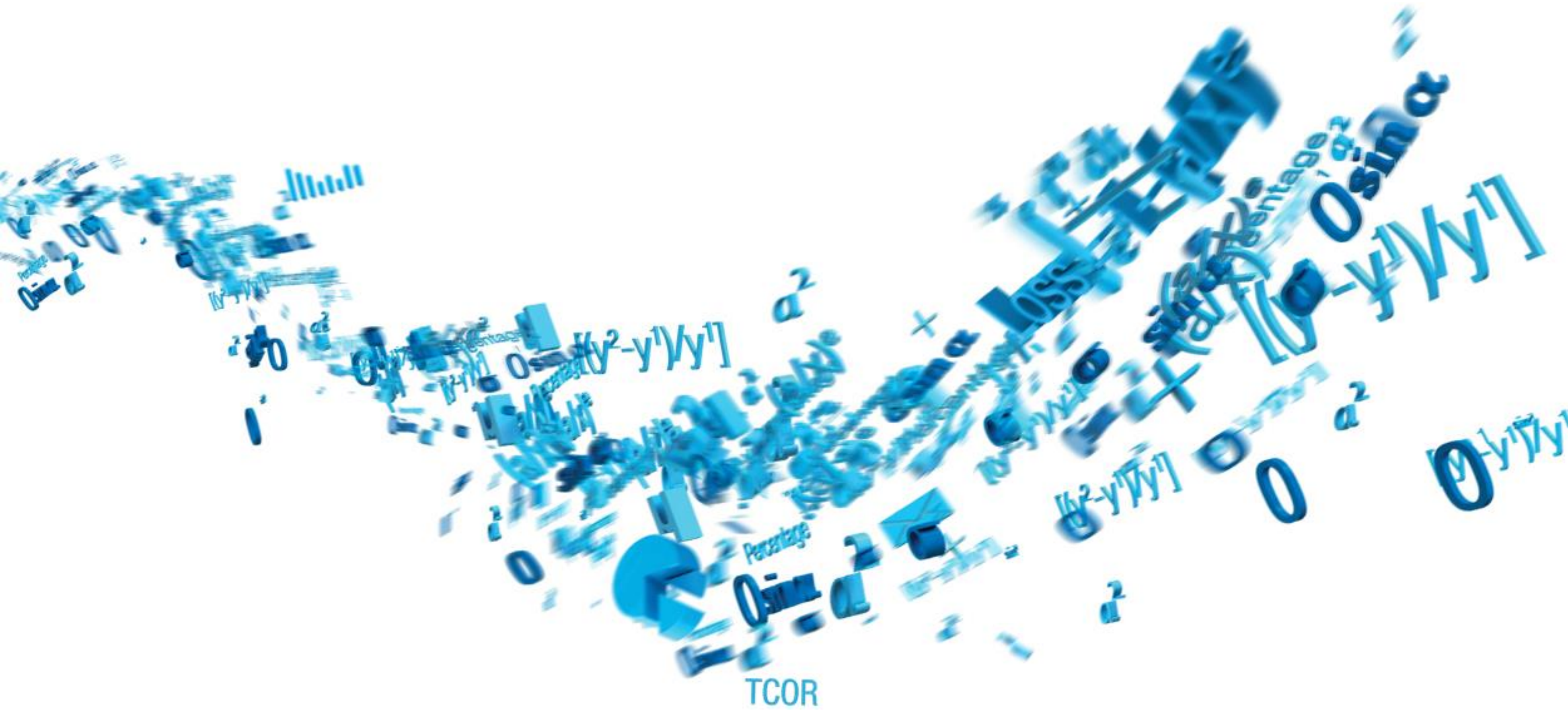

Account B Funding Analysis

Teachers' Retirement Allowances Fund

August 8, 2022

Aon
Empower Results®

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Executive Summary

The Province of Manitoba (the Province) sponsors the Teachers' Retirement Allowances Fund (TRAF), which provides pension benefits pursuant to The Teachers' Pensions Act. The Province is responsible for providing approximately half of the benefits earned under The Teachers Pensions Act. The other half of benefits are funded by member contributions.

Those benefits that are the responsibility of the Province are financed through Account B. The last actuarial valuation for Account B performed at January 1, 2021 indicated a funded ratio of 60%, with an unfunded pension liability of $1.770B. A projection valuation for Account B, also performed at January 1, 2021 indicated that if the Province follows its current funding practice for Account B, the funded ratio will decrease annually until assets are depleted in 2053.

Consequently, we have projected that once the assets are depleted:

- the Province's required funding contributions will increase from $270M in 2052 to $568M in 2053, to pay its share of pensions payable;
- the required funding contributions in 2053 are estimated to represent approximately 10% of the Province's projected future education budget, compared to 4.9% in 2052; and
- the Province's defined benefit pension expense will grow to $870M in the fiscal year ending March 31, 2054, compared to $244M in the fiscal year ending March 31, 2021.

This report will review the Province's current practice for funding its pension liabilities and review the impact of accelerating the pre-funding of the unfunded pension liabilities on the Province's future cash outlays and defined benefit pension expense.

This report will detail that most teacher pension plans in Canada are subject to provincial legislative funding standards or are required to be pre-funded by members and employers, thereby providing benefit security to their plan members. There is no requirement for the Province to pre-fund its pension liability in Account B, as provided by section 4.5(2)(c) of the Regulation to The Pension Benefits Act, Manitoba[1]. Only Quebec is similar in that it also does not require pre-funding the province's pension liabilities, although contributions are made to a sinking fund for this purpose.

This report will also detail that the Province's funded ratio for Account B is less than the funded ratio of government obligations for teachers' pensions in every other province.

[1] Similarly, Account A of TRAF is exempt from statutory funding requirements pursuant to section 4.5(2)(c) of the Regulation to The Pension Benefits Act, Manitoba. However, members of TRAF must contribute in accordance with The Teachers' Pensions Act. The last actuarial valuation for Account A performed at January 1, 2021 indicated a funded ratio of 107.2% and a funding surplus of $323M, both determined on an accrued basis.

This report will also analyze the impact of the proposed changes to the PS 3250 accounting standard of the Public Sector Accounting Handbook. These proposals are to be effective for fiscal years beginning on or after April 1, 2026. In the absence of a change in the Province's funding approach for Account B, the estimated impact on the defined benefit pension expense and balance sheet liability will be significant compared to the current accounting standard. We estimate the proposed changes to the accounting standard will cause an increase in the defined benefit pension expense of $70M for the fiscal year ending March 31, 2027 and an increase in the balance sheet liability of approximately $0.7B at March 31, 2027.

There is a clear impetus for the Province to exhibit financial responsibility by pre-funding its pension liabilities now to avoid drastic funding increases in the future, to enhance the benefit security of plan members, and to bring TRAF more in line with other teachers' pension plans across the country.

Respectfully submitted

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Stephen Windsor
Aon
Fellow, Canadian Institute of Actuaries

August 8, 2022

Section 1 - Introduction

Purpose and Terms of Engagement

Aon has been engaged by the Teachers' Retirement Allowances Fund (TRAF) to prepare analysis on the funding of Account B by the Province of Manitoba (the Province). Aon, and its predecessor companies, have served as the independent actuary for TRAF since 1995. I, Stephen Windsor, was appointed to be the independent plan actuary by TRAF's Board on January 16, 2017, which was approved by an Order in Council dated March 1, 2017.

The purpose of this analysis is to examine the Province's current funding practice and the implications for its projected future cash outlays, the funded status of Account B, and the Province's financial statements.

This report will discuss the funding of the Province's unfunded pension liability under TRAF, and will consider alternative scenarios for accelerating and pre-funding Account B, and the resulting impact on the Province's projected cash outlays and financial statements, including the merits of a government borrowing strategy to fund Account B in order to fully fund the Province's pension obligation.

Funding and Accounting Concerns

As we will illustrate in this report, under the Province's current funding practice, Account B, which had assets of $2,656,161,000 at January 1, 2021, is projected to be depleted of all assets in 2053, according to our January 1, 2021 projection valuation for Account B[1].

Once the assets in Account B are depleted, the Province's funding would become "pay-as-you-go", which means the Province would simply pay its share of pensions as they come due. We will illustrate that the Province's contributions to TRAF are expected to double from 2052 to 2053 once the assets in Account B are depleted. This will also result in an increase in the Province's contributions as a percentage of the estimated education budget from 4.9% in 2052 to 10% in 2053.

In addition, we will also illustrate that the Province's defined benefit pension expense will quadruple over the next 40 years, reaching over $1B in the fiscal year ending March 31, 2060.

Another concern is the proposed changes to section 3250 of the Public Sector Accounting Handbook, which applies to unfunded or partially funded government pension plans. Under the proposed changes, a public sector entity with a partially funded pension plan, would be required to use a discount rate based on a combination of the plan's expected return on assets and government borrowing rates. Currently the Province uses a discount rate based solely on the expected return on assets. The proposed changes would reduce the discount rate to be used, which would increase the plan's liabilities and the Province's pension expense in respect of the pension plan.

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[1] Note all projections contained in this report are based on the January 1, 2021 funding and projection valuations for Account B.

Account Structure

TRAF consists of two main accounts, Account A and Account B. Account A is the member account and Account B is the Province account, and each are financially responsible for 50% of the pension obligations under TRAF.

Account A is structured as a pre-funded account, and includes the notional Pension Adjustment Account (PAA) which provides cost of living adjustments. Account A pays all monthly benefits to members, and recovers 50% of these amounts from Account B in the following month.

In general, Account B is responsible for the portion of benefits not provided by Account A, including base pensions and cost of living adjustments. Account B liabilities represent the portion of the benefits that are the responsibility of the Province. Under Section 58(1) of the TPA, the Province is required to ensure that Account B does not have a negative balance. Section 58(2) of the TPA permits the Province to make discretionary contributions to Account B in excess of the required minimums. A detailed description of TRAF's account structure can be found in Appendix A.

History of Funding Account B

Prior to 2001, Account B was financed on a pay-as-you-go basis as pension and other benefits became due.

In a report dated February 8, 2000, Deloitte & Touche LLP prepared a financial review of the Government of Manitoba to frame the financial picture facing the Province and identify implications of the financial situation. Regarding the Province's unfunded pension liability, the report stated that continuing the current pay-as-you-go approach will mean the Province's costs will continue to grow. An excerpt from this report, which addresses the unfunded pension liability, can be found in Appendix B.

On June 26, 2000, the Province announced proposed legislative changes to provide for the repayment of the unfunded pension liability under TRAF[1]. The announcement indicated the Province's intent to fully fund the pension liabilities by 2035. The legislation provided for the Province, at a minimum, to match contributions made by members hired on or after April 1, 2000. This was in addition to the existing practice of contributing to Account B amounts required to cover the Province's portion of pension payments made.

In 2001, the Province established a trust account known as the Province of Manitoba Trust Account (PMTA) to receive the Province's contributions and accumulate funds to eliminate the Province's unfunded pension liability. The assets in the PMTA were not assets of Account B and were accounted for separately by TRAF, but were invested by TRAF on the same basis as the assets of Account A, in accordance with Section 41(16) of the TPA.

On March 22, 2007[2], the Province announced its intention to invest $1.5 billion in 2007-2008 to fund 75% of the Province's unfunded pension liability under TRAF. This amount was contributed to the PMTA during 2007.

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[1] See announcement in Appendix C.
[2] See announcement in Appendix D.

In October 2007, the Province changed its funding practice. Until that time, the Province was contributing amounts equal to both the required contributions of members hired on or after April 1, 2000 and its share of pensions paid. In October 2007, the Province commenced making contributions equal to the required contributions of all members, but no longer made contributions directly to Account B to cover its pension obligations; instead, assets were transferred from the PMTA to Account B for this purpose.

This change in the Province's funding practice had the effect of reducing the monthly contributions remitted by the Province to fund the pension liability.

The agreement governing the PMTA was amended effective December 31, 2008 to make the trust irrevocable. This ensured that the assets of the PMTA could be used only for the purpose of funding the Province's pension obligations under Account B.

On December 15, 2018, the Province arranged for the transfer of PMTA assets into Account B, thereby simplifying the account structure and providing certainty that the assets would be used only to fund the portion of benefits that are the responsibility of the Province. Concurrent with this transfer, the PMTA was terminated.

A summary of this funding history can be found in Appendix E.

Funded Position of Account B and Projection Valuation

According to the most recent funding valuation of TRAF performed effective January 1, 2021, the funded position for Account B was as follows:

Account B Assets	$ 2,656,825,000[1]
Account B Liabilities	$ 4,426,477,000
Surplus / (Deficit)	$ (1,769,652,000)
Funded Ratio	60.0%

As noted above, the Province is currently contributing to Account B an amount equal to aggregate member required contributions to Account A. These deposits to Account B are made at the discretion of the Province.

[1] Actuarial value of assets (with adjustments for amounts receivable and payable) at the valuation date.

In accordance to the January 1, 2021 funding valuation of TRAF, these contributions are less than the current service cost of providing the basic benefits and cost of living adjustments (COLA). The table below shows the current service cost for 2021 and the expected contributions from the Province to Account B.

Cost of Basic Benefits	$	109,629,000
Cost of COLA Benefits	$	21,093,000
Total Cost of Benefits	$	130,722,000
Province Contributions	$	124,812,000
Shortfall	$	5,910,000

As TRAF matures, the benefit payments reimbursed to Account A are projected to exceed the aggregate of the Province's contributions and the interest on Account B assets. As such, the funded position of Account B is projected to deteriorate over the next 30 years until assets are depleted in 2053. At that time, Account B will revert to a pay-as-you-go funding arrangement.

Information and Inputs

The analyses in this report are based upon the information listed below. All such information was originally prepared by Aon.

- The actuarial report on the funding valuation for Account A and Account B prepared as at January 1, 2021 and dated June 25, 2021. This actuarial report on the funding valuation for Account A and Account B contains a summary of the data used for the analyses in this report.
- The report on the projection valuation for Account B prepared as at January 1, 2021 and dated September 27, 2021. The primary purpose of this projection valuation was to estimate the financial position of Account B each year over the subsequent 40 years under the assumption the Province continues to match total member required contributions and remits the funds to Account B, that there are no changes to The Teachers' Pensions Act, and all future assumptions, outlined in the funding and projection valuations, are realized.
- A summary of the assumptions used for the funding and projection valuations can be found in the attached Appendix F.
- The reports on the projection valuations for Account A and for the Pension Adjustment Account, both prepared as at January 1, 2021 and both dated September 27, 2021.

