RVK Summary Report: The North Dakota Land Board Strategic Asset Allocation and Implementation Project

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Executive Summary

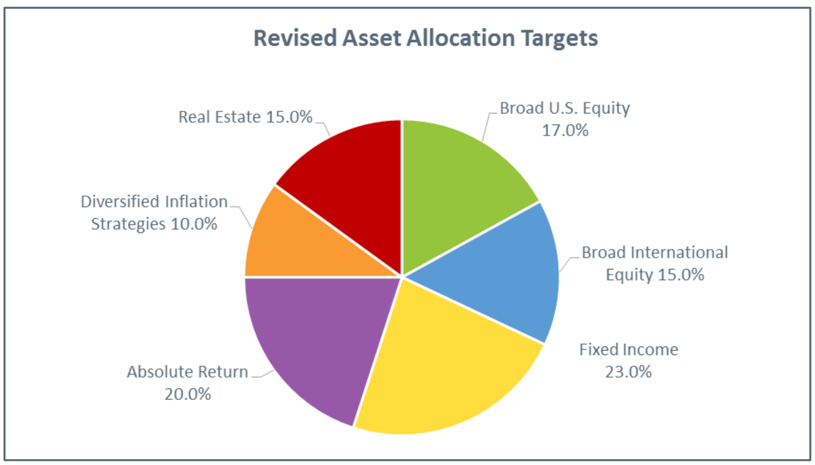
Executive Summary

RVK, Inc. (formerly R.V. Kuhns & Associates, or "RVK") was selected by The North Dakota Board of University and School Lands (Board) in March 2013 to provide strategic investment consulting advice focused on asset allocation, investment policy development, and implementation options for the Permanent Trust Funds ("PTFs") and Strategic Investment and Improvements Fund ("SIIF"). Over the course of the following seven months, RVK worked closely with Staff and the Board to define the objectives and policy guidelines under the long-term strategic investment plan for the North Dakota Board of University and School Lands as stated in the original request for proposal.

This initial project included the following tasks, numbered one through four. The main conclusions from each task are outlined below:

1. *A recommendation of an asset allocation for the Permanent Trust Funds that balances the Board's dual responsibilities under North Dakota law, and also recognizes the Board's risk tolerance and current market conditions.*

The Board approved the following asset allocation for the PTFs:



Throughout the course of the project, several asset allocation scenarios and their associated risks were provided to assist the Board in making decisions concerning the investment of the assets of the PTFs. The Board reviewed asset allocation models that projected the financial condition of the PTFs, and the effect on distributions under various economic and market conditions. All scenarios were developed recognizing the Board's responsibility to follow the Prudent Investor Rule.

2. *Recommendations for a complete update of the Board's investment policies and procedures for the PTFs that will help ensure that the Board meets its long-term goals and objectives for the PTFs.*

The Investment Policy Statement was redrafted to reflect the decisions made by the Board, input received from Staff, and to incorporate best practices for investment policy construction. As drafted, the new Investment Policy Statement provides an investment management framework for North Dakota's Permanent Trust Funds, the Capitol Building Fund, the Strategic Investment and Improvements Fund, the Coal Development Trust Fund, and the Indian Cultural Education Trust (collectively, Funds). While the Investment Policy Statement is crafted to cover all funds under the care of the Board, there are customized pages to address the specific goals and objectives of each individual fund. (See Exhibit A: Investment Policy Statement).

3. *An analysis and recommendation as to the most appropriate way to transition from the Board's current asset allocation and policies to the investment plan recommended by the consultant. The analysis and recommendation should include a timetable for implementing any recommendations, the resources and staffing needed to implement, an analysis and discussion of possible options for implementing, and the projected cost of implementing, managing and monitoring the program going forward.*

The scope of the asset allocation and implementation project included a timetable for implementing recommendations, as well as the required resources and staffing. RVK also provided an analysis and discussion of possible options for implementing, and the projected cost of implementing, managing, and monitoring the program going forward. RVK discussed various implementation options with the Board, offering both short-term solutions to implement the updated asset allocation, as well as long-term solutions to manage and monitor the portfolios going forward. RVK was selected to work with Staff and the Board to aide in the transition from the current asset allocation and policies to the updated asset allocation.

4. *A recommendation for establishing specific goals, objectives and investment policies for the SIIF. Such recommendations should take into consideration the differences between the nature and the investment timeframe of the SIIF as compared to the PTFs, including liquidity and expendability.*

Based on an analysis of the cash flow needs of the Strategic Investment and Improvement Fund, the Board determined that the SIIF should continue to invest fully in cash and cash-like instruments. The recommendations took into consideration the differences between the objective and the investment timeframe of the SIIF as compared to the PTFs. The unique objectives and asset allocation for the SIIF are reflected in specific pages of the Investment Policy Statement. (See Exhibit A).

At the conclusion of the initial project, RVK was retained by the Board beginning in January 2014 to support the portfolio restructuring that resulted from the initial project. This subsequent project entailed the following:

1. *Investment Manager Searches and Portfolio Restructuring*

Together with Staff and the Board, review the optimal active/passive mix for each of the PTFs asset classes, including asset classes currently being utilized, and recommend appropriate passive products as needed. As a part of the structure studies completed for each asset class, current managers were analyzed and manager searches were conducted as required to transition of the PTF assets to the Asset Allocation Targets approved by the Board in November 2013. Staff and RVK met with the Board in person to present each of the searches and each of the manager recommendations. RVK assisted Staff in coordinating transaction documents for the funding of new managers and throughout the transition process.

In addition to the search work for the PTFs, together with Staff, RVK reviewed the Strategic Investment and Improvement Fund (SIIF) portfolio guidelines and recommended short-term fixed income or cash equivalent manager candidates and vehicles as deemed appropriate.

2. *Performance Reporting*

During the restructure process, RVK provided Staff and the Board interim status reports that included an asset allocation and an investment performance summary. Upon completion of the transition process, RVK provided comprehensive quarterly performance reports to monitor performance of the PTFs, asset class composites, and investment managers.

As of the date of this report, all manager searches have been completed. Assets are still in the process of being transitioned to core and core plus real estate managers since funding is subject to timing of manager capital calls. The PTFs, therefore, are currently invested in accordance with its interim asset allocation targets. The information presented in this report focuses on the long-term strategic asset allocation approved by the Board in November 2013.

The remainder of this document is divided into the following sections:

Section I: Implementation Structures – Summarizes the discussions in which the Board explored various implementation options for the PTFs and SIIF, including the perceived alignment of each implementation option with the preferences, goals, and objectives of the Board. Through ongoing dialogue, the Board decided to implement the updated asset allocation targets with the assistance of Staff and an Investment Consultant.

Section II: Asset Allocation and Subsequent Portfolio Structure – Provides a summary of the many asset allocation discussions for the PTFs and SIIF. This includes education on asset classes under consideration by the Board and a summary of the asset allocation modeling results. The full scope of modeling results including the projected cash flows of the PTFs as a result of investment returns, and other inflows and outflows of the portfolio are included in the appendix of the report (See Appendix: PTF Asset Allocation Modeling Results). This section also presents the resulting structure, both in terms of sub asset class allocation and investment manager decisions for each asset class. While the discussions around each asset class were robust, the summary focuses on the outcomes and analysis.

Exhibit A: Investment Policy Statement

Appendix: PTF Asset Allocation Modeling Results

Section I: Implementation Structures

Section I: Implementation Structures

Key Objectives
Review fiduciary duties, as well as roles and responsibilities.
Evaluate a range of implementation options and narrow down the options to be considered.
Approve a specific near-term plan to implement the asset allocation.
Prepare an Investment Policy Statement for the PTFs and SIIF.
Develop a long-term implementation plan.

The initial discussion with the Board regarding implementation included a review of the following topics:

- Level of input that will be necessary from the Board
- Prudent Investor Rule
- Fiduciary Responsibility
- Examples of governing structures

The Board agreed that members would provide input to RVK on preferences for risk, return, and allowable asset classes. The Board also agreed to provide feedback on proposed asset allocation targets, and to discuss the various frameworks for a long-term implementation structure. With a focused appreciation of the fiduciary duty of Board members, RVK and the Board began discussing the various structures for implementing the investment program once the asset allocation and policy development process was completed.

The advantages and disadvantages of the following investment decision making options were reviewed:

- Direct decision making by the Board
- Delegation to an Advisory Investment Committee
- Delegation to the North Dakota State Investment Board (SIB)
- Delegation to Staff with assistance from an Investment Consultant
- Delegation to an Outsourced Chief Investment Officer (OCIO)

While RVK initially outlined five possible options, after further discussions with the Board, it was determined that two of the options may be difficult to execute on an ongoing basis. The Board-only option would require a significant time commitment and some means to access specific skill sets required for effective implementation. The OCIO model did not appear to be a good fit for the specific needs and structure of the PTFs and SIIF.

The Board with the assistance of RVK reviewed the three remaining selected options for further consideration:

- Delegation to an Advisory Investment Committee
- Delegation to the North Dakota State Investment Board
- Delegation to Staff with assistance from an Investment Consultant

Due to the logistical and regulatory challenges of forming an Advisory Investment Committee separate from the Board, the Board decided not to pursue this option. Instead the Board agreed to focus on the options of utilizing the SIB for implementation, or delegating implementation to Staff with the assistance of an Investment Consultant. RVK offered to meet with each Board member to answer any questions on implementation strategies prior to the next meeting. Open meeting rules were followed during such meetings. Upon the conclusion of these follow-up discussions, RVK reviewed two implementation options in detail, followed by a specific recommendation. The two remaining viable options as well as the resulting recommendation are further explained below.

Option 1: Delegation to the SIB: The option of working with the SIB in some capacity has merit where combined resources could be used efficiently by various entities within the state. However, there were potential issues with the SIB options if used in a fully outsourced scenario, namely:

- Some of the asset classes currently approved by the Board are not available through the SIB. For example, the Board has historically embraced passive management for the more efficient asset classes.
- SIB has had recent changes in Staff, including the appointment of a new CIO. It will take time for new SIB Staff members to fully familiarize themselves with the existing responsibilities and mandates of the SIB.
- Board members expressed governance concerns as the Board maintains the ultimate responsibility and liability for the prudent investment of the PTFs and SIIF.

Option 2: Delegation to Staff: The Board expressed interest in this option as a near-term solution to implement the asset allocation approved by the Board in November 2013. However, delegation to Staff could pose some long-term challenges, such as:

- Current levels of staffing may not be sufficient to support all required functions to implement and monitor the investment program.
- The Board would prefer not to have significant duplication of efforts with the SIB, but would like to take advantage of the scale and "buying power" of the combined entities wherever possible.

Recommendation: To mitigate the above challenges, the Board decided to engage an Investment Consultant to assist the Board and Staff in implementation and monitoring.

Since the asset allocation was approved (Section II), RVK recommended that the Board move to implement the approved PTFs target allocation as soon as feasible. RVK recommended this be accomplished through Staff, with the assistance of an Investment Consultant.

The Board concluded that implementation by Staff with assistance from an Investment Consultant was the implementation option that best met the investment requirements that had been designated to the Board by statute.

Section II: Asset Allocation and Subsequent Portfolio Structure

Section II: Asset Allocation and Subsequent Portfolio Structure

Key Objectives
Review risk/return analysis based on the current asset allocation and cash flows of each PTF and the SIIF.
Receive educational training on a range of asset classes including equity, fixed income, and alternatives.
Decide on asset classes to be considered in strategic asset allocation modeling.
Identify a tentative target portfolio and review risk/return statistics.
Approve a strategic asset allocation for the PTFs and SIIF.

RVK provided a detailed outline of the process they recommended to develop a strategic asset allocation and investment policy for the PTFs and the SIIF. Initially, The Board, Staff and RVK reviewed the specific goals, risk tolerance, liquidity needs, and appropriate investment vehicles for the portfolios.

The Board provided insight into the purpose of the PTF distributions. The Board noted that, while there are 13 PTFs, the largest component is the Common Trust School Fund. In this regard, both RVK and the Board noted that the investment needs of the Common School Trust Fund and the other PTFs were quite different than the pension assets managed by the SIB. Historically, the PTFs' assets had been managed conservatively, with an emphasis on the 'trust fund' aspect of the PTFs and with a yield/income orientation. The formal shift from an income orientation to a total return orientation was fairly recent in the history of the PTFs. In addition, the assets of the PTFs had grown significantly, and the distributions from PTF assets also had increased significantly (in line with the spending policy for the PTFs).

The Board explained the SIIF and clarified the sources and uses of it. While the SIIF assets had grown, the Board noted that SIIF assets have no permanent balance, or corpus, that could be invested with a long-term time horizon.

After this initial discussion, RVK obtained several additional pieces of information from Staff, including:

- Governing regulatory language for the SIIF and PTFs
- Current Investment Policy Statement (IPS) for the SIIF and PTFs
- Current custodial information for the SIIF and PTFs
- Historical and projected cash flow data for the SIIF and PTFs
- Detailed input for each source of inflow and outflow in the PTFs projected cash flow spreadsheet

Subsequently, RVK provided an introduction to asset allocation modeling, highlighting the benefits of portfolio diversification in reducing risk and increasing expected return. In order to determine the opportunity set of asset classes to include in the asset allocation model, RVK provided asset class education and review with the goal of receiving input from the Board. The discussion of each asset class was designed with two objectives:

- Provide ample education on the asset class for the Board to evaluate the asset class;
- Make a preliminary decision on whether or not the asset class may be a suitable investment for the PTFs and the SIIF.

PTFs Asset Allocation

The Board approved the following asset classes/sub asset classes for inclusion in the PTFs:

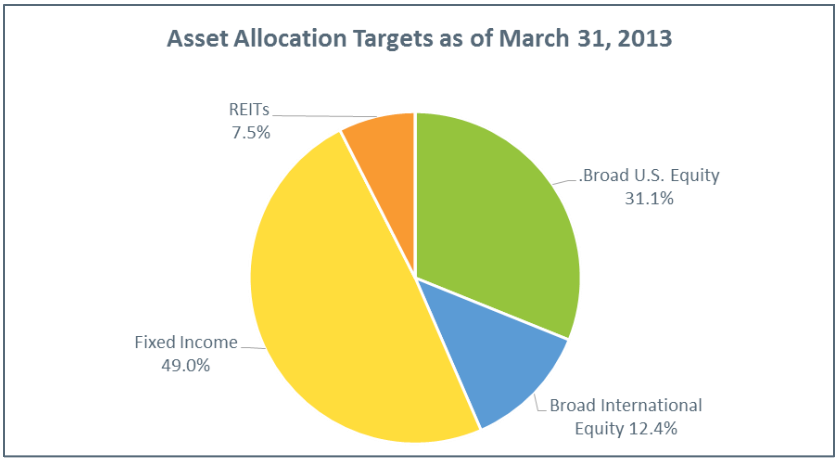
- Broad US Equity: Large Cap and Small Cap
- Broad International Equity: Developed and Emerging Market
- Fixed Income: Investment Grade, Global Fixed Income, High Yield, Low Duration, and direct Loans
- Real Estate: Core and Core Plus Real Estate
- Absolute Return: Global Tactical Asset Allocation (GTAA)
- Diversified Inflation Strategies: MLPs, Commodities, Natural Resource Equities, and TIPs

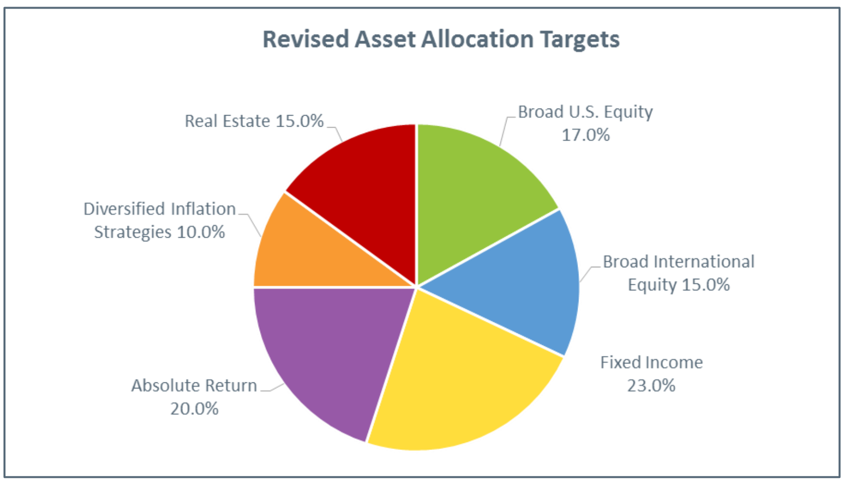
The Board did not approve further consideration for Hedge Funds or Private Equity for the initial implementation phase. RVK discussed investments that may provide some of the positive investment aspects of Hedge Funds and Private Equity without some of the factors that concerned the Board, such as illiquidity, high fees, and lack of transparency. This Board concluded that GTAA or Liquid Multi-Asset managers should be considered as viable options for Absolute Return.

For the following discussion, the Board requested additional information and examples of managers for the new asset classes that were proposed for inclusion in the asset allocation. These asset classes include Real Estate (Core and Value Added), GTAA/Liquid Multi-Asset, and Diversified Inflation Strategies.

RVK proposed specific asset class targets consistent with the objectives and preferences previously stated by the Board. In the analysis, projected cash flows were included into the modeling and considered over varying time periods. Specific analysis output is included in the Appendix. (See Appendix: Asset Allocation Modeling Results).

The Board provided confirmation of the following proposed asset allocation targets which considered all Board and Staff input to-date:





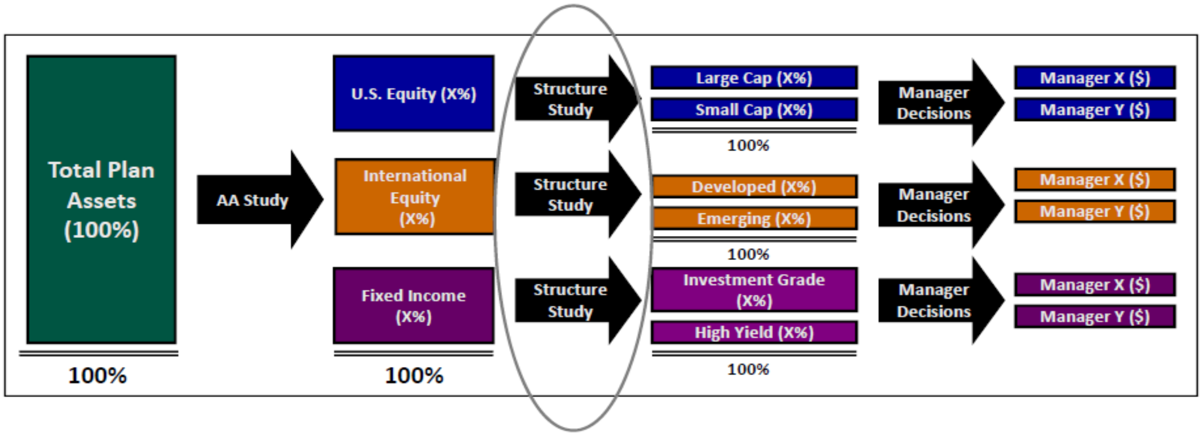
Compared to the previous target asset allocation utilized by the Board, the revised asset allocation adds diversification through:

- Reducing domestic U.S. Equity exposure
- Adding Emerging Market Equity exposure
- Reducing and diversifying the Fixed Income exposure through additional sub-asset classes
- Introducing Absolute Return through the use of GTAA
- Introducing Diversified Inflation Strategies
- Investing in private Core and Core Plus Real Estate strategies, rather than public REITs

Once the broader asset classes were determined, RVK presented asset class structure studies which included a more detailed analysis of potential investments within each broad asset class. During this analysis, labeled as “Structure Study” in the following diagram, RVK sought to answer the following two questions:

- What sub-asset class structure results in the optimal mix of excess return and tracking error relative to a benchmark?

