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April 26, 2019

Filed Electronically

National Energy Board
Suite 210, 517 Tenth Avenue SW
Calgary, AB T2R 0A8

Attention: Ms. Sheri Young, Secretary of the Board

Dear Ms. Young:

Re: Foothills Pipe Lines Ltd. (Foothills)
Foothills Pipeline Trust (Trust)
Notification of Statement of Investment Policies and Procedures (SIPP) Revisions

Foothills is hereby notifying the National Energy Board (the Board) pursuant to directions contained in the MH-001-2013 Decision (Decision) of amendments being made to the Foothills SIPP (Revised SIPP). The Revised SIPP provided as Attachment A will be implemented on June 25, 2019 (60 days upon this filing).[1]

The Revised SIPP will allow Trust assets to be invested in accordance with a balanced portfolio investment strategy utilizing Qualified Investments[2] including 60% Fixed Income and 40% Global Equities (Balanced Portfolio). Global equity exposure will be obtained through Exchange Traded Funds (ETF). The Balanced Portfolio provides a more cost-effective way to set aside funds for the Reclamation Obligations[3] at lower volatility relative to the investments allowed under the current SIPP,[4] while still meeting the overall objective of capital preservation.

In support of the Revised SIPP, Foothills sponsored a study by Willis Towers Watson regarding an appropriate investment portfolio and related asset mix for the Revised SIPP. The study concluded that a Balanced Portfolio is more efficient than the current 100% Fixed Income portfolio. Under the current SIPP, funds invested in the Trust are expected to yield an annual pre-tax return of 3.1%. Under the Revised SIPP and the effect of the adoption of a Balanced Portfolio, the expected annual pre-tax return will increase to 5.4%. The Executive Summary of the Willis Towers Watson study is provided as Attachment B.

[1] Pipeline companies were directed in the MH-001-2013 Decision to notify the Board 60 days prior to implementing a change to a SIPP.
[2] As defined in the Amended and Restated Foothills Pipeline Trust Agreement which was approved by the Board on October 15, 2015 (Trust Agreement) (NEB Filing ID: A73237).
[3] As also defined in the Trust Agreement.
[4] The current SIPP in use was filed with the Board on November 25, 2014 (NEB Filing ID: A64576).

Foothills also sought and received a Supplemental Advance Income Tax Ruling (Tax Ruling)[5] from the Canada Revenue Agency (CRA) that confirmed, subject to the conditions specified in the Tax Ruling, ETF securities are a Qualified Investment with respect to the Qualified Environmental Trust (QET) status of the Trust.

In implementing the Balanced Portfolio, Foothills system shippers are expected to benefit from lower abandonment surcharges with less volatility than would otherwise be applicable under the current 100% Fixed Income asset allocation.

Consistent with the Board's expectation in the MH-001-2013 Decision,[6] Foothills also addressed, as part of the independent study conducted by Willis Towers Watson, an additional analysis to understand effective de-risking strategies for the Trust. A de-risking strategy provides a glidepath to implement de-risking as the Trust's funding ratio improves. Foothills has updated the Revised SIPP to include de-risking provisions, which will be reevaluated periodically, or at least every five years. Additional information is provided in the Revised SIPP.

Foothills discussed this proposed change for the Revised SIPP with Foothills system shippers on October 18, 2018 and April 8, 2019, and is not aware of any concerns. Foothills will provide notice to landowners by posting the Revised SIPP on its website that is used to provide information to stakeholders in the Land Matters Consultation Initiative process.

Foothills will notify its shippers and interested parties of this filing and post a copy of it on TransCanada's Foothills System website at:

http://www.tccustomerexpress.com/934.html

Should the Board require additional information regarding this filing, please contact me by phone at (403) 920-2603 or by email at bernard_pelletier@transcanada.com.

Yours truly,
Foothills Pipe Lines Ltd.

Original signed by

Bernard Pelletier
Director, Regulatory Tolls and Tariffs
Canadian Gas Pipelines

cc: Foothills Firm Shippers
Interruptible Shippers and Interested Parties

Enclosures

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[5] CRA Supplemental Advance Income Tax Ruling to Ruling No. 2015-057319.
[6] See Section 3.4.4 at page 46 of the Decision.

Attachment A

Revised
Statement of Investment Policies and Procedures

AMENDED AND RESTATED

STATEMENT OF INVESTMENT POLICIES AND PROCEDURES

FOR THE

FOOTHILLS PIPELINE TRUST

EFFECTIVE JUNE 25, 2019

1. Introduction and Background

1.1. This document constitutes the Statement of Investment Policies and Procedures (the "Policy" or "SIPP") in respect of the Foothills Pipeline Trust (the "Trust") established by agreement dated January 29, 2015 between CIBC Trust Corporation (the "Initial Trustee" or "Trustee") and Foothills Pipe Lines Ltd. ("Foothills" or the "Company"), as amended on October 1, 2015 (the "Trust Agreement").

1.2. The Trust is a "qualifying environmental trust" ("QET") within the meaning of the *Income Tax Act* (Canada) (the "Income Tax Act") and is maintained for the sole purpose of setting aside funds to secure the Company's reclamation obligations in respect of the site in Canada used primarily for the operation of the Foothills Pipeline System**.**

1.3. The purpose of this SIPP is to outline investment guidelines and monitoring procedures appropriate to the objectives of the Trust and in accordance with the *National Energy Board's* (the "Board") *MH-001-2013 Reasons for Decision* (the "Decision") and the provisions of the Income Tax Act which govern QETs (together the "Governing Law"). Appendix A contains supplemental information requested by the Board.

1.4. Any investment manager ("Investment Manager") providing services in connection with the Trust assets shall accept and adhere to this SIPP. The investment of the Trust assets will be in compliance with Governing Law.

1.5. This Policy replaces previous statements of investment policies and procedures in respect of the Trust.

1.6. Trust assets are currently held by the Trustee, a licensed trust company regulated under the *Trust and Loan Companies Act*.

1.7. The Trust is subject to tax under the *Income Tax Act* (Canada) in respect of income and gains from investments.

2. Allocation of Responsibilities

Subject to the terms of the Trust Agreement, this section sets out the responsibility for the management, oversight and investment of the Trust.

2.1. The Company will:

a) Determine and disseminate the Trust's SIPP in accordance with the Board's requirements;
b) document the Company's governance structure related to oversight of the Trust;
c) file the Trust Agreement and any amendments, including a change in trustee, with the Board for approval;
d) file changes to this SIPP, except for immaterial changes as defined in Section 14.3 of this Policy, with the Board;
e) monitor the activities, service providers and performance of the Trust assets;
f) collect and contribute funds to the Trust as required by the Board; and
g) receive distributions from the Trust subject to the conditions as set out in the Trust Agreement.

2.2. The Trustee will:

a) fulfill the duties of a trustee as required by law and as outlined in the Trust Agreement;

b) receive, hold, invest and release Trust assets in accordance with the Trust Agreement;
c) select, appoint, retain and terminate any Investment Manager and custodian ("Custodian") as to part or all of the Trust assets and ensure each party performs its duties in accordance with their respective agreement with the Trustee in providing the necessary service;
d) ensure that investments are consistent with this SIPP and Governing Law;
e) consider engaging the services of a consultant, as deemed necessary and in consultation with the Company, when contemplating changes to the investment strategies;
f) consult with the Company, from time to time, prior to making any material changes to the investment strategies;
g) monitor investment results in accordance with the investment objectives defined in this SIPP;
h) receive, review and comment on this SIPP periodically or as required due to changes in circumstances, at a minimum every five years; and
i) consult with the Company to stay current on applicable issues and matters.

2.3. Any Investment Manager engaged by the Trustee will:

a) invest the portion of Trust assets under its control in accordance with all Governing Law, a written investment management agreement and this SIPP;
b) exercise the powers granted to it by the Trustee hereunder relating to the investment and/or reinvestment of the Trust assets, including the power at any time and from time to time to choose, acquire, dispose of or change any investment or reinvestment of Trust assets;
c) participate in the periodic review of this SIPP;
d) confirm to the Trustee compliance with this SIPP on a quarterly basis;
e) provide investment performance reporting on a monthly basis, or as requested by the Trustee;
f) work with the Custodian to settle transactions and reconcile differences in gross return calculations and individual portfolio holdings;
g) provide valuation and activity statements on a monthly and quarterly basis;
h) manage asset mix in accordance with long-term guidelines and select securities, subject to applicable legislation and the constraints set out in this SIPP and its mandate;
i) promptly report to the Trustee and the Company any material matters pertaining to the investment of the Trust assets under its control; and
j) meet with the Trustee and the Company periodically to review the investment portfolio's structure, strategy and performance.

3. Investment Objectives, Return and Risk Expectations

3.1. <u>Investment Objectives</u>

Trust assets will be invested in accordance with a balanced portfolio investment strategy. Long-term capital market assumptions for Government of Canada marketable bonds and global equities were used to determine the Trust's long-term expected return as an appropriate proxy for that portfolio.

3.2. <u>Return and Risk Expectations</u>

The risks inherent in the investment strategy over a market cycle include:

a) The risk that long term market returns will be lower than expectations.

b) The risk of annual volatility in returns, which means that in any one year the actual return may be significantly different from the expected long term return and that such return may also be negative.

The detailed risk and return expectations are set out in Appendix A of this SIPP.

3.3. Return and Risk Considerations

The Board does not subscribe to the concept of elimination of risk and acknowledges that no approach can guarantee capital preservation. In general, the investment objectives of the Trust may be periodically reviewed by the Company with regard to the characteristics of the obligations, including:

a) The long term nature of the obligations;
b) The degree of inflation sensitivity of the obligations;
c) The long-term return expectations and risks associated with key asset classes, as well as the relationships of their returns with each other, inflation and interest rates;
d) Consideration of the risk tolerance of interested persons; and
e) Practical considerations.

3.4. Liquidity

Trust assets should have sufficient liquidity to meet obligations and operating expenses as they become due. The Trustee shall consult with the Company prior to calling in or redeeming investments for the purposes of making a payment in accordance with Sections 4.05 or 4.06 of the Trust Agreement. At the discretion of the Trustee, excess liquidity may be capitalized and added to the assets entrusted with an Investment Manager.

The Investment Manager shall consult with the Trustee prior to calling in or redeeming investments for the purpose of distributing Trust property for reclamation purposes.

4. Reporting

4.1. All income of the Trust assets entrusted to the Investment Manager should be reported to the Trustee to clearly delineate capital and income balances of the Trust.

5. Asset Allocation Guidelines

5.1. The market values of the individual asset class components of the Trust shall be within the following minimum and maximum aggregate investment limits when rebalanced:

	In Percent		
Asset Class	**Minimum**	**Target**	**Maximum**
Fixed Income	50	**60**	70
Equities	30	**40**	50
Cash and Short Term Paper	-	**-**	10

5.2. The Trust's performance shall be measured against the following benchmark indices (the "Benchmark Portfolio"), inclusive of the ranges outlined in section 4.1, using market values.

Asset Class	Benchmark Index	Benchmark Portfolio (%)
Fixed Income	FTSE Canada Mid Term Federal Bond Index	60
Equities	MSCI All Country World Index (ex U.S.) Standard & Poors 500 Index	20 20

5.3. Notwithstanding the asset mix ranges above, the Trustee may authorize temporary asset mix positions outside these ranges where appropriate including, for example, to accommodate an asset liquidation to fund pipeline abandonment activities, an asset restructuring due to an approved change in investment strategy, or a transition between investment managers, if applicable.