Section 2 – Implications of Current Funding Strategy

The Province's current funding practice is to contribute to Account B an amount equal to the aggregate member required contributions to Account A.

The January 1, 2021 projection valuation of Account B was prepared to estimate the financial position of Account B for each of the subsequent 40 years under the assumption the Province continues this funding practice, that there are no changes to the TPA, and that all future assumptions, outlined in the funding and projection valuations, are realized.

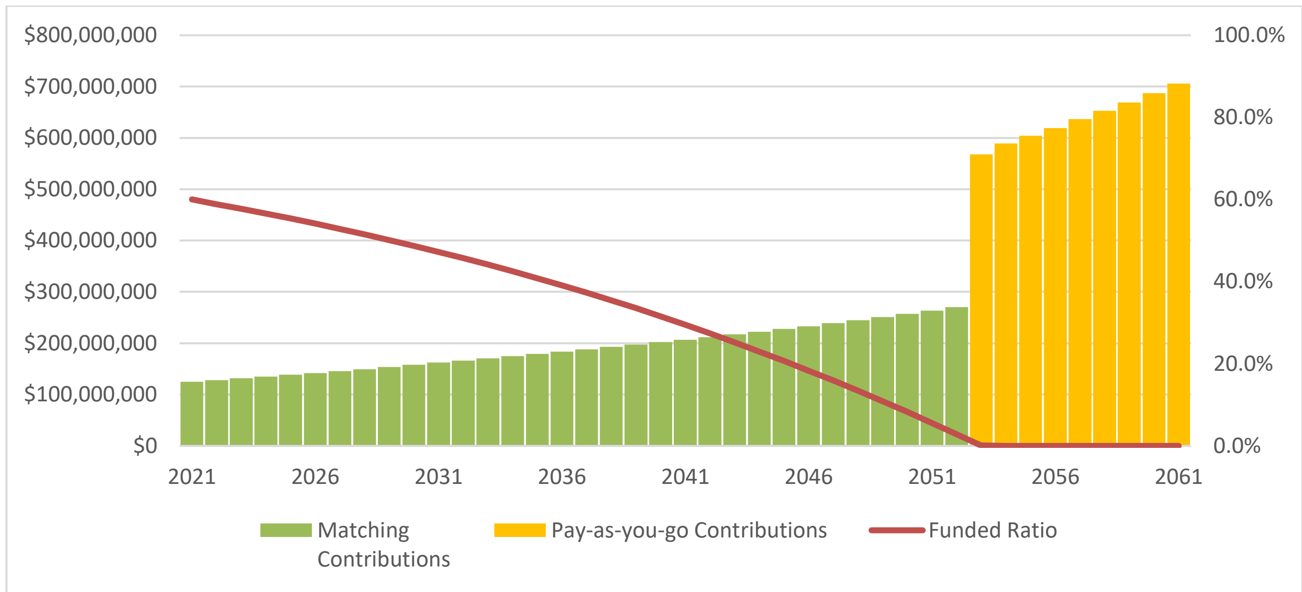
This means it is expected that all economic and demographic assumptions are realized in the future per the valuation assumptions and no experience gains or losses will occur. Importantly, it is assumed that the assets of Account B will achieve an investment return of 5.50% each year in the future, matching the discount rate used to determine the Account B liabilities.

Account B was 60% funded at January 1, 2021 and no contributions are being made in order to eliminate the unfunded pension liability. As a result, the funded ratio of Account B is expected to deteriorate from 60% at January 1, 2021 to 0% in 2053. Once the assets are depleted, Account B will revert to a pay-as-you-go financing arrangement in order to comply with Section 58(1) of the TPA which requires that Account B must not have a negative balance.

The remainder of this section will provide 40 year projections of the Province's cash outlays (both in dollar terms and as a percentage of the Province's projected future education budget), the funded position of Account B, and the defined benefit pension expense. These projections illustrate the depletion of Account B assets, and the significant impact this has on future funding requirements and the defined benefit pension expense.

Projected Province Cash Outlays and Account B Funded Position

The following graph illustrates the Province's future cash outlays and the funded ratio of Account B, projected over the next 40 years.



The Province's matching contributions, represented by the green bars in the graph, are the projected contributions to Account B to match aggregate member contributions to Account A. Assuming a stable active member population, these contributions are expected to increase over time as salaries increase.

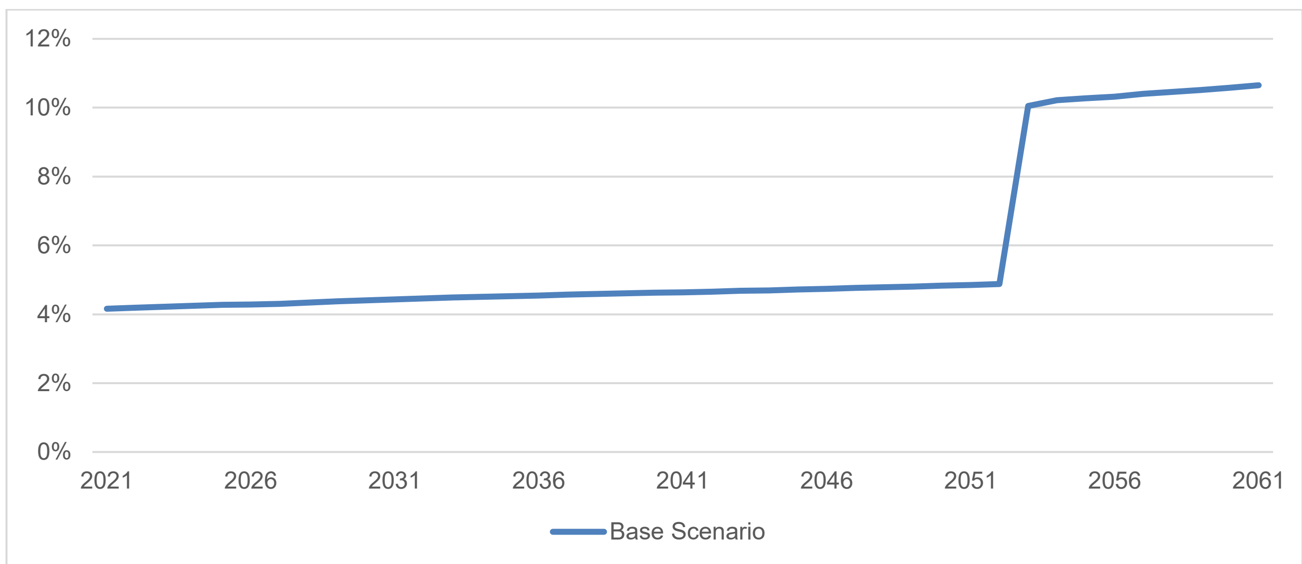
These contributions are slightly less than the cost of benefits earned under Account B under current funding assumptions, so it is expected that future benefits earned are not being fully funded. In addition, the $1.770B unfunded pension liability identified at January 1, 2021 is not being funded by the Province and will increase with interest into the future. Accordingly, it is projected that the benefit payments reimbursed to Account A will exceed the Province contributions and investment returns on Account B assets starting in 2029. Thereafter the assets in Account B will begin decreasing each year until the account runs out of assets in 2053, resulting in a funded ratio of 0% at that time. The projected funded ratio is represented by the red line in the graph.

Once Account B assets are depleted, the Province will be required to contribute amounts sufficient to meet the projected benefit payments reimbursed to Account A. These pay-as-you-go contributions to fund benefit payments, represented by the yellow bars in the graph, are significantly higher than the amounts required to match member contributions. Specifically, the Province's required funding contribution will increase from $270M in 2052 to $568M in 2053, which is an increase of 110%. For clarity, in 2053, the Province will be required to contribute $568M to pay its share of pensions payable.

Projected Province Cash Outlays Relative to Manitoba's Education Budget

The most recent financial statements released by the Province for the fiscal year ending March 31, 2021, indicated actual expenditures of $3.001B for the education budget and $19.936B for the overall provincial budget.

To provide a sense of the impact the Province's funding of TRAF has relative to total spending on education, the following graph illustrates the projected cash outlay of the Province to TRAF as a percentage of the projected future education budget. It is assumed the education budget will grow consistent with the long-term inflation assumption, outlined in the funding and projection valuations, of 2% per year.



As illustrated above, contributions to TRAF are currently about 4% of the Province's education budget, and are projected to grow slightly over the next 30 years. Once the Account B assets are depleted, and the funding shifts to a pay-as-you-go basis, contributions will jump to 10% of the projected future education budget.

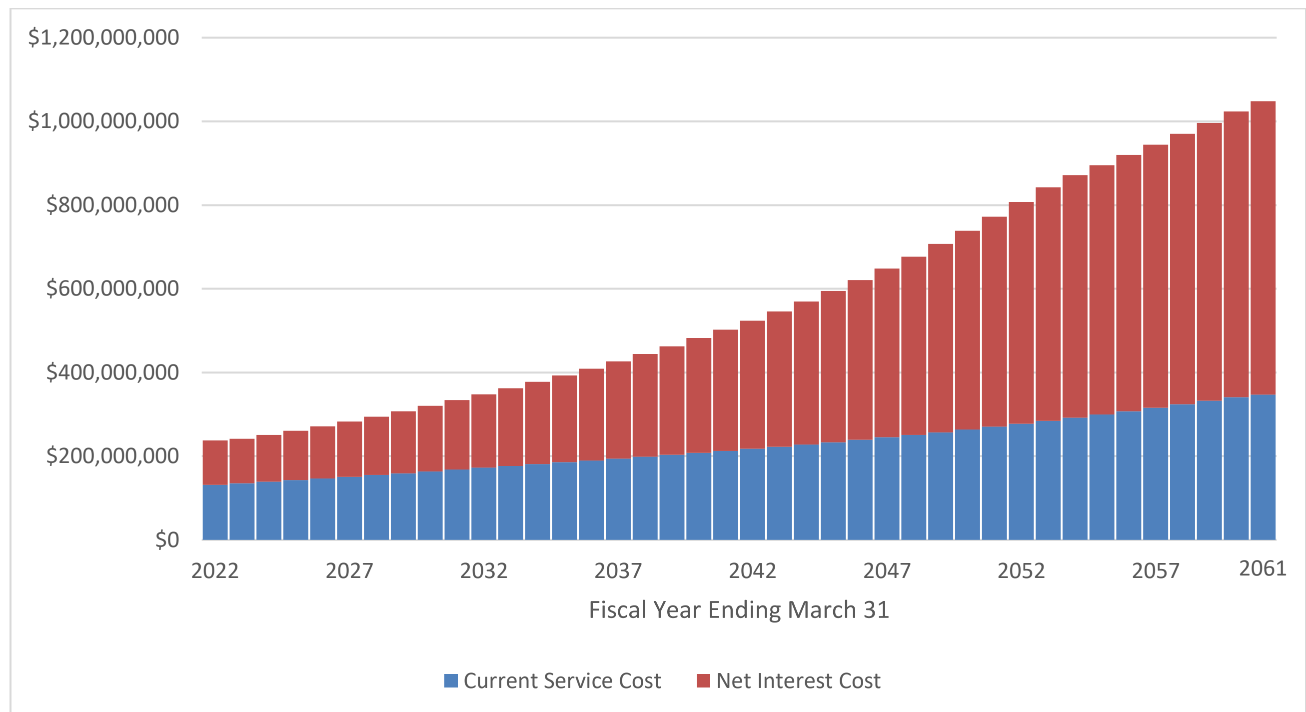
We have made a simplifying assumption of 2% annual growth in the Province's education budget over the 40 year projection period. The increase in funding for TRAF in 2053 would represent a significant increase in the education budget even if the budget increases differ from 2% per year.

Projected Province Defined Benefit Pension Expense

The Summary Financial Statements prepared by the Province at March 31, 2021 indicated a defined benefit pension expense of $244M for the fiscal year ending March 31, 2021. This defined benefit pension expense was based on a discount rate on accrued benefits and expected long-term rate of return on assets of 6.00% per annum. Further detail on the assumptions are disclosed in the Summary Financial Statements at March 31, 2021 prepared by the Province.

For consistency with the projections of the funded position of Account B and the Province's cash outlays, the projected defined benefit pension expense and balance sheet liability are based on the assumptions described in Appendix F. Specifically, a discount rate and expected long-term rate of return on assets of 5.50% per annum has been assumed.

The defined benefit pension expense consists primarily of a current service cost plus a net interest cost (interest cost on the liabilities less the expected return on assets). Note we have excluded the existing amortization amount in our projections as it immaterial to these projections. As the liabilities grow and the assets shrink, the defined benefit pension expense is expected to increase, as illustrated in the following graph.



In a fully funded pension plan, the defined benefit pension expense would consist primarily of a current service cost in respect of benefits to be earned in the fiscal year, as the net interest cost would be negligible. For an unfunded pension plan, there is not a return on assets component, so the expense is much larger. That is, without funding, the Province would forgo the investment opportunity experienced by Account A.

As the graph above illustrates, the projected defined benefit pension expense is expected to increase significantly over the next 40 years as the liabilities grow and assets are depleted, reaching over $1B in the fiscal year ending March 31, 2060. The significant growth in the net interest cost, as shown by the red bars, illustrates the impact of the current funding practice which results in a deteriorating funded ratio and ultimately, no assets in Account B in 2053 and beyond.

It is also important to note that the expected balance sheet liability at March 31, 2053 would be over $10B, after the Account B assets are depleted, and would increase each year thereafter.

Section 3 – Funding Considerations

As shown in the previous section, by continuing its current funding practice, the assets of Account B will be depleted in 2053 and the Province will be faced with a doubling of its contribution requirements at that time. In addition, the Province will see a significant increase in its defined benefit pension expense over the next 40 years, from $244M in the fiscal year ending March 31, 2021 to over $1B in the fiscal year ending March 31, 2060.

The funded ratio for Account B was 60% at January 1, 2021, with an unfunded pension liability at that time of $1.770B. It is extremely unlikely for excess investment returns to eliminate this deficiency in the future. Only additional funding contributions from the Province, over and above current levels, will reduce the unfunded pension liability and allow the Province to avoid the depletion of Account B assets in the future and the corresponding significant increase in funding requirements.