- What is the optimal mix of active and passive strategies as well as the number of investments to utilize?



As depicted in the above diagram, once the structure of each asset class was determined, the focus shifted to identifying specific managers to include in each asset class. For each asset class, Staff, the Board, and RVK analyzed current portfolio holdings, as well as conducted searches for new managers. Staff and RVK conducted in depth interviews with numerous candidates for each asset class, and presented finalist recommendations for the Board to interview. The following sections address the conclusions of sub asset class structure and investment managers for each asset class.

Equity

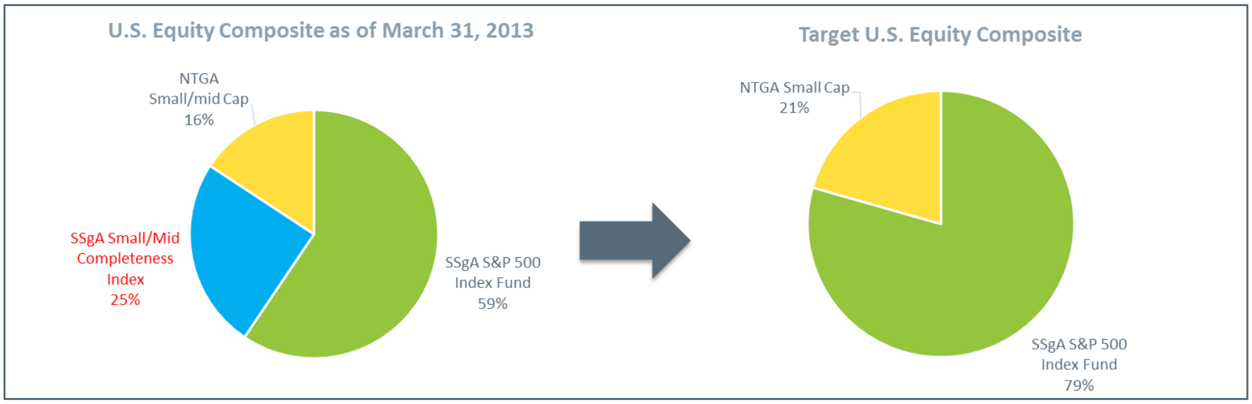
Within Equities, the Board adopted a total allocation of 32% (13.5% Large/Mid Cap U.S., 3.5% Small Cap U.S., 12% International, and 3% Emerging Markets). This positioned the portfolio to be in line with the sub components of the MSCI ACWI IM Index and reduced any strategic biases (such as a small cap or value bias). It was noted that the previous structure was significantly overweight to U.S. Equity versus International Equity.

Broad U.S. Equity

The Board's U.S. Equity portfolio was well-positioned with market capitalization and style similar to that of the broad domestic equity market. The current target U.S. Equity structure was designed to maintain neutrality relative to the broad market, relying on passive management for large and mid cap exposure.

The following changes are being made or were made within the U.S. Equity portfolio.

- Terminating SSgA Small/Mid Completeness Index Fund
- Restructured NTGA Small/Mid Cap portfolio to focus solely on small capitalization securities
- Increased S&P 500 Index exposure utilizing SSgA S&P 500 Index Fund

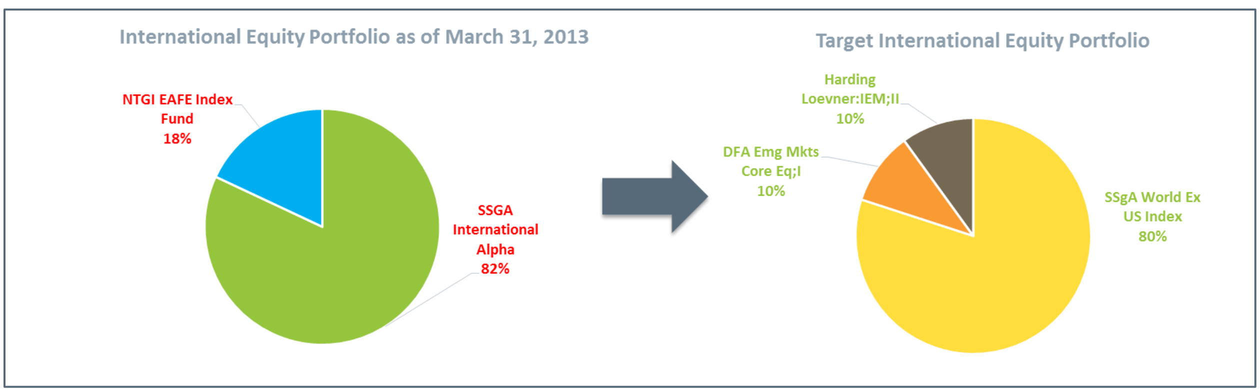


Broad International Equity

The Board's previous International Equity portfolio was completely invested in developed market large/mid cap securities through investments in NTGI EAFE Index Fund and SSgA International Alpha strategy. The portfolio did not have exposure to Canada, Emerging Markets, or International Developed Small Cap.

The following changes were made to the International Equity portfolio.

- Passive exposure was transitioned from an EAFE Index fund to a broader SSgA World excluding US Index fund
- Two active Emerging Market managers (Harding Loevner and DFA) were added to further diversify the portfolio and to provide an opportunity for incremental alpha from a less-efficient subset of the global equity market



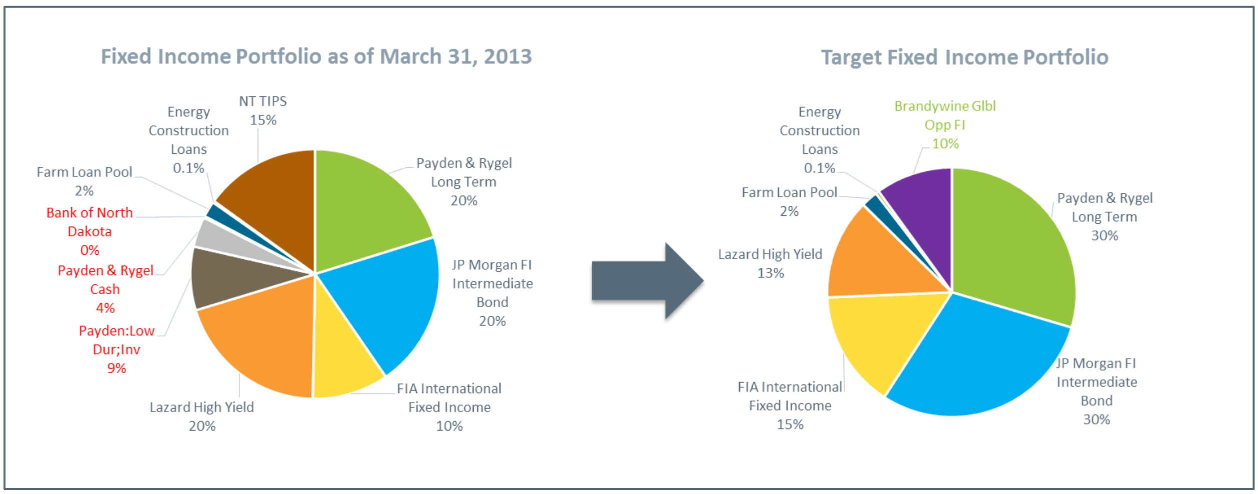
Fixed Income

The asset allocation approved by the Board in November 2013 decreased the total Fixed Income allocation while increasing diversification within the asset class. Fixed income exposure serves an important role in asset allocation including: capital preservation, income generation, diversification, and lowering overall volatility. The Board's previous Fixed Income portfolio consisted of allocations to investment grade Fixed Income, both U,S, and global, high yield, and loans. In order to increase diversification, a global multi-sector Fixed Income manager was added.

Specifically, the following changes were made to the Fixed Income portfolio's target allocation:

- Added Global Multi-sector Fixed Income through Brandywine Global Opportunistic Fund
  - additional source of alpha
  - exposure to fixed income sectors to which the PTFs had limited or no exposure
  - complement to approaches of legacy fixed income managers given Brandywine's top-down, value-oriented philosophy
- Re-classified TIPS exposure as Diversified Inflation Strategies
- Eliminated exposure to Payden & Rygel Low Duration strategy

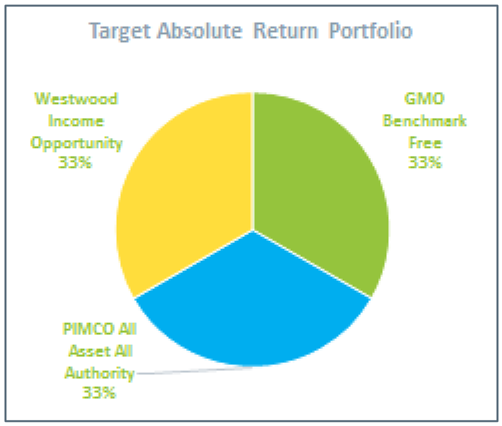
The resulting asset class is allocated approximately 75% to domestic managers and 25% international/global.



Absolute Return

As the portfolio did not have exposure to Absolute Return strategies, RVK provided detailed education to discuss the merits and objectives of various strategies. The primary objective of a GTAA strategy is to systematically exploit inefficiencies in equilibrium values among different asset or sub asset classes. GTAA is based on the assumption that relative returns among asset classes will diverge temporarily from equilibrium levels, allowing the opportunity for excess returns from systematic (generally contrarian) strategies. This broad strategy provides potential to add value by overweighting those asset classes or sub-asset classes that are expected to outperform on a relative basis in the near term and underweighting those expected to underperform in the near term.

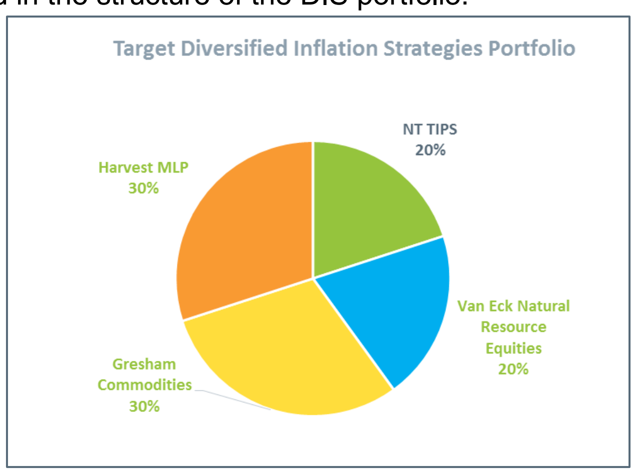
The allocation provides diversification for the current Board portfolio. It serves as a source of alpha and as a means to obtain exposure to various asset classes. All strategies are liquid, providing many of the benefits of hedge funds without the illiquidity. Given the overall size of the allocation and the variability of approaches, the Board approved splitting the absolute return allocation equally among three unique investment managers.



Diversified Inflation Strategies

As a broad asset class, Diversified Inflation Strategies (DIS) includes many liquid sub asset classes such as: TIPS, REITS, MLPs, Commodities, and Natural Resource Equities. Less liquid investment opportunities also exist but were not considered at this stage for investment by the portfolios under the Board's responsibility.

The previous inflation protection exposure consisted of financial assets, including TIPS and REITS. The target DIS structure diversifies the portfolio beyond TIPS through the introduction of MLPs, Commodities, and Natural Resource Equities. Consideration of the PTFs exposure to oil revenue was considered in the structure of the DIS portfolio.



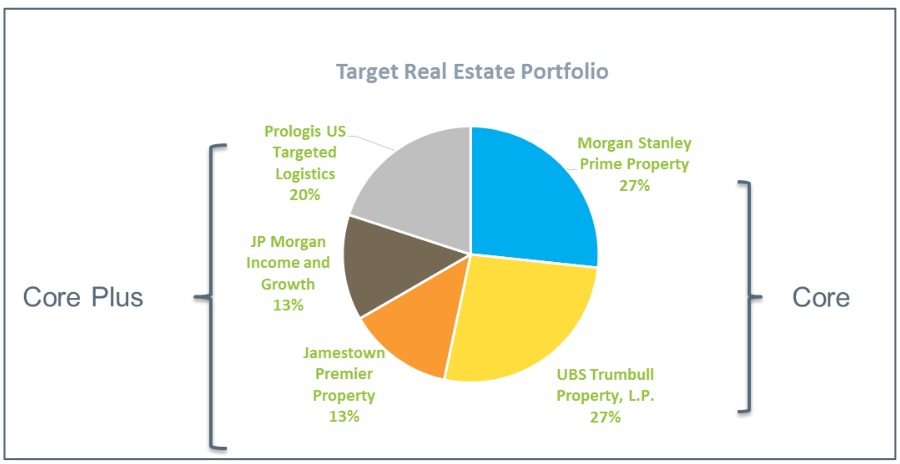
Real Estate

The Board previously did not have exposure to private Real Estate, but rather public Real Estate (REITS). The target Real Estate structure includes 8% to Core Real Estate and 7% to Core Plus Real Estate. The basic distinction between Core and Core Plus Real Estate is that Core Real Estate managers generally buy assets to extract value through income (rents), while Core Plus managers buy assets at a discount with the goal of improving those assets, increasing their value, and making them core assets. Although Core Plus Real Estate may be somewhat more volatile than Core Real Estate, expected returns are also higher. Based on liquidity preferences, the Non-Core Real Estate manager search solely focused on liquid, open-ended Core Plus Real Estate managers.

The Board selected five Real Estate managers (2 Core and 3 Core Plus) to provide:

- Diversified Real Estate exposure through complementary Core and Core Plus funds
- Exposure to high quality specialized Core Plus RE managers (Prologis and Jamestown)
- Allocation to a well-diversified, relatively conservative Core Plus strategy (JPMorgan)

Assets are still in the process of being transitioned to real estate managers, subject to timing of manager capital calls.



SIIF Asset Allocation

With Staff, RVK reviewed the current and projected cash flows of the SIIF. As the SIIF is subject to legislative appropriation, the projected expenditures of the SIIF are not controlled by the Board, but rather mandated by North Dakota's legislature.

Outflows for the SIIF for the 2013-2015 biennium are approximately $750 million in obligations, representing approximately 85% of current assets of the SIIF, with timing remaining relatively fluid. While the DTL Revenue Transfers will cease because the unobligated balance will decline below $300 million, the anticipated outflows will occur within the next 18 months.

Based on the analysis, RVK recommended that the SIIF maintain its allocation to cash or enhanced cash like exposures. The current investment in cash equivalents remains appropriate given the amount and timing of the projected cash flows. Staff explored various investment options to increase the yield of the SIIF portfolio using a combination of Treasuries, corporate bonds, asset and mortgaged backed securities, commercial paper and other duration investments to add value over a solely Treasury portfolio. The primary goal of the investment portfolio would continue to be to preserve capital and maintain liquidity to meet spending needs. The specific guidelines on the allocation of the SIIF portfolio are included in the Investment Policy Statement (Exhibit A).

RVK

Exhibit A: Investment Policy Statement

ND Board of University and School Lands Investment Policy Statement

An Investment Management Framework for North Dakota's Permanent Trust Funds, the Capitol Building Fund, the Strategic Investment and Improvements Fund, the Coal Development Trust Fund, and the Indian Cultural Education Trust

Last updated 8/27/2015

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Mission Statement

The mission of the Board of University and School Lands is to manage the assets of the permanent trusts in a manner that preserves the purchasing power of the funds and maintains stable distributions to fund beneficiaries and to manage all other assets and programs entrusted to the Board in a prudent, professional manner, in accordance with the Constitution of North Dakota and applicable state law.

General Authority

On February 22, 1889 Congress passed the Enabling Act, dividing Dakota Territory into two states and authorizing the people to form the constitution and government of the state of North Dakota. This act granted a significant amount of land to support common schools, colleges, universities, the state capitol, and other public institutions. North Dakota's Constitution (Article IX), adopted on October 1, 1889, entrusted the management of these lands to the "board of university and school lands" (the Board). The Board is made up of the governor as chairman, the secretary of state as vice-chair, the attorney general, superintendent of public instruction, and the state treasurer.

Investment Authority

The North Dakota constitution states that the Board "has control of the appraisement, sale, rental, and disposal of all school and university lands, and the proceeds from the sale of such lands shall be invested as provided by law."[1] State law further requires that the Board "shall apply the prudent investor rule in investing the permanent funds under its control."[2]

Purpose of This Policy

This Investment Policy Statement (Policy) governs the investment of assets for the thirteen Permanent Trust Funds, the Strategic Investment and Improvements Fund (SIIF), the Capitol Building Fund, the Coal Development Trust Fund, and the Indian Cultural Education Trust (collectively, Funds). It is established to provide a framework for the management of those assets and sets forth the Board's investment objectives, philosophy, guidelines, and practices. The Policy is not intended to be a static, one-time document but is designed to capture investment opportunities while providing parameters that ensure prudence and care in the execution of the investment program. No investment or action pursuant to an investment may be taken unless permitted by this Policy or by action of the Board; any exceptions must be approved by the Board.

The Policy provides guidance for fiduciaries which include the Board, the Commissioner of University and School Lands (Commissioner), investment managers, investment consultants, and custodians. It is the intent of the Policy to provide the foundation for management of the Funds' assets in a prudent manner including the standards by which the Board can evaluate the Commissioner, investment managers, investment consultants, custodians and other service providers.

[1] N.D. Const. art. IX, § 3

[2] N.D.C.C. § 15-03-04

This Policy is supplemented by the Commissioner's operating procedures and policies, as well as detailed information within contractual agreements with investment managers.

