545	$5,206	$2,933	$2,273
9	Rehabilitation	$1,559	($1,414)	$2,973	$610	$3,027	($2,417)
10	Medical expenses	$11,884	$8,278	$3,606	$10,481	$15,599	($5,118)
11	Collision	$82,672	$87,763	($5,091)	$101,179	$94,509	$6,670
12	Comprehensive	$15,820	$18,605	($2,785)	$14,482	$18,462	($3,980)
13	Property Damage	$11,748	$10,998	$750	$11,170	$10,710	$460

The two largest differences are in income replacement indemnity and personal care which increased $10.3 million and $12.5 million respectively in the first quarter of 2018 over 2017's first quarter. This is attributed to centralized reserving being implemented. The first quarter in 2017 included minimal incurred changes as centralized reserving was just transitioned into operations. The first quarter in 2018 represents incurred where centralized reserving is fully implemented. The variances to budget are also a result of centralized reserving, as this process has now been fully implemented, budgets will need to be adjusted in the upcoming fiscal year to include this change in methodology.

See the figure below for a Basic covers opened comparison for both actuals and budget for the first quarter.

Figure 2: Basic Covers Opened for the three month ending May 31

Line No.	Covers Opened	2018A	2017A	Difference	2018B	2017B	Difference
1	Accident Benefits - Pre Mar 1/94	4	5	(1)	0	0	0
2	Public Liability - Pre Mar 1/94	0	0	0	0	0	0
3	Public Liability - Post Mar 1/94	35	31	4	33	48	(15)
4	Income replacement indemnity	555	941	(386)	605	753	(148)
5	Death Payments	103	64	39	77	97	(20)
6	Permanent impairment	537	620	(83)	544	661	(117)
7	Personal care	172	177	(5)	197	208	(11)
8	Rehabilitation	583	606	(23)	581	655	(74)
9	Medical expenses	14,774	15,259	(485)	16,171	17,898	(1,727)
10	Collision	27,939	30,354	(2,415)	31,782	32,871	(1,089)
11	Comprehensive	16,042	17,003	(961)	17,554	15,396	2,158
12	Property Damage	20,326	19,030	1,296	20,326	20,231	95

b) The table below shows the derivation of the $51.3 million decrease in unpaid claims due to interest rate adjustment. The $51.3 million reflects the difference in the impact of interest rate adjustment (between February 28 and May 31 of the fiscal year) on the claims incurred. For fiscal year 2018, the impact of interest rate adjustment (as of May 31) of $13.1 million is small. MPI does not update its claims incurred budget/projection monthly to reflect interest rate adjustment.

Figure 3: Interest Rate Impact on Claims for the three month ending May 31

Line No.	Fiscal Year	as of Feb 28	as of May 31	Difference	Impact on Unpaid Claim Liabilities ($000)
1	2017	3.39%	3.04%	-35 bps	$64,401
2	2018	3.47%	3.40%	-7 bps	$13,094
3	**Difference**				($51,307)

CAC (MPI) 2-29

Part and Chapter:	**CAC (MPI) 1-79**	**Page No.:**	**2**
PUB Approved Issue No:	**8. Investment portfolio** **10. Claims forecasting**		
Topic:	**De-risking the basic claims portfolio; no equities in the investment portfolio**		
Sub Topic:			

Preamble to IR (If Any):

On page 2 of CAC (MPI) 1-79 the Bond risks and PIPP risks are compared and it highlights that bonds do not hedge PIPP "Under reserving" and "Legislative enhancements to benefits" risks. It further states:

"The present value of PIPP liabilities is interest rate-sensitive, due to the long-tail nature of some of the liabilities. This risk is mitigated by holding bonds of similar duration, which are also interest rate-sensitive. The other risks associated with the PIPP liabilities cannot be hedged with investments in financial assets."

Question:

a) Please confirm that PIPP claims incurred volatility is not only caused by under reserving practices and legislative enhancements to benefits, but also by emerging new claims categories caused by such medical conditions as depression and mental health, et al.

b) Please discuss whether the SGI Auto Fund and the SAAQ consider equities to be an appropriate asset type in which to invest to support pure no-fault PIPP type liabilities.

Rationale for Question:

To better understand why long term type PIPP claims liabilities should not be supported by growth type equity assets in the investment portfolio.

RESPONSE:

a) Confirmed. Emerging trends related to claims with mental health components has an impact on PIPP claims incurred. *Part IV SDM.1.9.1 Current State of PIPP* discusses the strategies being implemented to mitigate risks associated with these emerging claim trends. Changes or volatility to forecasted PIPP claims incurred over the long term can be caused by a number of factors including under or over reserving issues, higher or lower inflation than forecast, or changes in relapse rates.

b) SGI Auto Fund uses a ‘return seeking portfolio’ comprised of equities, real estate, and infrastructure investments to support claims liability payments beyond 20 years.

SAAQ confirmed that they hold a diversified investment portfolio with the following allocations as of December 31, 2017.

Fixed income (34.5%)

- Short term : 1%
- Rates : 7.5%
- Credit : 16%
- Real return bonds : 10%

Real assets (21%)

- Real estate : 14%
- Infrastructure : 7%

Equity (44.5%)

- Public equity : 34%
- Private equity : 10.5%

CAC (MPI) 2-30

Part and Chapter:	CAC (MPI) 1-21(b)	Page No.:	3
PUB Approved Issue No:	7. Update of DCAT and target capital analysis 2.Rate indication based on accepted actuarial practice in Canada 4. Financial Forecasts		
Topic:	Satisfactory financial condition and best estimates		
Sub Topic:	Actuarial Standard of Practice (ASOP)		

Preamble to IR (If Any):

The response to CAC (MPI) 21 (b) refers to the Canadian Institute of Actuaries Standards of Practice (ASOP). The ASOP dated March 2019 is laid out in seven (7) parts:

1. 1000—General
2. 2000—Insurance
3. 3000—Pension Plans
4. 4000—Actuarial Evidence
5. 5000—Public Personal Injury Compensation Plans
6. 6000—Post-Employment Benefit Plans
7. 7000—Social Security Programs

Part V of the 2019 GRA in the Rate Setting chapter, page 4, states: “This section describes the rating principles, techniques, and approaches used by MPI in the calculation of Basic rates, following AAP.” AAP stands for Accepted Actuarial Practice.

Excerpts from ASOP:

“1120 Definitions

.01 Each term set over dotted underlining has the meaning given in this subsection. A term that is not set over dotted underlining has its ordinary meaning.

.02 Accepted actuarial practice is the manner of performing work in accordance with these Standards of Practice. Unless the context requires otherwise, it refers to work in Canada.

.12 Best estimate means without bias.

.34 Insurance contract is a contract under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder. Insurance contract includes group insurance, third-party contracts where the owner of the contract and the person who is compensated (the policyholder) differ, and all like arrangements substantively in the nature of insurance.

.35 Insurance contract liabilities in an insurer's statement of financial position are the liabilities at the date of the statement of financial position on account of the insurer's insurance contracts, including commitments, that are in force at that date or that were in force before that date.

.39 Margin for adverse deviations is the difference between the assumption for a calculation and the corresponding best estimate assumption.

.52 Property and casualty insurance is insurance that insures individuals or legal persons

- Having an interest in tangible or intangible property, for costs arising from loss of or damage to such property (e.g., fire, fidelity, marine hull, warranty, credit, legal expense, and title insurance); or
- For damages to others or costs arising from the actions of such persons (e.g., liability and surety bonds) and for costs arising from injury to such persons (e.g., automobile accident benefits insurance).

.53 Provision for adverse deviations is the difference between the actual result of a calculation and the corresponding result using best estimate assumptions.

.54 Public personal injury compensation plan means a public plan

- Whose primary purpose is to provide benefits and compensation for personal injuries;
- Whose mandate may include health and safety objectives and other objectives ancillary to the provision of benefits and compensation for personal injuries; and
- That has no other substantive commitments.

The benefits and compensation provided under such public plans are defined by statute. In addition, such public plans have monopoly powers, require compulsory coverage except for those groups excepted by legislation or regulation, and have the authority to set assessment rates or premiums.

1600 Assumptions and Methods

1610 Methods

.01 The actuary should select a method that takes account of the circumstances affecting the work. [Effective February 1, 2018]

.02 The basis for calculating actuarial estimates is comprised of a method and one or more assumptions. Methods represent the underlying manner in which actuarial calculations are undertaken. Methods differ from one area of actuarial practice to another and have differed over time.

.03 In selecting an appropriate method, the actuary would consider whether any method is mandated by law, by practice-specific standards or by the terms of the engagement.

1620 Assumptions

Discount rate

.35 The use of a discount rate is inherent in the actuarial present value method. The discount rate may be constant or it may vary over time. In selecting the best estimate assumption for the discount rate, the actuary, consistent with the circumstances affecting the work, may either

- Take into account the expected investment returns of the assets that support the liabilities; or
- Reflect interest rates on relevant fixed income reference securities.

.36 In selecting the best estimate assumption for the discount rate, the actuary, consistent with the circumstances affecting the work, may assume that the yields on fixed income investments at future dates, either

- Remain at levels applicable at the calculation date; or
- Revert in the long term to expected levels.

1630 Provision for adverse deviations

.01 The actuary should include a provision for adverse deviations in calculations only to the extent required by the terms of the actuary's engagement or as mandated by law or as prescribed by practice-specific standards. [Effective February 1, 2018]

2120 Method

Time value of money

.36 In this context, "supporting assets" means the insurer's assets and asset commitments that support its insurance contract liabilities.

.37 To take account of the time value of money is to express the forecast of periodic future cash flows as an equivalent single amount at the calculation date, thereby reflecting in the value of the liabilities the amount of future investment income forecast to be earned on the supporting assets. There are two common methods of doing so – a roll-forward approach (e.g., the Canadian asset liability method) and a discounting approach (e.g., the actuarial present value method).

.38 The discount rates and forecast of supporting assets used in the valuation, would take account of

- The supporting assets owned at the calculation date;
- The insurer's policy for asset-liability management; and
- Assumptions about investment return after the calculation date.

.39 The actuary would value the insurance contract liabilities and reinsurance recoverables so that their aggregate value in combination with the value of other policy-related items in the statement of financial position appropriately takes account of the time value of money.

Margin for adverse deviations

.40 The margin for adverse deviations reflects the degree of uncertainty of the best estimate assumption. This uncertainty results from the risk of misestimation of and deterioration from the best estimate assumption. The potential for misestimation is greater when the past experience has been more volatile and hence would justify a greater margin. However, the margin for adverse deviations would be based on a forward-looking assessment of the expected experience and would not act as a mechanism to absorb changes in observed experience, such as changes caused by statistical fluctuations.

2200 Insurance Contract Valuation:

Property and Casualty Insurance

.02 The amount of claim liabilities consists of the following components on a present value basis:

- The amount of the case estimates;
- A provision (which may be positive or negative) for development on reported claims, including claim adjustment expenses;
- A provision for incurred but unreported claims, including claim adjustment expenses; and
- A provision for adverse deviations.

For property and casualty practitioners, this is also referred to as the actuarial present value basis.

2240 Present values

.01 The expected investment return rate for calculation of the present value of cash flows, net of reinsurance, is that to be earned on the assets, taking into account reinsurance recoverables, that support the insurance contract liabilities. The expected investment return depends on

- The assets owned at the calculation date;
- The allocation of those assets and related investment income among lines of business;
- The method of valuing assets and reporting investment income;
- The yield on assets acquired after the calculation date;
- The capital gains and losses on assets sold after the calculation date;
- Investment expenses; and
- Losses from asset depreciation.

2500 Dynamic Capital Adequacy Testing

Dynamic capital adequacy testing

.06 Dynamic capital adequacy testing examines the effect of selected plausible adverse scenarios on the insurer's forecasted capital adequacy. It would be one of the actuary's primary tools for investigation of an insurer's financial condition.

.07 The purpose of dynamic capital adequacy testing is to identify plausible threats to satisfactory financial condition, actions that would lessen the likelihood of those threats, and actions that would mitigate a threat if it materialized

.08 Dynamic capital adequacy testing is defensive, i.e., it addresses threats to financial condition rather than the exploitation of opportunity.

Satisfactory financial condition

.09 The insurer's financial condition would be satisfactory if throughout the forecast period,

- Under the base scenario, the insurer meets the supervisory target(s); and
- Under the base scenario and all plausible adverse scenarios, the statement value of the insurer's assets is greater than the statement value of its liabilities.

2600 Ratemaking: Property and Casualty Insurance

.06 This section 2600 also applies to the derivation of indicated rates for insurance risks accepted by a property and casualty quasi-insurer, similar to insurance risks accepted under an insurance contract. In this section 2600, "property and casualty quasi-insurer" means an entity that assumes insurance risks that a property and casualty insurer may assume, without having the legal form of an insurer. Examples of property and casualty quasi-insurers include

- Federal or provincial crown corporations or agencies acting in a capacity similar to a property and casualty insurer;

2620 Method

.01 The best estimate present value of cash flows relating to the revenue at the indicated rate should equal the best estimate present value of cash flows relating to the

5000—Public Personal Injury Compensation Plans

5100 Scope

.00 Part 1000 applies to work within the scope of this part 5000.

.01 The standards in this part apply to an actuary's work on the valuation of benefits liabilities of a public personal injury compensation plan, including its benefits liabilities in respect of a self-insured employer, and to any other items required under the terms of an appropriate engagement for a public personal injury compensation plan, for the purpose of its financial statements and for the purpose of providing input into its funding arrangements.

5420 Assumptions

01 The actuary should set assumptions that reflect the expectation that the public personal injury compensation plan will continue indefinitely as a going concern entity, but may make adjustment for short-term considerations, where appropriate. [Effective February 1, 2018]

.02 The actuary should select either best estimate assumptions or best estimate assumptions modified to incorporate margins for adverse deviations to the extent, if any, required by law or by the circumstances affecting the work, and should provide the rationale for the decision made with respect to the inclusion or exclusion of margins. [Effective February 1, 2018]

5430 Economic assumptions

.01 The needed economic assumptions include the expected rate of investment income, the expected investment expenses and, depending on the benefit being valued, one or more of

- expected rate of general inflation,
- expected rate of health care cost inflation,
- expected rate of wage inflation,
- if different, expected earnings increase specific to wage loss benefits, and
- expected rate of change of any other economic factor that may be applicable.

.02 The economic assumptions that are needed would depend on the nature of the benefits that are being valued, and may vary by year.

.03 The actuary would develop and disclose separate nominal assumptions, but may prefer to complete the calculations using rates that are net of inflation, net of expenses or net of some other factor. Such calculations may, however, be approximations.

5450 Margins for adverse deviations

01 The actuary should not include a margin for adverse deviations when the circumstances affecting the work require a best estimate calculation or an unbiased calculation. [Effective February 1, 2018]

.02 The actuary should include margins for adverse deviations when the circumstances affecting the work require such margins. A non-zero margin should be sufficient, without being excessive, and should have the effect of increasing the benefits liabilities or reducing the reported value of the offsetting assets, the computation of which falls within the scope of the work of the actuary. In addition, the provision resulting from the application of all margins for adverse deviations should be appropriate in the aggregate. [Effective February 1, 2018]

.03 If the actuary is required by legislation, regulation, accounting standards, the accounting policy or the funding policy of the plan to use a margin for adverse deviations that is outside the range that the actuary considers appropriate, the actuary may use such imposed assumption, but the actuary should disclose that the margin is outside of the appropriate range and disclose the reason for using such margin. [Effective February 1, 2018]

Question:

a) Please confirm that the ASOP parts 1000 to 7000 represent all the actuarial standards of practice in Canada. If not, please elaborate and describe additional actuarial standards of practice applicable to Canada and specifically to MPI Basic Insurance.

b) Please contrast and explain the differences between Parts 1000 (General), 2000 (Insurance and specifically Property and Casualty Insurance {P&C}) to Part 5000 (Public Personal Injury Compensation Plans).

   i. Please explain the applicability of Parts 1000, 2000 {P&C} and 5000 to MPI Basic Insurance rate making.

c) According to ASOP 1120.12 "best estimate means without bias". In ASOP 2200.02 the amount of claim liabilities include a provision for adverse deviations (PfAD). In ASOP 2620.01 (Ratemaking) the "best estimate" appears not to include a PfAD. In ASOP 5450.01 and .02 a margin for adverse deviation appears optional.

   i. For greater clarity please explain the difference between a provision for adverse deviation and a margin for adverse deviation.

   ii. Please explain the situation or circumstances when a "best estimate" includes a PfAD and/or Margin for adverse deviation

d) Please elaborate on the applicability of ASOP 5000 Public Personal Injury Compensation Plans to the valuation of MPI's basic insurance Personal Injury Protection Plan unpaid claims. Is MPI aware whether SGI or the SAAQ use ASOP 5000 to value their PIPP type unpaid claims liabilities? Please elaborate.

e) With respect to the selection of a discount rate to determine the best estimate, the actuary appears to consider a wide range of options as detailed in ASOP 1620.35, 1620.36, 2120.36, 2120.37, 2120.38, 2240.01,and 5430.01. "The discount rate may be constant or it may vary over time". Please describe MPI's discernment process in establishing its discount rate to calculate its best estimate for rate making purposes.