Pre-Funding Account B

There are many arguments for pre-funding Account B, a few of which are discussed below.

Compound Interest

As individual savers are told, saving for retirement early in their careers allows them to benefit from investment income and the power of earning compound interest on their contributions over a long time period.

The same is true for pre-funding a pension plan. We have outlined the future benefit amounts payable from Account B, which can be estimated with some credibility based on our funding and projection valuations. The Province can contribute amounts today and invest them to meet future obligations, or it can simply pay the amounts when they come due in the future. Contributing today and earning investment income on the contributions should reduce the Province's ultimate costs and cash outlays.

Investing in a Diversified Portfolio

TRAF maintains a professionally managed global diversified investment portfolio valued at $8.451B at January 1, 2022.

Over the last 20 calendar years up to and including 2021, the average return was 8.0% per year, net of fees.

While this track record of strong investment performance exceeded TRAF's investment benchmark as well as the actuarial discount rate, past performance provides no guarantee for future returns. As we are experiencing in 2022, investment markets can be volatile. Investment losses occur. This is a risk that any additional funding to Account B would face.

The Province has experienced this risk in the past when it contributed $1.5B to the PMTA in 2007. In 2008, TRAF's investments suffered significant losses, with a return of -11.96% net of fees. While TRAF has not had a negative annual return in any calendar year since 2008, this does illustrate the risk of investment markets and the chance that plan assets can lose value. We will show later in this report the financial benefits the Province realized as a result of contributing the $1.5B to the PMTA in 2007, notwithstanding the material investment loss in 2008.

Smoothing of Contribution Requirements

As we have illustrated in the previous section, once the assets of Account B are depleted in 2053, the Province's funding requirements will more than double, from $270M in 2052 to $568M in 2053, or an increase of 110%. This would seem unpalatable. Increasing funding to a lesser degree now to avoid a doubling of costs in the future would be a prudent course of action and exhibit sound financial management.

When the Province announced its $1.5B funding contribution to TRAF, it echoed these sentiments. As then Finance Minister Greg Selinger stated in the Province's news release on March 22, 2007:

> *"As a part of this government's ongoing commitment to balanced budgets and to sound financial management practices, government will continue the process, begun in 2000, of addressing its unfunded pension liabilities. Addressing the unfunded liability today will keep the summary net debt at the current level and will help significantly moderate future costs."*

While the $1.5B aggregate contribution in 2007 significantly improved the funded status of Account B, it has deteriorated since then, and is trending towards zero over the long-term horizon. Action is needed again today to avoid significantly higher future costs.

Industry Best Practice

Most government pension plans in Canada are subject to provincial legislative funding standards or are required to be pre-funded by members and employers. In Manitoba, for plans that are exempt from solvency funding by a regulation made under The Pension Benefits Act, Manitoba, any unfunded liability is amortized over a 15-year period.

In all jurisdictions in Canada, private sector plans are required to be pre-funded, and any deficits to be amortized over a defined period up to 15 years depending on the nature of the deficit and governing provincial legislation.

TRAF is a rare plan in Canada in that there is no requirement for full funding of the Province's unfunded pension liability, in accordance with section 4.5(2)(c) of the Regulation to The Pension Benefits Act, Manitoba.

Period for Funding the Deficit

If a decision is made by the Province to fund the existing deficit in Account B, it raises the question of the period over which the deficit should be funded.

Fully funding the deficit immediately would allow such contributions to instantly start earning investment returns of Account B. The Province's defined benefit pension expense would also decrease as the interest cost on liabilities would be offset by the expected return on assets. However, the amount of such a contribution would be $1.770B. This compares to the actual expenditures of the education budget for the fiscal year ending March 31, 2021 of $3.001B.

Alternatively, the deficit could be funded over a significantly longer period. When the Province announced in 2000 that it would start funding its unfunded pension liability, it indicated a goal of fully funding the pension liability by 2035. As there is no regulatory requirement to pre-fund Account B, any such long-term period could be elected over which to amortize the deficit. The longer the period, the lower the annual required contributions, but the more the overall cash outlay by the Province.

A shorter period could also be selected to fund the existing deficit. As mentioned earlier in this report, in the private sector, funding deficiencies are required by pension legislation to be funded over a defined period up to 15 years. A 20 year or 25 year amortization period could also be considered.

In our analysis presented later in this report, we have considered amortization periods of 15 years and 40 years (reflecting a very long-term approach). These are two of many potential options for deficit funding.

Funding Target

If a decision is made by the Province to increase the funding to Account B, it also raises the question of what funding level should be targeted. As detailed, there is no requirement in the TPA for Account B to be fully funded, so the Province has discretion as to what level of funding to target.

Targeting full funding would be consistent with other government pension plans, as well as those in the private sector. In addition, this would be well received, if not expected, by TRAF members, and would be consistent with industry best practice.

Targeting some level below 100% could also be considered. In 2007, the Province targeted funding 75% of its unfunded pension liability. The Province could now target funding between its current level of 60% and full funding at 100%. Any increase in funding would improve the current and future funded status of Account B, and could avoid a situation of the Account B assets being fully depleted in the future.

Maintaining a funding level below 100% would be less expensive to the Province than full funding while still allowing it to prevent the potential depletion of Account B assets.

In our analysis presented later in this report, we consider targeting full funding and funding at 80%. These are two of many potential options for deficit funding.

Source of Funding

If the Province elects to fund, it must determine the source of these funds.

If the Province elects to increase funding over a longer period, it could simply allocate the additional funds from operational revenue. This would mean higher annual spending and an increase to the Province's education budget.

Another approach would be for the Province to issue debt, and contribute the proceeds to Account B to increase the funding level immediately. This would eliminate the Province's unfunded pension liability, or a portion of it, and reduce the potential future costs under Account B. However, it would add to the Province's overall debt and would require payments to cover interest costs and retire this debt, plus any such fees associated with the financing arrangement. While such debt repayments may not be considered as part of the Province's education budget, the costs must be considered as part of the funding strategy.

In our analysis presented later in this report, we consider the Province issuing debt to fund Account B. For simplicity in our analysis, we have assumed that the Province could issue debt at an interest rate of 4% and would repay debt and interest over a 20-year period. Different debt structures and payments periods could be considered and the interest rate will ultimately reflect the cost of borrowing when issued. We have chosen a 4% interest rate for simplicity and as a reasonable rate when this analysis was performed based on provincial bond yields.

Changes in the Cost of Debt Financing

The timing of a borrowing strategy is important. As interest rates are currently rising in Canada, the attractiveness of issuing debt in today's economic environment is lessened compared to recent years.

However, if debt could be issued at rates lower than the expected returns for TRAF, such a transaction would still be attractive, both from a cash perspective and what would be reported in the Province's financial statements.

In our illustrations, we have assumed that any borrowing would be paid back with principal and interest (at 4% per annum) over a 20-year period. Alternative debt repayment could be structured – over shorter or longer periods, at different interest rates, under different repayment provisions.

If the structure of the debt is such that it requires re-financing in the future, there is a longer-term consideration of the possibility of higher debt refinancing costs. In the current environment of rising interest rates, any roll over of a current debt issuance at a higher rate in the future could represent a financial risk for the Province.

Constraints on the Province's Debt Financing Ability

The level of borrowing discussed in this report is significant. The most recent budget released by the Province, for the fiscal year ending March 31, 2021, indicated that the Province's net debt is $27.4B. This is higher than previously budgeted due to COVID related spending, and the net debt to GDP ratio increased to 38.5% at that date. Debt servicing costs for the fiscal year ending March 31, 2021 were close to $1B, which represented 5% of the Province's budget.

The Province's pension obligation under TRAF already exists – there is a $1.770B unfunded liability at January 1, 2021 that the Province is responsible for. However while the pension liability is reflected in the Province's financial statements, if the debt is issued to eliminate the unfunded pension liability it could be more visible to readers of the financial statements. That is, the level of the Province's debt is a high profile metric in the financial statements.

The Province must assess whether borrowing a substantial amount to finance pension obligations could impact its ability to borrow for other purposes in the short or medium term. The Province must also assess what impact an increase in borrowing could have on its credit rating and thus its borrowing costs in the future.

Benefit Security for Plan Members

With a funded ratio of 60.0% and assets of over $2.6B in Account B at January 1, 2021, there is no immediate risk that the Province will be unable to meet its pension obligations. Members currently in receipt of a pension from TRAF should feel very secure in the likelihood of continuing to receive their pension for their lifetimes.

However, if the Province continues its current funding approach and allows the funded ratio to decline and the assets of Account B to be depleted, members of TRAF would be justified in being concerned about the security of their pensions in the future.

Pre-funding of Account B would enhance the benefit security for members of TRAF, while allowing the assets of Account B to run out jeopardizes this benefit security.

In the private sector, plan sponsors are required to pre-fund their pension plans, to ensure the benefit security of plan members benefits. While the Province has the ability to raise money by increasing taxes to meet future pension obligations, this ability is not unlimited and raises a different set of concerns, as detailed in the next section.

Intergenerational Equity for Manitoba Taxpayers

Typically, when discussing intergenerational equity in the context of pension plans, the focus is on different cohorts contributing to a pension plan.

In the context of the Province's funding of the plan, the issue of intergenerational equity relates to Manitoba taxpayers today versus those in the future. We have seen in this report the projected future cash outlays for the Province if it continues its current funding practice of matching member contributions to Account A. By 2053 the assets in Account B are projected to be depleted, at which time financing shifts to pay-as-you-go, and such contributions will be double what they were in preceding years. As pay-as-you-go financing comes from government operations, this will double the burden on taxpayers in respect of the teachers plan.

Delaying the funding of the Province's obligations under the plan shifts the tax burden to future generations of Manitoba taxpayers.

Section 4 – Practices of Other Government Plans in Canada

Our review of the funding arrangements of other government plans across Canada suggests that the Province of Manitoba's approach to funding TRAF (and Civil Service Superannuation Board) is rare amongst its peers.

Across the country, most government sponsored plans, particularly those providing pensions to teachers, are subject to some form of provincial legislative standards and require government funding. That is, where a funding valuation indicates a deficit, there is generally a requirement to increase contributions to eliminate that deficit, and that funding comes from a combination of member and employer contributions.

Quebec has some similarities to Manitoba. Our understanding of government pension plans in Quebec is that they were also historically funded on a pay-as-you-go basis. Over the past 30 years, the government has started to set aside funds to help meet its obligations. Teachers in Quebec participate in the Government and Public Employees Retirement Plan (RREGOP) which funds 50% of member pensions. There is no pension trust for government assets. Employer contributions are made directly to fund the government's portion of the benefits paid, with the government topping up as necessary to cover benefit payments. The province of Quebec has set aside funds to support all pension liabilities, including those in the RREGOP, but not in a trust for plan members.

In the attached Appendix G we detail the funding provisions and most recent funded positions for each teachers' pension plan.

In Quebec, as mentioned above, the province is making contributions to a sinking fund to fund its unfunded pension liabilities. On an accounting basis, these assets cover about 90% of *all* government pension liabilities as of March 31, 2021. The member portion of the plan, RREGOP, has a funded ratio of 109.3% at the most recent valuation date.

Excluding Quebec, all teachers' pension plans other than Nova Scotia were very well funded, with funded ratios of at least 98% at their last measurement date that was publicly disclosed at the date of this report.

In Nova Scotia, the plan's funded ratio was 82.5%. Members and employers contribute the same amount to their pension plan but while these contributions exceed the plan's current service cost, they are not sufficient to eliminate the plan's unfunded pension liability. Consequently, the Nova Scotia plan sponsors agreed in October 2020 to jointly appoint an independent panel of experts to review the challenges facing the plan and make non-binding recommendations to fully fund the plan within a reasonable time period.

While the approach to funding government plans across the country may vary dependent on provincial legislation and governance structures, employers are mainly focused on the financial position of the plans and enhancing benefit security for members.

Section 5 – Alternative Scenarios for Accelerating and Pre-Funding Account B

In order for the Province to avoid the depletion of Account B assets in the future, additional funding relative to the Province's current funding practice is required.

In this section, we consider alternative scenarios for pre-funding Account B and illustrate the expected impact on future cash flows, funded ratios and the Province's financial statements.

We consider two strategies for accelerating the funding of Account B:

- First, we assume the Province makes a lump sum contribution to either fully fund Account B immediately (Scenario 1A), or to increase the funded ratio to 80% (Scenario 1B). In both scenarios, we assume the current funding strategy of matching aggregate member contributions continues in the future.
- Second, we assume the Province makes annual contributions to Account B to achieve full funding over either 15 years (Scenario 2A) or 40 years (Scenario 2B). In both scenarios, these annual contributions are in addition to the current funding strategy of matching aggregate member contributions in the future.

These analyses utilize the January 1, 2021 funding and projecting valuations as a starting point. While there have been experience gains and losses since that time, the long-term projections still apply.

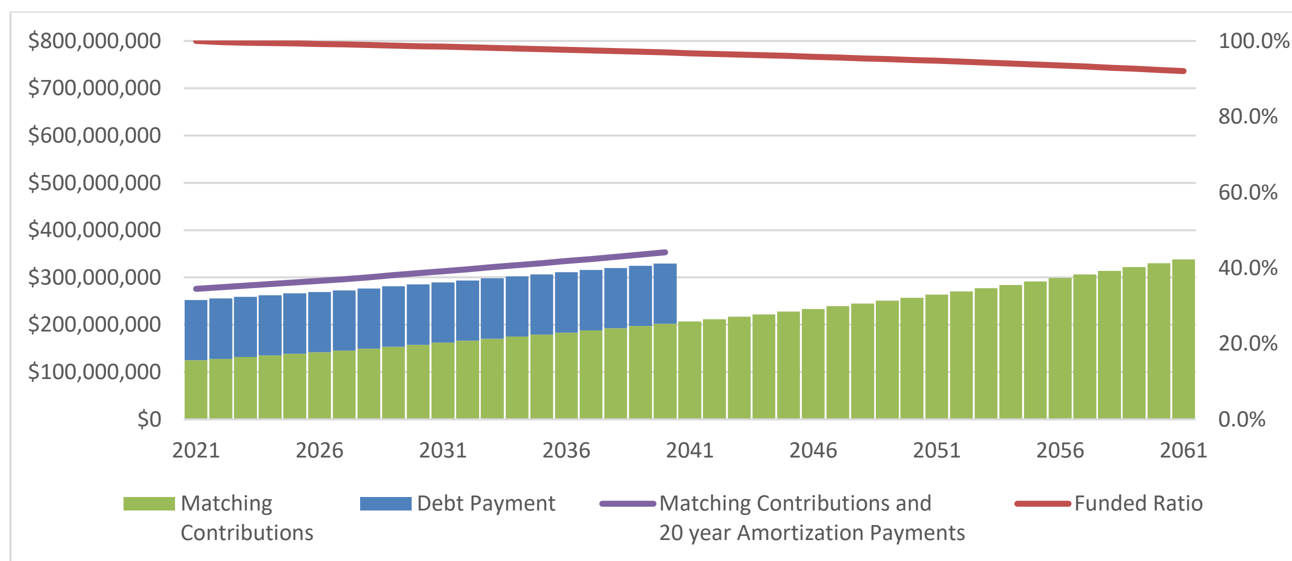
Scenario 1A: Fully Funded Immediately – Projected Impact

In order to fully fund Account B at January 1, 2021, a lump sum contribution of $1.770B would be required.

