



COMMONWEALTH OF PENNSYLVANIA TREASURY DEPARTMENT INVESTMENT POLICY STATEMENT

Commonwealth Investment Pools

June 27, 2019

TABLE OF CONTENTS

Table of Contents	
INTRODUCTION	1
Background	1
Purpose of the IPS	1
Scope	2
STANDARD OF CARE.....	2
Prudence	2
Ethics and Conflicts of Interest.....	3
Delegation of Authority	3
DISTINCTION OF RESPONSIBILITIES	3
Responsibilities of the Treasurer.....	3
Responsibilities of the Investment Committee	4
Responsibilities of the Investment Consultant	5
Responsibilities of Investment Manager(s).....	5
Responsibilities of Sub-Custodian/Custodian	6
Securities Lending Provider's Authority and Responsibilities	6
Proxy Voting Agent's Authority and Responsibilities	7
INVESTMENT BELIEFS	7
INVESTMENT OBJECTIVES	10
Short Term Investment Pool – STIP (Pool 99).....	10
Treasury Global Investment Pool – TGIP (Pool 124).....	11
Float.....	12
Long Term Investment Pool – LTIP (Pool 198).....	12
Asset Allocation	13
Rebalancing and Evaluating the Asset Allocation	13
Other Post Employment Benefit Fund – OPEB	14
Asset Allocation	14
Rebalancing and Evaluating the Asset Allocation	15
INVESTMENT MANAGER SELECTION AND EVALUATION	15
Third-Party Investment Manager Selection Criteria	15
INVESTMENT GUIDELINES	16
General	16
Equity.....	17
Fixed Income.....	17

Discretionary Intra-Governmental Line of Credit.....	18
Cash and Cash Equivalents.....	19
Real Estate	20
REITs.....	20
Alternatives.....	20
Derivatives	20
Options	21
Portfolio Risk Hedging.....	21
Prohibited Investments.....	21
Responsible Investing	22
Mutual and Other Commingled Funds	22
REVIEW PROCEDURES	23
Policy	23
Investment Performance	23
Risk Metrics	24
Asset Allocation	24
Fees	24
Appendix A.....	25
Appendix B.....	26



INVESTMENT POLICY STATEMENT

Commonwealth Investment Pools

INTRODUCTION

This Investment Policy Statement (“IPS”) is designed to provide a framework for the management of the investments for the Commonwealth of Pennsylvania Treasury Department (the “Pools”). This document will assist the Treasury Department (Treasury) in fulfilling its Legislative and fiduciary responsibility. The IPS establishes investment standards that are consistent with The Fiscal Code, 72 P.S. §1 *et seq.*; The Administrative Code, 71 P.S. §1 *et seq.*; and all other applicable laws, rules, and regulations. The provisions of this IPS are intended to aid Treasury employees and financial professionals retained by the Treasury in making decisions about investment matters.

Pursuant to Fiscal Code directive, the Treasurer maintains the authority to grant waivers and approve exceptions to any provisions of the IPS.

Following a written request to the Investment Committee from a financial professional seeking prior approval, the Treasurer may grant a waiver of a provision of the IPS if there is a determination that strict adherence would have a detrimental economic effect upon one or more Treasury programs, or if a waiver would be appropriate and in the best interests of Treasury and the Commonwealth.

Background

The Treasury is an independent executive office created by the Constitution of the Commonwealth of Pennsylvania, Article IV, § 1, 18. The Treasurer serves as statutory custodian of the Pools of virtually all state agencies, with the responsibility for monitoring and safeguarding money and securities in accordance with State Law. In addition, the Treasurer is entrusted with the exclusive management of and full power to invest moneys that exceed the ordinary needs of the Commonwealth that are not authorized to be invested by any other board, commission, or state official. As noted in Fiscal Code (72 P.S. § 301, *et seq.*), the Treasurer has broad authority to place these moneys in any investments subject to a standard of prudence and diligence. In addition to moneys of these Commonwealth Pools, Treasury has investment authority for moneys derived from other specialized program activities, including the PA 529 Guaranteed Savings Plan, PA 529 Investment Plan, PA ABLE Savings Program and the PA INVEST Program.

Purpose of the IPS

Pursuant to Fiscal Code directive (72 P.S. Section 301.2), this IPS has been adopted by the Treasury Department in order to:

- Define the investment philosophy for the Treasury;
- Define and assign the responsibilities of all involved parties;
- Establish a clear understanding of the investment goals and objectives of each Pool;
- Provide guidelines and procedures for the investment of assets of each Pool;
- Establish the relevant investment horizon for which each Pool’s assets will be managed;
- Provide a framework for the target asset allocation and re-balancing procedures for each Pool;

- Establish a methodology and criteria for retaining and terminating the Pools' relationships with investment professionals;
- Offer guidance and limitations to all third-party investment pools/managers ("Investment Managers") regarding the investment of each Pool's assets;
- Establish a basis for evaluating each Pool's investment results.

In developing this IPS, considerations included liquidity requirements, the need to diversify assets, and the financial impact (including the possibility of significant loss) of a range of asset allocations. This IPS will be updated to reflect any changes to each Pool's asset allocation.

In general, the purpose of this IPS is to outline a philosophy which will guide the investment management of each Pool's assets toward the desired results. It is intended to be sufficiently specific, yet flexible enough to be practical. This IPS is intended to serve as a reference tool, an operating code, and a communication link among the Treasury, the Investment Consultant, and the Investment Managers. Deviation from this IPS is not permitted without prior, explicit, written permission from the Treasurer.

Scope

The Treasury manages investments via a number of program specific Pools. The investment strategy for each Pool reflects a unique application of the principles of Prudent Person investing, crafted specifically to balance the investment criteria in an appropriate manner for these particular investors.

The IPS applies to the following programs and Pools administered by the Treasury:

- Short Term Investment Pool - STIP (Pool 99);
- Treasury Global Investment Pool - TGIP (Pool 124);
- Float;
- Long Term Investment Pool - LTIP (Pool 198);
- Other Post Employment Benefit Fund – OPEB.