Investment Philosophy

In order to meet the above investment objectives, the Board has adopted the following principles:

- Strategic asset allocation is a fiduciary duty and allocation across asset classes is the most important determinant of return variability and long-term total return.
- Risk is an unavoidable component of investing and is a major factor that must be taken into account in assessing investment policy and strategy.
- Diversification by asset class and within asset classes is a primary risk control element.
- Each trust or fund invested by the Board shall have a strategic asset allocation and investment strategy that is appropriate given its specific requirements for return, risk, time horizon, and liquidity.

Capital Markets Theory

Return

In order to meet the objective of the Funds, the Board strives to achieve the highest level of investment performance that is compatible with its risk tolerance and prudent investment practices. The Board's mechanism for setting return goals will be accomplished by selecting specific benchmarks that match the objective and time horizon of each fund. The Funds will have a goal for long-term returns to meet or exceed its formal benchmark over a full market cycle, while minimizing the costs associated with implementation of the asset allocation through efficient use of internal and/or external resources.

Risk

The investment risk philosophy for the Funds is based on the principles of capital market theory that are generally accepted and followed by institutional investors, who by definition are long-term oriented investors. This philosophy holds that:

- Increasing risk is rewarded with compensating returns over time; therefore prudent risk taking is a necessary element of long-term investing.
- Risk can be mitigated through diversification of asset classes and investment approaches, as well as diversification of individual securities.
- The primary determinant of long-term investment performance is the strategic or long-term allocation of assets among various asset classes.
- Relative performance of various asset classes is unpredictable in the short-term and attempts to shift tactically between asset classes or implementation strategies shall not be undertaken by the Board.

Given these principles, the Board has established a long-term asset allocation policy for each fund that balances the returns needed to meet the fund's objectives and the risk level that is appropriate for that fund under existing and anticipated circumstances. In determining its risk posture, the Board has considered each fund's purpose and characteristics, current and projected financial condition, liquidity needs, sources of contribution, income, and general economic conditions.

Diversification

The Board will choose an investment strategy for each Fund utilizing an appropriate long-term, diversified asset allocation approach. Diversification distributes a portfolio across many investments to avoid excessive exposure to any one source of risk. Other considerations in asset allocation modeling should take into account the purpose of the fund, the size and financial condition of the fund, and general economic conditions. These factors are not intended to be limiting; rather, they are outlined as a general indication of the importance of diversification to proper asset allocation. Under such an allocation, each Fund's assets may be invested by active and/or passive managers, and by diverse investment strategies and styles within each asset class. The Board will determine the proper allocation among asset classes and investment managers, based on advice and analysis provided by the Commissioner and/or Consultants.

Formal Review Schedule

The Board recognizes that though the investments are subject to short-term volatility, the Board shall maintain a long-term investment focus. This prevents ad-hoc revisions to the philosophy and policies in reaction to either speculation or short-term market fluctuations. In order to preserve this long-term view, the Board has adopted the following formal review schedule:

Formal Review Agenda Item	Formal Review Schedule
Asset Allocation Policy	At least every four years
Manager Structure Policy	At least every four years
Investment Policy	At least every four years
Total Fund Performance	At least quarterly
Asset Class Composite Performance	At least quarterly
Investment Manager Performance	At least quarterly

Roles and Responsibilities

The Board

The Board of University and School Lands is the primary body charged with overseeing investment activities relating to the Funds. Members of the Board are fiduciaries subject to the statutory and common law duties of a fiduciary.

The Board's mandate, in turn, is to manage each fund entrusted to it ethically and optimally, working to achieve the highest level of investment performance within acceptable levels of risk. The Board is responsible for prudent investment of the Funds. The Board will operate the investment program in compliance with all applicable federal and State laws and regulations. The Board is responsible for establishing and maintaining all policies and guidelines by which the Funds are managed, and by which the Commissioner operates.

The Board relies on the Commissioner and any external contractors to properly administer the Funds and implement the Funds' investment strategies. The roles of each party as fiduciaries must be clearly identified;

such identification increases operational efficiency, ensures clear lines of responsibility, and reduces or eliminates duplication of effort.

The Commissioner

The Board of University and School Lands is required to appoint a commissioner to act on its behalf.[3] The office of the Commissioner of University and School Lands (the Commissioner)[4] has a primary responsibility to manage the permanent educational trust funds and assets under the Board's control as outlined in law. When used in this Policy, the term Commissioner is inclusive of the Department of Trust Lands' Chief Investment Officer and investment staff. State law also gives the office of the Commissioner the responsibility for managing the state Unclaimed Property Division, and the Energy Infrastructure and Impact Office.

The Commissioner is responsible for implementing Board policy, the day to day management of the investment program, and implementing a process for selection and termination of investment managers that is sufficiently transparent for the Board to understand the process and provide meaningful oversight.

Investment Consultant

The Investment Consultant (Consultant) is hired by and reports directly to the Board. The Consultant's duty is to assist the Board in oversight, and the Commissioner in managing the investment process. This includes regular meetings with the Board to provide an independent perspective on the Funds' goals, structure, performance, and managers. The Consultant will render investment advice to the Board regarding such matters as investment policy, strategy, overall portfolio monitoring and composition, and diversification of investments. The Consultant will conduct ongoing due diligence of external investment managers. The Consultant does not have any discretionary authority with respect to investments; the Board makes all final decisions regarding any investments.

Investment Managers

Investment managers (Managers) are hired by and serve at the pleasure of the Board. The Commissioner will provide the Managers with explicit written investment guidelines[5] which detail permissible securities, investment strategies, and performance evaluation criteria. Each Manager will select, buy, and sell specific securities or investments within the parameters specified in their investment guidelines and in adherence to this Policy or to other policies set forth by the Board. Managers will construct and manage investment portfolios that are consistent with the investment philosophy and disciplines for which they were hired. Managers will provide performance reporting at intervals specified by the Commissioner.

Custodian

A custodian bank is a specialized financial institution hired by the Board to safeguard the Funds' financial assets; they are a third party that operates separately from Managers. The custodian(s) will collect income and safely keep all cash and securities, process all transactions, and provide monthly accounting/investment

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[3] N.D.C.C. § 15-02-01; Specific responsibilities of the Board and the Commissioner are set out in N.D.C.C. §§ 15-01 through 15-08.1.

[4] Commissioner of University and School Lands is the statutory name; in 2011 the Board adopted *The Department of Trust Lands as the common reference to the agency*.

[5] In cases where the Board has selected investments in commingled or mutual funds, the offering document becomes the specific investment guidelines.

reports to the Commissioner and Consultant. The custodian may also provide securities lending, commission recapture, transition management, securities litigation monitoring, or other services for the Funds.

The Prudent Investor Rule

North Dakota statute dictates that the Board applies the prudent investor rule in investing the Permanent Trust Funds under its control. The law states:

> "The 'prudent investor rule' means that in making investments the board shall exercise the same judgment and care, under the circumstances then prevailing and limitations of North Dakota and federal law, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable investment returns."[6]

It is the Board's intent to invest all of the Funds in accordance with the Prudent Investor Rule.

Social and Economically Targeted Investing

Social investing is defined as the practice of aligning one's investment policies with social responsibility. Some of the issues and topics addressed by social investing promoters include environmental causes, avoidance of tobacco producers, avoidance of politically sensitive parts of the world, and workers' rights. With different sets of values, what one investor may deem irresponsible, another may consider good policy.

The Board shall not use the Funds to participate in activist efforts to implement a social agenda regarding ownership of specific securities or efforts of shareholders to bring about social change.

Economically targeted investing is defined as an investment designed to create economic benefits for a targeted geographic area, group of people, or sector of the economy. Economically targeted investing is barred when investing the Permanent Trust Funds, the Capitol Building Fund, and the Indian Cultural Education Trust, unless the investment meets the Exclusive Benefit Rule.

Exclusive Benefit Rule

The Exclusive Benefit Rule is met if the following four conditions are satisfied:

- The cost does not exceed the fair market value at the time of investment.
- The investment provides an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
- Sufficient liquidity is maintained to permit timely distributions.
- The safeguards and diversity to which a prudent investor would adhere are present.

Economically targeted investing is allowed within the Coal Development Trust Fund and the Strategic Investment and Improvement Fund, if the investment meets the purpose of the fund and is directed by law.

[6] N.D.C.C. § 15-03-04

Conflicts of Interest

Members of the Board, the Commissioner, employees of the Commissioner, Managers, Consultants, and custodians involved in the investment process will refrain from personal business activity that could conflict with the proper execution and management of the Board investment program, or that could impair their ability to make impartial recommendations and decisions. These parties are required to reveal all relationships that could create or appear to create a conflict of interest in their unbiased involvement in the investment process.

Manager Selection and Evaluation

When analyzing and evaluating any Manager, the Board believes it is important to review the Manager within the context of the structure of the entire asset class and portfolio, and not in isolation. A key to portfolio construction is diversification, not just by asset class but within each asset class. The goal of diversification is to be exposed to different investment strategies, which will have different performance and risk patterns. Diversification is optimal when strategies are complementary.

Search and Selection

The Board has established the following guidelines for hiring Managers. In establishing these guidelines, it is the Board's intention to assure all interested parties that decisions made in carrying out these actions occur in a full disclosure environment characterized by competitive selection, objective evaluation, and proper documentation. Any action to hire a manager should be based on one or more of the following observations:

- Identification of a new asset class or approach which has been approved in advance by the Board
- A need for diversification of managers and styles within an existing asset class
- A need to replace an investment manager
- A need to retain additional managers in order to reach an asset class structure target

The selection of new Managers will adhere to a consistent process to ensure a competitive and transparent search involving proper evaluation and due diligence of candidates, and selection of Managers that best demonstrate the characteristics sought in a specific search. The Commissioner will ensure that the objectives for the mandate are clearly articulated and that pricing is reflective of the market. The evaluation process may be conducted by the Commissioner or the Consultant and will include but not be limited to the following steps:

1. Establish investment manager election criteria
2. Identify qualified candidates through minimum qualification screening
3. Quantitative screening
4. Qualitative screening
5. Manager interviews
6. Analysis of quantitative and qualitative factors including portfolio fit and structure

The Commissioner will prepare documentation of the search process; this documentation will include disclosure of all relevant issues and related due diligence. When reviewing the documentation, the Board shall ensure that decisions were well reasoned, thoroughly considered, and prudent.

Monitoring, Evaluation, and Termination of Managers

The decision to retain a Manager can have the same potential impact on the returns of an asset class composite as manager selection decisions and should be given the same degree of attention. The Board recognizes investment and management decisions directed at individual managers must be evaluated not in isolation but in the context of the overall structure of the asset class and the Fund's portfolio as a whole. To maintain the discipline necessary for a long-term focus, the Board will monitor and evaluate the performance of Managers and identify the specific problems and concerns that may affect returns, with the following objectives:

- Foster a long-term approach to manager evaluation
- Provide a review of the manager's "fit" in the overall asset class composite
- Provide a logical and statistically valid framework for manager skill evaluation
- Promote timely and appropriate responses to actual and potential performance issues
- Provide flexibility to allow application across all asset classes, management styles and market environments

Monitoring and evaluation relies on a process that includes:

1. Monthly reports from the custodian and Managers to the Commissioner
2. Quarterly performance reports from the Commissioner and Consultant for the Board. These reports will detail performance of the Funds, asset class composites, and the performance of individual managers against established benchmarks, as well as peer ranks for each category
3. Qualitative analysis generated in the course of regular, on-going contact between a Manager, the Commissioner, and the Consultant

Manager Termination Guidelines

From time to time it will be necessary for the Board to terminate a contractual relationship with a Manager; these actions must be viewed in the context of the entire portfolio and as a business decision. The Board has established guidelines to assist in making these termination decisions. The overriding consideration with respect to all decisions is that they shall be made solely in the best interest of the beneficiaries of the Funds.

Any action to terminate a manager should be based on one or more of the following criteria:

1. Significant changes in firm ownership and/or structure
2. Loss of one or more key personnel
3. Significant loss of clients and/or assets under management
4. Shifts in the firm's philosophy or process
5. Significant and persistent lack of responsiveness to client requests
6. Changes in the Board's investment strategy eliminating the need for a particular style or strategy
7. Violations of the Investment Policy or guidelines

8. Unsatisfactory investment performance
9. Identification of a new asset class or approach which has been approved in advance by the Board
10. Need for diversification of styles within an existing asset class
11. Need to reduce exposure to a single manager
12. Any other issue or situation of which the Commissioner, Consultant, and/or Board become aware that is deemed material

Prior to the termination decision, all relevant considerations and issues should be identified and documented in Board meeting minutes and supporting documents. It is the Board's intent to have a plan in place before termination of a Manager. The Commissioner will redeploy the assets of a terminated manager's portfolio in an expedient and prudent manner, which may involve hiring a third party to facilitate the transition or liquidation of assets.

General Investment Restrictions and/or Guidelines

1. All investments made shall be subject to the quality and diversification restrictions established by the Prudent Investor Rule.
2. According to North Dakota law, the Board may not purchase as sole owner commercial or residential real property in the State.[7]
3. Assets may be held in commingled funds and/or privately managed separate accounts. Exposure through commingled funds and mutual funds shall be evaluated on a case-specific basis through analysis of that fund's offering document. Upon review by the Commissioner and approval by the Board, this offering document becomes the specific investment guidelines for that allocation.
4. No more than 5% of the stock of any corporation may be purchased.
5. The securities representing debt and equity of any one company shall not exceed 6% of the market value of any Manager's portfolio without prior approval from the Commissioner; such approval shall be reported to the Board.
6. Cash equivalents held by Managers can be disruptive to the allocation process. Unless otherwise authorized, Managers are expected to be fully invested in the types of securities for which they have responsibility.
7. Any use of leverage will be consistent with the strategy for which the Board hired the Manager. Use of leverage will be controlled as appropriate in the Manager's specific guidelines.
8. The Board recognizes that the Funds are exposed to currency risk through international equity, fixed income, and absolute return mandates; the Board prefers to utilize unhedged benchmarks and does not require its Managers to hedge the currency exposure in their portfolios.[8]

[7] N.D.C.C. § 15-03-04

[8] The exception is the Board's international fixed income mandate with First International which is fully hedged in regards to currency and utilizes a hedged benchmark.

Securities Litigation and Shareholder Legal Activism

In carrying out its fiduciary duties to prudently invest and manage the assets entrusted to it, the Board invests in the securities of various public companies, or issuers. From time to time, class action lawsuits are brought against the issuers, directors, and/or officers for alleged violations of federal and state securities laws relating to various disclosure obligations and other breaches of fiduciary or other duties. As shareholders, the trust funds under the Board's control are putative members of the alleged classes.

The Board relies on the custodian to monitor settled class action securities litigation where the Funds have an interest. In resolved litigation, unless directed otherwise, the custodian files proofs of claim on behalf of the Funds and posts disbursements or settlements to the appropriate portfolios as litigation settlement proceeds are received.

Although there may be value in influencing an eventual settlement or in pursuing a separate legal action in a lawsuit, the administration and opportunity costs can be substantial. The Board uses a monitoring approach to securities litigation to avoid the diversion of staff, financial, and legal resources in building and applying collective plaintiffs' arguments through depositions, discovery, and documentation. Serving as the lead plaintiff does not obtain any additional financial benefit, but rather a lead in a class action suit shares any final judgment or settlement with the class members on an equal, per share basis.[9] Opting out of a "class" or objecting to the terms of a proposed settlement and pursuing independent legal remedies may also be pursued although the administration and opportunity costs can be substantial and involve significant attorney's fees, costs, and expenses which may or may not be fully compensated.

The Board, in consultation with the Attorney General, may consider more active forms of legal engagement in cases where:

1. the estimated loss is greater than 0.1% of the total assets under management of the Board; and
2. the trust funds are among the largest shareholders of the defendant issuer; and
3. service as a lead plaintiff or opting out of a proposed settlement to the "class" of claimants would be in the best interest of the Funds

The Board may contract with firms that provide securities litigation monitoring/tracking services if it determines it is prudent.

Securities Lending

The objective of the securities lending program is to generate incremental income from overnight and certain term loans of securities. The Funds may participate in a securities lending program.

The program will utilize a high-quality and conservative collateral re-investment approach that safeguards the return of principal and maintains adequate daily liquidity to support trade settlement activity and portfolio restructuring activities. Each securities lending agent will ensure that specific guidelines are in place as to the quality, duration, liquidity and diversification of securities lending collateral.

[9] The lead plaintiff may recover attorney's fees, costs, and expenses if the lawsuit is successful or a settlement is obtained.

The Board requires collateral for loans. The use of assets in any securities lending engagements should:

1. Earn a competitive market return through conservative securities lending practices, consistently with the preservation of capital.
2. Minimize risk with respect to both the borrower and the collateral,
3. Operate the securities lending program so that it will not interfere with the management of overall investment portfolio and strategies.

Unless explicitly exempted by the Board, the lending agent shall provide indemnification against losses arising from borrower default, insolvency, and failure to comply with the terms and conditions of the lending agreements.

The Commissioner shall provide a report to the Board annually, outlining the performance and status of the securities lending program.

Proxy Voting

The Board believes that proxies should be voted; it delegates authority to vote shares to each Manager and expects Managers to vote shares. The principle behind this policy is that Managers have specific reasons for holding shares and will vote shares in a way the Manager believes will best add value to those shares. Managers shall submit written reports to the Commissioner upon request advising of the manner in which each proxy was voted during the preceding period.

An exception to the above policy regarding voting of proxies is for shares held by the Board on behalf of holders of unclaimed property. As a passive holder of these particular shares the Board chooses not to exercise voting rights on the owners' behalf.

Funds Administered by the Board

The pages that follow describe the various funds administered by the Board.

Permanent Trust Funds

On February 22, 1889, Congress passed "An act to provide for the division of Dakota Territory into two states, and to enable the people of North Dakota, South Dakota, Montana and Washington to form constitutions and state governments . . ." This Act is commonly known as the Enabling Act. This act granted land to the new states "for the support of common schools," which in North Dakota's case totaled more than 2.5 million acres. Further land grants in this legislation provided for the support of colleges, universities, the state capitol, and other public institutions. These additional grants totaled approximately 668,000 acres, bringing the grand total of Enabling Act land grants to nearly 3.2 million acres.

Purpose

The land grant from the federal government at statehood[10] and the state constitution[11] both provide that the Board of University and School Lands manage the trust land and minerals and associated proceeds, for the exclusive benefit of education and institutional support. In accordance with Article IX of the North Dakota Constitution as well as federal law[12], the perpetual trust funds must be managed to:

1. Preserve purchasing power
2. Maintain stable distributions to trust beneficiaries

Chapter 15-03 of the North Dakota Century Code governs the management of the Permanent Trust Funds, including the requirement that any investments conform to the prudent investor rule.