We have assumed that the Province would be required to issue debt in order to facilitate this contribution. Further, for this illustration we have assumed that this debt would be repaid with equal payments over a 20-year term and a cost of borrowing of 4% per year.

Projected Province Cash Outlays and Account B Funded Position

The following graph illustrates the impact on the Province's cash outlay and funded ratio of issuing debt to fully fund Account B.



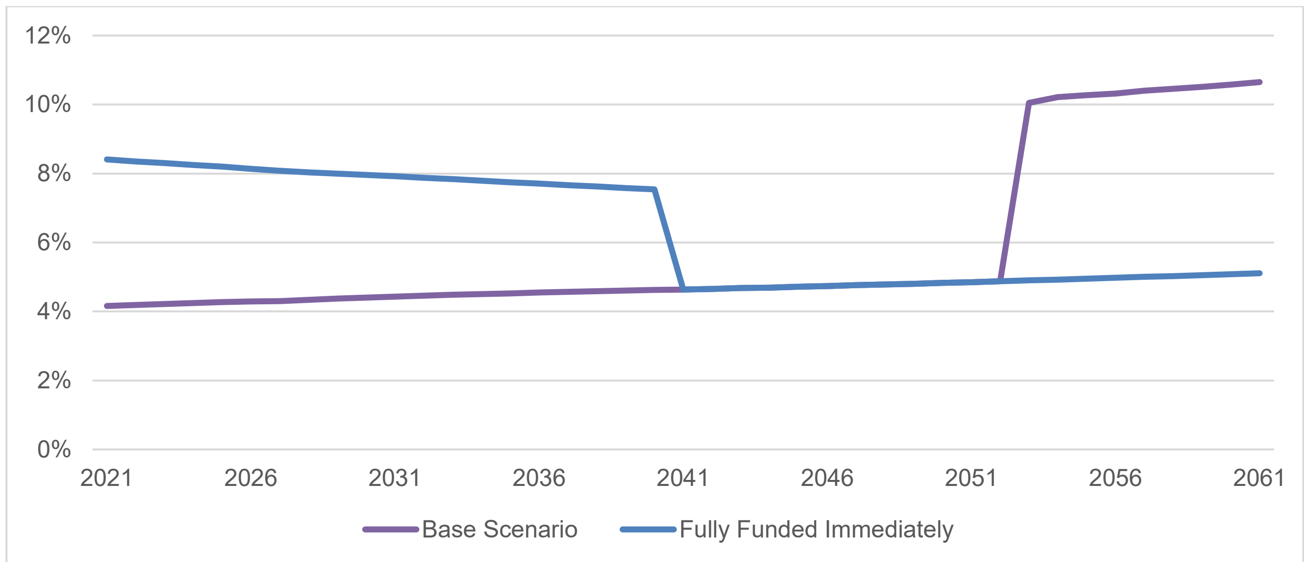
As shown above, the blue bars represent the annual debt repayments over the next 20 years, assuming a 4% cost of borrowing. The Province's total cash outlay would consist of the same matching contributions as current plus annual debt payments of $127M.

As the current matching contributions are slightly less than the Account B current service cost, the funded ratio would decrease slightly over the 40-year projection period until reaching 92% at January 1, 2061.

Note that if the Province elected to target full funding of Account B over a similar 20 year period without issuing debt, it would effectively be borrowing from Account B at the valuation discount rate of 5.50% per year. As a comparison to the cost of borrowing at 4% per year, the cost of the amortization payments in addition to the Province's matching contributions, is illustrated by the purple line on the graph above. The Province's total cash outlay would consist of the same matching contributions plus annual amortization payments of $151M. This implies that as long as the Province can borrow at a rate lower than the Account B discount rate, it is expected to realize a lower cost to fund the plan.

Projected Province Cash Outlays Relative to Manitoba's Education Budget

Adding annual contributions to repay the debt increases the Province's cash outlay as a percentage of the projected future education budget for the next 20 years, but results in much lower percentages after the debt is repaid. This is illustrated in the graph below.



We have assumed a simple debt structure for illustrative purposes. A longer repayment period would presumably reduce the debt payments but extend them for a longer period. Higher or lower borrowing costs would also shift the costs up or down.

As is evident in this report, in order to improve the funded ratio of Account B, the Province must increase its contributions. As illustrated above, the Province can contribute more in the short term, or it can contribute a lot more in the future.

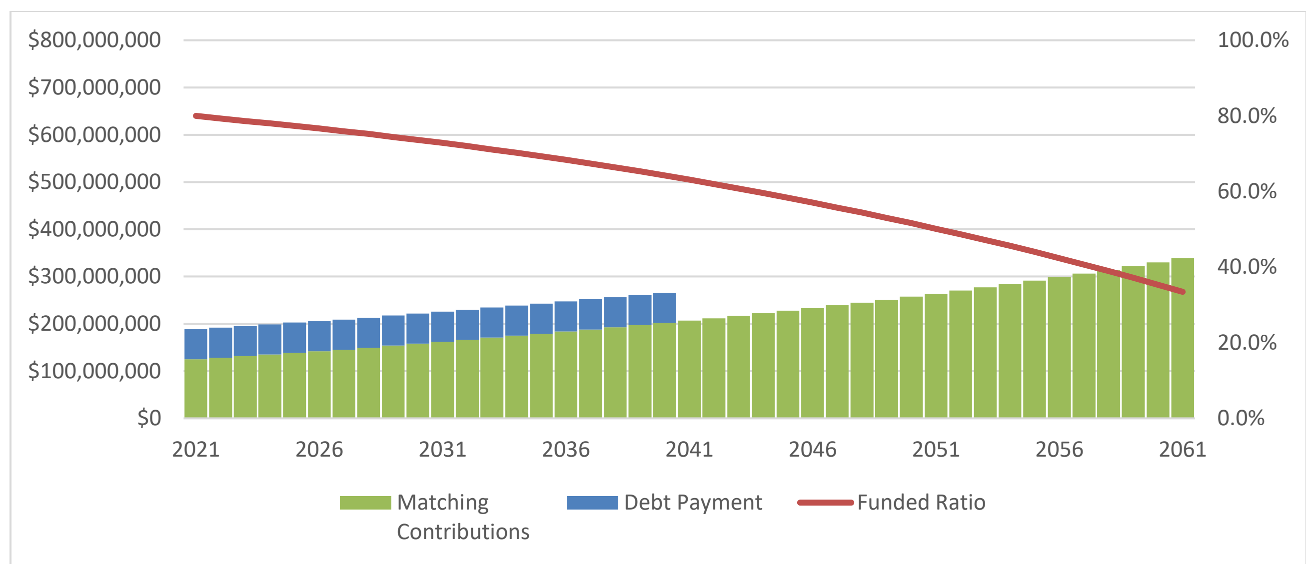
Scenario 1B: 80% Funded Immediately – Projected Impact

In order to achieve an 80% funded ratio for Account B at January 1, 2021, a lump sum contribution of $884M would be required.

Similar to Scenario 1A, we have assumed that the Province would be required to issue debt in order to facilitate this contribution. Further, for this illustration we have assumed that this debt would be repaid with equal payments over a 20-year term and a cost of borrowing of 4% per year.

Projected Province Cash Outlays and Account B Funded Position

The following graph illustrates the impact on the Province's cash outlay and funded ratio of issuing debt to achieve an 80% funded ratio for Account B.



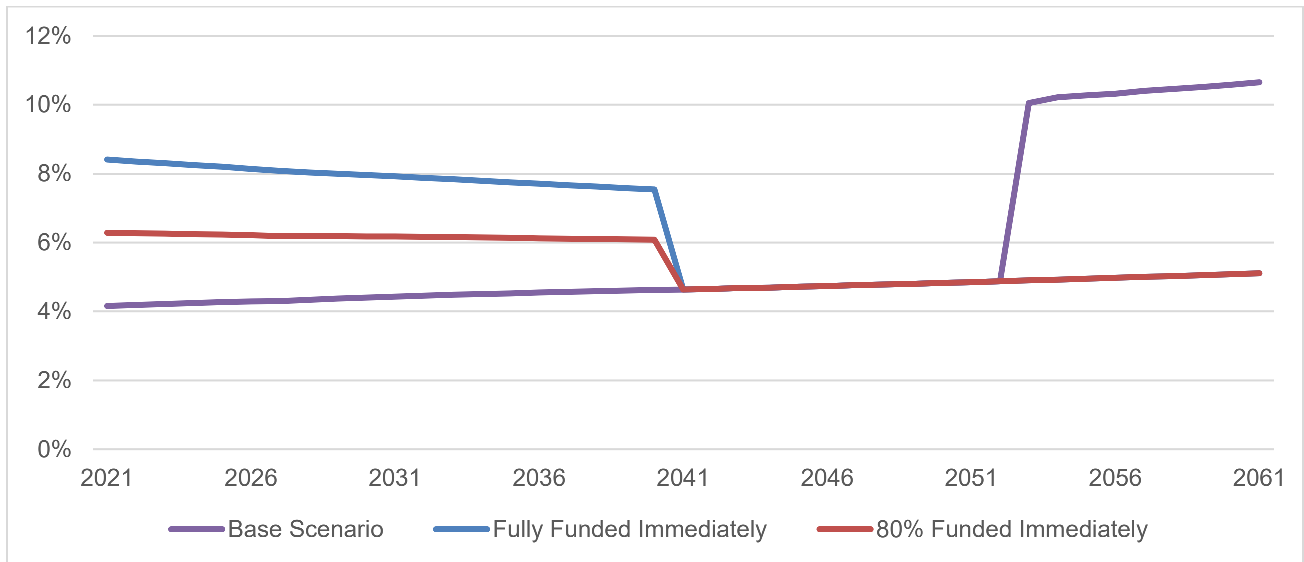
As in Scenario 1A, the blue bars represent the annual debt repayments over the next 20 years, assuming a 4% cost of borrowing. The Province's total cash outlay would consist of the same matching contributions as current plus annual debt payments of $64M. This is roughly half the debt and half the repayment amounts as determined in Scenario 1A.

As the current matching contributions are slightly less than the Account B current service cost, and the remaining 20% deficiency is not being funded, the funded ratio would decrease over the 40-year projection period until reaching 34% at January 1, 2061. Following a similar pattern to the current funding approach would suggest the depletion of Account B assets within another 15 years and as a result, additional contributions will still be required by the Province. That is, funding to 80% without addressing the 20% deficit in the future simply delays the long term funding issue.

As illustrated in the previous scenario, if the Province chose to make special payments to Account B to achieve 80% funding over 20 years, these payments would be higher than the cost of repaying the debt at 4% per year.

Projected Province Cash Outlays Relative to Manitoba's Education Budget

Adding annual contributions to repay the debt increases the Province's cash outlay as a percentage of the projected future education budget for the next 20 years, and again results in lower percentages after the debt is repaid. This is illustrated in the graph below.



It is important to note that funding to an 80% ratio without addressing the remaining 20% deficit in the future ultimately delays the long term funding issue identified earlier in this report. Therefore, the Province's projected cash outlay as a percentage of the projected future education budget illustrated by the red line above would see a similar increase as the base scenario (purple line) when the assets are depleted. As described earlier, following a similar pattern to the current funding approach would suggest the depletion of Account B assets within another 15 years after the 40-year projection period. As a result, additional contributions would be required by the Province at that time.

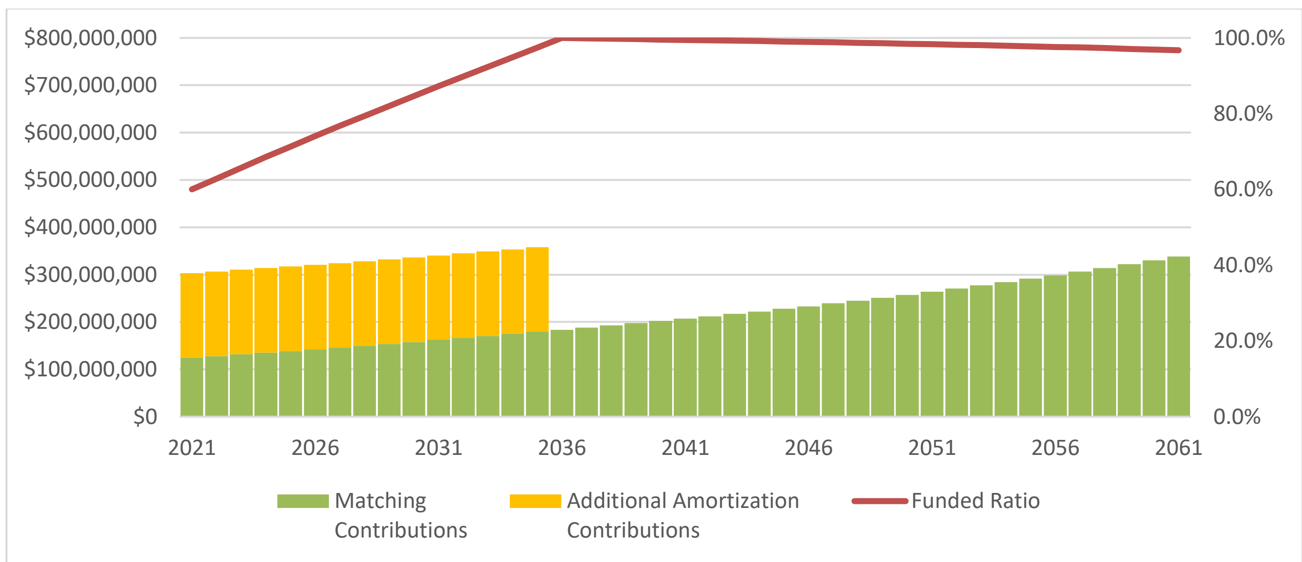
Scenario 2A: Amortization Payments to Fully Funded over 15 years – Projected Impact

As an alternative to issuing debt to immediately fund Account B, the Province could instead increase contributions to amortize the existing $1.770B deficit.