STANDARD OF CARE

Prudence

Guidelines respecting prudence have been developed in light of investment objectives related to each respective Pool. Actuarial, economic, investment, and socio-political events and trends are factors that affect meeting those objectives. Accordingly, these guidelines are, as a part of this IPS, intended to present broad and balanced considerations to guide incumbent and successor Treasury, Investment Committee and all other parties concerned, seeking appropriate allocation, investment, safekeeping, monitoring and evaluation of the Pools.

Pool fiduciaries shall discharge their responsibilities and assets shall be invested in a manner consistent with this IPS, and generally accepted fiduciary standards. All transactions undertaken on behalf of the Pools shall be solely in the interest of Pool participants and their beneficiaries.

In making investments for Commonwealth funds, the Treasurer is charged with exercising that degree of judgment and care that experienced investors of prudence, discretion, and intelligence employ in the management of their own affairs regarding permanent disposition of their assets, set forth in the Fiscal Code (72 P.S. § 301, *et seq.*). Investment decisions must also reflect any differing legal standards that authorize or limit the particular kinds of investments each Pool may hold.

Ethics and Conflicts of Interest

Treasury employees involved in the investment process shall refrain from any personal business activity that could conflict with the proper execution and management of any Treasury investment program or that could impair their ability to make impartial decisions. Treasury employees shall provide all disclosures required by 65 Pa.C.S. § 1101 *et seq.*, commonly known as the Public Official and Employee Ethics Act, and internal Treasury Code of Conduct, which prohibits by way of example Treasury employees receiving anything of value from a vendor or anyone doing business with the Treasury.

Financial professionals shall disclose in writing to the Investment Committee any material interests they hold in financial institutions with which they conduct business or any other sources of potential conflicts of interest. Such written disclosure shall be made immediately upon discovery of the potential conflict. Treasury reserves the right, in its sole discretion, to require financial professionals to sell or otherwise dispose of such material interests or to limit or terminate the financial professionals' engagements.

Delegation of Authority

Authority to manage Pool assets is granted to the Investment Manager(s). Investment Manager(s) shall act as an agent of the Treasury and abide by the same Standard of Care applicable to Treasury. No person may engage in an investment transaction except as provided under the terms of this IPS and/or the Investment Manager Agreement(s). The Investment Manager(s) shall be responsible for all transactions undertaken and shall establish a system of controls to regulate the activities of subordinate officials.

DISTINCTION OF RESPONSIBILITIES

Responsibilities of the Treasurer

The Treasurer is the Chief Executive Officer of the Treasury and pursuant to the Fiscal Code (72 P.S. Section 301.1 *et seq.*) has ultimate and final authority over and responsibility for the actions of the Treasury and the fulfillment of its legal mission. The Treasurer is responsible for managing the moneys of the various programs, consistent with the Prudent Person investment authority, to safeguard principal, provide liquidity, and generate returns that are consistent with

both programmatic requirements and legal limitations. To achieve these objectives, the Treasurer has the right and responsibility to manage the various employees, agents, and contractors of Treasury. The Treasurer may designate specific agents, such as the Investment Committee and/or the Chief Investment Officer to carry out activities in fulfillment of these responsibilities. Acting alone, or through agents in the Treasury, the Treasurer, consistent with the Prudent Person investment authority, shall:

- Safeguard the principal of the funds, meet liquidity needs of the funds, and achieve a return on the funds;
- Establish reasonable and consistent investment objectives, policies, and implementation guidelines that will direct the investment of each program's assets in accordance with applicable law;
- Meet the liquidity needs of each program's participants;
- Prudently and diligently select qualified financial professionals in pursuit of these objectives;
- Establish the long-term strategic asset allocation for each Pool;
- Establish performance goals for each investment manager and communicate these goals in writing to the managers on a timely basis;
- Regularly monitor the performance of the financial professionals to evaluate progress in attaining investment objectives;
- Maintain compliance monitoring to ensure adherence to this IPS;
- Periodically review and revise the IPS to reflect changing circumstances or experiences;
- Establish and maintain due diligence guidelines.

Responsibilities of the Investment Committee

The Treasury shall utilize an Investment Committee to advise and assist the Treasurer in the discharge of his or her statutory duties. The Investment Committee shall consist of the Chief Investment Officer, who shall Chair meetings of the Investment Committee; the Chief Counsel; and other persons whom the Treasurer may wish to appoint. The Investment Committee shall meet at least once each calendar quarter and on such other occasions as the Treasurer shall direct. Meetings may occur in person, by telephone conference call, or by such other means as the Chair deems to be appropriate.

The Investment Committee's responsibilities shall include the following:

- Advise the Treasury on the IPS and monitor implementation thereof;
- Evaluate outside professionals related to the Pools' investment program;
- Use available information and resources, including advice from the Investment Consultant, to evaluate Investment Managers and other professionals as needed to assist in the administration and implementation of the IPS;
- On a quarterly basis, monitor the asset allocation, Investment Manager performance, and conduct of all professionals associated with the Pool's investment program;
- Perform specific tasks and functions identified in this IPS or as directed by the Treasurer, and Post, maintain, and update this IPS on its publicly accessible Internet website.

Responsibilities of the Investment Consultant

The Treasury has retained an Independent Investment Consultant, subject to the Standard of Care applicable to the Treasurer, to assist in fulfilling its investment goals and objectives in accordance with this IPS; the Consultant's responsibilities shall include the following as the Treasurer may direct:

- Provide advice to the Treasurer and Investment Committee to determine the most effective investment program and the allocation of assets among the various investment choices;
- Measure the Pools' investment performance results, evaluate the investment program, and advise the Treasurer and Investment Committee as to the performance and continuing appropriateness of each Investment Manager;
- Review the liabilities for each Pool to test the appropriateness of asset allocation and liquidity profile of the Pool;
- Review this IPS on a regular basis and recommend modifications, as appropriate;
- Promptly inform the Treasurer and Investment Committee regarding significant matters pertaining to the investment of assets of each Pool;
- Adhere to the applicable investment consulting agreement between the Treasury and Investment Consultant and comply with applicable laws, regulations and rulings.

