BUILDING ON A SOLID FOUNDATION

2019 ANNUAL REPORT

Alberta Teachers' Retirement Fund Board

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ALBERTA TEACHERS' RETIREMENT FUND

Established in 1939, the Alberta Teachers' Retirement Fund (ATRF) is an independent corporation governed by the *Teachers' Pension Plans Act* of the Province of Alberta. From our offices in Edmonton, Alberta, we are the trustee, administrator and custodian of the pension assets of the Teachers' Pension Plan for all Alberta teachers in school jurisdictions and charter schools and the Private School Teachers' Pension Plan for Alberta teachers in participating private schools.

Registered under the *Income Tax Act*, the plans are sponsored by the Government of Alberta (GOA) and the Alberta Teachers' Association (ATA) who are jointly responsible for changes to plan design, benefits and funding arrangements.

MISSION

Working in partnership to secure your pension income.

MANDATE

ATRF's mandate is to deliver the benefits established by the plan sponsors for current and future plan members. This requires a plan that is sustainable over the long term at a cost and risk level acceptable to the plan sponsors.

CUSTOMER SERVICE STATEMENT

ATRF provides what you need the first time.

- We listen to understand your needs.
- We provide accurate and timely information and benefit payments.
- We deliver value-added investment performance.

CORPORATE VALUES

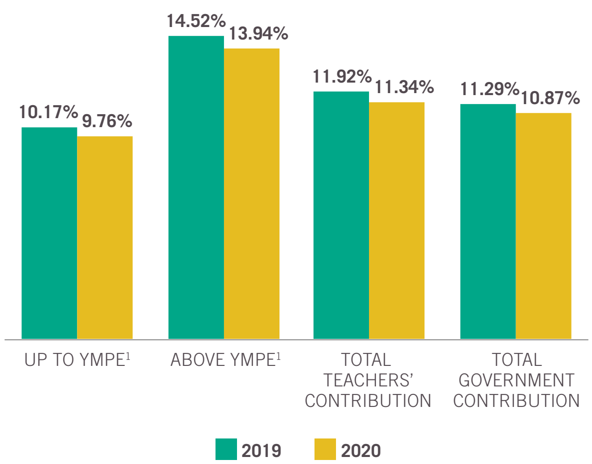
- Excellence
- Accountability
- Integrity
- Partnership

2018-2019 HIGHLIGHTS

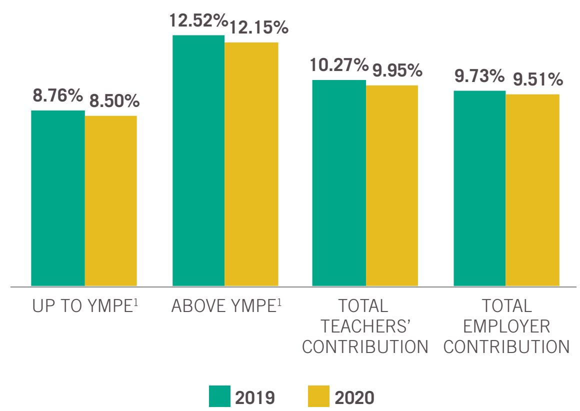
CONTRIBUTION RATE REDUCTION

As a result of strong investment returns, prudent planning, and sound pension management, the ATRF Board has determined that the plans are in a position to reduce contribution rates for this year. This is the third reduction since 2016 and will come into effect on September 1, 2020.

Teachers' Pension Plan



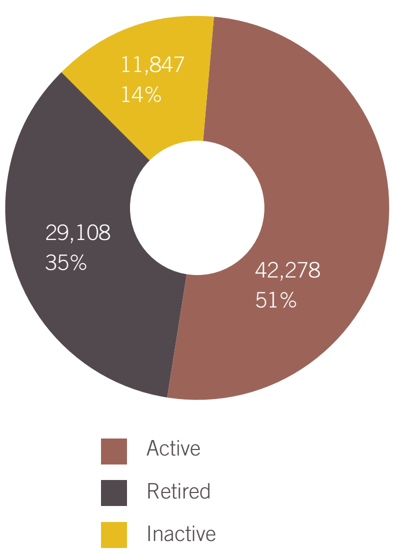
Private School Teachers' Pension Plan



[1]YMPE: Yearly Maximum Pensionable Earnings used by the Canada Pension Plan ($58,700 in 2020)