In this scenario we have assumed that the Province would target full funding over a 15-year period. To achieve this target, annual contributions of $178.5M would be required.

Projected Province Cash Outlays and Account B Funded Position

The following graph illustrates the impact on the Province's cash outlay of targeting full funding Account B over a 15-year period.

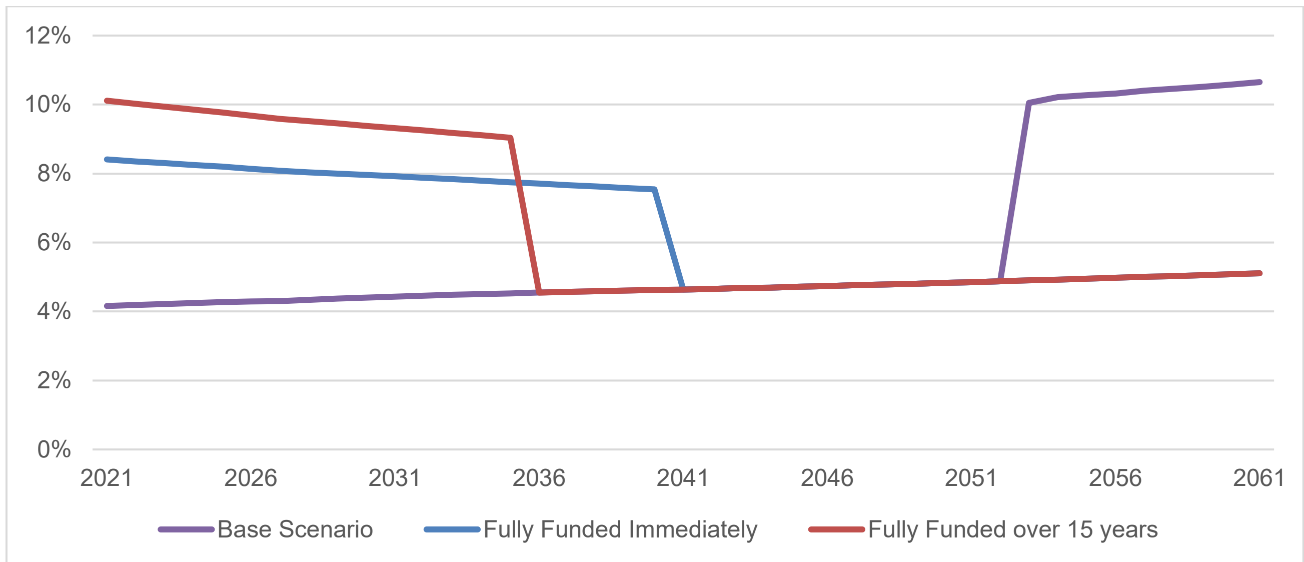


The yellow bars on the graph represent the additional annual contributions of $178.5M required to achieve full funding of Account B by the end of a 15-year period at January 1, 2036. Thereafter, the Province is assumed to continue its current funding practice of matching member contributions.

In this scenario the funded ratio would gradually increase until reaching 100% at January 1, 2036. Thereafter, it is expected to decline slightly to 97% at January 1, 2061.

Projected Province Cash Outlays Relative to Manitoba's Education Budget

Similar to repaying debt over a 20-year period, adding deficit amortization payments over the next 15 years would increase the Province's cash outlays over that period relative to the projected future education budget, before dropping to lower percentages once the deficit is amortized. This is illustrated in the graph below.



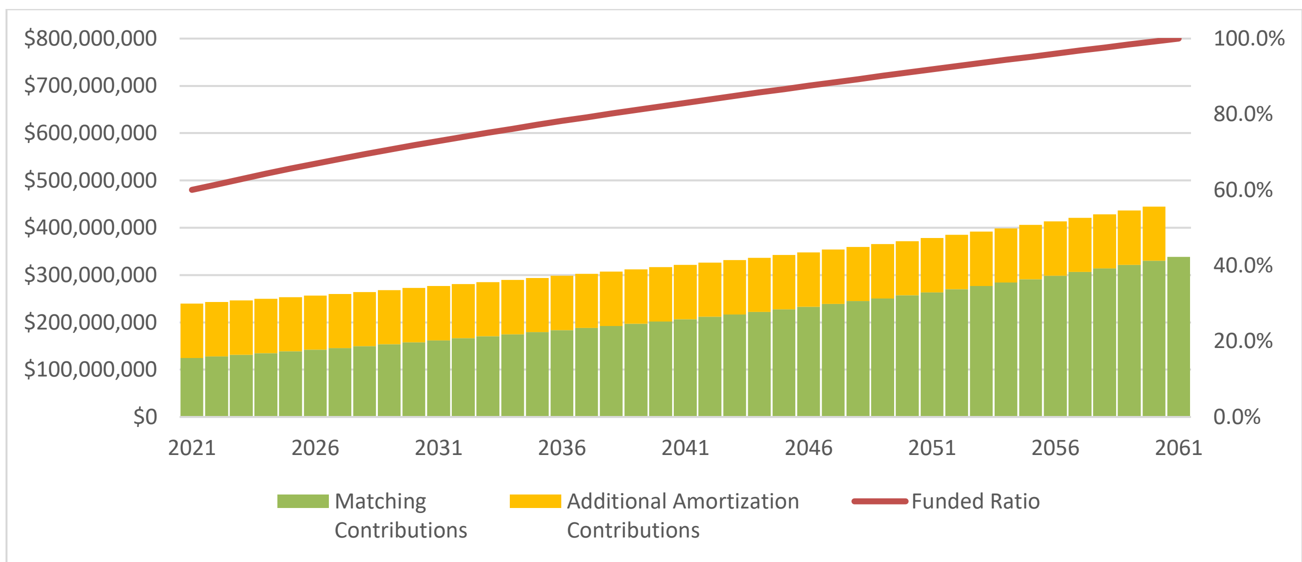
While increasing the funding in the short term temporarily increases costs, it is important to note that the pay-as-you-go costs after 2052 would be a permanent increase in costs relative to the projected future education budget.

Scenario 2B: Amortization Payments to Fully Funded over 40 years – Projected Impact

In this scenario we have assumed that the Province would target full funding over a 40-year period. To achieve this target, we have considered both annual contributions as a fixed dollar amount and as a fixed percentage of the Province's projected future education budget.

Projected Province Cash Outlays and Account B Funded Position

The following graph illustrates the impact on the Province's cash outlay of targeting the full funding of Account B over a 40-year period with equal annual contributions.

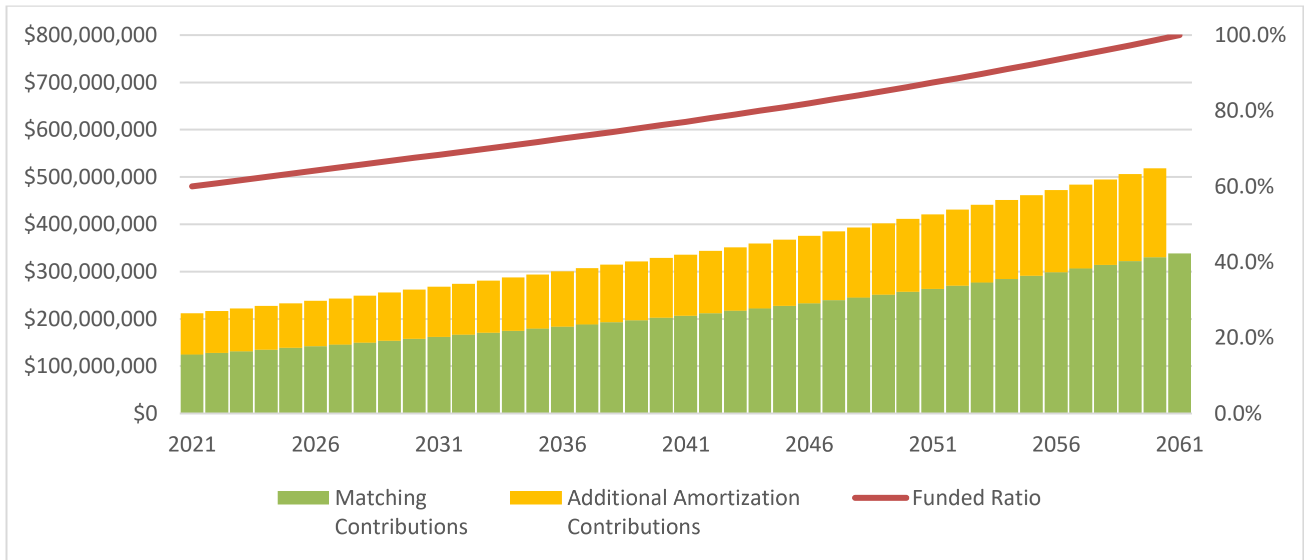


The yellow bars on the graph represent the additional annual contributions of $114.7M required to achieve full funding of Account B at the end of a 40-year period. Thereafter, the Province is assumed to continue its current funding practice of matching member contributions.

In this scenario the funded ratio would gradually increase until reaching 100% at January 1, 2061.

There are other amortization periods that can be selected. We have illustrated what we deem to be amortization periods on the shorter and longer ends of the spectrum, along with their associated payments. An amortization period selected in between the two would have amortization payments between $114.7M and $178.5M detailed in these scenarios to achieve full funding of Account B, in addition to matching member contributions.

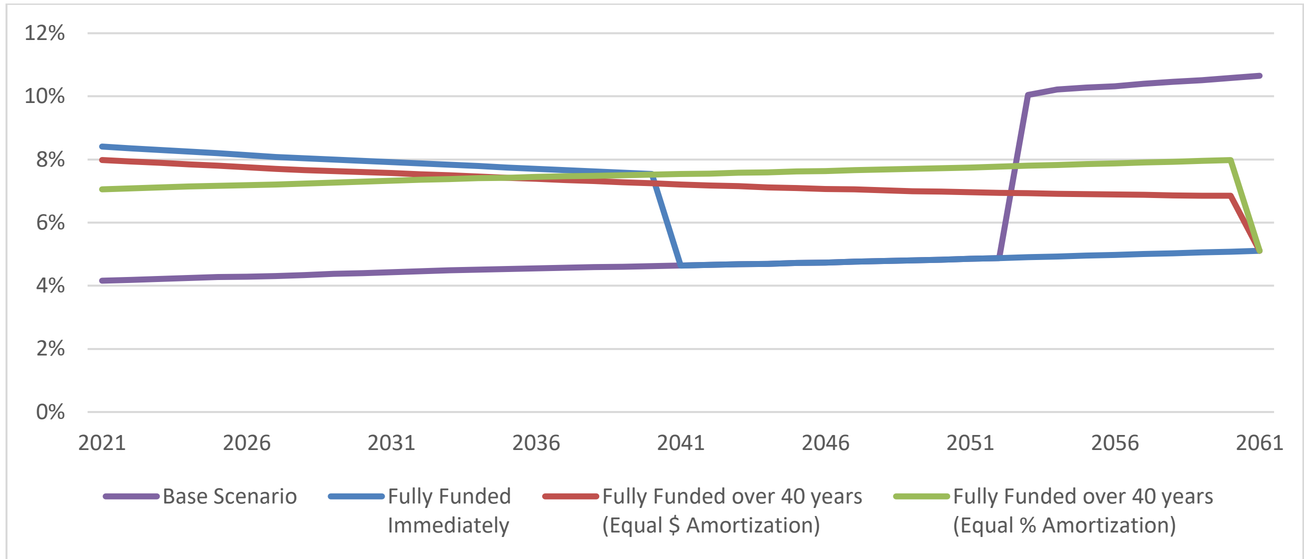
As an alternative to equal funding amortization payments over the 40 year amortization period, a level percentage of the Province's projected future education budget can be determined. As shown below, amortization payments of 2.9% of the projected future education budget are expected to achieve full funding over the next 40 years.



As the amortization contributions shown above are a fixed percentage of the Province's projected future education budget, the dollar amounts will increase over time from $86.9M in the first year to $188.2M in 2060.

Projected Province Cash Outlays Relative to Manitoba's Education Budget

In this scenario, the Province's cash outlays are more stable relative to the projected future education budget, whether using equal dollar or equal percentage amortization payments to fully fund Account B.

