

2019 Annual Investment Report

Chief Financial Officer's Department

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Capital Market Review

Equity markets had a great year in 2019 as macroeconomic risks subsided. Progress was made on U.S.-China trade relations and a Brexit deal was agreed. Many indices ended the year at (or near) all-time highs as the S&P/TSX Composite Index returned 22.9 per cent, which was its highest return in a decade. The Bank of Canada (BOC) kept its overnight rate at 1.75 per cent, the highest policy rate across developed markets.

As showcased in Figure 1.0, equities significantly outperformed fixed income assets, with the MSCI World Net Index returning 26.9 per cent and the FTSE Canada Universe Overall Bond Index returning 6.9 per cent. The bond market saw an increase in yields in Q4 across most maturities.

Crude oil prices increased more than 12 per cent in Q4 partly due to increased geopolitical tensions between the U.S and Iran. OPEC announced deeper production cuts in 2020 to ease oversupply concerns. The crude index WTI started the year at USD 45.41 and ended the year at USD 61.06, an increase of 34 per cent.

Throughout 2019, The Bank of Canada kept the overnight rate constant at 1.75 per cent, leaving it with one of the highest policy rates across developed market economies. To address the slowdown in growth of the U.S. economy, the Federal Reserve lowered its rate three times, ending the year with an overnight rate of 1.75 per cent.

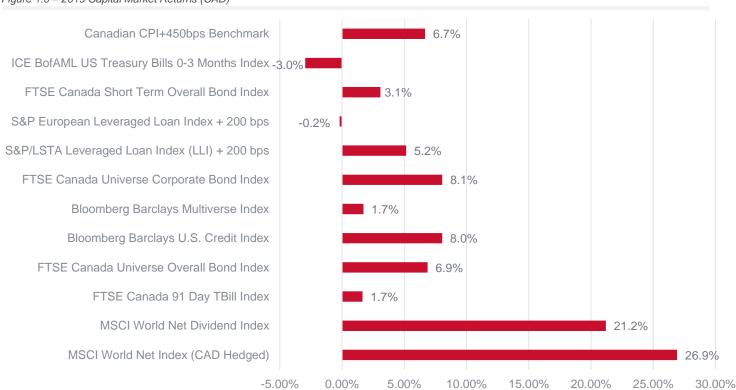


Figure 1.0 – 2019 Capital Market Returns (CAD)

Investment Objectives

The City of Calgary's investment objectives are outlined in the Investment Policy (CFO007). The City has three core investment objectives that drive all strategic investment decisions:

1. Preservation of Capital

a. Primary objective for total investment portfolio

2. Risk Mitigation

- a. Diversification of asset class and security holdings by sectors, geography, and style.
- b. Policy constraints and limits

3. Investment Returns

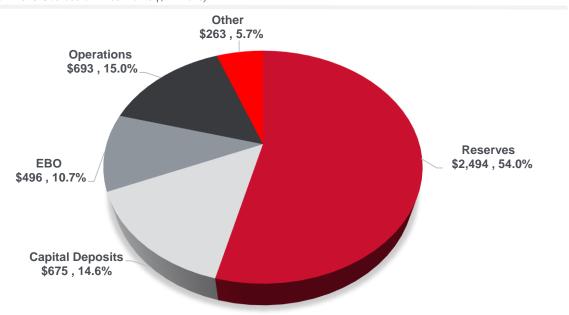
- a. Maximization of returns, relative to risk
- b. Key considerations related to liquidity and investment time horizon requirements

Sources of Investments

The City of Calgary invests funds that stem from the following sources:

- · Reserves: operating, capital and sustainment
- Capital Deposits: off-site levies and government grants
- Funded Employee Benefit Obligations (EBO)
- **General Operations**
- Other: trusts and affiliated entities

Figure 2.0 – 2019 Sources of Investments (\$ millions)



The above funds are invested in a diversified portfolio of financial assets consisting of money market securities, short- and long-term government and corporate bonds, global and Canadian equities, and infrastructure investments. The allocation of source funds is executed in accordance with the investment objectives of The City.

