

PUB (MPI)

PUB (MPI) 2-1

Part and Chapter:	PUB (MPI) 1-1 Appendix 1, January 18, 2018 Audit, Finance and Risk Committee Minutes	Page No.:	
PUB Approved Issue No:	1. Requested Vehicle Rate and Any Changes to Other Fees and Discounts 7. Update on DCAT 9. Cost of Operations and Cost Containment Measures 19. Current IT Strategic Plan and IT Expenses and Projects 21. Asset Liability Management Study		
Topic:	Financial Overview		
Sub Topic:			

Preamble to IR (If Any):

MPI sought Board approval of various accounting policies.

Question:

- a) Please file those policies approved by the Board. Please indicate which policies have changed from those used last year, and provide the impact on Basic reported income and balance sheet as a result of the changes.
- b) Please advise as to the Corporation's approved policy for provision of Non-audit services by external auditors.

Rationale for Question:

To understand Corporate decisions that impact Basic.

RESPONSE:

- a) Only one accounting policy was changed. Please see Appendix 1 for a blackline version of *Policy for Valuation of Private Equity, Venture Capital and Infrastructure Investments*. The change to the policy was to formally capture Infrastructure investments in the policy. As Infrastructure investments were previously subject to the treatment prescribed in the policy, there is no impact on the financial statements.

The other policies listed in the Board minute were reviewed by the Corporation, but no changes were recommended for Audit, Finance and Risk Committee approval.

- b) Please see Appendix 2 for a copy of the Policy on the Provision of Non-Audit Services by External Auditors.

Manitoba Public Insurance
Policy for Valuation of Private Equity, ~~and~~ Venture Capital and
Infrastructure Investments

Procedure

Management will perform an annual review of these investments prior to corporate fiscal year-end to determine the appropriate fair value to be used in the corporate financial statements.

Fair Value Considerations

Marketable securities are carried at fair value in the corporate financial statements which is usually based on quoted prices in active markets close to the date of assessment.

When active market prices (S&P/TSX) are not available, as is the case with Private Equity, ~~and~~ Venture Capital and Infrastructure investments, estimates of fair value should be based on the best information available, including prices of similar investments or other acceptable valuation techniques.

The Department of Finance, in collaboration with MPI management, will calculate the new fair value by using current and past financial information for each investment, along with information provided by the fund manager. Other supplemental information that may be available like erosion of market share and going concern and liquidity issues will be incorporated into the valuation process. The change in fair value is then recorded in Accumulated Other Comprehensive Income (Available for Sale assets) or profit/loss (Fair Value Through Profit and Loss for Financial assets).

Declines in fair value, other than temporary, would be accounted for in a manner consistent with the valuation of publicly traded equities and bonds following the Policy for Writing Down Investments.

**Manitoba Public Insurance
2014-2015 Expense Allocation Methodology
Effective January 28, 2016**

The allocation methodology and formulas are based on the new cost allocation methodology prepared by Deloitte in 2009 and approved by PUB for basic Autopac ratemaking in Order # 157/12. The Deloitte methodology focused on the allocation of normal operating costs to insurance or non-insurance categories of business, and did not include the determination of type of expense (claims, operating, road safety and regulatory). This aspect of the methodology was developed internally and is presented as Level E in this summary.

The allocation of improvement initiative costs has been based on a review of each project and the determination of which category and line of business will benefit from the project. Attachment B summarizes the allocation basis for each project.

The allocation methodology for normal operating costs is summarized below:

The first step of the process allocates corporate benefit costs to accounting units based on the percentage of salary costs to total corporate salary expense.

In the next step, occupancy costs are allocated to accounting units based on the percentage of square footage to total corporate square footage. Occupancy costs include; all building expenses, Premises department expenses and allocated corporate benefit costs.

Prior to the allocation of costs, direct department and directly assignable costs are charged to the insurance line of business or non-insurance category of business which directly benefits from the work performed in the department or particular cost expenditure.

The remaining "purified" cost categories are subject to allocation as set out in the following steps:

Cost Classification and Assignment:

Level A -

Cost categories at Level A are assigned to either one of the following:

- i) directly to an insurance Line of Business (LOB) - Basic, Extension or SRE, or,
- ii) directly to the non-insurance Category of Business (COB), DVL, with the balance to,
- iii) non-assignable to an insurance LOB.

Level B -

Costs non-assignable to an insurance LOB (from Aiii), are assigned in Level B to one of the following:

- i) Insurance COB (Allocated to Insurance LOB in Level D), or
- ii) Subject to allocation in Level C.

Level C -

Costs subject to allocation (from Bii), are allocated in Level C to one of the following:

- i) Insurance COB, or
- ii) Non-insurance COB.

Level D -

Costs assigned to insurance COB (from Bi) and allocated to insurance COB (from Ci) are further allocated to the insurance lines of business (LOB):

- i) Basic,
- ii) Extension, or
- iii) SRE.

Level E –

All costs assigned and allocated to the insurance LOB are further categorized into the following expense types:

- i) Operating
- ii) Claims
- iii) Road Safety/Loss Prevention, or
- iv) Regulatory/Appeal.

The tables on the following pages reflect the results of the assignment, classification and allocation of expenses in Levels A to E of the methodology.

LEVEL A:**Cost categories assigned directly to an Insurance LOB or to Non-insurance COB****LEVEL B:****Cost categories assigned to Insurance COB or Subject to Allocation**

Level A – Line of business	Basic	Ext.	SRE	Non-Ins.	Insurance	Subject to Allocation
Level B – Category of business						
Injury claims management - PIPP					X	
Claims Insurance support operations					X	
Loss prevention programs					X	
Driver licensing and control				X		
Driver records						X
Vehicle registration						X
Vehicle standards and inspection				X		
Claims centres					X	
Service centres						X
Physical damage centre					X	
Central administration						X
Physical properties						X
Corporate information technology						X
Human resources and training						X
Advertising and communications						X
Fair practices						X
Accounting and finance						X
Investments					X	
Injury claims management - Liability					X	
Employee benefits						X
Legal						X
Compulsory Insurance	X					
Extension		X				
Special risk extension			X			
Enterprise systems support						X
Internal Audit						X
Regulatory/appeal	X					
Management committee						X
Contact Centre Operations						X
Business Transformation Office						X
Product & Policy Management						X
ID Verification & Data Integrity						X
Customer Service & Support						X

LEVEL C:**Costs Subject to Allocation to Category of Business:**

Based on the assignment of costs subject to allocation in Level B, the following table summarizes the allocators used to allocate these costs to insurance and non-insurance categories of business.

Cost Category	Basis of allocation
Driver records	Estimated work effort
Vehicle registration	Estimated work effort
Service centres	COB Salary ratio
Physical properties	Enterprise wide per square foot basis
Employee benefits	% of base salary costs
ID verification and data integrity	Estimated work effort
Business Transformation Office	% calculated based on allocation of all improvement initiatives
Central administration	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Corporate information technology	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Legal	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Customer service and support	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Human resources and training	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Advertising and communications	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Fair practices	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Accounting and finance	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Enterprise systems support	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Internal audit	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Management committee	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Contact Centre Operations	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)
Product & Policy Management	4 year rolling average Weighted customer call centre contact ratio (WCCCCR)

LEVEL D: Allocation of Assigned and Allocated Insurance COB Costs

Based on the assignment of costs to the insurance category of business in Level B, and costs allocated to insurance in Level C, the following table summarizes the allocators used to allocate these costs to the appropriate line of business.

Cost Category	Basis of allocation
Injury claims management – PIPP	4 year rolling average Claims Incurred Basic & Extension only
Driver records	Assigned to Basic LOB
Vehicle registration	Assigned to Basic LOB
Investments	Percentage of claims reserves and unearned premiums by insurance LOB
Injury claims management – Liability	4 year rolling average Claims Incurred
Business Transformation Office	% calculated based on allocation of all improvement initiatives
Claims Insurance support operations	4 year rolling average Claims Incurred
Loss prevention programs	4 year rolling average Claims Incurred
Claims centres	4 year rolling average Claims Incurred
Service centres	4 year rolling average Claims Incurred
Physical damage centre	4 year rolling average Claims Incurred
Central administration	4 year rolling average Claims Incurred
Corporate information technology	4 year rolling average Claims Incurred
Human resources and training	4 year rolling average Claims Incurred
Advertising and communications	4 year rolling average Claims Incurred
Fair practices	4 year rolling average Claims Incurred
Accounting and finance	4 year rolling average Claims Incurred
Legal	4 year rolling average Claims Incurred
ID verification and data integrity	4 year rolling average Claims Incurred
Customer service and support	4 year rolling average Claims Incurred
Enterprise systems support	4 year rolling average Claims Incurred
Internal audit	4 year rolling average Claims Incurred
Management committee	4 year rolling average Claims Incurred
Contact Centre Operations	4 year rolling average Claims Incurred
Product & policy Management	4 year rolling average Claims Incurred

LEVEL E:**Allocation of Assigned and Allocated LOB Insurance Costs to Claims, Operating, Road Safety and Loss Prevention and Regulatory/Appeal**

Based on the assignment of costs to an insurance line of business in Level D, and costs allocated to insurance in Level C, the following table summarizes the allocators used to allocate costs to the appropriate type of expense.

Cost Category	Basis of allocation
Injury claims management - PIPP	100% Claims
Claims Insurance support operations	100% Claims
Claims centres	100% Claims
Physical damage centre	100% Claims
Injury claims management - Liability	100% Claims
Regulatory/Appeal	100% Regulatory/Appeal
Loss prevention programs	100% Road Safety and Loss Prevention
Driver Records	100% Operating
Vehicle Registration	100% Operating
Central Administration	100% Operating
Human Resources and training	100% Operating
Advertising and communications	100% Operating
Accounting and finance	100% Operating
Investments	100% Operating
ID verification and data integrity	100% Operating
Customer service and support	100% Operating
Internal audit	100% Operating
Management Committee	100% Operating
Service Centres	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget
Corporate information technology	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget
Product & Policy Management	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget
Fair practices	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget
Legal	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget
Enterprise systems support	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget
Contact Centre Operations	Allocated to Claims and Operating based on 2014/15 Staffing (FTE) budget

MANITOBA PUBLIC INSURANCE
POLICY FOR ALLOCATION OF BALANCE SHEET ITEMS –
ASSETS, LIABILITIES, RETAINED EARNINGS AND ACCUMULATED
OTHER COMPREHENSIVE INCOME (LOSS)

Description: The Corporation began utilizing the allocation formulas as detailed in the July, 2010 Deloitte Asset and Liability Allocation Methodology Report effective March 1, 2011. The allocation formulas assign direct and common Balance Sheet items (assets, liabilities, retained earnings and accumulated other comprehensive income) between Basic, Extension, Special Risk Extension (SRE), Discontinued Operations and The Drivers and Vehicles Act Operations.

The balance sheet allocation is primarily used for internal management reporting purposes and to assist in the allocation of investment income.

The SRE line of business includes Balance Sheet items allocated to Discontinued Operations (Personal and Commercial Lines).

Policy Allocation Formula: The allocation formulas assign Balance Sheet items (assets, liabilities, retained earnings and accumulated other comprehensive income) between Basic, Extension, Special Risk Extension (SRE), Discontinued Operations and The Drivers and Vehicles Act Operations based on:

- i. direct identification; any balance sheet account that is identifiable with a specific line of business is assigned directly to that line of business
- ii. common Balance Sheet items are allocated based on various ratios (direct premiums written, paid losses, expenses incurred, etc.)

Agenda #2d
June 29, 2016

**MANITOBA PUBLIC INSURANCE
POLICY FOR ALLOCATION OF INVESTMENT INCOME AND
OTHER COMPREHENSIVE INCOME (LOSS)**

Description: The allocation of investment income and other comprehensive income (loss) is dependent on the allocation of all of the balance sheet items – refer to Agenda F. In July, 2010 Deloitte completed a review of the asset and liability allocation methodology utilized by MPI to create separate balance sheets by line of business and also to form the basis for the allocation of pooled investment income and other comprehensive income (loss) by line of business. Investment income for the purpose of allocation, is net of investment income credited to the provision for pension and investment management fees.

Policy Allocation Formula: The Corporation pools its investment portfolio. The pooled investment portfolio is marked to market for investments deemed “Fair Value Through Profit and Loss”– marketable bonds, infrastructure investments and pooled investment property funds and investments deemed “Available for Sale”– investments in equities.

The investment portfolio generates two types of income investment income resulting from interest, dividends, realized gains (losses) on the sale of any investments and unrealized gains (losses) on Fair Value Through Profit and Loss investments and other comprehensive income (loss) resulting from unrealized gains (losses) on Available for Sale investments. Investment income is reported on the Statement of Operations. Other comprehensive income (loss) is reported on the Statement of Comprehensive Income (Loss).

The formula used to allocate investment income and other comprehensive income (loss) is based on the net average weighted equity balances pertaining to the following:

- § Basic
- § Extension
- § Special Risk Extension (SRE)
- § Discontinued Operations (reported under SRE)
- § The Drivers and Vehicles Act Operations

Balance Sheet items (assets, liabilities, retained earnings and accumulated other comprehensive income) are calculated based on ratios recommended by Deloitte in their July, 2010 Asset and Liability Allocation Methodology Report. The resulting net average weighted equity account balances are then used to allocate the pooled investment income and other comprehensive income (loss) between Basic, Extension, SRE, Discontinued Operations and The Drivers and Vehicles Act Operations.

Investment income and other comprehensive income (loss) allocated to Discontinued Operations will be reported under the SRE line of business.

Attachment B
Agenda C.1
January 26, 2017

**MANITOBA PUBLIC INSURANCE
POLICY FOR ALLOCATION OF SERVICE FEES AND
OTHER REVENUE**

Policy
Allocation
Formula:

<u>Service Fees and Other Revenue</u>	<u>Allocation Basis</u>
Motor Vehicle Transaction Fees	Allocation between Basic and Extension based on Motor Vehicles Direct Premiums Written Ratio
Time Payment Fees Late Payment Fees Motor Vehicle Dishonoured Cheque Fees (Including Brokers) Time Payment Interest Arrears Interest Time Payment Interest – Unearned Adjustment Pre –authorized Payment Default Fees	Allocation between Basic and Extension based on motor vehicles and drivers direct premiums written and driver licencing and vehicle registration fees ratio. Driver licencing and vehicle registration portion to be allocated to Extension.
Non-Policy Admin Fees Non-Policy Late Fees Non-Policy Electronic Dishonoured Fees Non-Policy Interest (net of unearned interest) Rental Car Certificate Replacement Fees	100% Extension
Enhanced Identity Application Charge Identity Card/Enhanced Identity Card Charge Identity Card/Enhanced Identity Card/Enhanced Drivers Licence Replacement Charge Commissions – Snoman Ignition Interlock Fee Drivers Licence Late Fees Motor vehicle information disclosure revenue Cognitive Assessments Fee Canadian Council of Motor Transport	100% The Drivers and Vehicles Act Operations

Service Fees and Other Revenue
Continued

Allocation Basis Continued

Driver's Education Course Fees Physical Damage – Training Revenue Garage Keeper's Act	Allocation to Basic, Extension and SRE based on claims incurred payments ratio
Salvage Sales Revenue Unclaimed Cheques Miscellaneous Revenue	Allocation to Basic, Extension, SRE and DVA based on earned revenue ratio
DriverCheck Payments SRE Fronting Fees IRP – SRE Time Payment Interest	100% SRE
Other Income - Basic	100% Basic

**MANITOBA PUBLIC INSURANCE
POLICY ON ACCOUNTS RECEIVABLE WRITE-OFFS
AND ALLOWANCE FOR DOUBTFUL ACCOUNTS**

1. **Motor Vehicle Accounts Receivable**

Description - Motor Vehicle receivables occur as a result of underpayment of insurance premiums, cheques not honoured by the client's bank and non payment of time payment installments (4-pay, policy and non-policy financing) or late payment fees.

Policy - Accounts are written-off if they have been outstanding for five years.

An allowance for Underpayments and Arrears are established based on 2% of the receivables less than 4 years old and 100% of receivables 4 years old or greater.

An allowance for motor vehicle arrears resulting from policy and non-policy financing agreements are established based on 5% of receivables less than 4 years old and 100% of receivables 4 years old or greater.

An allowance for motor vehicle arrears resulting from 4-pay Time Payments is established based on 1% of the receivables less than 4 years old and 100% of receivables 4 years old or greater.

Percentages are set based on historical analysis.

2. **Drivers Underpayments Accounts Receivable**

Description - Drivers receivables consist of underpayment of driver and additional driver premiums, cheques not honoured by the client's bank and non payment of time payment installments or late payment fees.

Policy - Accounts are written-off if they have been outstanding for five years, or earlier if the driver is deceased.

An allowance is established based on 5% of the receivables less than 4 years old and 100% of receivables 4 years old or greater.

Percentages are set based on historical analysis

3. Subrogation Accounts Receivable

Description - Subrogation accounts receivables are established when the Corporation is required to pay a third party claim for damages, injury or death caused by a first party who is uninsured or in breach of coverage.

Policy - Uncollectible subrogation files are written-off based on a review of each individual account. These items will be included in the annual write-off report, approved by the Board of Directors.

Expected future subrogation recoveries will be included in the actuary's valuation of policy and claim liabilities.

4. Fleet Surcharge Accounts Receivable

Description - Fleet surcharges consist of additional premiums charged to owners of ten or more vehicles who have an unfavourable loss experience. The assessment ranges between 1% and 50% of the original premiums paid in accordance with Manitoba Regulations 289/88R Section (63).

Policy - Accounts are written-off based on a review of each individual account.

An allowance is established based on a review of the collectability of each individual account.

5. Reinsurance Ceded Accounts Receivable & Reinsurer's Share of Unpaid Claims

Description - The Corporation cedes certain risks above certain limits to reinsurers. If the Corporation pays claims above these limits they become receivables from the company assuming these risks. In addition, unpaid claims are recognized as the reinsurer's share of unpaid claims and recorded as an asset.

Policy - On an annual basis, prior to fiscal year end, receivable accounts are written-off based on a review of each individual account.

An allowance for reinsurer's share of unpaid claims is included in the provision for adverse deviation (PFAD) component of the actuary's valuation of unpaid claims.

6. **Miscellaneous Accounts Receivables**

Description - Miscellaneous accounts receivables are established from a variety of sources such as outstanding rates appeal fees, salvage receivables, agents' receivables and miscellaneous returned cheques.

Policy - Accounts are written-off based on a review of each individual account.

An allowance is established based on a review of the collectability of each individual account.

Manitoba Public Insurance Policy for Writing Down Investments

Procedure

Management will perform an annual review at corporate year end of all individual corporate investments with a market value below book value or cost by \$150,000 or by 20% or more to assess whether there has been a loss in value that is other than a temporary decline in the value of the investment. Any other individual holdings identified in a non-specific manner as having a potential impairment will also be subject to review. The annual review will be on a per security basis, not on a per investment counsel basis and will only be deemed impaired if the impairment is significant or prolonged.

Definitions

Significance:

\$2.5 million per security

With over \$2.5 billion in investments, a movement of \$150,000 is not significant (this is the threshold for review only). A 1% movement in the total investment portfolio would equate to \$25 million. Significance on a portfolio basis would be \$25 million. Significance on an individual security would be a portion of the portfolio significance. Ten percent of the portfolio movement would be \$2.5 million and this would be considered significant on an individual security.

20% decline where decline is over \$500 thousand

A 20% decline is significant so long as there is still a material dollar movement in the security. A 20% decline in an equity security also needs to be more than 20% of the overall significance of an individual security which is \$500 thousand (20% of \$2.5 million).

Prolonged:

A prolonged decline is any decline that has occurred for more than one year.

Considerations

A loss in value of an investment is other than temporary when any one of the following three items occur in isolation or together: a significant decline in the market value below book value or cost; a prolonged decline; or significant changes with an adverse effect that has taken place in the technological, market, economic or legal environment in which the issuer operates and indicates that the cost of the investment may not be recovered.

The following guidelines, to satisfy International Accounting Standard 39 – Financial Instruments: Recognition and Measurement, will be used in evaluating whether other than temporary impairment in value of an investment may have occurred for consideration under the third requirement noted above.

- Has the issuer experienced severe market value losses in the current year or current and prior years?
- Have financial losses by the issuer existed for a period of years?
- Is the issuer experiencing depressed and declining earnings in relation to competition, erosion of market share, and deteriorating financial position?
- Has the trading of the security been suspended?
- Has the active market for this security disappeared?
- Does the issuer have going concern or liquidity concerns?
- Is the appraised value of the investment below the carrying value?
- What is the expected period of time required for any anticipated recovery in market value?
- Is there an expectation of, or actual default/delay, interest or principal payments for a fixed income security?

Write-Down of Impaired Investments

Once a decline in fair value of a corporate investment is considered other than temporary, it is deemed impaired. The accounting treatment of an impaired asset depends on its classification: 1. Assets measured at amortized cost (Held to Maturity) or 2. Assets measured at fair value (Available for Sale or Fair Value through Profit or Loss) and type (Equity or Fixed income).

1. Assets Measured at Amortized Cost

- Held To Maturity

The amount of the impairment loss is the difference between the carrying value and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate (effective interest rate computed at initial recognition) and recognized in profit/loss for the period.

2. Assets Measured at Fair Value

- Available for Sale

Where a decline in fair value has been recognized in other comprehensive income, a cumulative loss is reclassified from accumulated other comprehensive income to profit/loss. The cumulative loss reclassified to profit/loss is the difference between book value (amortized cost) or cost and fair value less any impairment losses previously recognized.

- Fair Value through Profit or Loss

The decline in fair value is recognized in profit/loss for the period with no impact on accumulated other comprehensive income.

A write-down of an impaired Available for Sale **equity** investment to reflect a decrease in value that is other than temporary will not be reversed through profit/loss if there is a subsequent increase in value of that investment. Any increase in fair value subsequent to an impairment loss is recognized in other comprehensive income.

A write-down of an impaired Available for Sale **fixed income** investment to reflect a decrease in value that is other than temporary must be reversed through profit/loss if there is a subsequent increase in value of that investment and this increase can be related to a specific event after the loss was recognized.

When the fair value of an investment within a portfolio is significantly less than the book value or cost and no write-down has been taken, disclosure to the Audit, Finance & Risk Committee will be made of:

- the cost, book value, carrying value and the fair value of the investment; and,
- the reasons for not reducing the carrying amount, including the nature of the evidence that provides the basis for management's belief that the decrease in value will be recovered.

Fair Value

Determination of fair value starts with the identification of the current value as indicated by a quoted price (bid or last trade) in active markets, reasonably close to the date of assessment.

When quoted market prices are not available, estimates of fair value are based on the best information available, including prices for similar investments and the results of other acceptable valuation techniques.

***MANITOBA PUBLIC INSURANCE
POLICY FOR ALLOCATION OF
REINSURANCE CEDED PREMIUMS***

Policy Allocation
Formula:

For the allocation of the casualty program, the flat premium for the first layer is allocated based on a split between Basic and SRE. The SRE premium is determined by actual premiums written in the preceding year multiplied by the Gross Net Earned Premium Income. This is the rate that SRE paid on written premiums when these premiums were subject to a separate cession agreement. The remainder is allocated to Basic.

For the allocation of the catastrophe program, the premiums are allocated based on Gross Net Earned Premium Income.

**MANITOBA PUBLIC INSURANCE
POLICY FOR CAPITALIZATION OF ORGANIZATIONAL
AND DEVELOPMENT COSTS**

Description The Corporation has various Initiatives and Projects which are expensed or reviewed by management for capitalization in accordance with IFRS, IAS 38 Intangible Assets.

Deferred Development Costs, which are “internally generated intangible assets” under IFRS, IAS 38 Intangible Assets will be evaluated for all lines of business (Basic, Extension, Special Risk Extension and Driver & Vehicle Administration Operations) against the criteria for determining if such costs are to be deferred to future periods or expensed in the current period.

Policy Projects are to be capitalized as an asset and deferred to future periods when they meet all of the following 4 criteria:

1. Identifiability – the asset is separable and arises from contractual or other legal rights.
2. Control – the corporation has the power to obtain the future economic benefit and/or restrict others to those benefits.
3. Future economic benefit – the corporation benefits from the use of the asset (revenue, cost savings or other benefits).
4. Total project costs to be deferred are equal to or greater than \$500,000.

When capitalizing a project, the following types of expenses may be considered to be deferred:

- Payments to outside companies such as contract fees, data centre services, consulting costs, travel and incidental costs;
- Payments associated with direct assigned employee compensation costs including travel and incidental costs;
- Data processing costs for testing computer systems being developed; and
- Packaged software costs.

Organizational and development projects will be amortized over a five year period unless the useful life is deemed to be shorter.

Attachment B
Agenda C.3
January 18, 2018

**MANITOBA PUBLIC INSURANCE
POLICY ON THE PROVISION OF NON-AUDIT SERVICES BY
EXTERNAL AUDITORS**

Description: The Corporation will periodically use the services of the External Auditors in relation to non-audit related work.

Annually, the Audit, Finance & Risk Committee approves the total amount of non-audit services that can be conducted by the External Auditors prior to requiring Audit, Finance & Risk Committee approval on individual engagements once this amount is reached.

Policy: Management can engage the External Auditors in non-audit related work assignments on an annual basis up to and not exceeding a total amount of \$50,000.

Once the \$50,000 threshold has been reached in the year, any subsequent engagement in excess of \$5,000 requires prior approval by the Audit, Finance & Risk Committee.

Annually, Management will report to the Audit, Finance & Risk Committee, the nature and amount of non-audit engagements with the External Auditor.

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Part and Chapter:	PUB (MPI) 1-1 Investment Committee Minutes April 30, 2018	Page No.:	
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Topic:	Financial Overview		
Sub Topic:			

Preamble to IR (If Any):**Question:**

Please file the respective documents approved by the Board of Directors including asset allocation and implementation plan.

Rationale for Question:

To understand Corporate decisions that impact Basic.

RESPONSE:

This information was included as appendices to the Investment chapter of the 2019 General Rate Application. Please see the following documents:

1. Part VI INV Appendix 12: Mercer ALM Study Phase One Report (21 Dec 2017)
2. Part VI INV Appendix 13: Mercer ALM Study Phase Two Report (8 Dec 2017)
3. Part VI INV Appendix 14: Mercer ALM Study Phase Three Report (16 Jan 2017)

4. Part VI INV Appendix 16: ALM Implementation Plan

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PUB Approved Issue No:	9. Cost of Operations and Cost Containment Measures 19. Current IT Strategic Plan and IT Expenses and Projects 21. Asset Liability Management Study		
Topic:	Financial Overview		
Sub Topic:			

Preamble to IR (If Any):**Question:**

Please file the “PDR Business Case and Customer Claims Reporting System (CCRS) Next Steps” presentation material which was used by the Board of Directors to close down the project.

Rationale for Question:

To understand Corporate decisions that impact Basic.

RESPONSE:

This material has been provided in Appendix 1, to PUB (MPI) 1-67. MPI has filed a motion seeking confidential treatment of this document.

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Part and Chapter:	PUB (MPI) 1-3, PUB (MPI) 1-8	Page No.:	
PUB Approved Issue No:	2. Rate Indication 4.a. Financial Forecast- Financial Forecast Accuracy		
Topic:	Financial Forecast Model		
Sub Topic:			

Preamble to IR (If Any):

MPI has indicated the new discount yield rate to be 3.21% at September 1, 2019, based on an assumed 28.1% investment in Corporate Bonds.

The portfolio to be implemented per PUB/MPI 1-8 reflects a 20% allocation to Corporate Bonds and 20% to MUSH. The forecast of the Investment Portfolio Asset Values for the Basic Line of Business indicates that the allocation to Corporate Bonds will be 21.4% om 2022/23. [Figure INV-3]

Question:

Please reconcile and explain why MPI is assuming a 28.1% allocation to Corporate Bonds for the determination of the discount rate.

Rationale for Question:

To assess the reasonableness of the Basic financial forecast assumptions.

RESPONSE:

As of September 1, 2019 in the financial model, Basic's allocation to government, corporate, and MUSH bonds was 52.2%, 20.3% and 27.5% respectively. As per Figure 1 in PUB (MPI) 1-3, the percentage allocation of government and corporate bonds (excluding MUSH bonds) was 71.9% and 28.1% respectively. The new money yield excludes MUSH bonds because MPI does not intend to purchase non-marketable bonds going forward. As such, "new money" derived from policies issued in the 2019/20 rating year, will not be allocated for the purchase of non-marketable bonds.

PUB (MPI) 2-5

Part and Chapter:	PUB (MPI) 1-3 V RM	Page No.:	19
PUB Approved Issue No:	2. Rate Indication		
Topic:	Ratemaking in Accordance with Accepted Actuarial Practice		
Sub Topic:	Cash Flow Discount Rate		

Preamble to IR (If Any):

The GRA states "*The investment return used to discount future payments is based on the market value weighted yield of MPI's marketable bonds portfolio i.e. the new money yield.*"

Question:

- a) Why make reference to the "*yield of MPI's marketable bonds portfolio*" in this context if new money rates are being used?
- b) Please tie the market values shown in Figure 1 in PUB (MPI) 1-3(a) for Q2 2019/20 Provincial and Corporate marketable bonds to a schedule in the GRA materials showing forecasted portfolio market values.
- c) Please tie the yields to maturity in Figure 1 in PUB (MPI) 1-3(a) for Q2 2019/20 Provincial and Corporate marketable bonds to a schedule in the GRA materials showing forecasted bond yields.
- d) Please provide a table comparable to Figure 1 in PUB (MPI) 1-3(a) in support of the derivation of the 50/50 interest rate forecast discount rate provided (3.50%), including tying in the yields to maturity to a schedule in the GRA materials showing 50/50 interest rate forecasted bond yields.

Rationale for Question:

To assess the sensitivity of the rate indication to the cash flow discount rate selection.

RESPONSE:

- a) The quote was written that way to explain that MUSH bonds are excluded from the new money yield - the forecasted yield of the marketable bond portfolio (excluding MUSH bonds) as of September 1, 2019 is the same yield as the new money yield. With this context, the quote could be rephrased to say “The investment return used to discount future payments is based on the new money yield i.e. the market value weighted yield of MPI’s marketable bonds portfolio as of September 1, 2019.”
- b) Figure INV-52 shows the Basic Claims asset allocation for the end of Q4 2019/20 (note that the heading for line 2 says Government bonds, but should say Provincial bonds). The market values provided in Figure 1 of PUB (MPI) 1-3 are as of the end of Q2 2019/20. The market values are higher in Q4 2019/20 compared to Q2 2019/20 because of the re-investment of interest income and operational cash. MPI will provide a schedule for the derivation of the new money yield for next year’s rate application.
- c) See Figure INV-14, INV-15 and INV-16 line 11 for the marketable bond, provincial and corporate bond yield at the end of Q4 2019/20. Since the naïve forecast was used, the Q4 2019/20 yields match the Q2 2019/20 yields in Figure 1 of PUB (MPI) 1-3.
- d) See Figure 1 below for the new money yield calculation for the March 50/50 interest rate forecast.

Figure 1: New Money Yield Calculation March 50/50 Interest Rate Forecast

Line No.	New Money Yield Calculation	Q2 2019/20*
1	(C\$000s)	
2	Market Value	
3	Provincial Bonds	947,854
4	Corporate Bonds	372,659
5	Total Marketable Bonds	1,320,514
6		
7	Percentage Allocation	
8	Provincial Bonds	71.8%
9	Corporate Bonds	28.2%
10	Total Marketable Bonds	100.0%
11		
12	Yield To Maturity	
13	Provincial Bonds	3.23%
14	Corporate Bonds	4.19%
15	New Money Yield	3.50%
16	* Forecast for August 31, 2019, which is used for the September 1, 2019 New Money Yield	

The question asks for the 50/50 interest rate forecasted bond yields to be tied to a schedule in the GRA materials. As MPI did not apply for rates based on the 50/50 interest rate forecast, no such materials in the GRA exist. The information can be calculated as follows:

- See [Figure INV-42](#) line 6 for the 50/50 GoC 10 year interest rate forecast, which is 2.53%. The provincial and corporate bond yields can be calculated by adding the 50/50 GoC 10 year interest rate forecast (2.53%) and the provincial/corporate spread:
 - Provincial bonds have a forecasted duration of 9.8 years as of Q2 2019/20 (using the 50/50 forecast). As shown in Figure INV-19 and as per the discussion in INV.4.3.5, the provincial bond spread is 70 bps over the GoC 10 year bond yield (2.53% + 0.70% = 3.23%)
 - Corporate bonds have a forecasted spread of 166 bps over the GoC 10 year bond, which is discussed in INV.4.3.5. (2.53% + 1.66% = 4.19%).

PUB (MPI) 2-6

Part and Chapter:	PUB (MPI) 1-3(d) V RM	Page No.:	19
PUB Approved Issue No:	2. Rate Indication		
Topic:	Ratemaking in Accordance with Accepted Actuarial Practice		
Sub Topic:	Cash Flow Discount Rate		

Preamble to IR (If Any):

Based on the Application, the rate request consists of a 2.1% Net Capital Maintenance Provision (“NCMP”) and a 0.1% increase to the breakeven cost of policies, for an overall rate indication of 2.2%

Utilizing a 50/50 interest rate forecast results in the overall indicated rate increase declining by 100 basis points and the required increase for breakeven cost of policies declines by 60 basis points.

Question:

- a) Please file a table of the indicated and approved rate increase by customer class using the 50/50 interest rate forecast.
- b) Please refile Figure MR-14 including an additional column for proposed dollar rate change based on use of an updated 50/50 interest rate forecast.
- c) Please file RM-15 using an updated 50/50 interest rate forecast.
- d) Please provide the derivation of the restated NCMP (an apparent decline of 40 basis points) as a result of the used of the 50/50 interest rate forecast with accompanying narrative to support the change.

Rationale for Question:

To assess the sensitivity of the rate indication to the cash flow discount rate selection.

RESPONSE:

MPI has provided the response to this information request below, but reminds the PUB that MPI has applied for rates for service based on the best estimate naïve interest rate forecast.

In the 2018 GRA MPI indicated that Basic suffered \$163 million in premium deficiency as a result of interest rates not materializing between 2014/15 and 2016/17.

In this application, MPI has demonstrated that the naïve forecast is a best estimate, and that the selection of this estimate is supported both by the Corporation and by the Corporation's external actuary. These facts are established in Sections [INV.1.1](#) and [INV.2.3](#) of Part VI Investments, and MPI has expanded on these and related points in the following IR responses:

- CAC (MPI)1-4
- CAC (MPI)1-5
- CAC (MPI)1-6
- CAC (MPI)1-7
- CAC (MPI)1-8
- CAC (MPI)1-18
- PUB (MPI)1-11
- PUB (MPI)1-28
- PUB (MPI)2-5
- PUB (MPI) 2-9
- PUB (MPI) 2-39
- CAC (MPI) 2-1

Taken together, this body of evidence establishes that the naïve forecast is a best estimate, and the information provided below deviates from best estimate assumptions.

a) Refer to the response to (b) below.

b) Refer to the table below:

Figure 1: Major Class Summary Report

Line No.	Major Class	Vehicle Count*	Current Average Rate*	Proposed Average Rate		Proposed Rate Change		Experience Rate Change	
				Naïve I/R*	50/50 I/R	Naïve I/R*	50/50 I/R	Naïve I/R*	50/50 I/R
1	Private Passenger	801,726	\$1,111	\$1,138	\$1,126	2.4%	1.4%	2.4%	1.4%
2	Commercial	46,246	\$780	\$798	\$790	2.4%	1.3%	2.6%	1.4%
3	Public	12,630	\$2,003	\$2,014	\$1,994	0.6%	-0.5%	-0.2%	-1.2%
4	Motorcycles	17,023	\$797	\$822	\$807	3.1%	1.3%	3.2%	1.4%
5	Trailers	200,677	\$81	\$78	\$77	-4.7%	-5.3%	-4.6%	-5.2%
6	Off-Road Vehicles	70,838	\$10	\$8	\$8	-20.0%	-20.0%	-36.0%	-36.8%
7	Overall	1,149,140	\$855	\$874	\$865	2.2%	1.2%	2.2%	1.2%
8	*Per Figure RM-14								

c) Refer to the table below:

Figure 2: Dollar Distribution Table

Line No.	\$ Change	# of Vehicles	% of Vehicles
1	Decrease \$300 or more	131	0.01%
2	Decrease \$200 to \$299	529	0.05%
3	Decrease \$150 to \$199	3,244	0.28%
4	Decrease \$100 to \$149	27,722	2.41%
5	Decrease \$50 to \$99	124,912	10.87%
6	Decrease \$20 to \$49	144,330	12.56%
7	Decrease \$1 to \$19	210,838	18.35%
8	No Change	87,688	7.63%
9	Increase \$1 to \$19	151,947	13.22%
10	Increase \$20 to \$49	105,294	9.16%
11	Increase \$50 to \$99	216,250	18.82%
12	Increase \$100 to \$149	57,342	4.99%
13	Increase \$150 to \$199	13,353	1.16%
14	Increase \$200 to \$299	5,529	0.48%
15	Increase \$300 or more	*31	0.00%
16	GRAND TOTAL	1,149,140	100%
17	*Of those 31 units, 22 are Taxicab Vehicle-for-Hire 4 in Territory 3		

- d) The 40 basis point difference (i.e. 2.1% compared to 1.7%) in the impact of the Net CMP on the required overall rate is driven by two factors:

First, the 50/50 forecast results in an increase in capital available in 2019/20. This increase occurs because increasing interest rates have a favorable impact on net income. This impact is partially offset by the lower breakeven rate requirement of -0.5% compared to 0.1% based on the naive forecast.

The table below presents the change in the capital available between 2018/19 and 2019/20 based on breakeven rate requirement. The higher increase in the capital available under the 50/50 scenario of \$3.0 million results in an equivalent decrease in the amount needed to maintain capital adequacy.

Figure 3: Capital Available Based on Breakeven Rate Requirement

Line No.	Interest Rate Scenario	2018/19	2019/20	Change
1	(C\$'000)			
2	Naïve Scenario	210,765	211,178	413
3	50/50 Scenario	219,790	223,190	3,400
4	Additional Capital Available from the 50/50 Scenario			2,987

Second, the required change in the capital available to maintain the 2018/19 MCT ratio is smaller under the 50/50 scenario. The table below shows the required change in capital available to maintain the 2018/19 MCT ratio.

Figure 4: Required Change in Capital Available to Maintain the 2018/19 MCT Ratio

Line No.	Interest Rate Scenario	Capital Required 2018/19	Capital Required 2019/20	Change in Capital Required	Capital Available 2018/19	Change in Capital Available*
1	(C\$'000)					
2	Naïve Scenario	303,315	335,160	10.5%	210,765	22,128
3	50/50 Scenario	302,191	331,912	9.8%	219,790	21,617
4	Variance					-511
5	*Reflects the required change in capital available to maintain the 2018/19 MCT ratio;					
6	equal to the Change in Capital Required * Capital Available 2018/19					

The total impact of these two factors is a \$3.5 million decrease in the amount of capital needed to maintain capital adequacy, which translates into the 40 basis point difference in the impact of the Net CMP on the required overall rate.

The figures for capital available and capital required in the tables above were taken from *PUB (MPI) 1-76, Appendix 1* and *Appendix 1a*, except for the \$331.9M capital required for 2019/20 under the 50/50 scenario. The \$331.9M reflects the capital required for 2019/20 under the 50/50 scenario based on the rate requirement including net CMP of 1.2%.

PUB (MPI) 2-7

Part and Chapter:	PUB (MPI) 1-7 VI INV	Page No.:	48
PUB Approved Issue No:	4.a Financial Forecast – Financial Forecast Accuracy		
Topic:	Canadian Equities		
Sub Topic:	Turnover Assumption		

Preamble to IR (If Any):**Question:**

Why is the Corporation planning to change its position in equity holdings to be only in pooled funds in 2019/20 and subsequent years?

Rationale for Question:

To assess the reasonableness of the Basic financial forecast assumptions.

RESPONSE:

The allocation to Canadian equities will be decreasing to approximately 4.2% of the total portfolio and will be split across four of the five new portfolios. Therefore, the allocations to equities within the new portfolios will be as small as \$3 million, which does not meet the required minimum for a segregated account. Even when the amounts are aggregated across the four portfolios containing equities, the amounts likely do not meet the required minimum for a segregated account.

PUB (MPI) 2-8

Part and Chapter:	PUB (MPI) 1-8(b) VIII FFM	Page No.:	6
PUB Approved Issue No:	4.a Financial Forecast – Financial Forecast Accuracy		
Topic:	Financial Forecast Model		
Sub Topic:	Update for ALM Changes		

Preamble to IR (If Any):**Question:**

Can financial forecast modeling assumptions be separately specified for each of the investment portfolio buckets?

Rationale for Question:

To better understand the capabilities of the financial forecast model.

RESPONSE:

See Figure 1 below for the modeling assumptions specific to each of the investment portfolio buckets for 2019/20 and thereafter. Note that the Basic Claims portfolio contains no growth assets.

Figure 1: Modeling Assumptions for 2019/20 and Thereafter

Line No.		Basic	RSR	EFB
1	Marketable Bonds (Government, Corporate, Provincial)			
2	Turnover	65%	65%	Same as RSR
3	Yield to Maturity	See INV.4.3.4	See INV.4.3.4	Same as RSR
4	Overall Duration Gap	0.0 years	0.0 years	Same as RSR
5	MUSH			
6	New MUSH Purchases	n/a	n/a	n/a
7	Private Debt			
8	Private Debt Spread	n/a	1.42%	Same as RSR
9	Private Debt Purchases	n/a	Funding occurs in 2019/20	Same as RSR
10	Canadian Equities			
11	Total Return	n/a	7.0%	Same as RSR
12	Dividend Yield	n/a	3.1% 2018/19, 3.2% 2019/20, 3.4% 2020/21 and thereafter	Same as RSR
13	Capital Return	n/a	Total Return - Dividend Yield = Capital Return	Same as RSR
14	Turnover Ratio (Annual)	n/a	0.2 for 2018/19, 0.0 for 2019/20 and thereafter	Same as RSR
15	Global Equities and Global Low Vol			
16	Total Return	n/a	7.0% for Global Equities, 6.4% for Global Low Vol	Same as RSR
17	Dividend Yield	n/a	2.7% 2019/20, 2.8% thereafter	Same as RSR
18	Capital Return	n/a	Total Return - Dividend Yield = Capital Return	Same as RSR
19	Turnover Ratio (Annual)	n/a	0	Same as RSR
20	Real Estate Pooled Fund			
21	Return	n/a	CPI + 4%: 6.2% in 2018/19, 6.1% in 2019/20 and 6.0% thereafter	Same as RSR
22	Funding	n/a	\$0 funding over the five year forecast	Same as RSR
23	Investment Properties (Cityplace)			
24	Investment Property Income	n/a	Based on manager's projections	Same as RSR
25	Infrastructure			
26	Return	n/a	CPI + 5%: 7.2% in 2018/19, 7.1% in 2019/20 and 7.0% thereafter	Same as RSR
27	Funding	n/a	No additional funding for infrastructure forecasted	Same as RSR
28	Rebalancing Assumptions and Asset Allocation	See INV.11.2 Basic Portfolio supporting Basic Claims Liabilities Rebalancing	See INV.11.3 RSR and EFB Rebalancing Assumptions	See INV.11.3 RSR and EFB Rebalancing Assumptions

PUB (MPI) 2-9

Part and Chapter:	PUB (MPI) 1-11(a) VI INV	Page No.:	31
PUB Approved Issue No:	4.d. Financial Forecast – Justification for the Use of Naïve Forecast		
Topic:	Interest Rate Forecasting		
Sub Topic:	Use of Naïve Interest Rate Forecast		

Preamble to IR (If Any):**Question:**

Please discuss how the predominant pattern of decline in Government of Canada 10-year bond yields over most of the 14 year history used in the paired sample t-test on the sample mean as provided in PUB (MPI) 1- 11(a) affects the conclusion of that test.