Responsibilities of Investment Manager(s)

Assets will be invested by both internal and third-party Investment Managers, who, subject to the Standard of Care applicable to the Treasury, have the following responsibilities:

- Manage the portion of the Pools' assets under their control in accordance with this IPS and any applicable management agreement or prospectus;
- Exercise full investment discretion within the policies and standards as established as to buy, hold, and sell decisions for each Pool's assets under management;
- On at least a monthly basis, unless waived and then quarterly, reconcile the account's positions with the Pools' designated custodian;
- Provide reports and data sheets to the Investment Consultant, if applicable, on a monthly basis detailing the Pools' investment performance and positioning for the most recent period;
- Promptly inform the Investment Consultant regarding significant matters pertaining to the investment of the Pools' assets, including, but not limited to changes in ownership, organizational structure, investment strategy, portfolio design, or configuration of the investment team;
- Unless the Pool has retained a proxy voting service, exercise the proxy voting rights related to securities held in its portfolio in a manner consistent with the economic best interests of the Pool participants;
- Adhere to the applicable investment manager agreement between the Treasury and Investment Manager and comply with applicable laws, regulations and rulings;

- Investments shall be made with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

Responsibilities of Sub-Custodian/Custodian

The Treasurer has exclusive statutory authority to retain a sub-custodian to custody all assets under the Treasurer's care. The custodian shall serve as a fiduciary and shall discharge its responsibilities and assets shall be invested in a manner consistent with this IPS, and generally accepted fiduciary standards.

The Treasurer serves as statutory custodian of the funds of virtually all state agencies, with the responsibility for monitoring and safeguarding money and securities pursuant to Fiscal Code e.g. 72 P.S. § 303. In addition, the Treasurer is entrusted with the exclusive management of and full power to invest moneys that exceed the ordinary needs of Commonwealth funds and that are not authorized to be invested by any other board, commission, or state official. As noted Fiscal Code (72 P.S. § 301 *et seq.*), the Treasurer has broad authority to place these moneys in any investments subject to a standard of prudence and diligence.

The Treasury has retained a sub-custodian to custody the Pools' assets; such custodian will have the following responsibilities:

- Hold, safeguard, and accurately price the Pools' assets;
- Collect the interest, dividends, distributions, redemptions, or any other amounts due to the Pools;
- Report all financial transactions to the Investment Consultant and any other Pool designee(s);
- Prepare periodic summaries of transactions, asset valuations, and other related information as deemed appropriate;
- Perform any and all duties as detailed in the respective custodial agreement.

Securities Lending Provider's Authority and Responsibilities

The Treasurer may utilize a securities lending provider to create income through the lending of the assets of the Pools. The securities lending provider will provide reports on a periodic basis to all necessary parties and be responsible for ensuring that adequate collateral be provided to the Pools for the securities that are lent and that the interest rate generated by the securities lending program is fair and reasonable. Furthermore, the securities lending provider will attempt to return all lent securities to the Pools' appropriate account before any transactions on the lent securities are executed. The securities lending provider retained by the Treasury will exercise discretion within the parameters set forth in these guidelines on behalf of the Pools and the applicable agreement and Standard of Care. The collateral pool of the program must be managed in such a manner consistent with the risk/return characteristics of the Pools with the predominant focus being capital preservation.

Proxy Voting Agent's Authority and Responsibilities

The Treasurer may utilize a proxy voting agent to vote proxies for the Pools.

INVESTMENT BELIEFS

Treasury maintains a set of investment beliefs about its own office, the companies and securities in which it invests to earn a return, and the capital markets through which Treasury transacts. These investment beliefs inform specific investment policies and guidelines which guide the investment activities of Treasury as fiduciary of Commonwealth assets for Commonwealth agencies, taxpayers, current and future Pennsylvanians, and other stakeholders.

Treasury Investment Office: Treasury investment staff are governed by these investment beliefs in their partnership with managers and in selection of investment securities. In order to integrate fully these investment beliefs, Investment staff will partner with Policy, General Counsel, and Other offices within Treasury.

Investments: Treasury Investment Office staff invest across multiple asset classes and security types in their stewardship of investment programs under Prudent Person. These beliefs hold across all assets.

Capital Markets: Treasury investments benefit from well-functioning capital markets, where those investing and seeking investment can do so fairly. Pennsylvania, a large state with vast financial assets, is endowed with a responsibility to advance healthy capital markets.

	Investment Office	Managers & Holdings	Capital Markets
Transparency provides a basis for trust.	Treasury will make publicly available asset allocations, fees, and other material investment information for Pools. Tax payers, contributing agencies, employees, and other stakeholders have the right to know why and how Commonwealth funds are invested.	Investors can best manage risk when companies seeking investment provide adequate disclosure of material risks. Manager transparency helps align interests.	Capital markets that promote transparency are key to risk management and optimizing outcomes for stakeholders.

Accountability enforces trust.	Investment staff will articulate portfolio objectives, identify benchmarks, and analyze outcomes.	Treasury will monitor and engage with investment managers and the issuers of securities to minimize risk and maximize return for stakeholders. Treasury's fiduciary duty to Pennsylvanians includes actively engaging with companies on key issues of governance, sustainability, and social responsibility in order to hold them accountable for outcomes that affect Pennsylvanians.	Entities regulating capital markets should hold stakeholders accountable for their actions.
Costs have a material impact on returns.	Skilled investment staff who can directly oversee portfolios provide operating leverage to cost effectively manage Treasury's investment programs.	Fees are a critical contractual consideration to align investment partners with the outcomes Treasury seeks for the Commonwealth.	Belief in the fairness and reliability of information found in capital markets can increase investor participation, and lower transaction costs for both borrowers and investors.