Investment Governance

The City's Investment Governance Policy (CFO001) articulates the governance framework for the management of City investments. It sets out the accountability, reporting, and disclosure requirements for all investment activity. The Governance Policy establishes the roles and responsibilities of Council, the Investment Advisory Committee (IAC), Administration, and investment managers regarding management of portfolio investments.

The IAC oversees The City's investment program to ensure that investments are effectively managed in accordance with legislation, Council-approved policies, and industry best practices. In 2015, The City completed a comprehensive investment strategy review which resulted in a new *Investment Policy*, approved by Council in July 2016. The review entailed a major examination of City funds and obligations including operating and capital requirements, capital deposits, and working capital to fully understand the characteristics, including risk tolerance, time horizon, and liquidity requirements of these funds. This policy provided an opportunity to diversify and gain exposure to additional asset classes and portfolio investments including global bonds, private credit, direct infrastructure, and active foreign currency management. This change in policy has the potential to increase sector and global diversification of assets to mitigate investment risks and increase risk-adjusted returns.

Environmental, Social, and Governance (ESG) Considerations

ESG refers to three keys factors in the investment process that can impact the financial value and sustainability of an investment. These factors are environmental, social, and corporate governance.

Factoring good governance and sustainable business practices into the investment process is becoming common practice in the institutional investment industry. Studies of stock returns indicate a positive correlation between stock price performance and a company's rating on an ESG index. More recent studies show that as ESG factor screens become more prevalent in the industry, companies with poor governance do not attract wide-scale investment and returns may suffer as a result.

Good governance takes many forms. It includes following local environmental regulations, labour and safety standards, as well as sound corporate board and executive management structures. An important component of ESG and sustainable investing is engagement with company management. Institutional investors can exercise influence over companies by engaging in dialogue with them and taking an active role in proxy voting. Shareholders can use their influence and voting authority to modify a company's ESG practices to enhance long-term value.

When The City of Calgary is selecting or reviewing an external investment manager The City monitors how ESG is implemented not only in the execution of investment management decisions but also how the investment manager implements ESG in its own operations. Most of The City's investment mandates include fundamental analysis where The City's managers meet directly with external investment managers to gain a thorough understanding of their structure and business practices. By partnering with like-minded investment managers, The City can ensure its corporate values are reflected in its investment holdings.

Risk Management and Compliance

The City manages investment risk through a sound governance framework and a comprehensive Investment Policy (CFO007). The Investment Policy defines investment objectives, appropriate diversification requirements, eligible asset classes and security instruments, investment strategies, and quality and quantity constraints.

The City's primary risk management tool is effective governance of funds with strategic implementation and diversification at both the security and portfolio level. Investment managers apply rigorous investment analysis and practices to select securities and construct portfolios that are diversified among security types, maturity dates, issuers, industry sectors, and geographically by country and region. Additionally, The City constructs a total portfolio of diverse strategies, asset classes, and investment manager styles. A prudently diversified portfolio should reduce the overall impact if performance from any one security, asset class, or investment manager underperforms.

When investing in the capital markets some risk is inevitable. This includes liquidity, market, credit, and interest rate risk from inflation and rising interest rates. The key is to identify and understand the risks being accepted. The City monitors advanced risk metrics at both the manager and total portfolio level to ensure that the level of risk taken is in line with The City's risk tolerance and that The City is meeting its investment objectives.

The City's investments are held electronically at a securities custodian. One control the custodian provides is independent, third-party settling and reporting of all trades which protects The City's investable assets. As well, the custodian provides independent verification of all accounting information and security holdings. The City also receives third-party performance measurement and reporting. Return performance reported by The City's investment managers is verified and compared against both market benchmarks and peers which allows The City to effectively evaluate manager performance.