Rationale for Question:

MPI's basic insurance rates are prospectively determined by accepted actuarial practices, as well the RSR is measured, and to some extent, determined by the DCAT methodology. These processes and procedures appear to be prescribed by the Actuarial Standard of Practice (ASOP) which impact rate making, claims incurred values, net income, RSR, investment asset mix and possibly other operational matters. A summary review of ASOP may be of assistance to the various parties to gain a better understanding of the impact ASOP has on MPI's operations and the GRA before the PUB for consideration.

RESPONSE:

a) Confirmed.

b) Part 1000 presents the general standards of practice applicable to all actuaries regardless of the type/scope of work of the actuary's engagement. An example of this is how to appropriately use and document the work produced by another person.

Part 2000 presents the standards of practice applicable when performing specific actuarial work. For example, section 2200 presents the standards of practice applicable when performing the valuation of insurance contract liabilities for a property and casualty insurer.

Part 5000 presents the standards of practice applicable specifically to actuaries working on "*the valuation of benefits liabilities of a public personal injury compensation plan*". Part 5000 is applicable to actuaries working on workers compensation plans.

Parts 1000 and 2000 (excluding sections 2300 and 2700) are applicable to all the actuarial related work performed at MPI. Given the scope, Part 5000 is not applicable to MPI.

c) The provision for adverse deviation (PFAD) reflects the additional dollar amount added to the best estimate assumption to account for the uncertainty of the best estimate assumption. The PFAD is determined by applying the margin for adverse deviation (MFAD), usually expressed as a percentage, to the best estimate assumption. As an example, assume that the best estimate assumption for the unpaid claim liabilities for Collision is $50.0 million. The addition of a 5% MFAD would result in a PFAD of $2.5 million (i.e. $50 * 5%). Assuming no other MFAD/PFAD, the total unpaid claim liabilities for Collision would be $52.5 million.

As stated above, a PFAD is added when there is uncertainty of the best estimate assumption. This uncertainty can result from various factors e.g. the duration (i.e.

from opening to settlement) of a claim, the historical volatility in the claims development pattern, possible adverse experience in yield rates, etc. The Appointed Actuary is responsible to consider all these factors, and determine an appropriate MFAD to apply to the best estimate assumption.

In general, based on the ASOP, the MFAD/PFAD should be reviewed when working on the valuation of insurance contract liabilities. The MFAD/PFAD is not a consideration in ratemaking. The MFAD/PFAD is also not a consideration when working on the Dynamic Capital Adequacy Testing (DCAT) except to the extent that the PFAD is included in the figures per the financial statements.

d) Refer to the response to part (b). MPI has confirmed with SGI that Part 5000 is not applicable to their actuarial related work. Part 5000 is applicable to SAAQ given the nature of their business. Specifically, per *Part III, CBP*, SAAQ "*provides public compulsory injury coverage (on a "pure" no-fault basis), while private insurers provide compulsory Third Party Liability (for physical damage only), and optional first party physical damage coverage.*" This model more closely mirrors a public workers compensation plan than a property and casualty insurer.

e) Refer to *Part V, Ratemaking, page 19*.

CAC (MPI) 2-31

Part and Chapter:	**CAC (MPI) 1-27(a)**	**Page No.:**	**2**
PUB Approved Issue No:	**9. Cost of Operations**		
Topic:	**Staffing and Economic negotiated salary increases**		
Sub Topic:	**Retention of skilled staff**		

Preamble to IR (If Any):

In response to question a) MPI states: "However if the employee is at the top of their band and their superior performance warrants a merit increase, merit increase is paid in lump sum."

Question:

Please elaborate on what is meant by "merit increase is paid in lump sum". Is this similar to a performance bonus?

Rationale for Question:

To clarify the response to question a) in CAC (MPI) 1-27.

RESPONSE:

The Corporation strives for a culture of excellence and wishes to recognize excellence. Merit increases allow strong performing employees to progress through their respective pay bands. Employees who do not exceed their performance objectives do not receive a merit increase.

Employees who have reached the top of their pay bands are often highly qualified, experienced employees that the Corporation wants to retain, keep engaged and exceeding their performance objectives. An incentive to do this is allowing them to be eligible to receive similar merit pay benefits for exceptional performance criteria that are available to other employees who are not at the top of their pay scale.

Employees who reach the top of their pay bands and continue to exceed performance expectations are eligible to have their merit recognized through the payment of a one-time, lump-sum amount.

The lump sum payment is limited to a maximum of 5% of their base salary. The employee's base salary will remain the same (subject to the cost of living increase).

It is important to the Corporation that all high performing employees are treated equally; MPI does not want to be in a position where some who exceed performance expectations receive merit pay and others do not.

For the 2017/18 fiscal year, MPI had 1,859 employees at the time of the payout, 1589 were in-scope, 270 were out of scope. Of the out of scope employees, 62 were at the maximum of their pay ranges and were eligible for a lump sum payment. 26 employees received lump sum payments for a total payment of $58,427.

CAC (MPI) 2-32

Part and Chapter:	**Part VIII, Annual Reports, AR Appendix 2**	**Page No.:**	
PUB Approved Issue No:	**4. Financial Forecasts** **9. Cost of operations**		
Topic:	**Decrease in investment income – 1st Quarter May 31, 2018**		
Sub Topic:			

Preamble to IR (If Any):

On page 4 of AR Appendix 2 it explains the reasons for the $5.2 million decrease in Corporate net income from last year's comparable quarter and it states:

"iii) a decrease in investment income of $57.0 million mainly due to the decrease of unrealized gains on Fair Value Through Profit or Loss bonds of $47.3 million and decrease gains on the sale of equities and other investments of $9.7 million."

Question:

Please elaborate, for greater clarity, and provide a comparative analysis, by issuer, explaining the decrease in investment income of $57.0 million quarter over quarter.

Rationale for Question:

To gain a fuller understanding of the significant change/causes in investment income quarter over quarter.

RESPONSE:

Please see *Appendix 1* which provides details on the "Unrealized Gains/(Losses) on FVTPL Bonds" and *Appendix 2* for the "Gains/(Losses) on Sale of Equities and Other" which addresses the most significant differences in investment income comparing the first quarter of 2018 to the first quarter of 2017.

Unrealized Gains(Losses) FVTPL Bonds

	Sec ID	Issuer's Name	Q1-2018	Q1-2017
1	013051DM6	ALBERTA	(14)	108
2	013051DQ7	ALBERTA	(31)	-
3	013051DR5	ALBERTA	(5)	37
4	013051DT1	ALBERTA	(3)	699
5	013051DS3	ALBERTA	-	1,052
6	013051DU8	ALBERTA	(43)	-
7	013051DW4	ALBERTA	(8)	-
8	013051DY0	ALBERTA	(314)	-
9	01306ZCV1	Alberta TSY	(25)	494
10	01306ZDC2	Alberta TSY	11	594
11	01306ZDF5	Alberta TSY	-	497
12	135087B45	GOVERNMENT OF CANADA BOND	-	205
13	135087D35	GOVERNMENT OF CANADA BOND	-	840
14	135087D50	GOVERNMENT OF CANADA BOND	-	7
15	135087F25	GOVERNMENT OF CANADA BOND	-	34
16	135087F58	GOVERNMENT OF CANADA BOND	-	44
17	135087XW9	GOVERNMENT OF CANADA BOND	-	338
18	135087YQ1	GOVERNMENT OF CANADA BOND	-	353
19	135087ZS6	GOVERNMENT OF CANADA BOND	-	260
20	13509PFV0	CANADA HOUSING	-	43
21	1107098Y1	PROV OF BRITISH COLU	125	613
22	11070TAG3	PROV OF BRITISH COLU	341	1,793
23	11070TAJ7	PROV OF BRITISH COLU	(12)	121
24	40649CTR7	HALTON REGIONAL MUNI	26	29
25	4488148V8	QUEBEC HYDRO BOND	73	410
26	448814DG5	QUEBEC HYDRO BOND	(23)	(13)
27	505443AB7	CANADA LABRADOR-ISLA	68	737
28	56344ZCG2	PROVINCE	(46)	264
29	56344ZEH8	PROVINCE	(149)	1,306
30	56344ZJM2	PROVINCE OF MANITOBA	(53)	1,902
31	56344ZPV5	PROVINCE OF MANITOBA	120	1,344
32	563469EZ4	PROVINCE OF MANITOBA BOND	-	(2,249)
33	563469TH8	PROVINCE OF MANITOBA	106	802
34	563469TW5	PROVINCE OF MANITOBA	41	966
35	56346ZKW6	PROVINCE OF MANITOBA	(77)	(68)
36	570344AA9	MARITIME LINK FINANC	62	343
37	614853CC1	VILLE MONTREAL	(41)	(20)
38	614853CJ6	VILLE MONTREAL	(14)	3
39	614853CM9	VILLE MONTREAL	(58)	157
40	614853CV9	VILLE MONTREAL	(13)	55
41	628153AC2	MUSKRAT FALLS	133	786
42	626209JH4	BC MUNICIPAL FINANCING AUTHOR	-	27
43	6428668Z3	PROV OF NEW BRUNSWIC	4	14
44	642866FW2	PROV OF NEW BRUNSWIC	13	1,008
45	642866FZ5	PROV OF NEW BRUNSWIC	38	(619)
46	642866GA9	PROV OF NEW BRUNSWIC	11	356
47	642866GK7	PROV OF NEW BRUNSWIC	(11)	63
48	642866GL5	PROV OF NEW BRUNSWIC	(482)	-
49	642869AD3	PROVINCE OF NEW BRUN	(49)	-
50	642869AE1	PROVINCE OF NEW BRUN	68	915
51	651329BE3	NFLD LABRADOR HYDRO	94	403
52	651333EG7	NEWFOUNDLAND PROV	(19)	222

Unrealized Gains(Losses) FVTPL Bonds

	Sec ID	Issuer's Name	Q1-2018	Q1-2017
53	651333EZ5	NEWFOUNDLAND PROV	1	-
54	651333FM3	NEWFOUNDLAND PROV	53	-
55	651333FQ4	NEWFOUNDLAND PROV	262	1,414
56	651333FS0	NEWFOUNDLAND PROV	(1)	210
57	651333FT8	NEWFOUNDLAND PROV	(1,102)	1,027
58	651333FX9	NEWFOUNDLAND PROV	(72)	-
59	651333FY7	NEWFOUNDLAND PROV	(1,208)	809
60	65355DZC2	NIAGARA REG MUNI	11	69
61	669827FL6	PROVINCE OF NOVA SCO	(26)	705
62	669827FQ5	PROVINCE OF NOVA SCO	-	713
63	669827FP7	PROVINCE OF NOVA SCO	62	920
64	669827FW2	PROVINCE OF NOVA SCO	62	-
65	669827FZ5	PROVINCE OF NOVA SCO	116	1,437
66	669827GA9	PROVINCE OF NOVA SCOTIA	(28)	302
67	6832348J0	PROVINCE ONTARIO BOND	(4)	49
68	683234B98	PROVINCE ONTARIO BOND	(82)	3,335
69	683234NM6	PROVINCE ONTARIO BOND	(32)	149
70	683234YD4	PROVINCE ONTARIO BOND	12	289
71	683234ZP6	PROVINCE OF ONTARIO	2	60
72	68323AAD6	PROVINCE OF ONTARIO	(39)	219
73	68323AAY0	PROVINCE OF ONTARIO	101	-
74	68323ACY8	PROVINCE OF ONTARIO	-	67
75	68323ABN3	PROVINCE OF ONTARIO	(31)	432
76	68323ACC6	PROVINCE OF ONTARIO	-	276
77	68323ADM3	PROVINCE OF ONTARIO	(121)	829
78	68323ADZ4	PROVINCE OF ONTARIO	-	879
79	68323AEE0	PROVINCE OF ONTARIO	428	597
80	68323Z4W6	ONTARIO GENERAL RESI	11	160
81	68323ZUK3	ONTARIO GENERAL RESI	(75)	(10)
82	683244AG2	ONTARIO SCHOOL FINANCE	-	(106)
83	689551DE6	CITY OF OTTAWA	(32)	205
84	689551ED7	CITY OF OTTAWA	92	487
85	689551ER6	CITY OF OTTAWA	71	279
86	705464EQ4	PEEL REG ONTARIO	2	270
87	69363TAK8	PSP CAPITAL INC.	-	110
88	69363TAJ1	PSP CAPITAL INC.	-	38
89	741666CF6	PRINCE EDWARD ISLAND	(14)	65
90	741666CN9	PRINCE EDWARD ISLAND	(25)	66
91	741666CS8	PRINCE EDWARD ISLAND	76	576
92	741666DA6	PRINCE EDWARD ISLAND	(14)	141
93	74814ZEF6	PROVINCE OF QUEBEC	130	357
94	74814ZEK5	PROVINCE OF QUEBEC	123	-
95	74814ZEP4	PROVINCE OF QUEBEC	(114)	-
96	74814ZER0	PROVINCE OF QUEBEC	(469)	1,235
97	74814ZES8	PROVINCE OF QUEBEC	-	63
98	74814ZEV1	PROVINCE OF QUEBEC	(55)	-
99	74814ZEW9	PROVINCE OF QUEBEC	(113)	688
100	74814ZEX7	PROVINCE OF QUEBEC	(122)	834
101	803854GY8	PROV OF SASKATCHEWAN	(7)	218
102	803854JA7	PROV OF SASKATCHEWAN	-	101
103	803854JH2	PROV OF SASKATCHEWAN	43	355
104	803854JJ8	PROV OF SASKATCHEWAN	22	206

Unrealized Gains(Losses) FVTPL Bonds

	Sec ID	Issuer's Name	Q1-2018	Q1-2017
105	803854JL3	PROV OF SASKATCHEWAN	73	360
106	803854JT6	PROV OF SASKATCHEWAN	242	680
107	803854JU3	PROV OF SASKATCHEWAN	86	303
108	803854JW9	PROV OF SASKATCHEWAN	(128)	21
109	803854KA5	PROV OF SASKATCHEWAN	86	292
110	803854KB3	PROV OF SASKATCHEWAN	(15)	220
111	803854KC1	PROV OF SASKATCHEWAN	(839)	641
112	891288DJ8	CITY OF TORONTO	(10)	51
113	921577RE4	CITY OF VANCOUVER	(15)	23
114	975026HB4	CITY OF WINNIPEG	122	854
115	975026HC2	CITY OF WINNIPEG	192	1,155
116	975026FN0	CITY OF WINNIPEG	-	(9)
117	98704CQR0	MUNICIPALITY OF YORK	(20)	29
118	98704CQT6	MUNICIPALITY OF YORK	3	-
119	98704CQZ2	MUNICIPALITY OF YORK	(19)	-
120	98704CQW9	MUNICIPALITY OF YORK	-	258
121	00433JAA3	ACCESS ROADS EDMONTO	(1)	162
122	02135ZAK2	ALTALINK LP	13	-
123	03524BAB2	ANHEUSER-BUSCH INBEV	2	-
124	03524BAG1	ANHEUSER-BUSCH INBEV	(3)	-
125	05590HAT4	BMW CANADA INC	(7)	-
126	06368AAA8	LTI BMO	(19)	51
127	06368AAD2	LTI BMO	(17)	-
128	12593CAA9	CPPIB	(1)	20
129	12657ZAW3	CU INC	26	-
130	136765AW4	CANADIAN WESTERN BAN	(8)	-
131	136765AZ7	CANADIAN WESTERN BAN	(6)	-
132	154728AN9	CENTRAL 1 CREDIT UNI	(15)	-
133	23384NAV9	DAIMLER CANADA FINAN	(19)	-
134	29290ZAP5	ENBRIDGE GAS DISTRIB	7	-
135	29290ZAS9	ENBRIDGE GAS DISTRIB	7	-
136	35085ZBF2	407 INTERNATIONAL IN	13	-
137	35085ZBL9	407 INTERNATIONAL IN	25	-
138	39138CAD8	GREAT WEST LIFECO IN	15	-
139	39138CAF3	GREAT WEST LIFECO IN	28	-
140	40427HTB9	HSBC BANK CANADA	(33)	-
141	44810ZBK5	HYDRO ONE INC	24	-
142	46152HAD3	IGM FINANCIAL INC	45	-
143	46152HAG6	IGM FINANCIAL INC	25	-
144	56501RAF3	MANULIFE FINANCIAL C	(8)	-
145	780085N93	ROYAL BANK OF CANADA	(14)	25
146	89353ZBV9	TRANSCANADA PIPELINE	(94)	-
147	89353ZBZ0	TRANSCANADA PIPELINE	(49)	-
148	90664ZAU4	UNION GAS LTD	9	-
149	975014AA9	WINNIPEG AIRPORT AUT	(154)	537
150	975014AC5	WINNIPEG AIRPORT AUT	(44)	327
151	975014AD3	WINNIPEG AIRPORT AUT	(13)	27
152	975014AE1	WINNIPEG AIRPORT AUT	(45)	-
153	44889ZEL6	HYDRO QUEBEC FRN	-	8
154	74814ZET6	PROVINCE OF QUEBEC	-	6
155	651333GA8	NEWFOUNDLAND PROV	(7)	-
156	**Unrealized Gains(Losses) FVTPL Bonds**		**(2,822)**	**44,441**