Simplicity facilitates responsible stewardship of funds.	Treasury is limited in the control of all factors and will therefore scale the management of the portfolios and the capital markets accordingly.	Complexity adds risk to investment portfolios with uncertain reward. Treasury favors understandable, rules-based, measurable index strategies with regular rebalancing.	Efficient capital markets benefit both investors and those individuals and businesses seeking capital. Treasury will engage in efforts to support efficient and fair capital markets.
Time Horizons of portfolios and stakeholders influence portfolio management.	Investment decisions will be informed by the Pool and its stakeholders, not the term of office of the Treasurer.	Time constraints inform liquidity demands and thus asset allocation of risk and cost sharing investment Pools.	The Commonwealth is a perpetual entity. Treasury will work to make capital markets and investment decisions that support intergenerational equity.
Risk is both qualitative and quantitative, and future risks may differ from historical risks.	Treasury will set and stress test quantitative investment risk measures appropriate for the risks of each program. Staff will endeavor to minimize operational risk.	Material, forward-looking risks exist that are not captured by historical measures such as market volatility. Environmental, social, and governance risks must be evaluated and managed.	The Commonwealth may be affected by systemic risks created irrespective of Treasury's investment decisions. As a universal owner, Treasury seeks to proactively call attention to and manage these risks.

When prioritizing issues of investment strategy, Treasury will address issues which are material, consistent with policy and these investment beliefs, and for which the Investment Office has the expertise and capacity to improve outcomes.

INVESTMENT OBJECTIVES

Consistent with its obligation to act as a Prudent Person in carrying out its fiduciary responsibility, Treasury seeks investments that will maximize the likelihood that each Pool will satisfy its respective requirements. All transactions undertaken on behalf of the Pools shall be solely in the interest of the program participants and their beneficiaries. The Pools' investments will be managed prudently with reference to safeguards and diversification considering each Pool's income and liquidity needs.

Under the premise that every dollar retained and invested in a Pool compounds and grows over time to pay down future liabilities, for funds not managed internally, the Treasury will attempt to meet each Pool's return objectives by predominantly investing in transparent, liquid, low cost vehicles such as passive index funds. All management fees, trading costs, and other administrative expenses will be monitored and carefully controlled.

Short Term Investment Pool – STIP (Pool 99)

STIP (Pool 99) is organized similarly to a money market fund, with an expectation of a stable net asset value (NAV) per share. Pool 99 seeks to maintain a stable NAV per share of \$1.0000. The value of a share in Pool 99 is calculated daily, incorporating all realized and unrealized gains and losses, and any cash returned from investments. As minor fluctuations are expected in the value of shares, the Treasurer or designee(s) may be notified at any time the value of one share in Pool 99 declines to or below a rounded value of \$0.9985 or exceeds 1.0015.

Pool 99 is a short-term investment vehicle that seeks to maintain a stable \$1.0000 per share NAV. Pool 99 does not directly hold securities, but rather shares of the Consolidated Cash Pool (CCP), a separate investment instrument used to invest all short-term assets of the Commonwealth. Depending on the daily net activity, Pool 99 purchases or sells shares of the CCP at \$1.0000 per share. Income earned on the CCP's investments is accrued daily and distributed monthly to each participant of the CCP.

Risk Tolerance

The primary object of Pool 99 is to preserve principal and therefore all investments made in the Pool will be in accordance with the Pool's processes and procedures for maintaining a stable NAV of \$1.0000 per share.

Liquidity

Pool 99 will consist of fixed-income securities, primarily of short duration, time deposits and other statutory programs, money market funds, or a line of credit, which are held either directly or through the CCP. The maximum maturity on securities in Pool 99 is 397 days unless the issue has been currently called or unless otherwise specified in this IPS. However, variable and floating rate securities that reset no less frequently than quarterly may have a final maturity of two years. The maximum weighted average maturity to reset of Pool 99 shall be 130 days. Liquidity needs are informed by known and projected participant cash flows.

Return Objectives

Pool 99 should generate a competitive return while preserving principal, maintaining liquidity, and maintaining a stable NAV of \$1.0000 per share. Performance is compared to the three-month U.S. Treasury bill.

Treasury Global Investment Pool – TGIP (Pool 124)

The Treasury serves as custodian for the investment assets of various Funds whose boards the Commonwealth has authorized to make investments. Typically, these boards retain their own investment managers to manage various portfolios and then allocate cash to the managers for the purpose of making investments. Treasury established the Treasury Global Investment Pool (TGIP, also referred to as Pool 124) to serve as a short-term investment vehicle for the cash from such allocations that the investment managers have not directly invested. The TGIP allows these cash balances to enjoy investment benefits but remain highly liquid for future use by the Funds' investment managers.

Pool 124 is a short-term investment vehicle that seeks to maintain a stable \$1.0000 per share NAV. Pool 124 does not directly hold securities, but rather shares of the CCP, a separate investment instrument used to invest all short-term assets of the Commonwealth. Depending on the daily net activity, Pool 124 purchases or sells shares of the CCP at \$1.0000 per share. Income earned on the CCP's investments is accrued daily and distributed monthly to each participant of the CCP.

The value of a share of the TGIP is calculated daily, incorporating all realized and unrealized gains and losses, and any cash returned from investments. Within the course of a month, minor fluctuations are expected in the value of shares. The Treasurer or designee(s) may be notified if at any time, the value of one share in the TGIP declines to or below a rounded value of \$0.9985 or exceeds \$1.0015.

Risk Tolerance

The primary object of Pool 124 is to preserve principal and therefore all investments made in Pool 124 will be in accordance with Pool 124's processes and procedures for maintaining a stable NAV of \$1.0000 per share.

Liquidity

Pool 124 will consist fixed-income securities, primarily of short duration, time deposits and other statutory programs, money market funds, which are held either directly or through the CCP. The maximum maturity on securities in Pool 124 is 397 days unless the issue has been currently called or unless otherwise specified in this IPS. However, variable and floating rate securities that reset no less frequently than quarterly may have a final maturity of two years. The maximum weighted average maturity to reset of Pool 124 shall be 130 days. Liquidity needs are informed by known and projected participant cash flows.

Return Objectives

Pool 124 should generate a competitive return while preserving principal, maintaining liquidity, and maintaining a stable NAV of \$1.0000 per share. Performance is compared to the three-month U.S. Treasury bill.