Compliance statements from investment managers are received quarterly. Compliance statements are verified and maintained by Treasury. During the year, all investments complied with the Municipal Government Act and The City of Calgary Investment Policy.

Expense Management

The City uses external investment managers to manage much of its investments. These managers are carefully selected and monitored by its own team of internal investment managers. External managers can provide expertise in more specialized asset classes and have a great deal of resources in terms of investment personnel, other professionals, and systems that The City does not. The size of The City's portfolio and allocations is such that it can receive very favourable pricing when investing in these funds. In 2019, The City spent approximately \$6 million on external manager fees.

As part of the governance framework, cost effectiveness is assessed through annual participation in surveys conducted by CEM Benchmarking and Municipal Benchmarking Network (MBN) Canada. Participation in cost benchmarking services provides The City with a comparison of investment management costs against the average comparably-sized fund on an asset class equivalent basis.

In 2018¹, external investment manager costs were 30.7 basis points (bps), 8.0 bps higher than the benchmark cost of 22.7 bps.

¹ CEM Benchmarking data for 2019 will become available in Q3 of 2020.

Summary of Investments

As at December 31, 2019 the market value of The City's total investment portfolio was \$4.6 billion, up \$0.26 billion from \$4.3 billion in 2018.

Figure 3.0 – Market Value of Assets Under Management as at December 31, 2019 (\$ millions)

	2019	2018
Internal Management	815	1,611
Working Capital	815	1,611
External Management	3,769	2,712
Short-Term Bonds	1,634	1,113
Long-Term Bonds	1,487	1,198
Equities	459	312
Infrastructure	171	87
FX Overlay	18	2
Total Assets Under Management*	4,584	4,323

^{*}Trust Investments valued at \$37 million on December 31, 2019 are excluded from total assets under management.

The City's investment structure consists of internally and externally managed portfolios. Internal portfolios are managed to provide short-term liquidity for City funds, and as such, are invested primarily in money market securities, term deposits and short-term bonds.

Funds that are suitable for longer-term investment horizons are allocated to the externally managed Short-term Bond, Long-term Bond, Equity, and Infrastructure portfolios.

2.0% 3.7% 5.0% \$4,500 10.1% 10.0% 7.2% \$4,000 \$3,500 27.7% 32.6% 30.0% \$3,000 \$2,500 25.8% 20.0% \$2,000 35.8% \$1,500 \$1,000 37.3% 35.0% \$500 17.8% \$-2018 Combined Portfolio 2019 Combined Portfolio **Long-Term Target** (as % of 2019 values) ■ Working Capital Short-Term Bonds ■Long-Term Bonds ■ Equities ■ Infrastructure

Figure 4.0 – Asset Mix as at December 31, 2019 (\$ millions)

Note: All performance measures included in this report are after fees

Investment Policy Constraints

Investment policy constraints ensure that risk levels do not exceed a pre-determined risk tolerance.

Council Approved Investment Policy ¹					
Constraint	Approved Maximum (% of total portfolio)	Current Allocation	Compliance Check		
Equities	10%	10.0%	YES		
Infrastructure	5%	3.7%	YES		
Fixed Income - Mortgages and mortgage-backed securities	20%	15.2%	YES		
Fixed Income - Global foreign denominated issuers	20%	18.6%	YES		

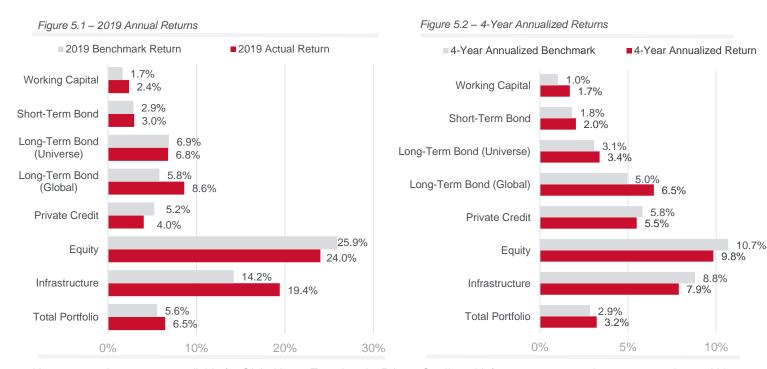
¹ Required constraints per Approved Council Policy CFO007 (Investment Policy) and CFO001 (Investment Governance Policy)