5.4. For greater certainty, any change to the asset classes and investment limits in this section require Company approval and an amendment of the SIPP must be filed with the Board.

5.5. Rebalancing

The Investment Manager shall be guided by the following principles in exercising the powers granted to it by the Trustee hereunder relating to the investment and/or reinvestment of the Trust assets:

a) The Trust should be periodically rebalanced in the direction of the asset mix guidelines.
b) When funds are contributed to or distributed from the Trust, consideration shall be given to bringing the actual asset mix, in effect at the time of the transaction, closer to targets.
c) The trust will be rebalanced when:
   (i) there is a material change in the investment strategy; or
   (ii) the market value of the actual Trust asset mix falls outside of the minimum or maximum ranges specified above.

6. Trust Objectives and Constraints

6.1. Passive investment management will be employed.

6.2. Trust Performance
Performance will be considered to have met a minimum threshold if the annualized return over a full market cycle is in line with the Benchmark Portfolio Return before investment management fees.

6.3. Individual Investment Manager Performance
Performance will be considered satisfactory if it meets the performance objective specified in the investment management agreement or guidelines.

6.4. The Trust will be passively managed within the following constraints:
a) Aggregate Investment Limits
At all times the market value of individual asset classes will be within the investment limits as set out in this SIPP.

b) Permissible Investments within Asset Classes

(i) The Trust is restricted to investing in those investments that at all times ("Qualified Investments"):

(A) are "qualified investments" for a "qualifying environmental trust" as defined in the Income Tax Act, and for greater certainty, a "qualified investment" on the date hereof include only those types of property described in paragraphs (a), (b), (c), (c.1), (d) and (f) of the definition of "qualified investment" in section 204 of the Income Tax Act, which provisions, as they read as of the date hereof, are set out in Appendix B of this SIPP;

(B) are not encompassed within the definition of "prohibited investment" in subsection 211.6(1) of the Income Tax Act, which provisions, as they read as of the date hereof, are set out in Appendix B of this SIPP; and

(C) are currently permissible investments as described in subparagraph 6.4(b)(ii) below.

(ii) Consistent with the Advance Income Tax Ruling (dated December 14, 2015) and Supplemental Advance Income Tax Ruling (dated February 28, 2019) issued by the Canada Revenue Agency, the currently permissible investments for the Trust are limited to:

(A) property described in paragraphs (a) and (b)(i) of the definition of "qualified investment" in section 204 of the Income Tax Act; or

(B) property described in paragraph (d) of the definition of "qualified investment" in section 204 of the Income Tax Act (which as of the date hereof means a security that is listed on a "designated stock exchange" (as defined in subsection 248(1) of the Income Tax Act) and not a futures contract or other derivative instrument in respect of which the holder's risk of loss may exceed the holder's cost), but only if the security (referred to as an "ETF Security") meets each of the following additional restrictions:

I. the ETF Security is issued by a trust (an "Issuer Trust");

II. the ETF Security is a beneficial interest in the Issuer Trust;

III. the class or series of securities to which the ETF Security belongs (the "Series") is intended to track the performance of an index or provide exposure to a certain class of assets;

IV. where an Issuer Trust is subject to the *Internal Revenue Code* of the United States, the Trust will only invest in a Series of ETF Securities that qualifies as:

(i) a "regulated investment company" for the purposes of *Internal Revenue Code* as amended from time to time; and

(ii) a "diversified company" within the meaning of section 5(b) the *Investment Company Act of 1940* of the United States, as amended from time to time; and

V. the Company and the Trustee ensure that, at all times, all the ETF Securities of a Series held by the Company, the Beneficiary (as defined in the Trust Agreement), and all persons and partnerships not dealing at arm's length with them (including for certainty, the Trust) have an aggregate fair market value which is less than 10% of the fair market value of all ETF Securities of the Series.

6.5. It is expected that the Investment Manager will limit the investments held in the portfolio to securities of similar term and quality in order to hold and perform in line with the Benchmark Portfolio as much as practicable. Qualified Investments that, while permitted in the SIPP, result in the portfolio deviating from the Benchmark Portfolio in terms of risk and return are not desirable.

6.6. Investments may be made on a segregated basis.

6.7. The Company shall not select investments on behalf of the Trust.

7. Individual Investment Constraints

7.1. The following constraints refer to the Qualified Investments noted in Section 6.4(b) of this SIPP.

7.2. The Trust shall be passively invested to mimic the Benchmark Portfolio as per Sections 5.2 and 6.1.

7.3. Cash and Equivalents and Fixed Income Securities

a) Investments in debt obligations will have an investment grade rating with a prescribed rating agency at the time of purchase.
b) If the credit rating for any fixed income or cash and equivalent holding drops below the minimum specified in this SIPP, the Investment Manager must notify the Trustee and the Company as soon as practicable and recommend a specific course of action.

7.4. Other Constraints

a) All investment activities must be consistent with the Code of Ethics and Standards of Professional Conduct of the CFA Institute.
b) If adopted by the investment management firm, the Investment Manager must confirm compliance with the CFA Institute Asset Manager Code of Professional Conduct.
c) All investments shall be made in accordance with Governing Law.

8. Analysis and Evaluation of Investment Performance

8.1. The following return definitions will be used in the attribution of portfolio performance:

a) **Actual Trust Return** is the time weighted return actually earned by the Trust.
b) **Time Weighted Return**, or required equivalent, for a given period is the investment return earned on a constant unit of assets held throughout the measurement period. It is unaffected by external cash flows and is therefore an accurate measure of an Investment Manager's investment performance.
c) **Benchmark Portfolio Return** is the return earned by the passive management of the Benchmark Portfolio.

8.2. The Benchmark Portfolio and associated asset class indices are reflected in Section 5.2.

8.3. Independent of investment performance analysis, the Trustee, in consultation with the Company, shall decide whether there are any other reasons why a change in Investment Manager(s) is warranted. Such reasons could include:

a) Change of investment strategy at the Trust level;
b) Significant turnover of Investment Manager staff;
c) Significant change in the Investment Manager's ownership, structure or investment process;
d) Inconsistent investment performance or failure to satisfy the requirements of this SIPP; and
e) Investment management fees.

9. De-Risking

A de-risking strategy provides a glidepath to implement de-risking as the Trust's funding ratio improves. The funding ratio is the ratio of assets to obligations (assets ÷ obligations). As the funding ratio improves, a portion of the equity portfolio is reallocated to the fixed income portfolio, effectively reducing risk. Funded ratio trigger points occur in 10% increments. For a portfolio with 60% fixed income, current analysis indicates the following de-risking glidepath is effective:

Funding Ratio	**<70%**	**70%**	**80%**	**90%**	**100%**	**>100%**
Fixed Income	60%	66%	72%	78%	84%	90%
Equity	40%	34%	28%	22%	16%	10%

The above reflects a "one-way" approach which means the Trust's portfolio will not be re-risked should the funding ratio fall back below prior trigger points. The Trust's de-risking profile will be reevaluated periodically by the company, or at least every five years, in conjunction with the review of the SIPP.

The Company shall be responsible for formally notifying the Trustee of the funding ratio periodically, and at least annually.

10. Affiliated Parties

10.1. For the purposes of this SIPP, an Affiliated Party means, with respect to a person (including a partnership), that person's affiliates within the meaning of the *Canada Business Corporations Act*, and for the Trustee includes, but is not limited to, CIBC World Markets Inc., CIBC Asset Management Inc., CIBC Mellon Trust Company, CIBC Mellon Global Securities Services Company, and CIBC Private Investment Counsel, a division of CIBC Asset Management Inc.

10.2. The Trustee may retain, invest or reinvest any assets constituting the whole or any part of the Trust assets in Qualified Investments in accordance with this Policy, including Qualified Investments that are deposits, investment products or obligations issued or administered by the Trustee or its Affiliates, or by any one or more of its Affiliates or subsidiaries.

10.3. The Trustee may authorize the Investment Manager to deposit any cash in or invest in or purchase securities, products and services of related and connected issuers of the Trustee or its Affiliates, notwithstanding that the Trustee, its Affiliates, any related and connected issuers, its agents and/or advisors may benefit therefrom.

11. Conflict of Interest Policy and Disclosure Requirements

11.1. Individuals Governed by Guidelines

a) The guidelines in this section apply to:
   i) The Investment Manager(s);
   ii) The Trustee;
   iii) Any consultant retained by the Trustee to provide services to the Trust; and
   iv) Any officer, employee or agent retained by those listed in (i) to (iii) to provide services to the Trust;

b) No person listed above may exercise their powers primarily in their own interest or in the interest of a third person with regard to the investments of the Trust.

c) These guidelines apply in addition to any policies and procedures these parties may have in place.

11.2. Any person listed above must disclose any direct or indirect association or material interest or involvement that would result in any actual, potential or perceived conflict of interest with regard to the investments of the Trust. Without limiting the generality of the foregoing, this would include material benefit from any Trust asset, or any significant holdings in or membership on boards of other corporations, or any actual or proposed contracts.

11.3. The persons listed in section 10.1(a) shall disclose the nature and extent of their interest to the Trustee and the Company promptly upon first becoming aware of the conflict or possible conflict.

11.4. For the purpose above, the disclosure must be made verbally if the knowledge of the conflict arises in the course of discussion at a meeting.

11.5. If the party disclosing the conflict has the capacity to participate in or to make decisions affecting the investment of the Trust assets, the party may only continue to participate with the approval of the Trustee. The party may elect not to participate with respect to the issue under conflict. The declaration of conflict will be recorded in the minutes of the relevant committee.

11.6. The failure of a party to comply with the procedures described in this section shall not of itself invalidate any transaction, decision or other matter. The relevant committee shall determine the consequences of any such failure.

12. Loans and Borrowing

12.1. No part of the Trust assets shall be loaned to any party.

12.2. Money shall not be borrowed on behalf of the Trust and the Trust assets shall not be pledged or otherwise encumbered in respect thereof.

13. Valuation of Investments

13.1. Investments in publicly traded securities will be valued no less frequently than monthly at their market value. If a market valuation of an investment is not readily available, an estimate of fair value will be supplied by the Investment Manager to the Custodian no less frequently than quarterly. Such fair value may be determined by reference to the most recent independent expert appraisal or by other means such as risk-adjusted discounted cash flows or comparison with similar assets which are publicly traded. In all cases, the methodology should be applied consistently over time.

14. Tax Constraints

14.1. The residence, situs, mind and management of the Trust shall be located in the Province of Alberta.

14.2. The Trust shall only invest in Qualified Investments.

14.3. At no time shall the Company, the Trustee or any advisor hired by the Trustee, including an Investment Manager or Custodian, take any action which could jeopardize the status of the Trust as a QET.

14.4 The Investment Manager shall give due consideration to the tax implications of investment decisions in the ongoing management of the Trust.

15. Policy Review and Amendments

15.1. This SIPP and any amendments must be filed with the Board.

15.2. Amendments must be filed 60 days prior to implementing the change and include a letter of notification which:

a) Identifies the change;
b) Provides a clear articulation of the risk and return among the Company and stakeholders, including the Company's shippers and any affected public;
c) Explains whether the change is supported by the Company's shippers and interested persons.

15.3. Immaterial amendments do not need to be filed with the Board and have been defined by the Board as follows:

a) Subtracting a year from the time horizon due to the passage of time; and
b) A less than or equal to 25 basis points change in the expected rate of return on a particular asset class, as set out in this SIPP previously filed with the Board.