Float

The Float is an internally managed investment of the excess cash balances in the Department's Concentration bank account. The balance is a combination of cash available to pay outstanding checks and cash received but not recorded in the funds' general ledger accounts. Act 72 (P.L.281, No.72), details the requirements for collateralization of public funds on deposit with banking institutions. The Float investment is utilized to reduce the potential for under-collateralization and any risk to the cash. The cash is usually recorded in the general ledger on the next business day and checks are presented for payment daily, therefore Float requires maximum liquidity and is restricted to an overnight investment.

Risk Tolerance

Safety of principal is the foremost objective of Float. Investments shall be undertaken in a manner that seeks to ensure a stable asset value. Government money market funds with a stable NAV of \$1.0000 are an example of a suitable investment vehicle.

Liquidity

The investment portfolio shall remain highly liquid to meet all cash needs.

Long Term Investment Pool – LTIP (Pool 198)

LTIP (Pool 198) is designed to provide an opportunity for Funds that can sustain a higher degree of volatility and risk and a lesser degree of liquidity. It is intended for agencies that have little to no need to access the assets in the short term. The primary purpose of Pool 198 is achieving, at least, long-term preservation of purchasing power. Pool 198 can diversify across a wide variety of asset classes with a purpose to conserve and enhance the value of Pool 198 through asset appreciation and income generation, while maintaining a reasonable investment risk profile.

Risk Tolerance

Pool 198 will be managed in a style that seeks to mitigate principal fluctuations consistent with Pool 198's investment objectives. Pool 198 can accept prudent levels of short and long-term volatility consistent with the near-term cash flow needs, and long-term liability structure of Pool 198. The overall volatility of Pool 198 should align with that of the reference benchmark 25% MSCI ACWI/75% Barclays US Aggregate bond.

Liquidity

Pool 198 assets may be used to pay the operating expenses of the Commonwealth and must therefore maintain sufficient liquidity to meet expected operating needs. The Investment Committee should perform a review of liquidity characteristics for Pool 198 on at least a quarterly basis.

Return Objectives

Investment objectives are intermediate-term in nature. The Treasury recognizes securities markets are unlikely to provide a consistently favorable climate, on a shorter-term basis. Given this, long-term Pool objectives are:

- 1) Earn a total rate of return, net of investment fees, that achieves the Pool's primary purpose of achieving, at least, long-term preservation of purchasing power.
- 2) Total annualized net investment return from all investments of the Pool and each asset class of the Pool is expected to meet or exceed the annualized return of the designated benchmark over a full market cycle.

Asset Allocation

Asset class allocation decisions are intended to identify an appropriate investment approach for achieving each Pool's Investment Objectives while limiting investment risk through diversification. The asset class targets for each Pool, delineated in Appendix A, provide a framework through which the Pools' investments may be adjusted to meet economic and/or investment market conditions while continuing to be invested within the broader allocation framework deemed appropriate to the Pools' Investment Objectives.

Rebalancing and Evaluating the Asset Allocation

Asset allocations will be rebalanced monthly and at deviations of 10% in either direction from the strategic asset allocation.

The portfolios will be rebalanced on a regular basis to bring the asset allocation of the Pools in-line with the approved target ranges. The Treasurer and Investment Committee, with the assistance of the Investment Consultant, will review the Pools' asset allocation on a regular basis and consider changes as deemed prudent. During such evaluation, the Treasurer, Investment Committee and the Investment Consultant will take into consideration the time horizon of the Pools' assets, cash flow needs, and any additional constraints. The Investment Consultant will provide long-term capital markets assumptions and will suggest asset allocations that best meet the objectives of the Pools.

Other Post Employment Benefit Fund – OPEB

OPEB is a long-term pool used to pay future retiree health benefits. OPEB is designed to provide an opportunity for investments that can sustain a higher degree of volatility and risk and a lesser degree of liquidity targeting prudent levels of short and long-term volatility consistent with its long-term liability structure. Appropriate levels of downside risk, relative to the Fund's long term actuarially determined assumed rate of return, are acceptable.

Risk Tolerance

OPEB can accept prudent levels of short and long-term volatility consistent with the long-term nature of the liability structure of the Fund. It may tolerate appropriate levels of downside risk relative to the Fund's actuarially determined assumed rate of return.

Liquidity

OPEB assets recognize a future retiree health benefit for plan beneficiaries. Current year payables are presently covered by the Commonwealth pay-go system, and as such OPEB does not require immediate liquidity.

Return Objectives

Investment objectives are long-term in nature. The Treasury recognizes securities markets are unlikely to provide a consistently favorable climate, on a shorter-term basis. Given this, long-term Fund objectives are:

- 1) Earn a total rate of return, net of investment fees, that achieves at least the Plan's actuarially determined assumed rate of return.
- 2) Total annualized net investment return from all investments of the Fund and each asset class of the Fund is expected to meet or exceed the annualized return of the designated benchmark over a full market cycle.

Asset Allocation

Asset class allocation decisions are intended to identify an appropriate investment approach for achieving each Pool's Investment Objectives while limiting investment risk through diversification. The asset class targets for each Pool, delineated in Appendix B, provide a framework through which the Pools' investments may be adjusted to meet economic and/or investment market conditions while continuing to be invested within the broader allocation framework deemed appropriate to the Pools' Investment Objectives.

Rebalancing and Evaluating the Asset Allocation

Asset allocations will be rebalanced monthly and at deviations of 10% in either direction from the strategic asset allocation.

The portfolios will be rebalanced on a regular basis to bring the asset allocation of the Pools in-line with the approved target ranges. The Treasurer and Investment Committee, with the assistance of the Investment Consultant, will review the Pools' asset allocation on a regular basis and consider changes as deemed prudent. During such evaluation, the Treasurer, Investment Committee and the Investment Consultant will take into consideration the time horizon of the Pools' assets, cash flow needs, and any additional constraints. The Investment Consultant will provide long-term capital markets assumptions and will suggest asset allocations that best meet the objectives of the Pools.