Internal Investment Policy ²				
Constraint	Policy Mix Range	Current Allocation	Long-Term Target	
Working Capital	30 - 50%	17.8%	35%	
Short-Term Bonds	0 - 30%	35.6%	20%	
Long-Term Bonds	25 - 40%	32.4%	30%	
Equities	5 - 10%	10.0%	10%	
Infrastructure	0 - 5%	3.7%	5%	

² Recommended constraints per Investment Advisory Committee

Investment Performance

In 2019, The City of Calgary's total portfolio (including internally and externally managed portfolios), returned 6.5 per cent after fees on a market value basis. The 2019 net portfolio return outperformed the benchmark return of 5.6 per cent, and the the annual inflation rate for Canada of 2.25 per cent.



Note: 4-year data was not available for Global Long-Term bonds, Private Credit and Infrastructure asset classes as mandates within the classification have inception dates in 2019.

Performance Measurement Benchmarks

The investment performance of all funds is reported to the Investment Advisory Committee on a quarterly basis and presented annually to The City's Audit Committee. Investment benchmarks are used for comparison purposes to assess the actual performance of The City's investment managers versus their respective performance benchmarks. Investment managers are expected to generate higher returns than the benchmark measure over a business cycle.

Short-Term Bonds: FTSE TMX Canada Short-Term Bond Index (Addenda, Connor, Clark & Lunn

(CC&L), Phillips, Hager & North (PH&N), Sun Life)

ICE BofAML US Treasury Bills 0-3 Months Index (Blackrock)

Long-Term Bonds: Bloomberg Barclays US Credit Index (PIMCO)

Bloomberg Barclays Capital Multiverse Index Unhedged (\$ CAD) (Manulife)

Bloomberg Barclays Global Aggregate Bond Index (BlackRock)

FTSE TMX Canada Universe Bond Index (BlackRock, PH&N, CC&L)

FTSE TMX Canada Universe Corporate Bond Index (Sun Life) S&P/LSTA Leveraged Loan Index (LLI) + 200 bps (Crestline)

S&P European Leveraged Loan Index + 200 bps (EQT)

MSCI ACWI ex-US (CC&L) **Equity:**

S&P 500 (Vanguard VOO)

MSCI EM (Ashmore)

MSCI World Small Cap (Fisher)

Infrastructure: CPI + 450 bps (Northleaf)

MSCI World Hedged Canada Net Index (Brookfield)

Investment Income

In 2019, The City of Calgary's total portfolio generated \$211.5 million of investment income. Funds were moved from internal working capital to fixed income mandates resulting in higher income earned in the bond portfolio. Fidelity equity mandate was liquidated and proceeds were invested into more global funds. In doing so, this triggered the previously unrealized gains and increased income from equity portfolio.

Investment Income (\$ '000s) as at December 31, 2019	Budget	Actual
Allocations to Self-Supporting Business Units and Capital Deposits	29,439	43,097
Transfers to Reserves from Operations	22,030	41,019
Expenditures (net of receivables)	8,322	6,957
General Investment Income	32,000	120,389
Corporate Total Investment Income	91,790	211,462

Working Capital

The Working Capital portfolio is invested in a combination of corporate and bank paper, term deposits, and short-term government and corporate bonds. All investments in the Working Capital portfolio mature in less than two years.

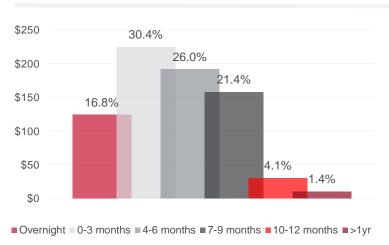
Manager: The City of Calgary, Treasury

Mandate: To generate investment income while preserving capital and providing liquidity for the cash flow requirements of all City funds.