Gains / (Losses) Sale of Equities & Other

	Sec ID	Issuer's Name	Q1-2018	Q1-2017
1	136385101	CDN NATURAL RESOURCES LT	175	-
2	137576104	CANFOR CORPORATION	207	-
3	137584207	CANFOR CORPORATION	108	-
4	448055103	HUSKY ENERGY	161	-
5	453038408	IMPERIAL OIL	(3)	-
6	47215Q104	JEAN COUTU	245	-
7	57778L103	MAXAR TECHNOLOGIES	(821)	-
8	59162N109	METRO INC CLASS	132	-
9	70137T105	PARKLAND FUEL CORP	81	-
10	767744105	RITCHIE BROTHER	136	-
11	83425Q105	SOLIUM CAPITAL	48	-
12	867224107	SUNCOR ENERGY	140	-
13	021361100	ALTAGAS LTD SUB RECPT	-	(2)
14	05534B760	05534B760 BCE INC	-	782
15	136069101	CAN IMP BANK OF COMM	-	347
16	136375102	CANADIAN NATIONAL RAILWAYS	-	525
17	063671101	71101 BANK OF MONTREAL	-	410
18	136385101	CDN NATURAL RESOURCE	-	175
19	064149107	07 BANK OF NOVA SCOTIA	-	526
20	136717832	36717832 CDN UTILS LTD	-	3
21	15135U109	109 CENOVUS ENERGY INC	-	53
22	29250N105	0N105 ENBRIDGE INC COM	-	92
23	293570107	SIGN ENERGY SERVICES I	-	50
24	349553107	349553107 FORTIS INC.	-	323
25	39138C106	GREAT WEST LIFECO INC.	-	1,278
26	47215Q104	215Q104 JEAN COUTU GRP	-	68
27	51925D106	LAURENTIAN BANK OF CANAD	-	57
28	554282103	MACDONALD, DETTWILER & A	-	18
29	633067103	NATIONAL BANK OF CANADA	-	315
30	70137T105	105 PARKLAND FUEL CORP	-	98
31	70137T113	113 PARKLAND FUEL CORP	-	42
32	702925108	108 PASON SYSTEMS INC.	-	143
33	775109200	ROGERS COMM	-	92
34	76329W103	RICHELIEU HARDWARE LTD.	-	254
35	780087102	ROYAL BANK OF CANADA	-	1,035
36	85853F105	STELLA-JONES INC	-	171
37	867224107	SUNCOR ENERGY INC NEW CO	-	340
38	87971M103	TELUS CORP COM	-	9
39	891102105	TOROMONT INDUSTRIES LTD.	-	31
40	891160509	TORONTO DOM	-	469
41	89353D107	TRANSCANADA COR	-	142
42	961148509	GEORGE WESTON	-	31
43	985572106	YELLOW PAGES	-	(156)
44	464287598	Blackrock 1000	-	4,305
45	464287630	Blackrock2000	-	1,500
46	RFG2STD$1	STRAD ENERGY SERVICES	(12)	-
47	**Gains / (Losses) Sale of Equities & Other**		**597**	**13,526**

CAC (MPI) 2-33

Part and Chapter:	CAC (MPI) 1-58 (b)	Page No.:	2
PUB Approved Issue No:	19. IT projects and expenses		
Topic:	Customer self-service		
Sub Topic:	Customer surveys and focus groups		

Preamble to IR (If Any):

In response to CAC (MPI) 2-4 b) it states:

> While it remains early in the overall project delivery cycle, the Corporation is confident that customers will embrace the customer self-service delivery channel and its expanded capabilities, features and services, as they become available. **The results of recent customer surveys and the feedback from customer focus groups regarding the Customer Claims Reporting System give the Corporation reason to be confident**. The Corporation is also confident in the business case and value management realization (targets and timeframes) and therefore plans to continue with the project and future phases. **(emphasis added)**

Question:

Please file an Executive Summary elaborating on the feedback of the customer surveys and focus groups as mentioned in the preamble.

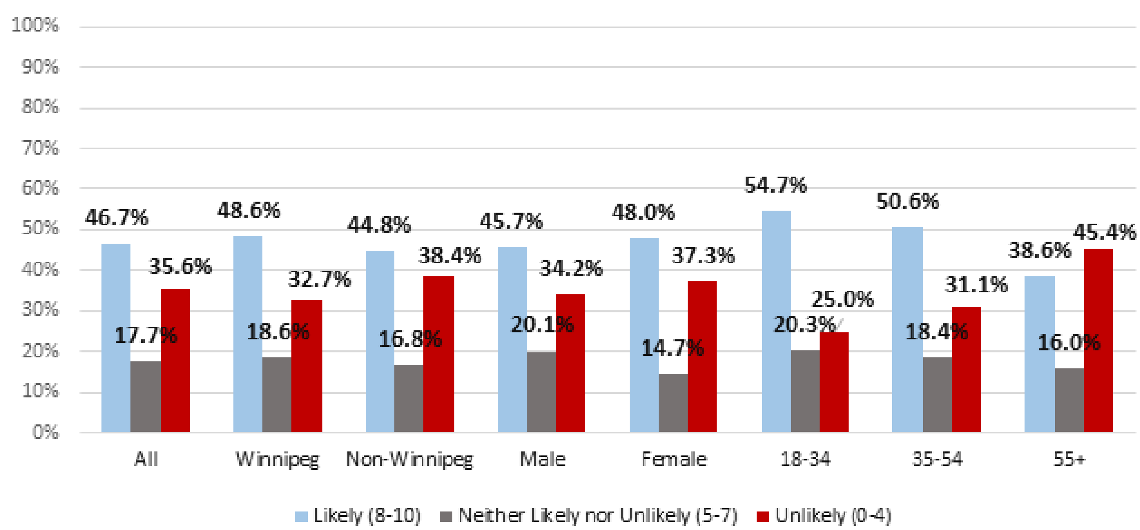
Rationale for Question:

To better understand customers' views on the subjects canvassed in the surveys and focus groups as stated in the preamble.

RESPONSE:

In a recent Physical Damage Claimant Satisfaction survey, a special interest topic question set was added to the survey to ascertain customer interest in online claim reporting if provided as an option in the future. The results of that survey are as follows:

Figure 1: Special Interest Topic: Online Claim Reporting Likeliness to report vehicle damage claim online: For future claims if given the option



Please also find *Appendix 1 & 2* which are results of the Customer Claims Reporting System customer focus group sessions completed in early 2018. Of specific interest will be pages 34-39 of Appendix 1 which provide specific customer feedback notes, likelihood to utilize the service results, and customer feedback on whether or not they would recommend the online service capability to other customers. Overall, the Corporation believes that the above and attached materials provide sufficient evidence that customers have a definite interest in self service delivery channel services in the future.

Prairie Research Associates

Testing of online vehicle damage claim process:

Presentation on the results of qualitative research

A presentation to Manitoba Public Insurance

February 20, 2018

Methodology and demographics

- PRA conducted two focus groups with Manitoba Public Insurance employees on February 1, 2018, both of which were completed on MPI computers in its computer lab.
- PRA conducted nine focus groups between February 5 and 12, 2018:
  - six groups segmented by age (18 to 29, 30 to 54, 55 and older) and claimant type (claim in past six months vs. no claim in past two years)
  - one group conducted with claimants with high school education or less
  - one group conducted with claimants whose first language was not English
  - one group conducted with claimants tested on PCs
- All public groups required participants to have a valid driver's licence and all said they would be at least somewhat likely to complete a claim online.
- In total, 73 representatives from the public and 15 employees tested the online process.

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Caution

- It is important to remember that while focus groups provide insight into participants' attitudes and opinions, they cannot be said to be representative of the population as a whole.

- Any quantification of the results refers only to group participants and cannot necessarily be extrapolated to the entire sample population represented.

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Accessing the online process

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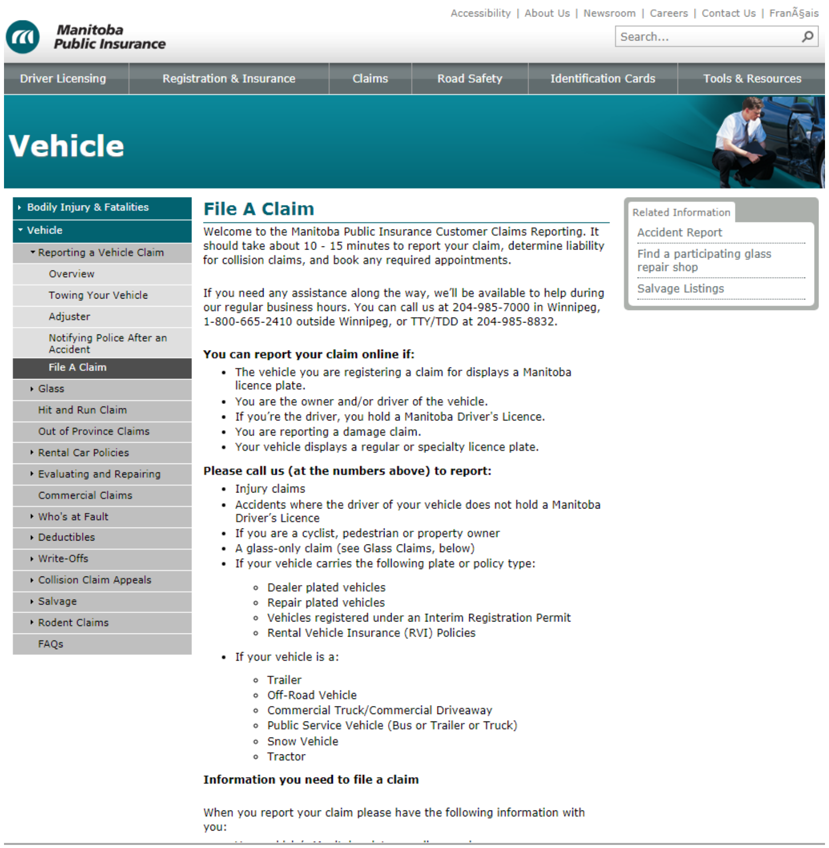
Accessing the online process

- Some participants had difficulty finding the link to access the website and clicked options on the left or right-hand side of the page.
- Participants expected access to be at the top of the page.
- If information on the page is important, it should be included within the process, rather than on the access page.



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Navigation issues

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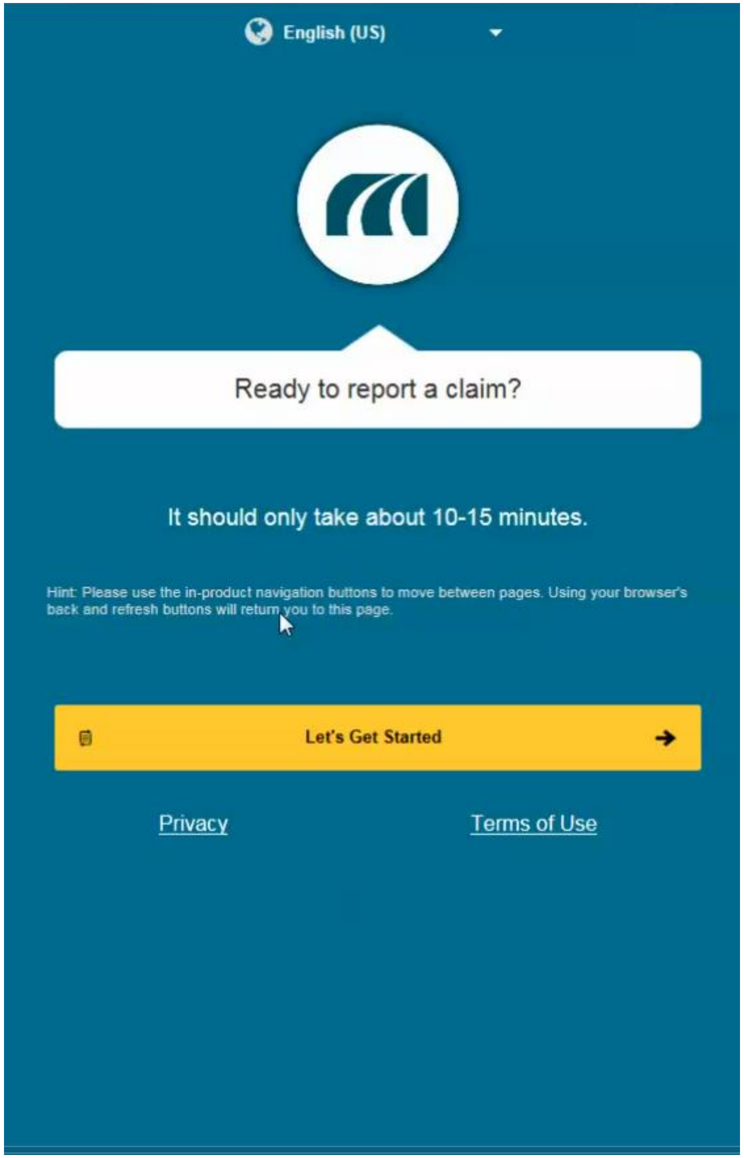
Instructions

- The main issue was participants using the back button on their browser as opposed to the in-app back button.
  - When hitting the back button on their browser, it takes them back to the initial page, which participants found frustrating.
- Instructions to participants need to be made explicitly clear rather than placed as a *Hint* on the first page.



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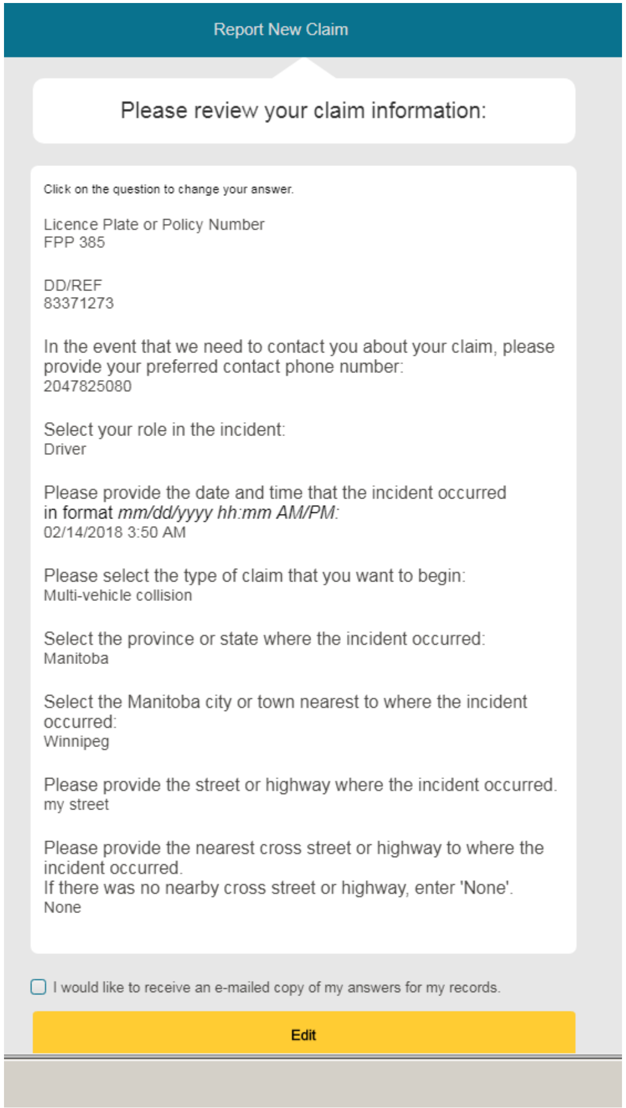
Edit buttons

- Edit buttons had two issues: how they functioned and placement.
- Participants expected that when selecting *Edit* on a page that it would allow them to edit a single aspect, rather than being returned to the first page of that section and having to re-answer every question in that section.
- Many participants also clicked *Edit* by accident assuming it was the button to move forward because this was the case on preceding screens.
- In some cases, the *Confirm* button did not appear until participants scrolled down.
- Participants also suggested making the *Edit* and *Confirm* buttons different colours to differentiate.



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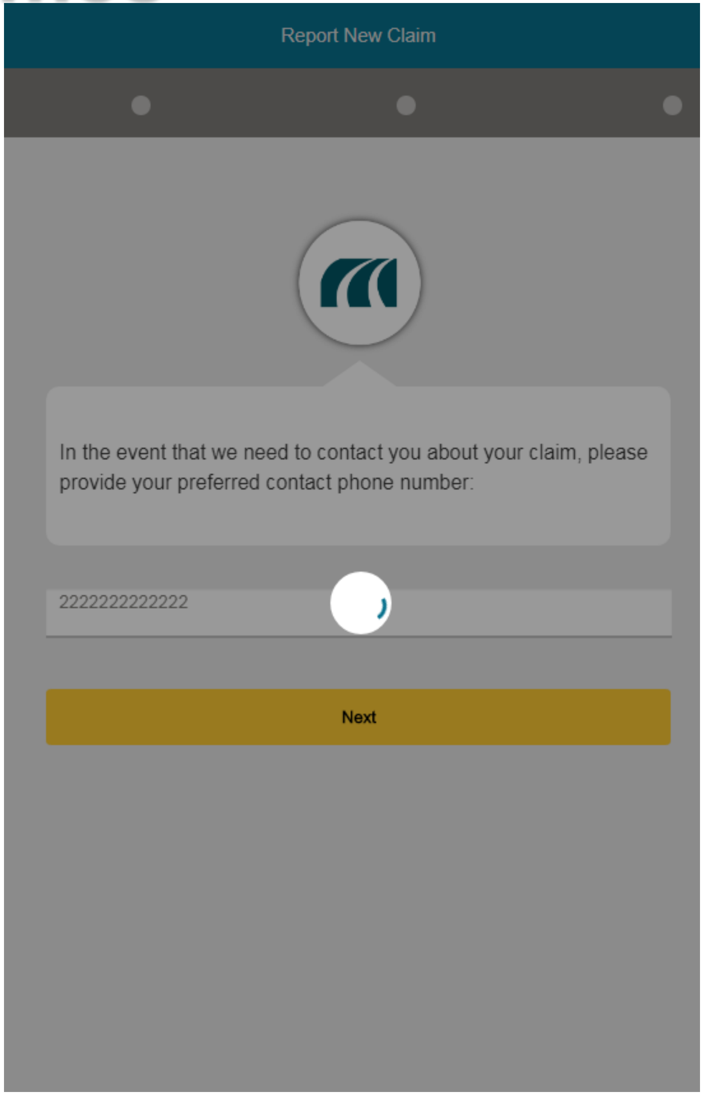
Loading times

- A few participants noted that the loading time between pages was quite long.
- In some cases, pages took upwards of 10 to 12 seconds to load (typically between sections), while even “short” loading times between pages were averaging 3 to 4 seconds.
- With 50+ pages to navigate through, this is adding 3 to 4 minutes to the process alone.
- In addition, this does not match participants’ experiences online, either through normal day-to-day web browsing or completing online forms/surveys.