INVESTMENT MANAGER SELECTION AND EVALUATION

Third-Party Investment Manager Selection Criteria

If the Treasurer, with the assistance of the Investment Committee and Investment Consultant, determines that a third-party Investment Manager should be selected or replaced, the below criteria will be used, at a minimum, to evaluate potential alternatives:

- Overall firm strength and investment professional tenure;
- Well-articulated and consistent application of investment philosophy and process;
- Portfolio characteristics and sector weightings relative to style benchmark;
- Consistent performance relative to style benchmark and industry style universe;
- Portfolio's long-term risk/reward profile compared to style benchmark and industry style universe;
- Investment management fees compared to industry average.

INVESTMENT GUIDELINES

General

The Investment Manager(s) shall conform to the Investment Guidelines set forth below and their Investment Manager contract. Any departure from the Guidelines must be submitted in writing to the Treasurer, Investment Committee and Investment Consultant for prior approval, as must any change in the “style” or investment philosophy, process, or practices approved by the Treasurer and Investment Committee at the time any Investment Manager was retained to serve the Pools. Exceptions may be granted only if provided for in writing with the Investment Manager or in the investment guidelines of the Investment Manager contract.

- 1) Each Investment Manager shall be and remain registered as an investment adviser under the Investment Advising Act of 1940, as amended (“Advisers Act”),
- 2) Each Investment Manager shall select investments in conformity with criteria normally applied in its decision-making process and previously reviewed and approved by the Treasurer,
- 3) Any security purchased in compliance with the standards cited in this IPS or in the Investment Manager(s) contract, but no longer meeting Investment Guideline standards and/or causing portfolio non-compliance, may, in lieu of immediate sale, be reported by any Investment Manager (s) to the Treasurer and Investment Committee with background information and an intended future course of action. The Treasurer and Investment Committee may, upon review, approve temporary or indefinite retention or, in the Treasurer and Investment Committee’s best judgment, order disposition of the security and a return to full compliance. For any individual Investment Manager, securities retained under such circumstances shall constitute no more than five (5) percent of the market value of securities of the assets managed by the Investment Manager (5 percent “basket clause”),
- 4) Investment Managers may request in writing to the Treasurer waivers and/or exemptions to any provisions of this IPS. Investment Managers will provide a written report to the Treasurer of each instance of non-compliance with the IPS within five days of discovery of the non-compliant event or circumstance,
- 5) Any Investment Manager(s) managing active portfolios will be assigned indices or other types of benchmarks deemed suitable for their investment assignment and agreed upon with the Treasurer. As a general expectation investment performance of those Investment Managers should exceed their assigned benchmarks, net of fees, on an annualized basis over a full market cycle,
- 6) Any Investment Manager(s) managing index portfolios, should track the returns and volatility of the assigned index as a general expectation of investment performance, and
- 7) Investment Managers are required to adhere to all obligation and guidelines detailed in the Investment Manager agreement between the firm and Treasury.

Equity

Investment Manager(s) are expected to purchase marketable equity securities listed on national securities exchanges. The structure of equity investments may be in the form of exchange-traded funds (ETFs), mutual funds, separately managed accounts and/or pooled trusts.

Investment Managers are given latitude in security selection subject to the following:

- 1) Permissible equity investments include, but are not limited to, convertible securities, publicly traded REITs and American Depositary Receipts;
- 2) Sector, industry and individual security diversification should be maintained;
- 3) No Investment Manager shall invest on a market value basis more than (the greater of): a) five (5) percent of their assigned portfolio in the security (-ies) of a single corporation or group of directly affiliated corporations or, b) 1.5 times the weighting of a security(-ies) within an Investment Manager's equity benchmark;
- 4) No Investment Manager may use assigned funds to make or maintain an investment equaling or exceeding ten (10) percent ownership of the outstanding equity security(-ies) of a single corporation, or group of directly affiliated corporations, without the written consent of the Treasurer;
- 5) As an exception to the general prohibition against so-called alternative investment instruments, stock options may be utilized by an Investment Manager(s) managing U.S. equity securities in "covered" or hedging postures but not in "naked" or speculative postures;
- 6) Hedging to protect against currency impact upon a security position is permissible. Nevertheless, the purchase of speculative or "naked" currency contracts (i.e., currency trading or related risk taking), undertaken without a demonstrable exposed investment position to be hedged in a specific currency, is prohibited.

Fixed Income

Suitable fixed income investments include, but are not limited to, U.S. Treasury and Federal agency securities, municipal securities, marketable debt securities of U.S. corporations, domestic and Yankee certificates of deposit, banker's acceptances, commercial paper, or other generally utilized money market or cash equivalent investments, including money market mutual funds meeting the quality standards delineated below. The structure of the investments may be in the form of direct purchases, ETFs, mutual funds, separately managed accounts and/or pooled trusts.

The effective duration of fixed income securities, said average including any investments considered to be reserve or cash equivalent assets specific to any fixed income portfolio, shall be no more than 25 percent greater nor fifty (50) percent less than the effective duration of the policy benchmark.

Up to 40% of the fixed income portfolio may be investments in structured products including Mortgage Backed Securities (MBS), Commercial Mortgage Backed Securities (CMBS), and Asset Backed Securities (ABS), provided that CMBS issues shall not exceed 10% of the fixed income portfolio and ABS issues shall not exceed 10% of the fixed income portfolio.

Non-investment grade credit will be limited at 15% of each Pool.

MBS, limited to agency mortgage-backed securities, including agency collateralized mortgage obligations, should have a minimum credit rating of AAA and a maximum weighted average life of 40 years.

CMBS, should have a minimum credit rating of AAA and a maximum weighted average life of 10 years.

Investment Managers are given latitude in security selection subject to the following:

- 1) No issuer, other than the U.S. Government or other Federal Agency securities, may represent more than five (5) percent of the total market value of the fixed income portfolio managed by any Investment Manager(s),
- 2) At no time shall margin or other leveraged transactions, short sales, forward or futures trading, or any form of portfolio hedging be employed in the management of fixed income investments without prior written approval of the Treasurer, and
- 3) ABS, including, but not limited to, securities backed by credit cards, autos, or other assets should have a minimum credit rating of AAA and a maximum maturity of 5 years. No Investment Manager shall invest on a market value basis more than five (5) percent of their assigned portfolio in a single issuer.