15.4. This SIPP is to be reviewed periodically, at a minimum, every five years by the Trustee and the Company. This SIPP shall remain in effect until it is formally superseded as per Section 15.2.

16. Paramountcy

16.1. In the event of a conflict between the terms of this Policy and the Trust Agreement, the terms of the Trust Agreement shall prevail.

APPENDIX A – SUPPLEMENTAL INFORMATION

Trustee	CIBC Trust Corporation
Custodian	CIBC Mellon Trust Company
Investment Manager	CIBC Asset Management Inc.
Trust Expected Return (Pre-Tax)	5.4%
Trust Expected Risk (Standard Deviation)	7.5%
Trust Asset Mix	60% Mid Term Government of Canada Bonds 40% Global Equities
Trust Time Horizon	Long-term, as approved by the Board
Custody Fee	Tiered fee schedule: $0-250 million 2.0 basis points $250-500 million 1.5 basis points $500-1,000 million 1.0 basis points Over $1,000 million 0.5 basis points
Investment Management Fee (Blended)	5 basis points
Trustee Fee	2 basis points

APPENDIX B – QUALIFIED INVESTMENTS

The relevant paragraphs of the definition of "qualified investment" in section 204 of the Income Tax Act currently read as follows:

(a) money (other than money the fair market value of which exceeds its stated value as legal tender in the country of issuance or money that is held for its numismatic value) and deposits (within the meaning assigned by the *Canada Deposit Insurance Corporation Act* or with a branch in Canada of a bank) of such money standing to the credit of the trust,

(b) debt obligations described in paragraph (a) of the definition "fully exempt interest" in subsection 212(3) *[being a bond, debenture, note, mortgage, hypothecary claim or similar debt obligation*
- *(i) of, or guaranteed (otherwise than by being insured by the Canada Deposit Insurance Corporation) by, the Government of Canada,*
- *(ii) of the government of a province,*
- *(iii) of an agent of a province,*
- *(iv) of a municipality in Canada or a municipal or public body performing a function of government in Canada,*
- (v) *of a corporation, commission or association to which any of paragraphs 149(1)(d) to (d.6)*[1] *applies or of an educational institution or a hospital if repayment of the principal amount of the obligation and payment of the interest is to be made, or is guaranteed, assured or otherwise specifically provided for or secured by the government of a province]*,

(c) debt obligations issued by
- (i) a corporation, mutual fund trust or limited partnership the shares or units of which are listed on a designated stock exchange in Canada,[2]
- (ii) a corporation the shares of which are listed on a designated stock exchange outside Canada,[3] or
- (iii) an authorized foreign bank[4] and payable at a branch in Canada of the bank,

(c.1) debt obligations that meet the following criteria, namely,
- (i) any of
  - (A) the debt obligations had, at the time of acquisition by the trust, an investment grade rating with a prescribed credit rating agency,[5]
  - (B) the debt obligations have an investment grade rating with a prescribed credit rating agency,[6] or,
  - (C) the debt obligations were acquired by the trust in exchange for debt obligations that satisfied the condition in clause (A) and as part of a proposal to, or an arrangement with, the creditors of the issuer of the debt obligations that has been approved by a court under the *Bankruptcy and Insolvency Act* or the *Companies' Creditors Arrangement Act*, and
- (ii) either
  - (A) the debt obligations were issued as part of a single issue of debt of at least $25 million, or,
  - (B) in the case of debt obligations that are issued on a continuous basis under a debt issuance program, the issuer of the debt obligations had issued and outstanding debt under the program of at least $25 million,

(d) securities (other than futures contracts or other derivative instruments in respect of which the holder's risk of loss may exceed the holder's cost) that are listed on a designated stock exchange,[7] and

(f) guaranteed investment certificates issued by a trust company incorporated under the laws of Canada or of a province.

The definition of "prohibited investment" in Subsection 211.6(1) of the Income Tax Act reads as follows:

A "prohibited investment", of a trust at any time, means a property that:

(a) at the time it was acquired by the trust, was described by any of paragraphs (c), (c.1) or (d) of the definition "qualified investment" in section 204; and

(b) was issued by:
   - (i) a person or partnership that has contributed property to, or that is a beneficiary under, the trust,
   - (ii) a person that is related to, or a partnership that is affiliated with, a person or partnership that has contributed property to, or that is a beneficiary under, the trust, or
   - (iii) a particular person or partnership if:
      - (A) another person or partnership holds significant interest (within the meaning assigned by subsection 207.01(4) with any modifications that the circumstances require)[8] in the particular person or partnership, and
      - (B) the holder of that significant interest has contributed property to, or is a beneficiary under, the trust.

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1 The relevant paragraphs read as follows:

(*d*) **[corporations owned by the Crown]** – a corporation, commission or association all of the shares (except directors' qualifying shares) or of the capital of which was owned by one or more persons each of which is Her Majesty in right of Canada or Her Majesty in right of a province;

(*d.1*) **[corporations 90% owned by the Crown] –** a corporation, commission or association not less than 90% of the shares (except directors' qualifying shares) or of the capital of which was owned by one or more persons each of which is Her Majesty in right of Canada or Her Majesty in right of a Province;

(*d.2*) **[wholly-owned [by Crown corporation] corporations] –** a corporation all of the shares (except directors' qualifying shares) or of the capital of which was owned by one or more persons each of which is a corporation, commission or association to which this paragraph or paragraph (*d*) applies for the period;

(*d.3*) **[90% [Crown] owned corporations] --** a corporation, commission or association not less than 90% of the shares (except directors' qualifying shares) or of the capital of which was owned by:
   - (i) one or more persons each of which is Her Majesty in right of Canada or a Province or a person to which paragraph (*d*) or (*d.2*) applies for the period, or
   - (ii) one or more municipalities in Canada in combination with one or more persons each of which is Her Majesty in right of Canada or a Province or a person to which paragraph (*d*) or (*d.2*) applies for the period;

(*d.4*) **[combined [Crown] ownership]** -- a corporation all of the shares (except directors' qualifying shares) or of the capital of which was owned by one or more persons each of which is a corporation, commission or association to which this paragraph or any of paragraphs (*d*) to (*d.3*) applies for the period;

(d.5) [**[municipally-owned corporation earning] income with boundaries of entities]** – subject to subsections (1.2) and (1.3), a corporation, commission or association not less than 90% of the capital of which was owned by one or more entities each of which is a municipality in Canada, or a municipal or public body performing a function of government in Canada, if the income for the period of the corporation, commission or association from activities carried on outside the geographical boundaries of the municipalities does not exceed 10% of its income for the period;

(d.6) **[subsidiaries of municipal corporations]** -- subject to subsections (1.2) and (1.3), a particular corporation all of the shares (except directors' qualifying shares) or of the capital of which was owned by one or more entities (referred to in this paragraph as "qualifying owners") each of which is a corporation, commission or association to which paragraph (*d.5*) applies, a corporation to which this paragraph applies, a municipality in Canada, or a

municipal or public body performing a function of government in Canada, if no more than 10% of the particular corporation's income for the period is from activities carried on outside

(i) if a qualifying owner is a municipality in Canada, or a municipal or public body performing a function of government in Canada, the geographical boundaries of each such qualifying owner,
(ii) if paragraph (d.5) applies to a qualifying owner, the geographical boundaries of the municipality, or municipal or public body, referred to in that paragraph in its application to each such qualifying owner, and
(iii) if this paragraph applies to a qualifying owner, the geographical boundaries of the municipality, or municipal or public body, referred to in subparagraph (i) or paragraph (d.5), as the case may be, in their respective applications to each such qualifying owner.

[2]A "designated stock exchange" is defined in subsection 248(1) of the Tax Act as a stock exchange, or that part of a stock exchange, for which a designation by the Minister of Finance under Section 262 of the Tax Act is in effect. Section 262 gives the Minister the authority to designate a stock exchange or part thereof for the purposes of the Act. Pursuant to subsection 262(4) of the Tax Act, the Minister of Finance is required to post on the internet website of the Department of Finance or by any other means considered appropriate, the names of the stock exchanges or parts thereof that are designated under Section 262. The current list can be found at http://www.fin.gc.ca/act/fim-imf/dse-bvd-eng.asp. In Canada, the designated stock exchanges include the Canadian National Stock Exchange (CNSX), the Montreal Exchange, the TSX Venture Exchange (Tiers 1 and 2) and the Toronto Stock Exchange.

[3]*Ibid*. The Department of Finance website referred to also includes the list of designated stock exchanges outside Canada.

[4]An "authorized foreign bank" is defined in subsection 248(1) of the Tax Act as having the meaning in Section 2 of the *Bank Act* (Canada), being "a foreign bank that is the subject of an order under subsection 524(1)". Subsection 524(1) states that on application by a foreign bank, the Minister may make an order permitting the foreign bank to establish a branch in Canada to carry on business in Canada under Part XII .1 of the *Bank Act* (Canada).The definition of "foreign bank" is found in Section 2 of the *Bank Act*. It reads:

> "foreign bank", subject to Section 12, means an entity incorporated or formed by or under the laws of a country other than Canada that is a bank according to the laws of any foreign country where it carries on business, (*b*) carries on a business in any foreign country that, if carried on in Canada, would be, wholly or to a significant extent, the business of banking, *(c)* engages, directly or indirectly, in the business of providing financial services and employs, to identify or describe its business, a name that includes the word "bank", "banque", "banking" or "bancaire", either alone or in combination with other words, or any word or words in any language other than English or French corresponding generally thereto, *(d)* engages in the business of lending money and accepting deposit liabilities transferable by cheque or other instrument, *(e)* engages, directly or indirectly, in the business of providing financial services and is affiliated with another foreign bank, *(f)* controls another foreign bank, or (*g*) is a foreign institution, other than a foreign bank within the meaning of any of paragraphs (*a*) to (*f*), that controls a bank incorporated or formed under this Act, but does not include a subsidiary of a bank named in Schedule I as that Schedule read immediately before the day section 184 of the *Financial Consumer Agency of Canada Act* comes into force, unless the Minister has specified that subsection 378(1) no longer applies to the bank.

[5]Pursuant to regulation 4900(2) of the *Income Tax Regulations* (Canada), the following are prescribed credit rating agencies for the purposes of section 204: A.M. Best Company Inc.; DBRS Limited; Fitch, Inc.; Moody's Investors Service Inc.; and Standard & Poor's Financial Services LLC.

[6]Ibid.

[7]*Supra* note 2.

[8]Subsection 207.01(4) reads:
(4) **[Significant interest]** – An individual has a significant interest in a corporation, partnership or trust at any time if:
(a) in the case of a corporation, the individual is a specified shareholder of the corporation at that time [...];
(b) in the case of a partnership, the individual, or the individual together with persons and partnerships with which the individual does not deal at arm's length, holds at that time interests as a member of the partnership that have a fair market value of 10% or more of the fair market value of the interests of all members in the partnership; and
(c) in the case of a trust, the individual, or the individual together with persons and partnerships with which the individual does not deal at arm's length, holds at that time interests as a beneficiary (in this paragraph, as defined in subsection 108(1)) under the trust that have a fair market value of10% or more of the fair market value of the interests of all beneficiaries under the trust.