Listing of Permanent Trust Funds

The following are the beneficiaries of the Permanent Trust Funds described in Article IX of the North Dakota Constitution:

1. Common Schools (K-12)
2. North Dakota State University
3. University of North Dakota
4. Mayville State University
5. ND Youth Correctional Center
6. Ellendale State College[13]
7. Valley City State University
8. State College of Science
9. School for the Blind
10. School for the Deaf
11. State Hospital
12. School of Mines (UND)
13. Veterans Home

[10] The Enabling Act of February 22, 1889 (25 Stat. 676, chapter 180)
[11] N.D. Const. art. IX, § 2 and 3
[12] 7 U.S.C. § 309 and 25 Stat. 676, chapter 180
[13] Beneficiaries of the Ellendale permanent trust are now Dickinson State University, Minot State University, Dakota College at Bottineau, Veterans Home, School for the Blind, State Hospital, and the State College of Science as directed in Chapter 176 of the 1973 legislative session laws.

Funding Sources

Funding Sources Common to All Permanent Trust Funds

Each permanent trust individually owns surface land tracts and mineral rights that provide revenue from agricultural leases, oil and gas royalties and lease bonuses, as well as other productive uses of the surface and mineral lands owned by each trust.

Common Schools

The Common Schools Trust Fund is the largest of the Permanent Trust Funds administered by the Board. In addition to the revenues from the surface lands, minerals, and investments that the Permanent Trust Funds own, the Common Schools Trust Fund also receives funding from the following sources:

1. 10 percent of the oil and gas extraction tax collected by the state[14]
2. 45 percent of the proceeds from the tobacco class-action lawsuit settlement[15]
3. Net unclaimed property proceeds collected by the Department[16] until such time that property may be reunited with its owner.

Distribution Policy

Article IX, Section 2 of the North Dakota Constitution states:

> "Distributions from an educational or charitable institution's trust fund must be faithfully used and applied each year for the benefit of the institution and no part of the fund may ever be diverted, even temporarily, from this purpose or used for any purpose other than the maintenance of the institution, as provided by law.

The distribution formula[17] is also described in Article IX of the state constitution:

> ... biennial distributions from the perpetual trust funds must be ten percent of the five-year average value of trust assets, excluding the value of lands and minerals. The average value of trust assets is determined by using the assets' ending value for the fiscal year that ends one year before the beginning of the biennium and the assets' ending value for the four preceding fiscal years. Equal amounts must be distributed during each year of the biennium.

By statute, distributions from the Common Schools Trust Fund are paid to school districts monthly, from August to April of each fiscal year, through the state tuition fund.[18] Historically, distributions have been smaller during the early part of each fiscal year and higher towards the end of each fiscal year.

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[14] N.D. Const. art. X, § 24

[15] N.D.C.C. § 54-27-25

[16] N.D.C.C. § 15-10-05.2 and N.D. Const. art. IX, § 1

[17] This distribution formula is the result of a constitutional amendment that was approved by North Dakota voters on November 7, 2006. This constitutional change was validated at the federal level by the passing of the Omnibus Public Land Management Act of 2009 (H.R.146) which amended the First Morrill Act (The Act of July 2, 1862 [7 U.S.C. 301 et seq.]) and the Enabling Act of February 22, 1889 (25 Stat. 676, chapter 180). Prior to these changes, distributions for the Permanent Trust Funds were based on projections of interest and income for the funds; distributions could only be paid out of interest earned.

[18] N.D.C.C. § 15.1-28-01

Distributions from the other 12 Permanent Trust Funds are made in equal amounts during January and June of each fiscal year and are distributed directly to the benefitting institutions.

Investment Objective

The assets of the Permanent Trust Funds are invested with a perpetual time horizon, in a manner that seeks to balance the longer-term goal of preserving the purchasing power of the trusts with the shorter-term goal of maintaining a stable stream of distributions to beneficiaries. The long-term nature of the funds, combined with a disciplined investment approach, provide the ability to the Permanent Trust Funds to withstand short-term volatility, to profit from periods of elevated risk aversion, and to be rewarded for providing liquidity.

The Permanent Trust Funds are invested by the Board in a single comingled pool, along with the Indian Cultural Education Trust (described further on page 25).

Strategic Asset Allocation

The Board recognizes that the most important determinant of long-term return and risk is the asset allocation decision. The asset allocation decision is intended to reflect the return objective and risk tolerance expressed in this Investment Policy Statement. It is designed to provide the highest probability of meeting the Funds' objectives at a level of risk and liquidity that is acceptable to the Board. In establishing its risk tolerance, the Board considers the Funds' ability to withstand short- and intermediate-term volatility in investment performance and fluctuations in financial condition of the Funds.

To determine the strategic asset allocation target, the Board, with assistance from the Commissioner and Consultant, examines the historical and projected risk and return of the approved asset classes, the correlation among these asset classes as well as the effect the expected investment performance will have on the obligations of the Funds. Based on its long-term return expectations and its determination of the appropriate risk tolerance for the Funds, the Board has chosen the following strategic asset allocation policy for the Permanent Trust Funds:

Asset Class	Strategic Asset Allocation Target	Minimum	Maximum
Broad US Equity	17%	12%	22%
Broad International Equity	15%	10%	20%
Fixed Income	23%	18%	28%
Absolute Return	20%	15%	25%
Real Estate	15%	10%	20%
Diversified Inflation Strategies	10%	5%	15%

The Board and the Commissioner will review the strategic asset allocation policy at least annually for reasonableness relative to significant economic and market changes or to changes in the Funds' long-term goals and objectives. A formal asset allocation study will be conducted at least every four years to verify or amend the targets.

Recognizing that a long-term target allocation utilizing alternative asset classes can take a matter of years to implement prudently, the Board delegates implementation of strategic asset allocation policy to the Commissioner including funding of alternative asset classes and setting interim asset allocation targets.

Rebalancing

Rebalancing is the term that describes the periodic movement of funds from one asset or asset class to another in order to realign assets to the strategic asset allocation target. A rebalancing strategy is an important element of asset allocation policy. Systematic rebalancing can reduce portfolio volatility and increase portfolio return over the long-term. However, frequent rebalancing resulting from excessively tight ranges can lead to unnecessary transaction costs.

The Commissioner is responsible for developing and implementing a rebalancing plan that is appropriate for existing market conditions, with a primary objective of minimizing transaction costs, market impact, opportunity costs and portfolio disruptions. To the extent possible, cash flows and revenues will be used to maintain the strategic target allocation. The Commissioner may make minor changes among asset classes and within individual asset classes to more effectively maintain proper exposure to the strategic asset allocation and asset class portfolio structures.

Recognizing that at times it may be impractical or costly to reallocate assets when an upper or lower limit is breached, the asset class will be rebalanced to within its strategic asset allocation range as soon as is practically possible, subject to reasonable transaction costs.

Benchmarks

One return objective to be considered when evaluating the Funds' performance is measured by applying the investment performance of the asset class benchmarks to the Funds' strategic asset allocation target. The Policy Index permits the Board to compare the Funds' actual performance to its total fund benchmark, and to measure the contribution of active investment management and policy adherence.

The Board has selected the following Policy Index for the Permanent Trust Funds:

Asset Class	Policy Index	Strategic Asset Allocation Target
Broad US Equity	Russell 3000 Index	17%
Broad International Equity	MSCI ACWI Ex USA Index	15%
Fixed Income	Barclays Global Aggregate Index	23%
Absolute Return	Absolute Return Custom Index[1]	20%
Real Estate	NCREIF ODCE Index	15%
Diversified Inflation Strategies	DIS Custom Index[2]	10%

[1] Absolute Return Custom Index: 60% Equity (MSCI All Country World IMI), 40% Fixed Income (Barclays US Aggregate Bond Index)

[2] DIS Custom Index: 30% Commodities (Bloomberg Commodities Index ex-energy), 30% MLPs (S&P MLP Index), 20% TIPS (Barclays US TIPS), 20% Natural Resource Equities (S&P Global Natural Resources Index).

Recognizing that a long-term target allocation to alternative asset classes can often take a matter of years to implement prudently, the Board will also review an Interim Policy benchmark which will be adjusted as the Commissioner makes progress towards its long-term strategic asset allocation target.

Permitted Investments[19]

The Board may invest in the following securities and investment activities as long as such investments comply with the Prudent Investor Rule[20]. Fund of Fund strategies are allowable in any of the asset classes. All investments are subject to approval of the Board and satisfactory legal review of applicable contractual terms and conditions.

Equity

1. Preferred stock, common stock, initial public offerings, Real Estate Investment Trusts (REIT's), securities of foreign issuers listed on U.S. Exchanges, and any security convertible to common stock or American Depository Receipts (ADR's) that are registered by the U.S. Securities and Exchange Commission (SEC) of any corporation whose securities are listed on at least one U.S. stock exchange that has been approved by or is controlled by the SEC or on the National Association of Securities Dealers (NASD). Global mandates may be considered.
2. Preferred stock, common stock, and convertible issues of any non-U.S. Corporation; which may be denominated in non U.S dollars, provided that the securities are traded on one or more national stock exchanges or included in a nationally recognized list of stocks; and the Board shall not be invested in more than ten percent of the voting stock of any company.

Fixed Income

1. Bonds, notes or other obligations of the United States government, its agencies, government-sponsored enterprises, corporations, or instrumentalities for which the credit of the United States government is pledged for the payment of the principal and interest. Global mandates may be considered.
2. Bonds, notes or other obligations issued by a state, its municipalities, or other political subdivisions, that have received an investment grade bond rating.
3. Bonds, notes, commercial paper or other obligations of any corporation organized and operating within the United States.
4. Debt obligations of non-U.S. governmental or quasi-governmental entities, these may be denominated in foreign currencies; obligations, including but not limited to bonds, notes or commercial paper with an investment grade rating (unless otherwise approved by the Board) of any corporation organized outside of the United States. Currency transactions, including spot or cash basis currency transactions, forward contracts and buying or selling options or futures on foreign currencies, shall be permitted.
5. Collateralized obligations, including but not limited to mortgages, held in trust that: (1) are publicly traded and are registered by the SEC or other Self-Regulatory Organization (SRO) and (2) have underlying collateral that is either an obligation of the United States government or else has a credit rating above or equal to BBB according to the Standard and Poor's rating system or Baa according to the Moody's investors rating system or their equivalent by a national rating agency approved by the Board (unless otherwise approved by the Board).
6. Derivatives including forwards, futures, options, mortgage derivatives, structured notes, and swaps.

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[19] Investments listed here are for general information purposes only. Each manager retained by the Board will be given specific guidelines with regard to permissible investments relevant to their mandate.
[20] N.D.C.C. § 15-03-04. See page 5 for more about the Prudent Investor Rule.

7. High yield fixed income securities rated below 'BBB' according to the Standard and Poor's rating system and below 'Baa' according to the Moody's investors rating system.
8. Loans, warrants and other forms of debt approved by the Board, and managed in conjunction with the Bank of North Dakota, such as farm loans and energy construction loan, as long as the investment meets the Exclusive Benefit Rule described on page 6 of this Policy.

Real Estate

Real Estate Partnerships, including investments in private vehicles through limited partnerships or limited liability companies that have an ownership interest in direct real estate properties, whether income-producing or non-income producing. The investment strategies may include "core" and "value added" strategies, which derive their return from both income and appreciation.

Absolute Return

Liquid multi-asset/global tactical asset allocation (GTAA) funds that have the ability to shift capital tactically based on relative valuations, providing broad diversification across a range of global investments.

Diversified Inflation Strategies

1. Inflation-indexed bonds, including investments in actively or passively managed investment vehicles. Treasury Inflation Protected Securities (TIPS) are an example of inflation-indexed bonds.
2. Commodities, including but not limited to futures and/or swaps on individually traded commodities or indexes comprising groups of commodities like the Goldman Sachs Commodity Index (GSCI) or Bloomberg Commodities Index.
3. Master Limited Partnerships (MLPs) focused in energy sector including companies that own or operate energy assets or are involved in the transportation, processing, and storage of natural resources. May invest in MLP units issued in private investment in public equity (PIPE) transactions.
4. Natural resources securities including securities of natural resource companies and industrial companies related to the natural resources industry and instruments that derive their value from natural resources.

Cash Investment Guidelines

The Commissioner will focus on quality when investing cash positions. Cash is an asset class that should emphasize minimal risk. Cash positions will be kept to the minimum necessary for liquidity, distributions and ongoing investment activities. Eligible securities include:

1. Repos secured by U. S. obligations or other securities backed by the U.S., A1 or P1 commercial paper, corporate obligations rated AA or better and maturing in five years or less, or asset-backed securities rated AAA. All repo collateral must have a market value of at least 102% of the market value of the contract;
2. Commercial paper issued by corporations organized and operating within the U.S. and rated "prime" quality by a national rating service;
3. Prime bankers' acceptances issued by money center banks;
4. Funding agreements rated at least AA by a nationally recognized rating agency. As used in this paragraph, "funding agreement" means a floating or variable rate insurance company contract that

is a general obligation of an insurance company organized and operating within the United States and that is senior to all other debt issued by the company;

5. Time deposits, with banks incorporated in the United States or time deposits that are fully guaranteed by banks incorporated in the United States.

Strategic Investment and Improvements Fund (SIIF)

Fund Purpose

The Strategic Investment and Improvements Fund (SIIF), was created July 1, 2011 with merger of the Lands and Minerals Trust Fund and the Permanent Oil Tax Trust Fund.[21] The SIIF holds the assets and collects the revenues earned from State owned mineral acres. The SIIF also receives a substantial portion of the oil and gas production and extraction taxes collected by the State. The Board is responsible for managing the physical and financial assets of the SIIF.

The purpose of the SIIF is to provide for one-time expenditures relating to improving state infrastructure or for initiatives to improve efficiency and effectiveness of state government.

Funding Sources

The SIIF collects the revenues earned from the mineral acres owned by the State, including those formerly owned by the Bank of North Dakota and State Treasurer, as well as the sovereign minerals located under navigable rivers and lakes. The SIIF also receives a portion of the oil and gas production and extraction taxes collected by the State.[22] Legislative changes to the oil tax revenue allocations are common and can have a major impact on the timing and amount oil taxes collected by the SIIF each biennium.

Distribution Policy

There is no explicit distribution policy or objective; rather the Board is responsible for making sure funds are available to distribute or transfer when needed and as appropriated. The SIIF can be appropriated or obligated by the Legislature every two years, though State law dictates that the SIIF should be appropriated only to the extent that the moneys are estimated to be available at the beginning of the biennium in which the appropriations are authorized.[23]

Investment Objective

State law provides no guidance as to how the assets of the SIIF should be invested; however, due to the short-term nature of spending decisions and the uncertainty of the fund's mineral based revenues, the Board invests the SIIF with a focus on principal preservation and liquidity. The Board has adopted an investment objective for the SIIF that provides for a diversified portfolio of fixed income securities that will exceed on a multi-quarter basis, net of fees, the return of the benchmark described below.

Strategic Asset Allocation

Due to the expendable nature of the SIIF, the strategic asset allocation for the fund is 100% low duration investment grade fixed income investments.

[21] N.D.C.C. § 15-08.1-04 and § 61-33-07
[22] N.D.C.C. § 57-51.1-07.5
[23] N.D.C.C. § 15-08.1-08

Investment Guidelines

The SIIF will be invested in a high quality portfolio that includes a combination of Treasuries, corporate bonds, asset and mortgaged backed securities, and commercial paper and will adhere to the following guidelines:

- Minimum average quality of AA
- Minimum quality for any security of BBB (limited to 10%)
- Neutral weighted average maturity of 1 year range of 6 months to 1.5 years
- Maximum maturity: 3 years for fixed rate, 5 years for floating rate
- No more than 50% in investment grade corporate and agency backed securities
- Not more than 2% of the fund will be invested with any single issuer

Benchmark

The benchmark is composed of 50% of the three-month U.S. Treasury Bill and 50% Barclays 1 – 3 Year Gov't Corp Index.

Capitol Building Fund

Fund Purpose

The Capitol Building Fund was created at statehood with a grant of land from the federal government. The purpose of the fund, as described in the Enabling Act of 1889, is to provide for "public buildings at the capital".[24] The Capitol Building Fund was created under Article IX of the North Dakota Constitution; however, unlike the other trusts, this fund is not permanent in that the entire fund is subject to legislative appropriation each biennium.

The Capitol Grounds Planning Commission is responsible for managing all of the assets of the Capitol Building Fund.[25] The Board's role is to invest and manage the various assets of the fund, as directed by the Capitol Grounds Planning Commission. These roles are statutory, not constitutional in nature; the law specifically states:

> "The capitol grounds planning commission shall have general powers to superintend the administration of the capitol building fund, its interest and income fund, and its investments and properties. It may cause any lands now held in such funds to be sold at market value, direct the conversion of any securities now held by such funds to cash, approve expenditures from such funds subject to law and legislative appropriations, and to do all other things necessary to carry out the intent and purposes of this section. The board of university and school lands or its designee, on the commission's behalf, shall see to the investment and management of the capitol building fund and its interest and income fund and shall account to the commission concerning these funds at the commission's request."[26]

Funding Sources

The Capitol Building Fund generates revenues from the almost 10,000 surface and more than 27,000 mineral acres which provide revenue from agricultural leases, mineral royalties and lease bonuses.

Distribution Policy

Since the Capitol Building Fund is a fully expendable fund, there is no distribution policy or objective; rather the Board is responsible for making sure funds are available to distribute or transfer when needed and as appropriated.

State law provides a continuing appropriation of up to $175,000 per biennium that is available to the Capital Ground Planning Commission without requiring a legislative appropriation for a given biennium.[27] Historically, the legislature has also included a $25,000 biennial appropriation for the operations of the Capitol Grounds Planning Commission.

[24] The Enabling Act of February 22, 1889 (25 Stat. 676, chapter 180)
[25] N.D.C.C. § 48-10-02
[26] N.D.C.C. § 48-10-02
[27] N.D.C.C. § 48-10-02

Investment Objective

Due to the fact that the entire balance of this fund can be appropriated by the legislature each biennium and the uncertainty of the fund's mineral based revenues, the Capital Grounds Planning Commission has adopted an investment objective with a focus on principal preservation and liquidity.

Strategic Asset Allocation

Due to the expendable nature of the Capitol Building Fund, the Capital Grounds Planning Commission has adopted a strategic asset allocation for the fund that is 100% fixed income investments.

Investment Guidelines[28]

The Capital Grounds Planning Commission has adopted guidelines to invest the fund in a high quality portfolio that includes a combination of Treasuries, corporate bonds, asset and mortgaged backed securities, and commercial paper and will adhere to the following guidelines:

- Minimum average quality of AA
- Minimum quality for any security of BBB (limited to 10%)
- Neutral weighted average maturity of 1 year range of 6 months to 1.5 years
- Maximum maturity: 3 years for fixed rate, 5 years for floating rate
- No more than 50% in investment grade corporate and agency backed securities
- Not more than 2% of the fund will be invested with any single issuer

Benchmark

The benchmark is composed of 50% of the three-month U.S. Treasury Bill and 50% Barclays 1 – 3 Year Gov't Corp Index.