Cash Flow Management Strategy

Forecasting of short- and long-term cash flows is a critical input in the investment management process. In order to meet The City's investment objectives, the cash flow forecast is utilized for liquidity management purposes and investment decision making. The cash management strategy is largely influenced by interest rate environments. Treasury continuously assesses the benefit of holding overnight balances with the bank against returns available through short-term investment vehicles, while also taking into account liquidity requirements. By maintaining high overnight cash balances, The City can take advantage of favorable interest rates offered by our bank. With overnight cash balances between \$25 million and \$150 million, The City is able to access the top tier overnight interest rate, while also maintaining certainty of cash availability.

Figure 6.1 - Maturity Ladder as at December 31, 2019



Working Capital Portfolio Returns

The internally managed portfolio returned 2.4 per cent in 2019, outperforming the benchmark of 1.7 per cent, and showing a significant improvement over the 1.9 per cent return in 2018 (Figure 6.2).

The excess return achieved by the internal portfolio is largely attributed to intentional selection of a longer term to maturity, credit exposure, and the illiquidity premium received on the term deposits held.

Figure 6.2 – 2019 Annual Portfolio Return vs Benchmark

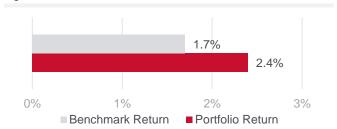


Figure 6.3 – Portfolio Asset Type as at December 31, 2019

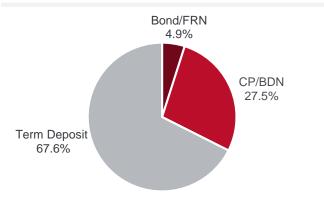
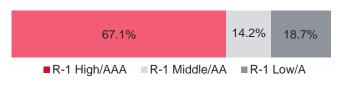


Figure 6.4 - Credit Quality of Assets in Portfolio as at December 31, 2019



Fixed Income

Global Long-Term bonds and Canadian Short-Term bonds beat their benchmarks with Global Long-Term bonds returning 8.6 per cent and Short-Term bonds returning 3.0 per cent. The Canadian Long-Term (Universe) portfolio returned 6.8 per cent compared to the benchmark of 6.9 per cent (Figure 7.1). Private Credit underperformed its benchmark return of 5.2 per cent by returning 4.0 per cent. Private credit mandates are still calling capital, resulting in lower yields as capital is being deployed.

Short-Term Bond Portfolio

Managers: (AUM \$millions)
Addenda Capital (\$114.7)
BlackRock (\$30.6)

Connor Clark & Lunn (\$581.6) Phillips, Hager & North (\$804.1)

Sun Life (\$103.1)

Mandate: Investment in a diversified portfolio of short-term fixed income securities with an average term to maturity of three to five years. This portfolio includes commercial mortgage mandates.

Long-Term Bond Portfolio

Managers: (AUM \$millions)
BlackRock (\$291.8)

Connor Clark & Lunn (\$222.3)

Crestline (\$33.5) EQT (\$22.5) Manulife (\$153.3)

Distilling a 1 Lean and 0 M and

Phillips, Hager & North (\$235.1) PIMCO (\$375.1)

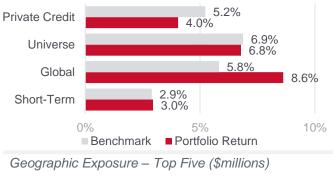
Sun Life (\$153.1)

Mandate: Investment in a diversified portfolio of fixed income securities with an average term to maturity of seven to ten years. This portfolio includes private credit mandates (2-3-year terms).