Attachment B

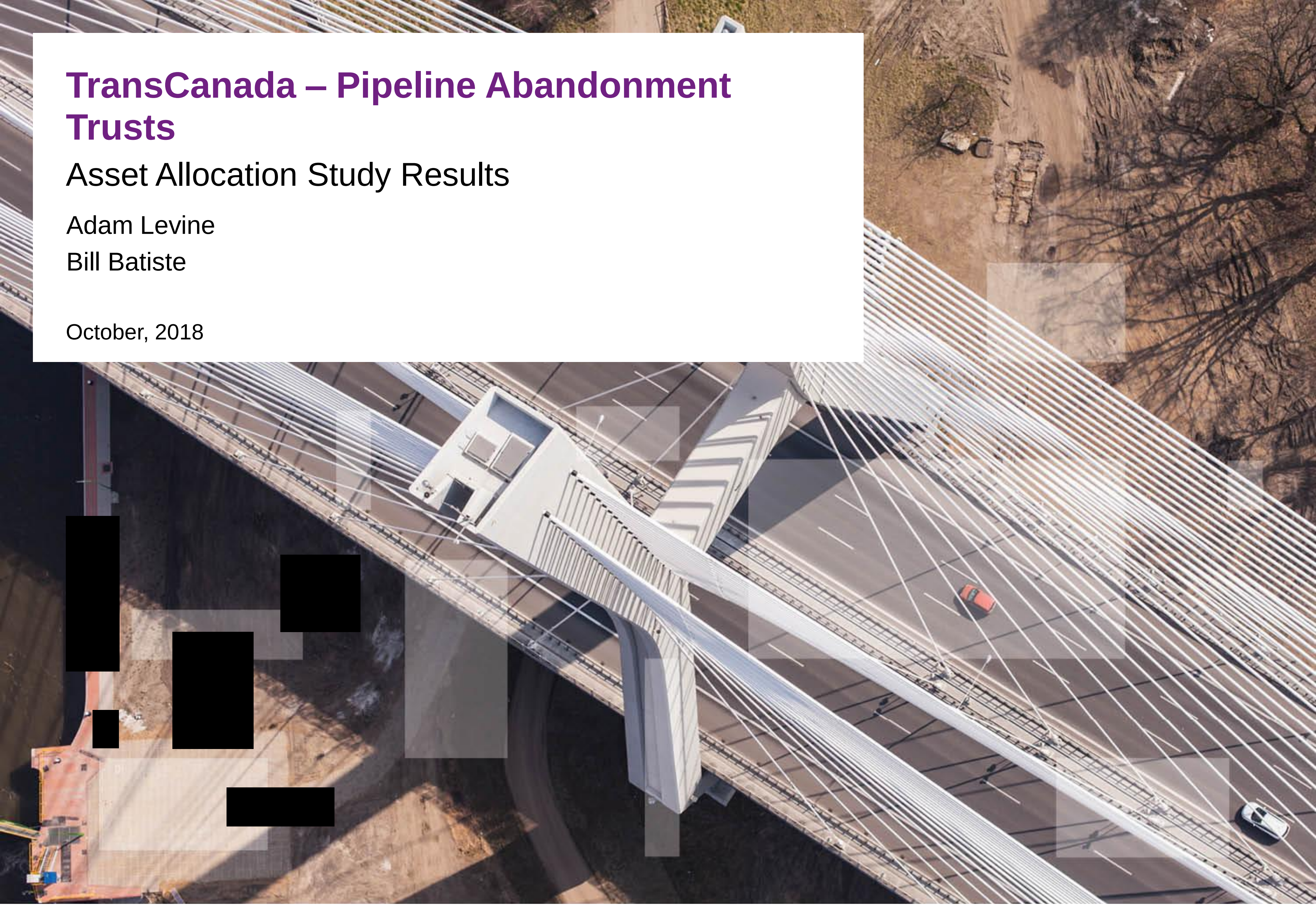
Willis Towers Watson Study
Executive Summary

TransCanada – Pipeline Abandonment Trusts

Asset Allocation Study Results

Adam Levine
Bill Batiste

October, 2018



WillisTowersWatson

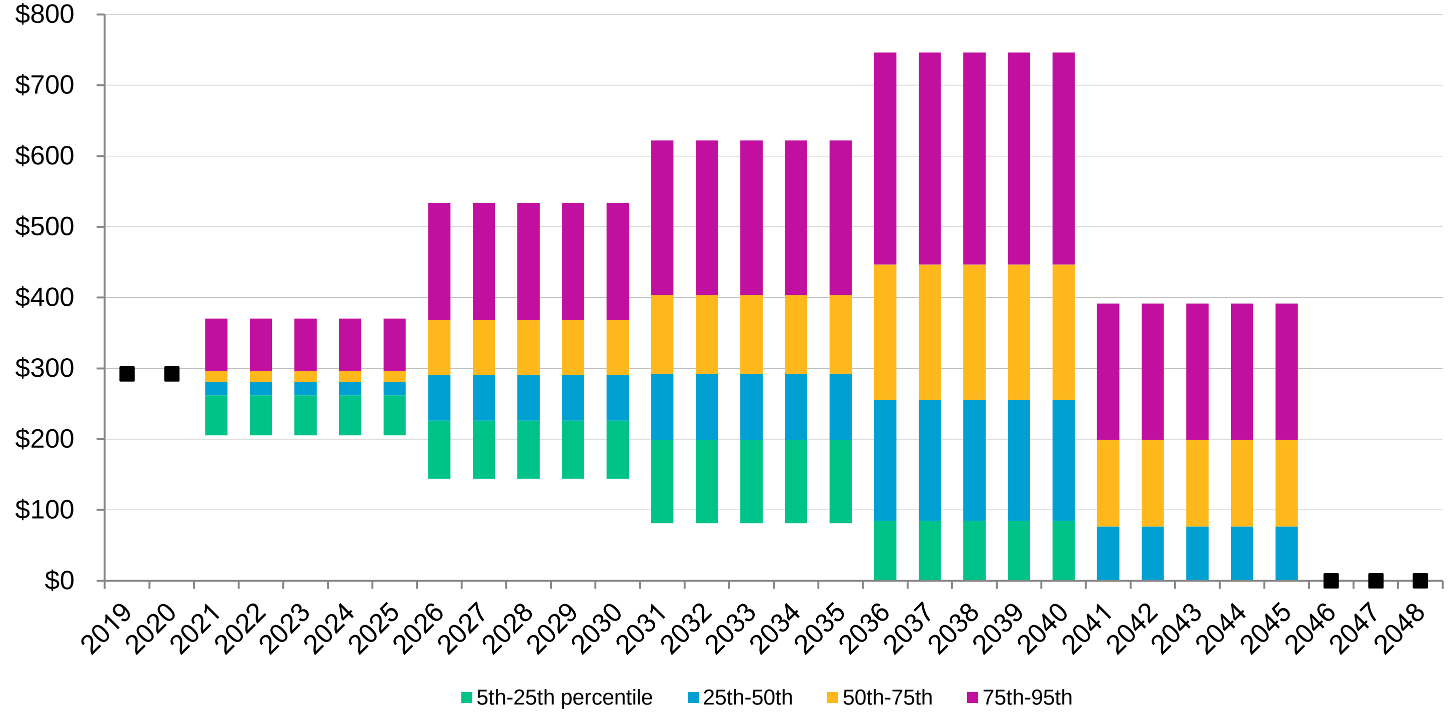
Overview and Assumptions

Overview

- TransCanada hired Willis Towers Watson to provide an asset/liability modeling (ALM) study for the pipeline abandonment trusts ("trusts") established to set aside funds for the abandonment of pipeline systems operated by TransCanada.
- The study incorporates the trusts' latest available cost projections, updated assets, and current funding and asset allocation policies. Using this information, Willis Towers Watson modeled the future contribution requirements and the impact of using alternative asset allocation policies.
- Process
  - Project future asset values annually based on simulated returns from our asset model through the end of the collection period
  - Project future abandonment cost estimates with simulated inflation produced by the same asset model
  - Using simulated future costs and asset values, calculate future contribution requirements according to current methodology every five years throughout the entirety of the collection period
  - 5,000 simulated economic scenarios are used based on the most recent set of capital market assumptions produced by Towers Watson Investment Services, Inc.
  - Results examined for the current allocation and numerous others, examining anywhere from 0% to 100% fixed income

Forecast of Current Target Allocation (100% Long Bonds)

Contribution ($M)



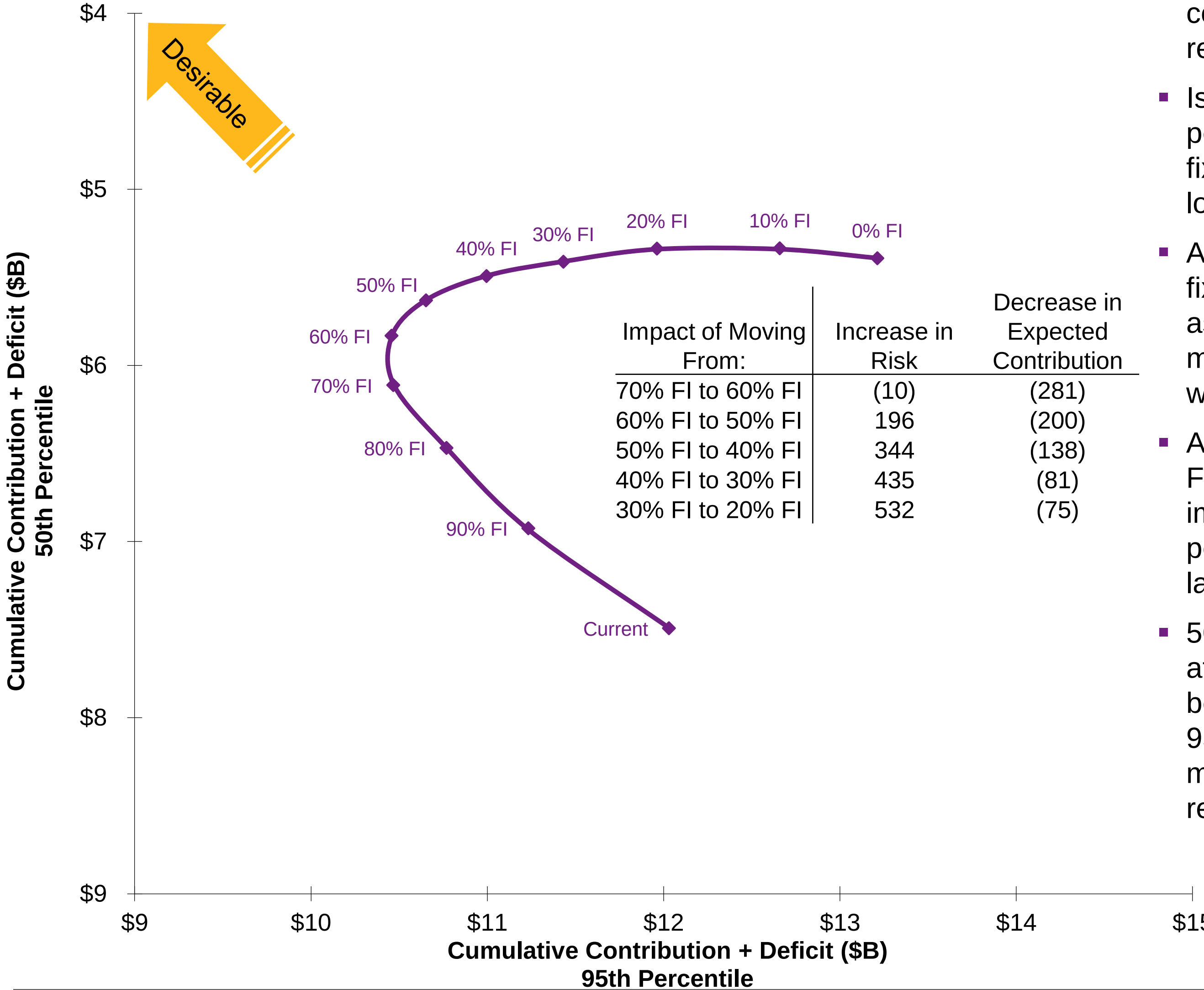
Percentile	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
5th	$292	$292	$205	$205	$205	$205	$205	$144	$144	$144	$144	$144	$81	$81	$81
25th	$292	$292	$262	$262	$262	$262	$262	$226	$226	$226	$226	$226	$199	$199	$199
50th	$292	$292	$280	$280	$280	$280	$280	$290	$290	$290	$290	$290	$292	$292	$292
75th	$292	$292	$296	$296	$296	$296	$296	$369	$369	$369	$369	$369	$404	$404	$404
95th	$292	$292	$370	$370	$370	$370	$370	$534	$534	$534	$534	$534	$622	$622	$622