[28] Due to the common investment objectives, strategic asset allocation, and investment guidelines, the assets of the Capitol Building Fund may be pooled with the SIIF for investment purposes.

Coal Development Trust Fund

Fund Purpose

The Coal Development Trust Fund is a permanent trust established under Article X, Section 21 of the North Dakota Constitution. The primary purpose of the fund is to provide loans to coal-impacted counties, cities, and school districts and to provide construction loans to school districts; any money that is not in use for loans may be invested by the Board. The trust fund must be perpetual and held in trust as a replacement for depleted natural resources.[29] Both the Constitution and state law mandate that the income earned by the fund be used first to replace any uncollectable loans and the balance must be deposited into the General Fund.[30]

Funding Sources

State law provides that 30% of coal severance tax revenues be deposited into the fund.[31] The Constitution provides that up to 70% of the taxes deposited into the fund each year may be appropriated by the legislature for lignite research, development, and clean coal demonstration projects approved by the industrial commission.[32] Thus, the Coal Development Trust Fund retains only 30% of the money deposited into the fund, which averages about $1 million per year.

Distribution Policy

The income earned by this fund each year must be used first to replace uncollectible loans made from the fund and the balance must be deposited in the State's general fund. The estimated fiscal year income for this fund is distributed in June of each year; any difference between estimated and actual income is distributed in November or December of each year, once final audited financial statements have been received.

In calculating the income earned by this trust, capital gains earned on investments must be amortized to income over 10 years.[33]

Investment Objective

Preservation of capital and added value over the benchmark over a full market cycle through active management of the portfolio subject to the investment guidelines set forth below.

Strategic Asset Allocation

Due to the expendable nature of the income earned by the Coal Development Trust Fund, and the provision in state law about replacing any lost principal with income, the strategic asset allocation for the fund is 100% fixed income investments.

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[29] N.D.C.C. § 57-62-02

[30] N.D. Const. art. X, § 21 and N.D.C.C. § 57-62-02

[31] N.D.C.C. § 57-62-02

[32] N.D. Const. art. X, § 21

[33] N.D.C.C. § 15-03-05.1

Investment Guidelines

The Coal Development Trust will be invested in a high quality portfolio that includes a combination of Treasuries, corporate bonds, asset and mortgaged backed securities, and commercial paper and will adhere to the following guidelines:

- Minimum average quality of AA
- Minimum quality for any security of BBB (limited to 10%)
- Neutral weighted average maturity of 1 year range of 6 months to 1.5 years
- Maximum maturity: 3 years for fixed rate, 5 years for floating rate
- No more than 50% in investment grade corporate and agency backed securities
- Not more than 2% of the fund will be invested with any single issuer

Benchmark

The benchmark is composed of 50% of the three-month U.S. Treasury Bill and 50% Barclays 1 – 3 Year Gov't Corp Index.

Indian Cultural Education Trust

Fund Purpose

The Indian Cultural Education Trust was created in 2003 for the purpose of generating income to benefit Indian culture.[34] State law authorizes the Board to accept donations of money or land for this trust to be managed in the in the same manner that it manages its other trust land and financial assets, subject to state law and a required donor agreement with one or more federally recognized Indian tribes located in North Dakota, South Dakota, Montana, Minnesota, or Wyoming.

Three Affiliated Tribes Cultural Education Account

The Three Affiliated Tribes Cultural Education Account is the sole account in the trust, which serves to benefit the Mandan, Hidatsa & Arikara Nation Cultural Education Foundation. Under an agreement signed by the tribe, North American Coal, and the Commissioner, the Board must manage and invest this account exactly as the Permanent Trust Funds are managed and invested.

Funding Sources

Initial funding of the account was a result of donations of both money and land by North American Coal to the cultural education account. Revenue earned from the donated lands is deposited into the account. Further donations of land or money from Individuals or organizations may provide additional funding to the account.

Distribution Policy

The distribution calculation for the Indian Cultural Education Trust is identical to that of the Permanent Trust Funds as detailed on page 13, however, the specific donor agreement for an account may dedicate a portion of the amount available to distribute to principal.[35]

The Three Affiliated Tribes Cultural Education Account donor agreement has mandated that no less than 25% of the annual amount available to distribute go to principal. Each year, the Commissioner notifies the Mandan, Hidatsa & Arikara Nation Cultural Education Foundation as to the amount eligible for disbursement. If written request for the disbursement is received by the Commissioner by March 31st, all or a portion of that amount shall be distributed as specified in the donor agreement.

Investment Objective, Strategic Asset Allocation, and Investment Guidelines

Like the Permanent Trust Funds, the investment objective is to preserve purchasing power and maintain stable distributions with a long-term investment horizon. The assets of the Indian Cultural Education Trust are pooled with the Permanent Trust Funds. The strategic asset allocation, benchmarks, and investment guidelines are identical to those of the Permanent Trust Funds, which can be found in the corresponding sections beginning on page 14 of this Policy.

[34] N.D.C.C. § 15-68

[35] N.D.C.C. § 15-68-04

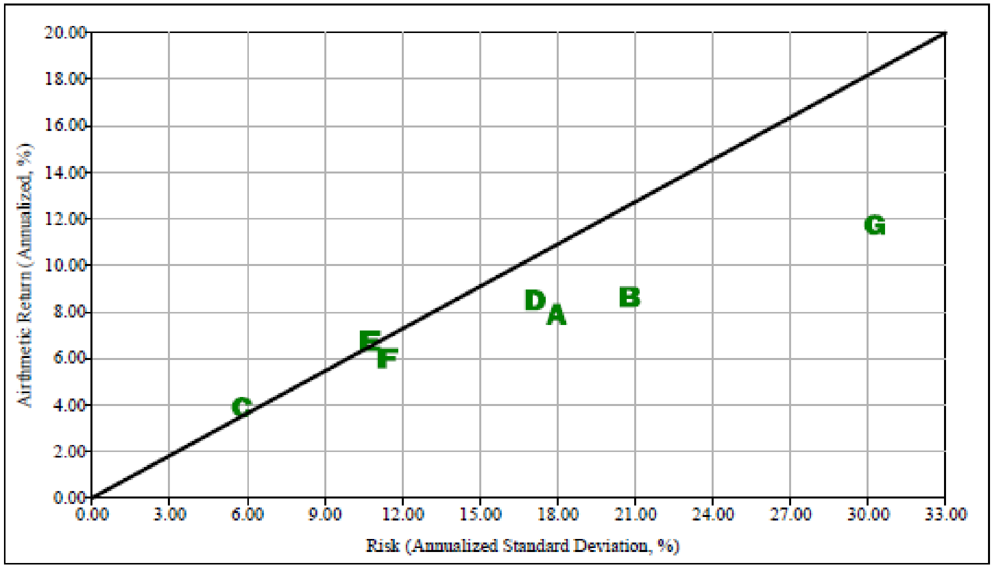
Appendix: PTF Asset Allocation Modeling Results

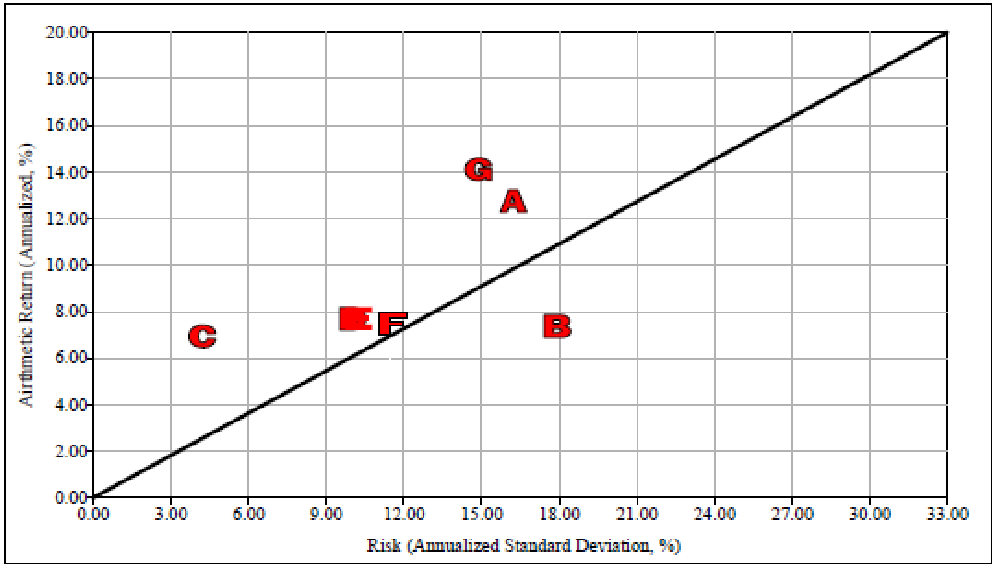
RVK 2013 Assumptions

Asset Class	Arithmetic Return Assumption	Standard Deviation Assumption
US Equity	7.90	17.95
International Equity	8.65	20.80
Fixed Income	3.90	5.80
Real Estate	8.50	17.15
Absolute Return	6.75	10.75
Real Asset/Div Infl Strat	6.00	11.45
Private Equity	11.75	30.25

Index	Longest Historical Time Frame	Annualized Arithmetic Return	Annualized Standard Deviation
Russell 3000	Jan 1979 - Mar 2013	12.35	15.72
MSCI ACW Ex US IMI (Gross)	Jun 1994 - Mar 2013	6.96	17.43
Custom Fixed Income Index*	Jan 1992 - Mar 2013	6.53	3.70
Custom Non-Core RE Index*	Apr 1989 - Sep 2012 (Q)	7.28	9.52
Custom GTAA Index*	Jun 1994 - Mar 2013	7.29	9.75
Custom Div Infl Strat Index*	Mar 1997 - Mar 2013	7.09	11.08
Venture Economics All PE	Jan 1982 - Sep 2012 (Q)	13.71	14.36

Statistics are calculated on monthly periodicity, except where noted by a (Q) for quarterly periodicity.





A US Equity B International Equity C Fixed Income D Real Estate
E Absolute Return F Real Asset/Diversified Inflation Strategies
G Private Equity

RVK

Asset Class Assumptions

- **US Equity**
  - Benchmark: Russell 3000 Index
  - Composition: 82% large/mid cap US Equity and 18% small cap US Equity
- **International Equity**
  - Benchmark: MSCI All Country World ex US IMI Index
  - Composition: 67% developed large/mid cap international Equity, 9% small cap international Equity, 24% emerging market Equity.
- **Fixed Income**
  - Benchmark: Barclays Global Aggregate Index
  - Composition: 60% US Core Fixed Income, 20% International Fixed Income, 10% High Yield, 5% Bank Loans, 5% Emerging Market Debt.

Asset Class Assumptions

- **Real Estate**
  - Benchmark: RVK Custom Real Estate Blended Index
  - Composition: 50% Core Real Estate and 50% Non-Core Real Estate

- **Absolute Return (Liquid Multi-Asset/GTAA)**
  - Benchmark: 60% Equity (MSCI All Country World IMI) and 40% Bonds (Barclays US Aggregate Bond Index).
  - Composition: No perfect benchmark exists for GTAA managers; we use a continuously rebalanced portfolio of 60% Equity and 40% Bonds is an appropriate proxy.

- **Real Asset/Diversified Inflation Strategies**
  - Benchmark: RVK Custom Diversified Inflation Strategies Index
  - Composition: Equal allocations to TIPs, broad commodities, and global REITs.

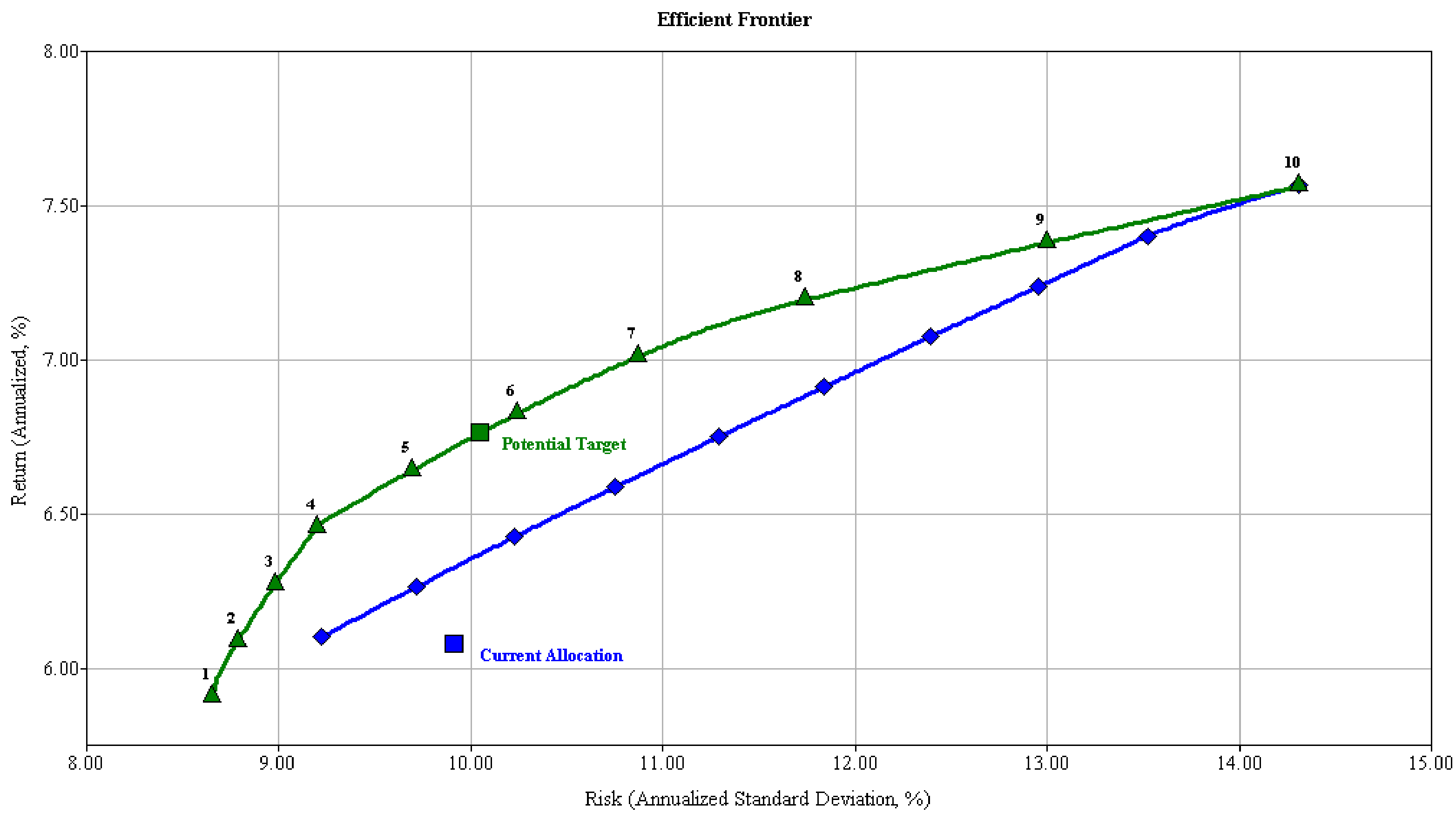
Summary of Inflows/Outflows Assumptions

With input from Staff, the following assumptions are used in the modeling of the inflows and outflows for the PTFs.

	FYE 2013		
	Common Schools	**Other 12 PTFs in Aggregate**	**Assumption Utilized in Modeling**
Surface Income	\$5.1 million	\$672,000	3.5% increase in surface rents each year going forward.
Minerals Income	\$500,000	\$20,000	Remain flat going forward.
Royalty	\$135.3 million	\$11.7 million	40% increase in 2013; 10% increase in 2014; 5% increase in 2015, 2016 and 2017; flat thereafter.
Bonus	\$60.6 million	\$7.3 million	Common School: \$12 million per year, no increase. Other PTFs: 12.5% of Common (\$1.5 million).
Oil Extraction Tax (OET)	\$81.9 million	--	40% increase in 2013; 10% increase in 2014; 5% increase in 2015, 2016 and 2017; flat thereafter.
Tobacco	\$9.0 million	--	\$9 million per year through 2025.
Unclaimed Property	\$3.2 million	--	\$3 million per year; no growth assumed.
Main Expense	(\$1.5 million)	(\$156,000)	Increase by 25% for the next 1-year; increasing by 5% per year thereafter.
Distribution	(\$46.3 million)	(\$3.0 million)	Calculated as the biennial distribution of 10% of the 5-year moving average (paid 5% per year of the biennial) with a 1-year lag.
TOTAL	**\$247.8 million**	**\$16.5 million**	

Efficient Frontier

- The blue efficient frontier includes the asset classes currently utilized by North Dakota Board.
- The green efficient frontier includes a broader fixed income menu, international small cap, emerging market debt/equity, GTAA/liquid multi-asset, and diversified inflation strategies.



Note: Current Allocation represents the current target allocation of North Dakota Board as of 3/31/13.

RVK

Parameters of the Efficient Frontier

- The return assumptions on traditional asset classes assume market returns, and do not include additional alpha or expense assumptions above that of the index.

- In setting minimum and maximum allocations by asset class, we considered:
  - The objectives and risk tolerance of the Board.
  - The specific inflows and outflows of the PTFs.
  - Asset class allocations of North Dakota's peer group of permanent funds.