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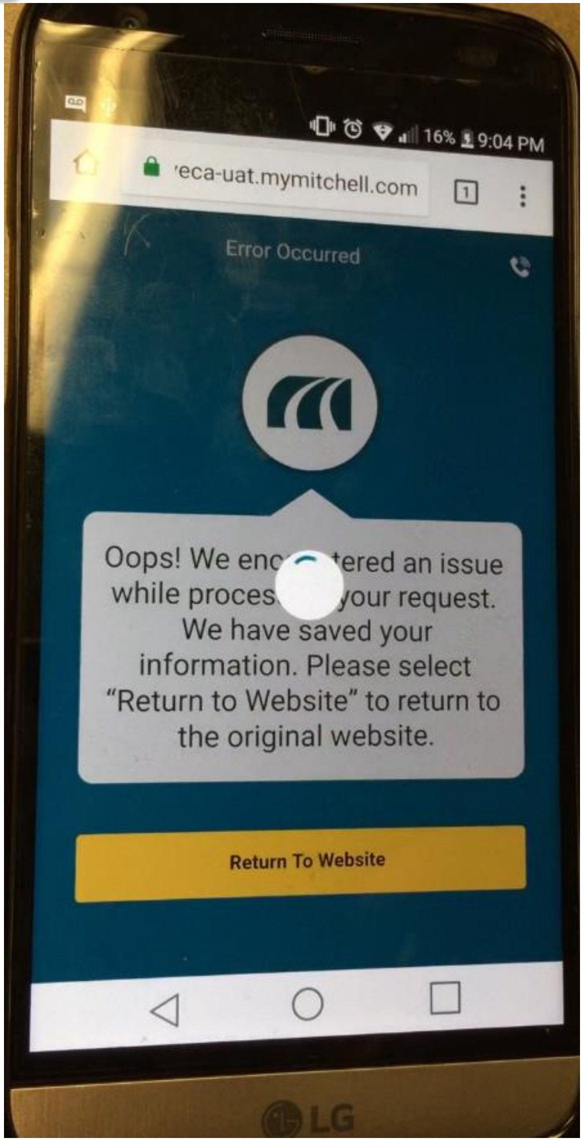
Tracking progress

- Many participants did not see or recognize that the circles at the top or side of the page were tracking their progress.
- Many who did recognize the progress tracking did not find it helpful because some sections were much longer than others.
- Some participants identified the statistics questions as being quite long and having a single checkmark did not accurately reflect the time required to complete the online process.

Crashing

- The process seemed to crash randomly and more often for cell phone users — primarily on Android devices.
- Computers and laptops were less prone to random crashing.
- Some participants received a message at the top of their screen that said "*Error occurred*," but could continue for several pages until it crashed.
- After experiencing a crash, some participants could not re-access the site and would receive a crash message immediately after entering their DD/REF and licence plate.



Option to not answer

- There were many pages where participants did not want to provide an answer because their opinion/information was not represented on the page.
- The most common pages were:
  - Winter tires
  - Vehicle suspension damage (Yes or No)
  - Damage to undercarriage (Yes or No)
  - Police incident number
  - Speed which you were travelling
  - Speed limit
  - Direction vehicle was travelling

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Confusing and unclear aspects

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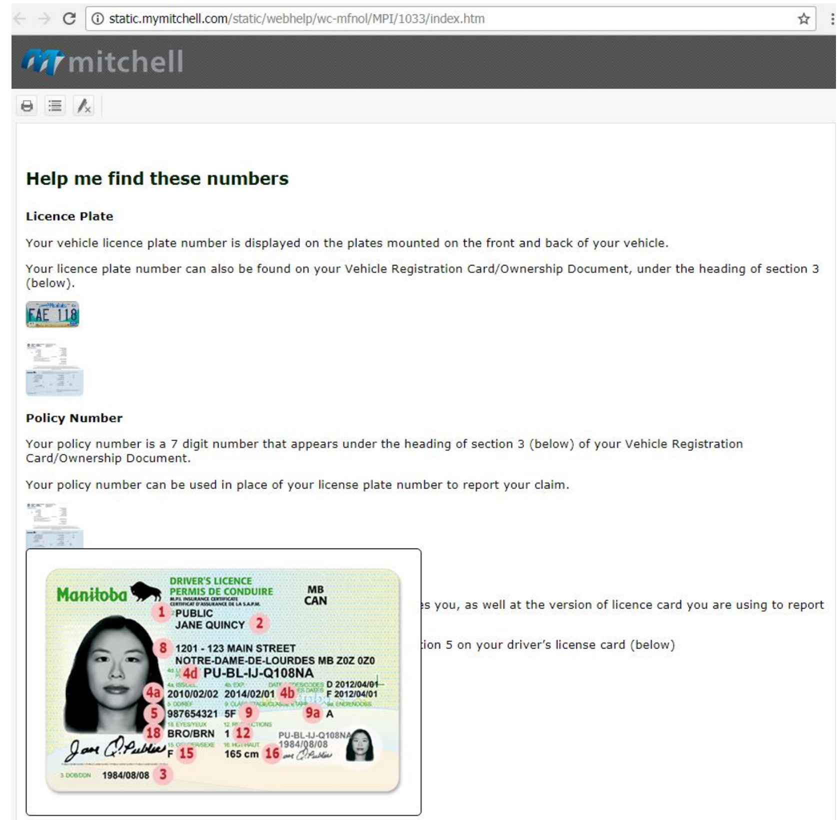
Vehicle and policy info

- Without instructions, participants assumed their DD/REF was their licence number.
  - Primarily this is because their licence number is what they are most commonly asked for in other situations.
- Participants suggested that an image of the information should be on screen, rather than having to click a link that takes them to another page.
  - This is because most assumed that they were entering the correct information.
- The linked page is confusing and it is unclear where to find the relevant information.



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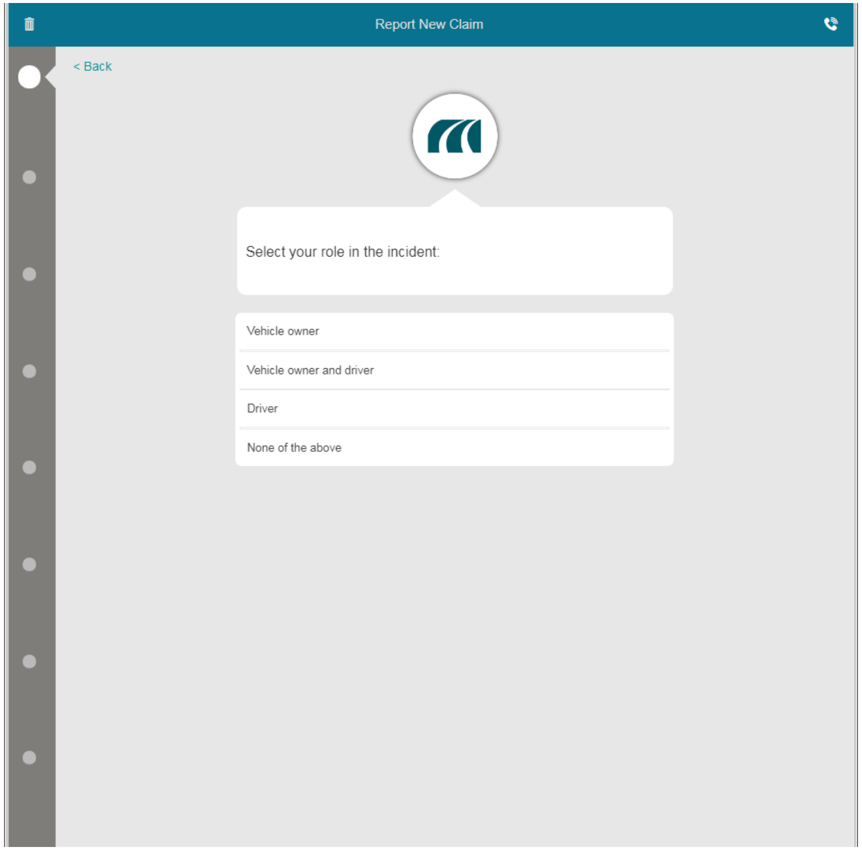
Role in the incident

- The page was confusing for some because it combined two aspects: vehicle ownership and nature of claim.
- Participants thought it would be easier to split it into two questions.
  - A first question asking if they were driving the vehicle for which they are reporting the claim.
  - A second question asking if they are the owner of the vehicle.
- Also, it is unclear what is the definition of ‘owner’.



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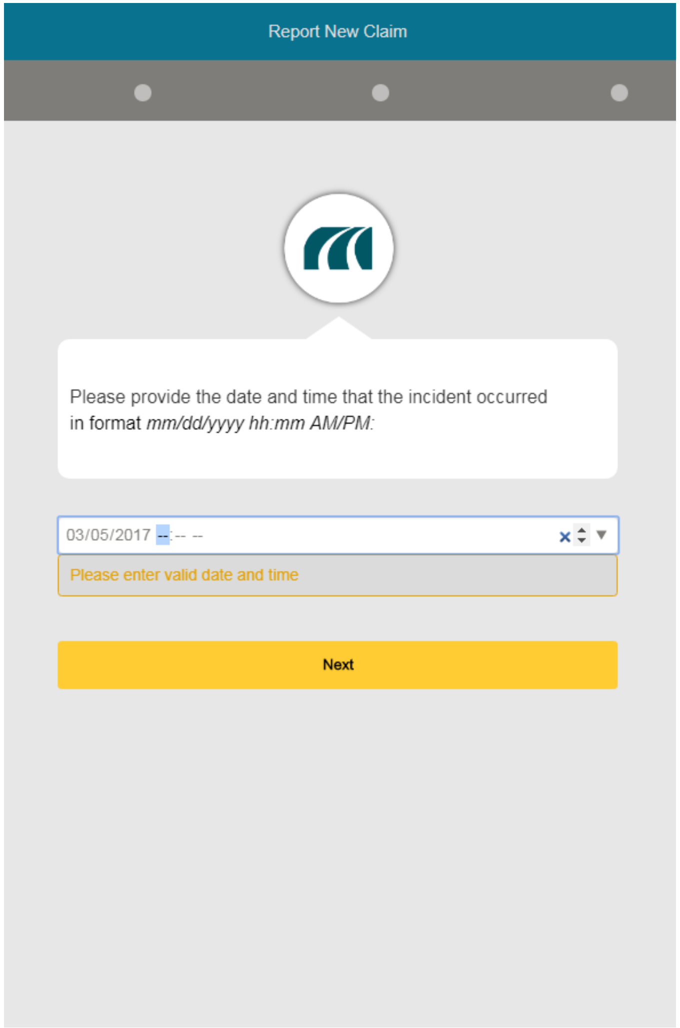
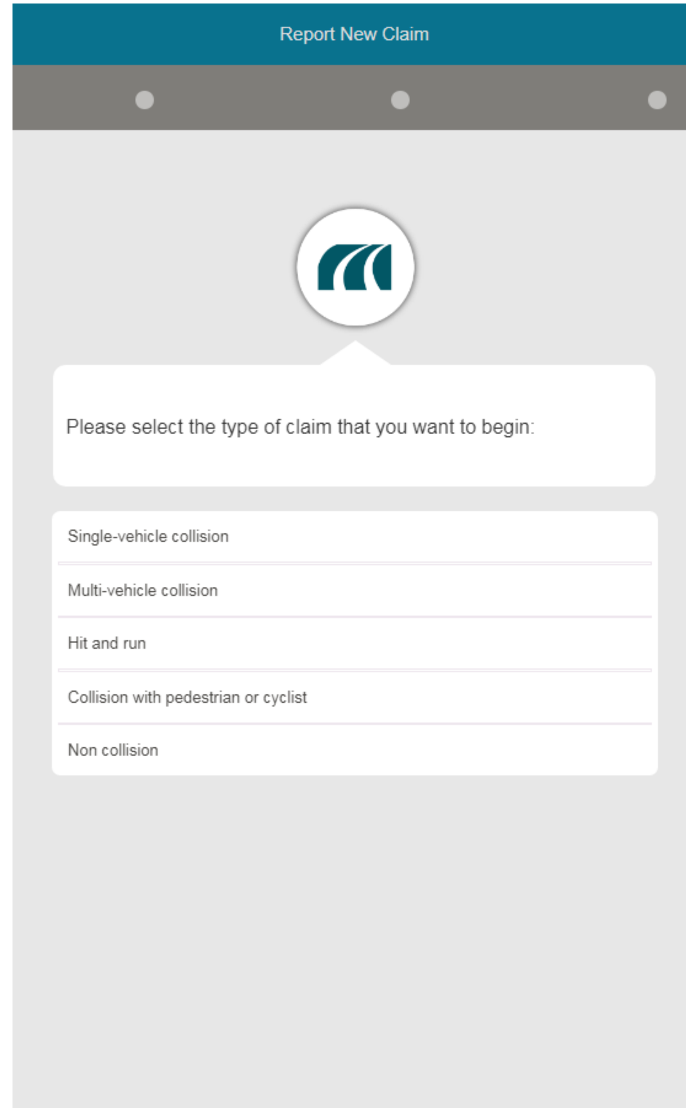
Date and time

- Participants had considerable issues navigating the date and time on a laptop or computer.
- They expected to have a calendar open up to select the date and time as opposed to typing it in.
- Many participants made errors when typing it in because it required a specific format (MM/DD/YYYY HH:MM AM/PM).
- If information was not entered exactly as indicated, they would get errors.
- There was no drop-down menu for date or autofill in Internet Explorer.
- Some participants suggested breaking the question into two pages (date and then time) to make it easier.



Type of claim

- Some participants did not understand the difference between a single-vehicle and multi-vehicle collision.
- For many participants, a single-vehicle collision was a collision involving their vehicle and one other vehicle (e.g., rear end).
- Multi-vehicle collision implied that several vehicles were involved in the incident.
- Some participants wondered how to select both a collision and something else (e.g., hit and run, collision with pedestrian, etc.) because it would only accept one response.