Percentile	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
5th	$81	$81	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
25th	$199	$199	$84	$84	$84	$84	$84	$0	$0	$0	$0	$0	$0	$0	$0
50th	$292	$292	$256	$256	$256	$256	$256	$77	$77	$77	$77	$77	$0	$0	$0
75th	$404	$404	$447	$447	$447	$447	$447	$198	$198	$198	$198	$198	$0	$0	$0
95th	$622	$622	$746	$746	$746	$746	$746	$392	$392	$392	$392	$392	$0	$0	$0

- Using simulated returns to project assets and simulated inflation to project costs and the inflation assumption, contributions vary significantly within the model
- At 2031, the contribution is $292M at the median, but can be as high as $622 million at the 95th percentile
- At 2036, the contribution is $256M at the median, but can be as high as $746 million at the 95th percentile
- Total contributions drop off in 2041 as 3 of the trusts' collection period has ended.

Analysis of Asset Allocation

Cumulative Contribution + Deficit

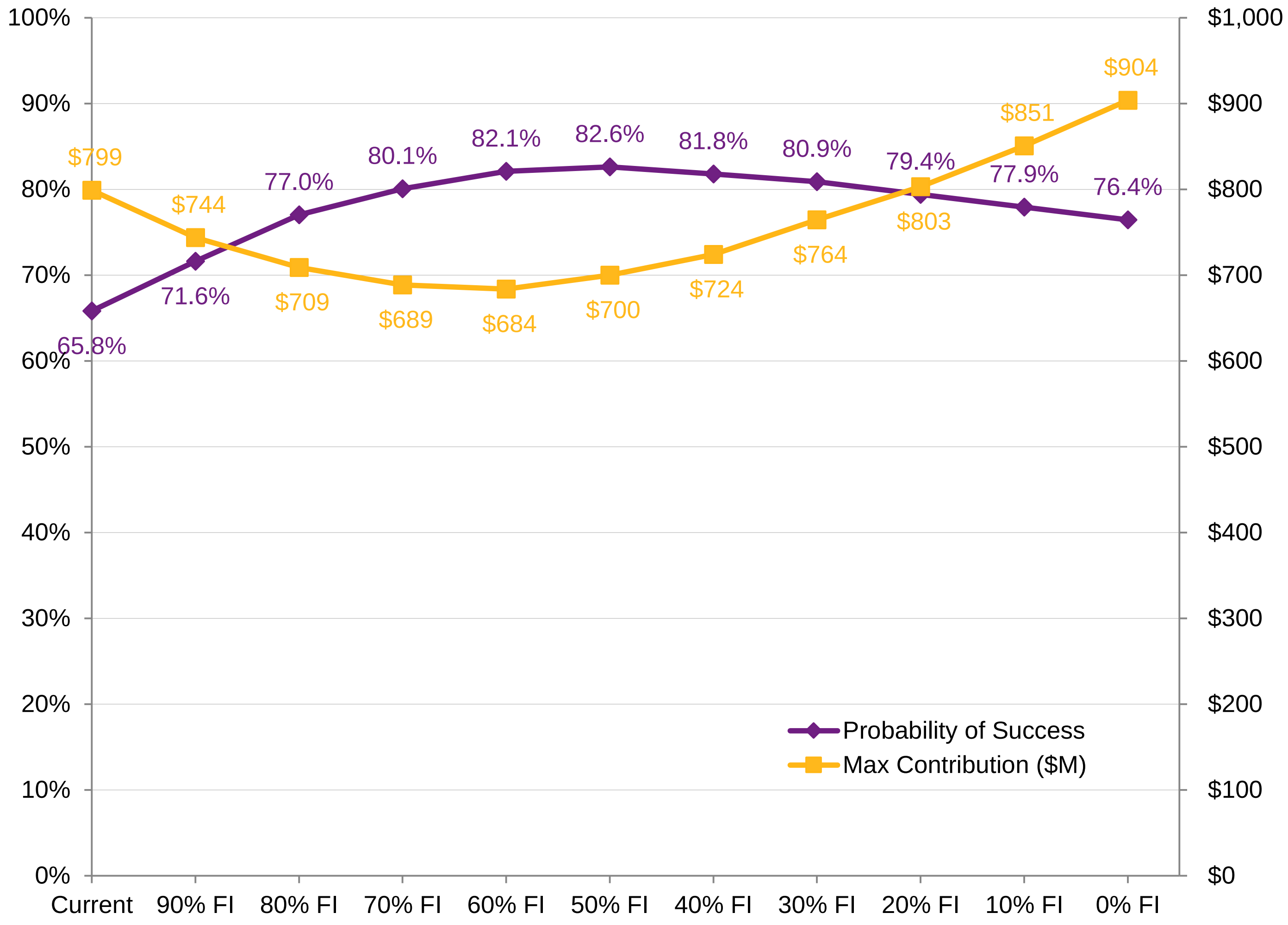


Impact of Moving From:	Increase in Risk	Decrease in Expected Contribution
70% FI to 60% FI	(10)	(281)
60% FI to 50% FI	196	(200)
50% FI to 40% FI	344	(138)
40% FI to 30% FI	435	(81)
30% FI to 20% FI	532	(75)

- A measure of total overall cost can be calculated as the cumulative contributions required through 2045 plus any deficit at the end of the collection period that still remains
- Isolating the 50th vs 95th percentile trade-off, 60-70% fixed income represents the low-risk portfolio
- Allocations with more than 60% fixed income appear inefficient as they have both a higher median and a higher/same worst-case result
- As equity is added beyond 50% FI, the median result is improved with the 95th percentile result increasing by a larger amount
- 50-60% fixed income appears attractive as reducing equity beyond this point increases the 95th percentile result with minimal improvement in median results
  - I.e., moving from 50% to 40% FI increases risk by $344M while decreasing the median by $138M

Analysis of Asset Allocation

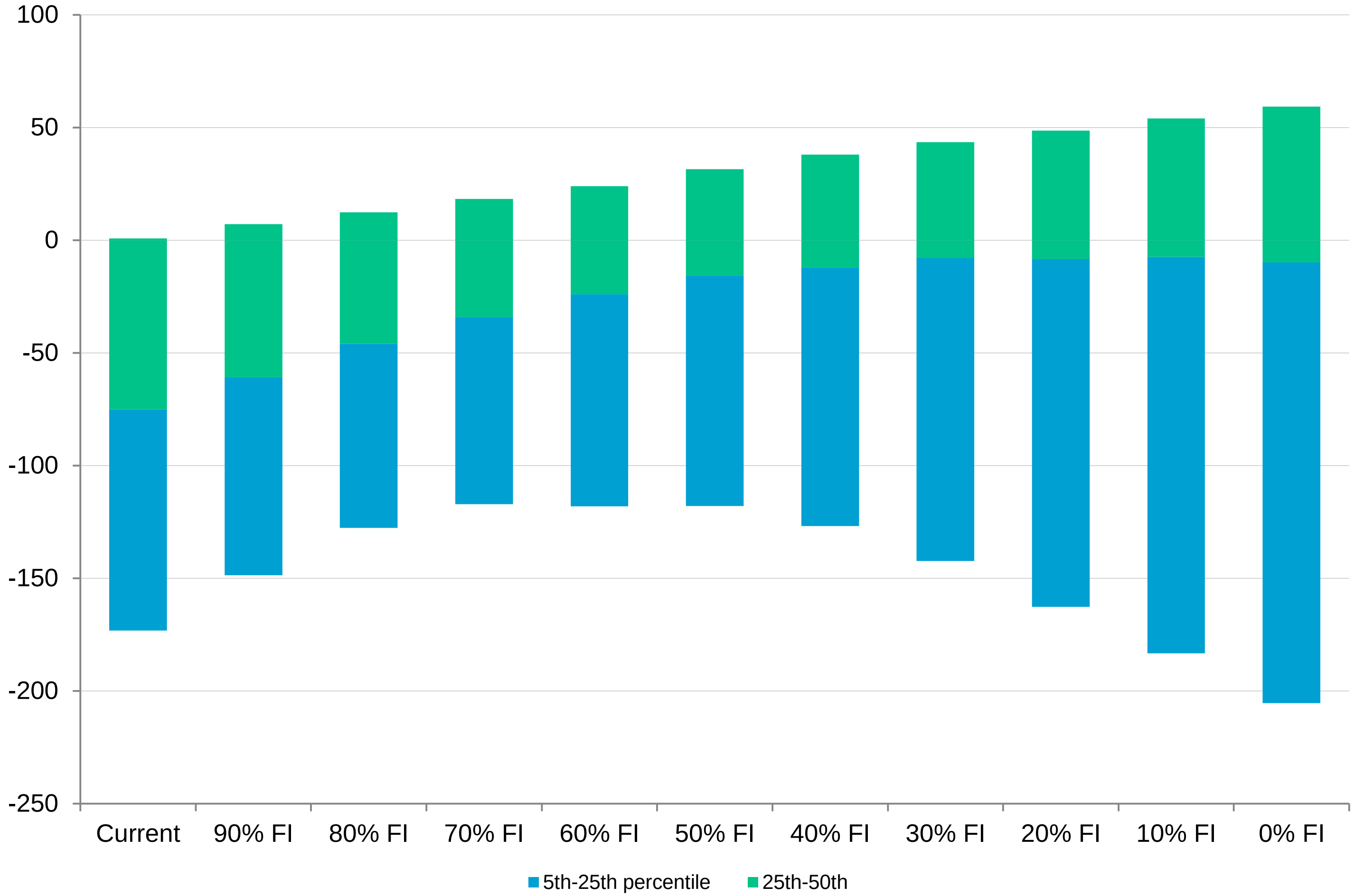
Probability of Success



- Two additional measures to consider include:
  - The probability the trust will end the collection period with more assets than costs
  - The highest contribution required over the collection period at the 95th percentile
- Portfolios near 60% fixed income provide the best result for both metrics