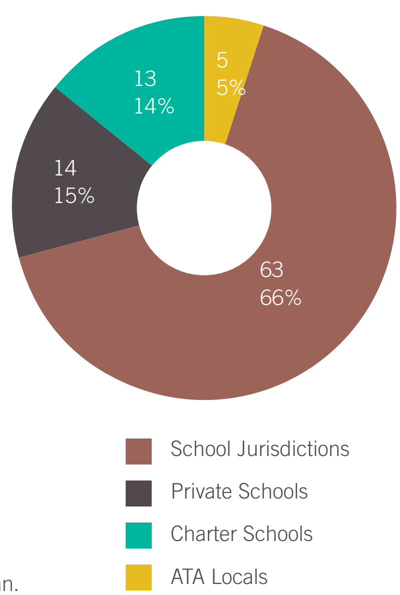
ATRF membership grew 2% over the past year, and is estimated to reach almost 100,000 members by 2030.

83,233 Plan Members



Of which 802 are members of the Private School Teachers' Pension Plan.

95 Employers



PLAN MEMBER STATISTICS

As at August 31

	2019	2000
Active and disabled member average age	42.0	42.7
Active and disabled member average years of pensionable service	11.5	12.0
Retired member average age	71.8	68.0
New retired member average age	59.7	57.8
Average pensionable service of new retired members	25.8	26.6

- The number of centenarian retired plan members is 41.
- The oldest plan member is 109 years old, and has been receiving a pension for 45 years.
- The average annual pension in payment is $33,491, an increase of 3.3% over last year.

IN 2018-19:

Total contributions
$844 million

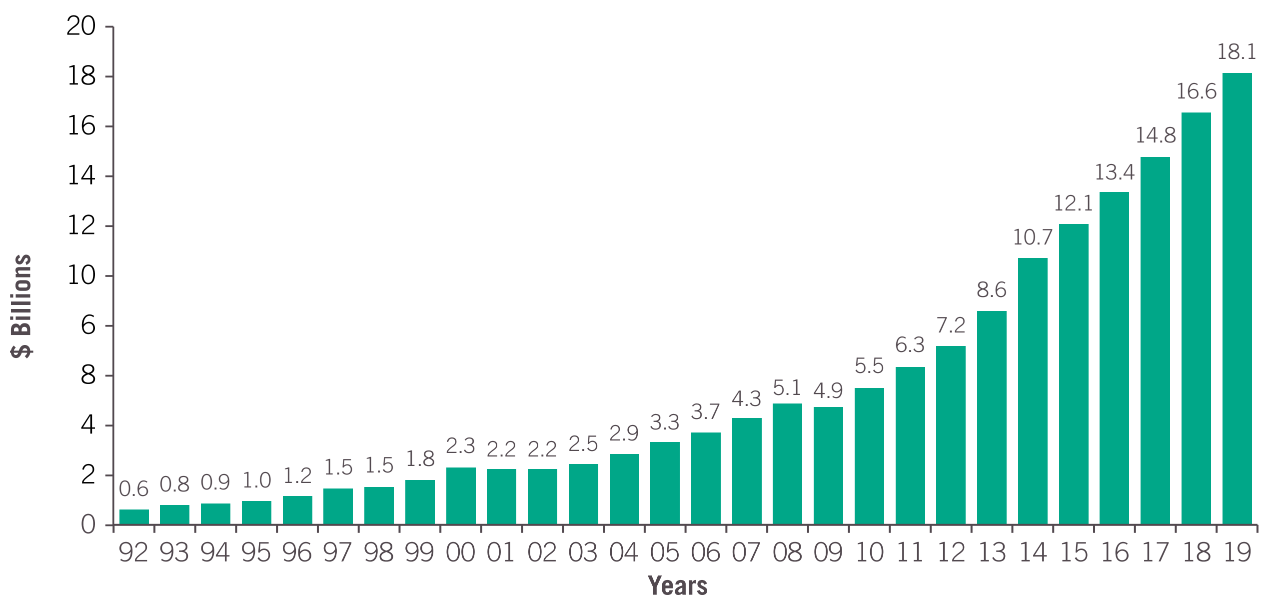
Total benefits paid
$558 million*

Administrative cost **$120** per member compared to **$156** average cost per member for a peer group of Canadian public sector pension organizations

* An additional $483 million was received from the GOA for benefits paid by ATRF relating to the pre-1992 period.