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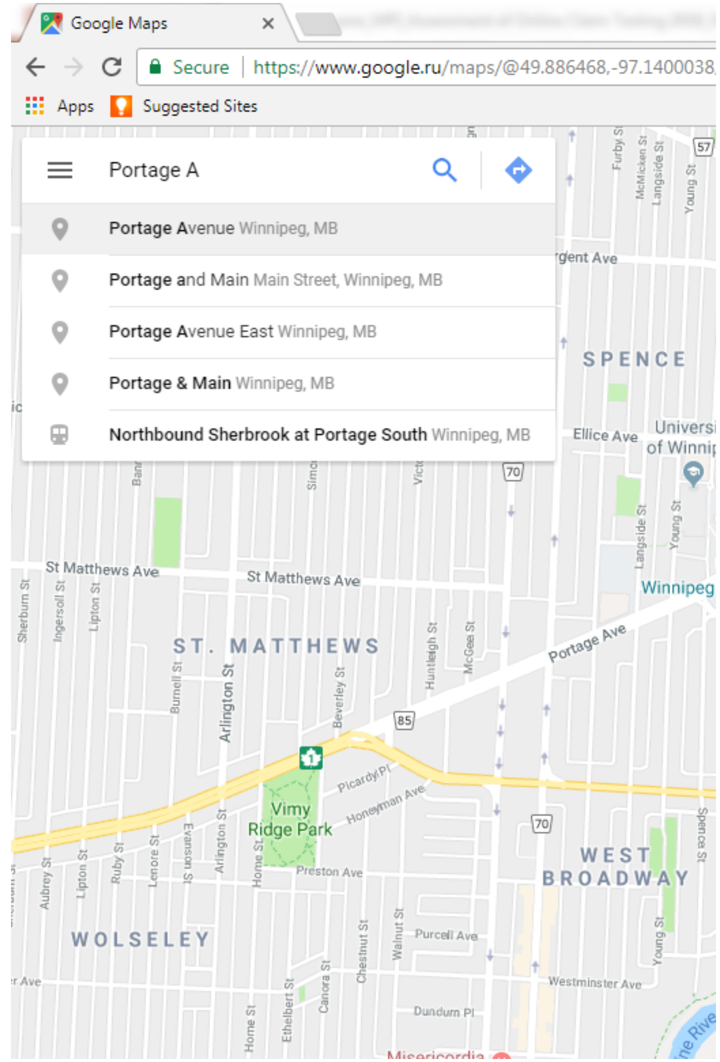
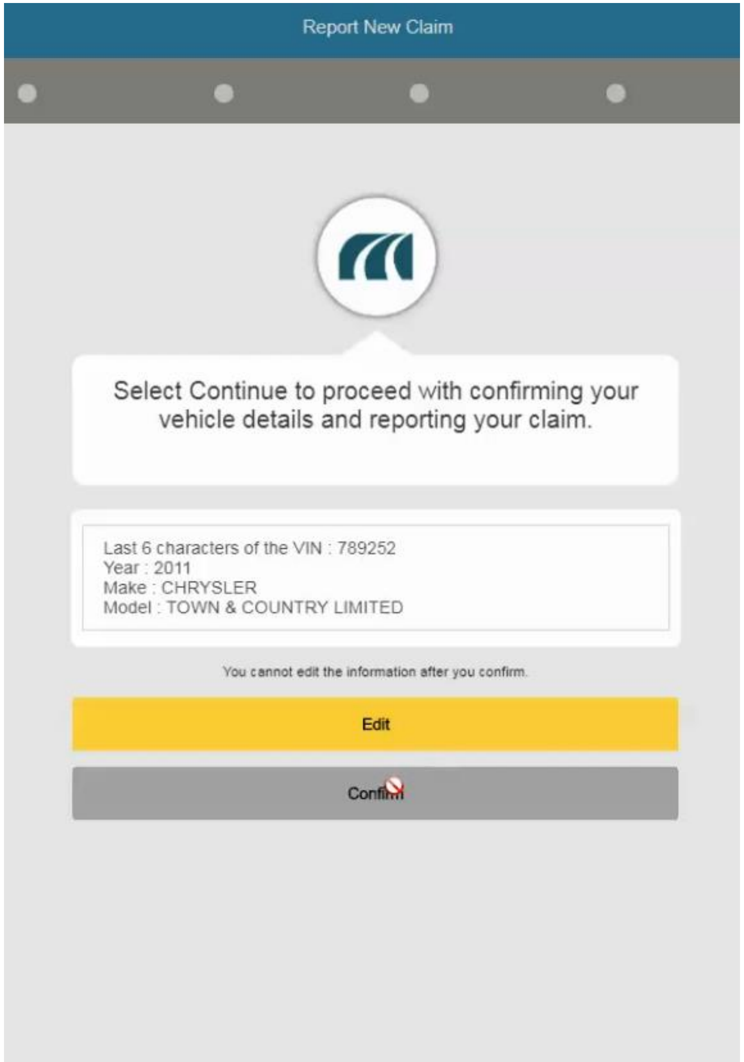
Reporting street/highway

- In the employee groups, participants indicated that this format to input information would make location specific data difficult.
- A few participants noted that they could enter anything they wanted (e.g., behind my house).
- Some participants wanted to select the location on a map, while a few others said having access to a map on the page would be helpful to identify the street, since they may not be familiar with the name or the cross street.
- Others said that it should give options for streets when you start entering the name.



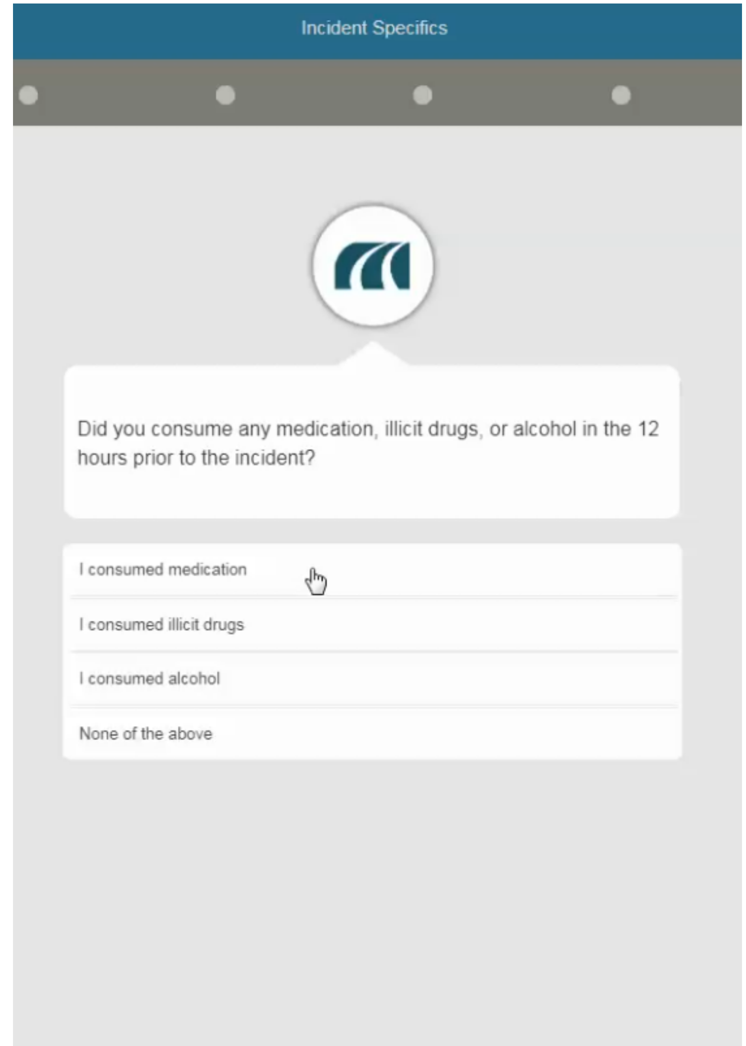
Confirmation page

- The confirmation page was very confusing for people, even after a change in language after the first night of groups.
- Most participants did not realize they had to click their vehicle prior to hitting the *Confirm* button and because of this, thought they had to hit *Edit.*
- The placement of this page also seemed strange to some, as you have to answer several questions about the claim prior to confirming the vehicle; they expected this would come right after entering their vehicle and policy information.



Drugs and alcohol

- Participants had several concerns about this page.
- Foremost, older participants questioned what type of medication the question was referring to. As one participant said, "*I think anyone over 55 is taking some kind of medication for something on a daily basis*."
- Others said they were not able to select multiple options (e.g., they had medication and alcohol) and wondered which one they should select.
  - They would likely default to whichever answer appeared first because they were unaware that it would move forward after selecting.



Statistics issues

- Participants had issues with how to answer most questions in the statistics pages.

Light conditions

- What is the difference between street lights and dark? Don't street lights come on in the dark?
- When would light be "not applicable?"

Weather conditions

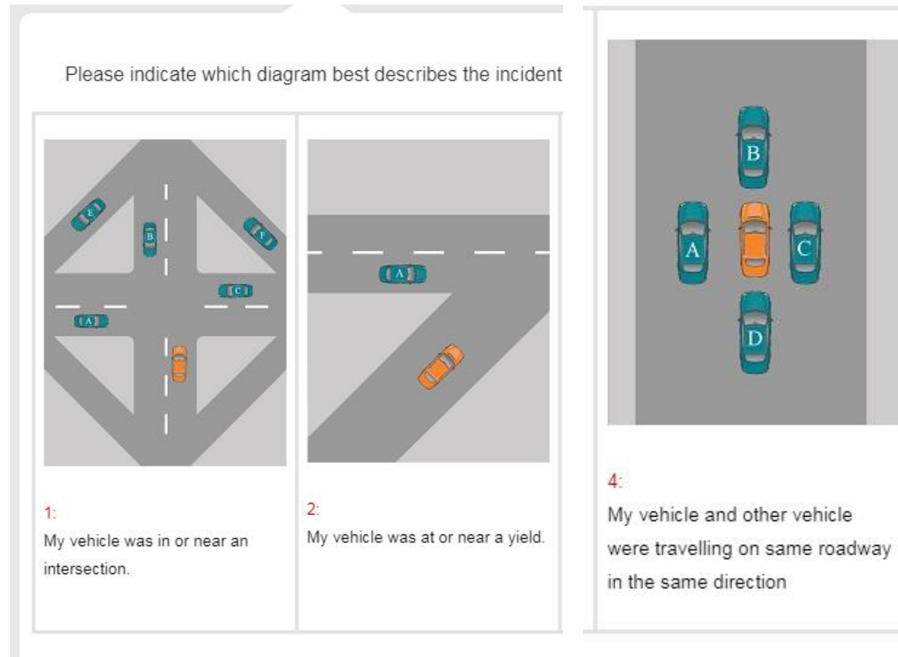
- Participants wanted to select more than one (e.g., windy and cloudy).

Vehicle collided with first

- Participants did not understand what a "movable object" was and what "other" would qualify as.

Selecting accident type

- Participants had significant difficulty selecting the right situation for their collision.
- For rear-end collisions, most selected the image that depicted where the incident occurred, rather than Diagram 4 which showed how it happened.
- The image and information for Diagram 4 were not clearly understood by participants, especially for rear-end collisions.
- Participants also expected to be able to click the image to move on, rather than having to read the information and then select from a button below it.
- A few participants mentioned issues with picking the write option if they are colour blind.



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Questions about “the vehicle”

- Several pages contained questions asking participants about “the vehicle.”
- These questions were confusing because participants were unsure if “the” referred to their vehicle or the other vehicle(s) involved in the collision.
- Examples:
  - Did the vehicle have winter tires on it at the time of the incident?
  - What direction was the vehicle travelling?
  - What was the estimated speed of the vehicle at the time of the incident?

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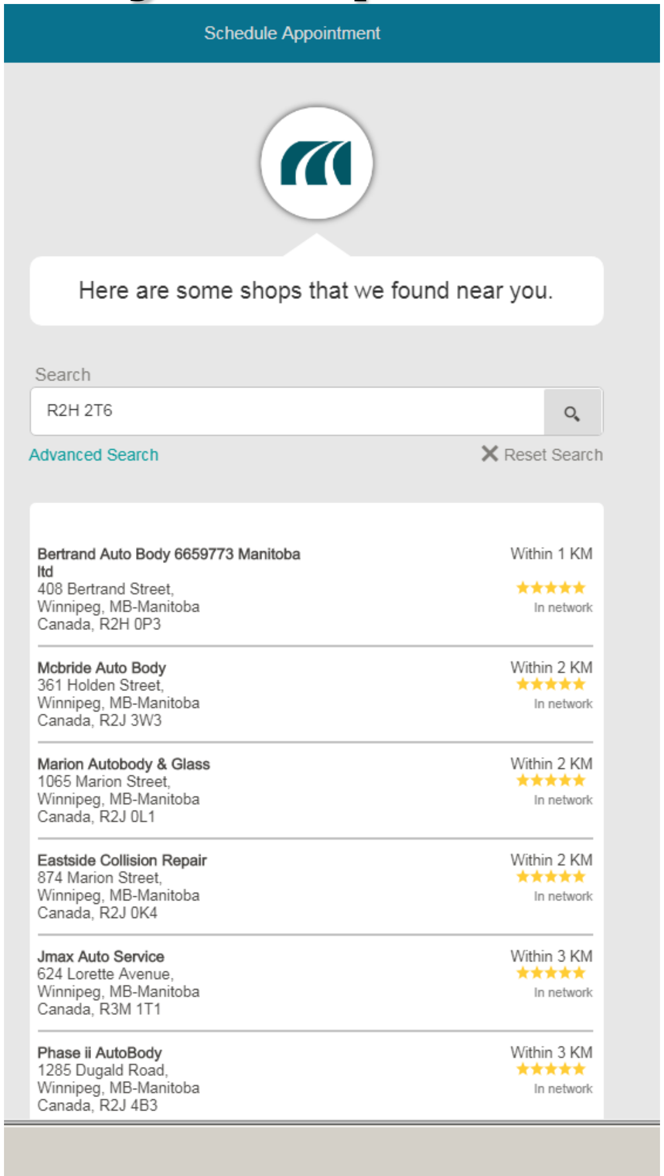
Selecting auto body shop

- The page defaulted to what appeared to be a random or pre-set postal code, rather than using the postal code of the address associated with either the participants' licence or vehicle.
- Participants had trouble searching for auto body shops because they did not necessarily know the postal code.
- Participants would prefer to search via a map or by typing in the name of the shop.



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Consistency issues

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Consistency issues

- One of the major concerns from participants, other than their ability to navigate the pages, was consistency within the process.
- Participants noted several questions that seemed irrelevant to their claim or that they should not have been asked based on answers to other questions.
- Although it would not stop them from submitting the claim online, for some this caused concern that they may have been doing something wrong, and therefore that their liability assessment may not be accurate, or that they may have been filing an incorrect claim.
- For others, it was a convenience issue; they would not expect that an MPI representative on the phone would ask them irrelevant questions, and thus it makes the online process take longer than phoning to open their claim.

Consistency issues

Vehicle driven FROM page

- On the previous page (vehicle driven TO), participants expected that if they selected *Parked*, it would not ask the FROM page, since they had indicated that it was parked.

Medication, drugs, and alcohol

- If participants stated that the vehicle was parked, they wondered why they were asked questions about their consumption of medication, drugs, or alcohol.

Type of collision

- Although participants indicated that the vehicle was parked, it asks for the details of the collision again.

What type of road

- When participants already indicated the vehicle was parked in a parking lot, it asks about the road and/or roadway.

Speed limit

- If the vehicle was parked or in a parking lot, participants wondered why they were being asked about speed limit.

Direction vehicle travelling

- If the vehicle was parked, participants could not provide a direction of travel.

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Other issues

Other issues

- Less than 10 digits and more than 10 digits can be inputted for the telephone number.
- For some of the drop-down lists for province, U.S. states appeared before Canadian provinces (and specifically Manitoba).
- The first page (Captcha) says to "*please type the word below*," but all examples were numbers.
- Some participants raised concerns with the statistics section because they felt that this section took the longest to complete and was the least intuitive to answer.
  - As well, because it had no bearing on their claim and the liability assessment, many questioned why this was the longest section of the online process in terms of time required to complete.
  - Some felt that the statistics questions should be answered after completing their claim so that irrelevant questions would be skipped.

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Other issues

- When the image of the vehicle came up to indicate where there was damage, the vehicle image did not match their vehicle (e.g., showing a car instead of truck).
- Some people felt they wanted to tell their story in their own words, even those who had a liability assessment that they accepted.
  - Some suggested giving people the option of telling their story (i.e., yes/no) and indicating that this information would only be used by MPI if they declined their liability assessment.

Assessment of liability

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Assessment of liability

- Participants generally liked receiving their liability assessment at the end of the process.
- For most who completed the process using a previous claim, the liability assessment matched their final outcome.
- A major concern is that because many did not feel that the process understood their claim (either by asking irrelevant or confusing questions), they were unsure if issues with a new claim were because of the process or if they were providing incorrect answers
- The wording in Determined Outcomes needs to be improved to explain that people can accept or decline their liability.
  - It also needs to indicate what will happen (i.e., the process) if they decline, specifically that they will be able to speak with an adjuster.

Process feedback

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Feedback

EASE OF USE

- Generally speaking, participants found the online process easy to use, when it was not randomly crashing.
- The primary issues around use were related to the participants' ability to answer questions correctly and how quickly they could complete the process.

LENGTH OF TIME TO COMPLETE

- Generally, the time to complete the process took 25 to 60 minutes; however, accurate assessments were difficult because many participants had to restart because of crashing or errors. We also asked participants to record issues during the process, which slowed it down.
- Most thought that the process took longer online when only considering the time they would spend speaking to an MPI representative; however, when factoring in wait times, many thought it would be shorter.

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Feedback

LIKELIHOOD TO COMPLETE ONLINE

- Most participants said that they would complete their next claim online if the process was available.
- The primary deterrents were the time required to complete the process and the complexity of the claim.
  - When participants felt that the claim was more complex (e.g., more than two vehicles involved, liability is not clear, etc.), they would prefer to speak with someone on the phone because they believe the individual is "listening" to their story.

	Would use	Maybe	No	No answer
Focus groups (n = 73)	43	18	5	7

Feedback

LIABILITY

- Most participants liked getting their liability assessment as part of the process.
- What happens when someone declines their liability assessment needs to be made clearer; many accepted because they were unsure of what would happen if they declined.
- It should be emphasized that after declining they will be able to speak to an adjuster about their claim and provide information for the adjuster to review prior to the discussion.

RECOMMENDING THE PROCESS

- Most would recommend the process to other MPI customers, except for those who are technologically illiterate or have complicated claims.

Feedback

GETTING INFORMATION ABOUT THEIR CLAIM

- Most participants preferred to get information about their claim via email at the end of the process and did not find the options mid-stream to have any value (especially because they are most interested in their liability assessment, claim number, and appointment date/time, which would not occur until the latter end of the process).
- Having an option to print would be fine, although many recognized that by receiving a .PDF attachment they could also print it.
- Some wanted the option to receive it by mail, but primarily as a "backup."

PRIVACY

- Participants did not have any concerns about their privacy because the site was secure (https). There was also nothing asked that they would be overly concerned about someone else knowing.