Rationale for Question:

To clarify the strength of the Corporation's position on interest rate forecasting.

RESPONSE:

The banks surveyed in the Standard Interest Rate Forecast (SIRF) use a form of mean reversion for their interest rate forecasts, which causes their forecasts to be biased upwards, particularly in a flat or decreasing interest rate environment. The naïve forecast over the last 14 years, which is neither biased upwards or downwards, has produced a forecast with the least amount of bias, while the SIRF and 50/50 forecast have had significantly higher bias. This is the actual historical performance of the 50/50 (SIRF) interest rate forecast, and the basis on which MPI has selected the naïve forecast as a best estimate.

It is not a given that that the interest rate environment is currently rising, as the GoC 10 year bond yield at August 31st was 2.23%, against the 2.24% naïve forecast in the GRA. Nor is it a given that the interest rate environment will be rising in the future.

However, the interest rate environment could potentially increase, and if so, it is nevertheless unclear what the results of the paired sample t-test would be for the 50/50 forecast and naïve forecast when Government of Canada 10-year bond yields are rising. No data and experience exist to observe and test the results. Therefore, MPI cannot comment on what the results would be of such a hypothetical test.

Accordingly, MPI is left with only the actual historical data on which to base its estimates, which it has done, in the selection of the naïve forecast.

PUB (MPI) 2-10

Part and Chapter:	PUB (MPI) 1-16 VI RSR	Page No.:	4
PUB Approved Issue No:	7. Update of DCAT		
Topic:	Basic Total Equity Target Range Thresholds		
Sub Topic:	2018 GRA Approved Methodology		

Preamble to IR (If Any):**Question:**

- a) Please provide the summary of the adverse scenario assumed routine management / regulatory rate change actions (i.e., excluding RSR rebuilding fee actions) as requested in PUB (MPI) 1-16(b).
- b) In PUB (MPI) 1-16(c), the Corporation's response indicates "*it is inappropriate to view the establishment and maintenance of Basic's satisfactory financial condition as a theoretical exercise*". In this context, please discuss the use of a theoretical base scenario financial forecast and the stressing of that forecast using theoretical plausible adverse scenarios in the Corporation's DCAT and its approach to setting the Basic Total Equity target range thresholds.
- c) In RSR.4, the Corporation states "*The methodology ordered by PUB in the 2018 GRA produces a 2019 lower RSR target of \$120 million, which is below the amount of \$143 million required for satisfactory financial condition.*" Please confirm that this conclusion is in large part due to the exclusion of the CMP from the DCAT base scenario, and the declining MCT ratio then expected over the forecast period.
- d) Would the Corporation agree that the Board approved iterative methodology used to derive a modified base scenario, while not a best estimate of forecasted Basic financial results generally (in a similar manner that each tested adverse scenario in the Corporation's DCAT is not a best estimate of forecasted Basic financial results),

is a best estimate of Basic financial results if Basic was operating steadily at the specified Basic Total Equity threshold level?

Rationale for Question:

To assess the Corporation's decision to deviate from the Board approved methodology.

RESPONSE:

- a) The assumed routine management/regulatory rate changes are outlined in Figure 20 of Part VI DCAT.5.1, which has been reproduced below for convenience.

Figure DCAT- 20: Assumed Management and Regulatory Action for Combined Scenarios

Line No.	Combined Scenarios	2019/20	2020/21	2021/22	2022/23
1	Base	0.1% Rate / 0% RSR			
2	1 year	0.1% Rate / 0% RSR	n/a	n/a	n/a
3	2 year	0.1% Rate / 0% RSR	0% Rate / 2% RSR	n/a	n/a
4	3 year	0.1% Rate / 0% RSR	0% Rate / 2% RSR	2% Rate / 2% RSR	n/a
5	4 year	0.1% Rate / 0% RSR	0% Rate / 2% RSR	3% Rate / 2% RSR	3% Rate / 2% RSR

- b) There is a difference between theoretical 'best estimate' scenario testing and arbitrary theoretical scenarios. With respect, the determination of the threshold for satisfactory financial condition of Basic by MPI's Chief Actuary is based on best estimates, not imagined base case scenarios. The PUB methodology for the determination of the lower RSR target is not based on best estimates and produces a minimum RSR target that is below the amount required for satisfactory financial condition of Basic. MPI does not support the PUB approach theoretically or in actuality.
- c) The inclusion or exclusion of the Capital Maintenance Provision in the determination of the minimum capital levels between the two methodologies does not change the Corporation's conclusion. The inclusion of a CMP in the PUB

iterative methodology would further reduce the minimum capital required and result in an unsatisfactory financial condition.

- d) Yes. However, the key reference point for the determination of satisfactory financial condition of Basic is the current RSR balance, not a hypothetical RSR balance. Further, the management actions of the Corporation (e.g. the need for rebuilding fees) and the behavior of the financial model (e.g. the amount invested in equities) will be different depending on the current RSR balance. Such impacts are not properly recognized when modeling theoretical base case scenarios.

PUB (MPI) 2-11

Part and Chapter:	PUB (MPI) 1-17	Page No.:	
PUB Approved Issue No:	7.1 Update of DCAT		
Topic:	DCAT Modified Base Scenario		
Sub Topic:	Treatment of Capital Maintenance Provision (CMP)		

Preamble to IR (If Any):**Question:**

If a suitably defined and Board approved methodology for determining the CMP is established, why would it be inappropriate to include this CMP in the DCAT base scenario as part of a best estimate forecast of Basic financial results?

Rationale for Question:

To assess the Corporation's position on excluding the CMP for DCAT purposes.

RESPONSE:

The establishment of an appropriate RSR range should reflect the best estimate risk level of Basic before the application of capital maintenance provisions. The management of capital within the RSR range would then be determined by MPI's capital management plan. Capital build and release provisions and capital maintenance provisions are examples of how MPI can manage capital within an appropriate RSR range. A capital maintenance provision would not lower the minimum capital targets of 100% MCT for SGI/ICBC/SAAQ nor would it lower the 150% MCT regulatory capital targets of a federally regulated private insurer. MPI does not see any reason why its minimum capital target should be treated any differently.

PUB (MPI) 2-12

Part and Chapter:	PUB (MPI) 1-22 VI INV Figure INV-5	Page No.:	14
PUB Approved Issue No:	8.(i) Performance of the Investment Portfolio and the composition of the Portfolio		
Topic:	Investment Portfolio		
Sub Topic:	Major Asset Class		

Preamble to IR (If Any):

In the 2018 GRA, MPI targeted an 18% allocation to Corporate Bonds, returns of which were based on having a mix of 60% A or better and 40% BBB rated bonds. The introduction of Corporate Bonds was expected to increase the yields and return from the investment portfolio.

MPI indicates that at the end of 2017/18 MPI had \$99 million in Corporate Bonds, for an allocation of 4.2% of the portfolio. As at June 30, 2018 MPI reported investment in Corporate Bonds of \$116 million, or 4.1%, of the portfolio. This is \$26 million more than reported at the end of last year. MPI does not appear to have made any investments in BBB rated bonds to date. MPI is forecasting to have \$403 million in Corporate Bonds by the end of 2018/19.

Question:

- a) Please indicate the forecasted level of investment in Corporate bonds in each of the remaining quarters of the current fiscal year.
- b) Please indicate the forecasted yield on Corporate bonds for 2018/19 and 2019/20, based on the actual and forecast purchases.

Rationale for Question:

To assess the reasonableness of forecasted investment income.

RESPONSE:

a) See Figure 1 below.

Figure 1: Forecasted Corporate Bond Market Value and Allocation (%)

Line No.	Quarter	Corporate Bond Market Value (C\$000s)	Percentage of the Total Portfolio (%)
1	Q2 2018/19	262,977	9.2%
2	Q3 2018/19	414,561	14.3%
3	Q4 2018/19	618,898	21.0%

No new purchases of corporate bonds have occurred to date as the new corporate bond manager has not yet been selected. The Corporation is in the process of hiring a consultant to assist with the search for new investment managers. Purchases of new corporate bonds is now not expected to begin until March 1, 2019 as changes to our accounting systems and investment income allocation policy cannot occur until the new fiscal year. As a result, no changes can be made to the current 70% bond/30% growth asset allocation without having an adverse impact on the interest rate risk mitigation strategy. The majority of purchases of corporate bonds are expected to be funded by the sale of growth assets (equities, real estate and infrastructure), which would affect the fixed income/growth assets split.

b) The 2018/19 and 2019/20 forecasted corporate bond yields are shown in Figure 2 below. When the 2019 GRA forecast was set, no corporate bonds had been purchased fiscal year-to-date in 2018/19. See INV.4.3.4 for the yield to maturity assumptions used in 2018/19. See INV.4.3.5 for the yield to maturity assumptions used in 2019/20.

Figure 2: Forecasted Corporate Yield

Line No.	Quarter	Corporate Bond Yield (Forecast)
1	Q1 2018/19	3.35%
2	Q2 2018/19	3.53%
3	Q3 2018/19	3.71%
4	Q4 2018/19	3.90%
5	Q1 2019/20	3.90%
6	Q2 2019/20	3.90%
7	Q3 2019/20	3.90%
8	Q4 2019/20	3.90%

PUB (MPI) 2-13

Part and Chapter:	PUB (MPI) 1-24 PUB (MPI) 1-26(c) Figure INV-2 and INV-3	Page No.:	11- 12
PUB Approved Issue No:	8. Performance of the Investment Portfolio		
Topic:	Investments		
Sub Topic:	Accommodation of Commingled Portfolio		

Preamble to IR (If Any):

MPI has indicated that it is determining a new allocation methodology for its balance sheet and investment income.

Question:

- a) Please provide the supporting detail for the investment income forecast to be allocated to Basic, including the proportion to be reported in Basic's annual report related to the investment in Pension and RSR for the years 2019/20 and 2020/21.
- b) Please file a Summary of Corporate Investment Income and provide a comparison in terms of dollars and percentage of the investment income related to Basic.
- c) Please indicate how the Corporation intends to fund the remaining 48% or assets required to segregate the portfolio, and the expected transactional impacts.

Rationale for Question:

To understand the details and impact of the accommodations of the commingled portfolio.

RESPONSE:

a) See Figure 1 below.

Figure 1: Basic Line of Business Investment Earnings Summary

Line No.	(C\$000's)	2019/20	2020/21
1	Basic Claims	70,316	72,609
2	RSR	11,830	12,254
3	Total Basic Investment Income	82,147	84,863
4	Add: Basic's share of Income on Pension Assets	15,209	13,995
5	Total Earnings on Investment Assets	97,356	98,858

b) See Figure 2 below.

Figure 2: Summary of Basic Line of Business Investment Income as a Proportion of Corporate Investment Income

Line No.	2019/20				2020/21				
	Basic Forecast	Corporate Forecast	Difference (C\$000s)	Percentage	Basic Forecast	Corporate Forecast	Difference (C\$000s)	Percentage	
(C\$000s, except where noted)									
1	Interest Income During Period								
2	Cash/Short Term Investments	90	90	-	100%	-	-	-	-
3	Provincial Bonds	30,286	31,851	1,565	95%	33,170	35,075	1,905	95%
4	Corporate Bonds	18,375	22,356	3,981	82%	20,233	25,332	5,099	80%
4	MUSH	23,699	24,361	662	97%	21,465	22,065	600	97%
5	Private Debt	986	3,755	2,769	26%	2,630	10,014	7,384	26%
6	Total	73,436	82,413	8,977	89%	77,497	92,485	14,988	84%
7	Dividend and other Income								
8	Canadian Equities	1,690	5,690	4,000	30%	1,422	4,657	3,235	31%
9	Global Equities	1,423	5,979	4,556	24%	1,271	4,978	3,707	26%
10	Global Low Volatility	869	2,898	2,029	30%	961	3,293	2,333	29%
11	Investment Properties (CityPlace)	642	1,926	1,284	33%	837	2,512	1,675	33%
12	Infrastructure	239	1,133	894	21%	249	1,180	931	21%
13	Total	4,863	17,626	12,763	28%	4,740	16,620	11,881	29%
14	Gains During Period - Profit & Loss								
15	Provincial Bonds Unrealized Gains/(Loss)	(28,827)	(28,828)	-	100%	(417)	(417)	-	100%
16	Provincial Bonds Realized Gains/(Loss)	28,827	28,827	-	100%	417	417	-	100%
17	Corporate Bonds Unrealized Gains/(Loss)	(4)	(4)	-	100%	(4)	(4)	-	100%
18	Corporate Bonds Realized Gains/(Loss)	4	4	-	100%	4	4	-	100%
19	Canadian Equities Realized Gains	683	2,620	1,938	26%	-	-	-	-
20	US/Global Equities Realized Gains	649	3,717	3,068	17%	-	-	-	-
21	Global Low Volatility	-	458	458	0%	-	-	-	-
22	Real Estate	1,162	5,580	4,418	21%	1,213	5,824	4,611	21%
23	Infrastructure	936	4,439	3,503	21%	975	4,625	3,650	21%
24	Total	3,431	16,815	13,384	20%	2,188	10,448	8,260	21%
25	Other								
26	Investment Fees Paid	(2,121)	(4,730)	(2,609)	45%	(2,153)	(4,626)	(2,473)	47%
27	Amortization of Bond Premium/Discount	2,538	2,526	(12)	100%	2,591	2,576	(15)	101%
28	Total	417	(2,204)	(2,621)	-19%	438	(2,050)	(2,488)	-21%
29	Less: Income on Pension Assets	-	(20,553)	-	-	-	(18,912)	-	-
30	Total Investment Income	82,147	94,096	11,950	87%	84,863	98,592	13,729	86%

- c) It is estimated that the remaining 48% of the new investments will be funded by selling 55% of Canadian equities (\$150M), 100% of U.S. equities (\$150M), and 23% of infrastructure (\$23M). The Corporation will engage a transition manager to oversee, minimize and report on the costs associated with the transition between the public equity holdings.

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Part and Chapter:	PUB (MPI) 1-29	Page No.:	
PUB Approved Issue No:	8. Performance of the Investment Portfolio		
Topic:	Investments		
Sub Topic:	Investment Policy Statement – Material Changes		

Preamble to IR (If Any):

In its response, the Corporation states "*the claims discount rate methodology was changed to use the dollar-weighted yield of the fixed income portfolio rather than the duration weighted yield.*"

Question:

- a) Please provide comparative documentation of the derivation of the claims discount rate as of 28 February 2018 using each of the two methodologies.
- b) Please discuss the impact of this methodological change on 2018/19 Basic operating results, forecasted Basic operating results, and rate indications determined in accordance with accepted actuarial practice in Canada.

Rationale for Question:

To better understand the impact of the claims discount rate methodological change.

RESPONSE:

- a) The derivation of the claims discount rate for both the dollar weighted yield and the duration weighted yield is presented in Appendix A.

- b) The change in the methodology, from using a duration weighted yield to using a dollar-weighted yield, had a one-time favourable impact on the 2017/18 operational results. Specifically, per *Part VIII, AR Appendix 1, page 35*, based on the February 28, 2018 review of policy liabilities: “[T]he change in the Basis for determining the discount rate decreased the discounted net claim liabilities by \$25.8 million and ILAE provision by \$2.7 million.” No further impact is anticipated on operational results on a go forward basis.

The change in methodology does not impact the rate indication for 2019/20. This is because the new money yield used to discount future payments was always calculated on a market value weighted basis.