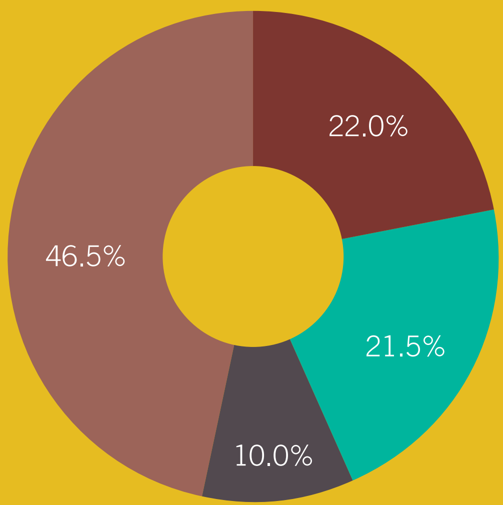
NET ASSETS

As at August 31



POLICY ASSET MIX

As at August 31, 2019



Return Enhancing 46.5%
Global Equity 36.5%
Private Equity 10.0%

Inflation Sensitive 22.0%
Real Estate 15.0%
Infrastructure 7.0%

Fixed Income 21.5%
Universe Bonds 10.5%
Long-term Bonds 9.0%
Money Market 2.0%

Absolute Return 10.0%

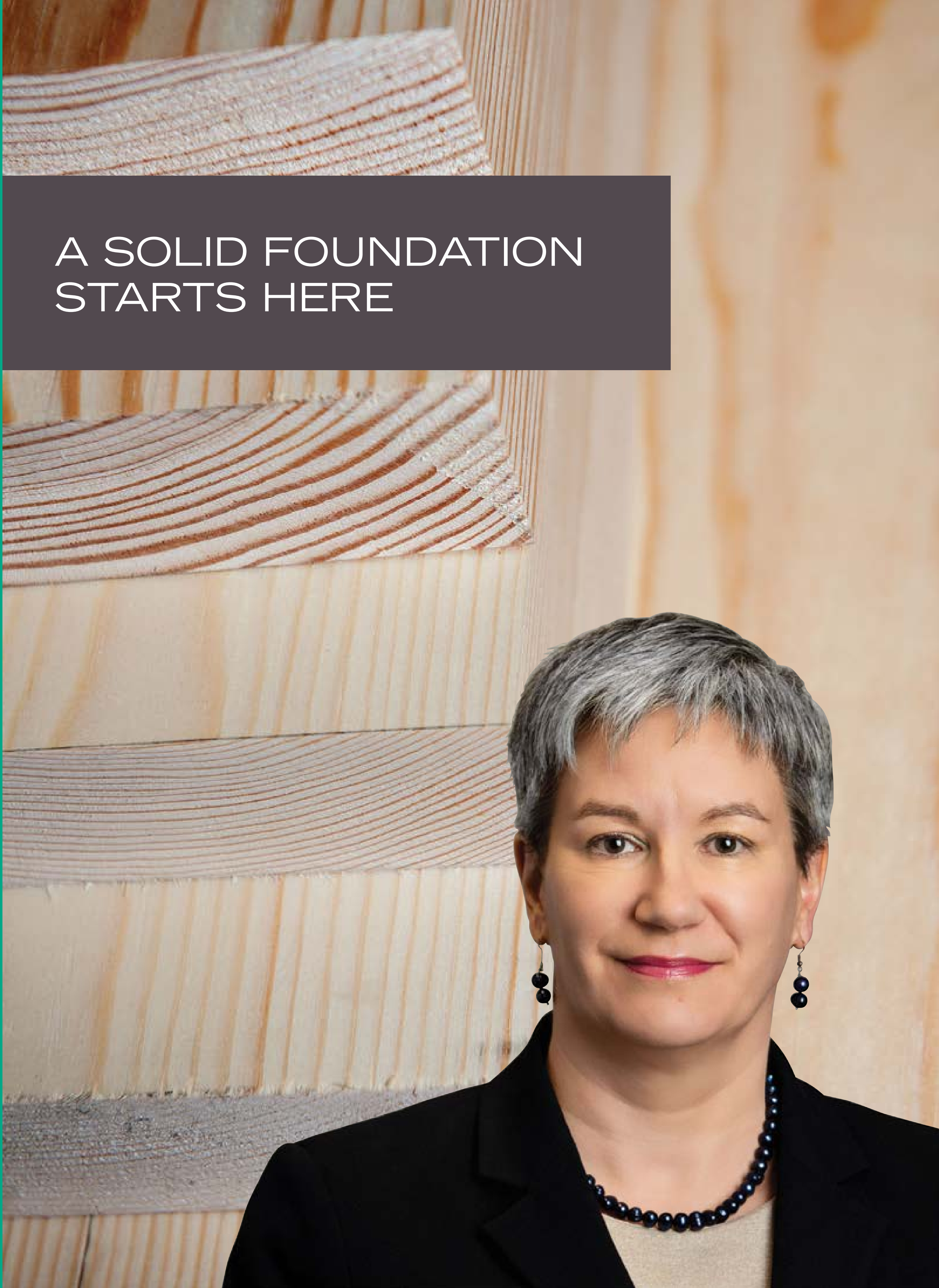
- $18.1 billion–net assets at August 31, 2019
- 7.8%–annual rate of return (net)
- 7.9%–four-year rate of return (net)
- 95% funded–Teachers' Pension Plan–up from 74% funded in 2013
- 102% funded–Private School Teachers' Pension Plan–up from 81% funded in 2013