Key findings

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Conclusion

- Despite what we perceived as significant technical issues (i.e., random crashing, length of time to complete, etc.), participants were very positive about the online claims process.
- This is highlighted by the fact that many would use this process rather than phoning the call centre for their next vehicle damage claim.
- The primary issues with the online process were:
  - stability on mobile devices
  - ability to re-access claim once started
  - time to complete
  - clarity of questions/response options
  - irrelevant and/or previously answered questions (i.e., don't feel the process is listening)

TEST OF ONLINE CUSTOMER CLAIMS REPORTING SYSTEM:

A REPORT ON QUALITATIVE RESEARCH

DRAFT — FOR RESEARCH PURPOSES ONLY

February 27, 2018

Prepared for:

Manitoba Public Insurance

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Table of Contents

1.0 Introduction

Manitoba Public Insurance (the Corporation) engaged PRA Inc. to conduct focus groups with recent vehicle damage claimants, past/non-claimants, and employees to test an online vehicle damage claim process.

1.1 Methodology

To meet the objectives for the research, PRA conducted focus groups with drivers and the Corporation’s employees. The methodology used for each of these groups is described below.

1.1.1 Employee focus groups

PRA conducted two focus groups with the Corporation’s employees on February 1, 2018. The Corporation was responsible for recruiting employees to take part in the one-hour focus groups. In the groups, participants tested the online claim process using computers in the Corporation’s computer lab located on the second floor of its offices in Cityplace. A few employees also tested the tool on their smart device. The moderator's guide for the discussion can be found in Appendix A.

In total, 25 employees participated across the two focus groups. Screen capture software was used to capture the interactions of the employee-participants who completed the prototype service on desktop computers.

1.1.2 Customer focus groups

PRA tested the online claim process using nine focus groups conducted between February 5 and 12, 2018 in Winnipeg at the Corporation’s computer lab. The groups were segmented as follows:

- Six groups were segmented by age (18 to 29, 30 to 54, and 55 and older) and length of time since their last vehicle damage claim with Manitoba Public Insurance (within the past six months or more than two years ago/never had a claim).

- Three groups were conducted with claimants (i.e., within the past six months) split into three groups: those with education no higher than a high school diploma, those whose first learned language was not English, and those who completed the process on PCs in the Corporation’s computer lab.

To recruit recent claimants, the Corporation provided PRA with a database. To recruit non-claimants (i.e., no claim or longer than two years), PRA used a list of Manitobans who had completed past surveys for PRA. None of the participants had attended a focus group in the past 12 months or worked (or had a member of their household who worked) in market research; for the media; in advertising; in law enforcement; or for an insurance broker, agent, or company. A total of 73 individuals participated in the nine groups.

In collaboration with the Corporation, PRA drafted a moderator's guide (see Appendix B). At the beginning of each group, participants were asked to complete the process using their most recent claim (if they did not have one, they were provided with a list of types of claims from which they could select). After completing the process, participants completed questionnaires about their impressions and then discussed their opinions.

With the exception of the group who specifically tested on PCs, all groups tested the process using a device of their choosing. Please see Appendix C for a list of devices used by participants.

1.2 Caution

It is important to remember that while focus groups provide insight into participants' attitudes and opinions, they cannot be said to be representative of the population as a whole. Any quantification of the results refers only to group participants and cannot necessarily be extrapolated to the entire sample population represented. The discussion of focus group results is aided by the use of terms such as "few," "some," "many," "half," "most," and "almost all." These terms are used to help readers understand the levels of agreement (or disagreement) among participants, but do not quantify results in any way.

2.0 Website usability issues

2.1 Accessing the online process

Some participants had difficulty finding the link to access the online claim process from the *File a Claim* landing page. Most often it was participants accessing the process via a laptop or PC. These participants often did not realize that they needed to scroll to the bottom of the page to find the link to the online process, as many expected that the link would be at the top of the page. They often clicked links in the navigation options to the left, assuming the information would be there.

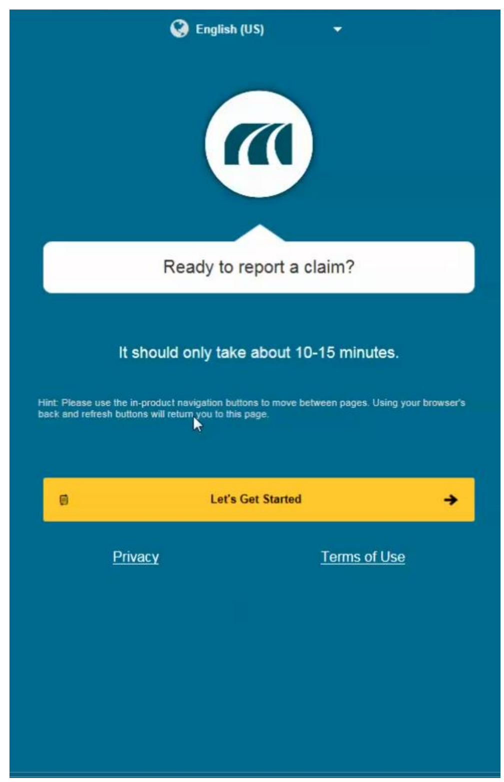
To overcome this issue, participants said that the link should be at the top of the page and clearly visible (either by colour or by size) and should not require scrolling to access. If there was important information to read or know prior to starting the claim process, participants expected this information to be part of the process, since many did not read much, if any, of the information on this page.

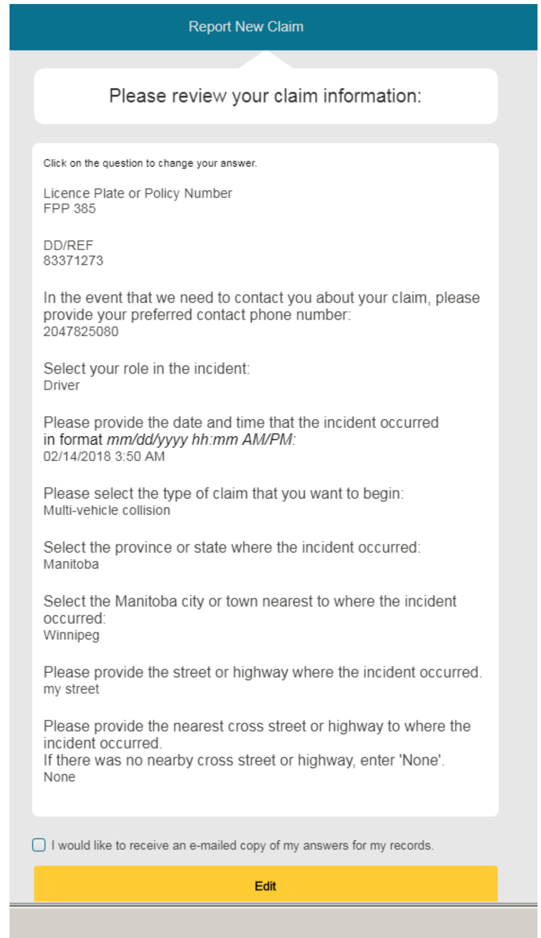
2.2 General navigation issues

The bullets below highlight aspects that caused issues when participants tried to use or navigate through the online process. These were issues that, when encountered, would likely have resulted in participants phoning Manitoba Public Insurance to open/resume their claim, since they were impediments to being able to complete the process online.

- **Navigating to previous page.** It was not clear to most participants that they should not navigate back to a previous page in the online process by using the back button on their browser. When they clicked the back button on their browser, rather than the embedded back button in the process, it returned them to the beginning of their claim. Since the system was not consistently saving their record, this meant that when participants hit back on their browser, they had to begin their claim from scratch.

  Although there was a back button embedded in the top left-hand corner of the screen, it was small and not noticeable to most participants. In addition, hitting the browser's back button is a common way to navigate most websites and the instruction to use the embedded back button was not recognized by most participants since it was in very small text (and stated as a "Hint" rather than a necessity) on the first page. Participants said that since this feature was so important, the text should be larger and clearly evident for users before beginning the process.





► **Edit buttons**. There were two issues with "Edit" buttons when they were used on pages in the process. The first issue was with participants identifying that the button was "Edit" rather than "Confirm." The "Edit" button appeared above the "Confirm" button, but participants often assumed that the top button would be the "Confirm" button (or the button they would hit to move to the next page) without reading it. In other cases, participants would see the "Edit" button on their screen, but the "Confirm" button would not be visible without scrolling, so some participants did not scroll down to see the "Confirm" button and assumed that the only button available was "Edit."

Hitting the "Edit" button in itself would not be problematic if the button functioned in the manner that participants expected. When they hit "Edit," participants expected to be able to select the item/question that they wanted to edit, change their response, and then return to the edit/confirm page. However, when they clicked the "Edit" button, it would return them to the beginning of the section and they would have to review their answers to all questions.

To resolve these issues, participants provided several suggestions:

- To avoid participants inadvertently clicking "Edit," move the "Confirm" button above the "Edit" button.
- If the buttons cannot be moved (and in some cases, even if they can be), make the "Confirm" and "Edit" buttons two different colours. For instance, making the "Edit" button red would indicate that clicking this button results in some type of change, or at least alerts participants to the fact that they are clicking a button that is unlikely to move them forward (as red would indicate a stop in some way).
- When the "Edit" button is clicked, the next step should be for a clickable icon to appear beside each question so that participants can select which one they want to edit. This change would have two benefits. First, it is how participants expected the edit function to work (i.e., editing one item at a time and being able to select what they want to edit). Second, if they accidentally clicked "Edit," they will not automatically be returned to the first page and will have a second chance to hit "Confirm."

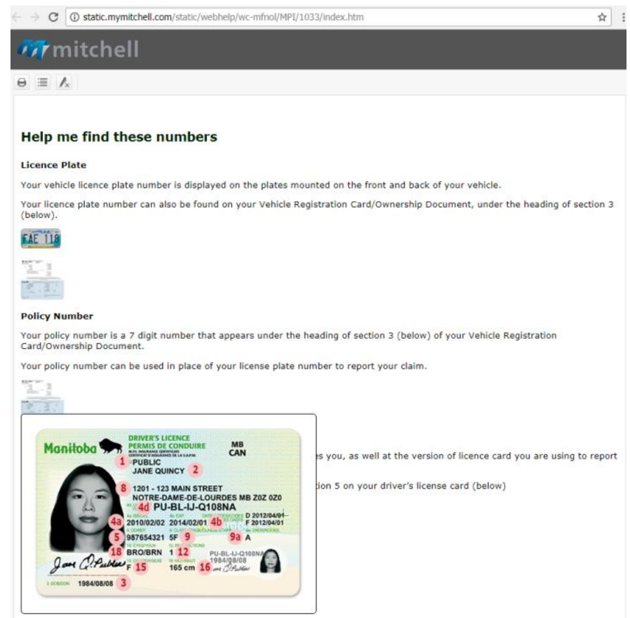
- **Loading times.** Although only a few participants noted that loading times between pages were long (most often in the groups with younger participants), generally the loading times between pages averaged three to four seconds, and in some cases the loading times between pages were in excess of 20 seconds. Even at three to four seconds per page, the loading times between pages alone would add three to four minutes to the overall process, since the average number of pages participants had to click through was over 50. The loading times alone would make it impossible for an individual to complete the process in 10 to 12 minutes as stated on the opening page. In addition, when participants did identify issues with pages taking a long time to load, it did not match their normal day-to-day web browsing experiences or expectations.

- **Tracking progress.** Many participants did not see or recognize that the circles at the top (PC and laptops) or side (tablets/phones) were tracking their progress as they moved through the online process. However, even among those who did, many did not find this feature helpful because the progress checkmarks only tracked when a section was completed. Since each section was not equivalent in the number of pages they were required to answer or the time required to complete the section, the progress bar did not accurately reflect how long it would take to complete the process. As one participant said, "*The first couple of sections take way longer than the last few, so it's unclear how long it will actually take to finish*." Participants would prefer if the progress bar more accurately reflected the number of pages they would be required to visit or the time it would take to complete, rather than a progress by section.

- **Crashing.** For many participants who accessed the website via a mobile device (especially Android devices), the process would randomly crash and deliver an error message stating "*Oops! We encountered an issue while processing your request. We have saved your information. Please select "Return to website" to return to the original website*." The crashing, while annoying, would not have been a considerable issue if participants could have returned to the process and picked up their claim where they left off; however, very rarely was their information saved. In addition, often when a device crashed, it would crash again right after participants entered their DD/REF and licence plate number, and this would happen even if participants tried a different browser on their phone or cleared their history. Crashing rarely occurred when participants accessed the website on laptops and PCs.

2.3 Confusing and unclear aspects

The following are aspects of the vehicle damage online claim process that participants found unclear or confusing.

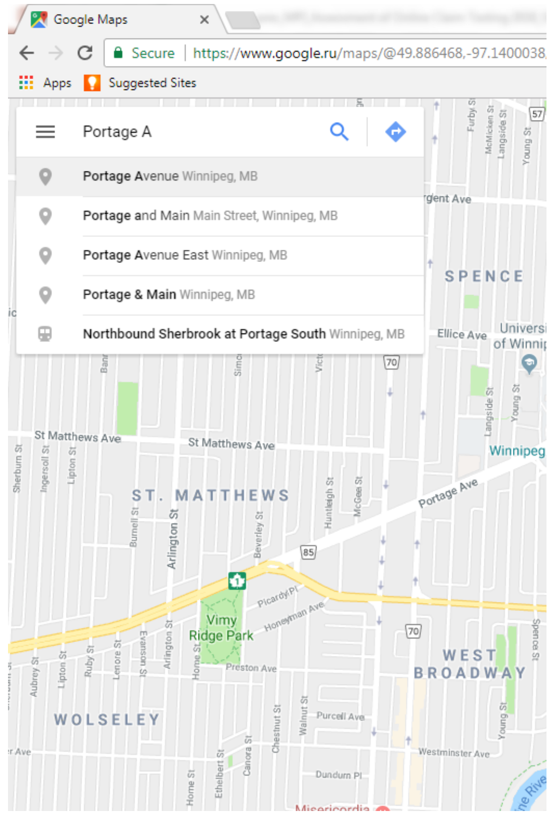


- ► **DD/REF.** To open a claim, participants were required to provide two pieces of information: the licence plate number of their vehicle involved in the claim and their DD/REF. Although participants were able to enter their licence plate number without incident, most participants entered their driver's licence number rather than DD/REF. Participants said it was because they were more familiar with the driver's licence number than their DD/REF and it is more prominent on their licence, so they assumed this was the information required. The link on the page that intends to show participants where the information can be found on their licence was not helpful, as it did not clearly identify where their DD/REF was found on their licence. Rather, it showed where all information on their licence could be found (image on the right). Participants said that an image of the licence with the DD/REF highlighted or circled should be on this page, or, if not, it should be the only thing that appears when they click on the link for assistance with finding their information.

- ► **Role in the incident.** Early in the process, participants were asked to "Select your role in the incident" and were presented with four options. Many participants were unclear of the definition of "owner" and found it confusing that the question was asking about two aspects: ownership and role. For clarity, they suggested breaking the question into two questions: vehicle ownership and role in the incident.

- ► **Date and time.** Participants had considerable issues navigating the date and time on a laptop or computer. On the mobile version, participants were prompted with a calendar to select the date, but they were not presented with a calendar on a computer unless they were on Chrome, in which case they had to click an arrow on the right-hand side of the input box, which most participants did not notice. Even with the example on screen of how information should be entered (mm/dd/yyyy hh:mm AM/PM), many participants made mistakes by inversing day and month, leaving out digits (e.g., 17 instead of 2017), or entering time in military rather than standard time. To assist, participants expected that a calendar option would be available (and apparent) regardless of device, and also thought that the question should be broken into two (date and then time).

- **Type of claim.** Some participants did not understand the difference between a single-vehicle and multi-vehicle collision, as some thought single vehicle meant a collision that involved their vehicle and one other vehicle, while a multi-vehicle collision was one involving three or more vehicles. This information was not confirmed until the next screen, where the definition of the collision was given. Participants expected this information to be available on screen when they select the collision type. In addition, some wondered how they would select a collision type if multiple types applied (e.g., multi-vehicle collision and collision with pedestrian).



- **Reporting street/highway**. Employees noted that an open text field for entering the street and cross street would make it difficult to code the location to develop data specific to the locations, especially since there were no checks for accuracy or what was being entered (for example, a participant could enter “behind my house” for the street). In addition, participants in the public groups indicated that this was not how they expected to select the location of their incident. Many said that they expected to be able to select the location using a map and dropping a pin on the location where the incident occurred, or at the very least, when they started to type the name of the street or cross street, there would be a generated drop-down list of streets based on the first few letter/characters entered (for example, as shown in Google maps in the image to the right).

- **Vehicle confirmation page**. The vehicle confirmation page was very confusing to participants, even after the language on the page was changed after the first night of groups with the public. Most participants did not realize that they needed to click/select the information about their vehicle in the middle of the page prior to hitting the “Confirm” button. Due to this, many participants assumed that they had to hit the “Edit” button and were taken back to the beginning of the section, which most found very frustrating.

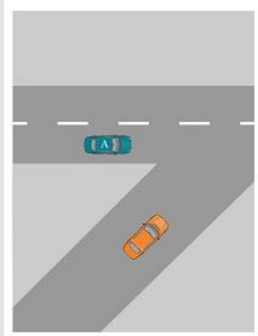
- **Drugs and alcohol question**. Older participants had some concern with this question, because as one participant said, “*I think anyone over 55 is taking some kind of medication for something on a daily basis*.” Participants did not think it was necessary or relevant to be asked questions about medication prescribed by a doctor that should have no impact on their ability to drive a vehicle. Also, a few participants questioned how they should answer the question if multiple aspects were applicable (e.g., took medication and consumed alcohol).