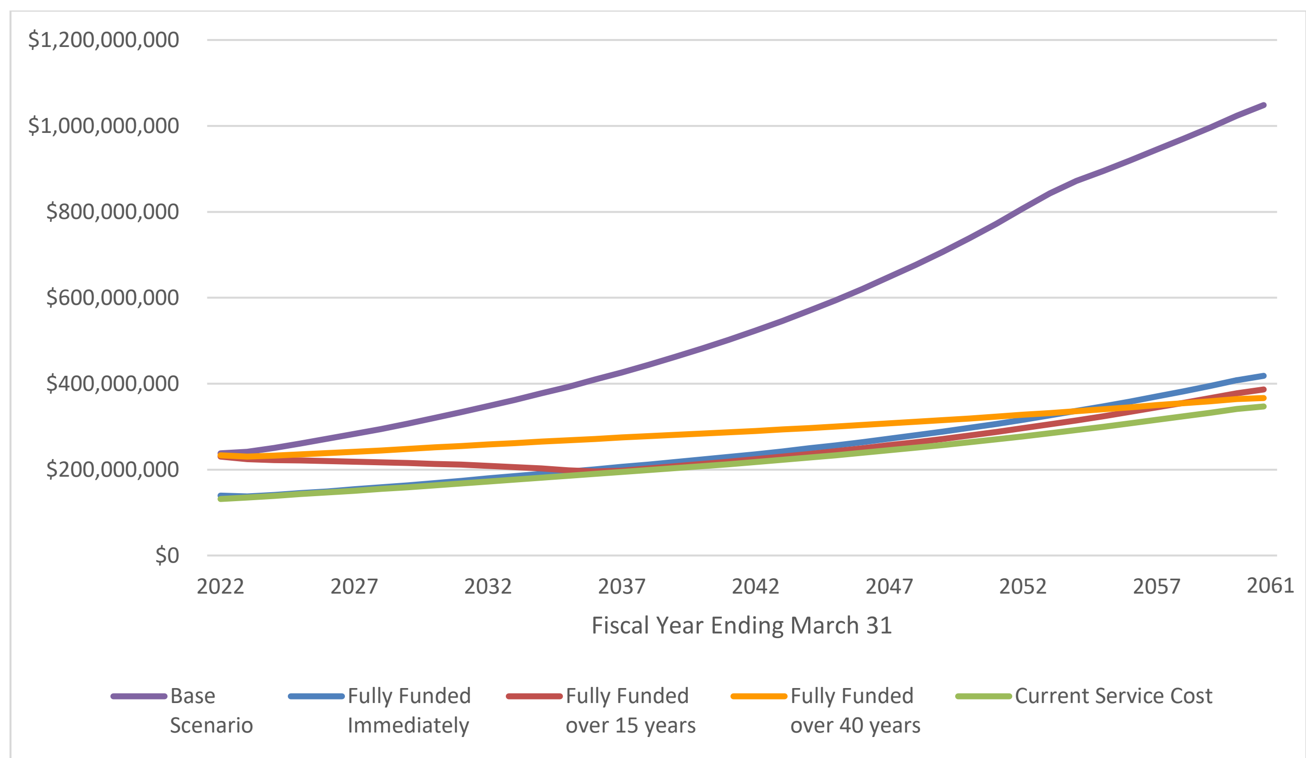


Recall, the purple line representing the pay-as-you-go funding after 2052 reflects a permanent increase in the Province's costs.

Projected Impact on Defined Benefit Pension Expense

The following graph illustrates the impact on the defined benefit pension expense of the different funding scenarios. The projected defined benefit pension expense and balance sheet liability are based on the assumptions described in Appendix F. Specifically, a discount rate and expected long-term rate of return on assets of 5.50% per annum has been assumed.

Any scenario where the Province increases funding to Account B will reduce the defined benefit pension expense in the future. Higher future asset values will increase the expected return on assets which reduces the future expense.



As illustrated, fully funding Account B immediately or targeting full funding over the next 15 or 40 years has a significant impact on the future defined benefit pension expense. The bottom green line represents the current service component of the expense, which is the same in all scenarios; the differences result from varying net interest costs in addition to the current service cost.

In addition to the expense, the cost of borrowing and debt repayments would also be reflected on the Province's financial statements, although this is not included on the graph above.

As noted previously, with no assets in Account B, the balance sheet liability will increase significantly over the projection period. In the base scenario, with no assets at the end of the fiscal year ending March 31, 2060, the balance sheet liability would be close to $13B. Under the full funding scenario, it would be close to zero.

Section 6 – Review of the Financial Impact of the Province's Ad-Hoc Contribution to the PMTA in 2007

As mentioned earlier in this report, in 2007 the Province issued debt and used the proceeds to contribute $1.5B of funding to the PMTA, to bring the funded ratio of the Province's pension obligations under TRAF up to 75%, from about 10%.

Investment Income versus Debt Repayments

Over the subsequent 14 calendar years following 2007, the assets under the PMTA and later Account B earned an annual average return of 7.41% per annum, net of fees. This includes an investment loss of 11.96%, net of fees, in 2008 and investment gains every year since.

These returns have generated total investment income of just over $2.2B over those 14 years.

We are not aware of the structure of the debt repayment for the 2007 borrowing. If we assume the initial borrowing is being repaid over 20 years at a borrowing cost of 5%, which would have been reasonable at that time, the investment income earned is approximately $0.6B greater than the debt repayments to the end of 2021. That is to say, the net impact of borrowing was to generate $0.6B in value to the Province.

Analysis of Actual Funding Approach versus Continuing Previous Funding Approach

Prior to issuing debt in 2007, the Province was contributing to the PMTA an amount to match contributions made by members hired on or after April 1, 2000, and were contributing directly to Account B to reimburse the pension payments made.

Had the Province not issued debt to finance its pension obligation, this funding practice would have required additional funding of about $2.5B to reimburse Account A for pension payments made over the years 2008 to 2021. Under both approaches matching contributions would be made.

This compares to an assumed $1.6B in debt repayments over that same 14-year period.

The Province's total cash outlay under the previous funding approach would have been $0.9B higher than under the actual approach of issuing debt to finance its pension obligations.

However, based on investment returns over that same period, we estimate that the assets in Account B at the end of 2021 would have grown to $3.5B. This compares to $3.0B of actual assets at December 31, 2021.

While the Account B assets would have been $0.5B higher at December 31, 2021 under the previous funding approach, the Province's outlay would have been $0.9B higher over that period. Again this indicates the value of the Province's approach to borrow funds and use the proceeds to fund the PMTA in 2007.

Section 7 - Potential Impact of Proposed Changes to PS 3250

The Public Sector Accounting Board released an exposure draft in 2021 that proposes that a new employee benefit standard be issued to replace PS 3250 of the Public Sector Accounting Handbook. The proposals are effective for fiscal years beginning on or after April 1, 2026.

A consequential change included in this new standard is the proposal that a public sector entity would assess the funding status of a post-employment benefit plan to determine the appropriate discount rate with which to value the plan's obligations. Specifically, a public sector entity would consider the proportion of the plan assessed to be sufficiently funded by existing plan assets.

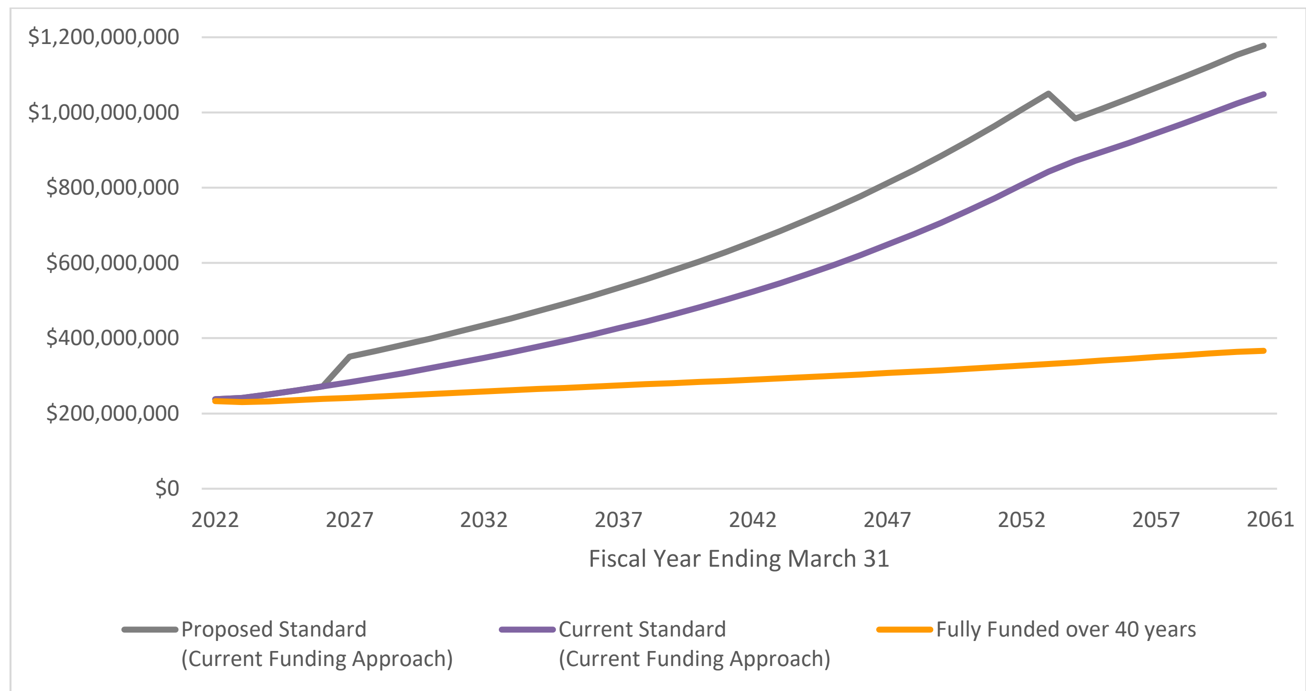
Under the proposed standards, the interest rate used to discount plan liabilities would be determined as follows:

- A fully funded plan would utilize a discount rate based on the expected market-based return on plan assets. This is generally the current practice for fully and partially funded plans.
- An unfunded plan would utilize a discount rate based on provincial government bonds.
- A partially funded plan would utilize a single discount rate that reflects the fully funded rate for periods where the balance of assets is projected to be greater than or equal to the projected benefit payments, and the unfunded rate for all other periods.

Our interpretation would apply to the Province's accounting for their obligation under Account B as follows:

- Under the Province's existing funding practice, current and projected plan assets would exceed projected benefit payments until 2053, at which point assets in Account B would be depleted.
- As such, a discount rate based on the plan's expected return on assets could be used for the years up to and including 2052.
- For years after 2052, the discount rate used would reflect Provincial government bonds.
- One single rate would be used that produces the same present value as the two separate methods outlined above.
- At March 31, 2021, in order to be consistent with the funding of Account B, we have assumed an expected return on assets of 5.50% per annum. Further, we have assumed a long term provincial bond yield of 3.25% per annum to apply to years after 2052. This assumption is based on long-term expectations for a universe of provincial bonds determined at March 31, 2022 to reflect the volatility in interest rates since March 31, 2021. The equivalent single discount rate was determined to be 4.60% per annum at March 31, 2027.
- In future years, as the assets of Account B near depletion, the equivalent single discount rate would approach the rate of 3.25% per annum, reflecting provincial government bond yields. Each year, the discount rate would reduce slightly, generating experience losses.

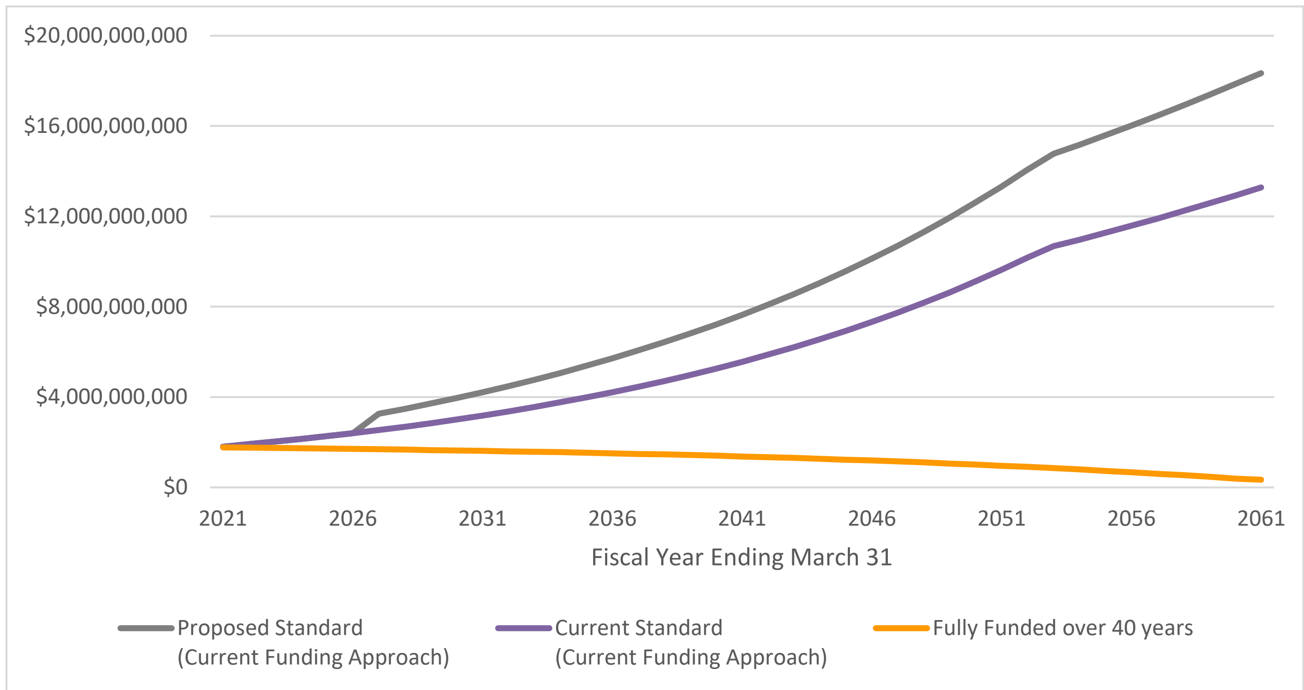
The following graph illustrates the results of our calculations for the impact of the proposed accounting standard on the expected defined benefit expense assuming no change in the Province's funding practice. As a comparison, we show the expected defined benefit expense under the current accounting standard.



The proposed changes to the accounting standard are reflected commencing in the fiscal year ending March 31, 2027, and are represented by the gray line. The estimated impact on the defined benefit pension expense is an increase of $70M for the fiscal year ending March 31, 2027, compared to the current accounting standard. For the fiscal year ending March 31, 2061, the difference grows to $130M. This is a result of the funded position deteriorating due to increases in the liability from the decreasing discount rate in future years and the Account B assets ultimately depleting in 2053. Once the assets are depleted and the discount rate is based on provincial government bonds, the expense slightly decreases the following year as there are no further actuarial gains and losses recognized.

The orange line illustrates the defined benefit pension expense assuming Account B was fully funded over a 40-year period. In this case, the change to the discount rate required under the new accounting standard would not apply, and the assets would reduce the net interest cost.

The following graph illustrates the results of our calculations for the impact of the proposed accounting standard on the projected balance sheet liability assuming no change in the Province's funding practice. As a comparison, we show the expected balance sheet liability under the current accounting standard.



As mentioned, the proposals are effective for fiscal years beginning on or after April 1, 2026. The initial impact on the balance sheet liability is approximately $0.7B at March 31, 2027, growing to $5.1B at March 31, 2061, compared to similar calculations under the current accounting standard.