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
735756A\$6	PORTAGE LA PRAIRIE SCHOOL DIV.	531,569	0.03%	5.25%	3.42	0.0015%	0.0005%
768109A\$8	RIVER EAST SCHOOL DIVISION	492,924	0.03%	5.25%	3.42	0.0014%	0.0005%
975031A\$3	WINNPEG SCHOOL DIVISION	997,954	0.05%	5.19%	3.34	0.0027%	0.0009%
AGS0419\$A	AGASSIZ SCHOOL DIVISION	11,928	0.00%	6.00%	0.63	0.0000%	0.0000%
AGS0421\$A	AGASSIZ SCHOOL DIVISION	75,461	0.00%	6.50%	1.50	0.0003%	0.0000%
AGS0522\$A	AGASSIZ SCHOOL DIVISION	432,250	0.02%	6.74%	2.01	0.0015%	0.0003%
AGS0619\$A	AGASSIZ SCHOOL DIVISION	33,849	0.00%	5.99%	0.80	0.0001%	0.0000%
AGS0720\$A	AGASSIZ SCHOOL DIVISION	72,333	0.00%	6.84%	1.29	0.0003%	0.0000%
AGS0721\$A	AGASSIZ SCHOOL DIVISION	172,014	0.01%	6.85%	1.73	0.0006%	0.0001%
AGS1019\$A	AGASSIZ SCHOOL DIVISION	48,872	0.00%	6.59%	1.08	0.0002%	0.0000%
AGS1020\$A	AGASSIZ SCHOOL DIVISION	98,103	0.01%	6.61%	1.58	0.0003%	0.0001%
AGS1218\$A	AGASSIZ SCHOOL DIVISION	8,216	0.00%	6.00%	0.77	0.0000%	0.0000%
ARS0120\$A	ANTLER RIVER SCHOOL DIVISION	34,303	0.00%	6.86%	1.32	0.0001%	0.0000%
ARS0420\$A	ANTLER RIVER SCHOOL DIVISION	15,736	0.00%	6.73%	1.09	0.0001%	0.0000%
ARS0421\$A	ANTLER RIVER SCHOOL DIVISION	39,766	0.00%	6.50%	1.50	0.0001%	0.0000%
ARS0421\$B	ANTLER RIVER SCHOOL DIVISION	43,836	0.00%	6.50%	1.50	0.0002%	0.0000%
ARS0521\$A	ANTLER RIVER SCHOOL DIVISION	16,306	0.00%	6.85%	1.57	0.0001%	0.0000%
ARS0720\$A	ANTLER RIVER SCHOOL DIVISION	11,395	0.00%	6.84%	1.29	0.0000%	0.0000%
ARS0820\$A	ANTLER RIVER SCHOOL DIVISION	62,699	0.00%	6.72%	1.41	0.0002%	0.0000%
ARS0821\$A	ANTLER RIVER SCHOOL DIVISION	88,272	0.00%	6.73%	1.86	0.0003%	0.0001%
ARS1020\$A	ANTLER RIVER SCHOOL DIVISION	49,913	0.00%	6.73%	1.58	0.0002%	0.0000%
ARS1021\$A	ANTLER RIVER SCHOOL DIVISION	61,803	0.00%	6.61%	1.98	0.0002%	0.0000%
ARS1119\$A	ANTLER RIVER SCHOOL DIVISION	33,353	0.00%	6.72%	1.16	0.0001%	0.0000%
ARS1119\$B	ANTLER RIVER SCHOOL DIVISION	43,690	0.00%	6.85%	1.20	0.0002%	0.0000%
ARS1121\$A	ANTLER RIVER SCHOOL DIVISION	26,037	0.00%	6.73%	2.06	0.0001%	0.0000%
ART1221\$A	TOWN OF ARBORG	28,050	0.00%	2.73%	2.28	0.0000%	0.0000%
ASS0334\$A	ASSINIBOINE SOUTH SCHOOL DIV	29,711	0.00%	4.20%	6.95	0.0001%	0.0000%
ASS0334\$B	ASSINIBOINE SOUTH SCHOOL DIV	1,439,048	0.08%	4.20%	6.95	0.0032%	0.0023%
ASS0521\$A	ASSINIBOINE SOUTH SCHOOL DIV	154,109	0.01%	6.85%	1.61	0.0006%	0.0001%
ASS0522\$A	ASSINIBOINE SOUTH SCHOOL DIV	143,827	0.01%	6.74%	2.05	0.0005%	0.0001%
BDS0619\$A	BOUNDARY SCHOOL DIVISION	17,086	0.00%	5.99%	0.80	0.0001%	0.0000%
BDS0622\$A	BOUNDARY SCHOOL DIVISION	9,870	0.00%	6.49%	2.14	0.0000%	0.0000%
BDS1020\$A	BOUNDARY SCHOOL DIVISION	24,404	0.00%	6.60%	1.53	0.0001%	0.0000%
BDS1119\$A	BOUNDARY SCHOOL DIVISION	24,718	0.00%	6.72%	1.16	0.0001%	0.0000%
BDS1218\$A	BOUNDARY SCHOOL DIVISION	14,917	0.00%	5.76%	0.77	0.0000%	0.0000%
BLS0127\$A	BORDER LAND SCHOOL DIVISION	261,039	0.01%	4.81%	4.46	0.0007%	0.0003%
BLS0128\$A	BORDER LAND SCHOOL DIVISION	174,773	0.01%	5.06%	4.89	0.0005%	0.0002%
BLS0129\$A	BORDER LAND SCHOOL DIVISION	105,288	0.01%	5.79%	5.21	0.0003%	0.0002%
BLS0329\$A	BORDER LAND SCHOOL DIVISION	451,341	0.02%	5.54%	4.81	0.0013%	0.0007%
BLS0330\$A	BORDER LAND SCHOOL DIVISION	515,993	0.03%	5.18%	5.24	0.0014%	0.0008%
BLS0331\$A	BORDER LAND SCHOOL DIVISION	603,742	0.03%	4.93%	5.66	0.0016%	0.0009%
BLS0334\$A	BORDER LAND SCHOOL DIVISION	96,044	0.01%	4.20%	6.95	0.0002%	0.0002%
BLS0524\$A	BORDER LAND SCHOOL DIVISION	148,199	0.01%	5.90%	2.94	0.0005%	0.0001%
BLS0534\$A	BORDER LAND SCHOOL DIVISION	158,338	0.01%	4.20%	7.12	0.0004%	0.0003%
BLS0626\$A	BORDER LAND SCHOOL DIVISION	57,776	0.00%	5.29%	3.85	0.0002%	0.0001%
BLS0627\$A	BORDER LAND SCHOOL DIVISION	49,731	0.00%	5.05%	4.32	0.0001%	0.0001%
BLS0628\$A	BORDER LAND SCHOOL DIVISION	87,008	0.00%	5.17%	4.67	0.0002%	0.0001%
BLS0631\$A	BORDER LAND SCHOOL DIVISION	227,724	0.01%	4.93%	5.91	0.0006%	0.0004%
BLS0633\$A	BORDER LAND SCHOOL DIVISION	433,817	0.02%	3.47%	6.95	0.0008%	0.0006%
BLS0635\$A	BORDER LAND SCHOOL DIVISION	52,477	0.00%	3.34%	7.82	0.0001%	0.0001%
BLS0722\$A	BORDER LAND SCHOOL DIVISION	216,387	0.01%	6.49%	2.22	0.0007%	0.0002%
BLS0724\$A	BORDER LAND SCHOOL DIVISION	57,321	0.00%	6.26%	3.08	0.0002%	0.0001%
BLS0826\$A	BORDER LAND SCHOOL DIVISION	211,443	0.01%	5.54%	4.03	0.0006%	0.0003%
BLS0926\$A	BORDER LAND SCHOOL DIVISION	251,225	0.01%	5.17%	4.14	0.0007%	0.0003%
BLS0927\$A	BORDER LAND SCHOOL DIVISION	106,217	0.01%	5.42%	4.53	0.0003%	0.0001%
BLS0929\$A	BORDER LAND SCHOOL DIVISION	245,422	0.01%	5.42%	5.31	0.0007%	0.0004%
BLS1030\$A	BORDER LAND SCHOOL DIVISION	211,471	0.01%	4.69%	5.89	0.0005%	0.0003%
BLS1126\$A	BORDER LAND SCHOOL DIVISION	218,216	0.01%	4.93%	4.29	0.0006%	0.0003%
BLS1227\$A	BORDER LAND SCHOOL DIVISION	83,081	0.00%	5.30%	4.74	0.0002%	0.0001%
BLS1227\$B	BORDER LAND SCHOOL DIVISION	69,585	0.00%	5.18%	4.80	0.0002%	0.0001%
BPS0132\$A	BEAUTIFUL PLAINS SCHOOL DIV	136,323	0.01%	4.08%	6.64	0.0003%	0.0002%
BPS0228\$A	BEAUTIFUL PLAINS SCHOOL DIV	893,846	0.05%	5.06%	4.97	0.0024%	0.0012%
BPS0326\$A	BEAUTIFUL PLAINS SCHOOL DIV	236,279	0.01%	5.06%	3.66	0.0006%	0.0002%
BPS0424\$A	BEAUTIFUL PLAINS SCHOOL DIV	254,105	0.01%	5.78%	2.86	0.0008%	0.0002%
BPS0427\$A	BEAUTIFUL PLAINS SCHOOL DIV	549,286	0.03%	4.93%	4.13	0.0014%	0.0006%
BPS0429\$A	BEAUTIFUL PLAINS SCHOOL DIV	203,346	0.01%	5.54%	4.89	0.0006%	0.0003%
BPS0518\$A	BEAUTIFUL PLAINS SCHOOL DIV	6,224	0.00%	5.90%	0.25	0.0000%	0.0000%
BPS0526\$A	BEAUTIFUL PLAINS SCHOOL DIV	342,014	0.02%	5.17%	3.82	0.0009%	0.0004%
BPS0534\$A	BEAUTIFUL PLAINS SCHOOL DIV	516,215	0.03%	4.20%	7.12	0.0011%	0.0008%
BPS0620\$A	BEAUTIFUL PLAINS SCHOOL DIV	62,920	0.00%	6.84%	1.21	0.0002%	0.0000%
BPS0628\$A	BEAUTIFUL PLAINS SCHOOL DIV	1,337,645	0.07%	5.17%	4.67	0.0037%	0.0018%
BPS0727\$A	BEAUTIFUL PLAINS SCHOOL DIV	106,693	0.01%	5.29%	4.38	0.0003%	0.0001%
BPS0820\$A	BEAUTIFUL PLAINS SCHOOL DIV	84,090	0.00%	6.72%	1.41	0.0003%	0.0000%
BPS0826\$A	BEAUTIFUL PLAINS SCHOOL DIV	540,446	0.03%	5.54%	4.03	0.0016%	0.0007%
BPS0923\$A	BEAUTIFUL PLAINS SCHOOL DIV	186,658	0.01%	6.02%	2.83	0.0006%	0.0002%
BPS0932\$A	BEAUTIFUL PLAINS SCHOOL DIV	697,306	0.04%	3.59%	6.77	0.0013%	0.0009%
BPS0935\$A	BEAUTIFUL PLAINS SCHOOL DIV	162,871	0.01%	3.47%	7.99	0.0003%	0.0002%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
BPS1019\$A	BEAUTIFUL PLAINS SCHOOL DIV	122,767	0.01%	6.59%	1.08	0.0004%	0.0000%
BPS1020\$A	BEAUTIFUL PLAINS SCHOOL DIV	244,282	0.01%	6.60%	1.53	0.0009%	0.0001%
BPS1022\$A	BEAUTIFUL PLAINS SCHOOL DIV	190,570	0.01%	6.14%	2.48	0.0006%	0.0002%
BPS1026\$A	BEAUTIFUL PLAINS SCHOOL DIV	418,791	0.02%	5.05%	4.19	0.0011%	0.0005%
BPS1027\$A	BEAUTIFUL PLAINS SCHOOL DIV	752,540	0.04%	5.42%	4.57	0.0022%	0.0010%
BPS1030\$A	BEAUTIFUL PLAINS SCHOOL DIV	186,526	0.01%	4.69%	5.85	0.0005%	0.0003%
BPS1128\$A	BEAUTIFUL PLAINS SCHOOL DIV	1,052,131	0.06%	5.42%	5.05	0.0030%	0.0016%
BPS1131\$A	BEAUTIFUL PLAINS SCHOOL DIV	239,286	0.01%	4.08%	6.43	0.0005%	0.0003%
BPS1219\$A	BEAUTIFUL PLAINS SCHOOL DIV	63,487	0.00%	6.86%	1.28	0.0002%	0.0000%
BPS1223\$A	BEAUTIFUL PLAINS SCHOOL DIV	210,729	0.01%	6.02%	3.03	0.0007%	0.0002%
BPS1226\$A	BEAUTIFUL PLAINS SCHOOL DIV	1,172,354	0.06%	4.93%	4.37	0.0031%	0.0014%
BPS1227\$A	BEAUTIFUL PLAINS SCHOOL DIV	733,298	0.04%	5.18%	4.76	0.0020%	0.0010%
BPS1229\$A	BEAUTIFUL PLAINS SCHOOL DIV	89,027	0.00%	5.18%	5.55	0.0002%	0.0001%
BRC1026\$A	CITY OF BRANDON	1,639,109	0.09%	2.97%	4.41	0.0026%	0.0012%
BRC1026\$B	CITY OF BRANDON	2,165,399	0.11%	2.97%	4.41	0.0034%	0.0015%
BRC1034\$A	CITY OF BRANDON	4,981,200	0.26%	4.20%	7.53	0.0111%	0.0086%
BRS0421\$A	BIRDTAIL RIVER SCHOOL DIV	120,237	0.01%	6.50%	1.50	0.0004%	0.0001%
BRS0518\$A	BIRDTAIL RIVER SCHOOL DIV	10,788	0.00%	5.89%	0.20	0.0000%	0.0000%
BRS0519\$A	BIRDTAIL RIVER SCHOOL DIV	42,162	0.00%	5.75%	0.72	0.0001%	0.0000%
BRS0620\$A	BIRDTAIL RIVER SCHOOL DIV	23,285	0.00%	6.84%	1.25	0.0001%	0.0000%
BRS0918\$A	BIRDTAIL RIVER SCHOOL DIV	17,842	0.00%	5.96%	0.57	0.0001%	0.0000%
BRS0921\$A	BIRDTAIL RIVER SCHOOL DIV	43,818	0.00%	6.73%	1.90	0.0002%	0.0000%
BRS1018\$A	BIRDTAIL RIVER SCHOOL DIV	17,851	0.00%	5.74%	0.65	0.0001%	0.0000%
BRS1019\$A	BIRDTAIL RIVER SCHOOL DIV	27,543	0.00%	6.59%	1.08	0.0001%	0.0000%
BSS0125\$A	BRANDON SCHOOL DIVISION	511,300	0.03%	5.66%	3.60	0.0015%	0.0006%
BSS0126\$A	BRANDON SCHOOL DIVISION	239,086	0.01%	4.93%	4.03	0.0006%	0.0003%
BSS0131\$A	BRANDON SCHOOL DIVISION	1,133,167	0.06%	4.69%	6.14	0.0028%	0.0018%
BSS0228\$A	BRANDON SCHOOL DIVISION	28,444	0.00%	5.06%	4.93	0.0001%	0.0000%
BSS0229\$A	BRANDON SCHOOL DIVISION	375,969	0.02%	5.42%	5.33	0.0011%	0.0006%
BSS0435\$A	BRANDON SCHOOL DIVISION	1,247,548	0.07%	2.98%	7.77	0.0020%	0.0016%
BSS0530\$A	BRANDON SCHOOL DIVISION	1,179,172	0.06%	5.05%	5.38	0.0032%	0.0017%
BSS0533\$A	BRANDON SCHOOL DIVISION	783,526	0.04%	3.59%	6.88	0.0015%	0.0011%
BSS0535\$A	BRANDON SCHOOL DIVISION	755,832	0.04%	2.98%	7.85	0.0012%	0.0010%
BSS0622\$A	BRANDON SCHOOL DIVISION	185,316	0.01%	6.61%	2.14	0.0006%	0.0001%
BSS0624\$A	BRANDON SCHOOL DIVISION	50,464	0.00%	6.02%	2.97	0.0002%	0.0000%
BSS0625\$A	BRANDON SCHOOL DIVISION	184,686	0.01%	5.29%	3.47	0.0005%	0.0002%
BSS0635\$A	BRANDON SCHOOL DIVISION	634,360	0.03%	3.34%	7.82	0.0011%	0.0009%
BSS0733\$A	BRANDON SCHOOL DIVISION	899,646	0.05%	3.71%	6.97	0.0018%	0.0013%
BSS0734\$A	BRANDON SCHOOL DIVISION	5,535,381	0.29%	3.96%	7.35	0.0116%	0.0088%
BSS0735\$A	BRANDON SCHOOL DIVISION	353,432	0.02%	3.34%	7.86	0.0006%	0.0005%
BSS0919\$A	BRANDON SCHOOL DIVISION	61,635	0.00%	6.59%	1.04	0.0002%	0.0000%
BSS0923\$A	BRANDON SCHOOL DIVISION	106,086	0.01%	5.77%	2.80	0.0003%	0.0001%
BSS0929\$A	BRANDON SCHOOL DIVISION	176,836	0.01%	5.42%	5.31	0.0005%	0.0003%
BSS0935\$A	BRANDON SCHOOL DIVISION	1,047,604	0.06%	3.22%	8.11	0.0018%	0.0015%
BSS1018\$A	BRANDON SCHOOL DIVISION	22,739	0.00%	5.97%	0.65	0.0001%	0.0000%
BSS1023\$A	BRANDON SCHOOL DIVISION	535,881	0.03%	5.78%	2.92	0.0016%	0.0005%
BSS1122\$A	BRANDON SCHOOL DIVISION	276,177	0.01%	6.14%	2.52	0.0009%	0.0002%
BSS1126\$A	BRANDON SCHOOL DIVISION	154,508	0.01%	4.93%	4.33	0.0004%	0.0002%
BSS1223\$A	BRANDON SCHOOL DIVISION	100,296	0.01%	6.02%	3.03	0.0003%	0.0001%
CAR0721\$A	RURAL MUN OF CARTIER	129,654	0.01%	7.09%	1.69	0.0005%	0.0001%
CAR0721\$B	RURAL MUN OF CARTIER	3,079	0.00%	7.09%	1.69	0.0000%	0.0000%
CAR0721\$C	RURAL MUN OF CARTIER	9,238	0.00%	7.09%	1.69	0.0000%	0.0000%
CAR1119\$A	RURAL MUN OF CARTIER	11,055	0.00%	7.55%	1.11	0.0000%	0.0000%
CAR1223\$A	RURAL MUN OF CARTIER	54,919	0.00%	6.38%	2.98	0.0002%	0.0001%
CLM1236\$A	R M OF ST CLEMENTS	3,385,481	0.18%	4.20%	8.43	0.0075%	0.0065%
DAC1235\$A	CITY OF DAUPHIN	262,219	0.01%	4.08%	8.02	0.0006%	0.0005%
DAC1235\$B	CITY OF DAUPHIN	342,932	0.02%	4.08%	8.02	0.0007%	0.0006%
DAR1237\$A	RURAL MUN OF DAUPHIN	351,624	0.02%	4.08%	8.76	0.0008%	0.0007%
DET0618\$A	TOWN OF DELORAINÉ	10,459	0.00%	6.36%	0.25	0.0000%	0.0000%
DMS0120\$A	DUCK MOUNTAIN SCHOOL DIVISION	5,632	0.00%	6.86%	1.32	0.0000%	0.0000%
DMS0422\$A	DUCK MOUNTAIN SCHOOL DIVISION	139,702	0.01%	6.50%	1.94	0.0005%	0.0001%
DMS0521\$A	DUCK MOUNTAIN SCHOOL DIVISION	31,217	0.00%	6.61%	1.58	0.0001%	0.0000%
DMS0619\$A	DUCK MOUNTAIN SCHOOL DIVISION	19,994	0.00%	6.22%	0.79	0.0001%	0.0000%
DMS0919\$A	DUCK MOUNTAIN SCHOOL DIVISION	26,487	0.00%	6.47%	1.04	0.0001%	0.0000%
DMS1021\$A	DUCK MOUNTAIN SCHOOL DIVISION	72,209	0.00%	6.61%	2.02	0.0003%	0.0001%
DOS0520\$A	DAUPHIN OCHRE SCHOOL AREA	83,844	0.00%	6.72%	1.13	0.0003%	0.0000%
DOS1119\$A	DAUPHIN OCHRE SCHOOL AREA	58,708	0.00%	6.85%	1.20	0.0002%	0.0000%
DSF0229\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	584,874	0.03%	5.79%	5.25	0.0018%	0.0010%
DSF0427\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	189,601	0.01%	4.93%	4.17	0.0005%	0.0002%
DSF0721\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	335,076	0.02%	6.85%	1.78	0.0012%	0.0002%
DSF0726\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	340,983	0.02%	5.29%	3.93	0.0010%	0.0004%
DSF0826\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	1,923,158	0.10%	5.54%	3.99	0.0056%	0.0023%
DSF0926\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	190,276	0.01%	5.17%	4.14	0.0005%	0.0002%
DSF1018\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	16,303	0.00%	6.21%	0.65	0.0001%	0.0000%
DSF1118\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	10,108	0.00%	5.75%	0.73	0.0000%	0.0000%
DSF1119\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	22,673	0.00%	6.61%	1.20	0.0001%	0.0000%
DSF1126\$A	DIV SCOLAIRE FRANCO-MANITOBAIN	1,005,014	0.05%	4.93%	4.33	0.0026%	0.0012%
DSR1225\$A	RURAL MUN OF DE SALABERRY	414,422	0.02%	3.22%	4.11	0.0007%	0.0003%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
DUF1226\$A	RURAL MUN OF DUFFERIN	24,529	0.00%	3.10%	4.57	0.0000%	0.0000%
EFR1235\$A	RM EMERSON-FRANKLIN	349,626	0.02%	4.08%	8.10	0.0008%	0.0006%
ERM1236\$A	RURAL MUN OF ELTON	201,797	0.01%	3.71%	8.59	0.0004%	0.0004%
ERM1237\$A	RURAL MUN OF ELTON	1,156,500	0.06%	3.95%	8.75	0.0024%	0.0022%
EVS0120\$A	EVERGREEN SCHOOL DIVISION	51,711	0.00%	6.86%	1.32	0.0002%	0.0000%
EVS0126\$A	EVERGREEN SCHOOL DIVISION	269,633	0.01%	4.93%	4.07	0.0007%	0.0003%
EVS0127\$A	EVERGREEN SCHOOL DIVISION	160,369	0.01%	4.81%	4.46	0.0004%	0.0002%
EVS0129\$A	EVERGREEN SCHOOL DIVISION	54,802	0.00%	5.79%	5.21	0.0002%	0.0001%
EVS0226\$A	EVERGREEN SCHOOL DIVISION	98,817	0.01%	4.81%	4.15	0.0003%	0.0001%
EVS0228\$A	EVERGREEN SCHOOL DIVISION	133,383	0.01%	5.06%	4.93	0.0004%	0.0002%
EVS0228\$B	EVERGREEN SCHOOL DIVISION	39,763	0.00%	5.18%	4.96	0.0001%	0.0001%
EVS0229\$A	EVERGREEN SCHOOL DIVISION	98,912	0.01%	5.55%	5.31	0.0003%	0.0002%
EVS0330\$A	EVERGREEN SCHOOL DIVISION	81,732	0.00%	5.06%	5.26	0.0002%	0.0001%
EVS0334\$A	EVERGREEN SCHOOL DIVISION	805,515	0.04%	4.20%	6.95	0.0018%	0.0013%
EVS0519\$A	EVERGREEN SCHOOL DIVISION	19,020	0.00%	5.75%	0.68	0.0001%	0.0000%
EVS0523\$A	EVERGREEN SCHOOL DIVISION	360,806	0.02%	6.02%	2.51	0.0012%	0.0003%
EVS0529\$A	EVERGREEN SCHOOL DIVISION	140,895	0.01%	5.54%	4.97	0.0004%	0.0002%
EVS0534\$A	EVERGREEN SCHOOL DIVISION	191,550	0.01%	4.20%	7.08	0.0004%	0.0003%
EVS0622\$A	EVERGREEN SCHOOL DIVISION	915,278	0.05%	6.49%	2.14	0.0031%	0.0007%
EVS0624\$A	EVERGREEN SCHOOL DIVISION	184,139	0.01%	6.02%	2.97	0.0006%	0.0002%
EVS0629\$A	EVERGREEN SCHOOL DIVISION	71,207	0.00%	5.54%	5.05	0.0002%	0.0001%
EVS0629\$B	EVERGREEN SCHOOL DIVISION	227,299	0.01%	5.54%	5.05	0.0007%	0.0003%
EVS0635\$A	EVERGREEN SCHOOL DIVISION	1,148,004	0.06%	3.34%	7.82	0.0020%	0.0016%
EVS0720\$A	EVERGREEN SCHOOL DIVISION	11,643	0.00%	6.84%	1.29	0.0000%	0.0000%
EVS0727\$A	EVERGREEN SCHOOL DIVISION	176,776	0.01%	5.29%	4.33	0.0005%	0.0002%
EVS0727\$B	EVERGREEN SCHOOL DIVISION	73,662	0.00%	5.29%	4.33	0.0002%	0.0001%
EVS0919\$A	EVERGREEN SCHOOL DIVISION	62,979	0.00%	6.59%	1.04	0.0002%	0.0000%
EVS0925\$A	EVERGREEN SCHOOL DIVISION	309,717	0.02%	5.05%	3.73	0.0008%	0.0003%
EVS0927\$A	EVERGREEN SCHOOL DIVISION	409,857	0.02%	5.42%	4.53	0.0012%	0.0005%
EVS0929\$A	EVERGREEN SCHOOL DIVISION	1,179,776	0.06%	5.30%	5.33	0.0033%	0.0018%
EVS1019\$A	EVERGREEN SCHOOL DIVISION	116,311	0.01%	6.72%	1.12	0.0004%	0.0000%
EVS1020\$A	EVERGREEN SCHOOL DIVISION	140,887	0.01%	6.73%	1.58	0.0005%	0.0001%
EVS1022\$A	EVERGREEN SCHOOL DIVISION	706,076	0.04%	6.14%	2.48	0.0023%	0.0006%
EVS1027\$A	EVERGREEN SCHOOL DIVISION	236,183	0.01%	5.30%	4.62	0.0007%	0.0003%
EVS1028\$A	EVERGREEN SCHOOL DIVISION	68,801	0.00%	5.17%	5.04	0.0002%	0.0001%
EVS1029\$A	EVERGREEN SCHOOL DIVISION	693,743	0.04%	5.05%	5.45	0.0019%	0.0010%
EVS1119\$A	EVERGREEN SCHOOL DIVISION	63,658	0.00%	6.85%	1.20	0.0002%	0.0000%
EVS1125\$A	EVERGREEN SCHOOL DIVISION	383,575	0.02%	4.93%	3.90	0.0010%	0.0004%
EVS1127\$A	EVERGREEN SCHOOL DIVISION	153,612	0.01%	5.17%	4.72	0.0004%	0.0002%
EVS1128\$A	EVERGREEN SCHOOL DIVISION	97,581	0.01%	5.42%	5.09	0.0003%	0.0001%
EVS1129\$A	EVERGREEN SCHOOL DIVISION	524,518	0.03%	5.05%	5.53	0.0014%	0.0008%
EVS1227\$A	EVERGREEN SCHOOL DIVISION	236,451	0.01%	5.18%	4.80	0.0006%	0.0003%
EVS1228\$A	EVERGREEN SCHOOL DIVISION	50,986	0.00%	6.15%	5.08	0.0002%	0.0001%
EVS1229\$A	EVERGREEN SCHOOL DIVISION	75,777	0.00%	5.18%	5.59	0.0002%	0.0001%
FBS0225\$A	FORT LA BOSSE SCHOOL DIVISION	69,599	0.00%	5.55%	3.68	0.0002%	0.0001%
FBS0325\$A	FORT LA BOSSE SCHOOL DIVISION	195,226	0.01%	5.42%	3.22	0.0006%	0.0002%
FBS0325\$B	FORT LA BOSSE SCHOOL DIVISION	71,571	0.00%	5.54%	3.21	0.0002%	0.0001%
FBS0420\$A	FORT LA BOSSE SCHOOL DIVISION	6,885	0.00%	6.73%	1.09	0.0000%	0.0000%
FBS0421\$A	FORT LA BOSSE SCHOOL DIVISION	92,683	0.00%	6.50%	1.50	0.0003%	0.0000%
FBS0518\$A	FORT LA BOSSE SCHOOL DIVISION	12,531	0.00%	5.89%	0.20	0.0000%	0.0000%
FBS0522\$A	FORT LA BOSSE SCHOOL DIVISION	98,199	0.01%	6.62%	2.06	0.0003%	0.0001%
FBS0525\$A	FORT LA BOSSE SCHOOL DIVISION	148,577	0.01%	5.54%	3.38	0.0004%	0.0002%
FBS0531\$A	FORT LA BOSSE SCHOOL DIVISION	1,791,050	0.09%	4.93%	5.83	0.0047%	0.0028%
FBS0621\$A	FORT LA BOSSE SCHOOL DIVISION	158,266	0.01%	6.85%	1.65	0.0006%	0.0001%
FBS0624\$A	FORT LA BOSSE SCHOOL DIVISION	29,928	0.00%	6.14%	3.00	0.0001%	0.0000%
FBS0629\$A	FORT LA BOSSE SCHOOL DIVISION	98,489	0.01%	5.54%	5.05	0.0003%	0.0001%
FBS0630\$A	FORT LA BOSSE SCHOOL DIVISION	73,334	0.00%	5.17%	5.45	0.0002%	0.0001%
FBS0635\$A	FORT LA BOSSE SCHOOL DIVISION	248,107	0.01%	3.34%	7.78	0.0004%	0.0004%
FBS0719\$A	FORT LA BOSSE SCHOOL DIVISION	17,699	0.00%	6.22%	0.83	0.0001%	0.0000%
FBS0733\$A	FORT LA BOSSE SCHOOL DIVISION	1,564,983	0.08%	3.71%	6.97	0.0031%	0.0022%
FBS0734\$A	FORT LA BOSSE SCHOOL DIVISION	534,686	0.03%	3.96%	7.30	0.0011%	0.0008%
FBS0820\$A	FORT LA BOSSE SCHOOL DIVISION	11,643	0.00%	6.84%	1.41	0.0000%	0.0000%
FBS0919\$A	FORT LA BOSSE SCHOOL DIVISION	25,155	0.00%	6.47%	1.04	0.0001%	0.0000%
FBS0920\$A	FORT LA BOSSE SCHOOL DIVISION	91,712	0.00%	6.72%	1.49	0.0003%	0.0001%
FBS0921\$A	FORT LA BOSSE SCHOOL DIVISION	163,208	0.01%	6.73%	1.90	0.0006%	0.0001%
FBS0931\$A	FORT LA BOSSE SCHOOL DIVISION	77,906	0.00%	4.69%	6.20	0.0002%	0.0001%
FBS1019\$A	FORT LA BOSSE SCHOOL DIVISION	22,001	0.00%	6.60%	1.12	0.0001%	0.0000%
FBS1020\$A	FORT LA BOSSE SCHOOL DIVISION	127,364	0.01%	6.73%	1.58	0.0005%	0.0001%
FBS1027\$A	FORT LA BOSSE SCHOOL DIVISION	117,381	0.01%	5.42%	4.57	0.0003%	0.0002%
FBS1123\$A	FORT LA BOSSE SCHOOL DIVISION	37,684	0.00%	5.90%	3.00	0.0001%	0.0000%
FBS1125\$A	FORT LA BOSSE SCHOOL DIVISION	273,626	0.01%	4.93%	3.90	0.0007%	0.0003%
FBS1126\$A	FORT LA BOSSE SCHOOL DIVISION	229,623	0.01%	4.93%	4.29	0.0006%	0.0003%
FBS1219\$A	FORT LA BOSSE SCHOOL DIVISION	13,824	0.00%	6.85%	1.24	0.0001%	0.0000%
FBS1224\$A	FORT LA BOSSE SCHOOL DIVISION	91,030	0.00%	5.66%	3.52	0.0003%	0.0001%
FFC1224\$A	CITY OF FLIN FLON	1,991,021	0.11%	6.39%	3.48	0.0067%	0.0024%
FFS0226\$A	FLIN FLON SCHOOL DIVISION	61,820	0.00%	4.94%	4.15	0.0002%	0.0001%
FFS0227\$A	FLIN FLON SCHOOL DIVISION	145,898	0.01%	4.81%	4.54	0.0004%	0.0002%
FFS0229\$A	FLIN FLON SCHOOL DIVISION	185,916	0.01%	5.79%	5.25	0.0006%	0.0003%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
FFS0334\$A	FLIN FLON SCHOOL DIVISION	448,198	0.02%	4.08%	6.99	0.0010%	0.0007%
FFS0419\$A	FLIN FLON SCHOOL DIVISION	11,928	0.00%	6.00%	0.63	0.0000%	0.0000%
FFS0527\$A	FLIN FLON SCHOOL DIVISION	231,724	0.01%	5.05%	4.20	0.0006%	0.0003%
FFS0534\$A	FLIN FLON SCHOOL DIVISION	93,890	0.00%	4.20%	7.12	0.0002%	0.0002%
FFS0625\$A	FLIN FLON SCHOOL DIVISION	297,089	0.02%	5.29%	3.47	0.0008%	0.0003%
FFS1132\$A	FLIN FLON SCHOOL DIVISION	36,317	0.00%	3.71%	6.91	0.0001%	0.0001%
FFS1231\$A	FLIN FLON SCHOOL DIVISION	238,741	0.01%	4.08%	6.51	0.0005%	0.0003%
FGS0419\$A	FORT GARRY SCHOOL DIV	75,758	0.00%	6.00%	0.63	0.0002%	0.0000%
FGS0421\$A	FORT GARRY SCHOOL DIV	36,948	0.00%	6.50%	1.50	0.0001%	0.0000%
FGS0518\$A	FORT GARRY SCHOOL DIV	37,588	0.00%	5.78%	0.25	0.0001%	0.0000%
FGS0520\$A	FORT GARRY SCHOOL DIV	23,285	0.00%	6.84%	1.17	0.0001%	0.0000%
FGS0521\$A	FORT GARRY SCHOOL DIV	33,571	0.00%	6.85%	1.61	0.0001%	0.0000%
FGS0522\$A	FORT GARRY SCHOOL DIV	24,072	0.00%	6.62%	2.06	0.0001%	0.0000%
FGS0618\$A	FORT GARRY SCHOOL DIV	55,190	0.00%	5.80%	0.33	0.0002%	0.0000%
FGS0918\$A	FORT GARRY SCHOOL DIV	100,100	0.01%	6.20%	0.57	0.0003%	0.0000%
FGS0919\$A	FORT GARRY SCHOOL DIV	25,654	0.00%	6.47%	1.00	0.0001%	0.0000%
FGS0920\$A	FORT GARRY SCHOOL DIV	77,943	0.00%	6.72%	1.49	0.0003%	0.0000%
FGS1018\$A	FORT GARRY SCHOOL DIV	72,698	0.00%	5.97%	0.65	0.0002%	0.0000%
FGS1021\$A	FORT GARRY SCHOOL DIV	67,163	0.00%	6.61%	1.98	0.0002%	0.0000%
FGS1219\$A	FORT GARRY SCHOOL DIV	46,591	0.00%	6.86%	1.28	0.0002%	0.0000%
FMS0126\$A	FRANCO-MANITOBAINE SCHOOL DIV	66,332	0.00%	4.93%	4.07	0.0002%	0.0001%
FMS0327\$A	FRANCO-MANITOBAINE SCHOOL DIV	308,400	0.02%	4.81%	4.06	0.0008%	0.0003%
FMS0331\$A	FRANCO-MANITOBAINE SCHOOL DIV	1,022,969	0.05%	4.93%	5.66	0.0027%	0.0016%
FMS0335\$A	FRANCO-MANITOBAINE SCHOOL DIV	6,610,523	0.35%	3.47%	7.50	0.0121%	0.0094%
FMS0419\$A	FRANCO-MANITOBAINE SCHOOL DIV	12,573	0.00%	5.64%	0.60	0.0000%	0.0000%
FMS0421\$A	FRANCO-MANITOBAINE SCHOOL DIV	114,601	0.01%	6.50%	1.54	0.0004%	0.0001%
FMS0426\$A	FRANCO-MANITOBAINE SCHOOL DIV	151,157	0.01%	5.05%	3.74	0.0004%	0.0002%
FMS0521\$A	FRANCO-MANITOBAINE SCHOOL DIV	195,499	0.01%	6.61%	1.62	0.0007%	0.0001%
FMS0522\$A	FRANCO-MANITOBAINE SCHOOL DIV	81,143	0.00%	6.74%	2.05	0.0003%	0.0001%
FMS0620\$A	FRANCO-MANITOBAINE SCHOOL DIV	22,375	0.00%	6.72%	1.21	0.0001%	0.0000%
FMS0620\$B	FRANCO-MANITOBAINE SCHOOL DIV	75,058	0.00%	6.84%	1.25	0.0003%	0.0000%
FMS0621\$A	FRANCO-MANITOBAINE SCHOOL DIV	276,565	0.01%	6.85%	1.69	0.0010%	0.0002%
FMS0624\$A	FRANCO-MANITOBAINE SCHOOL DIV	2,014,467	0.11%	6.02%	2.97	0.0064%	0.0020%
FMS0625\$A	FRANCO-MANITOBAINE SCHOOL DIV	46,712	0.00%	5.29%	3.47	0.0001%	0.0000%
FMS0627\$A	FRANCO-MANITOBAINE SCHOOL DIV	131,792	0.01%	5.17%	4.31	0.0004%	0.0002%
FMS0629\$A	FRANCO-MANITOBAINE SCHOOL DIV	890,380	0.05%	5.54%	5.01	0.0026%	0.0013%
FMS0630\$A	FRANCO-MANITOBAINE SCHOOL DIV	3,295,498	0.17%	5.05%	5.47	0.0088%	0.0050%
FMS0634\$A	FRANCO-MANITOBAINE SCHOOL DIV	2,339,799	0.12%	4.20%	7.16	0.0052%	0.0038%
FMS0821\$A	FRANCO-MANITOBAINE SCHOOL DIV	399,981	0.02%	6.85%	1.86	0.0015%	0.0003%
FMS0823\$A	FRANCO-MANITOBAINE SCHOOL DIV	657,423	0.03%	6.01%	2.75	0.0021%	0.0006%
FMS0828\$A	FRANCO-MANITOBAINE SCHOOL DIV	410,250	0.02%	5.17%	4.87	0.0011%	0.0006%
FMS0919\$A	FRANCO-MANITOBAINE SCHOOL DIV	22,656	0.00%	6.47%	1.04	0.0001%	0.0000%
FMS0920\$A	FRANCO-MANITOBAINE SCHOOL DIV	152,935	0.01%	6.72%	1.49	0.0005%	0.0001%
FMS0921\$A	FRANCO-MANITOBAINE SCHOOL DIV	342,927	0.02%	6.73%	1.94	0.0012%	0.0002%
FMS0925\$A	FRANCO-MANITOBAINE SCHOOL DIV	203,540	0.01%	5.05%	3.73	0.0005%	0.0002%
FMS0933\$A	FRANCO-MANITOBAINE SCHOOL DIV	1,245,854	0.07%	3.71%	7.14	0.0025%	0.0018%
FMS1020\$A	FRANCO-MANITOBAINE SCHOOL DIV	171,803	0.01%	6.61%	1.58	0.0006%	0.0001%
FMS1021\$A	FRANCO-MANITOBAINE SCHOOL DIV	390,998	0.02%	6.61%	2.02	0.0014%	0.0003%
FMS1035\$A	FRANCO-MANITOBAINE SCHOOL DIV	7,160,292	0.38%	3.22%	8.15	0.0122%	0.0102%
FMS1227\$A	FRANCO-MANITOBAINE SCHOOL DIV	456,897	0.02%	5.18%	4.80	0.0013%	0.0006%
FRR1218\$A	RURAL MUNICIPALITY OF FRANKLIN	1,082	0.00%	5.64%	0.82	0.0000%	0.0000%
FRR1223\$A	RURAL MUNICIPALITY OF FRANKLIN	7,492	0.00%	6.14%	3.07	0.0000%	0.0000%
FRS0125\$A	FRONTIER SCHOOL DIVISION	505,430	0.03%	5.66%	3.60	0.0015%	0.0006%
FRS0127\$A	FRONTIER SCHOOL DIVISION	318,694	0.02%	4.81%	4.50	0.0008%	0.0004%
FRS0130\$A	FRONTIER SCHOOL DIVISION	302,478	0.02%	5.06%	5.69	0.0008%	0.0005%
FRS0131\$A	FRONTIER SCHOOL DIVISION	114,088	0.01%	4.69%	6.14	0.0003%	0.0002%
FRS0225\$A	FRONTIER SCHOOL DIVISION	195,594	0.01%	5.55%	3.68	0.0006%	0.0002%
FRS0226\$A	FRONTIER SCHOOL DIVISION	103,459	0.01%	4.81%	4.12	0.0003%	0.0001%
FRS0227\$A	FRONTIER SCHOOL DIVISION	783,262	0.04%	4.94%	4.53	0.0020%	0.0010%
FRS0228\$A	FRONTIER SCHOOL DIVISION	68,714	0.00%	5.06%	4.93	0.0002%	0.0001%
FRS0230\$A	FRONTIER SCHOOL DIVISION	388,108	0.02%	5.30%	5.73	0.0011%	0.0006%
FRS0231\$A	FRONTIER SCHOOL DIVISION	103,526	0.01%	4.69%	6.21	0.0003%	0.0002%
FRS0326\$A	FRONTIER SCHOOL DIVISION	108,051	0.01%	5.06%	3.62	0.0003%	0.0001%
FRS0327\$A	FRONTIER SCHOOL DIVISION	349,298	0.02%	5.06%	4.03	0.0009%	0.0004%
FRS0332\$A	FRONTIER SCHOOL DIVISION	72,070	0.00%	3.83%	6.26	0.0001%	0.0001%
FRS0334\$A	FRONTIER SCHOOL DIVISION	2,401,465	0.13%	4.20%	6.91	0.0053%	0.0038%
FRS0334\$B	FRONTIER SCHOOL DIVISION	4,271,865	0.23%	4.08%	6.99	0.0092%	0.0066%
FRS0335\$A	FRONTIER SCHOOL DIVISION	38,272	0.00%	2.98%	7.68	0.0001%	0.0000%
FRS0422\$A	FRONTIER SCHOOL DIVISION	332,552	0.02%	6.50%	1.98	0.0011%	0.0002%
FRS0426\$A	FRONTIER SCHOOL DIVISION	130,063	0.01%	5.05%	3.70	0.0003%	0.0001%
FRS0427\$A	FRONTIER SCHOOL DIVISION	320,092	0.02%	4.93%	4.13	0.0008%	0.0004%
FRS0428\$A	FRONTIER SCHOOL DIVISION	28,174	0.00%	5.05%	4.52	0.0001%	0.0000%
FRS0434\$A	FRONTIER SCHOOL DIVISION	517,938	0.03%	4.08%	7.07	0.0011%	0.0008%
FRS0522\$A	FRONTIER SCHOOL DIVISION	123,830	0.01%	6.74%	2.05	0.0004%	0.0001%
FRS0524\$A	FRONTIER SCHOOL DIVISION	252,693	0.01%	5.90%	2.94	0.0008%	0.0002%
FRS0525\$A	FRONTIER SCHOOL DIVISION	54,837	0.00%	5.54%	3.38	0.0002%	0.0001%
FRS0526\$A	FRONTIER SCHOOL DIVISION	241,777	0.01%	5.17%	3.82	0.0007%	0.0003%
FRS0527\$A	FRONTIER SCHOOL DIVISION	340,086	0.02%	5.05%	4.24	0.0009%	0.0004%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
FRS0528\$A	FRONTIER SCHOOL DIVISION	309,978	0.02%	5.05%	4.60	0.0008%	0.0004%
FRS0529\$A	FRONTIER SCHOOL DIVISION	24,749	0.00%	5.54%	4.97	0.0001%	0.0000%
FRS0533\$A	FRONTIER SCHOOL DIVISION	30,437	0.00%	3.59%	6.88	0.0001%	0.0000%
FRS0534\$A	FRONTIER SCHOOL DIVISION	4,490,831	0.24%	4.20%	7.08	0.0100%	0.0073%
FRS0535\$A	FRONTIER SCHOOL DIVISION	63,695	0.00%	2.98%	7.85	0.0001%	0.0001%
FRS0618\$A	FRONTIER SCHOOL DIVISION	8,050	0.00%	5.91%	0.29	0.0000%	0.0000%
FRS0620\$A	FRONTIER SCHOOL DIVISION	116,054	0.01%	6.72%	1.21	0.0004%	0.0001%
FRS0626\$A	FRONTIER SCHOOL DIVISION	374,792	0.02%	5.29%	3.89	0.0011%	0.0004%
FRS0627\$A	FRONTIER SCHOOL DIVISION	485,481	0.03%	5.05%	4.32	0.0013%	0.0006%
FRS0627\$B	FRONTIER SCHOOL DIVISION	351,417	0.02%	5.29%	4.29	0.0010%	0.0004%
FRS0629\$A	FRONTIER SCHOOL DIVISION	1,308,207	0.07%	5.66%	5.04	0.0039%	0.0020%
FRS0630\$A	FRONTIER SCHOOL DIVISION	156,982	0.01%	5.17%	5.49	0.0004%	0.0002%
FRS0923\$A	FRONTIER SCHOOL DIVISION	591,310	0.03%	5.77%	2.80	0.0018%	0.0005%
FRS0924\$A	FRONTIER SCHOOL DIVISION	293,095	0.02%	6.02%	3.21	0.0009%	0.0003%
FRS0925\$A	FRONTIER SCHOOL DIVISION	123,595	0.01%	5.05%	3.73	0.0003%	0.0001%
FRS0926\$A	FRONTIER SCHOOL DIVISION	244,014	0.01%	5.29%	4.13	0.0007%	0.0003%
FRS0926\$B	FRONTIER SCHOOL DIVISION	1,526,129	0.08%	5.17%	4.14	0.0042%	0.0018%
FRS0928\$A	FRONTIER SCHOOL DIVISION	119,998	0.01%	5.17%	4.95	0.0003%	0.0002%
FRS0930\$A	FRONTIER SCHOOL DIVISION	142,085	0.01%	4.93%	5.77	0.0004%	0.0002%
FRS0933\$A	FRONTIER SCHOOL DIVISION	76,195	0.00%	3.71%	7.18	0.0001%	0.0001%
FRS0934\$A	FRONTIER SCHOOL DIVISION	275,086	0.01%	3.96%	7.51	0.0006%	0.0004%
FRS1027\$A	FRONTIER SCHOOL DIVISION	252,613	0.01%	5.42%	4.61	0.0007%	0.0003%
FRS1029\$A	FRONTIER SCHOOL DIVISION	791,452	0.04%	5.30%	5.41	0.0022%	0.0012%
FRS1030\$A	FRONTIER SCHOOL DIVISION	418,373	0.02%	4.69%	5.89	0.0010%	0.0006%
FRS1031\$A	FRONTIER SCHOOL DIVISION	62,215	0.00%	4.20%	6.37	0.0001%	0.0001%
FRS1032\$A	FRONTIER SCHOOL DIVISION	32,571	0.00%	3.71%	6.87	0.0001%	0.0000%
FRS1033\$A	FRONTIER SCHOOL DIVISION	247,170	0.01%	4.44%	7.09	0.0006%	0.0004%
FRS1118\$A	FRONTIER SCHOOL DIVISION	13,124	0.00%	5.74%	0.69	0.0000%	0.0000%
FRS1125\$A	FRONTIER SCHOOL DIVISION	442,561	0.02%	4.81%	3.87	0.0011%	0.0004%
FRS1126\$A	FRONTIER SCHOOL DIVISION	616,434	0.03%	4.93%	4.33	0.0016%	0.0007%
FRS1126\$B	FRONTIER SCHOOL DIVISION	924,138	0.05%	4.93%	4.33	0.0024%	0.0011%
FRS1127\$A	FRONTIER SCHOOL DIVISION	286,044	0.02%	5.30%	4.70	0.0008%	0.0004%
FRS1128\$A	FRONTIER SCHOOL DIVISION	80,381	0.00%	5.42%	5.09	0.0002%	0.0001%
FRS1129\$A	FRONTIER SCHOOL DIVISION	304,619	0.02%	5.05%	5.53	0.0008%	0.0005%
FRS1130\$A	FRONTIER SCHOOL DIVISION	143,600	0.01%	4.57%	5.99	0.0003%	0.0002%
FRS1133\$A	FRONTIER SCHOOL DIVISION	32,442	0.00%	4.20%	7.19	0.0001%	0.0001%
FRS1225\$A	FRONTIER SCHOOL DIVISION	115,360	0.01%	5.17%	3.93	0.0003%	0.0001%
FRS1226\$A	FRONTIER SCHOOL DIVISION	840,696	0.04%	4.93%	4.37	0.0022%	0.0010%
FRS1227\$A	FRONTIER SCHOOL DIVISION	515,166	0.03%	5.18%	4.76	0.0014%	0.0007%
FRS1228\$A	FRONTIER SCHOOL DIVISION	39,764	0.00%	6.15%	5.08	0.0001%	0.0001%
FRS1229\$A	FRONTIER SCHOOL DIVISION	470,563	0.02%	5.18%	5.59	0.0013%	0.0007%
FRS1230\$A	FRONTIER SCHOOL DIVISION	371,582	0.02%	4.57%	6.03	0.0009%	0.0006%
GIR0620\$A	RURAL MUNICIPALITY OF GIMLI	61,426	0.00%	7.31%	1.24	0.0002%	0.0000%
GIR1219\$A	RURAL MUNICIPALITY OF GIMLI	227,378	0.01%	7.58%	1.27	0.0009%	0.0001%
GIR1220\$A	RURAL MUNICIPALITY OF GIMLI	86,985	0.00%	7.10%	1.73	0.0003%	0.0001%
GIR1222\$A	RURAL MUNICIPALITY OF GIMLI	150,582	0.01%	6.50%	2.63	0.0005%	0.0001%
GVS0125\$A	GARDEN VALLEY SCHOOL DIV	134,381	0.01%	5.66%	3.56	0.0004%	0.0001%
GVS0126\$A	GARDEN VALLEY SCHOOL DIV	1,420,867	0.08%	5.18%	4.01	0.0039%	0.0016%
GVS0131\$A	GARDEN VALLEY SCHOOL DIV	2,212,548	0.12%	4.69%	6.14	0.0055%	0.0035%
GVS0230\$A	GARDEN VALLEY SCHOOL DIV	238,974	0.01%	5.30%	5.70	0.0007%	0.0004%
GVS0328\$A	GARDEN VALLEY SCHOOL DIV	116,844	0.01%	5.06%	4.44	0.0003%	0.0001%
GVS0329\$A	GARDEN VALLEY SCHOOL DIV	228,529	0.01%	5.54%	4.81	0.0007%	0.0003%
GVS0331\$A	GARDEN VALLEY SCHOOL DIV	2,577,140	0.14%	4.69%	5.71	0.0064%	0.0038%
GVS0332\$A	GARDEN VALLEY SCHOOL DIV	1,677,944	0.09%	3.96%	6.20	0.0035%	0.0022%
GVS0333\$A	GARDEN VALLEY SCHOOL DIV	944,491	0.05%	3.71%	6.65	0.0019%	0.0013%
GVS0333\$B	GARDEN VALLEY SCHOOL DIV	94,475	0.01%	3.71%	6.69	0.0002%	0.0001%
GVS0335\$A	GARDEN VALLEY SCHOOL DIV	418,825	0.02%	3.47%	7.54	0.0008%	0.0006%
GVS0420\$A	GARDEN VALLEY SCHOOL DIV	33,193	0.00%	6.73%	1.05	0.0001%	0.0000%
GVS0421\$A	GARDEN VALLEY SCHOOL DIV	30,686	0.00%	6.50%	1.50	0.0001%	0.0000%
GVS0427\$A	GARDEN VALLEY SCHOOL DIV	173,528	0.01%	5.05%	4.12	0.0005%	0.0002%
GVS0429\$A	GARDEN VALLEY SCHOOL DIV	671,929	0.04%	5.66%	4.87	0.0020%	0.0010%
GVS0432\$A	GARDEN VALLEY SCHOOL DIV	128,525	0.01%	3.96%	6.28	0.0003%	0.0002%
GVS0433\$A	GARDEN VALLEY SCHOOL DIV	912,181	0.05%	3.59%	6.80	0.0017%	0.0012%
GVS0434\$A	GARDEN VALLEY SCHOOL DIV	130,874	0.01%	4.08%	7.07	0.0003%	0.0002%
GVS0522\$A	GARDEN VALLEY SCHOOL DIV	84,604	0.00%	6.74%	2.01	0.0003%	0.0001%
GVS0526\$A	GARDEN VALLEY SCHOOL DIV	965,150	0.05%	5.17%	3.77	0.0026%	0.0010%
GVS0529\$A	GARDEN VALLEY SCHOOL DIV	68,240	0.00%	5.54%	4.97	0.0002%	0.0001%
GVS0530\$A	GARDEN VALLEY SCHOOL DIV	264,443	0.01%	5.18%	5.41	0.0007%	0.0004%
GVS0531\$A	GARDEN VALLEY SCHOOL DIV	1,531,078	0.08%	4.93%	5.83	0.0040%	0.0024%
GVS0532\$A	GARDEN VALLEY SCHOOL DIV	2,978,904	0.16%	3.96%	6.40	0.0062%	0.0041%
GVS0533\$A	GARDEN VALLEY SCHOOL DIV	996,842	0.05%	3.59%	6.88	0.0019%	0.0013%
GVS0621\$A	GARDEN VALLEY SCHOOL DIV	71,893	0.00%	6.61%	1.66	0.0003%	0.0000%
GVS0622\$A	GARDEN VALLEY SCHOOL DIV	58,069	0.00%	6.73%	2.09	0.0002%	0.0000%
GVS0623\$A	GARDEN VALLEY SCHOOL DIV	114,963	0.01%	6.02%	2.55	0.0004%	0.0001%
GVS0624\$A	GARDEN VALLEY SCHOOL DIV	49,935	0.00%	5.90%	2.98	0.0002%	0.0000%
GVS0625\$A	GARDEN VALLEY SCHOOL DIV	151,828	0.01%	5.53%	3.46	0.0004%	0.0002%
GVS0626\$A	GARDEN VALLEY SCHOOL DIV	139,577	0.01%	5.29%	3.85	0.0004%	0.0002%
GVS0626\$B	GARDEN VALLEY SCHOOL DIV	868,377	0.05%	5.29%	3.89	0.0024%	0.0010%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
GVS0627\$A	GARDEN VALLEY SCHOOL DIV	363,426	0.02%	5.05%	4.28	0.0010%	0.0004%
GVS0628\$A	GARDEN VALLEY SCHOOL DIV	199,481	0.01%	5.17%	4.71	0.0005%	0.0003%
GVS0630\$A	GARDEN VALLEY SCHOOL DIV	897,452	0.05%	5.17%	5.45	0.0025%	0.0014%
GVS0631\$A	GARDEN VALLEY SCHOOL DIV	969,196	0.05%	4.93%	5.91	0.0025%	0.0015%
GVS0632\$A	GARDEN VALLEY SCHOOL DIV	2,282,653	0.12%	3.59%	6.56	0.0043%	0.0029%
GVS0719\$A	GARDEN VALLEY SCHOOL DIV	49,820	0.00%	6.22%	0.83	0.0002%	0.0000%
GVS0733\$A	GARDEN VALLEY SCHOOL DIV	2,409,820	0.13%	3.47%	7.03	0.0044%	0.0032%
GVS0819\$A	GARDEN VALLEY SCHOOL DIV	39,168	0.00%	6.23%	0.96	0.0001%	0.0000%
GVS0919\$A	GARDEN VALLEY SCHOOL DIV	83,636	0.00%	6.59%	1.04	0.0003%	0.0000%
GVS0921\$A	GARDEN VALLEY SCHOOL DIV	16,626	0.00%	6.85%	1.90	0.0001%	0.0000%
GVS0925\$A	GARDEN VALLEY SCHOOL DIV	657,765	0.03%	5.05%	3.73	0.0018%	0.0007%
GVS0926\$A	GARDEN VALLEY SCHOOL DIV	1,347,637	0.07%	5.54%	4.07	0.0040%	0.0017%
GVS0929\$A	GARDEN VALLEY SCHOOL DIV	49,447	0.00%	5.66%	5.24	0.0001%	0.0001%
GVS0933\$A	GARDEN VALLEY SCHOOL DIV	433,593	0.02%	3.71%	7.18	0.0009%	0.0006%
GVS1020\$A	GARDEN VALLEY SCHOOL DIV	29,040	0.00%	6.60%	1.53	0.0001%	0.0000%
GVS1023\$A	GARDEN VALLEY SCHOOL DIV	124,453	0.01%	6.02%	2.91	0.0004%	0.0001%
GVS1026\$A	GARDEN VALLEY SCHOOL DIV	425,957	0.02%	5.05%	4.19	0.0011%	0.0005%
GVS1029\$A	GARDEN VALLEY SCHOOL DIV	519,561	0.03%	5.30%	5.41	0.0015%	0.0008%
GVS1029\$B	GARDEN VALLEY SCHOOL DIV	638,429	0.03%	5.05%	5.45	0.0017%	0.0010%
GVS1032\$A	GARDEN VALLEY SCHOOL DIV	2,510,158	0.13%	3.71%	6.82	0.0049%	0.0035%
GVS1032\$B	GARDEN VALLEY SCHOOL DIV	1,158,221	0.06%	3.71%	6.87	0.0023%	0.0016%
GVS1033\$A	GARDEN VALLEY SCHOOL DIV	2,554,508	0.14%	4.20%	7.11	0.0057%	0.0041%
GVS1033\$B	GARDEN VALLEY SCHOOL DIV	790,565	0.04%	4.44%	7.09	0.0019%	0.0014%
GVS1119\$A	GARDEN VALLEY SCHOOL DIV	25,226	0.00%	6.72%	1.16	0.0001%	0.0000%
GVS1128\$A	GARDEN VALLEY SCHOOL DIV	213,447	0.01%	5.42%	5.09	0.0006%	0.0003%
GVS1130\$A	GARDEN VALLEY SCHOOL DIV	4,683,234	0.25%	4.57%	5.95	0.0113%	0.0069%
GVS1131\$A	GARDEN VALLEY SCHOOL DIV	3,460,933	0.18%	4.20%	6.41	0.0077%	0.0051%
GVS1132\$A	GARDEN VALLEY SCHOOL DIV	1,117,019	0.06%	3.71%	6.95	0.0022%	0.0016%
GVS1226\$A	GARDEN VALLEY SCHOOL DIV	628,012	0.03%	4.93%	4.37	0.0016%	0.0007%
GVS1227\$A	GARDEN VALLEY SCHOOL DIV	225,197	0.01%	5.18%	4.76	0.0006%	0.0003%
GVS1228\$A	GARDEN VALLEY SCHOOL DIV	34,291	0.00%	6.15%	5.04	0.0001%	0.0001%
GVS1232\$A	GARDEN VALLEY SCHOOL DIV	1,224,666	0.06%	3.71%	6.99	0.0024%	0.0017%
HAS0120\$A	HANOVER SCHOOL DIVISION	283,814	0.02%	6.86%	1.32	0.0010%	0.0001%
HAS0125\$A	HANOVER SCHOOL DIVISION	164,163	0.01%	5.66%	3.60	0.0005%	0.0002%
HAS0127\$A	HANOVER SCHOOL DIVISION	58,119	0.00%	4.93%	4.45	0.0002%	0.0001%
HAS0128\$A	HANOVER SCHOOL DIVISION	272,368	0.01%	5.06%	4.89	0.0007%	0.0004%
HAS0129\$A	HANOVER SCHOOL DIVISION	235,048	0.01%	5.42%	5.25	0.0007%	0.0004%
HAS0130\$A	HANOVER SCHOOL DIVISION	460,854	0.02%	5.06%	5.69	0.0012%	0.0007%
HAS0132\$A	HANOVER SCHOOL DIVISION	2,746,338	0.15%	4.08%	6.64	0.0059%	0.0040%
HAS0325\$A	HANOVER SCHOOL DIVISION	167,026	0.01%	5.42%	3.22	0.0005%	0.0002%
HAS0326\$A	HANOVER SCHOOL DIVISION	225,962	0.01%	5.06%	3.66	0.0006%	0.0002%
HAS0329\$A	HANOVER SCHOOL DIVISION	1,309,804	0.07%	5.66%	4.79	0.0039%	0.0019%
HAS0332\$A	HANOVER SCHOOL DIVISION	3,919,158	0.21%	3.96%	6.24	0.0082%	0.0053%
HAS0333\$A	HANOVER SCHOOL DIVISION	2,333,866	0.12%	3.59%	6.72	0.0044%	0.0031%
HAS0334\$A	HANOVER SCHOOL DIVISION	1,211,234	0.06%	4.20%	6.95	0.0027%	0.0019%
HAS0335\$A	HANOVER SCHOOL DIVISION	721,165	0.04%	2.98%	7.68	0.0011%	0.0009%
HAS0421\$A	HANOVER SCHOOL DIVISION	153,114	0.01%	6.50%	1.54	0.0005%	0.0001%
HAS0422\$A	HANOVER SCHOOL DIVISION	240,737	0.01%	6.74%	1.93	0.0009%	0.0002%
HAS0424\$A	HANOVER SCHOOL DIVISION	164,387	0.01%	5.78%	2.86	0.0005%	0.0001%
HAS0427\$A	HANOVER SCHOOL DIVISION	57,884	0.00%	5.05%	4.12	0.0002%	0.0001%
HAS0428\$A	HANOVER SCHOOL DIVISION	271,566	0.01%	5.05%	4.52	0.0007%	0.0003%
HAS0522\$A	HANOVER SCHOOL DIVISION	176,131	0.01%	6.74%	2.05	0.0006%	0.0001%
HAS0525\$A	HANOVER SCHOOL DIVISION	49,774	0.00%	5.54%	3.38	0.0001%	0.0001%
HAS0526\$A	HANOVER SCHOOL DIVISION	69,878	0.00%	5.17%	3.77	0.0002%	0.0001%
HAS0530\$A	HANOVER SCHOOL DIVISION	1,510,062	0.08%	5.18%	5.41	0.0041%	0.0023%
HAS0533\$A	HANOVER SCHOOL DIVISION	2,873,505	0.15%	3.47%	6.91	0.0053%	0.0037%
HAS0534\$A	HANOVER SCHOOL DIVISION	3,963,415	0.21%	4.08%	7.15	0.0086%	0.0063%
HAS0620\$A	HANOVER SCHOOL DIVISION	438,152	0.02%	6.72%	1.21	0.0016%	0.0002%
HAS0623\$A	HANOVER SCHOOL DIVISION	551,519	0.03%	6.02%	2.55	0.0018%	0.0005%
HAS0625\$A	HANOVER SCHOOL DIVISION	47,344	0.00%	5.29%	3.47	0.0001%	0.0000%
HAS0632\$A	HANOVER SCHOOL DIVISION	3,388,777	0.18%	3.96%	6.48	0.0071%	0.0047%
HAS0722\$A	HANOVER SCHOOL DIVISION	47,833	0.00%	6.49%	2.18	0.0002%	0.0000%
HAS0731\$A	HANOVER SCHOOL DIVISION	5,694,363	0.30%	4.93%	5.95	0.0149%	0.0091%
HAS0828\$A	HANOVER SCHOOL DIVISION	317,639	0.02%	5.29%	4.86	0.0009%	0.0004%
HAS0919\$A	HANOVER SCHOOL DIVISION	12,994	0.00%	6.47%	1.04	0.0000%	0.0000%
HAS0920\$A	HANOVER SCHOOL DIVISION	287,922	0.02%	6.72%	1.45	0.0010%	0.0002%
HAS0923\$A	HANOVER SCHOOL DIVISION	730,110	0.04%	6.02%	2.83	0.0023%	0.0007%
HAS0925\$A	HANOVER SCHOOL DIVISION	108,159	0.01%	5.05%	3.73	0.0003%	0.0001%
HAS0928\$A	HANOVER SCHOOL DIVISION	273,858	0.01%	5.17%	4.91	0.0008%	0.0004%
HAS0929\$A	HANOVER SCHOOL DIVISION	661,189	0.04%	5.42%	5.31	0.0019%	0.0010%
HAS0933\$A	HANOVER SCHOOL DIVISION	7,930,548	0.42%	4.20%	7.07	0.0177%	0.0128%
HAS1021\$A	HANOVER SCHOOL DIVISION	198,022	0.01%	6.61%	1.98	0.0007%	0.0001%
HAS1023\$A	HANOVER SCHOOL DIVISION	499,710	0.03%	5.78%	2.92	0.0015%	0.0005%
HAS1031\$A	HANOVER SCHOOL DIVISION	4,095,515	0.22%	4.20%	6.37	0.0091%	0.0060%