Analysis of Asset Allocation

1 Year Asset Loss ($M)

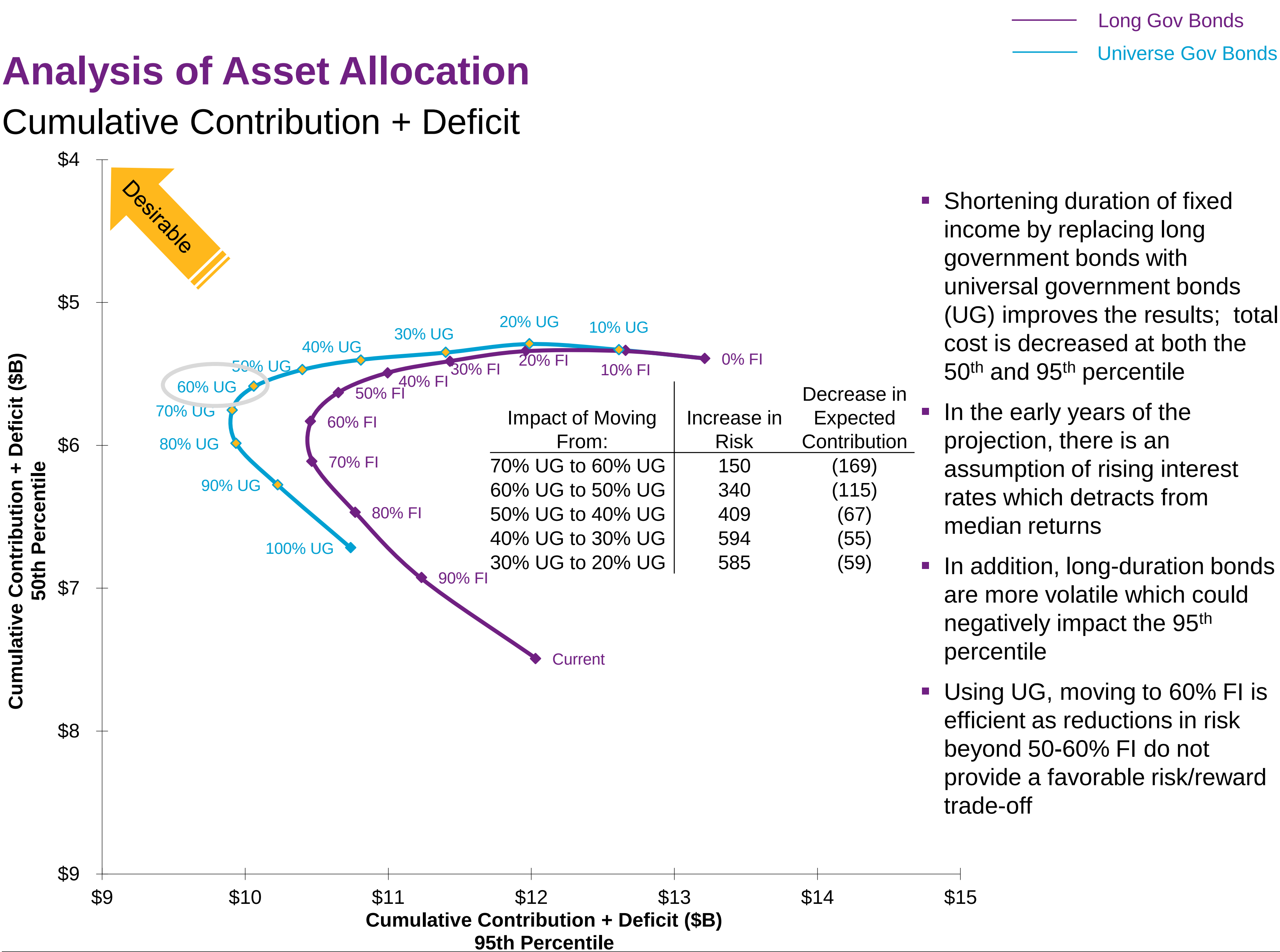


Percentile	Current	90% FI	80% FI	70% FI	60% FI	50% FI	40% FI	30% FI	20% FI	10% FI	0% FI
5th	-173	-149	-128	-117	-118	-118	-127	-142	-163	-183	-205
25th	-75	-61	-46	-34	-24	-16	-12	-8	-8	-8	-10
50th	1	7	12	18	24	32	38	43	49	54	59

- Risk can also be measured as one year change in assets under adverse conditions in the near term
  - Asset losses are from investment returns and do not reflect contributions
- The low-risk portfolio with respect to this measure is 70% FI which produces a $117M "Value at Risk"

Analysis of Asset Allocation

Cumulative Contribution + Deficit

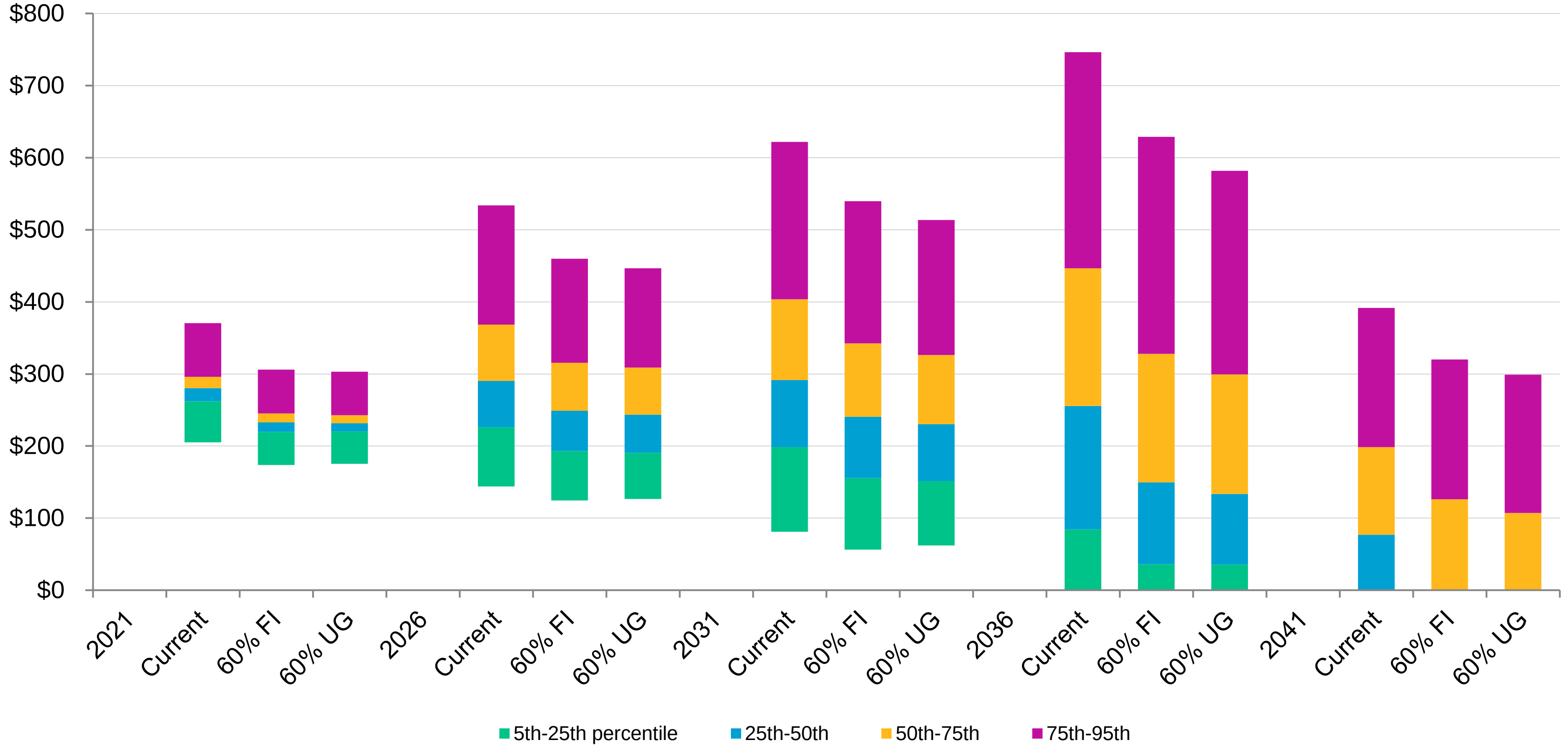


Impact of Moving From:	Increase in Risk	Decrease in Expected Contribution
70% UG to 60% UG	150	(169)
60% UG to 50% UG	340	(115)
50% UG to 40% UG	409	(67)
40% UG to 30% UG	594	(55)
30% UG to 20% UG	585	(59)

- Shortening duration of fixed income by replacing long government bonds with universal government bonds (UG) improves the results; total cost is decreased at both the 50th and 95th percentile
- In the early years of the projection, there is an assumption of rising interest rates which detracts from median returns
- In addition, long-duration bonds are more volatile which could negatively impact the 95th percentile
- Using UG, moving to 60% FI is efficient as reductions in risk beyond 50-60% FI do not provide a favorable risk/reward trade-off

100% FI vs 60% FI

Annual Contributions



	2021			2026			2031			2036			2041		
% tile	Current	60% FI	60% UG	Current	60% FI	60% UG	Current	60% FI	60% UG	Current	60% FI	60% UG	Current	60% FI	60% UG
5th	$205	$174	$175	$144	$124	$127	$81	$56	$62	$0	$0	$0	$0	$0	$0
25th	$262	$220	$220	$226	$193	$191	$199	$155	$151	$84	$36	$36	$0	$0	$0
50th	$280	$233	$232	$290	$249	$244	$292	$241	$230	$256	$150	$134	$77	$0	$0
75th	$296	$245	$243	$369	$315	$309	$404	$342	$326	$447	$328	$300	$198	$126	$107
95th	$370	$306	$303	$534	$460	$447	$622	$540	$513	$746	$629	$582	$392	$320	$299

- Moving from 100% long bonds to 60% universe bonds reduces contributions for each future year at each percentile

Conclusion

Asset Allocation

- The main metric used to compare the different allocations is the cumulative contributions of all the trusts including the deficit at the end of the collection period. We compared the expected case (50th percentile) with the worst case (95th percentile) to quantify the risk versus the reward.
- A portfolio with a 60% allocation to fixed income is more efficient than the current 100% fixed income portfolio (see following page).
  - At 60%, the expected cumulative contribution plus deficit is approximately $1.7 billion less than current.
  - At the 95th percentile the metric improves by $1.6 billion.
- This portfolio also produces the best or near-best result for other metrics examined
  - The probability the trust will end the collection period with more assets than costs
  - The highest contribution required over the collection period at the 95th percentile

Long Duration Bonds

- Using universal government bonds instead of long duration bonds further improves results
  - At 60% FI, universal government bonds improve the expected and 95th percentile cumulative contribution plus deficit by $0.25B and $0.40B respectively relative to long duration bonds
- At every allocation, the longer duration fixed income portfolios were less efficient than the universe bond portfolios
- Given the expected increase in Government rates built into the assumptions, longer duration bonds are expected to underperform shorter duration.