- **Questions without a non-response option.** There were many questions participants encountered throughout the process that they felt that they should not have to answer. In most cases it was because they felt that they did not know the answer to the question (or it was not relevant to their situation, discussed further in Section 2.4). Participants wanted to have the option of "Don't know" for the following questions:
  - Winter tires
  - Vehicle suspension damage (Yes or No)
  - Damage to undercarriage (Yes or No)
  - Police incident number
  - Speed which you were travelling
  - Speed limit
  - Direction vehicle was travelling

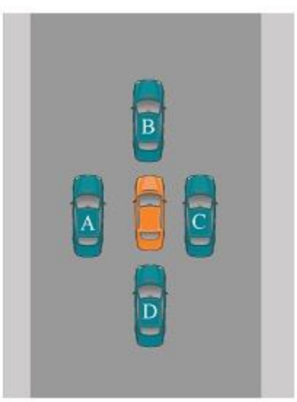
- **Statistics questions.** A few questions in the statistics section confused some participants, most often the following:
  - Light conditions – Participants were unsure of the difference between "Street lights" and "Dark," since street lights come on at night. One participant wondered when lights would be "Not applicable."
  - Weather conditions – Participants wanted to be able to select more than one option, since weather is not always one aspect (e.g., windy and cloudy).
  - Vehicle collided with first – It was unclear to many participants what a "Movable object" is and what would qualify under the "Other" category. In most cases, participants felt that "Another vehicle" would be the most common answer, and it was not available.

- **Selecting accident type.** Participants had significant difficulty selecting the right situation that defined their collision. For example, many participants experienced rear-end collisions that occurred at an intersection or yield. In these cases, participants would select one of the two options shown to the right; however, these were not the correct options to select for a rear-end collision. It was not clear to participants that the image to the left was the one that should have been selected to report a rear-end collision, which appeared to be the most common type of collision participants tested.

1:
My vehicle was in or near an intersection.



2:
My vehicle was at or near a yield.



4:
My vehicle and other vehicle were travelling on same roadway in the same direction

The issue with this question is that the options include a mix of location (i.e., intersection and yield) and the mechanisms of the collision (e.g., rear end, side hit, etc.), so it is not clear to participants which option they should select that best fits their claim.

Another issue was that one participant mentioned that for those who are colour blind, the colours used to differentiate the cars do not necessarily work well.

- **Questions about "the vehicle."** Several pages included a question that used the term "the vehicle" and participants were confused when reporting a multi-vehicle collision because they were unsure if the question referred to their vehicle or the other vehicle(s) in the collision. Examples include the following:
  - Did the vehicle have winter tires on it at the time of the incident?
  - What direction was the vehicle travelling?
  - What was the estimated speed of the vehicle at the time of the incident?
- **Selecting an auto body shop.** For the testing, the online process appeared to default to a random or pre-set postal code when showing available auto body shops; however, even if the default was participants' postal code, this method of searching was not intuitive, because often the auto body shop they were looking for was not one that was close to their home. Participants would rather search by auto body shop name or search using a map.

2.4 Issues with consistency of questions

One of the participants' primary concerns with the questions (other than issues with being able to navigate through the process) was that many questions were either irrelevant to their claim or should not have been asked based on their answers to previous questions in the process. Below are some of the most commonly cited consistency issues that participants encountered (most of which were encountered when the vehicle was parked or not on a roadway):

- **Vehicle driven FROM page.** On the previous page (vehicle driven TO), participants expected that if they selected "Parked," it would not ask the FROM page, since they had indicated that it was parked.
- **Medication, drugs, and alcohol.** If participants stated that the vehicle was parked, they wondered why they were asked questions about their consumption of medication, drugs, or alcohol.
- **Type of collision.** Although participants indicated that the vehicle was parked, the process asked for the details of the collision again.
- **Type of road.** When participants already indicated that the vehicle was parked in a parking lot, it asked about the road and/or roadway.
- **Speed limit.** If the vehicle was parked or in a parking lot, participants wondered why they were being asked about speed limit.
- **Direction vehicle travelling.** If the vehicle was parked, participants could not provide a direction of travel.

Although these issues would not necessarily stop participants from submitting their claim online or calling in to report their claim, for some it raised concerns that they had answered previous questions incorrectly or had selected the wrong response. These concerns led to doubts about the accuracy of their liability assessment and, if they had answered questions incorrectly, if that would impact their claim.

For others, the issue was simply one of convenience; they would not expect to be asked irrelevant questions when phoning in their claim. This would cause their online claim to take longer than phoning to open their claim (or extend their online claim longer than it absolutely needed to be).

2.5 Other issues

Participants identified these other issues when completing their claim:

- **CAPTCHA.** The first page (CAPTCHA) says to "*please type the word below*," but all examples were numbers.
- **Telephone number.** Participants could enter a contact telephone number of less than 10 digits or more than 10 digits.
- **Drop-down lists for province.** For some of the drop-down lists for provinces, U.S. states appeared before Canadian provinces (and specifically Manitoba).
- **Vehicle image when indicating damage.** A few participants mentioned that when selecting the damage to their vehicle, the image did not match their vehicle (e.g., showing a four-door car versus a two-door truck).
- **Statistics section.** Some participants raised concerns with the statistics section because they felt that this section took the longest to complete and was the least intuitive to answer. As well, because it had no bearing on their claim and the liability assessment, many questioned why this was the longest section of the online process in terms of time required to complete. Some felt that the statistics questions should be answered after completing their claim so that irrelevant questions would be skipped (as noted in the previous section).
- **Spelling error.** In one question, an option read "Staring in traffic" and should have read "Starting in traffic."

2.6 Suggestions for improvements

In addition to the issues and suggested improvements identified above, participants also put forth several suggestions to improve the overall process.

- **Online chat option**. Although participants liked the idea of being able to call a representative at any time to carry on their claim, many participants (especially younger ones) thought it would be more convenient to have a chat option where they could ask questions or get clarification. Many participants said that if they started the claim online, they would want to continue the claim online, and would prefer to ask a clarification question in a chat option.

- **Moving the open text question earlier**. In the tested version, participants were not able to provide a written description of their claim unless they declined their liability assessment. Since many participants did not decline their assessment, they were unaware that this field existed; however, some wanted the ability to give this information prior to their liability assessment. For participants, this question would need to be optional (i.e., have the option not to provide details), and it would need to be clear that this information would only be viewed by an adjuster if they declined their liability assessment.

- **Getting information about their claim**. In a few places throughout the process, participants were able to input their email address to send themselves their answers to questions; however, there was no option at the end of the process to send themselves information. Participants wanted the ability to email themselves their claim information, most importantly their claim number and bookings for any visits to a Service Centre, with an adjuster, or with an auto body shop. There was very little interest in printing and/or a mail option (since they could print the PDF if they wanted to from their email). In addition, if asked for their email address, they wanted to be asked once, rather than two separate times, as is the case in the tested version.

3.0 Assessment of liability

Overall, participants had very few concerns about receiving their liability assessment at the end of the process. For recent claimants, almost all received a liability assessment that matched the assessment on their most recent claim, and had no concerns about accepting the liability assessment. For one claimant whose outcome did not match, it did not appear that the process properly allowed for him to identify the nuances of his collision (a vehicle turned the wrong way down a one-way street and hit him head on in the left-hand lane while he was stopped).

A major concern that participants raised is that because many did not feel that the process understood their claim (either by asking irrelevant or confusing questions), they were unsure if their liability assessment was accurate and if it would differ if they were to phone in their claim.

Another issue is that many participants did not seem to understand the outcomes associated with selecting "Decline" when presented with their liability statement. Most participants did not understand that if they declined their liability assessment that they would have the opportunity to provide a description of the claim in their own words (which would be provided to an adjuster) and then have the opportunity to speak to an adjuster about their claim. When the moderator explained this process to participants, most thought this information should be explicitly stated prior to the liability page, as they did not believe the tested version gave this information (or stated it clearly). If the process was clearly stated, this would ease any concerns that participants had about their liability being assessed by a "*computer*" rather than a person.

4.0 Overall assessment

There were several key areas for assessing the online claim process and are discussed below.

- **Ease of use.** Generally speaking, participants found the online process easy to use, in spite of what seemed like considerable issues with stability (i.e., crashing) and length of time to complete. The major challenges around ease of use were related to participants' comfort that they were providing the correct answer to each question and how quickly they completed the process. The less they felt that they were answering correctly or the longer the process was taking, the less likely participants were to describe the process as easy to use.

- **Length of time to complete.** Although the first page of the process indicates that the process should only take 10 to 12 minutes to complete, the process took 25 to 60 minutes for participants; however, assessing the time to complete was difficult since participants were asked to record any issues encountered while completing the process. For those who were able to complete it a second time, the time to complete was still over 20 minutes.

  Most participants agreed that the time to complete the online process was longer than the time it takes to complete the process when speaking to a representative from the Corporation. However, when some included the wait time on the phone, they thought the online process would be faster.

- **Likelihood to complete online.** Most participants said that they would complete their next claim online if the process was available, and most of those who answered "Maybe" said it would depend on the claim. Many participants said that if the claim was complicated (e.g., three or more vehicles involved in the collision) or if liability may not be clear, they would be more likely to open their claim on the phone than online. They felt that speaking to someone would be easier and that they would be more likely to receive the information they would be looking for about their claim. For those who said "No," it was most often because the online process took longer than they thought it would take to open their claim on the phone.

Table 1: Expected use of online claim website
If the online claims registration process was available, would you use it to register a claim with Manitoba Public Insurance?

	Would use	Maybe	No	No answer
Focus groups (n = 73)	43	18	5	7

Note: These results are not representative of the MPI customer base. Respondents were recruited based on their likelihood to use an online application, if they were unlikely they were not recruited to conduct testing.

- **Recommending the process.** Most participants said they would recommend the process to friends or family, with the exception of those with complex claims (for reasons noted in the previous bullet) and those who are technologically illiterate.

- **Privacy.** Participants did not have any concerns about their privacy because the site was secure (https) and there was nothing that they were asked or required to provide that they were overly concerned about someone else knowing.

5.0 Key findings

Despite what we perceived as significant technical issues (i.e., random crashing, length of time to complete, etc.), participants were very positive about the online claim process and most would likely use the process if it was available. Participants see the value in having an online option available to report their claim, and expect that many of the tweaks/issues they encountered will be fixed to improve their user experience.

With that being said, there are issues that participants encountered that would be significant obstacles for using the process and diverting people from phoning in their claim to completing their claim online. These include the stability of the process on mobile devices (i.e., random crashing) and the time to complete the process.

The former issue should be rectified; however, the latter issue may require significant changes to the process. The easiest way of improving the time to complete is to reduce the loading times between pages, which should reduce the average time by at least three to four minutes. Also, examining the relationship between questions to determine where redundant or irrelevant questions can be skipped based on answers to previous questions would help to reduce the time to complete. Reducing the time to complete the process is important because it was one of two major considerations that participants used when deciding if they would use the online process or phone it in, with the other being the perceived complexity of their claim.

The other issues related to clarity of questions/response options should easily be fixed with re-wording the questions/response options or providing information for participants (e.g., online chat, clickable hints, or information on the page); however, the ones that require the most attention are those that impact the liability assessment. If participants do not trust that the information they are entering is correct, they are likely to discontinue the online process and phone in or decline their liability assessment.

Appendix A — Employee focus group moderator's guide

Claim Prototype Instruction Sheet
Employee Focus Group

Thank you for participating in today's testing of Manitoba Public Insurance's online claim form. Today you will be testing a prototype of the form, so your feedback will help shape the development of the final online application.

Before we begin I have some instructions for you:

- As mentioned, the website is still in testing form.
- Please think of a claim that you have recently encountered as part of your job. If you don't deal with claims, please think of a claim you have made with the Corporation, or simply make up a claim. You may also use one of the sample claims scenarios in our handout If you are finished within 30 minutes, please begin another scenario and I will give you time at the end to add any additional comments to your form.
- When identifying issues, think about areas where you were not able to do what you wanted, what words/terms did you not understand, what did you find confusing or unclear, and what aspects did you want that weren't there.
- Please sign the consent form prior to beginning the test.

[FOR DISCUSSION AT END OF GROUP]

1. How clear were the instructions? What was missing to make it clearer?
2. Were there any aspects of the claim or pages that were confusing or difficult to answer? What did you do to understand how to proceed? Are there areas that you think a customer might find difficult? Explain.
3. Did the form include terms that you think customers may find difficult to understand?
4. Was the amount of time it took you to complete the claim appropriate?
5. What other issues or suggestions would you have to improve the process?
6. Was there any important information missing from the online claim form that should be collected?
7. From a customers' point of view, what do you think will be some road blocks to using the online form? What do you think are the benefits?

FEEDBACK FORM

Please list any issues you encountered using the website. This can include technical issues, terms that are not explained well enough, instructions that were not clear or any menu options where it is unclear how to proceed.

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

Overall, what do you like best about this website?

____

____

Overall, what change would you most recommend to improve the website's usability?

____

____

Overall, what other change(s) would you recommend to improve the website's usability?

____

____

Appendix B — One-on-one guide

Claim Prototype Instruction Sheet
Public Focus Group

Thank you for participating in today's testing of Manitoba Public Insurance's online claim registration process. Today you will be testing a prototype of this new online service, so your feedback will help the Corporation make changes so that is functional for all users.

Before we begin, I have some instructions for you:

- There are no right or wrong answers. We invited you here today to provide your opinions, so please provide your honest opinions even if they are different from others in the group.
- Please try to speak one at a time, so the entire group can hear your comments. Please avoid side conversations while others are speaking. One of the reasons we invited you to the group is to listen to what others have to say.
- To ensure that everyone has an opportunity to speak, I may call on you to get your opinion. Conversely, I may interrupt you, not because what you have to say is not important, but to allow others to have the opportunity to speak.
- Because we are audio-taping our discussion tonight, please try to speak up and talk one at a time. We audio-record the group in order to make sure that our notes accurately reflect what everyone says here tonight. We will not use your name in our report, and after the report is complete we will destroy the tapes.
- What we are showing you here is confidential and that you should keep the information confidential outside of this group.

[REFERENCE TO VIEWERS]

Before we begin, does anybody have any questions? First, let's go around the table. I would like each of you to introduce yourself and mention what you do for a living, how often you drive, how many years you have been driving, and what area you live in.

INSTRUCTIONS (CLAIMANTS)

Before we begin, I have some instructions for you:

- As mentioned, the new claim registration process is still in a testing state.
- When completing the new claim registration process, please think of your most recent claim for vehicle damage with MPI. Once you have gone through your scenario once, please try to enter it a second time using the same website provided.
- When identifying issues, think about areas where you were not able to do what you wanted, what words/terms did you not understand, what did you find confusing or unclear, and what aspects did you want that weren't there.
- Please sign the consent form prior to beginning the test.

INSTRUCTIONS (NON-CLAIMANTS)

Before we begin, I have some instructions for you:

- As mentioned, the new online claims registration process is still in a testing state.
- When completing the claims registration process, we have given you three broad scenarios for a vehicle damage claim. Please use one of these when entering a claim. The scenario has very little information, so please feel free to make up the rest of the collision as you go through the form. Once you have done it once, please select another scenario and complete it again using the same website.
- When identifying issues, think about areas where you were not able to do what you wanted, what words/terms did you not understand, what did you find confusing or unclear, and what aspects did you want that weren't there.
- Please sign the consent form prior to beginning the test.

SECTION 1: INITIAL INSTRUCTIONS

1. When starting the claim, how clear were the instructions? What was missing to make it clearer?
2. Were there any words or terms used in the initial instructions that were unclear? What were those?
3. Was it clear how you should start the claim? [PROBE: What button to click? Where the button was?]

SECTION 2: WEBSITE USABILITY

4. Were there any aspects of the claim or pages that were confusing or difficult to answer? What did you do to understand how to proceed? [Probe to understand the types of questions that people are having difficulty with]
5. Did you have a time where you could not advance to the next page because you were doing something incorrect? What page was it? What issue did you encounter?
6. Were there any words or terms used throughout the claim that were unclear? What were those?
7. Did you feel like you had enough sufficient opportunities to review your answers before they were sent off/submitted? Was there any point where you went back in the claim to edit or change information? What was that? Why did you have to do that?
8. Were there any questions you thought were missing that should have been asked? What were those?
9. Were there functions that you would have thought should be there but weren't? [For example option to submit photos, link to maps, etc.]
10. If you were completing this claim online in real life, would there have been a time where you would have given up on the claim and called MPI to open your claim? When was that? Is there something that could be changed about the new online claims registration process that would have allowed you to continue to the claim online?
11. Was it clear about how to get help/information?
12. Was the flow through the new online claims registration process logical? How about the tools within the application, were they intuitive? How did the screen layout work for people? Did you find the amount of information on the page worked well? Did you have to do a lot of scrolling?
13. Would you describe the online claims registration process easy to use? Why or why not?

SECTION 3: LIABILITY

14. How did you feel about getting your liability assessment at the end of the claim? Does it feel different than getting a liability statement through the mail or verbally from a person?
15. [FOR CLAIMANTS] Did your liability assessment match your most recent claim? How was it different?
16. Was it clear what to do after you received your liability assessment?
17. Did you decline your liability statement? Why was that? What would make you more likely to accept it?
18. How likely would you be to accept the statement of liability online? In what situations might you not accept the statement and prefer to speak with an adjuster?