In the absence of a change in the funding approach for Account B, the balance sheet liability would increase to $18B under the proposed accounting standard at the end of the 40-year projection period. This is illustrated by the gray line in the graph above. Similar to the defined benefit pension expense, the impact grows with significance due to increases in the liability from the decreasing discount rate in future years and the Account B assets ultimately depleting in 2053.

The orange line illustrates the balance sheet liability if Account B was fully funded over a 40-year period. In this case, the change to the discount rate required under the new accounting standard would not apply, and the assets would reduce the balance sheet liability.

Section 8 - Summary and Conclusions

A summary of our key findings are provided below.

- The Province's pension obligation under TRAF, according to the last actuarial valuation performed effective January 1, 2021 indicated a $1.770B unfunded liability, or a funded ratio of 60%. Under the Province's current funding practice, the assets in Account B will be depleted in 2053, at which point the Province's financing will shift to pay-as-you-go.
- As a result the Province's funding will double at that time, from $270M in 2052 to $568M in 2053, and these costs, relative to the Province's projected future education budget will increase from 4.9% in 2052 to over 10% in 2053.
- Over the same period, the Province's defined benefit pension expense will increase from $244M for the fiscal year ending March 31, 2021, to approximately $870M for the fiscal year ending March 31, 2054.
- To avoid the depletion of Account B assets and significant increases in the Province's funding future requirements, the Province should introduce a strategy for addressing the unfunded pension liability and increase its funding of Account B immediately.
- There are many options for addressing the unfunded pension liability. This report has illustrated a few of these many options – full funding immediately (Scenario 1A) or amortizing the unfunded pension liability over some future period. The Province could also target a funding level less than 100%. However, as illustrated with the 80% funding scenario (Scenario 1B), there is a risk this may simply delay the long term funding issue.
- Issuing debt to finance the plan's deficit could be financially attractive if the cost of debt is less than the expected return on assets (for financial statement reporting) and less than the returns earned by Account B in the future.
- Most government pension plans in Canada are subject to provincial legislative funding standards or are required to be pre-funded by members and employers, thereby providing benefit security to their plan members. There is no requirement for the Province to pre-fund its pension liability in Account B, as provided by section 4.5(2)(c) of the Regulation to The Pension Benefits Act, Manitoba. Only Quebec is similar in that it also does not require pre-funding the province's pension liabilities, although contributions are made to a sinking fund for this purpose.
- The Province's funded ratio for Account B is less than the funding levels of government obligations for teachers' pensions in every other province.
- There is a clear impetus for the Province to exhibit financial responsibility by pre-funding its pension liabilities now to avoid drastic funding increases in the future, and to bring TRAF more in line with other teachers' pension plans across the country.

Appendix A - Summary of the TPA and TRAF Structure

Summary of the TPA

The following is a summary of the provisions of the TPA, including all amendments up to the date of this report. For a complete description of the provisions, reference should be made to the TPA.

Effective Date

The TPA, and preceding TPAs dating back to 1925, were enacted for the purpose of providing retirement pensions to public school teachers in Manitoba.

The effective date of the TPA is July 1, 1963.

The Board is responsible for administering the TPA.

Application

The TPA applies to:

a) every person who, on the effective date, is or thereafter becomes, a teacher,

b) every person who before the effective date was entitled to receive, or was in receipt of, a pension or allowance under a former TPA,

c) every person who, on, before, or after the effective date, is or has been a teacher and who:

   i) has been, is, or becomes a member of the government employed under the Minister,

   ii) has been, is, or becomes a member of the government employed in teaching,

   iii) has been, is, or becomes a member of, or is employed under, The Universities Grants Commission or The Public Schools Finance Board, or

   iv) has been, is or becomes a member of the civil service of Manitoba employed under the Minister responsible for universities,

d) every person who contributed to a fund established under a former TPA,

e) the board of trustees of every school district,

f) Her Majesty the Queen in right of Manitoba,

g) every eligible employee,

h) members of the Faculty of Education of The University of Manitoba, The University of Winnipeg, Brandon University, Universitaire de Saint-Boniface and the University College of the North who elect under Section 68 to continue as a teacher and

i) employees of reciprocating Manitoba employers to whom subsection 64(2) applies.

A senior employee of The Manitoba Teachers' Society is an eligible employee for the purposes of the TPA if:

i) at the time of appointment, the senior employee held, and continues to hold, a certificate authorizing that employee to teach in public schools in the province, and

ii) the senior employee is designated by the Minister of Education as an eligible employee for purposes of the TPA.

A senior employee of the Manitoba School Boards Association is an eligible employee for the purposes of the TPA if:

i) at the time of appointment, the senior employee held, and continues to hold, a certificate authorizing that employee to teach in public schools in the province, and

ii) the senior employee is designated by the Minister of Education as an eligible employee for purposes of the TPA.

Normal Retirement Age

The normal retirement age means the age of 65 years.

Normal Retirement Pension

On normal retirement a member receives an annual pension equal to:

For service prior to July 1, 1980:

2% times the 7-year average annual salary times years of pensionable service less 0.6% times the 7-year average annual Canada pensionable earnings times years of pensionable service after December 31, 1965 but before July 1, 1980, plus

For service on and after July 1, 1980:

2% times the 5-year average annual salary times years of pensionable service less 0.6% times the 5-year average annual Canada pensionable earnings times years of pensionable service. A member may elect to convert service prior to July 1, 1980 to a 5-year average basis by making the necessary additional contributions to TRAF.

This pension is subject to a maximum of 70% of the weighted average annual salary of the member and is further restricted by the maximum pension limits under the Income Tax Act (Canada).

The pension in payment may be increased in order to reflect increases in the cost of living after retirement.

Normal Form of Pension

The pension is paid for as long as a retired member lives. If the retired member dies before the total of the pension payments made is at least equal to the member's contributions with interest to the date of retirement, the excess amount is paid to the member's beneficiary or estate, whichever is applicable.

If the member has a spouse at the date of retirement, an actuarially adjusted pension is payable during the life of both the member and the spouse. (An eligible common-law partner has the same rights and benefits under the TPA as a spouse.) This pension will reduce by one-third upon the death of either the member or the spouse. This form of pension payment is also guaranteed so that the total payments made must be at least equal to the member's contributions with interest.

The spouse and the member have the right to waive this form of pension payment.

Other optional forms of pension are available on request.

Early Retirement

A member may retire and commence receiving a pension on the first day of a month if it is not more than 10 years prior to the member's normal retirement date.

If the member retires after the attainment of age 55 and the completion of 10 years of service, but has not attained age 60 or satisfied the rule of 80, the amount of pension for service on and after January 1, 1992 is reduced. The reduction is equal to 1/4 of 1% for each month that the member's retirement date precedes age 60 or the date the rule of 80 would have been satisfied had the member continued in service. Any such reduction in pension is compensated for by the payment of a bridging benefit.

The bridging benefit is paid to the earlier of age 65 and the member's date of death and is determined so that it is actuarially equivalent to the reduction in pension described above.

If the member retires after the attainment of age 55 but has not yet completed 10 years of service, the amount of pension will be actuarially reduced from the member's Normal Retirement Date.

Disability Benefits

If a member becomes disabled and is receiving disability income under a group insurance plan, then the member is not required to make contributions to TRAF on or after July 1, 2004 and service continues to accrue for pension purposes. At retirement, the pension is calculated in the normal way. The salary used for the pension calculation is the salary received prior to the date of disability, adjusted by the same percentage increases as are granted to retired members in receipt of a pension.

Death Prior to Retirement

If a member dies prior to retirement, the death benefit is equal to the greater of (i) the member's contributions with interest for service prior to January 1, 1985 plus the commuted value of the member's accrued pension for service on and after January 1, 1985 and (ii) the commuted value of the member's accrued pension for all years of service.

The commuted value amount may be transferred to an eligible savings vehicle or paid as a life annuity to the surviving spouse or common-law partner or, if there is no surviving spouse or common-law partner, as a lump sum to the beneficiary or estate of the deceased member.

Termination Benefits

A member who terminates employment on or after May 31, 2010 retains entitlement to a deferred pension for all years of credited service. An exception occurs if the member's pension benefit entitlement satisfies the "small benefit" rule under the PBA. In such situations, a member will only be entitled to a commuted value transfer of his pension entitlement or a cash refund.

A member who terminated employment prior to May 31, 2010 retains entitlement to a deferred pension for service on and after January 1, 1985, subject to minimum service requirements, but may receive a cash settlement in respect of service prior to this date. A member whose employment terminated after age 45 and the completion of 10 years of service retains entitlement to a deferred pension for service on and after July 1, 1976. An exception occurs if the member's pension benefit entitlement satisfies the "small benefit" rule under the PBA. In such situations, a member will only be entitled to a commuted value transfer of his pension entitlement or a cash refund.

If a member retains entitlement to a deferred pension, the pension is based on the member's accrued pension adjusted by the same percentage increases as are granted to retired members in receipt of a pension between the date of last employment and the date of commencement of the pension.

50% Test

No more than 50% of the benefits provided as a result of service on and after January 1, 1985 may be financed by the member. If the member's required contributions with interest exceed 50% of the actuarially calculated value of the pension accrued as a result of such service, the excess is refunded to the member or is used to provide additional benefits for the member or the member's beneficiary, whichever is applicable.

Contributions

Each member is currently required to contribute 8.8% of his or her Canada pensionable earnings plus 10.4% on the portion of earnings in excess of Canada pensionable earnings.

Member required contributions are not made on salary in excess of the maximum salary for which a defined benefit can be accrued under the Income Tax Act (Canada) for that year.

A portion of member required contributions, currently equal to 16.9%, is allocated to the PAA. This portion is scheduled to increase by 0.1 of 1% every 5 years until it reaches 17.0% of required member required contributions. The next and last scheduled increase will occur on September 1, 2025.

The Province of Manitoba is responsible for approximately 50% of the cost of the benefits accruing each year. The Province finances its share of the cost through contributions to Account B, and each month the Province is charged for its share of the pensions paid in the previous month.

The employer portion of the cost of benefits accruing for MTS service is financed by contributions to the MTS Account by MTS, or financed by available surplus.

The employer portion of the cost of benefits accruing for MSBA service is financed by contributions to the MSBA Account by MSBA, or financed by available surplus.

Pension Adjustments

Pensions in pay and deferred pensions may be increased each year if there are increases in the cost of living and there are sufficient assets in the PAA. Each July 1, a cost of living adjustment (pension adjustment) may be provided to retired members and beneficiaries in respect of the increase in the cost of living during the prior year, subject to the limits imposed by the TPA. If the available assets in the PAA are not sufficient to provide the permissible cost of living adjustment, a reduced cost of living adjustment is granted.

The cost for one-half of the cost of living adjustments is financed by the PAA. The PAA receives a proportion of the contributions made by members each year as described in the Contributions section above.

The other half of the cost of living adjustments is paid by the Province (Account B). MTS and MSBA fund their own portion of pension adjustments. A small portion relating to pre-1973 reciprocal transfers is paid by Account A. The Province finances its share in the same manner as it finances its share of basic benefits. Each month, the Province is billed for approximately one-half of the cost of living adjustments that were paid in the previous month.

TRAF Structure

TRAF consists of Account A, and its notional Pension Adjustment Account, Account B, The Manitoba Teachers' Society Account, and the Manitoba School Boards Association Account.

Account A (excluding PAA)

On the date of establishment Account A received certain assets.

Account A received assets which formerly had been credited to the annuities account, the pensions account and the trust account of TRAF. Account A is also credited with:

i) each member's regular contributions less the percentage of these contributions allocated to the Pension Adjustment Account.

ii) investment earnings on the amounts credited to the Account,

iii) payments transferred from Account B,

iv) payments made by the Winnipeg School Division No. 1 in respect of deferred Winnipeg pensions,

v) payments by the Province in respect of the additional liabilities created by the amendments to the TPA in 1970 and 1973,

vi) payments by the Province in respect of rural service prior to service covered by the former Winnipeg Pension By-law,

vii) additional payments by members as permitted or required under the TPA (e.g. reinstatement of prior service, transfer of service from another plan, etc.),

viii) payments by members to convert service prior to July 1, 1980 from a 7-year average of salaries to a 5-year average of salaries, and

ix) the portion of any amounts transferred into TRAF under a reciprocal transfer agreement which is the responsibility of Account A.

Account A is charged with all payments made by the Board other than those which are the responsibility of Account B or the Pension Adjustment Account.

Account B

Account B is credited with:

i) payments by the Province under section 58 of the TPA,

ii) 50% of the amounts paid to the Board by members as permitted or required under the TPA (e.g. repayment of pensions, purchase of service, etc.),

iii) amounts paid by The Manitoba Teachers' Society and the Manitoba School Boards Association in respect of eligible employees receiving a pension,

iv) investment earnings on the share of assets allocated to Account B,

v) the portion of any amounts transferred into TRAF by a reciprocating employer or under a reciprocal transfer agreement which is the responsibility of Account B.

Account B is charged with:

i) the excess of any pension which commenced prior to July 1, 1963, excluding pension adjustments, over the amount of pension provided under the former TPA,

ii) one-half of any pensions, disability allowances or supplementary allowances which commenced on or after July 1, 1963,

iii) approximately one-half of any pension adjustments,

iv) the portion of any amounts transferred out of TRAF to a reciprocating employer or under a reciprocal transfer agreement which is the responsibility of Account B.

v) the interest portion of cash settlements and of annuities to surviving spouses paid as a death benefit in respect of service before 1985,

vi) one-half of the amount of any life annuity payment or lump-sum payment which is paid as a death benefit in respect of service after 1984, and

vii) one-half of any amount paid from TRAF or transferred to the Money Purchase Account as a result of a division of a pension benefit credit.

The Province had established a trust account known as the Province of Manitoba Trust Account (PMTA). While the assets in the PMTA were not assets of Account B and were accounted for separately by TRAF, the agreement governing the PMTA was amended effective December 31, 2008 to make the trust irrevocable. Subsequently, on December 15, 2018, the Province arranged for the transfer of PMTA assets into Account B, thereby simplifying the account structure and providing certainty that the assets would be used only to fund the portion of benefits that are the responsibility of the Province.

It is assumed that the Province continues to contribute to Account B an amount equal to aggregate member required contributions to Account A. These deposits to Account B are made at the discretion of the Province.