- Based on our analysis, we set the minimum and maximum parameters as:

	Minimum	Maximum
US Equity	15	50
International Equity	5	25
Fixed Income	20	60
Real Estate	0	15
Absolute Return	0	20
Real Asset/Diversified Inflation Strategies	0	10

RVK

Parameters of the Efficient Frontier

- Further, we set the following parameters on thematic classifications:
  - **Capital Appreciation:**
    - Includes: US Equity, International Equity, High Yield, Emerging Markets Debt, and Non-Core Real Estate
    - Minimum: 25%; Maximum: 80%
  - **Capital Preservation:**
    - Includes: Core Fixed Income and Bank Loans
    - Minimum: 17%; Maximum: 55%
  - **Alpha:**
    - Includes: Absolute Return (Liquid Alternatives/GTAA)
    - Minimum: 0%; Maximum: 20%
  - **Inflation:**
    - Includes: Core Real Estate and TIPs
    - Minimum: 0%; Maximum: 20%

North Dakota Board Efficient Allocations

	Min	Max	1	2	3	4	5	6	7	8	9	10	Current Allocation	Potential Target
US Equity	15	50	15	15	15	15	15	19	27	15	15	15	31	17
International Equity	15	50	15	15	15	15	15	15	15	31	40	50	12	15
Fixed Income	20	50	50	47	41	35	27	21	20	20	20	20	49	23
Real Estate	0	15	7	12	14	15	15	15	15	15	15	15	8	15
Absolute Return	0	20	13	11	14	20	20	20	20	19	10	0	0	20
Real Asset/Inflation Hedge	0	10	0	0	0	0	8	10	3	0	0	0	0	10
Total			100	100	100	100	100	100	100	100	100	100	100	100
Capital Appreciation			41	43	43	43	42	44	52	56	66	76	55	43
Capital Preservation			43	40	35	30	23	18	17	17	17	17	42	20
Alpha			13	11	14	20	20	20	20	19	10	0	0	20
Inflation			4	6	7	8	16	18	11	8	8	8	4	18
Expected Return			**5.91**	**6.09**	**6.27**	**6.46**	**6.64**	**6.83**	**7.01**	**7.20**	**7.38**	**7.56**	**6.08**	**6.76**
Risk (Standard Deviation)			**8.65**	**8.78**	**8.98**	**9.20**	**9.69**	**10.24**	**10.87**	**11.74**	**13.00**	**14.31**	**9.91**	**10.04**
Return (Compound)			5.56	5.73	5.89	6.06	6.20	6.34	6.46	6.56	6.60	6.62	5.62	6.29
Return/Risk Ratio			0.68	0.69	0.70	0.70	0.69	0.67	0.64	0.61	0.57	0.53	0.61	0.67
RVK Expected Eq Beta (LC US Eq = 1)			0.38	0.39	0.40	0.41	0.44	0.48	0.53	0.55	0.62	0.69	0.49	0.47
RVK Liquidity Metric (T-Bills = 100)			69	67	64	62	60	61	64	65	70	76	77	60

RVK

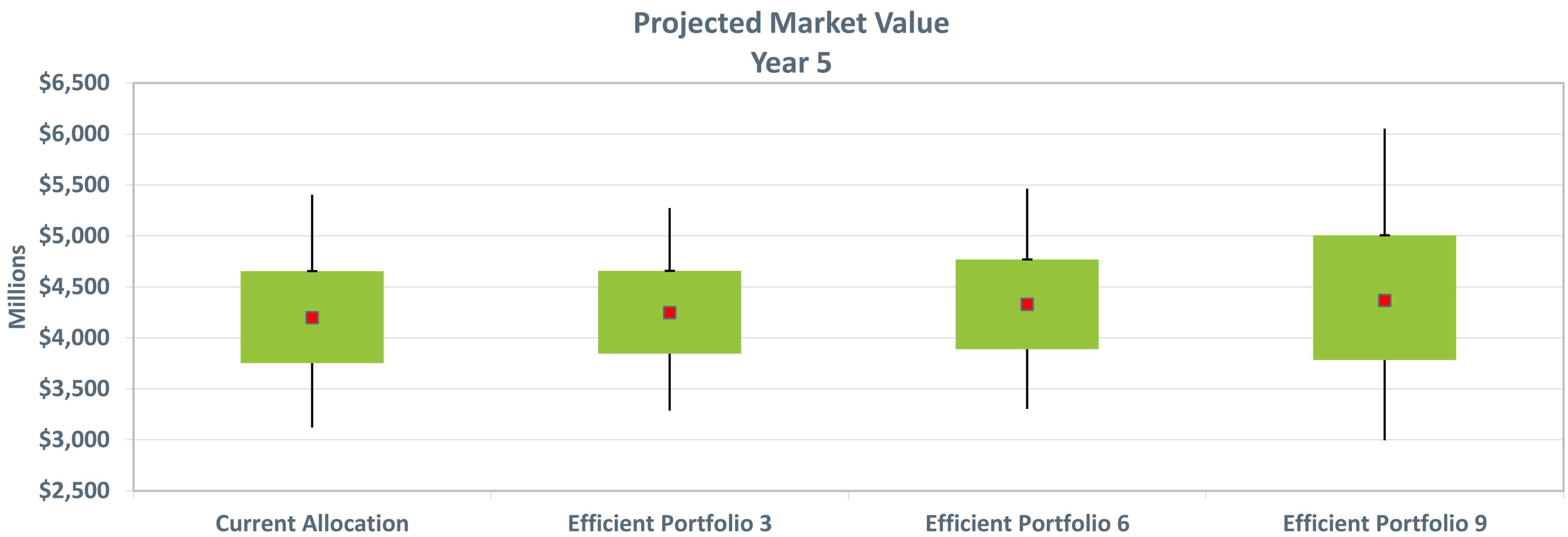
Projected Market Values

- The following slides compare the projected market value, or projected total assets based on the modeling output, of the Common Schools PTF under various time frames and various asset allocation targets.

- The projected market values include the assumptions on inflows and outflows for Common Schools as previously outlined.

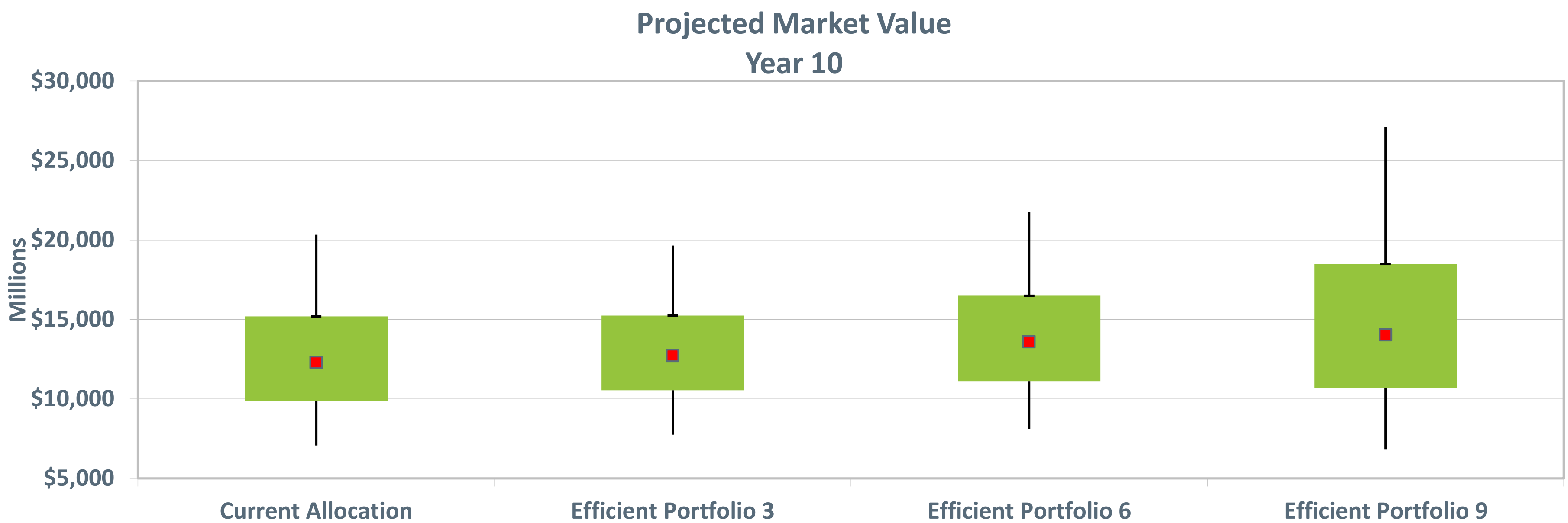
- We consider the following asset allocation targets:
  - Current Allocation: Current broad asset class allocation of the PTF.
  - Efficient Portfolio 3: Portfolio is more conservative than current allocations.
  - Efficient Portfolio 6: Portfolio has similar risk to the current allocations.
  - Efficient Portfolio 9: Portfolio is more aggressive than current allocations.

Projected Market Values – Year 5



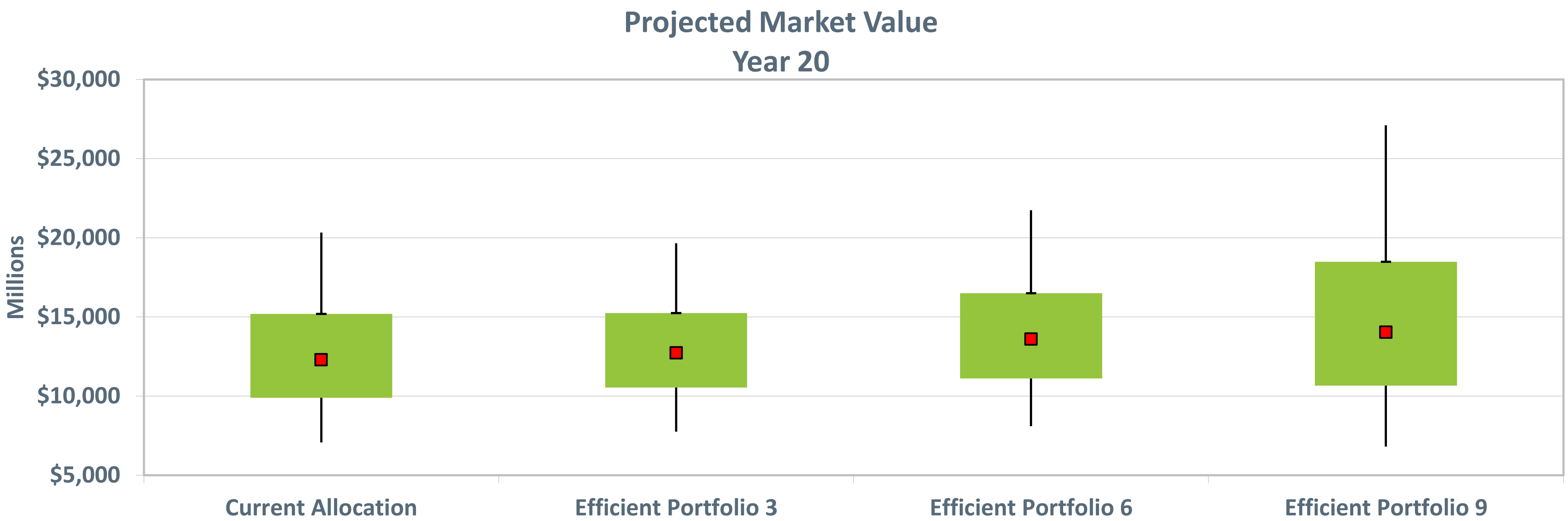
	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$3,121	$3,286	$3,302	$2,995
25th	$3,753	$3,846	$3,890	$3,783
Median	$4,197	$4,246	$4,327	$4,366
75th	$4,654	$4,659	$4,770	$5,006
95th	$5,405	$5,275	$5,465	$6,054

Projected Market Values – Year 10



	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$4,507	$4,826	$4,901	$4,314
25th	$5,832	$6,020	$6,189	$5,967
Median	$6,785	$6,911	$7,148	$7,269
75th	$7,823	$7,819	$8,163	$8,792
95th	$9,671	$9,420	$9,980	$11,544

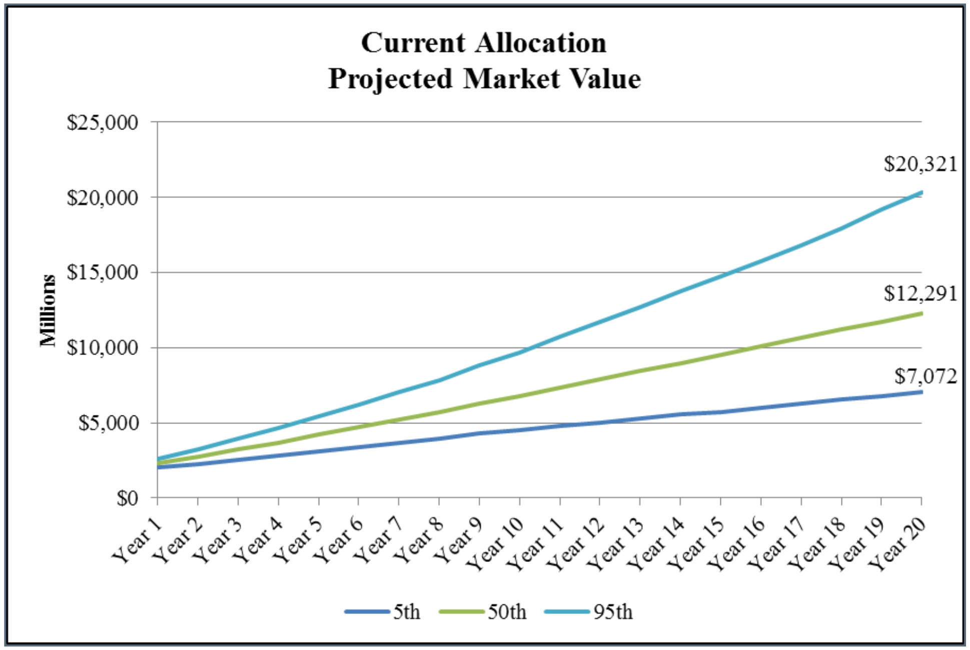
Projected Market Values – Year 20

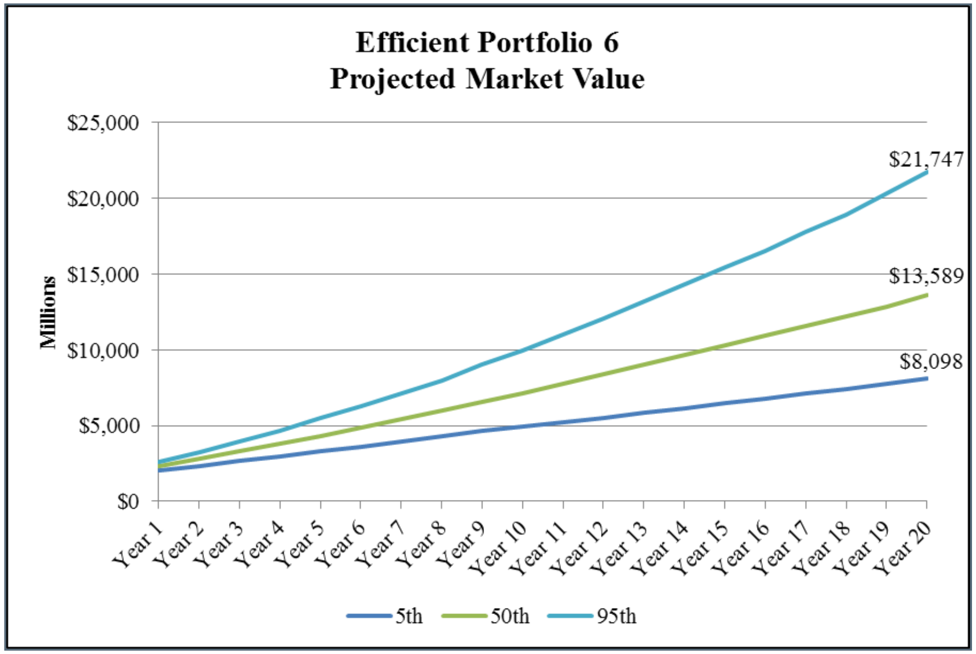


	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$7,072	$7,751	$8,098	$6,812
25th	$9,894	$10,543	$11,110	$10,649
Median	$12,291	$12,715	$13,589	$14,030
75th	$15,180	$15,248	$16,498	$18,486
95th	$20,321	$19,641	$21,747	$27,106

RVK

Projected Market Values Summary





	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th Percentile	$7,072	$7,751	$8,098	$6,812
50th Percentile	$12,291	$12,715	$13,589	$14,030
95th Percentile	$20,321	$19,641	$21,747	$27,106

Projected Distribution

- The following slides compare the projected distribution, or annual spending based on the modeling output, of the Common Schools PTF under various time frames and various asset allocation targets.

- Projected distribution is calculated as the biennial distribution of 10% of the 5-year moving average (paid 5% per year of the biennial) with a 1-year lag.

- We consider the same asset allocation targets as previously described:
  - Current Allocation: Current broad asset class allocation of the PTF.
  - Efficient Portfolio 3: Portfolio is more conservative than current allocations.
  - Efficient Portfolio 6: Portfolio has similar risk to the current allocations.
  - Efficient Portfolio 9: Portfolio is more aggressive than current allocations.