Discretionary Intra-Governmental Line of Credit

At the discretion of the Treasurer, Treasury may enter into an investment agreement (Agreement) with the Office of the Budget to execute an investment in Pool 99. The investment is structured as a line of credit, which impose a market-based rate of return on the drawn amounts. The investment is consistent with the provisions of the Pennsylvania Fiscal Code (72 P.S. §301.1). The Agreement establishes that any indebtedness incurred as a result of its execution, in addition to the outstanding amount of any other general obligation indebtedness during the period of the Agreement does not exceed one-fifth of the contemplated revenues for the General Fund of the Commonwealth pursuant to the Pennsylvania Fiscal Code (72 P.S. §1601-A). In addition, the total outstanding balance of the investment may not exceed 5% of the total market value of Pool 99 without express approval of the Treasurer.

Cash and Cash Equivalents

The following investments are permitted by this IPS:

- 1) U.S. Treasury and other government obligations that carry the full faith and credit guarantee of the United States for the payment of principal and interest;
- 2) Federal agency or U.S. government sponsored enterprises (GSE) obligations, participations or other instruments;
- 3) Commercial paper, including asset backed commercial paper, issued by corporations or other business entities organized in accordance with Federal or State law, if the issuing corporation or business entity is rated in the top short-term category by at least two NRSROs, e.g., A-1, P-1;
- 4) Bills of exchange or time drafts drawn on and accepted by a commercial bank, otherwise known as bankers' acceptances, if the bankers' acceptances do not exceed 180 days' maturity and the accepting bank is rated in the top short-term category by at least two NRSROs;
- 5) Non-rated Pennsylvania certificates of deposit are permitted but must be fully collateralized as to the principal amount plus any accrued interest for any amount above FDIC insurance. Treasury allows the following types of collateral:
 - a. U.S. Treasury and Government Agency Securities. Debentures must be fixed-rate and have a call or maturity date of four years or less. (102% of principal plus accrued interest)
 - b. Letters of Credit (@ 100% of principal plus accrued interest) purchased through the Federal Home Loan Banks,
- 6) Time deposits (Non-negotiable certificates of deposit) in state or federally chartered banks, savings and loans, or credit unions in excess of insured amounts which are fully collateralized with securities in accordance with Fiscal Code 72 P.S. Section 505;
- 7) Negotiable certificates of deposit (domestic or Yankee) or other evidences of deposit, with a remaining maturity of 397 days or less, issued by a nationally or State-chartered bank, a Federal or State savings and loan association or a State-licensed branch of a foreign bank. For obligations with a maturity of one year or less, the debt obligations of the issuing institution or its parent must be rated in the top short-term rating category by at least two NRSROs. For obligations with a maturity in excess of one year, the senior debt obligations of the issuing institution or its parent must be rated at least "A" or its equivalent by at least two NRSROs;
- 8) Investment-grade obligations of state, provincial and local governments and public authorities,
- 9) Fully collateralized Repurchase agreements collateralized in compliance with this IPS, governed by a SIFMA Master Repurchase Agreement and with a maximum maturity. Capital project funds may be invested in a single flex repurchase agreement with a maximum stated maturity that shall be matched to the expenditure plan;
- 10) SEC registered money market mutual funds;
- 11) Local government investment pools.

Real Estate

Real estate assets may be held in private real estate investments, which will be implemented through open-end commingled fund vehicles. Direct investment in real estate by the Fund is prohibited.

Pooled real estate investment funds will diversify their exposures by property type and location. The manager(s) should diversify in an attempt to limit exposure to any single property type or to any single geographic area. It is expected that at various points in time, the portfolio may be more heavily exposed to a single property type or location by virtue of opportunities in the market that are expected to generate excess return above long-term expectations. The diversification of the real estate portfolio will be compared to the composition of the NCREIF ODCE Index.

Limited use of leverage is permissible within pooled real estate investment funds only upon the express permission of the Treasurer.

REITs

Real estate assets may be held in publicly traded Real Estate Investment Trusts (REITs) and servicing companies.

Alternatives

Long-term pools may include alternative assets, such as private equity, private debt, venture capital and liquid risk premia, etc. The structure of the investments may be in the form of mutual funds, pooled trusts and/or limited partnerships. These investments are intended to provide increased diversification and may reduce the overall risk profile of a portfolio. Alternatives typically exist outside of well-established public markets and are often only available to large institutional investors. Due to their funding structures, alternative assets typically involve reduced liquidity, but in exchange may offer higher risk-adjusted return potential as compensation for the forfeiture of liquidity. Consideration should be given to the size that such allocations may comprise in times of market stress to ensure that the allocation to such categories does not exceed the intent of the IPS and negatively impact the ability to meet cash needs.

An alternative investment manager's portfolio will not be subject to the provisions of Prohibited Investment Activity—except for PA Act 44 of 2010—or any limitations on the proportions of any single holding within a portfolio, so long as such investments are made in accordance with the investment strategy defined in the investment manager's contract.

Derivatives

Treasury permits managers to utilize derivative strategies, provided that the strategy is clearly defined and articulated fully, in accordance with the relevant guidelines of this section of the IPS, and approved in advance by the Treasurer or designee(s). Such approval must be provided in writing, and will typically be included in the contractual documents governing the relationship with the manager.

The use of derivative strategies is designed to improve the potential for diversification, and in some cases, remove unwelcome risk through an appropriately and properly hedged position. Derivative strategies may be employed to reduce risk through hedged positions or to engage in trades on the public market of a representation of an underlying illiquid asset.

Options

Treasury permits managers to utilize options-writing strategies, provided that the strategy is clearly defined and articulated fully, in accordance with the relevant guidelines of this section of the IPS, and approved in advance by the Treasurer or designee(s).

Any such strategy must be transparent and fully-collateralized by high-quality short-to-intermediate fixed income securities for selling put options or the underlying equity and/or futures contracts for selling call options. These strategies are intended to capture the historical premium, or spread, between implied volatility and realized volatility within asset markets.