HAS1032\$A	HANOVER SCHOOL DIVISION	4,136,748	0.22%	3.71%	6.87	0.0081%	0.0057%
HAS1118\$A	HANOVER SCHOOL DIVISION	40,431	0.00%	5.75%	0.73	0.0001%	0.0000%
HAS1125\$A	HANOVER SCHOOL DIVISION	40,919	0.00%	4.93%	0.70	0.0001%	0.0000%
HAS1223\$A	HANOVER SCHOOL DIVISION	356,018	0.02%	6.02%	3.03	0.0011%	0.0004%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
HAS1230\$A	HANOVER SCHOOL DIVISION	153,009	0.01%	4.57%	6.03	0.0004%	0.0002%
HER0718\$A	RURAL MUN OF HEADINGLEY	286,514	0.02%	6.16%	0.41	0.0009%	0.0000%
HER0921\$A	RURAL MUN OF HEADINGLEY	78,850	0.00%	7.32%	1.85	0.0003%	0.0001%
HER0922\$A	RURAL MUN OF HEADINGLEY	66,214	0.00%	6.97%	2.29	0.0002%	0.0001%
HER1036\$A	RURAL MUN OF HEADINGLEY	859,106	0.05%	3.71%	8.43	0.0017%	0.0015%
HER1219\$A	RURAL MUN OF HEADINGLEY	13,571	0.00%	7.20%	1.20	0.0001%	0.0000%
IMS0522\$A	INTERMOUNTAIN SCHOOL DIVISION	56,531	0.00%	6.74%	2.01	0.0002%	0.0000%
IMS1119\$A	INTERMOUNTAIN SCHOOL DIVISION	18,115	0.00%	6.72%	1.16	0.0001%	0.0000%
INS0127\$A	INTERLAKE SCHOOL DIVISION	608,906	0.03%	4.93%	4.49	0.0016%	0.0007%
INS0130\$A	INTERLAKE SCHOOL DIVISION	973,881	0.05%	5.06%	5.65	0.0026%	0.0015%
INS0325\$A	INTERLAKE SCHOOL DIVISION	622,925	0.03%	5.54%	3.21	0.0018%	0.0006%
INS0334\$A	INTERLAKE SCHOOL DIVISION	986,716	0.05%	4.32%	6.88	0.0023%	0.0016%
INS0335\$A	INTERLAKE SCHOOL DIVISION	1,215,839	0.06%	2.98%	7.64	0.0019%	0.0015%
INS0419\$A	INTERLAKE SCHOOL DIVISION	5,865	0.00%	5.76%	0.64	0.0000%	0.0000%
INS0421\$A	INTERLAKE SCHOOL DIVISION	54,866	0.00%	6.62%	1.54	0.0002%	0.0000%
INS0422\$A	INTERLAKE SCHOOL DIVISION	157,671	0.01%	6.74%	1.93	0.0006%	0.0001%
INS0535\$A	INTERLAKE SCHOOL DIVISION	1,086,812	0.06%	3.34%	7.74	0.0019%	0.0015%
INS0625\$A	INTERLAKE SCHOOL DIVISION	183,254	0.01%	5.05%	3.49	0.0005%	0.0002%
INS0626\$A	INTERLAKE SCHOOL DIVISION	683,181	0.04%	5.29%	3.89	0.0019%	0.0008%
INS0629\$A	INTERLAKE SCHOOL DIVISION	200,330	0.01%	5.66%	5.04	0.0006%	0.0003%
INS0630\$A	INTERLAKE SCHOOL DIVISION	330,269	0.02%	5.17%	5.49	0.0009%	0.0005%
INS0634\$A	INTERLAKE SCHOOL DIVISION	1,277,544	0.07%	4.08%	7.19	0.0028%	0.0020%
INS0731\$A	INTERLAKE SCHOOL DIVISION	112,844	0.01%	4.57%	6.01	0.0003%	0.0002%
INS0918\$A	INTERLAKE SCHOOL DIVISION	31,370	0.00%	5.95%	0.53	0.0001%	0.0000%
INS1029\$A	INTERLAKE SCHOOL DIVISION	990,178	0.05%	5.30%	5.37	0.0028%	0.0015%
INS1031\$A	INTERLAKE SCHOOL DIVISION	376,263	0.02%	4.20%	6.33	0.0008%	0.0005%
INS1119\$A	INTERLAKE SCHOOL DIVISION	232,753	0.01%	6.96%	1.16	0.0009%	0.0001%
INS1123\$A	INTERLAKE SCHOOL DIVISION	376,454	0.02%	5.90%	2.96	0.0012%	0.0004%
INS1128\$A	INTERLAKE SCHOOL DIVISION	50,111	0.00%	5.42%	5.09	0.0001%	0.0001%
KES0131\$A	KELSEY SCHOOL DIV	53,094	0.00%	4.57%	6.16	0.0001%	0.0001%
KES0225\$A	KELSEY SCHOOL DIV	55,870	0.00%	5.55%	3.68	0.0002%	0.0001%
KES0228\$A	KELSEY SCHOOL DIV	110,167	0.01%	5.06%	4.93	0.0003%	0.0001%
KES0229\$A	KELSEY SCHOOL DIV	368,249	0.02%	5.42%	5.33	0.0011%	0.0006%
KES0230\$A	KELSEY SCHOOL DIV	186,354	0.01%	5.06%	5.73	0.0005%	0.0003%
KES0325\$A	KELSEY SCHOOL DIV	59,845	0.00%	5.42%	3.22	0.0002%	0.0001%
KES0332\$A	KELSEY SCHOOL DIV	552,648	0.03%	3.83%	6.26	0.0011%	0.0007%
KES0420\$A	KELSEY SCHOOL DIV	7,868	0.00%	6.73%	1.09	0.0000%	0.0000%
KES0433\$A	KELSEY SCHOOL DIV	94,637	0.01%	3.59%	6.76	0.0002%	0.0001%
KES0524\$A	KELSEY SCHOOL DIV	57,430	0.00%	5.90%	2.94	0.0002%	0.0001%
KES0525\$A	KELSEY SCHOOL DIV	48,495	0.00%	5.54%	3.38	0.0001%	0.0000%
KES0532\$A	KELSEY SCHOOL DIV	321,108	0.02%	3.96%	6.36	0.0007%	0.0004%
KES0532\$B	KELSEY SCHOOL DIV	858,443	0.05%	3.96%	6.40	0.0018%	0.0012%
KES0533\$A	KELSEY SCHOOL DIV	779,092	0.04%	3.59%	6.84	0.0015%	0.0010%
KES0628\$A	KELSEY SCHOOL DIV	68,196	0.00%	5.17%	4.71	0.0002%	0.0001%
KES0630\$A	KELSEY SCHOOL DIV	105,186	0.01%	5.17%	5.49	0.0003%	0.0002%
KES0632\$A	KELSEY SCHOOL DIV	497,247	0.03%	3.96%	6.44	0.0010%	0.0007%
KES0731\$A	KELSEY SCHOOL DIV	411,895	0.02%	4.57%	6.01	0.0010%	0.0006%
KES0732\$A	KELSEY SCHOOL DIV	567,658	0.03%	3.59%	6.60	0.0011%	0.0007%
KES0735\$A	KELSEY SCHOOL DIV	231,511	0.01%	3.34%	7.86	0.0004%	0.0003%
KES0832\$A	KELSEY SCHOOL DIV	695,519	0.04%	3.59%	6.73	0.0013%	0.0009%
KES0922\$A	KELSEY SCHOOL DIV	15,463	0.00%	6.37%	2.39	0.0001%	0.0000%
KES0932\$A	KELSEY SCHOOL DIV	542,963	0.03%	3.59%	6.77	0.0010%	0.0007%
KES1026\$A	KELSEY SCHOOL DIV	15,133	0.00%	5.05%	4.19	0.0000%	0.0000%
KES1032\$A	KELSEY SCHOOL DIV	939,182	0.05%	3.71%	6.87	0.0018%	0.0013%
KES1033\$A	KELSEY SCHOOL DIV	196,117	0.01%	4.20%	7.11	0.0004%	0.0003%
KES1121\$A	KELSEY SCHOOL DIV	30,482	0.00%	6.74%	2.10	0.0001%	0.0000%
KES1123\$A	KELSEY SCHOOL DIV	297,056	0.02%	5.90%	3.00	0.0009%	0.0003%
KES1126\$A	KELSEY SCHOOL DIV	44,887	0.00%	4.93%	4.33	0.0001%	0.0001%
KES1128\$A	KELSEY SCHOOL DIV	101,349	0.01%	6.14%	5.00	0.0003%	0.0002%
KES1131\$A	KELSEY SCHOOL DIV	1,031,582	0.05%	4.08%	6.43	0.0022%	0.0015%
KES1131\$B	KELSEY SCHOOL DIV	912,328	0.05%	4.08%	6.47	0.0020%	0.0013%
KES1132\$A	KELSEY SCHOOL DIV	520,239	0.03%	3.71%	6.95	0.0010%	0.0007%
KIR1226\$A	RURAL MUN OF KILLARNEY	1,097,710	0.06%	3.47%	4.53	0.0020%	0.0009%
LKS0126\$A	LAKESHORE SCHOOL DIVISION	141,014	0.01%	4.93%	4.07	0.0004%	0.0002%
LKS0226\$A	LAKESHORE SCHOOL DIVISION	142,191	0.01%	4.81%	4.12	0.0004%	0.0002%
LKS0227\$A	LAKESHORE SCHOOL DIVISION	420,462	0.02%	4.94%	4.57	0.0011%	0.0005%
LKS0230\$A	LAKESHORE SCHOOL DIVISION	282,744	0.01%	5.30%	5.73	0.0008%	0.0005%
LKS0326\$A	LAKESHORE SCHOOL DIVISION	118,656	0.01%	5.06%	3.62	0.0003%	0.0001%
LKS0424\$A	LAKESHORE SCHOOL DIVISION	91,512	0.00%	5.66%	2.87	0.0003%	0.0001%
LKS0427\$A	LAKESHORE SCHOOL DIVISION	478,946	0.03%	5.05%	4.12	0.0013%	0.0005%
LKS0429\$A	LAKESHORE SCHOOL DIVISION	118,935	0.01%	5.66%	4.83	0.0004%	0.0002%
LKS0521\$A	LAKESHORE SCHOOL DIVISION	84,728	0.00%	6.85%	1.61	0.0003%	0.0001%
LKS0526\$A	LAKESHORE SCHOOL DIVISION	217,237	0.01%	5.17%	3.77	0.0006%	0.0002%
LKS0528\$A	LAKESHORE SCHOOL DIVISION	199,759	0.01%	5.05%	4.64	0.0005%	0.0003%
LKS0618\$A	LAKESHORE SCHOOL DIVISION	29,034	0.00%	5.80%	0.33	0.0001%	0.0000%
LKS0625\$A	LAKESHORE SCHOOL DIVISION	65,955	0.00%	5.29%	3.47	0.0002%	0.0001%
LKS0626\$A	LAKESHORE SCHOOL DIVISION	324,889	0.02%	5.29%	3.85	0.0009%	0.0004%
LKS0627\$A	LAKESHORE SCHOOL DIVISION	345,750	0.02%	5.05%	4.28	0.0009%	0.0004%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
LKS0631\$A	LAKESHORE SCHOOL DIVISION	377,448	0.02%	4.93%	5.87	0.0010%	0.0006%
LKS0632\$A	LAKESHORE SCHOOL DIVISION	327,081	0.02%	3.96%	6.44	0.0007%	0.0005%
LKS0826\$A	LAKESHORE SCHOOL DIVISION	243,377	0.01%	5.29%	4.01	0.0007%	0.0003%
LKS0920\$A	LAKESHORE SCHOOL DIVISION	32,210	0.00%	6.72%	1.45	0.0001%	0.0000%
LKS0921\$A	LAKESHORE SCHOOL DIVISION	69,856	0.00%	6.73%	1.90	0.0002%	0.0000%
LKS0925\$A	LAKESHORE SCHOOL DIVISION	214,492	0.01%	5.05%	3.69	0.0006%	0.0002%
LKS0926\$A	LAKESHORE SCHOOL DIVISION	177,833	0.01%	5.17%	4.10	0.0005%	0.0002%
LKS0927\$A	LAKESHORE SCHOOL DIVISION	184,177	0.01%	5.42%	4.49	0.0005%	0.0002%
LKS1018\$A	LAKESHORE SCHOOL DIVISION	14,867	0.00%	6.20%	0.61	0.0000%	0.0000%
LKS1021\$A	LAKESHORE SCHOOL DIVISION	86,713	0.00%	6.61%	1.98	0.0003%	0.0001%
LKS1023\$A	LAKESHORE SCHOOL DIVISION	163,924	0.01%	6.02%	2.87	0.0005%	0.0002%
LKS1025\$A	LAKESHORE SCHOOL DIVISION	164,715	0.01%	4.93%	3.82	0.0004%	0.0002%
LKS1026\$A	LAKESHORE SCHOOL DIVISION	339,172	0.02%	5.05%	4.19	0.0009%	0.0004%
LKS1124\$A	LAKESHORE SCHOOL DIVISION	77,620	0.00%	5.78%	3.43	0.0002%	0.0001%
LKS1125\$A	LAKESHORE SCHOOL DIVISION	224,270	0.01%	5.17%	3.89	0.0006%	0.0002%
LKS1126\$A	LAKESHORE SCHOOL DIVISION	369,758	0.02%	4.93%	4.29	0.0010%	0.0004%
LKS1126\$B	LAKESHORE SCHOOL DIVISION	331,659	0.02%	4.93%	4.33	0.0009%	0.0004%
LKS1128\$A	LAKESHORE SCHOOL DIVISION	476,395	0.03%	5.42%	5.09	0.0014%	0.0007%
LKS1128\$B	LAKESHORE SCHOOL DIVISION	444,745	0.02%	6.14%	5.00	0.0014%	0.0007%
LKS1223\$A	LAKESHORE SCHOOL DIVISION	160,603	0.01%	6.02%	3.03	0.0005%	0.0002%
LKS1226\$A	LAKESHORE SCHOOL DIVISION	423,713	0.02%	4.93%	4.37	0.0011%	0.0005%
LKS1228\$A	LAKESHORE SCHOOL DIVISION	324,276	0.02%	6.15%	5.08	0.0011%	0.0006%
LLS0919\$A	LYNN LAKE SCHOOL DISTRICT	16,326	0.00%	6.47%	1.00	0.0001%	0.0000%
LLS1118\$A	LYNN LAKE SCHOOL DISTRICT	5,809	0.00%	5.99%	0.73	0.0000%	0.0000%
LOS0228\$A	LOUIS RIEL SCHOOL DIVISION	994,241	0.05%	5.06%	4.97	0.0027%	0.0014%
LOS0230\$A	LOUIS RIEL SCHOOL DIVISION	2,479,793	0.13%	5.30%	5.73	0.0070%	0.0041%
LOS0236\$A	LOUIS RIEL SCHOOL DIVISION	10,619,243	0.56%	3.71%	8.33	0.0209%	0.0179%
LOS0333\$A	LOUIS RIEL SCHOOL DIVISION	673,965	0.04%	3.71%	6.69	0.0013%	0.0009%
LOS0334\$A	LOUIS RIEL SCHOOL DIVISION	3,019,829	0.16%	4.32%	6.88	0.0069%	0.0049%
LOS0334\$B	LOUIS RIEL SCHOOL DIVISION	406,886	0.02%	4.20%	6.95	0.0009%	0.0006%
LOS0424\$A	LOUIS RIEL SCHOOL DIVISION	763,895	0.04%	5.66%	2.83	0.0023%	0.0007%
LOS0435\$A	LOUIS RIEL SCHOOL DIVISION	4,579,828	0.24%	2.98%	7.73	0.0072%	0.0057%
LOS0623\$A	LOUIS RIEL SCHOOL DIVISION	35,606	0.00%	5.65%	2.60	0.0001%	0.0000%
LOS0624\$A	LOUIS RIEL SCHOOL DIVISION	79,478	0.00%	5.90%	2.89	0.0002%	0.0001%
LOS0626\$A	LOUIS RIEL SCHOOL DIVISION	780,266	0.04%	5.29%	3.85	0.0022%	0.0009%
LOS0627\$A	LOUIS RIEL SCHOOL DIVISION	546,167	0.03%	5.05%	4.32	0.0015%	0.0006%
LOS0925\$A	LOUIS RIEL SCHOOL DIVISION	492,867	0.03%	5.05%	3.73	0.0013%	0.0005%
LOS1129\$A	LOUIS RIEL SCHOOL DIVISION	563,059	0.03%	5.05%	5.49	0.0015%	0.0008%
LOS1223\$A	LOUIS RIEL SCHOOL DIVISION	14,576	0.00%	5.90%	3.04	0.0000%	0.0000%
LRS0821\$A	LEAF RAPIDS SCHOOL DISTRICT	67,463	0.00%	6.85%	1.82	0.0002%	0.0000%
LRS1021\$A	LEAF RAPIDS SCHOOL DISTRICT	53,344	0.00%	6.73%	2.02	0.0002%	0.0000%
LSS0120\$A	LORD SELKIRK SCHOOL DIVISION	43,690	0.00%	6.86%	1.32	0.0002%	0.0000%
LSS0125\$A	LORD SELKIRK SCHOOL DIVISION	341,605	0.02%	5.66%	3.60	0.0010%	0.0004%
LSS0126\$A	LORD SELKIRK SCHOOL DIVISION	582,260	0.03%	4.93%	4.07	0.0015%	0.0006%
LSS0127\$A	LORD SELKIRK SCHOOL DIVISION	1,318,529	0.07%	4.81%	4.50	0.0034%	0.0016%
LSS0130\$A	LORD SELKIRK SCHOOL DIVISION	249,804	0.01%	5.06%	5.69	0.0007%	0.0004%
LSS0226\$A	LORD SELKIRK SCHOOL DIVISION	117,538	0.01%	4.81%	4.15	0.0003%	0.0001%
LSS0231\$A	LORD SELKIRK SCHOOL DIVISION	114,088	0.01%	4.69%	6.18	0.0003%	0.0002%
LSS0328\$A	LORD SELKIRK SCHOOL DIVISION	299,188	0.02%	5.18%	4.46	0.0008%	0.0004%
LSS0329\$A	LORD SELKIRK SCHOOL DIVISION	245,390	0.01%	5.54%	4.81	0.0007%	0.0004%
LSS0334\$A	LORD SELKIRK SCHOOL DIVISION	41,200	0.00%	4.20%	6.95	0.0001%	0.0001%
LSS0419\$A	LORD SELKIRK SCHOOL DIVISION	12,734	0.00%	6.00%	0.63	0.0000%	0.0000%
LSS0421\$A	LORD SELKIRK SCHOOL DIVISION	73,582	0.00%	6.50%	1.50	0.0003%	0.0000%
LSS0427\$A	LORD SELKIRK SCHOOL DIVISION	763,114	0.04%	4.93%	4.13	0.0020%	0.0008%
LSS0435\$A	LORD SELKIRK SCHOOL DIVISION	972,616	0.05%	2.98%	7.73	0.0015%	0.0012%
LSS0525\$A	LORD SELKIRK SCHOOL DIVISION	160,088	0.01%	5.54%	3.33	0.0005%	0.0002%
LSS0526\$A	LORD SELKIRK SCHOOL DIVISION	156,231	0.01%	5.17%	3.77	0.0004%	0.0002%
LSS0526\$B	LORD SELKIRK SCHOOL DIVISION	256,352	0.01%	5.17%	3.82	0.0007%	0.0003%
LSS0530\$A	LORD SELKIRK SCHOOL DIVISION	204,987	0.01%	5.18%	5.36	0.0006%	0.0003%
LSS0532\$A	LORD SELKIRK SCHOOL DIVISION	786,777	0.04%	3.96%	6.40	0.0016%	0.0011%
LSS0534\$A	LORD SELKIRK SCHOOL DIVISION	1,071,014	0.06%	4.08%	7.15	0.0023%	0.0017%
LSS0618\$A	LORD SELKIRK SCHOOL DIVISION	9,952	0.00%	5.80%	0.33	0.0000%	0.0000%
LSS0621\$A	LORD SELKIRK SCHOOL DIVISION	13,748	0.00%	6.85%	1.69	0.0000%	0.0000%
LSS0622\$A	LORD SELKIRK SCHOOL DIVISION	57,315	0.00%	6.61%	2.14	0.0002%	0.0000%
LSS0623\$A	LORD SELKIRK SCHOOL DIVISION	149,372	0.01%	5.77%	2.60	0.0005%	0.0001%
LSS0627\$A	LORD SELKIRK SCHOOL DIVISION	803,347	0.04%	5.05%	4.32	0.0022%	0.0010%
LSS0633\$A	LORD SELKIRK SCHOOL DIVISION	167,383	0.01%	3.47%	6.99	0.0003%	0.0002%
LSS0635\$A	LORD SELKIRK SCHOOL DIVISION	330,531	0.02%	3.34%	7.82	0.0006%	0.0005%
LSS0918\$A	LORD SELKIRK SCHOOL DIVISION	10,125	0.00%	5.96%	0.57	0.0000%	0.0000%
LSS0919\$A	LORD SELKIRK SCHOOL DIVISION	35,436	0.00%	6.59%	1.04	0.0001%	0.0000%
LSS0920\$A	LORD SELKIRK SCHOOL DIVISION	53,109	0.00%	6.72%	1.45	0.0002%	0.0000%
LSS0921\$A	LORD SELKIRK SCHOOL DIVISION	71,893	0.00%	6.61%	1.94	0.0003%	0.0001%
LSS0923\$A	LORD SELKIRK SCHOOL DIVISION	250,545	0.01%	6.02%	2.83	0.0008%	0.0002%
LSS0926\$A	LORD SELKIRK SCHOOL DIVISION	551,243	0.03%	5.17%	4.14	0.0015%	0.0006%
LSS0927\$A	LORD SELKIRK SCHOOL DIVISION	1,308,793	0.07%	5.42%	4.53	0.0038%	0.0017%
LSS1026\$A	LORD SELKIRK SCHOOL DIVISION	1,084,466	0.06%	5.05%	4.19	0.0029%	0.0012%
LSS1028\$A	LORD SELKIRK SCHOOL DIVISION	508,344	0.03%	5.17%	4.99	0.0014%	0.0007%
LSS1030\$A	LORD SELKIRK SCHOOL DIVISION	86,155	0.00%	4.93%	5.81	0.0002%	0.0001%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
LSS1032\$A	LORD SELKIRK SCHOOL DIVISION	449,641	0.02%	3.71%	6.82	0.0009%	0.0006%
LSS1033\$A	LORD SELKIRK SCHOOL DIVISION	703,338	0.04%	4.44%	7.05	0.0017%	0.0012%
LSS1122\$A	LORD SELKIRK SCHOOL DIVISION	65,881	0.00%	6.14%	2.52	0.0002%	0.0001%
LSS1123\$A	LORD SELKIRK SCHOOL DIVISION	210,585	0.01%	5.90%	2.96	0.0007%	0.0002%
LSS1127\$A	LORD SELKIRK SCHOOL DIVISION	540,061	0.03%	5.30%	4.70	0.0015%	0.0007%
LSS1129\$A	LORD SELKIRK SCHOOL DIVISION	70,588	0.00%	5.05%	5.53	0.0002%	0.0001%
LSS1224\$A	LORD SELKIRK SCHOOL DIVISION	129,521	0.01%	5.66%	3.52	0.0004%	0.0001%
LSS1228\$A	LORD SELKIRK SCHOOL DIVISION	45,167	0.00%	6.15%	5.04	0.0001%	0.0001%
MBR1236\$A	RM MINITONAS-BOWSMAN	262,205	0.01%	4.08%	8.47	0.0006%	0.0005%
MET1221\$A	TOWN OF MELITA	93,434	0.00%	2.48%	2.28	0.0001%	0.0000%
MET1226\$A	TOWN OF MELITA	340,978	0.02%	3.22%	4.56	0.0006%	0.0003%
MISO120\$A	MIDLAND SCHOOL DIVISION	43,349	0.00%	6.86%	1.32	0.0002%	0.0000%
MISO421\$A	MIDLAND SCHOOL DIVISION	24,423	0.00%	6.50%	1.54	0.0001%	0.0000%
MISO520\$A	MIDLAND SCHOOL DIVISION	89,007	0.00%	6.72%	1.13	0.0003%	0.0000%
MISO520\$B	MIDLAND SCHOOL DIVISION	53,601	0.00%	6.72%	1.17	0.0002%	0.0000%
MISO522\$A	MIDLAND SCHOOL DIVISION	147,288	0.01%	6.74%	2.01	0.0005%	0.0001%
MISO618\$A	MIDLAND SCHOOL DIVISION	15,134	0.00%	5.80%	0.33	0.0000%	0.0000%
MISO720\$A	MIDLAND SCHOOL DIVISION	33,937	0.00%	6.84%	1.29	0.0001%	0.0000%
MISO721\$A	MIDLAND SCHOOL DIVISION	9,272	0.00%	6.85%	1.73	0.0000%	0.0000%
MISO918\$A	MIDLAND SCHOOL DIVISION	17,594	0.00%	5.96%	0.57	0.0001%	0.0000%
MISO919\$A	MIDLAND SCHOOL DIVISION	9,237	0.00%	6.59%	1.04	0.0000%	0.0000%
MIS1018\$A	MIDLAND SCHOOL DIVISION	30,078	0.00%	5.74%	0.65	0.0001%	0.0000%
MIS1118\$A	MIDLAND SCHOOL DIVISION	13,613	0.00%	5.75%	0.73	0.0000%	0.0000%
MIS1119\$A	MIDLAND SCHOOL DIVISION	15,237	0.00%	6.72%	1.16	0.0001%	0.0000%
MLS0328\$A	MYSTERY LAKE SCHOOL DISTRICT	324,249	0.02%	5.18%	4.42	0.0009%	0.0004%
MLS0330\$A	MYSTERY LAKE SCHOOL DISTRICT	314,571	0.02%	5.18%	5.20	0.0009%	0.0005%
MLS0421\$A	MYSTERY LAKE SCHOOL DISTRICT	151,862	0.01%	6.50%	1.50	0.0005%	0.0001%
MLS0429\$A	MYSTERY LAKE SCHOOL DISTRICT	44,510	0.00%	5.66%	4.87	0.0001%	0.0001%
MLS0522\$A	MYSTERY LAKE SCHOOL DISTRICT	342,262	0.02%	6.74%	2.05	0.0012%	0.0003%
MLS0530\$A	MYSTERY LAKE SCHOOL DISTRICT	80,597	0.00%	5.05%	5.38	0.0002%	0.0001%
MLS0531\$A	MYSTERY LAKE SCHOOL DISTRICT	952,400	0.05%	4.81%	5.81	0.0024%	0.0014%
MLS0532\$A	MYSTERY LAKE SCHOOL DISTRICT	405,783	0.02%	3.96%	6.36	0.0009%	0.0006%
MLS0534\$A	MYSTERY LAKE SCHOOL DISTRICT	45,599	0.00%	4.20%	7.12	0.0001%	0.0001%
MLS0624\$A	MYSTERY LAKE SCHOOL DISTRICT	372,487	0.02%	6.02%	2.97	0.0012%	0.0004%
MLS0625\$A	MYSTERY LAKE SCHOOL DISTRICT	229,605	0.01%	5.29%	3.47	0.0006%	0.0002%
MLS0635\$A	MYSTERY LAKE SCHOOL DISTRICT	462,558	0.02%	3.34%	7.82	0.0008%	0.0007%
MLS1019\$A	MYSTERY LAKE SCHOOL DISTRICT	21,161	0.00%	6.59%	1.08	0.0001%	0.0000%
MMS0519\$A	MORRIS MACDONALD SCHOOL DIV	5,865	0.00%	5.75%	0.68	0.0000%	0.0000%
MMS0620\$A	MORRIS MACDONALD SCHOOL DIV	224,432	0.01%	6.84%	1.25	0.0008%	0.0001%
MMS1018\$A	MORRIS MACDONALD SCHOOL DIV	4,899	0.00%	6.20%	0.61	0.0000%	0.0000%
MMS1019\$A	MORRIS MACDONALD SCHOOL DIV	188,265	0.01%	6.59%	1.08	0.0007%	0.0001%
MMS1021\$A	MORRIS MACDONALD SCHOOL DIV	12,383	0.00%	6.73%	2.02	0.0000%	0.0000%
MSV0127\$A	MOUNTAIN VIEW SCHOOL DIVISION	863,981	0.05%	4.81%	4.50	0.0022%	0.0010%
MTS0334\$A	MOUNTAIN SCHOOL DIV	1,131,072	0.06%	4.08%	6.99	0.0024%	0.0018%
MTS0421\$A	MOUNTAIN SCHOOL DIV	77,027	0.00%	6.50%	1.50	0.0003%	0.0000%
MTS0919\$A	MOUNTAIN SCHOOL DIV	36,649	0.00%	6.47%	1.04	0.0001%	0.0000%
MTS0920\$A	MOUNTAIN SCHOOL DIV	37,865	0.00%	6.72%	1.45	0.0001%	0.0000%
MTS0921\$A	MOUNTAIN SCHOOL DIV	49,216	0.00%	6.73%	1.90	0.0002%	0.0000%
MTS1018\$A	MOUNTAIN SCHOOL DIV	29,959	0.00%	5.97%	0.65	0.0001%	0.0000%
MTS1021\$A	MOUNTAIN SCHOOL DIV	16,829	0.00%	6.73%	2.02	0.0001%	0.0000%
MVS0126\$A	MOUNTAIN VIEW SCHOOL DIVISION	140,910	0.01%	4.93%	4.07	0.0004%	0.0002%
MVS0529\$A	MOUNTAIN VIEW SCHOOL DIVISION	825,975	0.04%	5.54%	4.97	0.0024%	0.0012%
MVS0632\$A	MOUNTAIN VIEW SCHOOL DIVISION	1,456,105	0.08%	3.59%	6.56	0.0028%	0.0019%
MVS0635\$A	MOUNTAIN VIEW SCHOOL DIVISION	799,857	0.04%	3.34%	7.82	0.0014%	0.0011%
MVS0733\$A	MOUNTAIN VIEW SCHOOL DIVISION	725,815	0.04%	3.71%	6.97	0.0014%	0.0010%
MVS0923\$A	MOUNTAIN VIEW SCHOOL DIVISION	417,964	0.02%	6.02%	2.83	0.0013%	0.0004%
MVS1027\$A	MOUNTAIN VIEW SCHOOL DIVISION	240,818	0.01%	5.42%	4.61	0.0007%	0.0003%
MVS1126\$A	MOUNTAIN VIEW SCHOOL DIVISION	1,031,788	0.05%	5.05%	4.28	0.0028%	0.0012%
MVS1129\$A	MOUNTAIN VIEW SCHOOL DIVISION	1,378,278	0.07%	5.05%	5.49	0.0037%	0.0021%
NDV1218\$A	VILLAGE OF NOTRE DAME DE LOURD	30,087	0.00%	6.47%	0.73	0.0001%	0.0000%
PCS0229\$A	PINE CREEK SCHOOL DIV	58,982	0.00%	5.42%	5.33	0.0002%	0.0001%
PCS0334\$A	PINE CREEK SCHOOL DIV	487,222	0.03%	4.20%	6.91	0.0011%	0.0008%
PCS0424\$A	PINE CREEK SCHOOL DIV	124,084	0.01%	5.66%	2.83	0.0004%	0.0001%
PCS0431\$A	PINE CREEK SCHOOL DIV	550,827	0.03%	4.81%	5.77	0.0014%	0.0008%
PCS0522\$A	PINE CREEK SCHOOL DIV	25,383	0.00%	6.74%	2.05	0.0001%	0.0000%
PCS0620\$A	PINE CREEK SCHOOL DIV	66,388	0.00%	6.84%	1.21	0.0002%	0.0000%
PCS0922\$A	PINE CREEK SCHOOL DIV	74,299	0.00%	6.37%	2.39	0.0003%	0.0001%
PCS1021\$A	PINE CREEK SCHOOL DIV	24,910	0.00%	6.61%	1.98	0.0001%	0.0000%
PCS1023\$A	PINE CREEK SCHOOL DIV	93,135	0.00%	6.02%	2.87	0.0003%	0.0001%
PCS1023\$B	PINE CREEK SCHOOL DIV	93,911	0.00%	6.02%	2.91	0.0003%	0.0001%
PCS1118\$A	PINE CREEK SCHOOL DIV	3,505	0.00%	5.74%	0.69	0.0000%	0.0000%
PCS1229\$A	PINE CREEK SCHOOL DIV	151,626	0.01%	5.18%	5.59	0.0004%	0.0002%
PCS1232\$A	PINE CREEK SCHOOL DIV	266,674	0.01%	3.71%	7.03	0.0005%	0.0004%
PCT0723\$A	TOWN OF PLUM COULEE	109,175	0.01%	6.26%	2.82	0.0004%	0.0001%
PIL1236\$A	L G D PINAWA	220,222	0.01%	4.20%	8.43	0.0005%	0.0004%
PPS0120\$A	PORTAGE LA PRAIRIE SCH DIV	72,362	0.00%	6.87%	1.36	0.0003%	0.0000%
PPS0126\$A	PORTAGE LA PRAIRIE SCH DIV	343,018	0.02%	4.93%	4.07	0.0009%	0.0004%
PPS0128\$A	PORTAGE LA PRAIRIE SCH DIV	344,318	0.02%	5.06%	4.89	0.0009%	0.0005%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
PPS0225\$A	PORTAGE LA PRAIRIE SCH DIV	189,472	0.01%	5.55%	3.68	0.0006%	0.0002%
PPS0231\$A	PORTAGE LA PRAIRIE SCH DIV	571,640	0.03%	4.69%	6.18	0.0014%	0.0009%
PPS0333\$A	PORTAGE LA PRAIRIE SCH DIV	190,487	0.01%	3.71%	6.65	0.0004%	0.0003%
PPS0334\$A	PORTAGE LA PRAIRIE SCH DIV	26,749	0.00%	4.20%	6.91	0.0001%	0.0000%
PPS0421\$A	PORTAGE LA PRAIRIE SCH DIV	28,494	0.00%	6.50%	1.54	0.0001%	0.0000%
PPS0424\$A	PORTAGE LA PRAIRIE SCH DIV	68,513	0.00%	5.66%	2.87	0.0002%	0.0001%
PPS0521\$A	PORTAGE LA PRAIRIE SCH DIV	89,524	0.00%	6.85%	1.61	0.0003%	0.0001%
PPS0525\$A	PORTAGE LA PRAIRIE SCH DIV	107,649	0.01%	5.54%	3.33	0.0003%	0.0001%
PPS0526\$A	PORTAGE LA PRAIRIE SCH DIV	28,343	0.00%	5.17%	3.77	0.0001%	0.0000%
PPS0530\$A	PORTAGE LA PRAIRIE SCH DIV	246,242	0.01%	5.18%	5.41	0.0007%	0.0004%
PPS0532\$A	PORTAGE LA PRAIRIE SCH DIV	131,389	0.01%	3.96%	6.40	0.0003%	0.0002%
PPS0625\$A	PORTAGE LA PRAIRIE SCH DIV	43,759	0.00%	5.29%	3.47	0.0001%	0.0000%
PPS0626\$A	PORTAGE LA PRAIRIE SCH DIV	12,620	0.00%	5.29%	3.89	0.0000%	0.0000%
PPS0627\$A	PORTAGE LA PRAIRIE SCH DIV	52,392	0.00%	5.17%	4.31	0.0001%	0.0001%
PPS0628\$A	PORTAGE LA PRAIRIE SCH DIV	287,027	0.02%	5.17%	4.71	0.0008%	0.0004%
PPS0633\$A	PORTAGE LA PRAIRIE SCH DIV	212,654	0.01%	3.47%	6.99	0.0004%	0.0003%
PPS0824\$A	PORTAGE LA PRAIRIE SCH DIV	131,769	0.01%	6.26%	3.16	0.0004%	0.0001%
PPS0919\$A	PORTAGE LA PRAIRIE SCH DIV	17,492	0.00%	6.47%	1.00	0.0001%	0.0000%
PPS0923\$A	PORTAGE LA PRAIRIE SCH DIV	43,481	0.00%	5.65%	2.81	0.0001%	0.0000%
PPS1127\$A	PORTAGE LA PRAIRIE SCH DIV	2,511,912	0.13%	5.30%	4.70	0.0070%	0.0034%
PPS1218\$A	PORTAGE LA PRAIRIE SCH DIV	9,378	0.00%	6.00%	0.77	0.0000%	0.0000%
PPS1224\$A	PORTAGE LA PRAIRIE SCH DIV	118,551	0.01%	5.66%	3.52	0.0004%	0.0001%
PRR1223\$A	RURAL MUN OF PORTAGE	76,579	0.00%	6.39%	3.06	0.0003%	0.0001%
PRR1223\$B	RURAL MUN OF PORTAGE	109,851	0.01%	6.39%	3.06	0.0004%	0.0001%
PRR1226\$A	RURAL MUN OF PORTAGE	383,604	0.02%	3.47%	4.53	0.0007%	0.0003%
PRS0127\$A	PRAIRIE ROSE SCHOOL DIVISION	509,082	0.03%	4.81%	4.46	0.0013%	0.0006%
PRS0228\$A	PRAIRIE ROSE SCHOOL DIVISION	297,762	0.02%	5.06%	4.93	0.0008%	0.0004%
PRS0334\$A	PRAIRIE ROSE SCHOOL DIVISION	67,321	0.00%	4.20%	6.95	0.0001%	0.0001%
PRS0429\$A	PRAIRIE ROSE SCHOOL DIVISION	352,273	0.02%	5.54%	4.89	0.0010%	0.0005%
PRS0431\$A	PRAIRIE ROSE SCHOOL DIVISION	135,706	0.01%	4.81%	5.73	0.0003%	0.0002%
PRS0530\$A	PRAIRIE ROSE SCHOOL DIVISION	591,982	0.03%	5.18%	5.41	0.0016%	0.0009%
PRS0625\$A	PRAIRIE ROSE SCHOOL DIVISION	23,567	0.00%	5.29%	3.47	0.0001%	0.0000%
PRS0626\$A	PRAIRIE ROSE SCHOOL DIVISION	49,150	0.00%	5.29%	3.85	0.0001%	0.0001%
PRS0635\$A	PRAIRIE ROSE SCHOOL DIVISION	727,539	0.04%	3.34%	7.82	0.0013%	0.0010%
PRS0922\$A	PRAIRIE ROSE SCHOOL DIVISION	32,010	0.00%	6.13%	2.39	0.0001%	0.0000%
PRS0926\$A	PRAIRIE ROSE SCHOOL DIVISION	64,923	0.00%	5.17%	4.14	0.0002%	0.0001%
PRS1229\$A	PRAIRIE ROSE SCHOOL DIVISION	315,141	0.02%	5.18%	5.59	0.0009%	0.0005%
PSD0125\$A	PEMBINA TRAILS SCHOOL DIVISION	183,793	0.01%	5.66%	3.60	0.0006%	0.0002%
PSD0126\$A	PEMBINA TRAILS SCHOOL DIVISION	367,186	0.02%	4.93%	4.07	0.0010%	0.0004%
PSD0127\$A	PEMBINA TRAILS SCHOOL DIVISION	126,434	0.01%	4.81%	4.46	0.0003%	0.0001%
PSD0230\$A	PEMBINA TRAILS SCHOOL DIVISION	227,330	0.01%	5.30%	5.73	0.0006%	0.0004%
PSD0231\$A	PEMBINA TRAILS SCHOOL DIVISION	593,588	0.03%	4.69%	6.18	0.0015%	0.0009%
PSD0328\$A	PEMBINA TRAILS SCHOOL DIVISION	137,265	0.01%	5.18%	4.46	0.0004%	0.0002%
PSD0334\$A	PEMBINA TRAILS SCHOOL DIVISION	833,828	0.04%	4.32%	6.88	0.0019%	0.0013%
PSD0334\$B	PEMBINA TRAILS SCHOOL DIVISION	2,714,282	0.14%	4.20%	6.95	0.0060%	0.0043%
PSD0335\$A	PEMBINA TRAILS SCHOOL DIVISION	719,602	0.04%	3.47%	7.50	0.0013%	0.0010%
PSD0429\$A	PEMBINA TRAILS SCHOOL DIVISION	57,675	0.00%	5.54%	4.85	0.0002%	0.0001%
PSD0431\$A	PEMBINA TRAILS SCHOOL DIVISION	664,985	0.04%	4.81%	5.77	0.0017%	0.0010%
PSD0435\$A	PEMBINA TRAILS SCHOOL DIVISION	1,711,531	0.09%	2.98%	7.77	0.0027%	0.0022%
PSD0523\$A	PEMBINA TRAILS SCHOOL DIVISION	62,334	0.00%	6.02%	2.51	0.0002%	0.0001%
PSD0526\$A	PEMBINA TRAILS SCHOOL DIVISION	112,622	0.01%	5.17%	3.77	0.0003%	0.0001%
PSD0527\$A	PEMBINA TRAILS SCHOOL DIVISION	71,079	0.00%	5.05%	4.20	0.0002%	0.0001%
PSD0533\$A	PEMBINA TRAILS SCHOOL DIVISION	449,398	0.02%	3.59%	6.88	0.0009%	0.0006%
PSD0534\$A	PEMBINA TRAILS SCHOOL DIVISION	1,017,710	0.05%	4.20%	7.08	0.0023%	0.0016%
PSD0623\$A	PEMBINA TRAILS SCHOOL DIVISION	53,176	0.00%	5.65%	2.60	0.0002%	0.0000%
PSD0625\$A	PEMBINA TRAILS SCHOOL DIVISION	111,560	0.01%	5.29%	3.47	0.0003%	0.0001%
PSD0626\$A	PEMBINA TRAILS SCHOOL DIVISION	116,131	0.01%	5.29%	3.89	0.0003%	0.0001%
PSD0630\$A	PEMBINA TRAILS SCHOOL DIVISION	214,315	0.01%	5.17%	5.45	0.0006%	0.0003%
PSD0632\$A	PEMBINA TRAILS SCHOOL DIVISION	298,119	0.02%	3.96%	6.44	0.0006%	0.0004%
PSD0635\$A	PEMBINA TRAILS SCHOOL DIVISION	3,602,590	0.19%	2.98%	7.89	0.0057%	0.0046%
PSD0731\$A	PEMBINA TRAILS SCHOOL DIVISION	536,147	0.03%	4.93%	5.95	0.0014%	0.0009%
PSD0733\$A	PEMBINA TRAILS SCHOOL DIVISION	393,567	0.02%	3.47%	7.03	0.0007%	0.0005%
PSD0735\$A	PEMBINA TRAILS SCHOOL DIVISION	564,453	0.03%	3.34%	7.86	0.0010%	0.0008%
PSD0924\$A	PEMBINA TRAILS SCHOOL DIVISION	46,183	0.00%	6.26%	3.20	0.0002%	0.0001%
PSD0925\$A	PEMBINA TRAILS SCHOOL DIVISION	292,664	0.02%	5.05%	3.73	0.0008%	0.0003%
PSD0927\$A	PEMBINA TRAILS SCHOOL DIVISION	240,250	0.01%	5.42%	4.53	0.0007%	0.0003%
PSD0929\$A	PEMBINA TRAILS SCHOOL DIVISION	263,769	0.01%	5.30%	5.33	0.0007%	0.0004%
PSD0931\$A	PEMBINA TRAILS SCHOOL DIVISION	1,318,509	0.07%	4.32%	6.26	0.0030%	0.0019%
PSD1023\$A	PEMBINA TRAILS SCHOOL DIVISION	58,711	0.00%	6.02%	2.91	0.0002%	0.0001%
PSD1026\$A	PEMBINA TRAILS SCHOOL DIVISION	532,288	0.03%	5.05%	4.19	0.0014%	0.0006%
PSD1028\$A	PEMBINA TRAILS SCHOOL DIVISION	413,340	0.02%	5.17%	5.04	0.0011%	0.0006%
PSD1030\$A	PEMBINA TRAILS SCHOOL DIVISION	583,338	0.03%	4.93%	5.85	0.0015%	0.0009%
PSD1032\$A	PEMBINA TRAILS SCHOOL DIVISION	1,625,288	0.09%	3.71%	6.87	0.0032%	0.0023%
PSD1033\$A	PEMBINA TRAILS SCHOOL DIVISION	748,152	0.04%	4.20%	7.11	0.0017%	0.0012%
PSD1033\$B	PEMBINA TRAILS SCHOOL DIVISION	892,905	0.05%	4.44%	7.09	0.0021%	0.0015%
PSD1035\$A	PEMBINA TRAILS SCHOOL DIVISION	4,215,500	0.22%	3.34%	8.15	0.0075%	0.0063%
PSD1122\$A	PEMBINA TRAILS SCHOOL DIVISION	103,846	0.01%	6.14%	2.52	0.0003%	0.0001%
PSD1123\$A	PEMBINA TRAILS SCHOOL DIVISION	225,418	0.01%	5.90%	3.00	0.0007%	0.0002%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
PSD1127\$A	PEMBINA TRAILS SCHOOL DIVISION	354,054	0.02%	5.30%	4.66	0.0010%	0.0005%
PSD1129\$A	PEMBINA TRAILS SCHOOL DIVISION	205,768	0.01%	5.05%	5.53	0.0006%	0.0003%
PSD1131\$A	PEMBINA TRAILS SCHOOL DIVISION	1,020,046	0.05%	4.08%	6.43	0.0022%	0.0015%
PSD1132\$A	PEMBINA TRAILS SCHOOL DIVISION	730,240	0.04%	3.71%	6.95	0.0014%	0.0010%
PSD1133\$A	PEMBINA TRAILS SCHOOL DIVISION	939,363	0.05%	4.20%	7.23	0.0021%	0.0016%
PSD1230\$A	PEMBINA TRAILS SCHOOL DIVISION	589,409	0.03%	4.57%	6.03	0.0014%	0.0009%
PSS0131\$A	PRAIRIE SPIRIT SCHOOL DIVISION	421,070	0.02%	4.69%	6.14	0.0010%	0.0007%
PSS0230\$A	PRAIRIE SPIRIT SCHOOL DIVISION	412,616	0.02%	5.30%	5.70	0.0012%	0.0007%
PSS0325\$A	PRAIRIE SPIRIT SCHOOL DIVISION	220,457	0.01%	5.42%	3.22	0.0006%	0.0002%
PSS0423\$A	PRAIRIE SPIRIT SCHOOL DIVISION	74,612	0.00%	6.14%	2.42	0.0002%	0.0001%
PSS0427\$A	PRAIRIE SPIRIT SCHOOL DIVISION	121,816	0.01%	4.93%	4.13	0.0003%	0.0001%
PSS0434\$A	PRAIRIE SPIRIT SCHOOL DIVISION	757,006	0.04%	4.08%	7.07	0.0016%	0.0012%
PSS0522\$A	PRAIRIE SPIRIT SCHOOL DIVISION	43,559	0.00%	6.62%	2.06	0.0002%	0.0000%
PSS0529\$A	PRAIRIE SPIRIT SCHOOL DIVISION	125,409	0.01%	5.54%	4.93	0.0004%	0.0002%
PSS0532\$A	PRAIRIE SPIRIT SCHOOL DIVISION	17,671	0.00%	3.96%	6.40	0.0000%	0.0000%
PSS0621\$A	PRAIRIE SPIRIT SCHOOL DIVISION	280,722	0.01%	6.85%	1.69	0.0010%	0.0002%
PSS0630\$A	PRAIRIE SPIRIT SCHOOL DIVISION	139,823	0.01%	4.93%	5.52	0.0004%	0.0002%
PSS0631\$A	PRAIRIE SPIRIT SCHOOL DIVISION	68,230	0.00%	4.93%	5.91	0.0002%	0.0001%
PSS0720\$A	PRAIRIE SPIRIT SCHOOL DIVISION	117,170	0.01%	6.84%	1.29	0.0004%	0.0001%
PSS0824\$A	PRAIRIE SPIRIT SCHOOL DIVISION	30,371	0.00%	6.14%	3.17	0.0001%	0.0000%
PSS0926\$A	PRAIRIE SPIRIT SCHOOL DIVISION	85,291	0.00%	5.54%	4.07	0.0003%	0.0001%
PSS0928\$A	PRAIRIE SPIRIT SCHOOL DIVISION	211,602	0.01%	5.29%	4.90	0.0006%	0.0003%
PSS0929\$A	PRAIRIE SPIRIT SCHOOL DIVISION	217,223	0.01%	5.42%	5.27	0.0006%	0.0003%
PSS0932\$A	PRAIRIE SPIRIT SCHOOL DIVISION	221,361	0.01%	3.59%	6.81	0.0004%	0.0003%
PSS0934\$A	PRAIRIE SPIRIT SCHOOL DIVISION	92,113	0.00%	3.96%	7.51	0.0002%	0.0001%
PSS1033\$A	PRAIRIE SPIRIT SCHOOL DIVISION	59,418	0.00%	4.44%	7.09	0.0001%	0.0001%
PSS1125\$A	PRAIRIE SPIRIT SCHOOL DIVISION	99,732	0.01%	4.93%	3.86	0.0003%	0.0001%
PTS0422\$A	PELLY TRAIL SCHOOL DIV	73,452	0.00%	6.74%	1.97	0.0003%	0.0001%
PTS0519\$A	PELLY TRAIL SCHOOL DIV	8,704	0.00%	5.99%	0.67	0.0000%	0.0000%
PTS0520\$A	PELLY TRAIL SCHOOL DIV	20,408	0.00%	6.72%	1.13	0.0001%	0.0000%
PTS0521\$A	PELLY TRAIL SCHOOL DIV	20,811	0.00%	6.61%	1.58	0.0001%	0.0000%
PVS0518\$A	PEMBINA VALLEY SCHOOL DIVISION	7,731	0.00%	5.78%	0.25	0.0000%	0.0000%
PWS0125\$A	PARK WEST SCHOOL DIVISION	380,336	0.02%	5.66%	3.60	0.0011%	0.0004%
PWS0131\$A	PARK WEST SCHOOL DIVISION	227,352	0.01%	4.69%	6.14	0.0006%	0.0004%
PWS0226\$A	PARK WEST SCHOOL DIVISION	110,519	0.01%	4.94%	4.11	0.0003%	0.0001%
PWS0334\$A	PARK WEST SCHOOL DIVISION	111,214	0.01%	4.20%	6.91	0.0002%	0.0002%
PWS0524\$A	PARK WEST SCHOOL DIVISION	203,391	0.01%	5.90%	2.94	0.0006%	0.0002%
PWS0525\$A	PARK WEST SCHOOL DIVISION	134,508	0.01%	5.54%	3.38	0.0004%	0.0001%
PWS0532\$A	PARK WEST SCHOOL DIVISION	245,760	0.01%	3.96%	6.40	0.0005%	0.0003%
PWS0533\$A	PARK WEST SCHOOL DIVISION	36,150	0.00%	3.59%	6.88	0.0001%	0.0000%
PWS0535\$A	PARK WEST SCHOOL DIVISION	447,250	0.02%	2.98%	7.85	0.0007%	0.0006%
PWS0624\$A	PARK WEST SCHOOL DIVISION	772,076	0.04%	6.14%	3.00	0.0025%	0.0008%
PWS0626\$A	PARK WEST SCHOOL DIVISION	122,036	0.01%	5.29%	3.89	0.0003%	0.0001%
PWS0923\$A	PARK WEST SCHOOL DIVISION	213,236	0.01%	5.77%	2.80	0.0007%	0.0002%
PWS0932\$A	PARK WEST SCHOOL DIVISION	76,359	0.00%	3.59%	6.77	0.0001%	0.0001%
PWS1022\$A	PARK WEST SCHOOL DIVISION	46,154	0.00%	6.13%	2.43	0.0002%	0.0000%
PWS1029\$A	PARK WEST SCHOOL DIVISION	323,567	0.02%	5.30%	5.37	0.0009%	0.0005%
PWS1030\$A	PARK WEST SCHOOL DIVISION	39,204	0.00%	4.57%	5.91	0.0001%	0.0001%
PWS1226\$A	PARK WEST SCHOOL DIVISION	149,888	0.01%	4.93%	4.37	0.0004%	0.0002%
PWS1227\$A	PARK WEST SCHOOL DIVISION	66,584	0.00%	5.18%	4.80	0.0002%	0.0001%
PWS1228\$A	PARK WEST SCHOOL DIVISION	380,597	0.02%	6.15%	5.04	0.0012%	0.0006%
RES0129\$A	RIVER EAST SCHOOL DIV	209,481	0.01%	5.78%	5.17	0.0006%	0.0003%
RES0130\$A	RIVER EAST SCHOOL DIV	910,145	0.05%	5.06%	5.65	0.0024%	0.0014%
RES0225\$A	RIVER EAST SCHOOL DIV	195,833	0.01%	5.55%	3.68	0.0006%	0.0002%
RES0226\$A	RIVER EAST SCHOOL DIV	432,659	0.02%	4.81%	4.15	0.0011%	0.0005%
RES0228\$A	RIVER EAST SCHOOL DIV	129,773	0.01%	5.06%	4.93	0.0003%	0.0002%
RES0328\$A	RIVER EAST SCHOOL DIV	74,377	0.00%	5.18%	4.46	0.0002%	0.0001%
RES0329\$A	RIVER EAST SCHOOL DIV	564,303	0.03%	5.54%	4.81	0.0017%	0.0008%
RES0332\$A	RIVER EAST SCHOOL DIV	159,812	0.01%	3.84%	6.22	0.0003%	0.0002%
RES0333\$A	RIVER EAST SCHOOL DIV	373,372	0.02%	3.71%	6.65	0.0007%	0.0005%
RES0335\$A	RIVER EAST SCHOOL DIV	748,899	0.04%	2.98%	7.68	0.0012%	0.0009%
RES0419\$A	RIVER EAST SCHOOL DIV	43,682	0.00%	6.00%	0.63	0.0001%	0.0000%
RES0421\$A	RIVER EAST SCHOOL DIV	12,838	0.00%	6.50%	1.54	0.0000%	0.0000%
RES0426\$A	RIVER EAST SCHOOL DIV	213,064	0.01%	5.05%	3.70	0.0006%	0.0002%
RES0427\$A	RIVER EAST SCHOOL DIV	258,301	0.01%	5.05%	4.12	0.0007%	0.0003%
RES0429\$A	RIVER EAST SCHOOL DIV	403,346	0.02%	5.66%	4.87	0.0012%	0.0006%
RES0430\$A	RIVER EAST SCHOOL DIV	1,243,741	0.07%	5.05%	5.34	0.0033%	0.0018%
RES0431\$A	RIVER EAST SCHOOL DIV	1,205,275	0.06%	4.81%	5.73	0.0031%	0.0018%
RES0434\$A	RIVER EAST SCHOOL DIV	380,699	0.02%	4.08%	7.07	0.0008%	0.0006%
RES0520\$A	RIVER EAST SCHOOL DIV	29,478	0.00%	6.84%	1.17	0.0001%	0.0000%
RES0523\$A	RIVER EAST SCHOOL DIV	123,193	0.01%	6.26%	2.50	0.0004%	0.0001%
RES0529\$A	RIVER EAST SCHOOL DIV	332,156	0.02%	5.54%	4.97	0.0010%	0.0005%
RES0618\$A	RIVER EAST SCHOOL DIV	30,432	0.00%	5.79%	0.29	0.0001%	0.0000%
RES0619\$A	RIVER EAST SCHOOL DIV	80,594	0.00%	5.99%	0.80	0.0003%	0.0000%
RES0621\$A	RIVER EAST SCHOOL DIV	4,156	0.00%	6.85%	1.69	0.0000%	0.0000%
RES0622\$A	RIVER EAST SCHOOL DIV	62,638	0.00%	6.49%	2.14	0.0002%	0.0000%
RES0632\$A	RIVER EAST SCHOOL DIV	373,222	0.02%	3.96%	6.48	0.0008%	0.0005%
RES0635\$A	RIVER EAST SCHOOL DIV	723,831	0.04%	3.34%	7.82	0.0013%	0.0010%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
RES0918\$A	RIVER EAST SCHOOL DIV	109,047	0.01%	5.96%	0.57	0.0003%	0.0000%
RES0919\$A	RIVER EAST SCHOOL DIV	121,109	0.01%	6.47%	1.04	0.0004%	0.0000%
RES0920\$A	RIVER EAST SCHOOL DIV	71,747	0.00%	6.60%	1.50	0.0003%	0.0000%
RES0921\$A	RIVER EAST SCHOOL DIV	62,749	0.00%	6.61%	1.94	0.0002%	0.0000%
RES0923\$A	RIVER EAST SCHOOL DIV	398,077	0.02%	6.02%	2.83	0.0013%	0.0004%
RES0926\$A	RIVER EAST SCHOOL DIV	133,361	0.01%	5.17%	4.14	0.0004%	0.0002%
RES1021\$A	RIVER EAST SCHOOL DIV	793,812	0.04%	6.73%	2.02	0.0028%	0.0006%
RES1028\$A	RIVER EAST SCHOOL DIV	805,516	0.04%	5.17%	4.99	0.0022%	0.0011%
RES1028\$B	RIVER EAST SCHOOL DIV	466,284	0.02%	5.17%	4.99	0.0013%	0.0007%
RES1029\$A	RIVER EAST SCHOOL DIV	2,131,502	0.11%	5.30%	5.37	0.0060%	0.0033%
RES1030\$A	RIVER EAST SCHOOL DIV	1,425,242	0.08%	4.69%	5.89	0.0035%	0.0021%
RES1031\$A	RIVER EAST SCHOOL DIV	1,125,897	0.06%	4.20%	6.37	0.0025%	0.0016%
RES1033\$A	RIVER EAST SCHOOL DIV	131,962	0.01%	4.44%	7.05	0.0003%	0.0002%
RES1118\$A	RIVER EAST SCHOOL DIV	104,989	0.01%	5.75%	0.73	0.0003%	0.0000%
RES1121\$A	RIVER EAST SCHOOL DIV	132,725	0.01%	6.73%	2.06	0.0005%	0.0001%
RES1125\$A	RIVER EAST SCHOOL DIV	207,917	0.01%	4.93%	3.90	0.0005%	0.0002%
RES1127\$A	RIVER EAST SCHOOL DIV	533,091	0.03%	5.30%	4.66	0.0015%	0.0007%
RES1128\$A	RIVER EAST SCHOOL DIV	747,875	0.04%	5.42%	5.05	0.0021%	0.0011%
RES1132\$A	RIVER EAST SCHOOL DIV	1,918,914	0.10%	3.71%	6.91	0.0038%	0.0027%
RES1219\$A	RIVER EAST SCHOOL DIV	229,031	0.01%	6.85%	1.24	0.0008%	0.0001%
RES1223\$A	RIVER EAST SCHOOL DIV	591,120	0.03%	6.02%	3.03	0.0019%	0.0006%
RES1226\$A	RIVER EAST SCHOOL DIV	324,130	0.02%	4.93%	4.37	0.0008%	0.0004%
RGS0226\$A	ROLLING RIVER SCHOOL DIVISION	290,107	0.02%	4.81%	4.15	0.0007%	0.0003%
RGS0427\$A	ROLLING RIVER SCHOOL DIVISION	29,004	0.00%	5.05%	4.12	0.0001%	0.0000%
RGS0519\$A	ROLLING RIVER SCHOOL DIVISION	26,470	0.00%	5.75%	0.72	0.0001%	0.0000%
RGS0522\$A	ROLLING RIVER SCHOOL DIVISION	8,460	0.00%	6.74%	2.05	0.0000%	0.0000%
RGS0620\$A	ROLLING RIVER SCHOOL DIVISION	9,165	0.00%	6.84%	1.25	0.0000%	0.0000%
RGS0623\$A	ROLLING RIVER SCHOOL DIVISION	56,381	0.00%	6.02%	2.55	0.0002%	0.0000%
RGS0625\$A	ROLLING RIVER SCHOOL DIVISION	19,138	0.00%	5.29%	3.47	0.0001%	0.0000%
RGS0626\$A	ROLLING RIVER SCHOOL DIVISION	333,399	0.02%	5.29%	3.85	0.0009%	0.0004%
RGS0628\$A	ROLLING RIVER SCHOOL DIVISION	30,302	0.00%	5.17%	4.67	0.0001%	0.0000%
RGS0630\$A	ROLLING RIVER SCHOOL DIVISION	360,680	0.02%	5.17%	5.45	0.0010%	0.0006%
RGS0633\$A	ROLLING RIVER SCHOOL DIVISION	322,461	0.02%	3.71%	6.93	0.0006%	0.0005%
RGS0634\$A	ROLLING RIVER SCHOOL DIVISION	320,650	0.02%	3.96%	7.26	0.0007%	0.0005%
RGS0635\$A	ROLLING RIVER SCHOOL DIVISION	446,704	0.02%	3.34%	7.78	0.0008%	0.0006%
RGS0719\$A	ROLLING RIVER SCHOOL DIVISION	19,338	0.00%	6.22%	0.83	0.0001%	0.0000%
RGS0731\$A	ROLLING RIVER SCHOOL DIVISION	38,061	0.00%	4.57%	6.01	0.0001%	0.0001%
RGS0919\$A	ROLLING RIVER SCHOOL DIVISION	19,657	0.00%	6.47%	1.04	0.0001%	0.0000%
RGS0925\$A	ROLLING RIVER SCHOOL DIVISION	154,102	0.01%	5.05%	3.73	0.0004%	0.0002%
RGS1018\$A	ROLLING RIVER SCHOOL DIVISION	34,772	0.00%	5.97%	0.65	0.0001%	0.0000%
RGS1019\$A	ROLLING RIVER SCHOOL DIVISION	103,118	0.01%	6.60%	1.12	0.0004%	0.0000%
RGS1021\$A	ROLLING RIVER SCHOOL DIVISION	70,001	0.00%	6.61%	1.98	0.0002%	0.0000%
RGS1023\$A	ROLLING RIVER SCHOOL DIVISION	52,671	0.00%	6.02%	2.91	0.0002%	0.0001%
RGS1119\$A	ROLLING RIVER SCHOOL DIVISION	40,106	0.00%	6.85%	1.20	0.0001%	0.0000%
RGS1120\$A	ROLLING RIVER SCHOOL DIVISION	5,655	0.00%	6.73%	1.62	0.0000%	0.0000%
RGS1125\$A	ROLLING RIVER SCHOOL DIVISION	148,379	0.01%	4.93%	3.86	0.0004%	0.0002%
RGS1131\$A	ROLLING RIVER SCHOOL DIVISION	143,806	0.01%	4.08%	6.47	0.0003%	0.0002%
RGS1218\$A	ROLLING RIVER SCHOOL DIVISION	10,291	0.00%	6.00%	0.77	0.0000%	0.0000%
RGS1223\$A	ROLLING RIVER SCHOOL DIVISION	64,793	0.00%	6.02%	3.03	0.0002%	0.0001%
RGS1226\$A	ROLLING RIVER SCHOOL DIVISION	90,172	0.00%	4.93%	4.41	0.0002%	0.0001%
RGS1228\$A	ROLLING RIVER SCHOOL DIVISION	231,655	0.01%	6.15%	5.04	0.0008%	0.0004%
RIR1220\$A	RURAL MUN OF RITCHOT	58,671	0.00%	7.34%	1.73	0.0002%	0.0000%
RIR1221\$A	RURAL MUN OF RITCHOT	128,773	0.01%	6.98%	2.18	0.0005%	0.0001%
RLS0422\$A	RHINELAND SCHOOL DIVISION	91,142	0.00%	6.74%	1.93	0.0003%	0.0001%
RLS0521\$A	RHINELAND SCHOOL DIVISION	153,789	0.01%	6.85%	1.61	0.0006%	0.0001%
RLS0721\$A	RHINELAND SCHOOL DIVISION	45,721	0.00%	6.85%	1.73	0.0002%	0.0000%
RLS0821\$A	RHINELAND SCHOOL DIVISION	56,592	0.00%	6.85%	1.86	0.0002%	0.0000%
RLS0919\$A	RHINELAND SCHOOL DIVISION	23,656	0.00%	6.47%	1.04	0.0001%	0.0000%
RLS1018\$A	RHINELAND SCHOOL DIVISION	60,727	0.00%	5.74%	0.65	0.0002%	0.0000%
RMG1021\$A	RURAL MUN OF GREY	38,473	0.00%	6.13%	2.04	0.0001%	0.0000%
RMG1024\$A	RURAL MUN OF GREY	22,655	0.00%	6.50%	3.31	0.0001%	0.0000%
RMG1218\$A	RURAL MUN OF GREY	13,641	0.00%	5.28%	0.82	0.0000%	0.0000%
RMG1232\$A	RURAL MUN OF GREY	267,307	0.01%	3.95%	6.94	0.0006%	0.0004%
RMS0819\$A	RURAL MUNICIPALITY OF STRATHCON	7,960	0.00%	6.37%	1.20	0.0000%	0.0000%
RMW1223\$B	RURAL MUN OF WESTBOURNE	145,055	0.01%	5.90%	3.08	0.0005%	0.0001%
ROR1230\$A	TOWN OF ROBLIN	1,562,638	0.08%	3.71%	6.21	0.0031%	0.0020%
RRS0125\$A	RED RIVER SCHOOL DIV	324,188	0.02%	5.66%	3.60	0.0010%	0.0004%
RRS0230\$A	RED RIVER SCHOOL DIV	240,627	0.01%	5.30%	5.70	0.0007%	0.0004%
RRS0231\$A	RED RIVER SCHOOL DIV	16,780	0.00%	4.69%	6.18	0.0000%	0.0000%
RRS0328\$A	RED RIVER SCHOOL DIV	264,807	0.01%	5.06%	4.44	0.0007%	0.0003%
RRS0331\$A	RED RIVER SCHOOL DIV	422,004	0.02%	4.69%	5.66	0.0010%	0.0006%
RRS0334\$A	RED RIVER SCHOOL DIV	50,087	0.00%	4.20%	6.95	0.0001%	0.0001%