Private Credit Portfolio average credit ratings¹:

Crestline: Ba/B EQT: B/B-Sun Life: A

Figure 7.1 – 2019 Annual Portfolio Return vs Benchmark

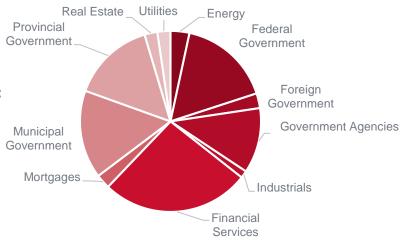


1.	Canada	\$2	,298.7
2.	United States	\$	774.9
3.	Europe	\$	21.4
4.	United Kingdom	\$	14.4
5.	Australia	\$	5.5

Name Exposure - Top Five (\$millions)

1.	Province of Ontario	\$ 204.9
2.	Government of Canada	\$ 182.3
3.	Province of Quebec	\$ 165.7
4.	Canada Housing Trust No.1	\$ 90.7
5.	Royal Bank of Canada	\$ 89.8

Figure 7.2 - Industry Exposure of Top 20 Fixed Income Names by Market Value



Note: All figures reflect values as at December 31, 2019 unless otherwise specified

¹ Estimated average portfolio credit rating

Equity

The City's Total Equity portfolio generated returns of 24.0 per cent versus the benchmark return of 25.9 per cent in (Figure 8.1). Equity returns were impacted by the cost and timing effects of transitioning from Fidelity's Canadian and Global mandates into CC&L, Vanguard, Ashmore and Fisher.

Equity Portfolio

Managers: (AUM \$millions)
Ashmore EM (\$64.9)
Connor Clark & Lunn Intl. (\$94.4)
TD Asset Management Global (\$135.5)
Vanguard VOO U.S. (\$97.2)
Fisher Global Small Cap (\$67.3)

Mandate: Investment in a diversified portfolio of Global equities located in developed and emerging markets to achieve long-term capital appreciation and inflation protection.

Note: Total equity benchmark was changed from MSCI World (Hedged to CAD) to MSCI World (Unhedged)

Figure 8.2 – Industry Exposure of Top 20 Equity Names by Market Value

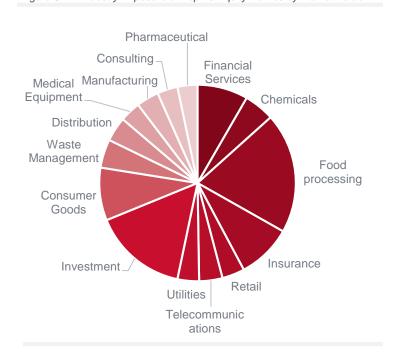
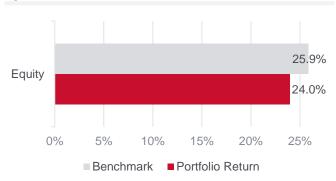


Figure 8.1 – 2019 Annual Portfolio Return vs Benchmark



Geographic Exposure - Top Five (\$millions)

1. United States	\$ 64.5
2. Japan	\$ 20.8
3. United Kingdom	\$ 14.5
4. Switzerland	\$ 8.0
5. Australia	\$ 5.6

Name Exposure - Top Five (\$millions)

1. Lind Plc	\$ 2.1
2. Proctor & Gamble Co	\$ 2.0
3. Republic Services Inc	\$ 1.9
4. Diageo Plc	\$ 1.9
5. Aflac Inc	\$ 1.9

Note: All figures reflect values as at December 31, 2019 unless otherwise specified

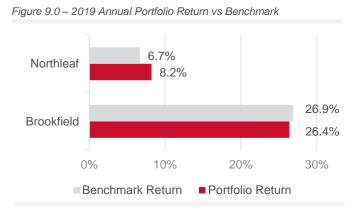
Infrastructure

As of December 31, 2019, Northleaf has called over 78 per cent of The City's \$125 million committed capital and generated positive returns of 8.2 per cent, exceeding the benchmark return of 6.7 per cent in 2019. Brookfield generated a return of 26.4 per cent, slightly missing the target benchmark return of 26.9 per cent in 2019.