SECTION 4: OVERALL IMPRESSIONS

[HANDOUT QUESTIONNAIRE]

19. Overall, what are your impressions of the new online claims registration process? In its current form, how likely would people be to use it to open a claim?
20. Was the amount of time it took you to complete the claim appropriate? Why or why not? Did anyone feel it got to be too long and they would rather have just called in? How long do people feel they would invest in the online process before they would simply call in? Was the process efficient? If not, what could be done to improve efficiency?
21. After going through the new online form, how does it differ from your expectations? How does the process feel different than going through a phone process?
22. In what situations would you open your claim online versus phoning MPI? Why would you use online/not use online in these situations? What are the benefits of opening the claim online? What are the benefits of phoning?
23. What might prevent you from opening the claim online versus phoning MPI? [PROBE: Amount of time to complete claim online]
24. When you have needed to make a claim, what are the steps you have gone through? [PROBE: How did you find the number to call? How did they know when to call? How did they know what information to have?]
25. How do you feel about dealing online vs. a person (don't ask directly but if it comes up explore the idea to see if they felt 'heard'.)
26. Are there any privacy concerns with filing a claim online compared to filing a claim in person?
27. If the online system expanded in the future to allow for filing injury claims, would this be of interest? In what situations? Why or why not?
28. Would you recommend the online process to others? How likely would you be to give this process a positive review online, or speak positively about it online (i.e., through social media)?
29. What other issues or suggestions would you have to improve the new online claims registration process? What capabilities may be missing?

FEEDBACK FORM

Please list any issues you encountered using the website. This can include technical issues, terms that are not explained well enough, instructions that were not clear or any menu options where it is unclear how to proceed.

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

ISSUE: ____

QUESTIONNAIRE 1

Overall, what do you like best about the new online claims registration process?

____

Overall, what change would you <u>most</u> recommend to improve the usability of the new online claims registration process?

____

Overall, what other change(s) would you recommend to improve the new claims registration process' usability?

____

____

If the online claims registration process was available, would you use it to register a claim with Manitoba Public Insurance?

Yes.. ☐

No.. ☐

Maybe .... ☐

Please explain your answer from the question above.

____

____

____

____

Appendix C — Device types

Table: Device types used for testing	
	Count
Desktop computer (Windows)	26
Laptop	15
iPhone (unknown)	6
iPad	4
Samsung Galaxy S7	3
Samsung Galaxy S8	3
iPhone 7	2
iPhone 6	2
iPhone 6S	2
LG G6	2
Samsung Galaxy S5	2
Tablet (unknown)	2
Samsung Galaxy S8+	1
iPhone 8	1
Android	1
Google Pixel 2 XL	1
LG T5	1
Chromebook	1
LG Nexus 5X	1
Macbook Air	1
Surface 3	1
Samsung Galaxy S6	1
Samsung (unknown)	1
Windows tablet	1
Unknown	17

CAC (MPI) 2-34

Part and Chapter:	PUB (MPI) 1-69	Page No.:	2
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	IT Spending		
Sub Topic:	PDR		

Preamble to IR (If Any):

In response to PUB (MPI) 1-69 d) page 2 it states:

"The Loss of Use (LOU) benefit stream projections assume that the Corporation and Manitoba repair shops will agree to transition from the 'touch time' Loss of Use allocation model to the more industry-prevalent Daily Allocation Formula (DAF) model. The DAF model presents an opportunity for repair shops to self-manage LOU expenses and incentivizes them to manage the repair process efficiently."

Question:

For greater clarity please explain and list the differences of the touch time Loss of Use allocation model and the Daily Allocation Formula model.

Rationale for Question:

To clarify for greater understanding of two loss of use models.

RESPONSE:

Since the filing of its response to PUB (MPI) 1-69, the Corporation has decided not to pursue a transition to the Daily Allocation Formula (DAF) model. Instead, MPI is pursuing options to lower the daily rate (and therefore overall loss of use (LOU) expense) with existing loss of use providers by agreement, rate card or Request for Proposal, as seen in other crown jurisdictions. MPI made this decision because the repair shops have little or no experience with managing LOU expenses under the DAF model. In addition, MPI had not negotiated use of the DAF model into the industry agreement, nor were the repair shops willing to participate in this model.

However, in response to the question posed, the following is an explanation of the two models:

Under the current "touch time" model, the requester (typically a rental car agency) enters a request for LOU via a LOU partner portal with MPI. MPI then reviews (automated and/or manual process) and approves/denies LOU based on coverage and business rules. MPI manages all LOU transactions. Every change in activity and event requires separate approval from MPI, which slows the process and increase duration of rental usage.

Under the DAF model, repair shops primarily manage LOU transactions. Essentially, where the vehicle is repairable, every rental duration gets a "fair allocation" of days, based on industry average "touch times" for repair and tied to cycle times. DAF eliminates the frequent back and forth between MPI and rental agencies.

- The estimated labour hours will be multiplied by the DAF to arrive at the number of days of rental due to the physical repair. Other factors affecting the duration of the LOU are then added to the DAF as allowances.

  - Proposed DAF of 0.33 (industry standard)
  - DAF is applicable to shop repair time and therefore within the control of the shop
  - Sample repair with 20 hours of total repair time
    - 20 hours x .33 = 6.6 or 7 days of loss of use

- Allowances – there are a number of allowances made for items outside the repair shops control, including:

- 1 day for paint dry time; 5 days for PDC estimating on a non-drive; 5 days for adjusting on a marginal claim or a total loss; 2 days on a non-drive parts delay. There are no allowances for a drivable, repairable vehicle (other than paint dry time).

CAC (MPI) 2-35

Part and Chapter:	Part IV 02 Value Management Appendix 1 Technology Risk Management	Page No.:	1 of 27
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Business Cases for: Application Risk Management, Information Security Risk Management and infrastructure Risk Management		
Sub Topic:	Monitoring and Reporting of Project Objectives & Benefits		

Preamble to IR (If Any):

The Business Case document states in the project objectives section: " *....for each of the upgrade/improvement initiatives listed above in the project objectives section, a separate set of project documents will be completed. The individual project documents will address detailed project objectives/benefits and the monitoring of costs and benefits."*

Question:

Based on the proposed start date of these initiatives (April 2018), can MPI provide copies of the project progress documents for the various business cases that have been developed to date, indicating how the monitoring of project costs and benefits is progressing.

Rationale for Question:

To understand the operational aspect of the Value Management process as it relates to in-flight projects for which a business case has been articulated. Progress reports will provide indication/evidence of how the VM process is delivered.

RESPONSE:

The most recent status report on initiative progress has been provided in PUB (MPI) 1-72 Appendix 2, pages 10 and 11. Please note that a redacted version of this information response has been filed on the public record as part *MPI Exhibit 9*. An un-redacted version is the subject of a motion for confidential treatment.

The rational for the question is to understand the ongoing relationship between Value Management and initiatives. The following discussion of the Technology Risk Management (TRM) initiative illustrates the approach and interactions with Value Management:

Intake: As part of the planning for 2017/18 budget cycle, IT engaged a broad group of management and leaders to identify priority areas for investment for the TRM program. MPI leveraged the Value Management business case template for data collection purposes, as the template was the best available document for the purpose and used the value management workflow (tracking process) to register and follow the documentation of the proposed initiatives. The use of the Value Management business case template and tracking process allowed for the creation of multiple parallel TRM initiative proposals and for the consistent evaluation of initiative proposals.

Alignment: IT Senior Management evaluated the proposed initiatives (documented in the business case template) recommended for the TRM program and approved them for inclusion in the four TRM business cases. Management then reviewed and approved these business cases using all the steps in the Value Management process. By combining individual initiative proposals into larger business cases, management optimized resource utilization and were able to compare year over year investment by risk area (infrastructure, application, security, and enterprise risk).

Delivery: MPI created an overall TRM charter to align and govern the delivery of all projects. Ideally, MPI would have created one project for each of the four business cases above (i.e. infrastructure, application, security, and enterprise risk). However, challenges in resource and solution availability in Q1 required the subdivision of some projects to maintain the existing schedule. As a result, one or more projects delivered the infrastructure, application, security, and enterprise risk business cases. MPI is making efforts to retain the synergies gained during alignment while ensuring the traceability of actions back to particular business cases and to original proposals. As MPI wishes to avoid making the process overly complicated, it is emphasizing the use of project charters (which clearly links the project back to the business case and initiative proposal) and is requiring the documentation of project changes and their review by Value Management. Supporting project documents such as the project plan, schedule, and budget each link back to project level charters.

Tracking: To date, the Value Management Office (VMO) has tracked the objectives, scope, deliverables, cost budget and benefits outlined in the TRM-approved business cases to the related project charters. In addition, VMO is currently validating several formal change requests initiated on these projects, ensuring that the business cases remain up to date and reflect the changes to project scope, cost budgets, cost benefits and the resulting net present value calculations. VMO approves all change requests, which affect the business cases. VMO will continue to monitor projects and, at project completion, will ensure the preparation of closeout reports, which reports will form part of the post-implementation review that measures the realization of the deliverables outlined in the updated business cases.

CAC (MPI) 2-36

Part and Chapter:	Part IV 02 Value Management Appendix 1 Technology Risk Management BC	Page No.:	21 & 22
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Business Cases for: Technology Risk Management Program, Risk Registry Remediation		
Sub Topic:	Monitoring of Actual Project Benefits / Impact Analysis		

Preamble to IR (If Any):

The Business Case document states in the Impact Analysis section (page 22): “ *....Based upon the insights gained from IBM Resiliency Services (RS), Gartner, and findings from major incidents which occurred in 2017-18, it is recommended that outside expertise be brought in to augment the existing team and cross-train MPI resources (providing long term capability).”*

Question:

a) Can MPI provide qualitative examples of the ‘major incidents’ that are referred to, and the impact that these would have had to MPI’s IT Service Continuity?

b) What were the identified root causes, lessons learned and remediations that would have been put in place for those major incidents?

Rationale for Question:

To understand how MPI current handles Incident Management and Business Continuity processes, to gain insight into the need for bringing in outside expertise.

RESPONSE:

a) Two major incidents referred to:

   i. A major incident occurred in early January 2017 which had 3 hours of impact to over 50 MPI applications. Review and follow-up occurred as part of the problem management process.

   ii. A second major incident occurred in January 2017 which had 6 hours of impact to all major MPI applications and required the execution of disaster recovery protocols to resolve. Review and follow-up occurred as part of the problem business continuity management process. An after incident report was created and tracking of action items is reviewed / followed up quarterly. Details of this incident were provided in a confidential response to PUB (MPI) 2-31 in the 2018 GRA.

b) In the first major incident, the root cause (specific hardware component failure) was identified and remediated successfully (via hardware replacement and system software updates). The two recommendations (specific technical changes), generated by the problem management process have since been resolved.

   In the second major incident, the root cause (multiple hardware component failures) was identified and remediated successfully (via equipment replacement and subsequent full platform replacement in 2017/18 leveraging the IBM vitality clause). The disaster recovery process identified 25 recommendations at varying levels of detail (people, process, technology), which are at varying stages of resolution (tracked and reported quarterly).

   Two business impacting major incidents in one month, with significantly different recommendations raised questions about the potential for systemic gaps. External expertise was leveraged to assess MPI's overall capability and make recommendations. These recommendations were reviewed, and remediation actions are included in the scope of the Technology Risk Management: Risk Registry Remediation project (2018/19).

CAC (MPI) 2-37

Part and Chapter:	Part IV 04 Benchmarking Attachment A	Page No.:	6
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	MPI IT Benchmarking and Maturity Assessment		
Sub Topic:	Key Takeaways from the Analysis		

Preamble to IR (If Any):

Key Takeaways/Findings included the following key statement from Gartner: *"Similar to previous years, MPI spends 62% of the IT budget on personnel versus 45% for the peers. 32% of MPI's IT staff is made up of contractors vs. 24% for the peers. Higher staffing levels relative to peers is particularly evident in Infrastructure and Operations"*

Question:

What are the performance targets that MPI is hoping to achieve going forward in terms of a 'steady state' for its IT Operations for both sets of metrics (% of IT budget spent on personnel, and % of IT staff allocated to contract personnel)?

Rationale for Question:

To understand MPI's commitment to maintaining a healthy ratio of internal versus contract staff; additionally, to determine MPI's intent regarding establishing and monitoring a target IT spending ratio relative to its industry peers.

RESPONSE:

MPI is actively working towards a healthy ratio of internal vs. contract staff and expects reductions % of IT staff allocated to contract personnel moving forward. MPI aims to become / remain in line with industry peers.

MPI does not have a specific target for % of IT spend on personnel as the difference between MPI and its peer group is significantly influenced by other areas (such as overall hardware and software spend) where MPI spends differently than its peer group. In lieu of using this measure, MPI remains focused on demonstrating responsible IT spend as a % of OPEX (see *Part IV Benchmarking Attachment A*, Page 7) with a goal of remaining in-line with the industry peer group. This is the key metric MPI continues to monitor and work towards.

A key part of how MPI will achieve reductions to IT spend as a % of OPEX is through continued alignment to the peer group on a % of OPEX is reductions to the use of External Labour. This will result in net expense savings and effectively drive reductions in % of the IT budget on personnel and % of IT staff made up of contractors. MPI is working to be comparable to the industry peer group (see *Part IV Benchmarking Attachment A*, Page 11).

CAC (MPI) 2-38

Part and Chapter:	**Part IV** **04 Benchmarking** **Attachment A**	**Page No.:**	**13**
PUB Approved Issue No:	**19. Current IT Strategic Plan and IT Expenses and Projects**		
Topic:	**MPI IT Benchmarking and Maturity Assessment**		
Sub Topic:	**MPI's Spending on Outsourcing and Maintenance**		

Preamble to IR (If Any):

MPIs spending outsourcing and maintenance is significantly higher than the peer group average for Infrastructure and Operations

Observations:

- Outsourced spending is 3.3X higher than the peer group average
- Maintenance costs are 3X higher than the peer group average
- MPI's outsourcing costs include a prepayment for future upgrades as part of a 'vitality' clause in the IBM contract which avoids large single year increases, but presents a higher yearly cost than might be expected.

Implications:

- *MPI may benefit from an assessment of the competitiveness of the outsourcing and maintenance agreements"*

Question:

Does MPI intend to follow up on the implicit Gartner recommendation to perform a competitive assessment of IT outsourcing and maintenance arrangements? Has such an assessment been performed previously?

Rationale for Question:

To understand MPI's commitment to maintaining a healthy ratio of internal versus contract staff; additionally, to determine MPI's intent regarding establishing and monitoring a target IT spending ratio relative to its industry peers.

RESPONSE:

As shared in *CAC(MPI)1-48*, part b:

> MPI completed a light assessment of the IBM data centre agreement utilizing Gartner's services in 2016. This was executed in preparation for the second part of the 10 year agreement; the 5 year renewal of the IBM data centre agreement. In 2018 MPI plans to complete a full independent benchmark of the IBM data centre agreement.

MPI continues to apply leading practices (such as the tendering process) to ensure optimal pricing is received on maintenance agreements. MPI actively leverages Gartner research and Gartner analyst insights to assist in optimizing the cost effective purchase of these agreements. MPI is actively working with Gartner, as part of the benchmarking process, to understand and explain the differences between MPI and the peer group as it relates to maintenance agreements. It is anticipated that further information will be included in the next Gartner Scorecard (GRA 2020) to help explain the differences in maintenance.

CAC (MPI) 2-39

Part and Chapter:		**Page No.:**	
PUB Approved Issue No:	**19. Current IT Strategic Plan and IT Expenses and Projects**		
Topic:			
Sub Topic:	**Customization of Off-the-shelf (COTS) software products**		

Preamble to IR (If Any):

MPI's current business practices involving the customization of common off-the-shelf COTS software products often involves writing significant custom code.

Question:

a) What are the current and proposed MPI standard/practices regarding the acquisition and customization of COTS software solutions?
b) How does MPI address definition of and compliance with business requirements in the selection and implementation of COTS software?
c) What approach does MPI use to assess and justify the effort and costs associated with significant COTS software customizations?

Rationale for Question:

To understand MPI's approach to selection and subsequent customization of COTS software, in view of industry standards of good practice regarding the identification of business requirements and related software acquisition and implementation methods.

See, for example, the following references:

https://ptgmedia.pearsoncmg.com/images/9780735679665/samplepages/9780735679665.pdf *http://siteresources.worldbank.org/EXTFINANCIALMGMT/Resources/313217-1196229169083/4441154-1196275288288/4444688-1196371176805/MakevsBuy.pdf*

RESPONSE:

Please refer to the IT Strategy, Section 6 Guiding Principles in Appendix 2 for the referenced principles.

a) MPI has defined Enterprise Architecture principles that favour selection of Commercial off the Shelf (COTS) products over custom development solutions where suitable marketplace solutions exist. MPI will seek to standardize its products and processes, where prudent, to avoid uneconomical customization of COTS.

b) MPI evaluates commercial software through a Request for Proposal (RFP) process. An RFP documents the business context and identifies the mandatory and non-functional requirements the COTS must satisfy. MPI evaluates vendor responses against its requirements and chooses the best solution.

c) MPI only customizes COTS products where the vendor provides a framework for customization. Many of the COTS packages used in MPI are never customized. If customization is considered, MPI calculates the total cost of ownership of the customization looking at:

- the one-time cost of the customization for MPI and the Vendor;
- yearly operational costs of the customization for MPI and the Vendor;
- impacts to future upgrade paths, namely, whether customization would preclude upgrades; and
- the business impacts and costs of not proceeding with the customization.