Appendix

Capital Market Assumptions

Summary Statistics

Summary Assumptions for July 1, 2018 Willis Towers Watson Canadian Investment Model								
Asset Class	1st Year Returns		10th Year Returns		10 Year Returns		20 Year Returns	
	Arithmetic Mean	Standard Deviation	Arithmetic Mean	Standard Deviation	Geometric Mean	Average STD	Geometric Mean	Average STD
Inflation	2.0%	1.6%	2.0%	2.5%	2.0%	2.3%	2.0%	2.3%
Canadian Fixed Income								
Cash / T-Bills	1.8%	1.2%	2.9%	2.6%	2.4%	2.1%	2.8%	2.4%
Universe Gov't Bonds	1.1%	6.0%	3.4%	5.2%	2.4%	5.5%	3.1%	5.4%
Long Term Gov't Bonds	0.8%	12.0%	3.2%	9.6%	1.5%	10.4%	2.6%	10.0%
Universe Corporate Bonds	1.9%	4.9%	4.2%	5.7%	3.2%	5.7%	3.9%	5.7%
Long Term Corporate Bonds	1.4%	11.2%	4.1%	12.0%	2.2%	12.2%	3.2%	12.0%
Universe Bonds	1.3%	5.5%	3.6%	5.0%	2.6%	5.2%	3.4%	5.1%
Long Term Bonds	0.9%	11.5%	3.4%	9.5%	1.7%	10.1%	2.8%	9.8%
20+ Strip Bonds	0.8%	21.8%	3.8%	19.6%	0.4%	20.0%	1.8%	20.1%
Real Return Bonds	0.5%	11.7%	2.8%	13.8%	1.0%	13.5%	1.9%	13.5%
Other Fixed Income								
Emerging Market Debt	2.1%	9.0%	5.3%	9.0%	3.8%	9.0%	4.6%	9.0%
Global Bonds ex-Canada (h)	1.1%	3.1%	3.2%	3.1%	2.2%	3.1%	3.0%	3.1%
High Yield Bonds	3.0%	10.0%	5.3%	10.0%	4.0%	10.0%	4.6%	10.0%
Equity Investments								
Cdn Large Cap	7.1%	21.1%	8.6%	21.1%	6.0%	21.1%	6.3%	21.1%
Cdn Small Cap	8.0%	25.7%	9.5%	25.7%	5.9%	25.7%	6.1%	25.7%
US Large Cap (u)	7.2%	17.9%	8.3%	17.9%	6.3%	17.9%	6.5%	17.9%
US Small Cap (u)	7.9%	22.7%	9.1%	22.7%	6.1%	22.7%	6.3%	22.7%
EAFE (u)	7.4%	18.7%	8.6%	18.7%	6.3%	18.7%	6.5%	18.7%
Global (u)	7.3%	17.5%	8.5%	17.5%	6.5%	17.5%	6.7%	17.5%
Emerging Markets (u)	9.0%	25.8%	10.2%	25.8%	6.5%	25.8%	6.6%	25.8%
Alternatives								
Median-Skilled Hedge Fund-of-Funds	4.4%	7.7%	5.6%	8.1%	4.8%	7.9%	5.2%	8.0%
Median-Skilled Private Equity Fund-of-Funds	7.2%	23.5%	8.4%	23.5%	5.2%	23.5%	5.4%	23.5%
Global Real Estate	5.0%	10.1%	6.2%	10.1%	5.3%	10.1%	5.6%	10.1%
Global REITs	6.3%	15.9%	7.5%	15.9%	5.8%	15.9%	6.1%	15.9%
Global Infrastructure	6.4%	17.7%	7.6%	17.7%	5.8%	17.7%	6.0%	17.7%
Global Listed Infrastructure	6.0%	15.5%	7.2%	15.5%	5.7%	15.5%	5.9%	15.5%
Commodities	4.0%	14.9%	5.2%	15.1%	3.7%	15.0%	4.0%	15.1%

Note: for asset classes with foreign currency exposure, (u) indicates unhedged and (h) indicates hedged

Capital Market Assumptions

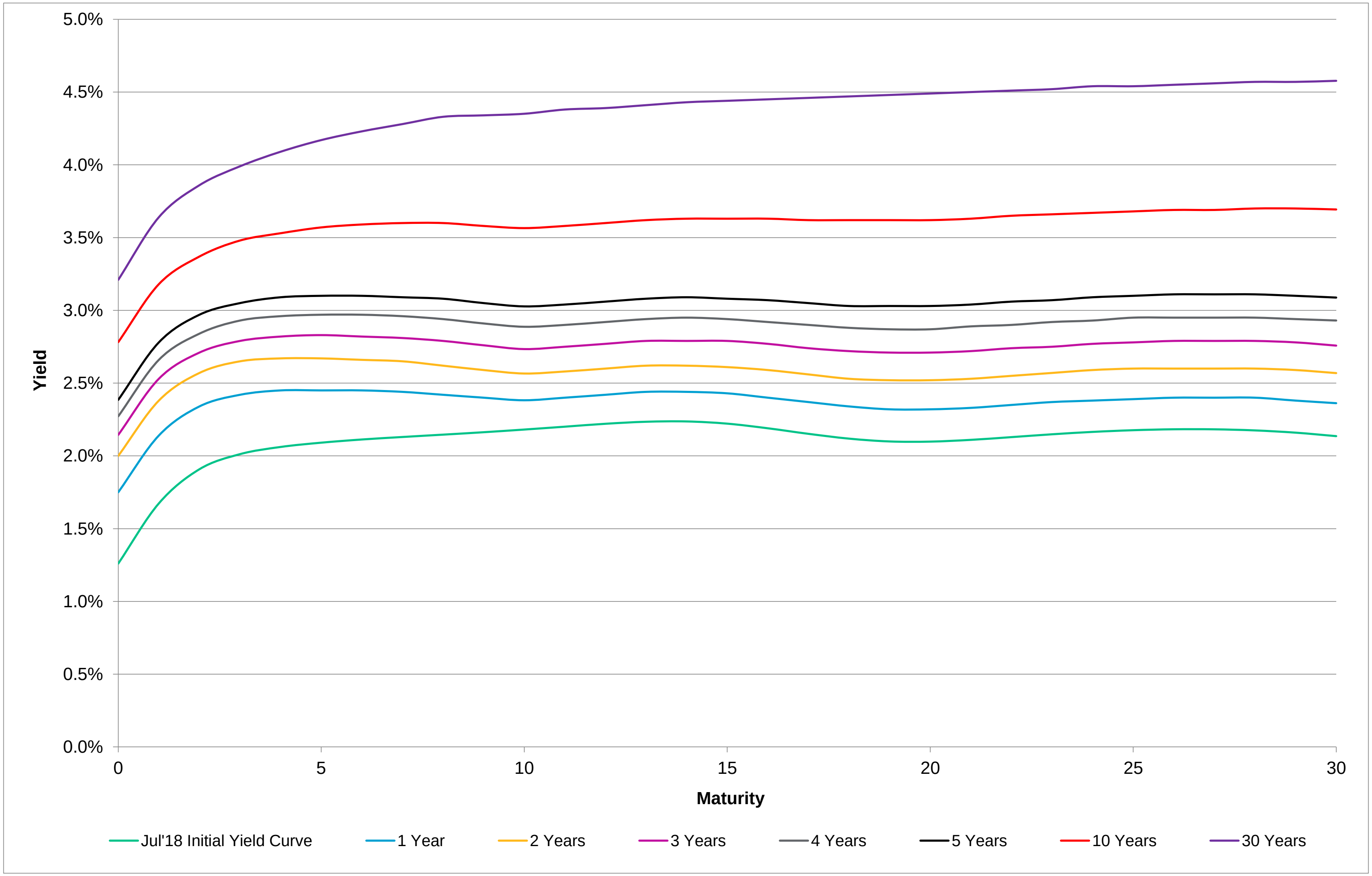
Average Correlations over 10 Years

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	Inflation	1.0																										
2	Cash / T-Bills	0.3	1.0																									
3	Universe Gov't Bonds	(0.2)	(0.1)	1.0																								
4	Long Term Gov't Bonds	(0.3)	(0.2)	1.0	1.0																							
5	Universe Corporate Bonds	(0.1)	0.0	0.7	0.7	1.0																						
6	Long Term Corporate Bonds	(0.2)	(0.1)	0.7	0.7	1.0	1.0																					
7	Universe Bonds	(0.2)	(0.1)	1.0	1.0	0.8	0.8	1.0																				
8	Long Term Bonds	(0.3)	(0.2)	1.0	1.0	0.8	0.8	1.0	1.0																			
9	20+ Strip Bonds	(0.3)	(0.2)	0.9	0.9	0.6	0.7	0.9	0.9	1.0																		
10	Real Return Bonds	0.1	(0.1)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0																	
11	Emerging Market Debt	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	1.0																
12	Global Bonds ex-Canada (h)	(0.3)	(0.1)	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.3	0.0	1.0															
13	High Yield Bonds	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.0	1.0														
14	Cdn Large Cap	0.1	0.0	(0.1)	(0.1)	0.2	0.2	0.0	0.0	(0.1)	0.0	0.5	0.0	0.5	1.0													
15	Cdn Small Cap	0.1	0.0	(0.1)	(0.1)	0.1	0.2	0.0	0.0	(0.1)	0.0	0.4	0.0	0.4	0.8	1.0												
16	US Large Cap (u)	0.1	0.0	(0.1)	(0.1)	0.1	0.2	0.0	0.0	(0.1)	0.0	0.6	0.0	0.6	0.7	0.6	1.0											
17	US Small Cap (u)	0.0	0.0	(0.1)	(0.1)	0.1	0.1	0.0	0.0	(0.1)	0.0	0.5	0.0	0.5	0.7	0.6	0.8	1.0										
18	EAFE (u)	0.1	0.0	(0.1)	(0.1)	0.1	0.2	0.0	0.0	(0.1)	0.0	0.5	0.0	0.5	0.7	0.6	0.8	0.7	1.0									
19	Global (u)	0.1	0.0	(0.1)	(0.1)	0.1	0.2	0.0	0.0	(0.1)	0.0	0.6	0.0	0.6	0.8	0.6	1.0	0.8	1.0	1.0								
20	Emerging Markets (u)	0.1	0.0	(0.1)	(0.1)	0.1	0.2	0.0	0.0	(0.1)	0.0	0.5	0.0	0.5	0.7	0.6	0.8	0.7	0.8	0.8	1.0							
21	Median-Skilled Hedge Fund-of-Funds	0.1	0.3	(0.1)	(0.1)	0.1	0.1	0.0	(0.1)	(0.1)	(0.1)	0.4	0.0	0.4	0.6	0.5	0.6	0.6	0.6	0.6	0.5	1.0						
22	Median-Skilled Private Equity Fund-of-Funds	0.1	0.0	(0.1)	(0.1)	0.1	0.2	0.0	0.0	(0.1)	0.0	0.4	0.0	0.4	0.7	0.6	0.7	0.6	0.6	0.7	0.6	0.5	1.0					
23	Global Real Estate	0.0	0.0	(0.1)	(0.1)	0.1	0.1	0.0	0.0	(0.1)	0.0	0.3	0.0	0.3	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.3	1.0				
24	Global REITs	0.1	0.0	(0.1)	(0.1)	0.1	0.1	0.0	0.0	(0.1)	0.0	0.5	0.0	0.5	0.5	0.5	0.7	0.6	0.6	0.7	0.6	0.5	0.5	0.4	1.0			
25	Global Infrastructure	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.5	0.2	0.3	1.0		
26	Global Listed Infrastructure	0.1	0.0	(0.1)	(0.1)	0.1	0.1	0.0	0.0	(0.1)	0.0	0.3	0.0	0.3	0.5	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.4	0.3	0.4	0.7	1.0	
27	Commodities	0.1	0.2	(0.1)	(0.1)	0.0	0.1	(0.1)	(0.1)	(0.1)	0.0	0.2	0.0	0.2	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.1	0.2	1.0

- The table above shows the key correlations of nominal 1 year returns between asset classes. To help interpret these numbers, a figure below 0.3 (positive or negative) is indicative of low correlation, a figure between 0.3 and 0.5 indicates moderate correlation and a figure of above 0.5 indicates a high degree of correlation.