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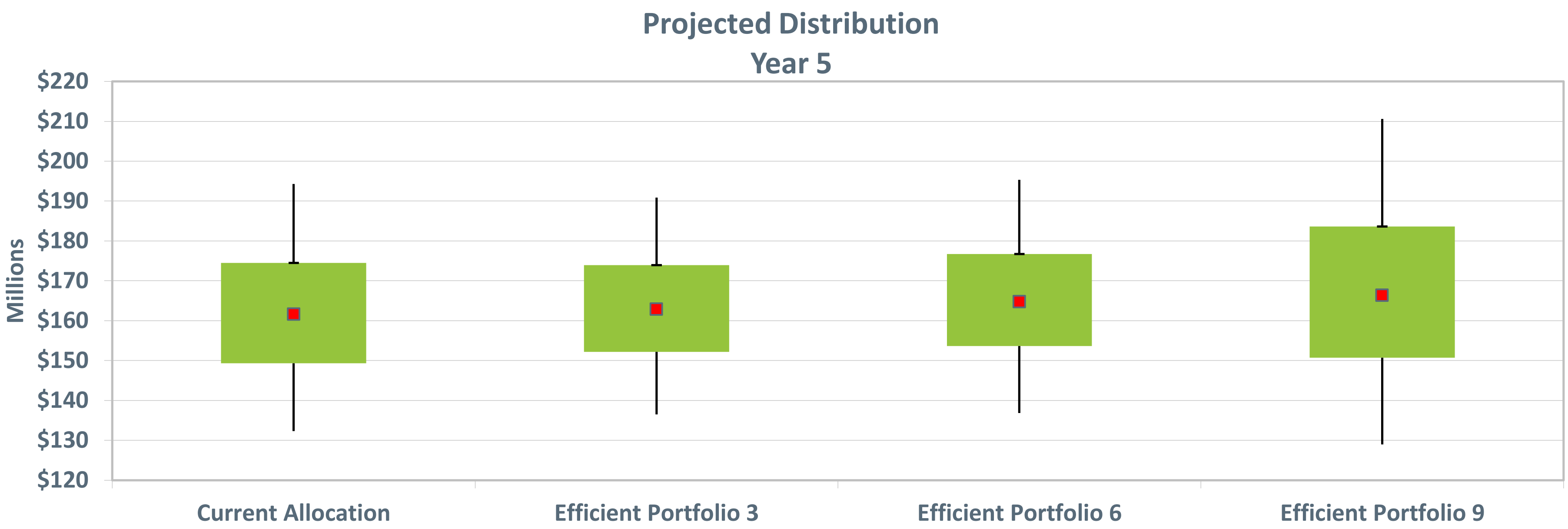
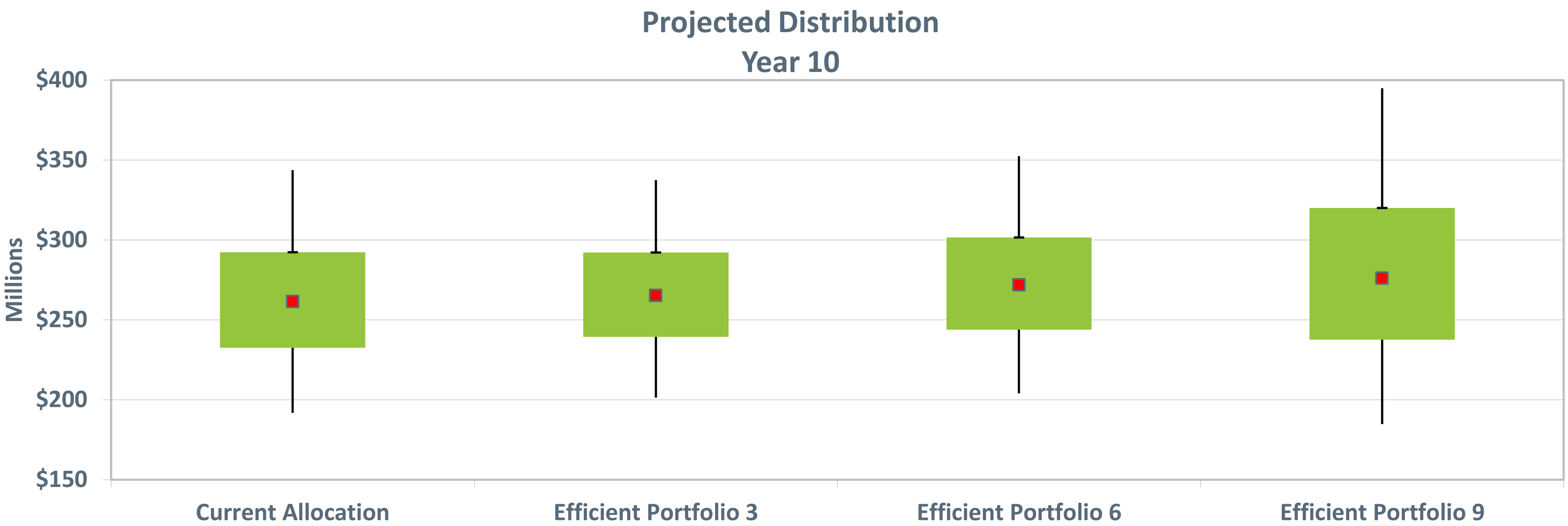
Projected Distribution – Year 5



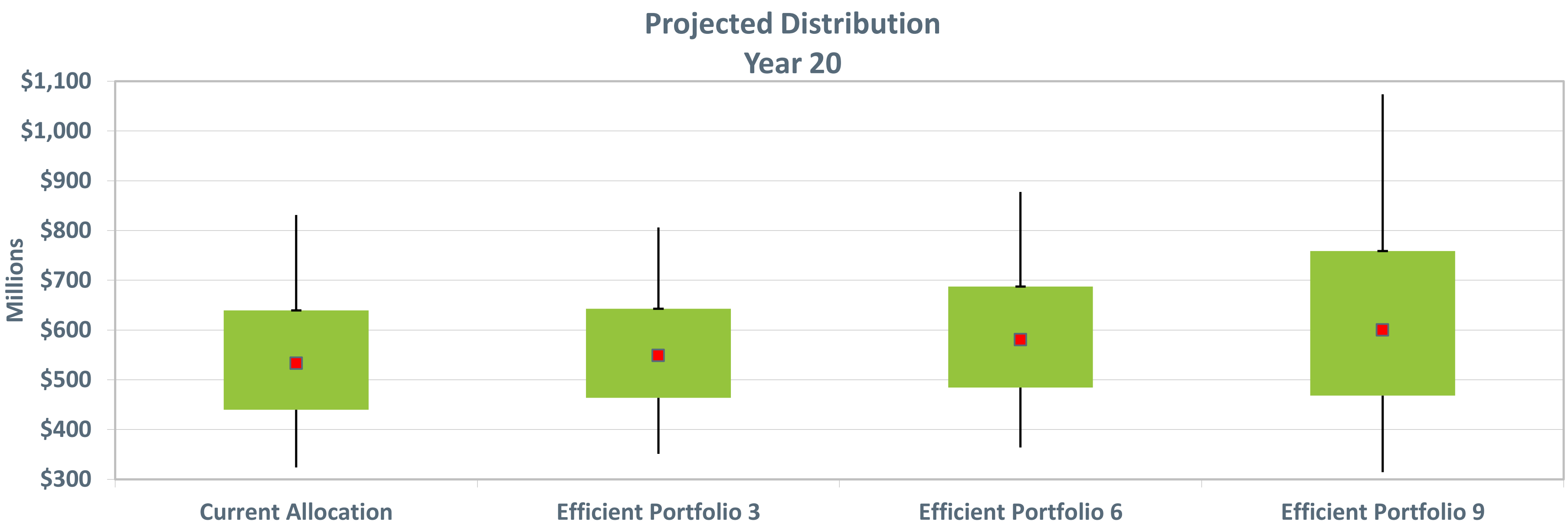
	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$132	$136	$137	$129
25th	$149	$152	$154	$151
Median	$162	$163	$165	$166
75th	$174	$174	$177	$184
95th	$194	$191	$195	$211

Projected Distribution – Year 10



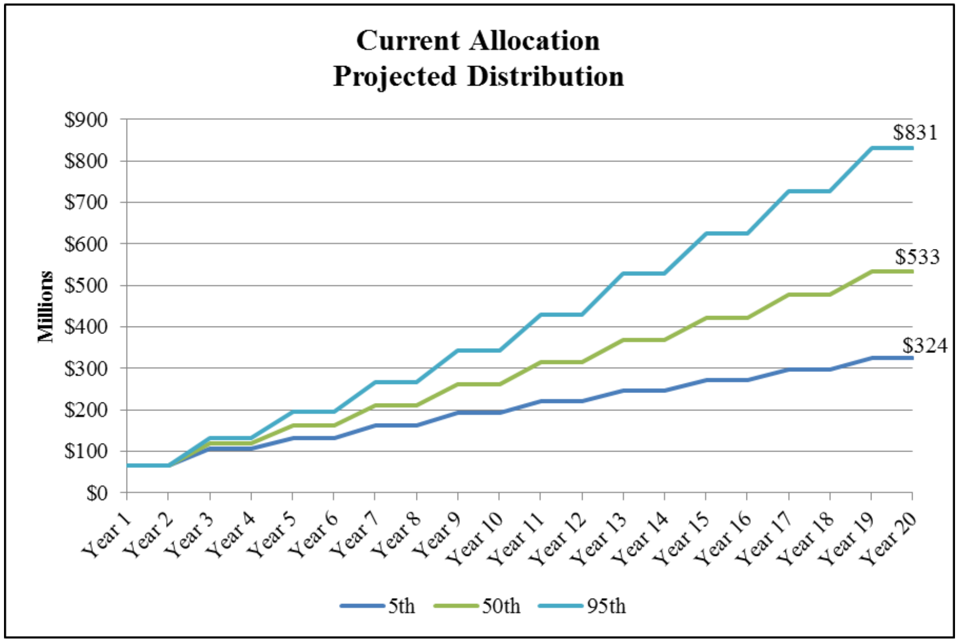
	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$192	$201	$204	$185
25th	$233	$239	$244	$238
Median	$261	$265	$272	$276
75th	$292	$292	$302	$320
95th	$344	$337	$353	$395

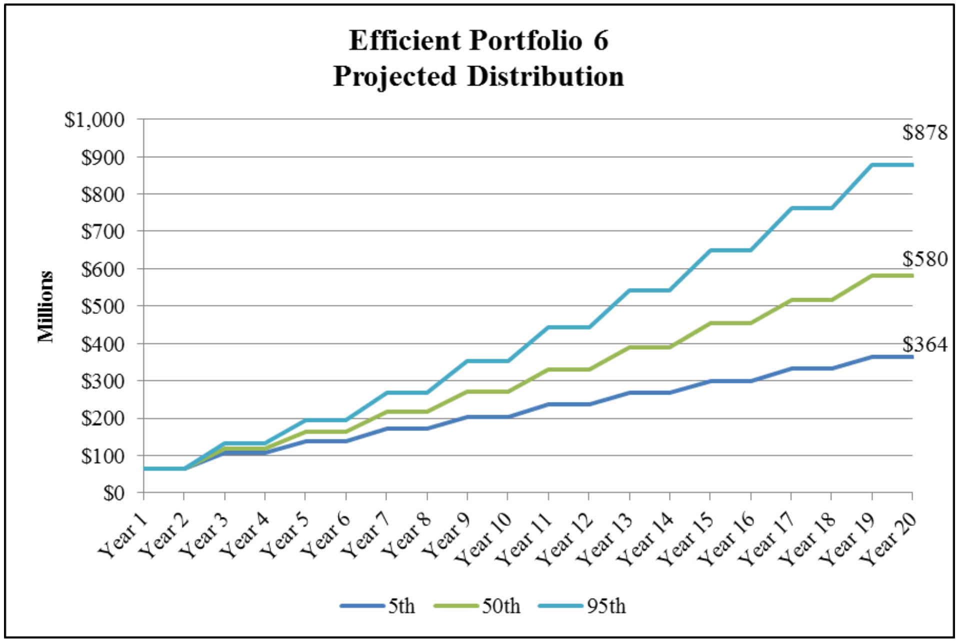
Projected Distribution – Year 20



	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$324	$351	$364	$314
25th	$440	$464	$484	$468
Median	$533	$549	$580	$600
75th	$640	$643	$687	$758
95th	$831	$806	$878	$1,074

Projected Distribution Summary





	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th Percentile	$324	$351	$364	$314
50th Percentile	$533	$549	$580	$600
95th Percentile	$831	$806	$878	$1,074

Asset Allocation Modeling Summary

- Broadening the diversification of the portfolio through investments in Absolute Return and Real Asset/Diversified Inflation Strategies can decrease portfolio volatility while maintaining similar levels of return to the current allocation, or increase expected returns while maintaining similar levels of risk.

- Based on our analysis, broad asset class allocations similar to portfolio 6 increase the return expectations of the portfolio without increasing the portfolio volatility.

- Projected future market values for portfolio 6 as well as the worst-case projections compare favorably to the current asset mix.

- Projected future distributions for portfolio 6 as well as the worst-case projections for distributions compare favorably to the current asset mix.

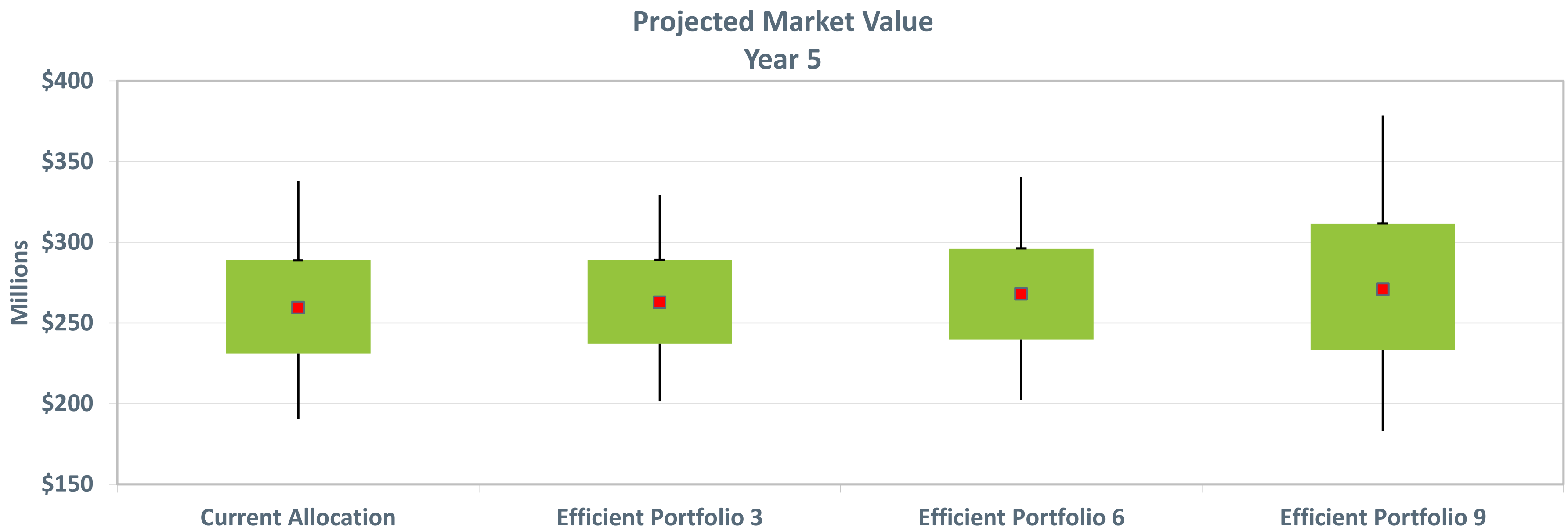
- If the Land Board believes that if the PTFs can withstand higher levels of volatility, then the Board may want to consider portfolios 7-9.

Asset Allocation Modeling – Other 12 PTFs

Asset Allocation Modeling for 12 PTFs

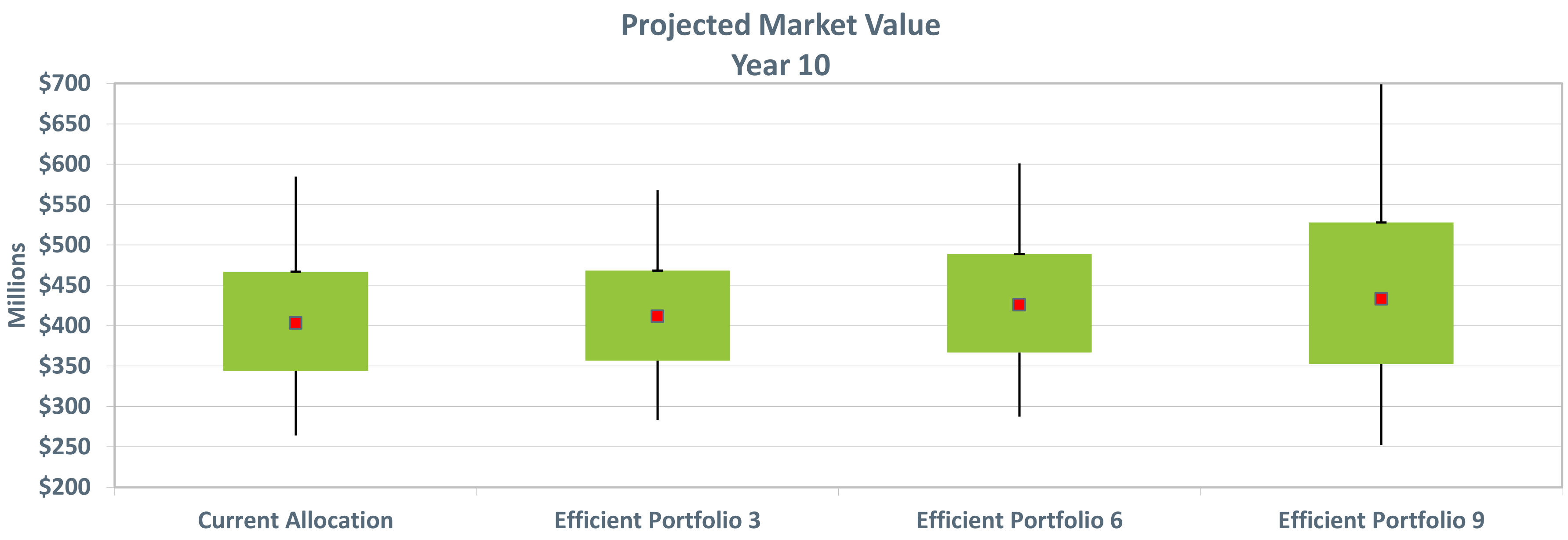
- As the main objectives and constraints of the other 12 PTFs are identical to that of Common Schools, we recommend that identical strategic asset allocation targets be set across all PTFs.
- Our recommendation confirms continuation of the pooling of investments as it is currently structured in managing assets across Common Schools and the other PTFs.
- The only difference in our modeling, is the effect the cash inflows and outflows have on projected market value and distribution as previously outlined.