Portfolio Risk Hedging

Portfolio investments designed to hedge various risks including volatility risk, interest rate risk, etc. are allowed to the extent that the investments do not create direct portfolio leverage. One example of a hedge vehicle is an exchange traded fund (“ETF”) which takes short positions.

Prohibited Investments

Treasury prohibits investing in the following:

- Equities purchased directly;
- Derivatives used for speculative purposes;
- Trading on margin;
- Commodities;
- Private placements (except 144a securities);
- Direct Real estate properties;
- Interest-Only (IO), Principal-Only (PO), and Residual Tranche CMOs, and Letter stocks, and
- Protecting Pennsylvania’s Investment Act (Act 44 of 2010) – Securities associated with State Sponsored Terrorism.

Managers pursuing a strategy including the use of derivatives may be specifically authorized to invest in certain prohibited asset categories—except for PA Act 44 of 2010. Such exemptions should be specifically identified in the contract for that strategy.

Responsible Investing

Subject to the Standard of Care and the Treasurer's investment authority, Treasury manages significant assets for programs with extended investment horizons. The longer investment horizons of these programs obligate Treasury to enlarge its investment analysis to include conventional fundamental factors as well as strategic factors that could potentially affect an investment's long-term economic performance. There is growing recognition that factors like Environmental, Social and Governance (ESG) considerations can have a significant bearing upon an investment's long-term value and performance. Consistent with its Prudent Person standard, Treasury will incorporate analysis of such strategic factors into its investment decision-making when, under the Treasurer's discretion, there is a reasonable basis for identifying a consideration that may materially impact the performance of an asset during the time horizon for which the asset is held.

As an index investor in public markets, Treasury will pursue an approach of engagement, rather than divestment, to mitigate identified risks.

Where possible and subject to limits established by the Strategic Asset Allocation, funds may also be invested to provide additional benefits to the Commonwealth or its citizens, provided that such investments meet all of Treasury's investment criteria for similar investments, do not compromise the risk/return characteristics of the portfolio in which they are invested, and otherwise meet the Prudent Person standard.

Mutual and Other Commingled Funds

Given the nature of mutual and other commingled funds, it is recognized that there may be deviations between the objectives, intent or specific requirement of this IPS and the stated objectives, intent or content of any mutual or other commingled fund. However, every effort shall be made, to the extent practical, prudent and appropriate, to select mutual or other commingled funds that have investment objectives and policies that are consistent with this IPS.

REVIEW PROCEDURES

Policy

The Treasurer, Investment Committee and the Investment Consultant shall perform an annual review of this IPS and, as needed, recommend appropriate modifications. The review should ensure that:

- 1) There is a risk budget that specifies tolerable volatility, downside risk and illiquidity and the associated policy benchmark;
- 2) There is a diversified policy benchmark that is composed of investible index funds;
- 3) Systematic risk calculations are defined, and targets established;
- 4) Idiosyncratic risk limits are defined;
- 5) There is a specified rebalancing policy.

Investment Performance

Total Pool and Investment Manager investment performance will be reviewed monthly on a gross-of-fees and net-of-fees basis. Returns shall be compared to returns of a peer universe of comparable professionally managed portfolios or mutual funds as well as to appropriate benchmark indices. Attribution analysis shall be performed for each investment manager, as appropriate, to analyze the drivers of return.

Returns will be reviewed on a quarterly basis as well. In addition, holding and exposure analysis shall be performed and reviewed in comparison to appropriate benchmark indices. This will be done at the individual manager and asset class composite levels.

It is expected that the investment performance of any Investment Manager(s) will meet or exceed the Investment Objectives previously identified in this IPS. Shorter term results will be regularly reviewed. Any Investment Manager(s) failing to keep pace with stated performance norms may be placed on probation and evaluated as to whether they will be retained.

The Treasurer and Investment Committee reserves the right to recommend and to terminate a relationship with any Investment Manager(s) at any time. In addition, the Treasurer and Investment Committee reserve the right to remove assets, in part, at any time.

Risk Metrics

The Treasury will closely monitor volatility, downside risk and illiquidity risk. Where appropriate, stress tests will be conducted to ensure that these risks are acceptable and consistent with the respective Pools' investment objectives and risk tolerance. Stress tests will be done using stochastic and deterministic modeling.

Asset Allocation

Asset allocation will be reviewed at least annually, or more frequently should the changing circumstances dictate a review of investment objectives and/or risk tolerance or if capital markets moves warrant. Where appropriate, an asset allocation study will be conducted as a part of this review process.

Fees

All management fees, trading costs, and other expenses will be monitored and carefully controlled, and publicly reported. Investment manager fees, costs and expenses will be reviewed on a quarterly basis and compared to industry averages. The Treasury believes that reducing costs will enhance expected return without increasing risk.

APPENDIX A

Asset Allocation Guidelines: Long Term Investment Pool - LTIP (Fund 198)

Asset Class	Minimum %	Target %	Maximum %	Benchmark
Equities		25		
Domestic	10	15	20	Russell 3000
International	5	10	15	MSCI ACWI ex US IMI (net)
Alternatives		21		
Absolute Return	0	5	10	HFRI Fund of Funds Composite +200bps
Private Equity	0	0	1	Russell 3000 + 300bps
Real Estate	0	7	10	NCREIF Property Index
ETI	0	9	15	High Yield Credit Index
Fixed Income		52		
Bonds	45	52	60	BbrgBarc's Aggregate
Cash		2		
Cash Equivalent	2	2	8	ML 90 Day T-Bill

APPENDIX B

Asset Allocation Guidelines:
Other Post Employment Benefit Fund - (OPEB)

Asset Class	Minimum %	Target %	Maximum %	Benchmark
Equities		67		
Domestic	37	47	57	Russell 3000
International	10	20	30	MSCI ACWI ex US IMI (net)
Real Estate		8		
Real Estate	0	8	15	NCREIF Property Index
Fixed Income		25		
Bonds	20	25	30	BbrgBarc's Aggregate
Cash		0		
Cash Equivalent	0	0	15	ML 90 Day T-Bill