Managers: (AUM \$millions)

Brookfield Investment Management (\$64.6) Northleaf Capital Partners (\$106.8)

Mandate: Investment in core infrastructure assets to provide inflation protection and diversification in risk-seeking assets.



Currency Overlay

The notional value to which BNP Paribas AM manages the portfolio is based on the foreign currency exposures of The City's underlying portfolio, excluding all non-CAD exposures less than one per cent. BNPP AM reviews net foreign currency exposures for The City's portfolio on a monthly basis, and at their discretion, implements a hedge of between 0 and 100 per cent for each underlying currency exposure.

Manager: BNP Paribas Asset Management

Mandate: To reduce the occurrence of negative returns due to foreign currency exposure in externally managed accounts.

Benchmark: Zero Benchmark (passive)

Portfolio Currency Exposures (CAD \$ millions)					
As Of Date	31-De	c-19	30-Se	p-19	
Currency	Market Value	% Exposure	Market Value	% Exposure	% Average Hedge Ratio
CAD	136.6	16.8	87.1	12.2	
USD	587.4	72.3	564.8	78.9	29.0
AUD	14.3	1.8	10.8	1.5	56.2
EUR	33.6	4.1	23.1	3.2	3.2
JPY	30.6	3.8	29.8	4.2	11.6
Total Notional Value	812.3	100.0	715.6	100.0	

Overlay Portfolio

0.0%

0.0%

1.7%

0.0%

1.7%

Benchmark Return

Portfolio Return

Investment Advisory Committee Members

The Investment Advisory Committee provides advice and risk oversight on The City's investments including the investment structure, implementation strategies, monitoring of performance, and compliance.

Internal Members (as at February 29, 2020)

- Carla Male (Chair), CPA, CA Chief Financial Officer
- David Duckworth, P. Eng, MBA City Manager
- Gillian Skeates, CPA Acting City Treasurer and Director of Finance
- Katie Black, MSW Acting General Manager Community Services

External Members (as at February 29, 2019)

- Dr. Michael Robinson, MBA, Ph.D., CFA, ICD.D Haskayne School of Business, Professor of Entrepreneurial Finance
- Ian Bourne, B.Comm, ICD.D Corporate Director
- Delicia Teo, CFA Portfolio Manager, City of Edmonton

Definitions/Glossary

Term	Description
Benchmark	A standard against which the performance of an investment manager can be measured. Generally, broad market stock and bond indexes are used for this purpose.
Diversification	A risk-management technique that mixes a wide variety of investments within a portfolio. The rationale behind this technique contends that a portfolio of different kinds of investments will, on average, yield higher returns and result in lower price volatility than individual investments found within the portfolio.
	Diversification strives to smooth unsystematic risk events in a portfolio so that the positive performance of some investments will neutralize the negative performance of others. Therefore, the benefits of diversification will hold if the securities in the portfolio are not perfectly correlated.
Infrastructure Investments	Investments in Canadian and global businesses that focus on a variety of public sponsored and private quality infrastructure assets such as toll roads, airports, utilities, renewable energy, communications, and transportation and healthcare facilities.
Investment Managers	Those firms or individuals appointed by the Chief Financial Officer for the investment of each Fund's assets. Includes both internal and external managers.
Market Value	The price at which a security is trading in the open market.
Portfolio	Collection of assets held by an investor.
Rate of Return	The gain or loss of an investment over a specified period, expressed as a per centage increase over the initial investment cost. Gains on investments include any income received from the security, plus realized and unrealized capital gains.
Risk-Adjusted Return	A standardized measure of investment return based on an adjustment for the level of risk involved in producing that return.

Reference Documents

Document Name	Approved By	Updated/Approved
Investment Governance Policy CFO001	Council	July 2012
Investment Policy CFO007	Council	July 2016
IAC Terms of Reference (Investment Governance Policy Appendix)	Council	July 2012