Capital Market Assumptions

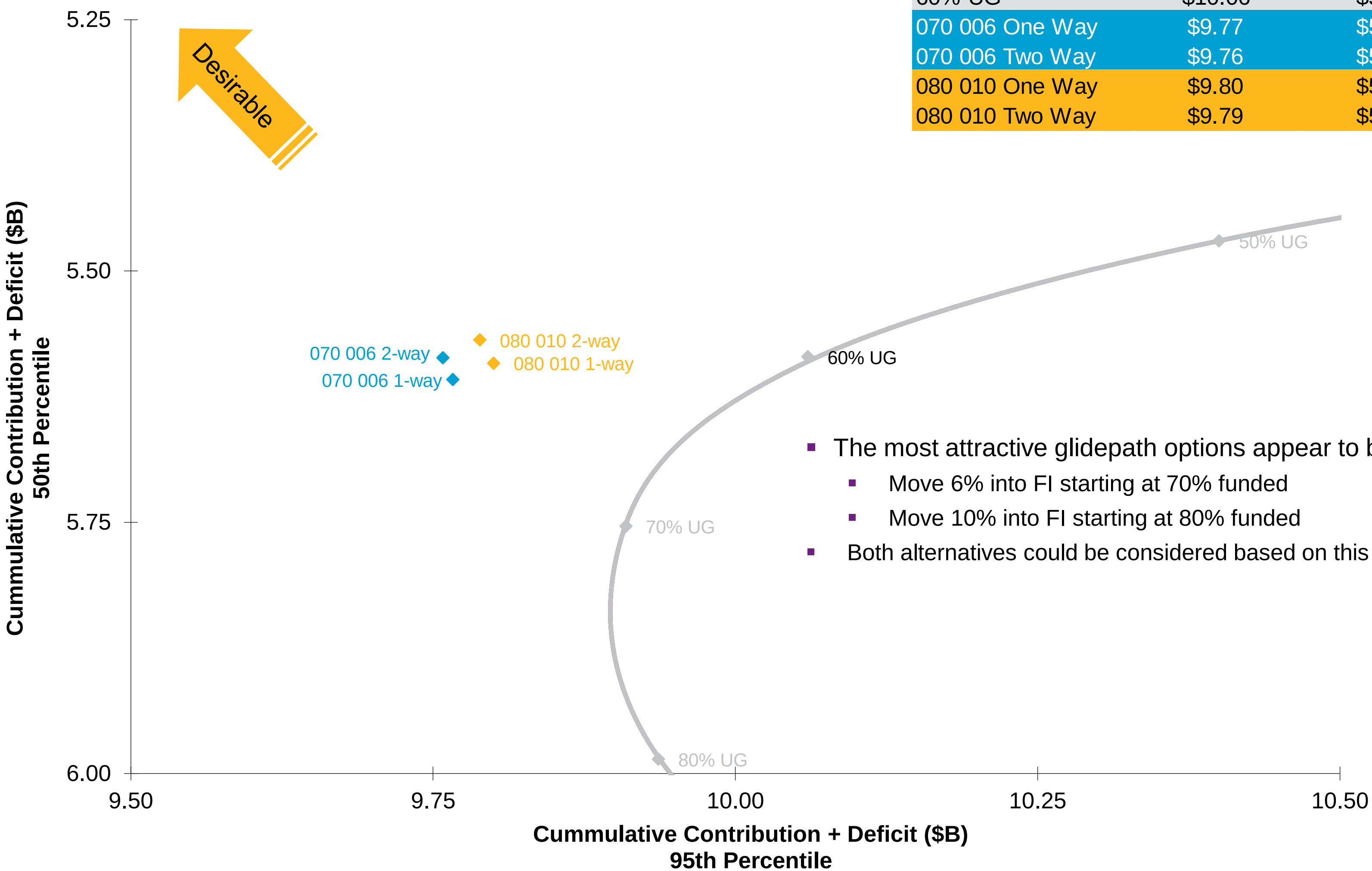
Government of Canada Yield Curve (Initial to 30-Year Projection)



Analysis of Dynamic Strategies

60% Starting allocation to fixed income

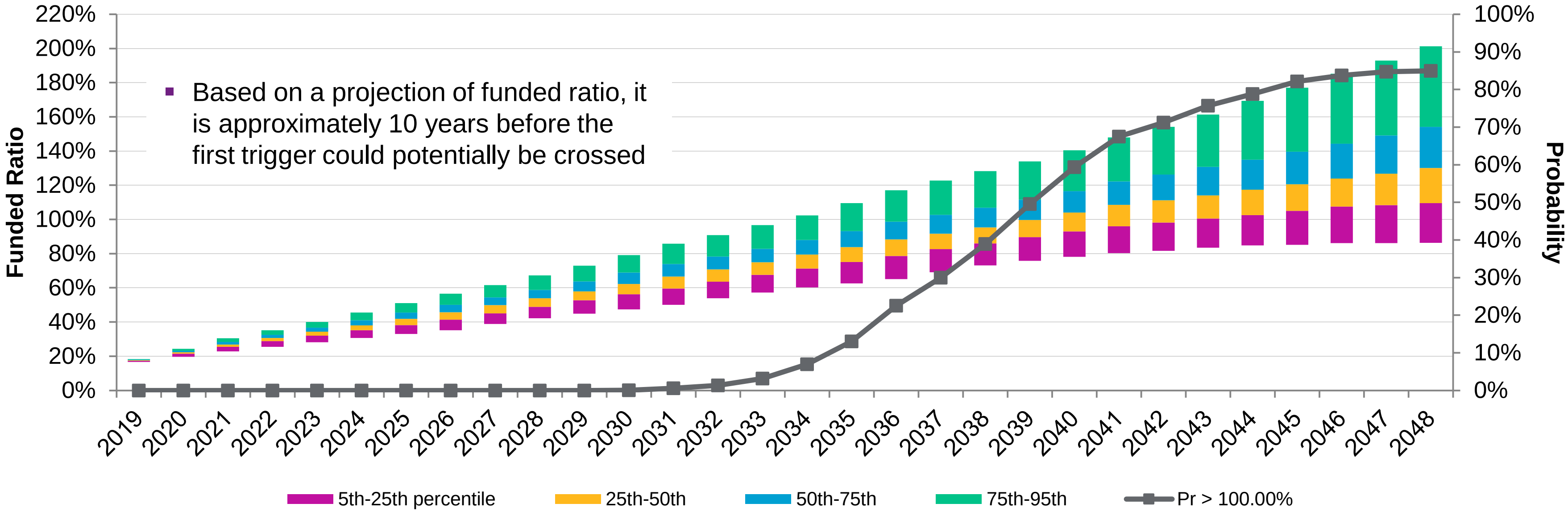
	95th Percentile ($B)	50th Percentile ($B)
60% UG	$10.06	$5.59
070 006 One Way	$9.77	$5.61
070 006 Two Way	$9.76	$5.59
080 010 One Way	$9.80	$5.59
080 010 Two Way	$9.79	$5.57



- The most attractive glidepath options appear to be:
  - Move 6% into FI starting at 70% funded
  - Move 10% into FI starting at 80% funded
- Both alternatives could be considered based on this metric

Analysis of Dynamic Strategies

60% Fixed Income Funded Ratio



Percentile	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
5th	17%	20%	23%	25%	28%	31%	33%	35%	39%	42%	45%	47%	50%	54%	57%
25th	17%	21%	25%	29%	32%	35%	38%	41%	45%	49%	53%	56%	59%	64%	68%
50th	18%	22%	27%	31%	34%	38%	42%	46%	50%	54%	58%	62%	67%	71%	75%
75th	18%	23%	28%	33%	37%	41%	45%	50%	54%	59%	64%	69%	74%	78%	83%
95th	18%	24%	30%	35%	40%	46%	51%	57%	62%	67%	73%	79%	86%	91%	97%
Pr > 100.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.6%	1.3%	3.2%

Percentile	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
5th	60%	63%	65%	69%	73%	76%	78%	80%	82%	84%	85%	85%	86%	86%	86%
25th	71%	75%	79%	83%	86%	90%	93%	96%	98%	100%	103%	105%	108%	108%	110%
50th	79%	84%	88%	92%	95%	100%	104%	108%	111%	114%	117%	121%	124%	127%	130%
75th	88%	93%	99%	103%	107%	112%	116%	122%	126%	131%	135%	140%	144%	149%	154%
95th	102%	110%	117%	123%	128%	134%	141%	148%	154%	161%	169%	177%	185%	193%	201%
Pr > 100.00%	7%	13%	23%	30%	39%	50%	59%	68%	71%	76%	79%	82%	84%	85%	85%

Expected Return Assumption

Overview

- The table below details the returns from the model

Long Bonds

Allocation		Current	90% FI	80% FI	70% FI	60% FI	50% FI	40% FI	30% FI	20% FI	10% FI	0% FI
Model 30 Year Expected Return	Pre-Tax	3.2%	3.8%	4.3%	4.8%	5.3%	5.7%	6.0%	6.3%	6.6%	6.7%	6.9%
	After-Tax	1.7%	2.3%	2.8%	3.2%	3.5%	3.7%	3.9%	4.0%	4.1%	4.1%	4.0%
Annual Standard Deviation		12.0%	10.8%	9.9%	9.4%	9.5%	10.0%	11.0%	12.4%	14.0%	15.7%	17.5%

Universe Bonds

Allocation		Current	90% FI	80% FI	70% FI	60% FI	50% FI	40% FI	30% FI	20% FI	10% FI	0% FI
Model 30 Year Expected Return	Pre-Tax	3.6%	4.1%	4.6%	5.0%	5.4%	5.7%	6.1%	6.3%	6.6%	6.7%	6.9%
	After-Tax	2.4%	2.8%	3.2%	3.4%	3.7%	3.8%	4.0%	4.1%	4.1%	4.1%	4.0%
Annual Standard Deviation		6.0%	5.5%	5.6%	6.3%	7.5%	8.9%	10.5%	12.2%	13.9%	15.7%	17.5%

Limitations of Analysis

In preparing the analysis contained in this report, Towers Watson Investment Services, Inc. has used information and data provided to us by TransCanada. We have relied on all the data and information provided, including plan provisions and asset information, as being complete and accurate. We have not independently verified the accuracy or completeness of the data or information provided, but we have checked data for reasonableness to the extent that we believe appropriate based on the purpose for which it has been used.

The analysis contained in this report involves actuarial calculations. Actuarial calculations require that we make assumptions about future events. We have used assumptions that we believe are reasonable and appropriate for the purpose for which they have been used. Other assumptions may also be reasonable and could result in substantially different results.

In addition, because it is not possible or practical to model all aspects of a situation, we use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are immaterial in our judgment. We believe that we have not oversimplified the situation being modeled and have not inappropriately included or excluded any items.

Naturally, future events and actual experience will vary from the assumptions we have employed and calculations prepared with actual data will vary from estimates or summaries used for modeling purposes.

Because we use assumptions and estimates or summary information, actual future contributions or expense for accounting purposes may differ from our projections. As these differences arise, contributions or the expense for accounting purposes will be adjusted to take changes into account. These adjustments are anticipated in any actuarial calculations for ongoing entities. If these adjustments become material, they may result in the need for future adjustments to the valuation model.

The numbers in this report are not necessarily rounded. The use of unrounded numbers does not imply precision. Actuarial calculations are inherently imprecise.

The analysis reported has been prepared solely for the benefit of TransCanada. This report is not complete without the accompanying discussion with a representative of Towers Watson Investment Services, Inc. This report should not be used for purposes other than asset allocation strategy or relied upon by any other person without prior written consent.

Analysis in this report is based on the Willis Towers Watson Investment Model.