RRS0518\$A	RED RIVER SCHOOL DIV	16,847	0.00%	5.90%	0.25	0.0001%	0.0000%
RRS0523\$A	RED RIVER SCHOOL DIV	70,920	0.00%	6.26%	2.50	0.0002%	0.0001%
RRS0532\$A	RED RIVER SCHOOL DIV	303,764	0.02%	3.96%	6.40	0.0006%	0.0004%
RRS0533\$A	RED RIVER SCHOOL DIV	2,244,516	0.12%	3.59%	6.88	0.0043%	0.0030%
RRS0621\$A	RED RIVER SCHOOL DIV	30,374	0.00%	6.85%	1.65	0.0001%	0.0000%
RRS0626\$A	RED RIVER SCHOOL DIV	160,013	0.01%	5.29%	3.85	0.0004%	0.0002%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
RRS0922\$A	RED RIVER SCHOOL DIV	54,687	0.00%	6.37%	2.35	0.0002%	0.0000%
RRS0925\$A	RED RIVER SCHOOL DIV	42,815	0.00%	5.05%	3.73	0.0001%	0.0000%
RRS1122\$A	RED RIVER SCHOOL DIV	38,710	0.00%	6.14%	2.56	0.0001%	0.0000%
RRS1132\$A	RED RIVER SCHOOL DIV	934,866	0.05%	3.71%	6.95	0.0018%	0.0013%
RSG0128\$A	ROLLING RIVER SCHOOL DIVISION	270,438	0.01%	5.06%	4.89	0.0007%	0.0004%
RST1219\$A	TOWN OF RUSSELL	40,247	0.00%	7.56%	1.19	0.0002%	0.0000%
RST1221\$A	TOWN OF RUSSELL	11,821	0.00%	7.22%	2.09	0.0000%	0.0000%
SAT1228\$A	TOWN OF STE ANNE	35,157	0.00%	5.90%	5.11	0.0001%	0.0001%
SAT1232\$A	TOWN OF STE ANNE	513,129	0.03%	3.95%	6.90	0.0011%	0.0008%
SBS0420\$A	ST BONIFACE SCHOOL DIVISION	170,638	0.01%	6.73%	1.09	0.0006%	0.0001%
SBS0421\$A	ST BONIFACE SCHOOL DIVISION	65,442	0.00%	6.50%	1.50	0.0002%	0.0000%
SBS0422\$A	ST BONIFACE SCHOOL DIVISION	212,279	0.01%	6.74%	1.97	0.0008%	0.0002%
SBS0620\$A	ST BONIFACE SCHOOL DIVISION	150,860	0.01%	6.84%	1.21	0.0005%	0.0001%
SBS0620\$B	ST BONIFACE SCHOOL DIVISION	185,044	0.01%	6.84%	1.25	0.0007%	0.0001%
SBS0622\$A	ST BONIFACE SCHOOL DIVISION	584,624	0.03%	6.49%	2.14	0.0020%	0.0004%
SBS0820\$A	ST BONIFACE SCHOOL DIVISION	95,154	0.01%	6.72%	1.37	0.0003%	0.0000%
SBS0920\$A	ST BONIFACE SCHOOL DIVISION	76,714	0.00%	6.72%	1.45	0.0003%	0.0000%
SBS1020\$A	ST BONIFACE SCHOOL DIVISION	101,032	0.01%	6.60%	1.53	0.0004%	0.0001%
SHS0125\$A	SOUTHWEST HORIZON SCHOOL DIV	51,866	0.00%	5.66%	3.60	0.0002%	0.0001%
SHS0127\$A	SOUTHWEST HORIZON SCHOOL DIV	50,732	0.00%	4.81%	4.50	0.0001%	0.0001%
SHS0225\$A	SOUTHWEST HORIZON SCHOOL DIV	62,424	0.00%	5.55%	3.68	0.0002%	0.0001%
SHS0226\$A	SOUTHWEST HORIZON SCHOOL DIV	483,203	0.03%	4.94%	4.11	0.0013%	0.0005%
SHS0226\$B	SOUTHWEST HORIZON SCHOOL DIV	359,526	0.02%	4.81%	4.15	0.0009%	0.0004%
SHS0325\$A	SOUTHWEST HORIZON SCHOOL DIV	42,260	0.00%	5.54%	3.21	0.0001%	0.0000%
SHS0326\$A	SOUTHWEST HORIZON SCHOOL DIV	244,706	0.01%	5.06%	3.66	0.0007%	0.0002%
SHS0327\$A	SOUTHWEST HORIZON SCHOOL DIV	274,178	0.01%	4.93%	4.04	0.0007%	0.0003%
SHS0332\$A	SOUTHWEST HORIZON SCHOOL DIV	399,974	0.02%	3.96%	6.24	0.0008%	0.0005%
SHS0333\$A	SOUTHWEST HORIZON SCHOOL DIV	409,326	0.02%	3.59%	6.72	0.0008%	0.0005%
SHS0334\$A	SOUTHWEST HORIZON SCHOOL DIV	44,820	0.00%	4.08%	6.99	0.0001%	0.0001%
SHS0335\$A	SOUTHWEST HORIZON SCHOOL DIV	130,718	0.01%	2.98%	7.68	0.0002%	0.0002%
SHS0426\$A	SOUTHWEST HORIZON SCHOOL DIV	165,774	0.01%	5.05%	3.74	0.0004%	0.0002%
SHS0431\$A	SOUTHWEST HORIZON SCHOOL DIV	277,275	0.01%	4.81%	5.77	0.0007%	0.0004%
SHS0434\$A	SOUTHWEST HORIZON SCHOOL DIV	138,232	0.01%	4.20%	7.03	0.0003%	0.0002%
SHS0435\$A	SOUTHWEST HORIZON SCHOOL DIV	158,728	0.01%	2.98%	7.73	0.0003%	0.0002%
SHS0435\$B	SOUTHWEST HORIZON SCHOOL DIV	228,155	0.01%	2.98%	7.77	0.0004%	0.0003%
SHS0523\$A	SOUTHWEST HORIZON SCHOOL DIV	117,508	0.01%	6.02%	2.51	0.0004%	0.0001%
SHS0524\$A	SOUTHWEST HORIZON SCHOOL DIV	62,005	0.00%	5.90%	2.89	0.0002%	0.0001%
SHS0525\$A	SOUTHWEST HORIZON SCHOOL DIV	76,047	0.00%	5.54%	3.38	0.0002%	0.0001%
SHS0533\$A	SOUTHWEST HORIZON SCHOOL DIV	294,057	0.02%	3.59%	6.88	0.0006%	0.0004%
SHS0623\$A	SOUTHWEST HORIZON SCHOOL DIV	39,946	0.00%	6.02%	2.59	0.0001%	0.0000%
SHS0625\$A	SOUTHWEST HORIZON SCHOOL DIV	49,770	0.00%	5.29%	3.47	0.0001%	0.0000%
SHS0626\$A	SOUTHWEST HORIZON SCHOOL DIV	421,279	0.02%	5.29%	3.89	0.0012%	0.0005%
SHS0629\$A	SOUTHWEST HORIZON SCHOOL DIV	75,404	0.00%	5.54%	5.05	0.0002%	0.0001%
SHS0629\$B	SOUTHWEST HORIZON SCHOOL DIV	113,251	0.01%	5.54%	5.05	0.0003%	0.0002%
SHS0630\$A	SOUTHWEST HORIZON SCHOOL DIV	105,186	0.01%	5.17%	5.49	0.0003%	0.0002%
SHS0631\$A	SOUTHWEST HORIZON SCHOOL DIV	131,773	0.01%	4.93%	5.87	0.0003%	0.0002%
SHS0635\$A	SOUTHWEST HORIZON SCHOOL DIV	217,604	0.01%	3.34%	7.82	0.0004%	0.0003%
SHS0826\$A	SOUTHWEST HORIZON SCHOOL DIV	463,366	0.02%	5.29%	4.05	0.0013%	0.0005%
SHS0833\$A	SOUTHWEST HORIZON SCHOOL DIV	285,781	0.02%	4.08%	6.97	0.0006%	0.0004%
SHS0922\$A	SOUTHWEST HORIZON SCHOOL DIV	35,830	0.00%	6.37%	2.39	0.0001%	0.0000%
SHS0925\$A	SOUTHWEST HORIZON SCHOOL DIV	92,983	0.00%	5.05%	3.73	0.0002%	0.0001%
SHS0927\$A	SOUTHWEST HORIZON SCHOOL DIV	54,948	0.00%	5.29%	4.50	0.0002%	0.0001%
SHS1023\$A	SOUTHWEST HORIZON SCHOOL DIV	170,266	0.01%	6.02%	2.87	0.0005%	0.0002%
SHS1023\$B	SOUTHWEST HORIZON SCHOOL DIV	194,984	0.01%	6.02%	2.91	0.0006%	0.0002%
SHS1026\$A	SOUTHWEST HORIZON SCHOOL DIV	418,046	0.02%	5.05%	4.24	0.0011%	0.0005%
SHS1032\$A	SOUTHWEST HORIZON SCHOOL DIV	256,333	0.01%	3.71%	6.82	0.0005%	0.0004%
SHS1123\$A	SOUTHWEST HORIZON SCHOOL DIV	75,840	0.00%	5.90%	3.00	0.0002%	0.0001%
SHS1124\$A	SOUTHWEST HORIZON SCHOOL DIV	65,716	0.00%	5.78%	3.39	0.0002%	0.0001%
SHS1125\$A	SOUTHWEST HORIZON SCHOOL DIV	697,965	0.04%	4.93%	3.86	0.0018%	0.0007%
SHS1126\$A	SOUTHWEST HORIZON SCHOOL DIV	226,600	0.01%	4.93%	4.29	0.0006%	0.0003%
SHS1224\$A	SOUTHWEST HORIZON SCHOOL DIV	113,403	0.01%	5.66%	3.52	0.0003%	0.0001%
SHS1225\$A	SOUTHWEST HORIZON SCHOOL DIV	731,382	0.04%	5.18%	3.97	0.0020%	0.0008%
SJS0126\$A	ST JAMES ASSINIBOIA SCH DIV	126,005	0.01%	5.18%	4.01	0.0003%	0.0001%
SJS0131\$A	ST JAMES ASSINIBOIA SCH DIV	486,283	0.03%	4.57%	6.12	0.0012%	0.0007%
SJS0330\$A	ST JAMES ASSINIBOIA SCH DIV	3,443,596	0.18%	5.18%	5.20	0.0094%	0.0050%
SJS0332\$A	ST JAMES ASSINIBOIA SCH DIV	205,519	0.01%	3.83%	6.26	0.0004%	0.0003%
SJS0419\$A	ST JAMES ASSINIBOIA SCH DIV	60,123	0.00%	6.00%	0.63	0.0002%	0.0000%
SJS0421\$A	ST JAMES ASSINIBOIA SCH DIV	153,740	0.01%	6.50%	1.50	0.0005%	0.0001%
SJS0424\$A	ST JAMES ASSINIBOIA SCH DIV	601,317	0.03%	5.78%	2.82	0.0018%	0.0005%
SJS0427\$A	ST JAMES ASSINIBOIA SCH DIV	583,179	0.03%	4.93%	4.17	0.0015%	0.0007%
SJS0428\$A	ST JAMES ASSINIBOIA SCH DIV	293,181	0.02%	5.05%	4.52	0.0008%	0.0004%
SJS0522\$A	ST JAMES ASSINIBOIA SCH DIV	578,384	0.03%	6.74%	2.01	0.0021%	0.0004%
SJS0523\$A	ST JAMES ASSINIBOIA SCH DIV	326,269	0.02%	6.14%	2.46	0.0011%	0.0003%
SJS0525\$A	ST JAMES ASSINIBOIA SCH DIV	436,245	0.02%	5.54%	3.33	0.0013%	0.0004%
SJS0625\$A	ST JAMES ASSINIBOIA SCH DIV	196,593	0.01%	5.54%	3.42	0.0006%	0.0002%
SJS0629\$A	ST JAMES ASSINIBOIA SCH DIV	310,519	0.02%	5.54%	5.01	0.0009%	0.0005%
SJS0630\$A	ST JAMES ASSINIBOIA SCH DIV	480,350	0.03%	5.17%	5.45	0.0013%	0.0007%
SJS0635\$A	ST JAMES ASSINIBOIA SCH DIV	1,074,768	0.06%	2.98%	7.93	0.0017%	0.0014%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
SJS0928\$A	ST JAMES ASSINIBOIA SCH DIV	168,364	0.01%	5.29%	4.94	0.0005%	0.0002%
SJS0935\$A	ST JAMES ASSINIBOIA SCH DIV	961,553	0.05%	3.34%	8.03	0.0017%	0.0014%
SJS1020\$A	ST JAMES ASSINIBOIA SCH DIV	35,629	0.00%	6.60%	1.53	0.0001%	0.0000%
SJS1021\$A	ST JAMES ASSINIBOIA SCH DIV	146,624	0.01%	6.61%	1.98	0.0005%	0.0001%
SJS1026\$A	ST JAMES ASSINIBOIA SCH DIV	118,082	0.01%	5.05%	4.19	0.0003%	0.0001%
SJS1123\$A	ST JAMES ASSINIBOIA SCH DIV	70,185	0.00%	6.02%	2.95	0.0002%	0.0001%
SJS1124\$A	ST JAMES ASSINIBOIA SCH DIV	288,222	0.02%	5.78%	3.39	0.0009%	0.0003%
SKC1219\$A	CITY OF SELKIRK	87,673	0.00%	6.24%	0.81	0.0003%	0.0000%
SLS1119\$A	SNOW LAKE SCHOOL DISTRICT	27,427	0.00%	6.72%	1.16	0.0001%	0.0000%
SMB1023\$A	RM OF SHELLMOUTH-BOULTON	70,338	0.00%	6.50%	2.81	0.0002%	0.0001%
SOS0230\$A	SEVEN OAKS SCHOOL DIV	2,505,595	0.13%	5.30%	5.73	0.0070%	0.0041%
SOS0328\$A	SEVEN OAKS SCHOOL DIV	1,887,842	0.10%	5.06%	4.44	0.0051%	0.0023%
SOS0332\$A	SEVEN OAKS SCHOOL DIV	884,132	0.05%	3.96%	6.20	0.0019%	0.0012%
SOS0335\$A	SEVEN OAKS SCHOOL DIV	5,193,480	0.28%	2.98%	7.68	0.0082%	0.0065%
SOS0419\$A	SEVEN OAKS SCHOOL DIV	53,031	0.00%	6.00%	0.59	0.0002%	0.0000%
SOS0422\$A	SEVEN OAKS SCHOOL DIV	249,967	0.01%	6.74%	1.97	0.0009%	0.0002%
SOS0424\$A	SEVEN OAKS SCHOOL DIV	256,492	0.01%	5.66%	2.87	0.0008%	0.0002%
SOS0426\$A	SEVEN OAKS SCHOOL DIV	344,331	0.02%	5.05%	3.70	0.0009%	0.0004%
SOS0427\$A	SEVEN OAKS SCHOOL DIV	2,340,522	0.12%	4.93%	4.13	0.0061%	0.0026%
SOS0431\$A	SEVEN OAKS SCHOOL DIV	546,632	0.03%	4.93%	5.70	0.0014%	0.0008%
SOS0431\$B	SEVEN OAKS SCHOOL DIV	267,135	0.01%	4.81%	5.77	0.0007%	0.0004%
SOS0520\$A	SEVEN OAKS SCHOOL DIV	112,366	0.01%	6.72%	1.17	0.0004%	0.0000%
SOS0521\$A	SEVEN OAKS SCHOOL DIV	178,089	0.01%	6.85%	1.61	0.0006%	0.0001%
SOS0525\$A	SEVEN OAKS SCHOOL DIV	309,730	0.02%	5.54%	3.33	0.0009%	0.0003%
SOS0529\$A	SEVEN OAKS SCHOOL DIV	652,154	0.03%	5.54%	4.93	0.0019%	0.0010%
SOS0530\$A	SEVEN OAKS SCHOOL DIV	341,745	0.02%	5.05%	5.38	0.0009%	0.0005%
SOS0622\$A	SEVEN OAKS SCHOOL DIV	122,271	0.01%	6.61%	2.14	0.0004%	0.0001%
SOS0623\$A	SEVEN OAKS SCHOOL DIV	219,572	0.01%	6.02%	2.55	0.0007%	0.0002%
SOS0632\$A	SEVEN OAKS SCHOOL DIV	484,812	0.03%	3.96%	6.44	0.0010%	0.0007%
SOS0633\$A	SEVEN OAKS SCHOOL DIV	1,284,006	0.07%	3.47%	6.95	0.0024%	0.0017%
SOS0634\$A	SEVEN OAKS SCHOOL DIV	4,994,629	0.26%	4.08%	7.23	0.0108%	0.0080%
SOS0919\$A	SEVEN OAKS SCHOOL DIV	11,828	0.00%	6.47%	1.00	0.0000%	0.0000%
SOS0920\$A	SEVEN OAKS SCHOOL DIV	39,586	0.00%	6.72%	1.45	0.0001%	0.0000%
SOS0921\$A	SEVEN OAKS SCHOOL DIV	22,227	0.00%	6.73%	1.90	0.0001%	0.0000%
SOS0931\$A	SEVEN OAKS SCHOOL DIV	1,868,401	0.10%	4.69%	6.16	0.0046%	0.0029%
SOS0932\$A	SEVEN OAKS SCHOOL DIV	986,496	0.05%	3.59%	6.81	0.0019%	0.0013%
SOS0933\$A	SEVEN OAKS SCHOOL DIV	943,064	0.05%	4.20%	7.07	0.0021%	0.0015%
SOS0935\$A	SEVEN OAKS SCHOOL DIV	3,036,754	0.16%	3.22%	8.11	0.0052%	0.0043%
SOS1026\$A	SEVEN OAKS SCHOOL DIV	409,047	0.02%	5.05%	4.24	0.0011%	0.0005%
SOS1027\$A	SEVEN OAKS SCHOOL DIV	5,007,157	0.27%	5.42%	4.61	0.0144%	0.0068%
SOS1118\$A	SEVEN OAKS SCHOOL DIV	33,665	0.00%	5.75%	0.73	0.0001%	0.0000%
SOS1123\$A	SEVEN OAKS SCHOOL DIV	279,694	0.01%	5.90%	3.00	0.0009%	0.0003%
SOS1131\$A	SEVEN OAKS SCHOOL DIV	1,932,141	0.10%	4.08%	6.47	0.0042%	0.0028%
SOS1132\$A	SEVEN OAKS SCHOOL DIV	569,095	0.03%	3.71%	6.95	0.0011%	0.0008%
SOS1133\$A	SEVEN OAKS SCHOOL DIV	1,236,542	0.07%	4.45%	7.13	0.0029%	0.0021%
SOS1134\$A	SEVEN OAKS SCHOOL DIV	7,337,987	0.39%	3.71%	7.70	0.0144%	0.0114%
SOS1219\$A	SEVEN OAKS SCHOOL DIV	43,519	0.00%	6.85%	1.24	0.0002%	0.0000%
SOS1225\$A	SEVEN OAKS SCHOOL DIV	171,665	0.01%	4.93%	3.95	0.0004%	0.0002%
SOS1228\$A	SEVEN OAKS SCHOOL DIV	3,003,554	0.16%	6.15%	5.08	0.0098%	0.0051%
SOS1230\$A	SEVEN OAKS SCHOOL DIV	1,619,623	0.09%	4.57%	6.03	0.0039%	0.0024%
SOS1235\$A	SEVEN OAKS SCHOOL DIV	5,650,573	0.30%	3.71%	8.17	0.0111%	0.0093%
SPS0419\$A	CONS SCHOOL DIST OF SPRAGUE	6,286	0.00%	6.00%	0.63	0.0000%	0.0000%
SPS0621\$A	CONS SCHOOL DIST OF SPRAGUE	29,095	0.00%	6.85%	1.69	0.0001%	0.0000%
SPV1219\$A	VILLAGE OF ST PIERRE JOLYS	25,937	0.00%	7.56%	1.19	0.0001%	0.0000%
SRS0127\$A	SEINE RIVER SCHOOL DIV	124,674	0.01%	4.81%	4.46	0.0003%	0.0001%
SRS0130\$A	SEINE RIVER SCHOOL DIV	292,446	0.02%	5.30%	5.66	0.0008%	0.0005%
SRS0225\$A	SEINE RIVER SCHOOL DIV	334,457	0.02%	5.55%	3.68	0.0010%	0.0004%
SRS0228\$A	SEINE RIVER SCHOOL DIV	225,189	0.01%	5.06%	4.97	0.0006%	0.0003%
SRS0231\$A	SEINE RIVER SCHOOL DIV	321,215	0.02%	4.69%	6.21	0.0008%	0.0005%
SRS0325\$A	SEINE RIVER SCHOOL DIV	100,502	0.01%	5.42%	3.22	0.0003%	0.0001%
SRS0326\$A	SEINE RIVER SCHOOL DIV	78,645	0.00%	5.06%	3.62	0.0002%	0.0001%
SRS0332\$A	SEINE RIVER SCHOOL DIV	1,275,147	0.07%	3.84%	6.22	0.0026%	0.0017%
SRS0333\$A	SEINE RIVER SCHOOL DIV	196,039	0.01%	3.71%	6.69	0.0004%	0.0003%
SRS0334\$A	SEINE RIVER SCHOOL DIV	378,073	0.02%	4.20%	6.95	0.0008%	0.0006%
SRS0424\$A	SEINE RIVER SCHOOL DIV	95,235	0.01%	5.78%	2.82	0.0003%	0.0001%
SRS0425\$A	SEINE RIVER SCHOOL DIV	78,712	0.00%	5.54%	3.29	0.0002%	0.0001%
SRS0427\$A	SEINE RIVER SCHOOL DIV	233,654	0.01%	5.05%	4.16	0.0006%	0.0003%
SRS0429\$A	SEINE RIVER SCHOOL DIV	315,852	0.02%	5.66%	4.87	0.0009%	0.0005%
SRS0520\$A	SEINE RIVER SCHOOL DIV	44,504	0.00%	6.72%	1.13	0.0002%	0.0000%
SRS0522\$A	SEINE RIVER SCHOOL DIV	59,223	0.00%	6.74%	2.01	0.0002%	0.0000%
SRS0526\$A	SEINE RIVER SCHOOL DIV	143,557	0.01%	5.17%	3.77	0.0004%	0.0002%
SRS0532\$A	SEINE RIVER SCHOOL DIV	1,252,527	0.07%	3.96%	6.36	0.0026%	0.0017%
SRS0618\$A	SEINE RIVER SCHOOL DIV	57,739	0.00%	5.80%	0.33	0.0002%	0.0000%
SRS0622\$A	SEINE RIVER SCHOOL DIV	40,120	0.00%	6.61%	2.14	0.0001%	0.0000%
SRS0624\$A	SEINE RIVER SCHOOL DIV	52,422	0.00%	6.02%	2.97	0.0002%	0.0001%
SRS0625\$A	SEINE RIVER SCHOOL DIV	90,428	0.00%	5.05%	3.49	0.0002%	0.0001%
SRS0627\$A	SEINE RIVER SCHOOL DIV	475,087	0.03%	5.05%	4.28	0.0013%	0.0006%
SRS0628\$A	SEINE RIVER SCHOOL DIV	191,015	0.01%	5.17%	4.71	0.0005%	0.0003%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
SRS0630\$A	SEINE RIVER SCHOOL DIV	713,017	0.04%	5.17%	5.45	0.0020%	0.0011%
SRS0631\$A	SEINE RIVER SCHOOL DIV	625,505	0.03%	4.93%	5.87	0.0016%	0.0010%
SRS0632\$A	SEINE RIVER SCHOOL DIV	1,253,835	0.07%	3.59%	6.56	0.0024%	0.0016%
SRS0633\$A	SEINE RIVER SCHOOL DIV	92,329	0.00%	3.47%	6.99	0.0002%	0.0001%
SRS0635\$A	SEINE RIVER SCHOOL DIV	180,146	0.01%	3.34%	7.82	0.0003%	0.0003%
SRS0731\$A	SEINE RIVER SCHOOL DIV	1,195,575	0.06%	4.57%	6.01	0.0029%	0.0018%
SRS0918\$A	SEINE RIVER SCHOOL DIV	136,184	0.01%	5.96%	0.57	0.0004%	0.0000%
SRS0919\$A	SEINE RIVER SCHOOL DIV	37,815	0.00%	6.47%	1.04	0.0001%	0.0000%
SRS0921\$A	SEINE RIVER SCHOOL DIV	8,573	0.00%	6.73%	1.94	0.0000%	0.0000%
SRS0922\$A	SEINE RIVER SCHOOL DIV	30,172	0.00%	6.37%	2.35	0.0001%	0.0000%
SRS0923\$A	SEINE RIVER SCHOOL DIV	80,194	0.00%	6.02%	2.83	0.0003%	0.0001%
SRS0926\$A	SEINE RIVER SCHOOL DIV	66,837	0.00%	5.05%	4.15	0.0002%	0.0001%
SRS0927\$A	SEINE RIVER SCHOOL DIV	475,328	0.03%	5.42%	4.53	0.0014%	0.0006%
SRS0931\$A	SEINE RIVER SCHOOL DIV	1,354,640	0.07%	4.32%	6.26	0.0031%	0.0020%
SRS0932\$A	SEINE RIVER SCHOOL DIV	1,120,450	0.06%	3.59%	6.81	0.0021%	0.0015%
SRS1018\$A	SEINE RIVER SCHOOL DIV	42,958	0.00%	5.74%	0.65	0.0001%	0.0000%
SRS1023\$A	SEINE RIVER SCHOOL DIV	69,625	0.00%	6.02%	2.91	0.0002%	0.0001%
SRS1030\$A	SEINE RIVER SCHOOL DIV	433,430	0.02%	4.69%	5.89	0.0011%	0.0007%
SRS1033\$A	SEINE RIVER SCHOOL DIV	657,307	0.03%	4.44%	7.05	0.0015%	0.0011%
SRS1118\$A	SEINE RIVER SCHOOL DIV	64,565	0.00%	5.99%	0.73	0.0002%	0.0000%
SRS1124\$A	SEINE RIVER SCHOOL DIV	504,291	0.03%	5.78%	3.43	0.0015%	0.0005%
SRS1131\$A	SEINE RIVER SCHOOL DIV	753,558	0.04%	4.08%	6.43	0.0016%	0.0011%
SRS1132\$A	SEINE RIVER SCHOOL DIV	1,219,047	0.06%	3.71%	6.95	0.0024%	0.0017%
SRS1219\$A	SEINE RIVER SCHOOL DIV	38,911	0.00%	6.86%	1.28	0.0001%	0.0000%
SRS1223\$A	SEINE RIVER SCHOOL DIV	67,468	0.00%	6.02%	3.03	0.0002%	0.0001%
SRS1227\$A	SEINE RIVER SCHOOL DIV	165,053	0.01%	5.18%	4.76	0.0005%	0.0002%
SSD0230\$A	SUNRISE SCHOOL DIVISION	1,108,407	0.06%	5.30%	5.73	0.0031%	0.0018%
SSD0231\$A	SUNRISE SCHOOL DIVISION	2,343,940	0.12%	4.69%	6.21	0.0058%	0.0037%
SSD0328\$A	SUNRISE SCHOOL DIVISION	1,367,812	0.07%	5.18%	4.46	0.0038%	0.0017%
SSD0334\$A	SUNRISE SCHOOL DIVISION	1,209,801	0.06%	4.32%	6.88	0.0028%	0.0020%
SSD0433\$A	SUNRISE SCHOOL DIVISION	2,253,382	0.12%	3.59%	6.80	0.0043%	0.0030%
SSD0434\$A	SUNRISE SCHOOL DIVISION	783,254	0.04%	4.20%	7.03	0.0017%	0.0013%
SSD0435\$A	SUNRISE SCHOOL DIVISION	849,387	0.05%	2.98%	7.77	0.0013%	0.0011%
SSD0623\$A	SUNRISE SCHOOL DIVISION	649,442	0.03%	6.02%	2.55	0.0021%	0.0005%
SSD0624\$A	SUNRISE SCHOOL DIVISION	181,784	0.01%	6.14%	3.00	0.0006%	0.0002%
SSD0625\$A	SUNRISE SCHOOL DIVISION	212,470	0.01%	5.29%	3.47	0.0006%	0.0002%
SSD0626\$A	SUNRISE SCHOOL DIVISION	824,495	0.04%	5.29%	3.89	0.0023%	0.0009%
SSD0923\$A	SUNRISE SCHOOL DIVISION	790,935	0.04%	6.02%	2.79	0.0025%	0.0007%
SVS0421\$A	ST VITAL SCHOOL DIVISION	99,641	0.01%	6.62%	1.54	0.0003%	0.0001%
SVS0519\$A	ST VITAL SCHOOL DIVISION	60,929	0.00%	5.99%	0.72	0.0002%	0.0000%
SVS0622\$A	ST VITAL SCHOOL DIVISION	3,439	0.00%	6.61%	2.10	0.0000%	0.0000%
SVS0622\$B	ST VITAL SCHOOL DIVISION	28,473	0.00%	6.49%	2.14	0.0001%	0.0000%
SVS0919\$A	ST VITAL SCHOOL DIVISION	43,162	0.00%	6.59%	1.04	0.0002%	0.0000%
SVS1121\$A	ST VITAL SCHOOL DIVISION	17,146	0.00%	6.73%	2.06	0.0001%	0.0000%
SVS1218\$A	ST VITAL SCHOOL DIVISION	12,780	0.00%	6.00%	0.77	0.0000%	0.0000%
SWS0125\$A	SWAN VALLEY SCHOOL DIV	64,039	0.00%	5.66%	3.60	0.0002%	0.0001%
SWS0131\$A	SWAN VALLEY SCHOOL DIV	25,245	0.00%	4.69%	6.14	0.0001%	0.0000%
SWS0225\$A	SWAN VALLEY SCHOOL DIV	41,855	0.00%	5.55%	3.68	0.0001%	0.0000%
SWS0226\$A	SWAN VALLEY SCHOOL DIV	68,182	0.00%	4.81%	4.12	0.0002%	0.0001%
SWS0232\$A	SWAN VALLEY SCHOOL DIV	92,415	0.00%	3.96%	6.74	0.0002%	0.0001%
SWS0325\$A	SWAN VALLEY SCHOOL DIV	23,235	0.00%	5.54%	3.21	0.0001%	0.0000%
SWS0328\$A	SWAN VALLEY SCHOOL DIV	54,741	0.00%	5.06%	4.48	0.0001%	0.0001%
SWS0329\$A	SWAN VALLEY SCHOOL DIV	29,959	0.00%	5.54%	4.81	0.0001%	0.0000%
SWS0330\$A	SWAN VALLEY SCHOOL DIV	81,580	0.00%	5.06%	5.26	0.0002%	0.0001%
SWS0334\$A	SWAN VALLEY SCHOOL DIV	30,209	0.00%	4.08%	6.99	0.0001%	0.0000%
SWS0334\$B	SWAN VALLEY SCHOOL DIV	260,576	0.01%	4.20%	6.95	0.0006%	0.0004%
SWS0424\$A	SWAN VALLEY SCHOOL DIV	9,291	0.00%	5.78%	2.86	0.0000%	0.0000%
SWS0433\$A	SWAN VALLEY SCHOOL DIV	598,088	0.03%	3.59%	6.80	0.0011%	0.0008%
SWS0523\$A	SWAN VALLEY SCHOOL DIV	17,337	0.00%	6.26%	2.45	0.0001%	0.0000%
SWS0528\$A	SWAN VALLEY SCHOOL DIV	44,235	0.00%	5.05%	4.60	0.0001%	0.0001%
SWS0530\$A	SWAN VALLEY SCHOOL DIV	12,665	0.00%	5.18%	5.41	0.0000%	0.0000%
SWS0533\$A	SWAN VALLEY SCHOOL DIV	209,565	0.01%	3.59%	6.88	0.0004%	0.0003%
SWS0534\$A	SWAN VALLEY SCHOOL DIV	135,180	0.01%	4.20%	7.12	0.0003%	0.0002%
SWS0622\$A	SWAN VALLEY SCHOOL DIV	6,454	0.00%	6.49%	2.14	0.0000%	0.0000%
SWS0624\$A	SWAN VALLEY SCHOOL DIV	15,957	0.00%	6.02%	2.97	0.0001%	0.0000%
SWS0626\$A	SWAN VALLEY SCHOOL DIV	93,669	0.00%	5.29%	3.85	0.0003%	0.0001%
SWS0626\$B	SWAN VALLEY SCHOOL DIV	32,362	0.00%	5.29%	3.89	0.0001%	0.0000%
SWS0633\$A	SWAN VALLEY SCHOOL DIV	240,225	0.01%	3.47%	6.99	0.0004%	0.0003%
SWS0634\$A	SWAN VALLEY SCHOOL DIV	48,071	0.00%	3.96%	7.26	0.0001%	0.0001%
SWS0821\$A	SWAN VALLEY SCHOOL DIV	7,354	0.00%	6.85%	1.86	0.0000%	0.0000%
SWS0823\$A	SWAN VALLEY SCHOOL DIV	95,809	0.01%	6.01%	2.75	0.0003%	0.0001%
SWS0828\$A	SWAN VALLEY SCHOOL DIV	31,578	0.00%	5.17%	4.87	0.0001%	0.0000%
SWS0829\$A	SWAN VALLEY SCHOOL DIV	211,165	0.01%	5.42%	5.23	0.0006%	0.0003%
SWS0830\$A	SWAN VALLEY SCHOOL DIV	38,065	0.00%	4.93%	5.69	0.0001%	0.0001%
SWS0831\$A	SWAN VALLEY SCHOOL DIV	32,447	0.00%	4.32%	6.18	0.0001%	0.0000%
SWS0833\$A	SWAN VALLEY SCHOOL DIV	909,138	0.05%	4.08%	6.97	0.0020%	0.0014%
SWS0918\$A	SWAN VALLEY SCHOOL DIV	9,212	0.00%	5.96%	0.57	0.0000%	0.0000%
SWS0922\$A	SWAN VALLEY SCHOOL DIV	13,578	0.00%	6.37%	2.35	0.0000%	0.0000%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
SWS0923\$A	SWAN VALLEY SCHOOL DIV	87,656	0.00%	6.02%	2.83	0.0003%	0.0001%
SWS0925\$A	SWAN VALLEY SCHOOL DIV	20,475	0.00%	4.81%	3.75	0.0001%	0.0000%
SWS0926\$A	SWAN VALLEY SCHOOL DIV	106,343	0.01%	5.17%	4.10	0.0003%	0.0001%
SWS0929\$A	SWAN VALLEY SCHOOL DIV	72,878	0.00%	5.30%	5.33	0.0002%	0.0001%
SWS0930\$A	SWAN VALLEY SCHOOL DIV	108,391	0.01%	4.93%	5.77	0.0003%	0.0002%
SWS0932\$A	SWAN VALLEY SCHOOL DIV	144,595	0.01%	3.59%	6.77	0.0003%	0.0002%
SWS0933\$A	SWAN VALLEY SCHOOL DIV	706,330	0.04%	4.20%	7.03	0.0016%	0.0011%
SWS1018\$A	SWAN VALLEY SCHOOL DIV	4,979	0.00%	5.97%	0.65	0.0000%	0.0000%
SWS1019\$A	SWAN VALLEY SCHOOL DIV	10,497	0.00%	6.72%	1.12	0.0000%	0.0000%
SWS1021\$A	SWAN VALLEY SCHOOL DIV	41,622	0.00%	6.61%	2.02	0.0001%	0.0000%
SWS1023\$A	SWAN VALLEY SCHOOL DIV	43,915	0.00%	6.02%	2.87	0.0001%	0.0000%
SWS1026\$A	SWAN VALLEY SCHOOL DIV	96,644	0.01%	5.05%	4.24	0.0003%	0.0001%
SWS1029\$A	SWAN VALLEY SCHOOL DIV	147,050	0.01%	5.30%	5.41	0.0004%	0.0002%
SWS1030\$A	SWAN VALLEY SCHOOL DIV	90,641	0.00%	4.69%	5.85	0.0002%	0.0001%
SWS1031\$A	SWAN VALLEY SCHOOL DIV	168,513	0.01%	4.20%	6.37	0.0004%	0.0002%
SWS1123\$A	SWAN VALLEY SCHOOL DIV	148,507	0.01%	5.90%	2.96	0.0005%	0.0001%
SWS1129\$A	SWAN VALLEY SCHOOL DIV	104,418	0.01%	5.05%	5.53	0.0003%	0.0002%
SWS1130\$A	SWAN VALLEY SCHOOL DIV	85,801	0.00%	4.57%	5.95	0.0002%	0.0001%
SWS1133\$A	SWAN VALLEY SCHOOL DIV	278,556	0.01%	4.20%	7.19	0.0006%	0.0005%
SWS1218\$A	SWAN VALLEY SCHOOL DIV	2,407	0.00%	6.00%	0.77	0.0000%	0.0000%
SWS1224\$A	SWAN VALLEY SCHOOL DIV	75,057	0.00%	5.66%	3.52	0.0002%	0.0001%
SWS1225\$A	SWAN VALLEY SCHOOL DIV	39,380	0.00%	5.17%	3.93	0.0001%	0.0000%
SWS1227\$A	SWAN VALLEY SCHOOL DIV	51,329	0.00%	5.18%	4.76	0.0001%	0.0001%
SWS1227\$B	SWAN VALLEY SCHOOL DIV	213,238	0.01%	5.05%	4.81	0.0006%	0.0003%
SWS1230\$A	SWAN VALLEY SCHOOL DIV	215,736	0.01%	4.57%	6.03	0.0005%	0.0003%
SWS1232\$A	SWAN VALLEY SCHOOL DIV	163,587	0.01%	3.71%	6.99	0.0003%	0.0002%
SWT0419\$A	SOUTH WPG TECHNICAL CENTRE	15,313	0.00%	6.00%	0.59	0.0000%	0.0000%
SWT1218\$A	SOUTH WPG TECHNICAL CENTRE	91,702	0.00%	5.76%	0.77	0.0003%	0.0000%
SYS0420\$A	SOURIS VALLEY SCHOOL DIVISION	41,307	0.00%	6.73%	1.09	0.0001%	0.0000%
SYS0421\$A	SOURIS VALLEY SCHOOL DIVISION	196,130	0.01%	6.62%	1.54	0.0007%	0.0001%
SYS0518\$A	SOURIS VALLEY SCHOOL DIVISION	15,021	0.00%	5.89%	0.20	0.0000%	0.0000%
SYS1021\$A	SOURIS VALLEY SCHOOL DIVISION	45,722	0.00%	6.61%	1.98	0.0002%	0.0000%
TAR0619\$A	RURAL MUN OF TACHE	26,218	0.00%	6.74%	1.28	0.0001%	0.0000%
TAR1219\$A	RURAL MUN OF TACHE	115,091	0.01%	7.34%	1.27	0.0004%	0.0001%
THS0618\$A	TIGER HILLS SCHOOL DIV	9,212	0.00%	5.80%	0.33	0.0000%	0.0000%
TMS0325\$A	TURTLE MOUNTAIN SCHOOL DIV	83,987	0.00%	5.54%	3.17	0.0002%	0.0001%
TMS0334\$A	TURTLE MOUNTAIN SCHOOL DIV	194,413	0.01%	4.32%	6.92	0.0004%	0.0003%
TMS0419\$A	TURTLE MOUNTAIN SCHOOL DIV	54,642	0.00%	6.00%	0.63	0.0002%	0.0000%
TMS0427\$A	TURTLE MOUNTAIN SCHOOL DIV	74,316	0.00%	5.05%	4.12	0.0002%	0.0001%
TMS0531\$A	TURTLE MOUNTAIN SCHOOL DIV	460,531	0.02%	4.93%	5.83	0.0012%	0.0007%
TMS0535\$A	TURTLE MOUNTAIN SCHOOL DIV	477,849	0.03%	2.98%	7.85	0.0008%	0.0006%
TMS0624\$A	TURTLE MOUNTAIN SCHOOL DIV	279,591	0.01%	6.14%	3.00	0.0009%	0.0003%
TMS0626\$A	TURTLE MOUNTAIN SCHOOL DIV	115,784	0.01%	5.29%	3.85	0.0003%	0.0001%
TMS0821\$A	TURTLE MOUNTAIN SCHOOL DIV	15,559	0.00%	6.73%	1.86	0.0001%	0.0000%
TMS1020\$A	TURTLE MOUNTAIN SCHOOL DIV	13,910	0.00%	6.60%	1.53	0.0000%	0.0000%
TMS1021\$A	TURTLE MOUNTAIN SCHOOL DIV	131,489	0.01%	6.61%	1.98	0.0005%	0.0001%
TMS1118\$A	TURTLE MOUNTAIN SCHOOL DIV	7,718	0.00%	5.99%	0.73	0.0000%	0.0000%
TMS1219\$A	TURTLE MOUNTAIN SCHOOL DIV	34,986	0.00%	6.85%	1.24	0.0001%	0.0000%
TOM1218\$A	TOWN OF MANITOU	19,244	0.00%	5.99%	0.73	0.0001%	0.0000%
TRS0420\$A	TURTLE RIVER SCHOOL DIVISION	4,917	0.00%	6.73%	1.09	0.0000%	0.0000%
TRS0518\$A	TURTLE RIVER SCHOOL DIVISION	7,552	0.00%	5.89%	0.20	0.0000%	0.0000%
TRS0522\$A	TURTLE RIVER SCHOOL DIVISION	129,598	0.01%	6.74%	2.01	0.0005%	0.0001%
TRS0626\$A	TURTLE RIVER SCHOOL DIVISION	162,850	0.01%	5.29%	3.85	0.0005%	0.0002%
TRS0628\$A	TURTLE RIVER SCHOOL DIVISION	118,318	0.01%	5.17%	4.71	0.0003%	0.0002%
TRS0725\$A	TURTLE RIVER SCHOOL DIVISION	205,105	0.01%	5.05%	3.57	0.0005%	0.0002%
TRS0727\$A	TURTLE RIVER SCHOOL DIVISION	100,351	0.01%	5.29%	4.33	0.0003%	0.0001%
TRS1029\$A	TURTLE RIVER SCHOOL DIVISION	443,605	0.02%	5.42%	5.35	0.0013%	0.0007%
TRS1030\$A	TURTLE RIVER SCHOOL DIVISION	160,383	0.01%	4.69%	5.85	0.0004%	0.0002%
TRS1121\$A	TURTLE RIVER SCHOOL DIVISION	143,839	0.01%	6.73%	2.06	0.0005%	0.0001%
TSS0419\$A	TRANSCONA SPRINGFIELD SCH DIV	29,981	0.00%	6.00%	0.63	0.0001%	0.0000%
TSS0420\$A	TRANSCONA SPRINGFIELD SCH DIV	13,523	0.00%	6.73%	1.09	0.0000%	0.0000%
TSS0421\$A	TRANSCONA SPRINGFIELD SCH DIV	147,165	0.01%	6.50%	1.50	0.0005%	0.0001%
TSS0521\$A	TRANSCONA SPRINGFIELD SCH DIV	143,156	0.01%	6.61%	1.62	0.0005%	0.0001%
TSS0522\$A	TRANSCONA SPRINGFIELD SCH DIV	73,836	0.00%	6.74%	2.05	0.0003%	0.0001%
TSS0620\$A	TRANSCONA SPRINGFIELD SCH DIV	19,817	0.00%	6.84%	1.25	0.0001%	0.0000%
TSS0622\$A	TRANSCONA SPRINGFIELD SCH DIV	38,974	0.00%	6.61%	2.14	0.0001%	0.0000%
TSS0919\$A	TRANSCONA SPRINGFIELD SCH DIV	18,991	0.00%	6.47%	1.04	0.0001%	0.0000%
TSS0921\$A	TRANSCONA SPRINGFIELD SCH DIV	77,159	0.00%	6.73%	1.94	0.0003%	0.0001%
TSS1018\$A	TRANSCONA SPRINGFIELD SCH DIV	9,793	0.00%	5.97%	0.65	0.0000%	0.0000%
TSS1119\$A	TRANSCONA SPRINGFIELD SCH DIV	40,294	0.00%	6.72%	1.16	0.0001%	0.0000%
TSS1120\$A	TRANSCONA SPRINGFIELD SCH DIV	135,232	0.01%	6.73%	1.62	0.0005%	0.0001%
TSS1121\$A	TRANSCONA SPRINGFIELD SCH DIV	159,715	0.01%	6.73%	2.06	0.0006%	0.0001%
TSS1218\$A	TRANSCONA SPRINGFIELD SCH DIV	18,174	0.00%	6.00%	0.77	0.0001%	0.0000%
VIT1221\$A	TOWN OF VIRDEN	336,794	0.02%	2.60%	2.28	0.0005%	0.0001%
VIT1221\$B	TOWN OF VIRDEN	67,249	0.00%	2.60%	2.28	0.0001%	0.0000%
WAR1219\$A	RURAL MUNICIPALITY OF WALLACE	54,700	0.00%	7.20%	1.20	0.0002%	0.0000%
WAR1228\$A	RURAL MUNICIPALITY OF WALLACE	148,342	0.01%	5.66%	5.14	0.0004%	0.0002%
WAV1218\$A	VILLAGE OF WAWANESA	8,977	0.00%	6.23%	0.73	0.0000%	0.0000%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
WES0125\$A	WESTERN SCHOOL DIVISION	118,840	0.01%	5.66%	3.60	0.0004%	0.0001%
WES0521\$A	WESTERN SCHOOL DIVISION	128,531	0.01%	6.85%	1.61	0.0005%	0.0001%
WES0530\$A	WESTERN SCHOOL DIVISION	1,319,408	0.07%	5.18%	5.41	0.0036%	0.0020%
WES0535\$A	WESTERN SCHOOL DIVISION	37,718	0.00%	2.98%	7.81	0.0001%	0.0000%
WES0631\$A	WESTERN SCHOOL DIVISION	542,184	0.03%	4.93%	5.87	0.0014%	0.0009%
WES0634\$A	WESTERN SCHOOL DIVISION	1,201,977	0.06%	4.08%	7.19	0.0026%	0.0019%
WES0734\$A	WESTERN SCHOOL DIVISION	1,154,950	0.06%	3.96%	7.30	0.0024%	0.0018%
WES1021\$A	WESTERN SCHOOL DIVISION	34,685	0.00%	6.61%	1.98	0.0001%	0.0000%
WES1032\$A	WESTERN SCHOOL DIVISION	423,015	0.02%	3.71%	6.82	0.0008%	0.0006%
WES1033\$A	WESTERN SCHOOL DIVISION	437,341	0.02%	4.44%	7.05	0.0010%	0.0007%
WES1127\$A	WESTERN SCHOOL DIVISION	22,544	0.00%	5.30%	4.70	0.0001%	0.0000%
WHS0419\$A	WHITE HORSE PLAIN SCHOOL DIV	10,638	0.00%	6.00%	0.59	0.0000%	0.0000%
WHS0518\$A	WHITE HORSE PLAIN SCHOOL DIV	10,775	0.00%	5.78%	0.25	0.0000%	0.0000%
WHS0619\$A	WHITE HORSE PLAIN SCHOOL DIV	6,286	0.00%	5.99%	0.76	0.0000%	0.0000%
WHS0719\$A	WHITE HORSE PLAIN SCHOOL DIV	8,358	0.00%	6.22%	0.83	0.0000%	0.0000%
WHS0720\$A	WHITE HORSE PLAIN SCHOOL DIV	13,129	0.00%	6.84%	1.33	0.0000%	0.0000%
WHS1219\$A	WHITE HORSE PLAIN SCHOOL DIV	32,085	0.00%	6.85%	1.24	0.0001%	0.0000%
WIR1230\$A	RURAL MUN OF WEST INTERLAKE	1,431,258	0.08%	3.47%	6.25	0.0026%	0.0017%
WIS0120\$A	WINNIPEG SCHOOL DIVISION	314,704	0.02%	6.86%	1.32	0.0011%	0.0002%
WIS0125\$A	WINNIPEG SCHOOL DIVISION	1,652,644	0.09%	5.66%	3.56	0.0050%	0.0018%
WIS0129\$A	WINNIPEG SCHOOL DIVISION	694,821	0.04%	5.79%	5.21	0.0021%	0.0011%
WIS0130\$A	WINNIPEG SCHOOL DIVISION	2,867,497	0.15%	5.18%	5.63	0.0079%	0.0046%
WIS0130\$B	WINNIPEG SCHOOL DIVISION	2,711,292	0.14%	5.30%	5.66	0.0076%	0.0044%
WIS0136\$A	WINNIPEG SCHOOL DIVISION	4,412,845	0.23%	3.71%	8.29	0.0087%	0.0074%
WIS0226\$A	WINNIPEG SCHOOL DIVISION	691,047	0.04%	4.81%	4.12	0.0018%	0.0007%
WIS0228\$A	WINNIPEG SCHOOL DIVISION	1,097,499	0.06%	5.06%	4.89	0.0029%	0.0015%
WIS0230\$A	WINNIPEG SCHOOL DIVISION	1,324,166	0.07%	5.30%	5.73	0.0037%	0.0022%
WIS0231\$A	WINNIPEG SCHOOL DIVISION	2,025,047	0.11%	4.69%	6.18	0.0050%	0.0032%
WIS0325\$A	WINNIPEG SCHOOL DIVISION	720,315	0.04%	5.42%	3.22	0.0021%	0.0007%
WIS0327\$A	WINNIPEG SCHOOL DIVISION	711,293	0.04%	5.06%	4.03	0.0019%	0.0008%
WIS0329\$A	WINNIPEG SCHOOL DIVISION	755,058	0.04%	5.54%	4.81	0.0022%	0.0011%
WIS0332\$A	WINNIPEG SCHOOL DIVISION	1,522,210	0.08%	3.83%	6.26	0.0031%	0.0020%
WIS0333\$A	WINNIPEG SCHOOL DIVISION	2,269,102	0.12%	3.71%	6.69	0.0045%	0.0031%
WIS0334\$A	WINNIPEG SCHOOL DIVISION	3,281,751	0.17%	4.20%	6.95	0.0073%	0.0052%
WIS0419\$A	WINNIPEG SCHOOL DIVISION	172,309	0.01%	6.00%	0.63	0.0005%	0.0000%
WIS0422\$A	WINNIPEG SCHOOL DIVISION	533,775	0.03%	6.74%	1.97	0.0019%	0.0004%
WIS0423\$A	WINNIPEG SCHOOL DIVISION	830,321	0.04%	6.14%	2.42	0.0027%	0.0007%
WIS0434\$A	WINNIPEG SCHOOL DIVISION	168,522	0.01%	4.08%	7.07	0.0004%	0.0003%
WIS0435\$A	WINNIPEG SCHOOL DIVISION	2,116,441	0.11%	2.98%	7.77	0.0033%	0.0027%
WIS0520\$A	WINNIPEG SCHOOL DIVISION	420,941	0.02%	6.72%	1.13	0.0015%	0.0002%
WIS0524\$A	WINNIPEG SCHOOL DIVISION	1,305,756	0.07%	5.78%	2.90	0.0040%	0.0012%
WIS0528\$A	WINNIPEG SCHOOL DIVISION	413,304	0.02%	5.05%	4.64	0.0011%	0.0005%
WIS0530\$A	WINNIPEG SCHOOL DIVISION	882,187	0.05%	5.05%	5.38	0.0024%	0.0013%
WIS0531\$A	WINNIPEG SCHOOL DIVISION	1,394,778	0.07%	4.93%	5.83	0.0036%	0.0022%
WIS0532\$A	WINNIPEG SCHOOL DIVISION	966,188	0.05%	3.96%	6.36	0.0020%	0.0013%
WIS0533\$A	WINNIPEG SCHOOL DIVISION	149,970	0.01%	3.59%	6.84	0.0003%	0.0002%
WIS0623\$A	WINNIPEG SCHOOL DIVISION	779,374	0.04%	6.02%	2.59	0.0025%	0.0007%
WIS0626\$A	WINNIPEG SCHOOL DIVISION	561,319	0.03%	5.29%	3.89	0.0016%	0.0006%
WIS0627\$A	WINNIPEG SCHOOL DIVISION	403,317	0.02%	5.17%	4.31	0.0011%	0.0005%
WIS0628\$A	WINNIPEG SCHOOL DIVISION	185,103	0.01%	5.17%	4.71	0.0005%	0.0002%
WIS0629\$A	WINNIPEG SCHOOL DIVISION	1,057,254	0.06%	5.54%	5.05	0.0031%	0.0016%
WIS0630\$A	WINNIPEG SCHOOL DIVISION	692,314	0.04%	5.17%	5.49	0.0019%	0.0011%
WIS0631\$A	WINNIPEG SCHOOL DIVISION	289,599	0.02%	4.93%	5.91	0.0008%	0.0005%
WIS0632\$A	WINNIPEG SCHOOL DIVISION	786,695	0.04%	3.96%	6.44	0.0016%	0.0011%
WIS0634\$A	WINNIPEG SCHOOL DIVISION	1,028,883	0.05%	4.08%	7.23	0.0022%	0.0017%
WIS0635\$A	WINNIPEG SCHOOL DIVISION	1,689,834	0.09%	3.34%	7.82	0.0030%	0.0024%
WIS0719\$A	WINNIPEG SCHOOL DIVISION	264,014	0.01%	6.22%	0.88	0.0009%	0.0001%
WIS0724\$A	WINNIPEG SCHOOL DIVISION	847,881	0.04%	6.14%	3.04	0.0028%	0.0009%
WIS0918\$A	WINNIPEG SCHOOL DIVISION	78,475	0.00%	6.20%	0.57	0.0003%	0.0000%
WIS0920\$A	WINNIPEG SCHOOL DIVISION	512,653	0.03%	6.72%	1.45	0.0018%	0.0003%
WIS0921\$A	WINNIPEG SCHOOL DIVISION	361,343	0.02%	6.73%	1.90	0.0013%	0.0003%
WIS0923\$A	WINNIPEG SCHOOL DIVISION	946,965	0.05%	6.02%	2.83	0.0030%	0.0009%
WIS0929\$A	WINNIPEG SCHOOL DIVISION	1,880,580	0.10%	5.42%	5.31	0.0054%	0.0029%
WIS0931\$A	WINNIPEG SCHOOL DIVISION	1,240,089	0.07%	4.20%	6.29	0.0028%	0.0018%
WIS1019\$A	WINNIPEG SCHOOL DIVISION	244,694	0.01%	6.60%	1.12	0.0009%	0.0001%
WIS1028\$A	WINNIPEG SCHOOL DIVISION	512,577	0.03%	5.17%	5.04	0.0014%	0.0007%
WIS1033\$A	WINNIPEG SCHOOL DIVISION	988,328	0.05%	4.20%	7.11	0.0022%	0.0016%
WIS1120\$A	WINNIPEG SCHOOL DIVISION	392,419	0.02%	6.73%	1.62	0.0014%	0.0002%
WIS1125\$A	WINNIPEG SCHOOL DIVISION	939,956	0.05%	4.93%	3.86	0.0025%	0.0010%
WIS1130\$A	WINNIPEG SCHOOL DIVISION	1,929,300	0.10%	4.57%	5.99	0.0047%	0.0029%
WIS1132\$A	WINNIPEG SCHOOL DIVISION	2,341,033	0.12%	3.71%	6.91	0.0046%	0.0033%
WIS1132\$B	WINNIPEG SCHOOL DIVISION	1,230,529	0.07%	3.71%	6.95	0.0024%	0.0017%
WIS1226\$A	WINNIPEG SCHOOL DIVISION	1,193,229	0.06%	4.93%	4.37	0.0031%	0.0014%
WIS1234\$A	WINNIPEG SCHOOL DIVISION	4,878,809	0.26%	3.71%	7.78	0.0096%	0.0077%
WOR1220\$A	RURAL MUN OF WOODLANDS	52,191	0.00%	7.10%	1.73	0.0002%	0.0000%
WOR1220\$B	RURAL MUN OF WOODLANDS	9,982	0.00%	6.98%	1.73	0.0000%	0.0000%
WTC0129\$A	WINNIPEG TECHNICAL COLLEGE	106,247	0.01%	5.78%	5.17	0.0003%	0.0002%
WTC0326\$A	WINNIPEG TECHNICAL COLLEGE	27,069	0.00%	4.81%	3.64	0.0001%	0.0000%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
WTC0327\$A	WINNIPEG TECHNICAL COLLEGE	58,182	0.00%	4.93%	4.09	0.0002%	0.0001%
WTC0529\$A	WINNIPEG TECHNICAL COLLEGE	638,311	0.03%	5.66%	4.96	0.0019%	0.0010%
WTC0625\$A	WINNIPEG TECHNICAL COLLEGE	80,085	0.00%	5.29%	3.47	0.0002%	0.0001%
WTC0632\$A	WINNIPEG TECHNICAL COLLEGE	2,045,276	0.11%	3.96%	6.44	0.0043%	0.0028%
WTC1125\$A	WINNIPEG TECHNICAL COLLEGE	232,448	0.01%	4.93%	3.86	0.0006%	0.0002%
WTC1224\$A	WINNIPEG TECHNICAL COLLEGE	28,309	0.00%	5.78%	3.47	0.0001%	0.0000%
013051DM6	ALBERTA	6,162,540	0.33%	2.63%	5.63	0.0086%	0.0050%
013051DQ7	ALBERTA	47,767,650	2.53%	2.73%	6.58	0.0692%	0.0468%
013051DR5	ALBERTA	8,850,150	0.47%	2.01%	2.21	0.0094%	0.0021%
013051DT1	ALBERTA	27,393,289	1.45%	2.82%	7.43	0.0410%	0.0313%
013051DW4	ALBERTA	7,783,200	0.41%	2.89%	8.12	0.0119%	0.0099%
013051DY0	ALBERTA	33,240,780	1.76%	3.16%	19.57	0.0557%	0.1120%
01306ZCV1	Alberta TSY	12,689,408	0.67%	2.99%	9.63	0.0201%	0.0199%
01306ZDC2	Alberta TSY	3,298,980	0.17%	3.10%	11.84	0.0054%	0.0066%
1107098Y1	PROV OF BRITISH COLUMBIA	12,166,000	0.64%	3.03%	15.87	0.0196%	0.0319%
11070TAG3	PROV OF BRITISH COLUMBIA	12,417,210	0.66%	3.03%	19.95	0.0199%	0.0408%
11070TAJ7	PROV OF BRITISH COLUMBIA	4,653,312	0.25%	2.71%	7.46	0.0067%	0.0051%
40649CTR7	HALTON REGIONAL MUNICIPALITY	2,223,600	0.12%	3.36%	15.41	0.0040%	0.0063%
4488148V8	QUEBEC HYDRO BOND	6,021,850	0.32%	3.07%	20.80	0.0098%	0.0209%
448814DG5	QUEBEC HYDRO BOND	2,422,300	0.13%	2.15%	2.22	0.0028%	0.0006%
505443AB7	CANADA LABRADOR-ISLAND LINK FU	11,441,300	0.61%	3.08%	17.59	0.0187%	0.0338%
56344ZCG2	PROVINCE OF MANITOBA BOND	6,871,179	0.36%	3.05%	9.32	0.0111%	0.0106%
56344ZEH8	PROVINCE OF MANITOBA BOND	30,809,163	1.63%	3.12%	10.22	0.0510%	0.0536%
56344ZJM2	PROVINCE OF MANITOBA BOND	38,525,700	2.04%	3.15%	11.83	0.0642%	0.0780%
56344ZPV5	PROVINCE OF MANITOBA BOND	19,726,000	1.05%	3.22%	20.54	0.0336%	0.0709%
563469TH8	PROVINCE OF MANITOBA BOND	12,928,200	0.69%	3.23%	18.08	0.0221%	0.0410%
563469TW5	PROVINCE OF MANITOBA BOND	8,201,280	0.43%	3.20%	16.70	0.0139%	0.0239%
56346ZKW6	PROVINCE OF MANITOBA	10,575,901	0.56%	1.87%	1.00	0.0105%	0.0011%
570344AA9	MARITIME LINK FINANCING TR	5,136,450	0.27%	3.37%	20.06	0.0092%	0.0189%
614853CC1	VILLE MONTREAL	5,120,100	0.27%	1.79%	0.74	0.0049%	0.0004%
614853CJ6	VILLE MONTREAL	2,118,660	0.11%	2.00%	1.67	0.0022%	0.0004%
614853CM9	VILLE MONTREAL	11,831,380	0.63%	2.39%	3.44	0.0150%	0.0053%
614853CV9	VILLE MONTREAL	2,501,088	0.13%	2.67%	4.92	0.0035%	0.0018%
628153AC2	MUSKRAT FALLS	11,555,500	0.61%	3.07%	18.74	0.0188%	0.0362%
642866BZ3	PROV OF NEW BRUNSWICK BOND	3,612,490	0.19%	1.81%	1.22	0.0035%	0.0004%
642866FW2	PROV OF NEW BRUNSWICK BOND	11,901,800	0.63%	3.22%	12.29	0.0203%	0.0257%
642866FZ5	PROV OF NEW BRUNSWICK BOND	11,839,100	0.63%	3.25%	13.07	0.0204%	0.0274%
642866GA9	PROV OF NEW BRUNSWICK BOND	6,182,950	0.33%	3.26%	14.07	0.0107%	0.0154%
642866GK7	PROV OF NEW BRUNSWICK BOND	1,960,040	0.10%	2.87%	7.52	0.0030%	0.0023%
642866GL5	PROV OF NEW BRUNSWICK BOND	14,259,000	0.76%	3.26%	19.40	0.0246%	0.0490%
642869AE1	PROVINCE OF NEW BRUNSWICK	13,614,900	0.72%	3.27%	16.69	0.0236%	0.0405%
651329BE3	NFLD LABRADOR HYDRO BOND	4,649,940	0.25%	3.41%	17.50	0.0084%	0.0151%
651333EG7	NEWFOUNDLAND PROV	5,017,178	0.27%	3.18%	8.53	0.0085%	0.0074%
651333EZ5	NEWFOUNDLAND PROV	13,453,400	0.71%	3.20%	9.07	0.0228%	0.0213%
651333FM3	NEWFOUNDLAND PROV	12,839,900	0.68%	3.27%	10.92	0.0222%	0.0249%
651333FQ4	NEWFOUNDLAND PROV	25,655,300	1.36%	3.32%	13.12	0.0451%	0.0608%
651333FS0	NEWFOUNDLAND PROV	7,422,030	0.39%	2.85%	6.58	0.0112%	0.0076%
651333FT8	NEWFOUNDLAND PROV	22,305,600	1.18%	3.35%	18.16	0.0396%	0.0738%
651333FY7	NEWFOUNDLAND PROV	23,853,418	1.26%	3.34%	18.45	0.0422%	0.0799%
65355DZC2	NIAGARA REG MUNI	1,289,140	0.07%	3.35%	14.25	0.0023%	0.0033%
669827FL6	PROVINCE OF NOVA SCOTIA	15,945,360	0.84%	3.08%	10.77	0.0260%	0.0288%
669827FP7	PROVINCE OF NOVA SCOTIA	18,538,500	0.98%	3.12%	12.14	0.0307%	0.0382%
669827FZ5	PROVINCE OF NOVA SCOTIA	10,521,100	0.56%	3.16%	17.71	0.0176%	0.0321%
669827GA9	PROVINCE OF NOVA SCOTIA	9,381,900	0.50%	2.87%	8.27	0.0142%	0.0121%
6832348J0	PROVINCE OF ONTARIO BOND	10,478,000	0.56%	2.03%	2.14	0.0112%	0.0025%
683234B98	PROVINCE OF ONTARIO BOND	2,133,126	0.11%	3.10%	15.10	0.0035%	0.0054%
683234NM6	PROVINCE OF ONTARIO BOND	4,198,423	0.22%	2.95%	9.61	0.0066%	0.0065%
683234YD4	PROVINCE OF ONTARIO BOND	6,169,100	0.33%	3.08%	13.25	0.0101%	0.0137%
683234ZP6	PROVINCE OF ONTARIO BOND	1,231,740	0.07%	3.10%	14.24	0.0020%	0.0030%
68323AAD6	PROVINCE OF ONTARIO	26,419,250	1.40%	2.19%	3.04	0.0306%	0.0095%
68323AAY0	PROVINCE OF ONTARIO	19,211,040	1.02%	3.11%	16.87	0.0317%	0.0549%
68323ABN3	PROVINCE OF ONTARIO	9,976,498	0.53%	2.48%	4.83	0.0131%	0.0065%
68323ADM3	PROVINCE OF ONTARIO	28,596,498	1.52%	2.77%	7.38	0.0420%	0.0319%
68323AEE0	PROVINCE OF ONTARIO	104,957,370	5.56%	2.84%	8.11	0.1577%	0.1314%
68323Z4W6	ONTARIO GENERAL RESIDUALS	3,574,944	0.19%	7.53%	9.41	0.0143%	0.0138%
68323ZUK3	ONTARIO GENERAL RESIDUALS	11,719,071	0.62%	2.16%	2.24	0.0134%	0.0031%
689551DE6	CITY OF OTTAWA	5,932,000	0.31%	3.22%	9.51	0.0101%	0.0099%
689551ED7	CITY OF OTTAWA	8,008,954	0.42%	3.44%	19.50	0.0146%	0.0292%
689551ER6	CITY OF OTTAWA	4,719,200	0.25%	3.36%	18.27	0.0084%	0.0158%
705464EQ4	PEEL REG ONTARIO	5,605,600	0.30%	3.26%	11.61	0.0097%	0.0116%
741666CF6	PRINCE EDWARD ISLAND	4,080,730	0.22%	2.74%	4.73	0.0059%	0.0029%
741666CN9	PRINCE EDWARD ISLAND	2,736,580	0.15%	3.10%	7.41	0.0045%	0.0034%
741666CS8	PRINCE EDWARD ISLAND	10,558,710	0.56%	3.43%	13.30	0.0192%	0.0262%
741666DA6	PRINCE EDWARD ISLAND	4,792,300	0.25%	2.97%	6.79	0.0076%	0.0053%
74814ZEF6	PROVINCE OF QUEBEC	6,594,850	0.35%	3.09%	15.10	0.0108%	0.0168%
74814ZEK5	PROVINCE OF QUEBEC	12,042,600	0.64%	3.09%	16.44	0.0197%	0.0333%
74814ZER0	PROVINCE OF QUEBEC	20,324,871	1.08%	3.09%	17.94	0.0333%	0.0614%
74814ZEV1	PROVINCE OF QUEBEC	20,074,200	1.06%	2.70%	6.66	0.0287%	0.0196%