Pension Adjustment Account

The Pension Adjustment Account was established in 1977 for the purpose of financing pension adjustments (cost of living adjustments) granted in 1977 and later. The Pension Adjustment Account is credited with:

i) a percentage of each member's regular contributions, equal to 16.1% commencing September 1, 1980 and is increased by 0.1% on September 1, 1985 and on September 1 of every 5th year thereafter until the percentage equals 17%,

ii) special transfers authorized by amendments to the TPA, which occurred in the years 1977 to 1980 and in 2001, and

iii) investment earnings of the Pension Adjustment Account.

The Pension Adjustment Account is charged with one-half of all pension adjustments paid which were granted in 1977 and later years. The Province finances the remaining one-half (excluding the portion relating to pre-1973 reciprocal transfer service paid by Account A) of pension adjustments from Account B.

The Manitoba Teachers' Society Account

The Manitoba Teachers' Society Account was established for the purpose of financing the employer portion of an eligible employee's service with MTS. A separate account in trust was established per subsection 67(1) of the TPA to hold payments made by MTS to the Board which will, in the opinion of the actuary, be sufficient to pay for pensions (including future cost of living adjustments) accrued while eligible members of MTS.

The Manitoba School Boards Association Account

The Manitoba School Boards Association Account was established for the purpose of financing the employer portion of an eligible employee's service with MSBA. A separate account in trust was established per subsection 67(1) of the TPA to hold payments made by MSBA to the Board which will, in the opinion of the actuary, be sufficient to pay for pensions (including future cost of living adjustments) accrued while eligible members of MSBA.

Appendix B – Excerpt from Deloitte & Touche Report dated February 8, 2000

F. THE UNFUNDED PENSION LIABILITY

The Government currently has an unfunded pension liability of approximately $2.8 billion relating to its obligation for the future pension benefits or current and retired civil servants, teachers, and Members of the Legislative Assembly. The Government operates on a "pay as you go" basis, paying its portion of the pensions as they become due to individuals upon their retirement. In 1999/2000, the estimated cash cost of this approach is about $116 million.

We note that this issue was highlighted in the August 8, 1988 **Summary Report – A Review of Government Accounting Policies and Financial Obligations to March 31, 1988** submitted by Stevenson Kellogg Ernst & Whinney to the Minister of Finance. At that time, the total unfunded liability was approximately $1.17 billion and the annual cash cost of pensions paid out was $37 million. This review noted:

> *"The major problem is that since 1961 the Province has not paid its share of employees' pensions into the Pension Fund; nor has this liability been accounted for in the financial accounts.*
>
> *These pensions are known and predictable future obligations of the government, just like any other liability. The cost is incurred when the pension is earned each year the individual is employed. By not recording the cost and obligation and then setting aside specific funds for pensions and investing them so that they earn a return, the government is in effect borrowing these funds. This burdens future rather than present governments and taxpayers with the unrecognized cost of the pensions. It also significantly increases the future cost of the pensions, which must then be paid by future taxpayers."*

Stevenson Kellogg Ernst & Whinney recommended that the Government begin accounting for public sector pensions on a current basis, and develop an action plan with clear targets for dealing with the funding problem. The firm concluded this would be "*the best course to both portray accurately the province's financial position and safeguard the security of future pension benefits*". However, in the intervening 11 years, no action has been taken.

With respect to the current approach to dealing with pensions, the provision to fund payments to current retirees is $116 million in 1999/2000. It is projected at $119 million for 2000/2001 and $126 million for 2001/2002. Looking forward, this cost is expected to continue to grow due to increased costs for current service retirees and interest growth in the liability. Continuing with the current approach will mean these costs will continue to grow for the foreseeable future. Action is required.

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Appendix C – June 26, 2000 News Release

https://news.gov.mb.ca/news/index.html?item=24594&posted=2000-06-26

June 26, 2000

PROPOSED CHANGES INTRODUCED FOR BALANCED BUDGET LEGISLATION

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Pension Liabilities, Sale of Crown Corporations,

Improved Financial Transparency, Accountability Addressed: Selinger

Proposed improvements to Manitoba's balanced budget law were introduced in the legislature today by Finance Minister Greg Selinger.

Providing for the repaying of outstanding pension liability, improving transparency in financial reporting and limiting the use of proceeds from the sale of a Crown corporation are the highlights of the proposed amendments.

Selinger said the amendments are consistent with reporting procedures adopted by the province in its recent budget, and are in keeping with the long-time recommendations of the provincial auditor.

"We are pleased that in this session we are able to bring in changes that address the unfunded pension liabilities for our teachers and public servants," Selinger said. "By adding pension liability to the scope of existing debt repayment we are able to make a significant start on ensuring those pensions will be fully funded in the future."

Currently, the unfunded pension liability stands at $2.8 billion. Under the previous government's plan, the pension liability would have reached $8.4 billion by the time the general-purpose debt was retired in 2028. The new plan provides for the full funding of pension liabilities by 2035 and the elimination of all general-purpose debt by 2040.

The proposed legislation will also direct a portion of funds allocated to debt reduction to the unfunded pension liability. For 2000- 01, $21 million will be directed to pension liability, including $4 million for new public servants and teachers hired this year.

Manitoba's provincial auditor has noted concerns about the growing and previously unaddressed problem of pension liability. Deloitte and Touche's Financial Review also identified unfunded pension liability as a significant problem requiring attention.

The amendments would also prohibit government from using the proceeds of the sale of a Crown corporation, such as Manitoba Hydro, Manitoba Public Insurance, the Manitoba Liquor Control Commission or the Manitoba Lotteries Corporation, to balance the operating fund or build up the Fiscal Stabilization Fund (FSF). Proceeds of any sale will only be available to reduce the province's debt.

"There is lingering unhappiness among many Manitobans regarding the sale of Manitoba Telephone System," Selinger said. "This change will end the practice of selling an asset like MTS simply to pad the rainy day fund or balance the books.

"For many years it was the government's practice to double count funds in the Fiscal Stabilization Fund as revenue. First, they were counted in the year they were placed in the fund, then they were counted a second time when withdrawn from the fund to balance an operating account short fall. This practice was out of step with generally accepted accounting principles."

To address the problem, the proposed legislation would end the practice of classifying transfers from the Fiscal Stabilization Fund as revenues. This change is in keeping with recommendations made by the provincial auditor over many years.

"In recent discussions with financial authorities in Canada and the United States we received positive acknowledgement of our efforts to make our financial accounting more transparent," Selinger said. "Counting FSF withdrawals as inter-fund transfers is an important step for financial accountability and transparency."

Selinger concluded by noting that the proposed changes do not affect the requirements for balancing the operating fund nor do they alter any of the penalties for non-compliance. Requirements for a referendum before increasing major taxes also remain unchanged.

Appendix D – March 22, 2007 News Release

https://news.gov.mb.ca/news/index.html?item=1365&posted=2007-03-22

March 22, 2007

GOVERNMENT TO STRENGTHEN TEACHERS' PENSIONS: BJORNSON, SELINGER

The Manitoba Government will invest in teachers' pensions to help address the unfunded liability of the Teachers' Retirement Allowances Fund, strengthening the pension plan and realizing a considerable long-term saving to the province, Education, Citizenship and Youth Minister Peter Bjornson and Finance Minister Greg Selinger announced today.

The government will invest $1.5 billion in 2007-08 to fund 75 per cent of the province's unfunded liability for the Teachers' Retirement Allowances Fund (TRAF).

"This strategic investment will help ensure the health of the plan now and in the future. It is a win for teachers, retired teachers and all Manitobans," Bjornson said.

In 2006-07, Manitoba's total costs for TRAF were forecast to be $224 million including the increase in the unfunded liability. Addressing the unfunded liability now holds the line on these costs for 2007-08 and prevents the cost to Manitobans from growing to $280 million annually in the next five years, said Bjornson.

"As a part of this government's ongoing commitment to balanced budgets and to sound financial management practices, government will continue the process, begun in 2000, of addressing its unfunded pension liabilities," Selinger said. "Addressing the unfunded liability today will keep the summary net debt at the current level and will help significantly moderate future costs."

"Our members applaud this government's commitment to putting our members' pensions - their futures - on solid ground. And the long-term savings for Manitoba taxpayers that will result from this investment show solid management leadership on behalf of the Manitoba Government," said Brian Ardern, president of the Manitoba Teachers Society.

Actuarial firm Hewitt Associates was asked by the province to provide independent advice on the impact to Manitoba of accelerating the funding of its pension obligations. Projection of the province's pension costs for the next 50 years confirmed that due to the low cost of long-term debt financing, accelerated funding is financially beneficial to the province.

"Strengthening the funding of the province's pension obligations is also consistent with the transformation in public sector pension plan funding that has been occurring in Canada for several years," said Allan Brown of Hewitt Associates.

In 2001, Manitoba set out the first debt-reduction plan to address both the general purpose debt and the unfunded pension liability. Today's announcement builds and strengthens that plan, said Selinger.

As well, the Teachers' Pension Task Force will make recommendations regarding the long-term health of the fund including its ability to pay a cost-of-living allowance in future years.

The employer portion of TRAF has been unfunded since the early 1960s.

Selinger noted that the province continues to work on a similar solution for the unfunded pension liability of the Civil Service Superannuation Fund and expects to address this obligation in future years.

Appendix E - History of Funding Account B

Key Date	Funding/Action
Pre-2001	Benefits funded on a pay-as-you-go basis.
June 26, 2000	Province announces plan to start contributing towards unfunded pension liability. Minimum contribution equal to matching contributions made by members hired on or after April 1, 2000. Benefits continue to be funded on a pay-as-you-go basis.
2001	Province of Manitoba Trust Account (PMTA) established to invest Province contributions. Funding of PMTA commences in 2001.
March 22, 2007	Province announces it will invest $1.5B in PMTA toward unfunded pension liability. $500M remitted in April 2007, $1.0B remitted in October 2007.
October 2007	Province begins matching contributions made by all members, not just those hired on or after April 1, 2000. Benefits begin to be paid by PMTA assets.
December 31, 2008	PMTA made irrevocable.
December 15, 2018	Assets of PMTA transferred to Account B; PMTA terminated.

Appendix F - Summary of Actuarial Valuation Assumptions

The following is a summary of the key actuarial assumptions and valuation methods used in both the funding and projection valuations performed at January 1, 2021. All assumptions are assumed to be constant in all future projection years. Please refer to the full reports for a complete description.

Economic Assumptions	
Valuation discount rate	5.50% per annum
Commuted value discount rate	3.50% per annum
Investment return	5.50% per annum
Future COLA	0.90% per annum
General salary increase – inflation and productivity	2.00% per annum for the first 5 years and 2.50% per annum thereafter
Seniority and education level salary increase	In accordance with Winnipeg School Division Class V Salary Grid
YMPE increase	2.50% per annum
Income Tax Act maximum pension increase	$3,245.56 in 2021, increasing by 2.50% per annum thereafter

Demographic Assumptions	
Mortality – other than commuted value basis	TRAF 2014 Generational Mortality Table, with mortality improvement scale MI-2017
Mortality - commuted value basis	CPM 2014 projected with CPM-B
Termination	TRAF 2020 Termination Table
Retirement	TRAF 2020 Retirement Table
Proportion of future year worked	0.90

Other Assumptions	
Active member population growth	0% per annum (Stable Population)
Deferred members with unknown deferred pension – benefit determination and projection	Salary based on Winnipeg School Division salary grid with projection scale equal to assumed future COLA, with no future service accrual or future contributions; retirement at age 55 if 10 years of service, otherwise age 65
Disabled members – benefit determination and projection	Earnings projected at assumed future COLA with future service accrual but no future contributions; retirement assumed at age 60
Assumed guarantee period equivalent to return of contributions	7 years of pension payments
Vesting	Immediate vesting assumed for all members

Valuation Method

Asset valuation method	Market value
Actuarial cost method	Open Group; Projected Unit Credit at each future valuation date

Appendix G - Comparison to Other Teachers' Pension Plans

Plan	Funding Arrangement	Funded Ratio
British Columbia Teachers' Pension Plan	Members and Employers contribute similar amounts to fund basic and indexed benefits.	December 31, 2020 valuation indicated a funding ratio of 105.3%.
Alberta Teachers' Pension Plan	Costs for pensions in respect of service earned before September 1992 are the responsibility of the Government of Alberta. Costs for pensions in respect of service earned after August 1992 are shared equally between members and the Government of Alberta. Deficiencies are amortized by additional contributions from members and the Government of Alberta over 15-year period.	August 31, 2021 valuation indicated a funded ratio of 98%.
Saskatchewan Teachers' Retirement Plan	Members and Employers contribute similar amounts to fund basic pensions and conditionally indexed benefits. Deficiencies must be funded over 15-year period.	July 1, 2020 valuation indicated a funded ratio of 99.6%.
Ontario Teachers' Pension Plan	Members and Employers contribute the same amounts to fund basic pensions and indexed benefits.	January 1, 2022 valuation indicated a funded ratio of 107%.

Plan	Funding Arrangement	Funded Ratio
Quebec Teachers - Government and Public Employees Retirement Plan (RREGOP)	Costs are shared equally between members and government. RREGOP receives member contributions only to fund 50% of member pensions. Province makes contributions to pay for its portion of benefit payments. In addition, the Province contributes to a sinking fund covering public sector plans.	RREGOP (member portion only) is estimated to be funded at 109.3% at most recent update of December 31, 2020. March 31, 2021 financial statements indicated net assets in sinking fund were about 89% of obligations of Province in aggregate for all plans covered.
Nova Scotia Teachers' Pension Plan	Members and Employers contribute the same amounts to fund basic pensions and indexed benefits. Current contributions exceed current service cost but are not sufficient to eliminate unfunded liability.	December 31, 2021 valuation indicated a funded ratio of 82.5%.
New Brunswick Teachers' Pension Plan	Members and Employers contribute similar amounts to fund basic pensions and conditionally indexed benefits.	August 31, 2020 valuation indicated a funded ratio of 103.4%.
Newfoundland and Labrador Teachers' Pension Plan	Members and Employers contribute similar amounts to fund basic pensions and conditionally indexed benefits.	August 31, 2021 valuation indicated a funded ratio of 120.2%.
PEI Teachers' Pension Plan	Members and Employers contribute the same amounts to fund basic pensions and indexed benefits.	April 1, 2021 funded ratio indicated to be 117.9%.

Note that the valuation dates provided for the above plans are the most recent available reports.

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