Projected Market Values – Year 5



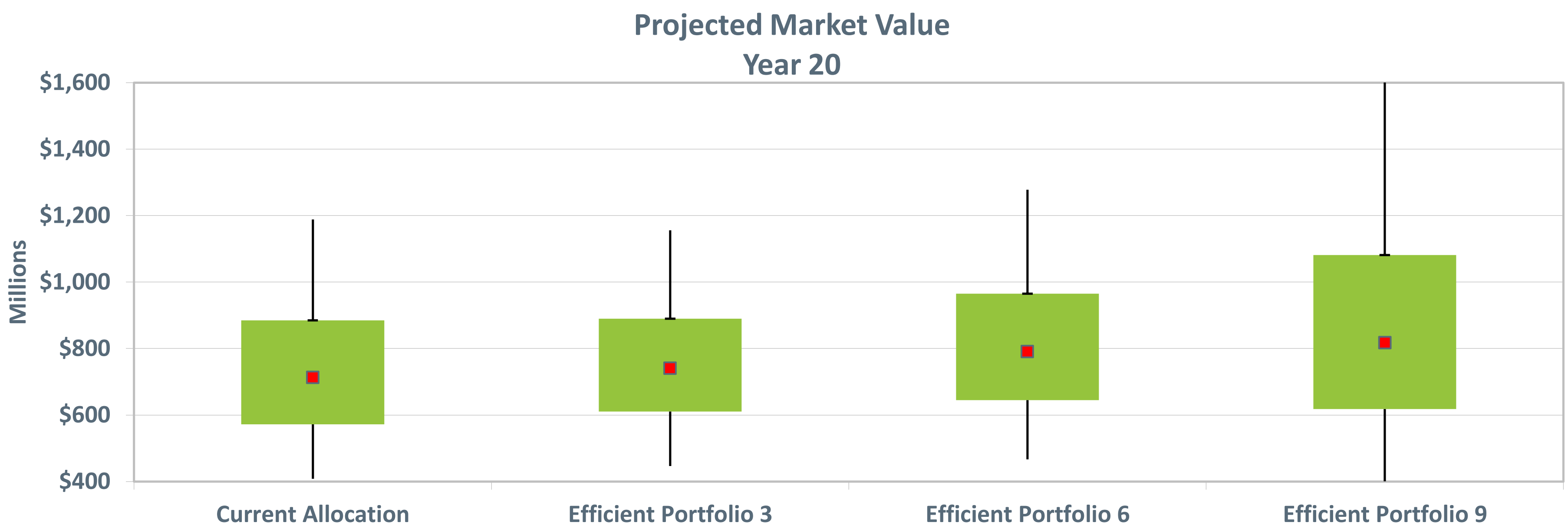
	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$191	$201	$202	$183
25th	$231	$237	$240	$233
Median	$260	$263	$268	$271
75th	$289	$289	$296	$312
95th	$338	$329	$341	$379

Projected Market Values – Year 10



	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$264	$283	$287	$252
25th	$344	$357	$367	$353
Median	$403	$411	$426	$433
75th	$467	$468	$489	$528
95th	$585	$568	$601	$699

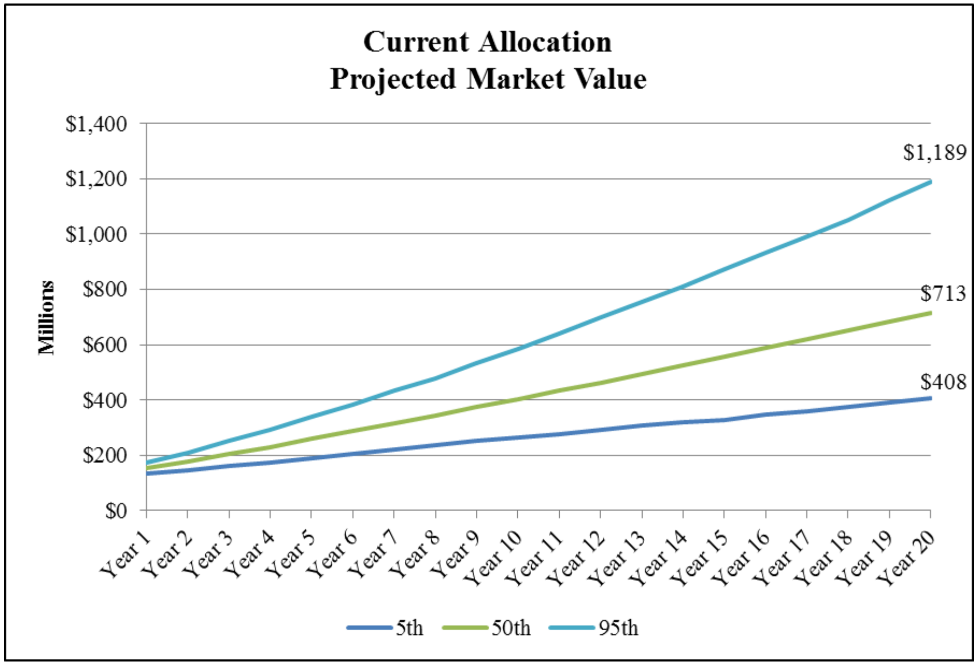
Projected Market Values – Year 20

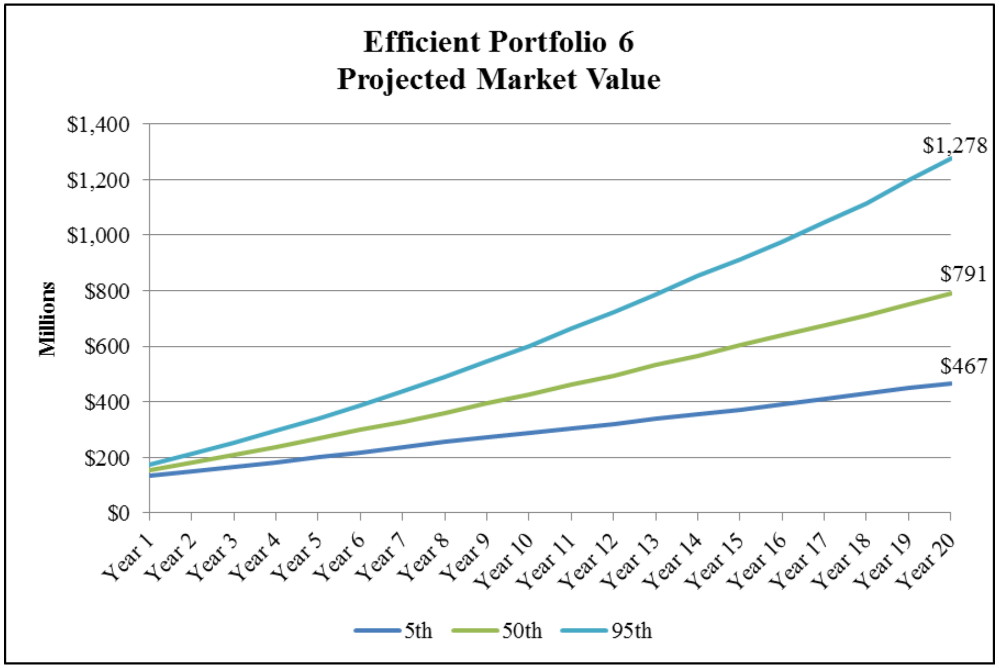


	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$408	$446	$467	$391
25th	$572	$611	$645	$618
Median	$713	$741	$791	$818
75th	$884	$890	$965	$1,081
95th	$1,189	$1,156	$1,278	$1,606

RVK

Projected Market Values Summary

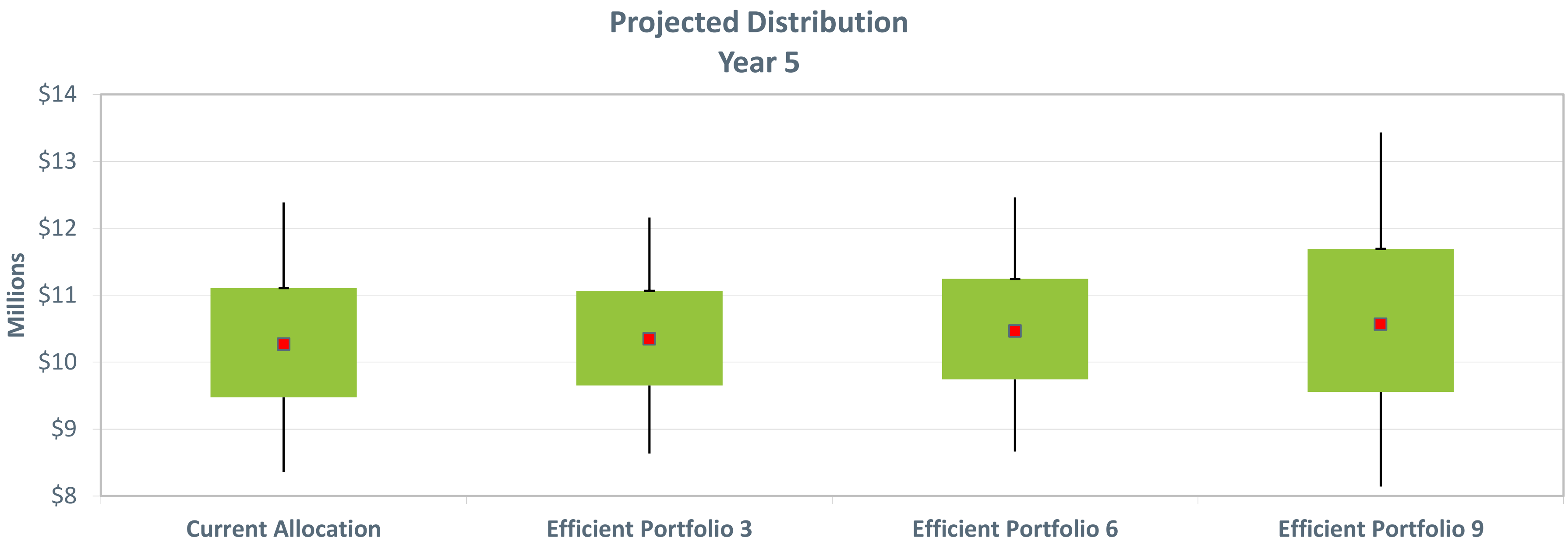




	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th Percentile	$408	$446	$467	$391
50th Percentile	$713	$741	$791	$818
95th Percentile	$1,189	$1,156	$1,278	$1,606

RVK

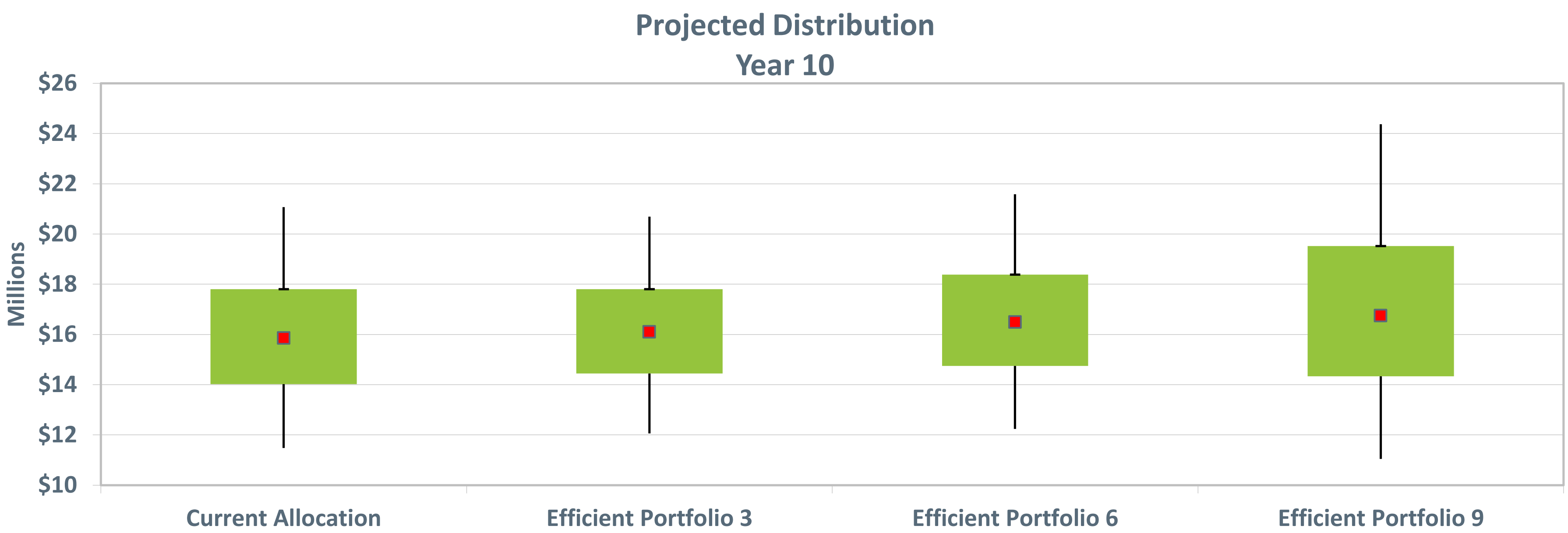
Projected Distribution – Year 5



	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$8	$9	$9	$8
25th	$9	$10	$10	$10
Median	$10	$10	$10	$11
75th	$11	$11	$11	$12
95th	$12	$12	$12	$13

RVK

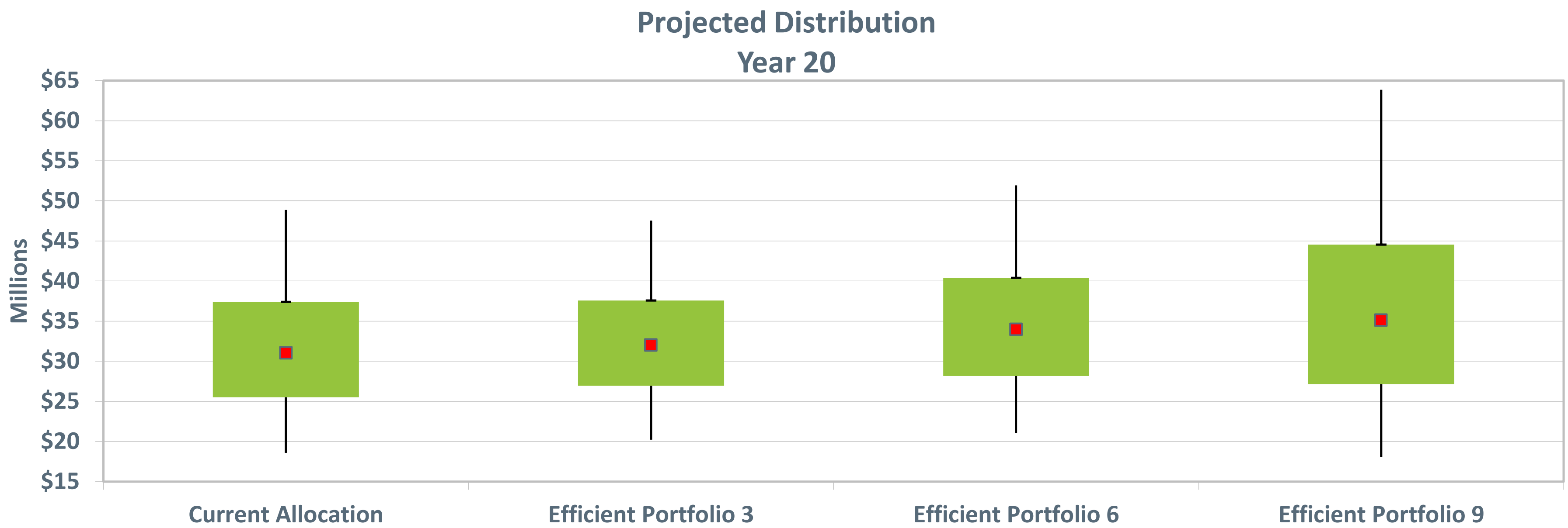
Projected Distribution – Year 10



	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$11	$12	$12	$11
25th	$14	$14	$15	$14
Median	$16	$16	$16	$17
75th	$18	$18	$18	$20
95th	$21	$21	$22	$24

RVK

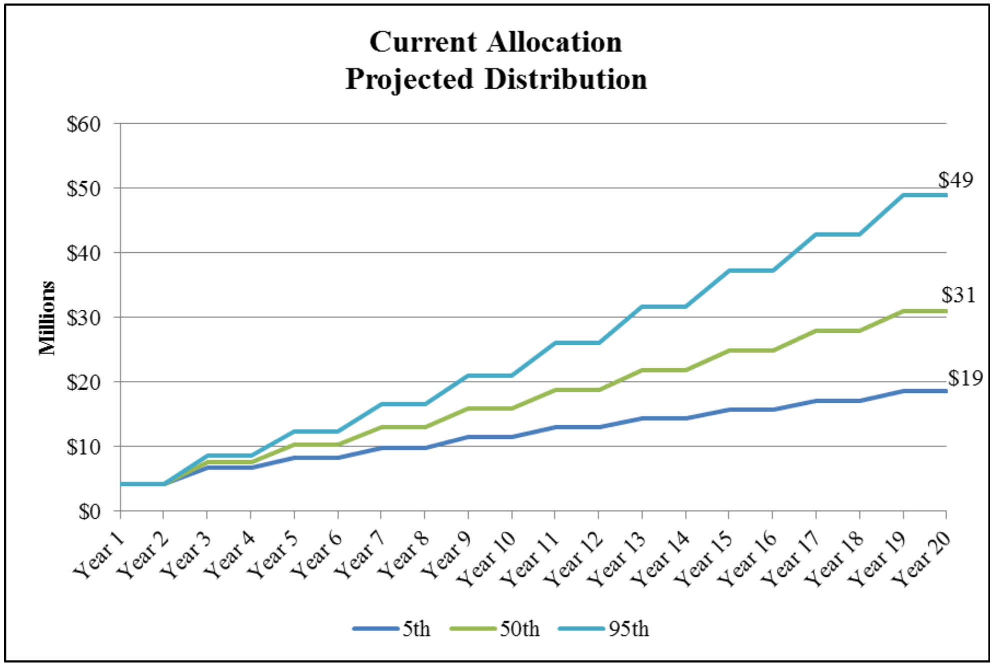
Projected Distribution – Year 20

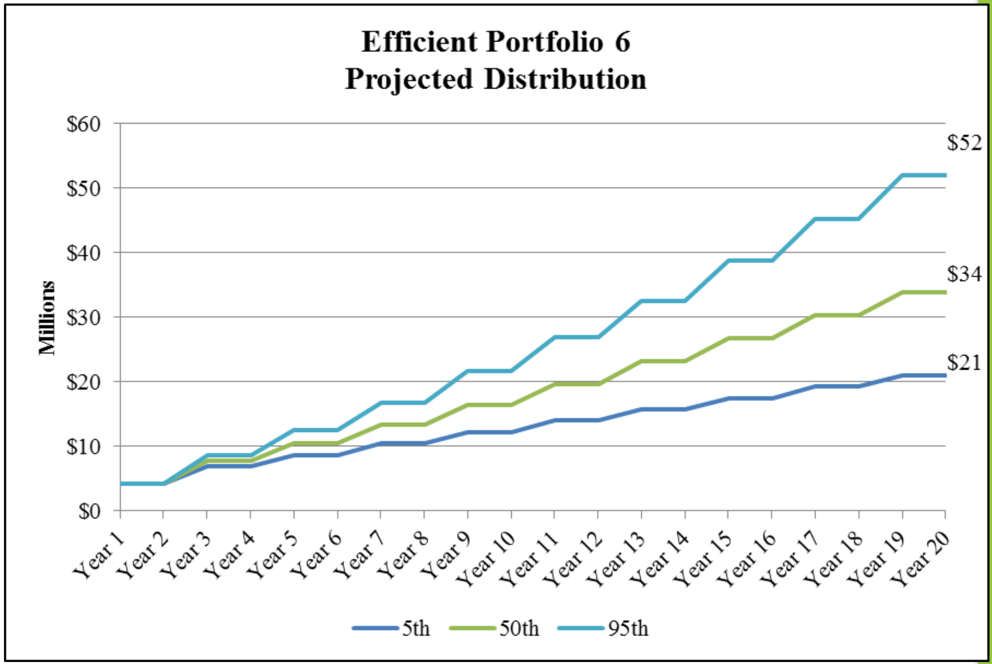


	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th	$19	$20	$21	$18
25th	$26	$27	$28	$27
Median	$31	$32	$34	$35
75th	$37	$38	$40	$45
95th	$49	$48	$52	$64

RVK

Projected Distribution Summary





	Current Allocation	Efficient Portfolio 3	Efficient Portfolio 6	Efficient Portfolio 9
5th Percentile	$19	$20	$21	$18
50th Percentile	$31	$32	$34	$35
95th Percentile	$49	$48	$52	$64

RVK

PORTLAND CHICAGO NEW YORK

RVK