Derivation of Claims Discount Rate

CUSIP	Description	Market Value	Market Value % of Total	Market Yield	Duration	Dollar Weighted Yield	Duration Weighted Yield
74814ZEW9	PROVINCE OF QUEBEC	37,950,150	2.01%	3.07%	19.12	0.0618%	0.1214%
74814ZEX7	PROVINCE OF QUEBEC	27,475,280	1.46%	2.75%	7.51	0.0400%	0.0309%
803854GY8	PROV OF SASKATCHEWAN BOND	6,297,050	0.33%	2.97%	8.34	0.0099%	0.0085%
803854JH2	PROV OF SASKATCHEWAN BOND	6,676,150	0.35%	3.11%	11.85	0.0110%	0.0134%
803854JJ8	PROV OF SASKATCHEWAN BOND	3,804,840	0.20%	3.12%	12.84	0.0063%	0.0083%
803854JL3	PROV OF SASKATCHEWAN BOND	6,274,800	0.33%	3.15%	14.57	0.0105%	0.0157%
803854JT6	PROV OF SASKATCHEWAN BOND	16,632,480	0.88%	3.16%	16.42	0.0279%	0.0470%
803854JU3	PROV OF SASKATCHEWAN BOND	5,102,415	0.27%	3.16%	17.28	0.0086%	0.0152%
803854KA5	PROV OF SASKATCHEWAN BOND	4,608,350	0.24%	3.17%	18.87	0.0077%	0.0150%
803854KB3	PROV OF SASKATCHEWAN BOND	7,557,319	0.40%	2.80%	7.34	0.0112%	0.0085%
803854KC1	PROV OF SASKATCHEWAN BOND	30,890,400	1.64%	3.15%	19.08	0.0515%	0.1010%
891288DJ8	CITY OF TORONTO	2,589,975	0.14%	2.77%	5.55	0.0038%	0.0022%
921577RE4	CITY OF VANCOUVER	3,209,058	0.17%	2.46%	3.49	0.0042%	0.0015%
975026HB4	CITY OF WINNIPEG	13,286,410	0.70%	3.51%	18.66	0.0247%	0.0474%
975026HC2	CITY OF WINNIPEG	19,167,760	1.02%	3.50%	16.76	0.0356%	0.0612%
98704CQR0	MUNICIPALITY OF YORK REGION	4,759,605	0.25%	2.34%	3.10	0.0059%	0.0019%
98704CQT6	MUNICIPALITY OF YORK REGION	5,428,100	0.29%	3.24%	10.87	0.0093%	0.0104%
98704CQZ2	MUNICIPALITY OF YORK REGION	4,738,350	0.25%	3.00%	8.19	0.0075%	0.0063%
DOFSWAP\$1	PROV OF QUEBEC BOND	14,362,012	0.76%	4.17%	4.61	0.0317%	0.0150%
00433JAA3	ACCESS ROADS EDMONTON	4,321,843	0.23%	3.74%	8.51	0.0086%	0.0075%
02135ZAK2	ALTALINK LP	2,430,360	0.13%	3.62%	15.29	0.0047%	0.0073%
03524BAB2	ANHEUSER-BUSCH INBEV FIN	5,120,750	0.27%	2.84%	4.49	0.0077%	0.0036%
03524BAG1	ANHEUSER-BUSCH INBEV FIN	4,849,250	0.26%	3.14%	5.64	0.0081%	0.0047%
05590HAT4	BMW CANADA INC	2,460,875	0.13%	2.46%	2.68	0.0032%	0.0009%
06368AAA8	LTI BMO	2,925,390	0.16%	3.02%	7.70	0.0047%	0.0037%
06368AAD2	LTI BMO	2,959,320	0.16%	2.93%	5.87	0.0046%	0.0028%
12593CAA9	CPPIB	2,958,990	0.16%	2.02%	2.21	0.0032%	0.0007%
12657ZAW3	CU INC	2,863,025	0.15%	3.62%	14.89	0.0055%	0.0084%
136765AW4	CANADIAN WESTERN BANK	4,977,550	0.26%	2.92%	3.31	0.0077%	0.0026%
136765AZ7	CANADIAN WESTERN BANK	2,503,975	0.13%	2.83%	2.83	0.0037%	0.0011%
154728AN9	CENTRAL 1 CREDIT UNION	4,910,950	0.26%	3.01%	4.34	0.0078%	0.0035%
23384NAV9	DAIMLER CANADA FINANCE	2,447,850	0.13%	2.56%	3.22	0.0033%	0.0011%
29290ZAP5	ENBRIDGE GAS DISTRIBUTION	2,650,725	0.14%	3.64%	16.56	0.0051%	0.0087%
29290ZAS9	ENBRIDGE GAS DISTRIBUTION	1,708,823	0.09%	3.64%	18.06	0.0033%	0.0061%
35085ZBF2	407 INTERNATIONAL INC	2,730,950	0.14%	3.61%	15.35	0.0052%	0.0082%
35085ZBL9	407 INTERNATIONAL INC	4,050,813	0.21%	3.61%	17.19	0.0077%	0.0137%
39138CAD8	GREAT WEST LIFECO INC.	3,323,875	0.18%	3.78%	10.08	0.0067%	0.0069%
39138CAF3	GREAT WEST LIFECO INC.	3,265,575	0.17%	3.90%	13.19	0.0067%	0.0091%
40427HTB9	HSBC BANK CANADA	4,869,900	0.26%	2.81%	4.09	0.0073%	0.0030%
44810ZBK5	HYDRO ONE INC	2,878,200	0.15%	3.67%	15.53	0.0056%	0.0089%
46152HAD3	IGM FINANCIAL INC	4,724,160	0.25%	4.01%	8.98	0.0100%	0.0093%
46152HAG6	IGM FINANCIAL INC	2,662,460	0.14%	4.13%	9.80	0.0058%	0.0059%
56501RAF3	MANULIFE FINANCIAL CORP TR REC	2,451,325	0.13%	3.25%	9.59	0.0042%	0.0042%
780085N93	ROYAL BANK OF CANADA	2,596,424	0.14%	2.97%	6.23	0.0041%	0.0026%
89353ZBV9	TRANSCANADA PIPELINES	5,407,800	0.29%	4.01%	14.64	0.0115%	0.0173%
89353ZBZ0	TRANSCANADA PIPELINES	2,114,240	0.11%	4.01%	16.38	0.0045%	0.0076%
90664ZAU4	UNION GAS LTD	2,987,025	0.16%	3.63%	14.62	0.0058%	0.0086%
975014AA9	WINNIPEG AIRPORT AUTHORITY	10,264,778	0.54%	3.53%	9.64	0.0192%	0.0190%
975014AC5	WINNIPEG AIRPORT AUTHORITY	5,744,989	0.30%	3.45%	9.82	0.0105%	0.0106%
975014AD3	WINNIPEG AIRPORT AUTHORITY	2,031,920	0.11%	2.70%	4.67	0.0029%	0.0014%
975014AE1	WINNIPEG AIRPORT AUTHORITY	3,674,195	0.19%	3.39%	18.03	0.0066%	0.0122%
Total		1,887,057,768	100.00%			3.54%	3.38%
Less: Fixed Income Management Fee % of Total M						0.07%	0.07%
Claims Discount Rate						3.47%	3.31%

PUB (MPI) 2-15

Part and Chapter:	PUB (MPI) 1-30 VI INV.18; Figure INV-50	Page No.:	83
PUB Approved Issue No:	8. Performance of the Investment Portfolio 11. Operational Benchmarking		
Topic:	Investments		
Sub Topic:	Benchmarking Performance		

Preamble to IR (If Any):**Question:**

- a) Please explain why the Corporation has provided a comparison of asset allocation adjusted returns, and provide an interpretation of this comparison.

Rationale for Question:

To understand the relative performance of the Corporation's investment portfolio with other comparable organizations.

RESPONSE:

- a) The table previously provided by the Corporation includes returns from pension plans whose liabilities have different duration and liquidity requirements than MPI's claims liabilities. As the Corporation does not share the same appetite for risk as these other organizations, the Corporation must adjust their asset allocations to ensure the returns are directly comparable. With adjustments to the asset allocations of other investors to match the asset allocation of the Corporation, it is possible to meaningfully compare the returns within the various asset classes. Unadjusted, the Corporation's annualized return over the last five years is similar to SGI, its closest peer.

PUB (MPI) 2-16

Part and Chapter:	PUB (MPI) 1-32 VI INV Appendix 1, Appendix 17	Page No.:	
PUB Approved Issue No:	8. Performance of the Investment Portfolio 14. Risk Assessment and Risk Management		
Topic:	Investments		
Sub Topic:	Accommodation of Commingled Portfolio		

Preamble to IR (If Any):

In each portfolio (except the RSR), the expected volatility of the funded position (assets/liabilities) was the primary risk measure and the expected excess return of assets over liabilities was the primary reward measure.

For the RSR portfolio, the primary risk measure was expected return volatility and the primary reward measure was the expected return. A mean-variance optimizer identified the portfolios with the maximum return, at each level of risk, which then formed the efficient frontier. By definition, all portfolios on the efficient frontier are optimal.

Question:

- a) Please indicate whether any other secondary risk or reward variables were used in the Mercer ALM Study.
- b) If other risk or reward measures were incorporated, please explain how the other risks or rewards were used to determine the optimal portfolio allocations.

Rationale for Question:

To understand the definition of risk and how it is used in establishing optimal investment portfolios.

RESPONSE:

- a) Both qualitative and quantitative considerations were used in the ALM study. The following quantitative risk or reward variables were used:
1. Expected return
 2. Excess return over liability benchmark
 3. 1-Year Surplus volatility
 4. Excess return/Surplus volatility
 5. Median Surplus in 1 year
 6. 1-year Downside Surplus: 90th, 95th and 97.5th Percentile VaR
 7. Interest Rate Risk Hedge Ratio
 8. Median Surplus in 5 years
 9. 5-Year Surplus volatility
 10. Probability of Surplus in 5 years
 11. Probability of 5-year positive real return
- b) The other measures were used as a secondary assessment of alternate mixes to assess potential expected outcomes, and potential downside outcomes over different time horizons and/or in dollar terms. Qualitative considerations (such as liquidity, implementation, and operational considerations) were also considered.

PUB (MPI) 2-17

Part and Chapter:	PUB (MPI) 1-33(a) Figure INV.8 VI INV Appendix 6	Page No.:	24
PUB Approved Issue No:	8. Performance of the Investment Portfolio		
Topic:	Investment Income		
Sub Topic:	Investment Portfolio Composition		

Preamble to IR (If Any):

MPI was forecasting unrealized equity gains to grow to \$116.2 million by the end of fiscal 2018/19. As at May 31, 2018 MPI had unrealized gains of \$125.2 million.

Question:

- a) Please explain why the separation of assets into unique portfolios necessitates the triggering of the gains on the portfolio.
- b) Based on the current balance of Unrealized gains, please indicate what MPI is forecasting for realized gains for 2018/19, and the extent to which they relate to Basic.
- c) Please indicate the extent to which MPI has realized such gains as at August 31, 2018.
- d) What triggering events, if any, has led to these gains being realized?

Rationale for Question:

To understand the current performance of the Investment Portfolio.

RESPONSE:

- a) 70% of the holdings in the equity portfolio must be liquidated in order to implement the new investment strategy since U.S. equities are being eliminated

and Canadian equities are being significantly reduced. This will cause unrealized gains to become realized. It is anticipated that the remaining 30% of the equity portfolio will be transitioned into pooled funds, which will also cause the associated gains to be realized. Please see the response to PUB (MPI) 2-7 for the rationale for transitioning to pooled funds.

- b) Figure INV-2 lines 15 to 22 provide the forecasted gain/loss for marketable bonds, equities, real estate and infrastructure for the Basic line of business.
- c) Figure 1 below includes a schedule of realized gains on a monthly basis from March 31, 2018 to July 31, 2018.

Figure 1: Realized Gain/ (Loss) for March, 2018 to July, 2018

\$000s	Book Value	Sales Proceed	Realized Gain/(Loss)	Budget
1 March, 2018	3,322	3,516	194	1,190
2 April, 2018	7,496	7,249	(247)	1,190
3 May, 2018	2,161	2,822	661	1,190
4 June, 2018	74,149	91,773	17,624	1,178
5 July, 2018	577	969	392	1,178
6 Total	87,705	106,329	18,624	5,926

- d) The major event that resulted in the realization of gains in 2018/19 was the termination of a large-cap Canadian equity manager in May 2018.

PUB (MPI) 2-18

Part and Chapter:	PUB (MPI) 1-36(b) IV SDM.1.6 Service Delivery Model	Page No.:	11
PUB Approved Issue No:	9. Cost of Operations and Cost Containment Measures		
Topic:	Direct Repair Program		
Sub Topic:			

Preamble to IR (If Any):

Repair shops demonstrate a proven record of accomplishment based on performance by using Key Performance Indicators (KPIs) that align with MPI's objectives to control costs, improve efficiencies, encourage proper repair and enhance customer service.

Question:

- a) Please provide details on the KPIs incorporated by MPI.
- b) Please provide an example of the scorecard used to evaluate claims repair performance.

Rationale for Question:

To understand the Direct Repair Program process.

RESPONSE:

- a) A link to the MPI Shop Measures Overview on MPI Partners Website is provided below. Please note that the Key Performance Indicators (KPIs) are used for all shops, not just those in the Direct Repair program. Certain scores on the KPIs enable repair shops to apply for the Direct Repair program or attain higher levels of auto-approval on their supplements for greater system efficiency.

https://mpipartners.ca/documents/Policies_Procedures/Shop-Measures-Overview.pdf

- b) Included below are: Figure 1: shop scorecard for August; and Figure 2: a repair accuracy inspection template used for assessing accuracy of claims repairs, as part of the shop scorecard.

Figure 1: Shop scorecard for August

Monthly Shop Measures - July 2018						
KEY MEASURES:	Optimal Value Direction	Month (Jul 2018)	3 Month Average (May 2018 To Jul 2018)	Industry 3 Month Average (May 2018 To Jul 2018)	3 Month Average Contribution to Composite	
Ask-Approve Variance	Closer to 0 is better	6.8%	2.1%	1.4%	18.5	
Average Supplement per Estimate	Closer to 0 is better	1.19	0.98	1.02	9.1	
Alternate Parts Usage (APU)	Higher is better	47.8%	47.3%	51.0%	7.6	
Labour % of Gross Total	Higher is better	38.3%	44.0%	44.6%	4.5	
Net Promoter Score (NPS)	Higher is better	100.0%	98.4%	70.1%	9.8	
QUALITY OF REPAIR:		Month (Jul 2018)	3 Month Average (May 2018 To Jul 2018)	Industry Average	Standardized QoR KPI Score	
Shop Capability Score	Higher is better		100.0%	98.8%	5.0	
Repair Records On File	Higher is better		68.9%	68.8%	3.4	
Repair Accuracy	Higher is better		100.0%	89.5%	15.0	
<i>Confidential: This report is intended only for the party or parties to whom it is addressed. While every attempt has been made to ensure that the information provided is accurate, Manitoba Public Insurance assumes no responsibility for any damages, losses, or negligence arising out of your reliance upon or use of its content. It may contain information that is privileged, confidential, and/or exempt from disclosure under applicable law. Any dissemination, distribution, copying, disclosure, or action taken in reliance upon this communication by parties other than those to whom it is addressed is strictly prohibited. If you have received this message in error, or if you are not an intended addressee, please immediately notify the sender and irreversibly delete this message at once.</i>					Total Out of 100	73.0
					Composite Score	73.0%



Figure 2: Repair Accuracy Checklist

Repair Accuracy Checklist

Category	<input type="checkbox"/> Repair Accuracy <input type="checkbox"/> Customer Referral <input type="checkbox"/> Non-Certified <input type="checkbox"/> Tracker Shop Inquiry <input type="checkbox"/> Audit
Shop*	
RAN*	
Date of visit*	
Claim number (if no claim number, enter VIN)*	
Repair stage	<input type="checkbox"/> Pre-repair <input type="checkbox"/> Mid-repair <input type="checkbox"/> Post-repair
Trained technician working on repair score (3 pts) <ul style="list-style-type: none"> • Body • Frame • Mechanic • Paint 	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • Yes = If a qualified tech is working on repairs (structural) or non-qualified tech is working on repairs under the supervision of a qualified tech (non-structural only) • No = If QoR is impacted due to a non-qualified tech working on non-structural repairs without the supervision, final claim score = 0/15 <ul style="list-style-type: none"> ◦ If a non-qualified tech is working on structural repairs, final claim score = 0/15; select No on Proper Repair below
Trained technician working on repair score – Comments	
Right tools are calibrated and being used as per OEM (3 pts) <ul style="list-style-type: none"> • 3-D Measurement Tool • 4-Wheel Alignment • CSA Paint Booth • Frame Bench • Proper Welding Tool • Scanning Tool 	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • Yes = Full points if all applicable tools are calibrated and being used as per OEM standards • No = If QoR is impacted because the proper tool wasn't used, the score will be 0 for this category <ul style="list-style-type: none"> ◦ One "No" results in a no for this whole category ◦ Justifies 0/15 final claim score depending on repairs and OEM procedures; if 0, select No on Proper Repair below
Right tools are calibrated and being used as per OEM – Comments	
Tech trained on tool (1 pt) <ul style="list-style-type: none"> • 3-D Measurement Tool • 4-Wheel Alignment • CSA Paint Booth • Frame Bench • Proper Welding Tool • Scanning Tool 	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • Yes = Full points if technician is trained on all applicable tools • No = If QoR is impacted because technician did not receive training, the score will be 0 for this category <ul style="list-style-type: none"> ◦ One "No" results in a no for this whole category ◦ Does not justify 0/15 final claim score <p>Notes:</p> <ul style="list-style-type: none"> • 1 point for the component • Train-the-trainer is acceptable • Proof of training is not available through suppliers for most tools • A proper welding tool is defined as an MIG/MAG welder/brazing/STRW tool
Tech trained on tool – Comments	

Repair procedures available (3 pts) <ul style="list-style-type: none"> • All Data • OEM • R&T • Tech Advisor 	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • Yes = Full points if tech has all applicable repair procedures on hand • No = If not on hand, have conversation as to why and determine if actable; if determined it is not acceptable, it results in 0 points for this category; <ul style="list-style-type: none"> ○ May or may not justify a 0/15 final claims score ○ If 0 for the claim, select No on Proper Repair below.
Repair procedures available – Comments	
Procedures followed or exceeded (5 pts)	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • Yes = If the current stage of repair (and entire work plan) is in line with the procedures • No = If not, final claim score = 0/15; select No on Proper Repair below <ul style="list-style-type: none"> ○ May not justify 0/15, please contact the manager of Accredited Repair
Procedures followed – Comments	
Proper Repair (0 pts)	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • Selecting "No" will give the claim a score of 0. • Based on whether the shop is capable by referencing shop profile, staffing, and complexity of repair • If not, final claim score = 0/15
Proper Repair – Comments	
Damages related to loss (0pts)	<input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> • If anything stands out, flag the claim and share it with the assigned SRA.
Damages related to loss – Comments	
Non safety related repair discrepancy	<input type="checkbox"/> Yes <input type="checkbox"/> No
Reviewed repair accuracy results with	
Avoided a corrective repair	<input type="checkbox"/> Yes <input type="checkbox"/> No
Turned into corrective repair	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments: <div style="height: 80px;"></div>	
Inspector	

PUB (MPI) 2-19

Part and Chapter:	PUB (MPI) 1-38 IV SDM.1.9 Service Delivery Model	Page No.:	18-19
PUB Approved Issue No:	9. Cost of Operations and Cost Containment Measures		
Topic:	Claims Expenses		
Sub Topic:	BI 3 Claims Management		

Preamble to IR (If Any):**Question:**

Please provide any analysis or reporting undertaken by MPI related to its review of the findings in PWC's report on ICBC, and indicate the extent to which this report has been used to benchmark, or evaluate, MPI's operations.

Rationale for Question:

To understand changes in Claims Expenses.

RESPONSE:

MPI's analysis related to the growth in retained claims was completed prior to and independent of PWC's report on ICBC. MPI has documented and explained its analysis in previous IR responses, but can advise that MPI's analysis identified a shift in the claims mix with a growth in the number of complex claims as the root cause. Complex claims are claims that involve both physical and mental health injuries, as well as claims where mental health is the primary injury. Previous reductions to MPI case management capacity, in the face of an increase in the complexity of claims, increased the durations of injury claims, the expense of which was greater than the expected savings from reductions in FTEs.

As part of due diligence, MPI completed a jurisdictional scan and literature review to support the PIPP Review (provided as Appendix 1 to *CAC (MPI) 1-36*), understand the cause of this shift and to determine whether this phenomenon was common or unique to MPI. The PWC report on ICBC was one part of the jurisdictional scan and literature review. MPI's own independent analysis did align with that of ICBC, indicating ICBC is experiencing a growth in retained claims. PWC's recommendation to move to a proactive injury care recovery model, as well as their recommendation to adequately resource the injury claims division, aligned with MPI's active case management strategy.

Perhaps the major finding of the PWC report is that there is an extremely high legal cost, which, thankfully for Manitobans, is absent from the PIPP program. The absence of high legal costs allows MPI to focus on paying injury claims benefits to its injured clients and on helping them return to their lives, including work, as they repair themselves after a motor vehicle accident.

PUB (MPI) 2-20

Part and Chapter:	PUB/MPI 1-40 V EXP.3, Figure EXP-5 PUB (MPI) 1-45 V EXP Appendix 16	Page No.:	16, 1-3
PUB Approved Issue No:	9. Cost of Operations and Cost Containment Measures		
Topic:	Expenses		
Sub Topic:	Basic Capital Expenditures		

Preamble to IR (If Any):**Question:**

- a) Please explain whether the forecasted savings listed under EXP.5 are deferred costs (such as fleet vehicles) or true annual cost savings.
- b) Please explain any operational or staffing changes resulting from replacing only 3 of 29 vehicles through the fleet reduction program.(I.e., does the Corporation intend to operate with 26 fewer vehicles, or has the expenditure been deferred to another reporting period?)

Rationale for Question:

To understand the Corporation's cost containment efforts.

RESPONSE:

- a) The forecasted savings listed under EXP.5 are true annual cost savings (including the fleet vehicles). The costs listed in the table represent changes to operations in order to reduce costs on an annual ongoing basis.
- b) The corporation intends to operate with fewer vehicles, and one FTE was reduced as a result of the fleet reduction.

PUB (MPI) 2-21

Part and Chapter:	PUB (MPI) 1-52 V VFH.7 Figure VFH-2	Page No.:	16
PUB Approved Issue No:	18. Vehicles for Hire		
Topic:	Data Collection – Rate Making		
Sub Topic:	Insured VFH Vehicles		

Preamble to IR (If Any):**Question:**

Please provide a build-up of the VFH premium revenue earned and compare it with what has been forecasted for 2019/20.

Rationale for Question:

To understand the current status and detail related to VFH and insured VFH vehicles.

RESPONSE:

As of August 1, 2018 the Basic VFH premium earned is as follows:

Figure 1: Basic VFH premium earned

Line No.	VFH category	Basic Earned Premiums	
1	Accessible VFH	\$	38,549.60
2	Limo VFH	\$	57,300.34
3	Passenger VFH	\$	246,807.04
4	Taxicab VFH	\$	1,445,756.35
5	Total	\$	1,788,413.33

While the Corporation was unable to forecast VFH premium revenue or claims costs for the 2019/20 year due to a lack of actual observable experience, it anticipated a \$1M reduction of premium revenue for the 2019/20 rating year, resulting from the eligibility of Taxi VFH, Limousine VFH, and Accessible VFH for DSR discounts (*Appendix 20: ORDER 11/18 DIRECTIVE 6.8*). Based on data as of July 31, 2018, the Corporation is on pace to realize this reduction.

PUB (MPI) 2-22

Part and Chapter:	PUB (MPI) 1-54	Page No.:	
PUB Approved Issue No:	18. Vehicles for Hire		
Topic:	Vehicles for Hire (VFH)		
Sub Topic:	Passenger VFH		

Preamble to IR (If Any):**Question:**

Please summarize how the TNC Endorsement premiums surveyed from other jurisdictions would be affected by a TNC operator electing to operate on a less than full time basis.

Rationale for Question:

To assess the reasonableness of the foundation for the proposed Passenger VFH rates.

RESPONSE:

TNC Endorsements vary depending on the jurisdiction and insurer. Some TNC Endorsements do not limit the number of hours of operation while some specify a maximum number of hours an insured can operate. The Corporation is not aware of any existing TNC Endorsements where premiums fluctuate based on the number of hours of operation. This model was unique to the insurance framework in Manitoba and was developed to give vehicle-for-hire operators maximum flexibility and control of the premiums they pay for the services they provide.

PUB (MPI) 2-23

Part and Chapter:	PUB (MPI) 1-56 IV IT Appendix 1	Page No.:	
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	IT Spending		
Sub Topic:			

Preamble to IR (If Any):

During round 1 IRs, an incorrect reference to IV BMK Attachment A was provided. The question should have referenced IT Information Technology, IT Appendix 1, Figure IT App 1-1 (IT Personnel).

Question:

Please provide further rationale for the level of IT Staff fixed between 82-80 consultants in the years 2018/19, 2019/20 and 2020/21.

Rationale for Question:

To understand changes in IT FTE costs.

RESPONSE:

Part IV IT Appendix 1 Figure IT App 1-1 (IT Personnel) includes the budgeted number, 82, with one change (two consultant conversions in 2019/20, the last remaining actions from the External Labour strategy), thereby reducing the consultant count to 80, the complement which will be used in 2019/20 and 2020/21. This table will be updated in GRA 2020 to further reflect changes in the demand for consultants for projects and operations and any additional management actions (see CAC (MPI)1-63, part c, which is the subject of a motion seeking confidential treatment).

PUB (MPI) 2-24

Part and Chapter:	PUB (MPI) 1-63 IV VM.3	Page No.:	41
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Deferred Development Costs		
Sub Topic:	Impaired Deferred Development Cost		

Preamble to IR (If Any):**Question:**

- a) Please provide the Mitchell International agreement/statement of work as it relates to the CCRS Co-Development project.
- b) Please provide copies of any other agreements or statements of work for Mitchell for ongoing work, post CCRS cancellation.

Rationale for Question:

To understand the impairment analysis performed.

RESPONSE:

- a) Please see Appendices 1 through 3 for which the Corporation is seeking confidential treatment.
- b) The Corporation does not have any other agreements and/or statements of work currently engaging Mitchell.

PUB (MPI) 2-25

Part and Chapter:	PUB (MPI) 1-63 IV VM.3	Page No.:	41
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Deferred Development Costs		
Sub Topic:	Impaired Deferred Development Cost		

Preamble to IR (If Any):**Question:**

- a) Please provide the details of expenditures that form the write-offs, by year.
- b) Please provide supporting documents and details for the \$2,086 write-off for the High School Driver Education Phase 2 project.

Rationale for Question:

To understand the impairment analysis performed.

RESPONSE:

- a) Please see Figure 1.

Figure 1: Details of Expenditures for Impaired Initiatives

Line No.		2012/13A	2013/14A	2014/15A	2015/16A	2016/17A	2017/18A	Total
1	(C\$000s, except where noted)							
2	Physical Damage Re-Engineering Main/Phase 3							
3	Internal Costs	-	-	-	-	-	-	-
4	External Costs	-	-	-	223	1,018	-	1,241
5	Amortization	-	-	-	-	-	(248)	(248)
6	Total	-	-	-	223	1,018	(248)	993
7	Financial Re-engineering Initiative							
8	Internal Costs	-	-	-	-	117	1	118
9	External Costs	-	-	-	-	225	-	225
10	Amortization	-	-	-	-	-	-	-
11	Total	-	-	-	-	342	1	343
12	Non-Basic Projects							
13	Internal Costs	-	-	-	-	54	1	55
14	External Costs	-	-	-	-	-	-	-
15	Amortization	-	-	-	-	-	-	-
16	Total	-	-	-	-	54	1	55
17	High School Driver Education Phase 2							
18	Internal Costs	-	-	-	-	46	-	46
19	External Costs	-	-	314	327	1,287	112	2,040
20	Amortization	-	-	-	-	-	-	-
21	Total	-	-	314	327	1,333	112	2,086
22	Enhanced DR Capabilities							
23	Internal Costs	-	-	-	-	-	222	222
24	External Costs	-	-	-	-	292	167	459
25	Amortization	-	-	-	-	-	-	-
26	Total	-	-	-	-	292	389	681
27	Customer Claims Reporting System							
28	Internal Costs	-	-	-	-	453	346	799
29	External Costs	46	2,203	3,011	1,975	2,932	4,658	14,825
30	Amortization	-	-	-	-	-	-	-
31	Total	46	2,203	3,011	1,975	3,385	5,004	15,624
32	PDR Opt Repair - Remote Estimating							
33	Internal Costs	-	-	-	-	32	-	32
34	External Costs	-	-	1	42	38	116	197
35	Amortization	-	-	-	-	-	-	-
36	Total	-	-	1	42	70	116	229
37	HR Management System Phase 3 & 4							
38	Internal Costs	-	-	-	-	-	-	-
39	External Costs	-	142	105	-	-	-	247
40	Amortization	-	-	-	-	-	-	-
41	Total	-	142	105	-	-	-	247
42	Grand Total	46	2,345	3,431	2,567	6,494	5,375	20,258

- b) As per *PUB (MPI) 1-63* part (a), during the year, MPI reviewed the various components of key projects in detail and applied certain principles (standard practice) to determine whether write-off expenditures associated with these projects were indicated. MPI applied these principles to the High School Driver Education Phase 2 project. The principles MPI applied are as follows:

1. If there is no future value associated with the expenditures, then the expenditures were written off;
2. If the expenditures were research related, then the expenditures were written off; and
3. If the expenditures were to investigate a platform/software that the company did not go forward with, then the expenditures were written off.

PUB (MPI) 2-26

Part and Chapter:	PUB (MPI) 1-63	Page No.:	
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Deferred Development Costs		
Sub Topic:	Impaired Deferred Development Cost		

Preamble to IR (If Any):**Question:**

Please provide a detail of all projects that were discontinued and the costs of each write off since the inception of the PDR. Please supplement the schedule provided in PUB (MPI) 1-63.

Rationale for Question:

To understand the quantum of all impairments related to the PDR.

RESPONSE:

Below is a list of the discontinued projects whose costs MPI wrote off since the inception of PDR that were not already included in the 2017/18 Impairment:

Figure 1: Cancelled PDR Projects not included in the 2017/18 Impairment

Line No.		2012/13A	2013/14A	2014/15A	2015/16A	2016/17A	2017/18A	Total
	<i>(Canadian Dollars)</i>							
1	Physical Damage Re-Engineering Main/Phase 3							
	Enhanced Registration Card - External Labour costs	-	-	158	453	-	-	-

PUB (MPI) 2-27

Part and Chapter:	PUB (MPI) 1-64 IV VM Appendix 2a	Page No.:	5
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	HSDE Business Case		
Sub Topic:	Cost Benefit Analysis		

Preamble to IR (If Any):

By improving the first attempt pass rate we are reducing the number of second, third, and in some cases, multiple road tests that are currently demanded by novice drivers. It is important to note that an improvement in the first attempt pass rate will eliminate the need for road tests spread over multiple locations...

Question:

What programs/initiatives were impacted as a result of the \$420,000 reduction in Road Safety expenditures?

Rationale for Question:

To understand the forecast of benefits from the HSDE program redesign.

RESPONSE:

MPI expects Road safety program expenditures to increase by \$460,000 overall in 2018/19, when compared to 2017/18 actual. This increase is attributable to budgeted increases for the enhanced enforcement program (distracted driving and gravel road program expansion), the speed reduction awareness program, the improved data collection initiatives related to wildlife, the forward collision warning aftermarket device pilot project with the Winnipeg taxi industry and the launch of traffic safety

culture programming, including the 'Save the 100' campaign that aims to influence Manitobans to reduce tolerance for traffic fatalities and serious injuries by motivating them to take preventative action.

Within Appendix 15-1: Road Safety Programs Costs please note Line 14, "Other" costs, within the table, indicate an actual expenditure of \$1,823,000. This amount includes a portion of the High School Driver Education Redevelopment, which was deemed research and could not be capitalized. Therefore, the 2018/19 forecast of \$829,000 was changed to \$0 in the 2019 GRA because it was expensed in 2017/18. Please note that MPI did not cancel this project and it is currently in its third phase with further capital expenditures forecasted in 2019/20 and beyond. Research in phase one and two of this project involved establishing the multi-year roadmap for redevelopment and developing proof of concepts for a variety of technologies for potential use within the future program. Phase three involves the curriculum design, technology architecture, and people readiness to support the new program which will launch in 2019.

PUB (MPI) 2-28

Part and Chapter:	PUB (MPI) 1-66 IV VM Appendix 6	Page No.:	VM Appendix 6
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	PDR		
Sub Topic:			

Preamble to IR (If Any):**Question:**

In order to better understand the changes to the Value Management (VM) process from the 2018 GRA, please provide a table that identifies the incremental changes between the past and current (new) VM process, and please provide any supporting comments as required. Please also confirm that the new VM process has been implemented.

Rationale for Question:

To understand changes in project evaluation.

RESPONSE:

The Corporation is implementing the process described in the 2019 GRA, as it relates to the introduction of the Operational Business Champion (OBC), in August 2018. The new project organizational structure more formally integrates the Value Management (VM) process into the corporate work intake and project lifecycle processes. The tools used to prepare a VM business case and financial analysis remain relatively the same.

The incremental changes are as follows:

Incremental Change	Comment
<p>Formal approval of the Value Management Office (VMO) is required to submit business cases to the Executive Committee for approval.</p>	<p>While VMO would vet the business case and provide guidance to address gaps and improve content quality, it would not provide formal approval.</p>
<p>Formal VMO participation in certain project gate checkpoints, specifically:</p>	
<ul style="list-style-type: none"> At the Inception phase of the Business Transformation Office (BTO) Project Delivery Methodology, the VMO, in conjunction with the OBC, ensures the incorporation of any changes to objectives/scope/financial forecasts in the business case and re-assesses the net present value of the project. 	<p>While these activities were completed by the BTO project team, oversight by the OBC and VMO is a new oversight activity.</p>
<ul style="list-style-type: none"> All formal Change Request and Decision Request submissions require both OBC and VMO approval. The impact of approved changes are updated in the business case which is then re-assessed material impacts 	<p>The OBC, being a new position, and the VMO were not previously involved in the Change Request and Decision Request process.</p>
<ul style="list-style-type: none"> At the implementation phase the VMO reviews the Project Closeout report completed by the project team and validates the costs and other assertions included in the report. This forms part of the post implementation review 	<p>The role of the VMO was initially focused on the business case framework and process. With the evolution of value management the next phase is to include a timely review of key project documents such as the Project Closeout report.</p>

PUB (MPI) 2-29

Part and Chapter:	PUB (MPI) 1-67 IV VM Appendix 6	Page No.:	3
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):**Question:**

- a) Please explain the rationale for applying an \$81 premium for all process claims for Direct Repair Shops, rather than those claims that relate to the Direct Repair Program.
- b) Please indicate what has been paid out on premiums by year and in total to date (in number and dollar amount), related to non-direct repairs claims.

Rationale for Question:

To understand changes in PDR project costs.

RESPONSE:

- a) The Direct Repair Program (the Program) significantly transformed Manitoba Public Insurance (MPI) and the Manitoba automobile repair industry. While other Crown and private jurisdictions preceded MPI in implementing similar programs, they did so without similar premium payments. The \$81.00 Direct Repair premium (the DR Premium) is unique to Manitoba and is part of the 2017 Light Vehicle Accreditation Agreement MPI entered into in order to incentivize the participation of repair shops in the DR Program and ensure its successful launch and as such, it applied it to all

repairs – whether the repairs resulted from the Direct Repair Program or MPI-originated estimates. .

MPI did not model the true efficiencies of the Direct Repair Program to help inform the DR Premium. Despite the fact that MPI launched the Program on March 1, 2017, the DR Premium is only in effect between March 1, 2018 and February 28, 2019. MPI did not pay the DR Premium in the first year because it devoted that year to onboarding and ensuring the familiarization and successful transitioning of repair shops to the Program to promote a level playing field between DR shops.

Eighteen months following the launch of the Direct Repair Program, MPI is reviewing the value of the DR Premium and the fact that it applies regardless of whether a repair shop prepared the estimate. As the efficiencies of the Program become evident, so do the appropriate amount and the method of paying the DR Premium. MPI is currently renegotiating the Light Vehicle Accreditation Agreement with a new agreement slated to become effective March 1, 2019. As part of its negotiations with repair shops, MPI will ensure that the amount and method of paying the Premium is justifiable, fair and reasonable.

- b) In the first three months in which the DR Premium was payable (i.e. March 1, 2018-May 31, 2018) MPI paid \$297,169.56 in DR Premiums to DR Shops on 3,397 claims that were not estimated in the DR Program. This represents approximately 61% of the total DR Premium paid in the quarter (per PUB (MPI) 1-37). Premiums are payable to shops on a quarterly basis. At the time of finalizing this response, Q2 payment information was not available, but can be produced for the record at a later date. In general, roughly 80% of claims are estimated by MPI and do not go through the DR program.

If left unchanged, MPI currently estimates that the DR Premium will cost \$3.5-4m annually, increasing in later years to \$6-7m annually.

PUB (MPI) 2-30

Part and Chapter:	PUB (MPI) 1-68(a)	Page No.:	4
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):**Question:**

Please provide the detail of each of the costs that were excluded.

Rationale for Question:

To understand changes in the PDR business case cost/benefit analysis.

RESPONSE:

The details of each of the costs identified in PUB (MPI) 1-68(a) are as follows:

- Direct Repair Premium – See PUB (MPI) 1-37 c) and d)

Other items are directly related to materials for which the Corporation either has sought or is seeking confidential treatment of the referred appendix. The following material has been provided within the confidential module:

- Direct Repair Operations – See PUB (MPI) 1-62 Appendix 5 (Direct Repair Oper Costs tab)
- Direct Repair Premium – PUB (MPI) 1-62 Appendix 2 (Post Project Impact tab)

- Mitchell software licensing – Amounts are in accordance with licensing agreement, also see PUB (MPI) 1-62 Appendix 2 (Post Project Impact tab)
- CCRS software licensing - Amounts are in accordance with licensing agreement, also see PUB (MPI) 1-62 Appendix 2 (Post Project Impact tab)
- Partner Portal software licensing – See PUB (MPI) 1-62 Appendix 2 (Post Project Impact tab)
- Car Part software licensing - Amounts are in accordance with licensing agreement, also see PUB (MPI) 1-62 Appendix 2 (Post Project Impact tab)
- Predictive Analytics operations - See PUB (MPI) 1-62 Appendix 2 (Post Project Impact tab)

The Corporation is seeking confidential treatment for PUB (MPI) 2-24 Appendix 2, in which details of other costs identified in PUB (MPI) 1-68(a) can be found:

- Mitchell software licensing, and
- CCRS software licensing

PUB (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 onetime, 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.

PUB (MPI) 2-32

Part and Chapter:	PUB (MPI) 1-70 IV VM Appendix 6	Page No.:	11
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	IT Expenses		
Sub Topic:	PDR Project		

Preamble to IR (If Any):**Question:**

- a) Please explain to what the \$836,000 in compensation relates.
- b) Please provide details of the \$12.6 million in external labour costs incurred by year including the related number of consultants, and indicate the extent to which these consultants are deployed on MPI projects.
- c) Please indicate what software was considered obsolete that resulted in \$2,601 being written off.

Rationale for Question:

To understand the details of the impairment charge for IT expenditures.

RESPONSE:

- a) The \$836,000 in compensation relates to the internal resources of the Corporation directly charged to Customer Claims Reporting System (CCRS) projects.
- b) The following table shows the number of consultants that the Corporation allocated 'full-time' to CCRS and related historical projects (i.e. PDR – Optimized Adjusting and PDR – IFAM/FNOL).

FY 2013/14	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
9	7	7	23	22	23

Please see PUB (MPI) 1-75 e) with respect to details regarding the release/re-deployment of CCRS consultants.

c) Please see PUB (MPI) 1-71 c).

PUB (MPI) 2-33

Part and Chapter:	PUB (MPI) 1-71 IV VM Appendix 7	Page No.:	1-7
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Capital Project Evaluation		
Sub Topic:	Impaired Securities		

Preamble to IR (If Any):

The Corporation has indicated that it has no proposed solution to replace the CCRS program that was cancelled, and has indicated a preference to adopt mainstream technology in lieu of innovating new technology. In the interim, given customer demand, the Corporation will focus its attention on moving other service elements online.

Question:

- a) Please elaborate on what the Corporation has determined to be a customer demand.
- b) Please elaborate on what service elements are being considered to be moved online to meet such demand.
- c) Please provide examples of how other public insurers have adopted online services and whether MPI is going to adopt similar technology.

Rationale for Question:

To understand the CCRS framework.

RESPONSE:

- a) The results of a Customer Claims Reporting System focus group completed in early 2018 and the results of a recent Physical Damage Claimant Satisfaction survey indicate that there exists customer demand for the provision of its services on-line. Please see also CAC (MPI) 2-33 for related details.
- b) Part IV(i) Service Delivery Model SDM.1.10 identifies those services which the Corporation is considering providing through an on-line customer service system. Incrementally, the Corporation is in the process of developing a longer-term customer self-service strategy, with input from the Manitoba insurance brokers.
- c) SGI provides online self-service options including: opening or viewing a claim, scheduling appointments for vehicle inspection or collision estimates, scheduling road or knowledge tests, requesting driver abstracts and registration renewal or cancellation, and online payment.

ICBC's online self-service is limited to opening/viewing a claim, scheduling a road test, requesting a driver abstract, and ordering a vehicle history report.

MPI's long term approach will be informed by the customer self-service strategy discussed in part (b) above, and the outcomes of the Legacy Modernization initiative. Also, details of the Customer Self Service business case are provided in Part IV VM Appendix 3.

PUB (MPI) 2-34

Part and Chapter:	PUB (MPI) 1-75 IV VM Appendix 1b Information Security Risk Management	Page No.:	
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	IT Consultant Staffing		
Sub Topic:			

Preamble to IR (If Any):**Question:**

Please provide the breakdown of the number of staff (internal versus external) related to the Information Security Risk Management Business Case.

Rationale for Question:**RESPONSE:**

The referenced business case accounted for approximately 5,000 hours of internal time for MPI staff including architects, analysts, developers, and security professionals. External labour included a combination of contract staff (approximately 1,700 hours) and third party services at approximately \$50,000.

PUB (MPI) 2-35

Part and Chapter:	PUB (MPI) 1-75 V EXP Appendix 19; Figure EXP App 19-2; Figure EXP App 19-4	Page No.:	2, 4
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Expenses		
Sub Topic:	IT Expenses		

Preamble to IR (If Any):**Question:**

Please provide a schedule of fees paid by consulting professional service firms for the years 2016/17 and 2017/18 identifying the service(s) provided for the fees. Please include all expenditures made to external consultants by consultant and detail/ nature of the service provided under each individual contract.

Rationale for Question:

To understand the level of external consulting expense.

RESPONSE:

Please refer to the following table that states consultant fees, from 2016 to 2018.

Figure 1: Consultant Costs – Basic

Line No.	(C\$000s, except where noted)	2016/17A	2017/18A
1	ADV Document Systems		
2	Legal Management	(4)	-
3	Bottomline Technology		
4	Technology Risk Management - 2016	-	3
5	Ciber		
6	Infor/Lawson Upgrade	500	(50)
7	Frank Digital		
8	High School Driver Education Phase 3	-	27
9	Fineos		
10	BI3 Fineos Upgrade 2016	(6)	-
11	Customer Claims Reporting System	-	-
12	Physical Damage Re-Engineering Main/Phase 3	-	-
13	Global Knowledge		
14	Technology Risk Management - 2016	11	-
15	Handcraft Creative		
16	High School Driver Education Phase 3	-	55
17	ESIT		
18	Appointment Manager	-	1,179
19	BI3 Fineos Upgrade 2016	(10)	-
20	Corporate Learning Management	364	925
21	Credit Card Strategy	-	207
22	Customer Claims Reporting System	4,268	-
23	Customer Self Service	-	1,140
24	Enhanced DR Capabilities	267	829
25	Enterprise Data Masking	1	-
26	Financial Re-engineering Initiative	109	-
27	High School Driver Education Phase 2	195	-
28	High School Driver Education Phase 3	-	445
29	Infor/Lawson Upgrade	439	332
30	Information Security Strategy and Road Map Phase 1	449	74
31	Information Security Strategy and Road Map Phase 2	537	1,276
32	ITO - High Availability	21	-
33	Partner Portal	127	1,367
34	Physical Damage - Centre of Excellence	205	-

35	PDR Opt Repair - Collaborative Estimating & JSST	(6)	-
36	PDR Opt Repair - Distributed Estimating	1,666	-
37	PDR Opt Repair - Remote Estimating	8	-
38	Physical Damage Re-Engineering Main/Phase 3	1,133	-
39	Predictive Analytics	(2)	-
40	Technology Innovation & Capabilities	(10)	-
41	Technology Risk Management - 2016	1,376	82
42	Technology Risk Management - 2017	-	1,394
43	Humphrey Group		
44	PDR Opt Repair - Distributed Estimating	10	-
45	Physical Damage Re-Engineering Main/Phase 3	6	-
46	IBM		
47	BI3 Fineos Upgrade 2016	(3)	-
48	Customer Self Service	-	173
49	Enhanced DR Capabilities	-	69
50	High School Driver Education Phase 2	922	-
51	High School Driver Education Phase 3	-	6
52	Infor/Lawson Upgrade	175	298
53	Information Security Strategy and Road Map Phase 1	1,059	32
54	Information Security Strategy and Road Map Phase 2	-	114
55	ITO - High Availability	396	-
56	Legal Management	(1)	-
57	Partner Portal	140	611
58	Physical Damage Re-Engineering Main/Phase 3	267	10
59	Technology Risk Management - 2016	361	30
60	Technology Risk Management - 2017	-	756
61	Infor		
62	Financial Re-engineering Initiative	16	-
63	Infor/Lawson Upgrade	-	179
64	Insight		
65	Information Security Strategy and Road Map Phase 2	-	40
66	Librestream		
67	PDR Opt Repair - Remote Estimating	28	-
68	Micro Focus		
69	Technology Risk Management - 2017	-	46

70	Mitchell International Systems		
71	Customer Claims Reporting System	461	-
72	Open Text		
73	Corporate Learning Management	-	123
74	Legal Management	(5)	-
75	Translacom		
76	Customer Self Service	-	2
77	Other		
78	Enhanced DR Capabilities	-	2
79	High School Driver Education Phase 2	10	-
80	Infor/Lawson Upgrade	-	2
81	PDR Opt Repair - Distributed Estimating	14	-
82	Physical Damage Re-Engineering Main/Phase 3	34	-
83	Total Consultant Costs	15,528	11,778

PUB (MPI) 2-36

Part and Chapter:	PUB (MPI) 1-75(b) V EXP Appendix 19 Figure EXP App 19-2 Figure EXP App 19-4	Page No.:	2, 4
PUB Approved Issue No:	19. Current IT Strategic Plan and IT Expenses and Projects		
Topic:	Expenses		
Sub Topic:	IT Expenses		

Preamble to IR (If Any):**Question:**

- a) Please provide the reason for the 11% increase in IBM Data Centre Costs in 2019/20.
- b) Please indicate whether this increase is related to Operations or Developmental costs.

Rationale for Question:

To understand third party IT vendor costs.

RESPONSE:

- a) Please see Figure 1 below.

Figure 1: IBM Data Centre Costs

Line No.	Fiscal Year	2019 GRA Forecast	2018 GRA Forecast
1	(C\$000s)		
2	Normal Operations	9,972	9,707
3	IBM Security Ops	550	-
4	Normal Operations	10,522	9,707
5	Improvement Initiative - Implementation		
6	Technology Risk Management	500	-
7	Improvement Initiative - Implementation	500	-
8	Improvement Initiative - Ongoing		
9	Technology Risk Management - Future years	1,089	816
10	Infor Security Strategy & Roadmap	-	61
11	Appointment Manager	-	36
12	Customer Self Service	-	274
13	Infor/Lawson	128	128
14	Improvement Initiative - Ongoing	1,217	1,315
15	TOTAL	12,239	11,022

- b) As shown in *Figure 1*, the increase is primarily related to implementation costs related to the Technology Risk Management project and normal operations costs related to IBM Security Operations.

PUB (MPI) 2-37

Part and Chapter:	PUB (MPI) 1-76	Page No.:	
PUB Approved Issue No:	20. Capital Maintenance Provision 2. Rate Indication		
Topic:	Capital Maintenance Provision (CMP)		
Sub Topic:			

Preamble to IR (If Any):**Question:**

- a) Please provide an analysis (with supporting documentation) of the estimated Capital Maintenance Provision (comparable to the estimate of 3.3% made for 2019/20) for each year of the forecast period.
- b) Please discuss SAF's approach to the Capital Maintenance Provision and, in particular, why the Corporation believes it is consistent with the Corporation's concept of a Net Capital Maintenance Provision.
- c) Please rework the response to PUB (MPI) 1-76(d) following SAF's approach to the Capital Maintenance Provision (i.e., not the Net CMP).
- d) Please rework the response to PUB (MPI) 1-76(e) following SAF's approach to the Capital Maintenance Provision (i.e., not the Net CMP).
- e) Please rework the response to PUB (MPI) 1-76(f) following SAF's approach to the Capital Maintenance Provision (i.e., not the Net CMP).

Rationale for Question:

To assess the reasonableness of the proposed approach to estimating the Capital Maintenance Provision.

RESPONSE:

- a) Refer to the table below which presents the ratio of the investment income earned on the RSR to the Basic Vehicle Written Premium for fiscal years 2020/21 to 2022/23. The table is comparable to Figure RM-8 presented in Part V, Ratemaking, page 31.

Line No.	Description	Source	Fiscal Year 20/21	Fiscal Year 21/22	Fiscal Year 22/23
1	Basic Vehicle Written Premium	Part V(i) Proformas, Page 4	1,130,121	1,176,226	1,224,492
2	Investment Income from RSR	Part VI Investments, INV.19	12,254	12,706	13,136
3	Investment Income from RSR as percent of Basic Vehicle Written Premium		1.1%	1.1%	1.1%

Also, per the response to PUB (MPI) 1-76(b), "no additional Net CMP is required for the rating years 2020/21 and 2021/22" and "For 2022/23... an additional Net CMP rate increase of 1.2% is required."

Applying the same calculations per Part V, Ratemaking, page 31, the ratio of 1.1% (per the table above) has the effect of decreasing the required rate change by 1.2%. As such, the comparable figures to the increase of 3.3% for 2019/20 are increases of 1.2%, 1.2% and 2.4% for 2020/21, 2021/22 and 2022/23 respectively.

- b) Per PUB (MPI) 1-76(c), SAF's approach to the Capital Maintenance Provision "increases capital available based on the long-term average growth in capital required." MPI does not consider its concept of a Net CMP to be consistent with SAF.

MPI's approach is different in two ways. First, per PUB (MPI) 1-76(c), MPI's "approach to capital maintenance increases available capital by the amount required to maintain the MCT ratio", rather than using the long-term average growth in capital required. Second, MPI's approach considers the investment

income earned on the RSR as part of its approach to capital maintenance. In contrast, SAF's approach includes this as part of the breakeven rate requirement.

- c) The responses to PUB (MPI) 1-76 parts (d) to (f) are based on SAF's approach. The difference is MPI considers the investment income earned on the RSR as part of its approach to capital maintenance, not part of breakeven pricing.

Per the response to PUB (MPI) 1-76 (d), using SAF's approach would result in "*an additional 1.8% required rate increase*", which is comprised of a 1.2% decrease from the investment income earned on the RSR, offset by a 3.0% increase to maintain capital adequacy in fiscal year 2019/20.

- d) Refer to the response to (c) above.
- e) Refer to the response to (c) above. Per the response to PUB (MPI) 1-76 (f), using SAF's approach would result in "*an additional 1.8% required rate increase*", which is comprised of a 1.2% decrease from the investment income earned on the RSR, offset by a 3.0% increase to maintain capital adequacy in fiscal year 2019/20.

PUB (MPI) 2-38

Part and Chapter:	PUB (MPI) 1-79 VI INV Appendix 13	Page No.:	9
PUB Approved Issue No:	21. Asset Liability Management Study		
Topic:	Mercer ALM Study		
Sub Topic:	New Asset Allocations – Stochastic Modelling and Analysis		

Preamble to IR (If Any):**Question:**

Please provide a narrative description for the results illustrated for Expected Surplus Growth for each of the Portfolios, based on changes to the asset mixes.

Rationale for Question:

To obtain and understand the stochastic modelling and results of the stress testing.

RESPONSE:

For Basic, SRE, Extension and Employee Future Benefits (EFB) (i.e.: pension) the Expected Surplus Growth charts illustrate the range of potential future surplus amounts. There are two projection charts, one for 1-year and the other for 5-year time horizons. The top of the dark green box shows the 95th percentile result, meaning that there is a 95% probability that the surplus will be lower than that amount. The bottom of the dark red box indicates the 5th percentile result, meaning that there is 5% probability that the surplus will be lower than that amount. In addition, the black diamond indicates the 2.5th percentile result. The middle line between the light green and the light red shows the median result, which could be interpreted as the expected value. The light green and the light red areas represent

the most probable range – there is a 50% probability that the surplus will be in that range.

For Basic, the charts show that the alternate mixes are less risky than the current mix, as the range of potential outcomes narrows significantly. The charts also support an expectation of a lower surplus.

For SRE, Extension and EFB, the charts show that the alternate mixes are slightly more risky than the current mix, as the range of potential outcomes widens. The charts also support an expectation of a higher surplus and help assess whether the downside is tolerable.

For RSR, the range of incremental growth is illustrated. There are also two projection charts and these are again for 1-year and 5-year time horizons respectively. The top of the dark green box shows the 95th percentile result, meaning that there a 95% probability that the asset growth will be lower than that amount. The bottom of the dark red box indicates the 5th percentile result, meaning that there a 5% probability that the asset growth will be lower than that amount. Similar observations as above could be made regarding the other boxes.

The projections assume no future underwriting losses or gains and that, for each portfolio, the inflows will offset the outflows. This limits the results so that they only reflect the impact of capital markets (investment returns and interest rate changes).

PUB (MPI) 2-39

Part and Chapter:	CAC (MPI) 1-6 DCAT.1.7.4	Page No.:	16
PUB Approved Issue No:	4c. and 4d. Interest Rate Forecast		
Topic:	Naïve interest rate forecast		
Sub Topic:			

Preamble to IR (If Any):**Question:**

- a) Please provide a table that compares the BOC overnight rate with the GOC 10-year bond rate for the last two years (daily).
- b) Please provide a chart with supporting data table, and provide further narrative on the correlation between these two rates.

Rationale for Question:**RESPONSE:**

- a) and b)

Please see Attachment A which contains a table that compares the BOC overnight rate with the GOC 10-year bond rate for the last two years (daily).

As Attachment A shows, the correlation coefficient between daily changes in the overnight rate and daily changes in the GoC 10 year bond rate for the last two years is 0.07. The relationship between changes in the bond yields and the overnight rate is not captured well by the correlation coefficient because the overnight rate is not captured well by the correlation coefficient because the overnight rate changed only 4 times over the 2 year period. For the majority of

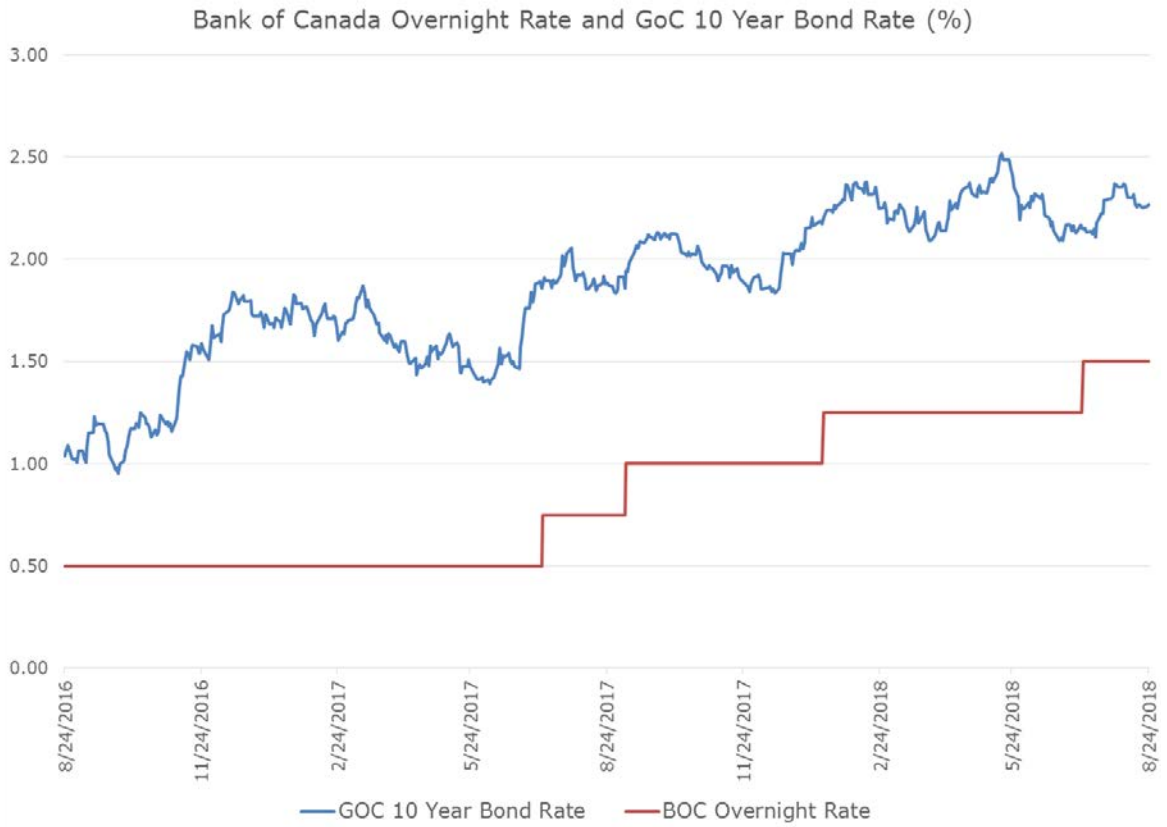
the 2 year time span, the overnight rate does not change while the GoC varies, which causes the correlation to be close to zero.

For the purposes of rate setting, MPI's is concerned with changes in interest rates, and on a daily basis, the Bank of Canada Overnight rate is not predictive of the changes to the GoC 10 yr bond rate. MPI's response to CAC (MPI) 2-1 shows also that the correlation of monthly changes between overnight rates and GoC 10 yr bond rates is quite low ($r=0.23$), and that the relationship between these two data sets only appears to be predictable over the long run (with the caveat that even the long relationship might have changed since the 2008 Global Financial Crisis).

Figure 1 below provides the requested chart. Visually, the relationship between the overnight and the GoC 10 year bond yield indicates that there is a positive relationship in the absolute value of the data sets over the last two years. However, the two years presented in Figure 1 below are not necessarily reflective of the general relationship between the two data sets over the short term (1 to 1.5 years). MPI's response to CAC (MPI) 2-1 also shows that increases in the Bank of Canada overnight rate do not necessarily result in increases in the Government of Canada 10-year bond yields, particularly over the over the short-term.

The summary point is as follows: the timing of the relative movements between the interest rates matters. Over the short term (be it 1 day, 1 month, or most importantly 1 to 1.5 years) there is simply not enough empirical evidence to conclude that changes in the Bank of Canada overnight rate is predictive of the direction and magnitude of movements in the GOC 10 yr bond rate.

Figure 1: BOC Overnight Rate and the GoC 10 Year Bond Rate over the last 2 years



Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes		Correlation
			GOC 10 Year Bond Rate	BOC Overnight Rate	
8/24/2018	2.27	1.50	0.01	0.00	0.073
8/23/2018	2.26	1.50	0.00	0.00	
8/22/2018	2.26	1.50	0.00	0.00	
8/21/2018	2.26	1.50	0.01	0.00	
8/20/2018	2.25	1.50	-0.02	0.00	
8/17/2018	2.27	1.50	0.01	0.00	
8/16/2018	2.26	1.50	-0.01	0.00	
8/15/2018	2.27	1.50	-0.05	0.00	
8/14/2018	2.32	1.50	0.02	0.00	
8/13/2018	2.30	1.50	0.00	0.00	
8/10/2018	2.30	1.50	-0.03	0.00	
8/9/2018	2.33	1.50	-0.03	0.00	
8/8/2018	2.36	1.50	-0.01	0.00	
8/7/2018	2.37	1.50	0.02	0.00	
8/6/2018	2.35	1.50	0.00	0.00	
8/3/2018	2.35	1.50	-0.01	0.00	
8/2/2018	2.37	1.50	0.00	0.00	
8/1/2018	2.37	1.50	0.06	0.00	
7/31/2018	2.31	1.50	0.01	0.00	
7/30/2018	2.30	1.50	0.00	0.00	
7/27/2018	2.30	1.50	0.00	0.00	
7/26/2018	2.29	1.50	0.00	0.00	
7/25/2018	2.29	1.50	0.07	0.00	
7/24/2018	2.23	1.50	0.00	0.00	
7/23/2018	2.22	1.50	0.05	0.00	
7/20/2018	2.18	1.50	0.07	0.00	
7/19/2018	2.11	1.50	-0.04	0.00	
7/18/2018	2.15	1.50	0.03	0.00	
7/17/2018	2.12	1.50	-0.01	0.00	
7/16/2018	2.14	1.50	0.00	0.00	
7/13/2018	2.13	1.50	-0.02	0.00	
7/12/2018	2.15	1.50	0.01	0.00	
7/11/2018	2.15	1.50	0.00	0.25	
7/10/2018	2.15	1.25	-0.02	0.00	
7/9/2018	2.17	1.25	0.04	0.00	
7/6/2018	2.13	1.25	-0.02	0.00	
7/5/2018	2.15	1.25	-0.02	0.00	
7/4/2018	2.16	1.25	0.02	0.00	
7/3/2018	2.14	1.25	-0.03	0.00	
7/2/2018	2.17	1.25	0.00	0.00	
6/29/2018	2.17	1.25	0.03	0.00	
6/28/2018	2.13	1.25	0.04	0.00	
6/27/2018	2.09	1.25	-0.01	0.00	
6/26/2018	2.11	1.25	0.01	0.00	
6/25/2018	2.09	1.25	-0.03	0.00	
6/22/2018	2.13	1.25	-0.02	0.00	
6/21/2018	2.14	1.25	-0.04	0.00	
6/20/2018	2.18	1.25	0.02	0.00	
6/19/2018	2.16	1.25	-0.04	0.00	
6/18/2018	2.20	1.25	-0.02	0.00	
6/15/2018	2.22	1.25	-0.05	0.00	
6/14/2018	2.27	1.25	-0.05	0.00	
6/13/2018	2.32	1.25	0.02	0.00	
6/12/2018	2.30	1.25	-0.01	0.00	
6/11/2018	2.31	1.25	-0.01	0.00	
6/8/2018	2.32	1.25	0.04	0.00	
6/7/2018	2.28	1.25	-0.02	0.00	
6/6/2018	2.31	1.25	0.05	0.00	
6/5/2018	2.25	1.25	-0.02	0.00	
6/4/2018	2.28	1.25	0.03	0.00	

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
6/1/2018	2.25	1.25	0.00	0.00
5/31/2018	2.24	1.25	-0.02	0.00
5/30/2018	2.27	1.25	0.08	0.00
5/29/2018	2.19	1.25	-0.11	0.00
5/28/2018	2.30	1.25	-0.04	0.00
5/25/2018	2.35	1.25	-0.06	0.00
5/24/2018	2.41	1.25	-0.03	0.00
5/23/2018	2.44	1.25	-0.04	0.00
5/22/2018	2.49	1.25	0.00	0.00
5/21/2018	2.49	1.25	0.00	0.00
5/18/2018	2.49	1.25	-0.03	0.00
5/17/2018	2.52	1.25	0.02	0.00
5/16/2018	2.50	1.25	0.02	0.00
5/15/2018	2.48	1.25	0.06	0.00
5/14/2018	2.43	1.25	0.05	0.00
5/11/2018	2.38	1.25	-0.02	0.00
5/10/2018	2.40	1.25	0.00	0.00
5/9/2018	2.39	1.25	0.04	0.00
5/8/2018	2.35	1.25	0.02	0.00
5/7/2018	2.33	1.25	0.00	0.00
5/4/2018	2.33	1.25	0.00	0.00
5/3/2018	2.33	1.25	-0.03	0.00
5/2/2018	2.36	1.25	0.02	0.00
5/1/2018	2.34	1.25	0.03	0.00
4/30/2018	2.31	1.25	-0.02	0.00
4/27/2018	2.32	1.25	-0.03	0.00
4/26/2018	2.35	1.25	-0.02	0.00
4/25/2018	2.37	1.25	0.02	0.00
4/24/2018	2.35	1.25	0.00	0.00
4/23/2018	2.35	1.25	0.02	0.00
4/20/2018	2.34	1.25	0.01	0.00
4/19/2018	2.32	1.25	0.04	0.00
4/18/2018	2.29	1.25	0.04	0.00
4/17/2018	2.25	1.25	-0.03	0.00
4/16/2018	2.27	1.25	0.03	0.00
4/13/2018	2.24	1.25	-0.04	0.00
4/12/2018	2.28	1.25	0.08	0.00
4/11/2018	2.20	1.25	0.02	0.00
4/10/2018	2.18	1.25	0.04	0.00
4/9/2018	2.14	1.25	0.00	0.00
4/6/2018	2.14	1.25	-0.04	0.00
4/5/2018	2.18	1.25	0.01	0.00
4/4/2018	2.18	1.25	0.03	0.00
4/3/2018	2.15	1.25	0.03	0.00
4/2/2018	2.12	1.25	0.02	0.00
3/30/2018	2.09	1.25	0.00	0.00
3/29/2018	2.09	1.25	-0.03	0.00
3/28/2018	2.12	1.25	-0.02	0.00
3/27/2018	2.15	1.25	-0.09	0.00
3/26/2018	2.23	1.25	0.04	0.00
3/23/2018	2.19	1.25	0.02	0.00
3/22/2018	2.18	1.25	-0.08	0.00
3/21/2018	2.26	1.25	0.05	0.00
3/20/2018	2.21	1.25	0.04	0.00
3/19/2018	2.17	1.25	0.03	0.00
3/16/2018	2.14	1.25	0.00	0.00
3/15/2018	2.14	1.25	-0.02	0.00
3/14/2018	2.16	1.25	-0.04	0.00
3/13/2018	2.21	1.25	-0.03	0.00
3/12/2018	2.24	1.25	-0.03	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
3/9/2018	2.27	1.25	0.04	0.00
3/8/2018	2.23	1.25	-0.01	0.00
3/7/2018	2.24	1.25	0.00	0.00
3/6/2018	2.23	1.25	0.04	0.00
3/5/2018	2.19	1.25	-0.01	0.00
3/2/2018	2.20	1.25	0.02	0.00
3/1/2018	2.18	1.25	-0.06	0.00
2/28/2018	2.24	1.25	-0.04	0.00
2/27/2018	2.28	1.25	0.02	0.00
2/26/2018	2.25	1.25	0.01	0.00
2/23/2018	2.25	1.25	-0.05	0.00
2/22/2018	2.30	1.25	-0.05	0.00
2/21/2018	2.35	1.25	0.03	0.00
2/20/2018	2.32	1.25	0.00	0.00
2/19/2018	2.32	1.25	0.00	0.00
2/16/2018	2.32	1.25	-0.06	0.00
2/15/2018	2.38	1.25	0.00	0.00
2/14/2018	2.37	1.25	0.05	0.00
2/13/2018	2.33	1.25	-0.02	0.00
2/12/2018	2.34	1.25	-0.01	0.00
2/9/2018	2.35	1.25	-0.02	0.00
2/8/2018	2.38	1.25	0.00	0.00
2/7/2018	2.37	1.25	0.01	0.00
2/6/2018	2.37	1.25	0.07	0.00
2/5/2018	2.29	1.25	-0.07	0.00
2/2/2018	2.36	1.25	0.00	0.00
2/1/2018	2.37	1.25	0.08	0.00
1/31/2018	2.29	1.25	-0.01	0.00
1/30/2018	2.30	1.25	0.01	0.00
1/29/2018	2.28	1.25	0.02	0.00
1/26/2018	2.26	1.25	0.02	0.00
1/25/2018	2.24	1.25	-0.02	0.00
1/24/2018	2.27	1.25	0.04	0.00
1/23/2018	2.23	1.25	-0.01	0.00
1/22/2018	2.24	1.25	0.00	0.00
1/19/2018	2.24	1.25	0.02	0.00
1/18/2018	2.22	1.25	0.02	0.00
1/17/2018	2.20	1.25	0.03	0.25
1/16/2018	2.17	1.00	-0.02	0.00
1/15/2018	2.19	1.00	0.02	0.00
1/12/2018	2.17	1.00	0.01	0.00
1/11/2018	2.17	1.00	0.00	0.00
1/10/2018	2.16	1.00	-0.04	0.00
1/9/2018	2.20	1.00	0.05	0.00
1/8/2018	2.16	1.00	0.00	0.00
1/5/2018	2.15	1.00	0.07	0.00
1/4/2018	2.08	1.00	0.03	0.00
1/3/2018	2.05	1.00	-0.03	0.00
1/2/2018	2.08	1.00	0.04	0.00
1/1/2018	2.05	1.00	0.00	0.00
12/29/2017	2.05	1.00	0.01	0.00
12/28/2017	2.03	1.00	0.05	0.00
12/27/2017	1.98	1.00	-0.05	0.00
12/26/2017	2.03	1.00	0.00	0.00
12/25/2017	2.03	1.00	0.00	0.00
12/22/2017	2.03	1.00	0.00	0.00
12/21/2017	2.03	1.00	0.04	0.00
12/20/2017	1.99	1.00	0.06	0.00
12/19/2017	1.93	1.00	0.08	0.00
12/18/2017	1.86	1.00	0.02	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
12/15/2017	1.84	1.00	-0.02	0.00
12/14/2017	1.86	1.00	0.01	0.00
12/13/2017	1.84	1.00	-0.02	0.00
12/12/2017	1.87	1.00	0.00	0.00
12/11/2017	1.86	1.00	0.00	0.00
12/8/2017	1.86	1.00	0.01	0.00
12/7/2017	1.85	1.00	0.00	0.00
12/6/2017	1.86	1.00	-0.04	0.00
12/5/2017	1.90	1.00	-0.03	0.00
12/4/2017	1.92	1.00	0.01	0.00
12/1/2017	1.91	1.00	0.02	0.00
11/30/2017	1.89	1.00	0.01	0.00
11/29/2017	1.88	1.00	0.04	0.00
11/28/2017	1.84	1.00	-0.03	0.00
11/27/2017	1.87	1.00	-0.02	0.00
11/24/2017	1.89	1.00	-0.01	0.00
11/23/2017	1.89	1.00	-0.01	0.00
11/22/2017	1.90	1.00	-0.02	0.00
11/21/2017	1.92	1.00	-0.04	0.00
11/20/2017	1.96	1.00	0.02	0.00
11/17/2017	1.94	1.00	-0.04	0.00
11/16/2017	1.97	1.00	0.06	0.00
11/15/2017	1.91	1.00	-0.04	0.00
11/14/2017	1.95	1.00	-0.02	0.00
11/13/2017	1.97	1.00	0.00	0.00
11/10/2017	1.97	1.00	0.03	0.00
11/9/2017	1.93	1.00	0.01	0.00
11/8/2017	1.92	1.00	0.03	0.00
11/7/2017	1.89	1.00	-0.03	0.00
11/6/2017	1.93	1.00	-0.03	0.00
11/3/2017	1.96	1.00	0.00	0.00
11/2/2017	1.96	1.00	-0.01	0.00
11/1/2017	1.97	1.00	0.02	0.00
10/31/2017	1.95	1.00	0.00	0.00
10/30/2017	1.96	1.00	-0.03	0.00
10/27/2017	1.99	1.00	-0.04	0.00
10/26/2017	2.03	1.00	-0.01	0.00
10/25/2017	2.05	1.00	-0.02	0.00
10/24/2017	2.07	1.00	0.04	0.00
10/23/2017	2.02	1.00	0.00	0.00
10/20/2017	2.03	1.00	0.02	0.00
10/19/2017	2.01	1.00	-0.02	0.00
10/18/2017	2.04	1.00	0.02	0.00
10/17/2017	2.02	1.00	-0.01	0.00
10/16/2017	2.03	1.00	-0.01	0.00
10/13/2017	2.04	1.00	-0.04	0.00
10/12/2017	2.08	1.00	-0.03	0.00
10/11/2017	2.11	1.00	-0.01	0.00
10/10/2017	2.12	1.00	0.00	0.00
10/9/2017	2.13	1.00	0.00	0.00
10/6/2017	2.13	1.00	0.03	0.00
10/5/2017	2.10	1.00	-0.02	0.00
10/4/2017	2.12	1.00	0.00	0.00
10/3/2017	2.11	1.00	-0.02	0.00
10/2/2017	2.13	1.00	0.03	0.00
9/29/2017	2.10	1.00	-0.03	0.00
9/28/2017	2.13	1.00	0.00	0.00
9/27/2017	2.13	1.00	0.02	0.00
9/26/2017	2.11	1.00	0.02	0.00
9/25/2017	2.09	1.00	-0.02	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
9/22/2017	2.11	1.00	-0.01	0.00
9/21/2017	2.12	1.00	0.02	0.00
9/20/2017	2.10	1.00	0.01	0.00
9/19/2017	2.09	1.00	0.01	0.00
9/18/2017	2.08	1.00	-0.01	0.00
9/15/2017	2.09	1.00	0.03	0.00
9/14/2017	2.06	1.00	-0.01	0.00
9/13/2017	2.07	1.00	0.02	0.00
9/12/2017	2.04	1.00	0.02	0.00
9/11/2017	2.03	1.00	0.04	0.00
9/8/2017	1.98	1.00	0.05	0.00
9/7/2017	1.94	1.00	-0.01	0.00
9/6/2017	1.94	1.00	0.08	0.25
9/5/2017	1.86	0.75	-0.05	0.00
9/4/2017	1.91	0.75	0.00	0.00
9/1/2017	1.91	0.75	0.07	0.00
8/31/2017	1.85	0.75	0.01	0.00
8/30/2017	1.84	0.75	0.00	0.00
8/29/2017	1.84	0.75	-0.03	0.00
8/28/2017	1.87	0.75	-0.01	0.00
8/25/2017	1.87	0.75	-0.01	0.00
8/24/2017	1.89	0.75	0.01	0.00
8/23/2017	1.88	0.75	-0.04	0.00
8/22/2017	1.92	0.75	0.04	0.00
8/21/2017	1.88	0.75	0.01	0.00
8/18/2017	1.87	0.75	0.02	0.00
8/17/2017	1.85	0.75	-0.02	0.00
8/16/2017	1.87	0.75	-0.04	0.00
8/15/2017	1.91	0.75	0.03	0.00
8/14/2017	1.88	0.75	0.02	0.00
8/11/2017	1.85	0.75	0.00	0.00
8/10/2017	1.85	0.75	-0.05	0.00
8/9/2017	1.91	0.75	-0.03	0.00
8/8/2017	1.94	0.75	0.01	0.00
8/7/2017	1.92	0.75	0.00	0.00
8/4/2017	1.92	0.75	0.03	0.00
8/3/2017	1.89	0.75	-0.05	0.00
8/2/2017	1.94	0.75	-0.02	0.00
8/1/2017	1.96	0.75	-0.10	0.00
7/31/2017	2.06	0.75	0.03	0.00
7/28/2017	2.03	0.75	0.03	0.00
7/27/2017	2.00	0.75	0.03	0.00
7/26/2017	1.97	0.75	-0.05	0.00
7/25/2017	2.02	0.75	0.09	0.00
7/24/2017	1.92	0.75	0.04	0.00
7/21/2017	1.89	0.75	0.00	0.00
7/20/2017	1.88	0.75	-0.02	0.00
7/19/2017	1.90	0.75	0.04	0.00
7/18/2017	1.86	0.75	-0.03	0.00
7/17/2017	1.90	0.75	0.00	0.00
7/14/2017	1.90	0.75	-0.01	0.00
7/13/2017	1.91	0.75	0.04	0.00
7/12/2017	1.88	0.75	0.02	0.25
7/11/2017	1.86	0.50	-0.03	0.00
7/10/2017	1.89	0.50	0.01	0.00
7/7/2017	1.88	0.50	0.05	0.00
7/6/2017	1.83	0.50	0.04	0.00
7/5/2017	1.79	0.50	-0.05	0.00
7/4/2017	1.84	0.50	0.08	0.00
7/3/2017	1.76	0.50	0.00	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
6/30/2017	1.76	0.50	0.06	0.00
6/29/2017	1.71	0.50	0.08	0.00
6/28/2017	1.62	0.50	0.05	0.00
6/27/2017	1.57	0.50	0.11	0.00
6/26/2017	1.46	0.50	-0.01	0.00
6/23/2017	1.48	0.50	-0.02	0.00
6/22/2017	1.50	0.50	0.01	0.00
6/21/2017	1.49	0.50	-0.01	0.00
6/20/2017	1.50	0.50	-0.04	0.00
6/19/2017	1.54	0.50	0.02	0.00
6/16/2017	1.52	0.50	-0.01	0.00
6/15/2017	1.53	0.50	0.04	0.00
6/14/2017	1.49	0.50	-0.07	0.00
6/13/2017	1.56	0.50	0.08	0.00
6/12/2017	1.49	0.50	0.06	0.00
6/9/2017	1.42	0.50	0.01	0.00
6/8/2017	1.42	0.50	0.01	0.00
6/7/2017	1.41	0.50	0.02	0.00
6/6/2017	1.39	0.50	-0.02	0.00
6/5/2017	1.41	0.50	0.01	0.00
6/2/2017	1.40	0.50	-0.03	0.00
6/1/2017	1.43	0.50	0.01	0.00
5/31/2017	1.42	0.50	0.00	0.00
5/30/2017	1.41	0.50	0.00	0.00
5/29/2017	1.41	0.50	-0.03	0.00
5/26/2017	1.45	0.50	-0.02	0.00
5/25/2017	1.46	0.50	-0.02	0.00
5/24/2017	1.48	0.50	-0.03	0.00
5/23/2017	1.51	0.50	0.03	0.00
5/22/2017	1.48	0.50	0.00	0.00
5/19/2017	1.48	0.50	0.03	0.00
5/18/2017	1.45	0.50	0.00	0.00
5/17/2017	1.45	0.50	-0.12	0.00
5/16/2017	1.57	0.50	-0.02	0.00
5/15/2017	1.59	0.50	0.02	0.00
5/12/2017	1.57	0.50	-0.03	0.00
5/11/2017	1.60	0.50	-0.03	0.00
5/10/2017	1.64	0.50	0.02	0.00
5/9/2017	1.62	0.50	0.03	0.00
5/8/2017	1.59	0.50	0.05	0.00
5/5/2017	1.54	0.50	0.00	0.00
5/4/2017	1.54	0.50	-0.01	0.00
5/3/2017	1.54	0.50	0.03	0.00
5/2/2017	1.51	0.50	-0.06	0.00
5/1/2017	1.58	0.50	0.03	0.00
4/28/2017	1.55	0.50	-0.03	0.00
4/27/2017	1.58	0.50	0.10	0.00
4/26/2017	1.48	0.50	-0.04	0.00
4/25/2017	1.52	0.50	0.04	0.00
4/24/2017	1.49	0.50	0.02	0.00
4/21/2017	1.47	0.50	-0.01	0.00
4/20/2017	1.48	0.50	0.02	0.00
4/19/2017	1.47	0.50	0.03	0.00
4/18/2017	1.44	0.50	-0.08	0.00
4/17/2017	1.52	0.50	0.02	0.00
4/14/2017	1.49	0.50	0.00	0.00
4/13/2017	1.49	0.50	-0.01	0.00
4/12/2017	1.51	0.50	-0.04	0.00
4/11/2017	1.55	0.50	-0.05	0.00
4/10/2017	1.60	0.50	0.00	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
4/7/2017	1.60	0.50	0.05	0.00
4/6/2017	1.55	0.50	-0.01	0.00
4/5/2017	1.56	0.50	-0.02	0.00
4/4/2017	1.58	0.50	0.01	0.00
4/3/2017	1.57	0.50	-0.06	0.00
3/31/2017	1.63	0.50	-0.01	0.00
3/30/2017	1.64	0.50	0.04	0.00
3/29/2017	1.59	0.50	-0.04	0.00
3/28/2017	1.63	0.50	0.02	0.00
3/27/2017	1.61	0.50	-0.04	0.00
3/24/2017	1.64	0.50	-0.05	0.00
3/23/2017	1.69	0.50	0.01	0.00
3/22/2017	1.68	0.50	-0.02	0.00
3/21/2017	1.70	0.50	-0.02	0.00
3/20/2017	1.73	0.50	-0.03	0.00
3/17/2017	1.76	0.50	-0.04	0.00
3/16/2017	1.80	0.50	0.04	0.00
3/15/2017	1.77	0.50	-0.07	0.00
3/14/2017	1.84	0.50	-0.03	0.00
3/13/2017	1.87	0.50	0.06	0.00
3/10/2017	1.81	0.50	0.00	0.00
3/9/2017	1.81	0.50	0.03	0.00
3/8/2017	1.78	0.50	0.04	0.00
3/7/2017	1.74	0.50	0.03	0.00
3/6/2017	1.71	0.50	0.01	0.00
3/3/2017	1.70	0.50	0.01	0.00
3/2/2017	1.70	0.50	0.01	0.00
3/1/2017	1.69	0.50	0.05	0.00
2/28/2017	1.64	0.50	-0.01	0.00
2/27/2017	1.65	0.50	0.04	0.00
2/24/2017	1.61	0.50	-0.07	0.00
2/23/2017	1.67	0.50	-0.05	0.00
2/22/2017	1.72	0.50	0.00	0.00
2/21/2017	1.72	0.50	0.01	0.00
2/20/2017	1.71	0.50	0.00	0.00
2/17/2017	1.71	0.50	-0.04	0.00
2/16/2017	1.75	0.50	-0.04	0.00
2/15/2017	1.78	0.50	0.02	0.00
2/14/2017	1.77	0.50	0.03	0.00
2/13/2017	1.73	0.50	0.03	0.00
2/10/2017	1.70	0.50	0.02	0.00
2/9/2017	1.68	0.50	0.06	0.00
2/8/2017	1.63	0.50	-0.07	0.00
2/7/2017	1.69	0.50	-0.01	0.00
2/6/2017	1.70	0.50	-0.06	0.00
2/3/2017	1.77	0.50	0.00	0.00
2/2/2017	1.77	0.50	0.00	0.00
2/1/2017	1.76	0.50	0.00	0.00
1/31/2017	1.76	0.50	-0.03	0.00
1/30/2017	1.79	0.50	0.00	0.00
1/27/2017	1.78	0.50	-0.04	0.00
1/26/2017	1.82	0.50	-0.01	0.00
1/25/2017	1.83	0.50	0.06	0.00
1/24/2017	1.76	0.50	0.08	0.00
1/23/2017	1.68	0.50	-0.07	0.00
1/20/2017	1.75	0.50	-0.01	0.00
1/19/2017	1.76	0.50	0.05	0.00
1/18/2017	1.71	0.50	0.04	0.00
1/17/2017	1.67	0.50	-0.03	0.00
1/16/2017	1.70	0.50	-0.02	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
1/13/2017	1.72	0.50	0.05	0.00
1/12/2017	1.66	0.50	-0.02	0.00
1/11/2017	1.68	0.50	0.00	0.00
1/10/2017	1.69	0.50	0.01	0.00
1/9/2017	1.68	0.50	-0.05	0.00
1/6/2017	1.73	0.50	0.07	0.00
1/5/2017	1.67	0.50	-0.05	0.00
1/4/2017	1.71	0.50	-0.03	0.00
1/3/2017	1.74	0.50	0.02	0.00
1/2/2017	1.72	0.50	0.00	0.00
12/30/2016	1.72	0.50	0.00	0.00
12/29/2016	1.72	0.50	-0.01	0.00
12/28/2016	1.73	0.50	-0.06	0.00
12/27/2016	1.80	0.50	0.00	0.00
12/26/2016	1.80	0.50	0.00	0.00
12/23/2016	1.80	0.50	-0.03	0.00
12/22/2016	1.82	0.50	0.01	0.00
12/21/2016	1.81	0.50	0.00	0.00
12/20/2016	1.81	0.50	0.02	0.00
12/19/2016	1.78	0.50	-0.05	0.00
12/16/2016	1.83	0.50	0.00	0.00
12/15/2016	1.84	0.50	0.05	0.00
12/14/2016	1.79	0.50	0.03	0.00
12/13/2016	1.76	0.50	0.01	0.00
12/12/2016	1.75	0.50	0.02	0.00
12/9/2016	1.73	0.50	0.07	0.00
12/8/2016	1.66	0.50	0.06	0.00
12/7/2016	1.60	0.50	-0.04	0.00
12/6/2016	1.64	0.50	0.01	0.00
12/5/2016	1.63	0.50	0.01	0.00
12/2/2016	1.62	0.50	-0.06	0.00
12/1/2016	1.68	0.50	0.09	0.00
11/30/2016	1.59	0.50	0.08	0.00
11/29/2016	1.51	0.50	-0.01	0.00
11/28/2016	1.52	0.50	-0.04	0.00
11/25/2016	1.56	0.50	-0.03	0.00
11/24/2016	1.59	0.50	0.05	0.00
11/23/2016	1.54	0.50	0.00	0.00
11/22/2016	1.54	0.50	-0.03	0.00
11/21/2016	1.57	0.50	-0.01	0.00
11/18/2016	1.58	0.50	0.01	0.00
11/17/2016	1.56	0.50	0.06	0.00
11/16/2016	1.51	0.50	-0.03	0.00
11/15/2016	1.54	0.50	-0.01	0.00
11/14/2016	1.55	0.50	0.12	0.00
11/11/2016	1.43	0.50	0.00	0.00
11/10/2016	1.43	0.50	0.06	0.00
11/9/2016	1.37	0.50	0.10	0.00
11/8/2016	1.27	0.50	0.05	0.00
11/7/2016	1.22	0.50	0.06	0.00
11/4/2016	1.16	0.50	-0.04	0.00
11/3/2016	1.20	0.50	0.02	0.00
11/2/2016	1.18	0.50	-0.02	0.00
11/1/2016	1.21	0.50	0.01	0.00
10/31/2016	1.20	0.50	-0.03	0.00
10/28/2016	1.23	0.50	-0.01	0.00
10/27/2016	1.24	0.50	0.08	0.00
10/26/2016	1.16	0.50	0.02	0.00
10/25/2016	1.14	0.50	-0.03	0.00
10/24/2016	1.17	0.50	0.04	0.00

Date	GOC 10 Year Bond Rate	BOC Overnight Rate	Daily Changes	
			GOC 10 Year Bond Rate	BOC Overnight Rate
10/21/2016	1.13	0.50	-0.04	0.00
10/20/2016	1.17	0.50	-0.02	0.00
10/19/2016	1.20	0.50	0.00	0.00
10/18/2016	1.20	0.50	-0.02	0.00
10/17/2016	1.22	0.50	-0.03	0.00
10/14/2016	1.25	0.50	0.07	0.00
10/13/2016	1.18	0.50	-0.02	0.00
10/12/2016	1.20	0.50	0.00	0.00
10/11/2016	1.20	0.50	0.03	0.00
10/10/2016	1.17	0.50	0.00	0.00
10/7/2016	1.17	0.50	0.03	0.00
10/6/2016	1.14	0.50	0.05	0.00
10/5/2016	1.09	0.50	0.02	0.00
10/4/2016	1.07	0.50	0.05	0.00
10/3/2016	1.01	0.50	0.02	0.00
9/30/2016	1.00	0.50	0.04	0.00
9/29/2016	0.95	0.50	-0.03	0.00
9/28/2016	0.98	0.50	0.01	0.00
9/27/2016	0.97	0.50	-0.03	0.00
9/26/2016	0.99	0.50	-0.05	0.00
9/23/2016	1.04	0.50	-0.06	0.00
9/22/2016	1.10	0.50	-0.05	0.00
9/21/2016	1.15	0.50	-0.01	0.00
9/20/2016	1.16	0.50	-0.03	0.00
9/19/2016	1.19	0.50	0.00	0.00
9/16/2016	1.19	0.50	-0.01	0.00
9/15/2016	1.20	0.50	0.01	0.00
9/14/2016	1.19	0.50	-0.04	0.00
9/13/2016	1.23	0.50	0.08	0.00
9/12/2016	1.16	0.50	0.00	0.00
9/9/2016	1.15	0.50	0.07	0.00
9/8/2016	1.08	0.50	0.08	0.00
9/7/2016	1.01	0.50	-0.02	0.00
9/6/2016	1.03	0.50	-0.04	0.00
9/5/2016	1.06	0.50	0.00	0.00
9/2/2016	1.06	0.50	0.06	0.00
9/1/2016	1.01	0.50	-0.02	0.00
8/31/2016	1.02	0.50	0.00	0.00
8/30/2016	1.02	0.50	-0.01	0.00
8/29/2016	1.03	0.50	-0.06	0.00
8/26/2016	1.09	0.50	0.03	0.00
8/25/2016	1.07	0.50	0.03	0.00
8/24/2016	1.04	0.50		