INTERESTING FACTS

ATRF is listed 19th on the top 100 Canadian pension funds by asset size and was fifth on the top 10 fastest growing pension plans in 2018 (Benefits Canada 2019 Top 100 Pension Funds Report).

Our plan assets of over $18 billion are higher than the Gross Domestic Product (GDP) of more than 65 countries.

A SOLID FOUNDATION STARTS HERE



BOARD CHAIR MESSAGE

As a member of the ATRF Board for the past seven years, and now in my new capacity as Board Chair, I've seen remarkable transformation in our organization. ATRF has spent decades safeguarding teachers' retirement, protecting their best interests, and continually working to improve at both. This ability to innovate and evolve is made possible by the stable base of excellent governance and management we've carefully constructed over the past 80 years.

Looking back, 2018-19 was another year dedicated to solidifying ATRF's future success. As the funded status of the plans continued to rise and our member services and investment management operations remained solid, the organization continued to engage in major projects—all with a razor-sharp focus on long-term pension plan sustainability. This past year we made good progress on projects that lay the groundwork that will help us continue to meet members' ever-changing needs, and you can read more about these initiatives later in the report.

With all this development, the Board remains focused on maintaining the high level of organizational efficiency we've come to expect from ATRF. Generations of exceptional member service combined with investment expertise and innovative thinking across the organization have built a solid foundation—the secure funding of the plan through prudent, responsible growth.

This includes continual increases in the funded status of the Teachers' Pension Plan (TPP), that improved again this year and remains on a solid trajectory to being fully funded. The plan's deficiency (the difference between the actuarial value of the plan's assets and liabilities) decreased again this year from $1.19 billion to $863 million. The ratio of funding assets to funding liabilities increased to 95% from 93% last year.

Ensuring benefit security is our primary objective when monitoring the plan's funding and determining contribution rates. The August 31, 2019 actuarial valuations showed that strong investment returns resulted in an improved funded status of the plans and an earlier than planned funding of prior deficiencies.

This allowed the Board to reduce contributions, while also continuing to prudently build a margin for adverse experiences in the future. I'm pleased to announce that total contribution rates will decrease effective September 1, 2020 by 1% of teachers' salaries for the TPP and 0.54% for the PSTPP.

After the close of our fiscal year, the Government of Alberta's Bill 22, *Reform of Agencies, Boards and Commissions and Government Enterprises Act,* was tabled and became law, altering the legislative framework within which ATRF operates. ATRF is required to transfer investment management of all Pension Funds to the Alberta Investment Management Corporation (AIMCo). This will require significant change at ATRF, and I am confident that years of hard work from ATRF employees and Board members have built a strong foundation that can support members and the organization during this time of transition.

Although this change was unexpected and has a significant impact on how the plan assets are managed, what will stay the same is the dedication of the Board to ensuring teachers' best interests are protected, and our commitment to maintaining a pension plan that will provide for the retirement of future generations of teachers as it has served those in the past.

I feel honoured and privileged to be a part of this organization and, on behalf of the Board, I'd like to acknowledge the incredibly hard work that's made this year such a success. In particular, I'd like to thank outgoing Board Chair, Greg Meeker—the impact of his 12-year commitment to the Board, the organization, and our members cannot be overstated—and to former Board members Marvin Romanow and John Butler for their service to the teachers of Alberta.

Looking ahead, we can be confident that both our solid foundation and our pioneering spirit will endure for years to come.

- Sandra Johnston

ATRF BOARD MEMBERS AS AT AUGUST 31, 2019

Sandra Johnston

Sandra joined the ATRF Board in 2012 and became Board Chair in July 2019. Sandra taught in the Peace River School Division before joining the Teacher Welfare executive staff of the Alberta Teachers' Association in 2001. She assumed the position of Coordinator in 2013.

As well as coordinating central and local collective bargaining and acting as the representative of the bargaining agent, Sandra is the ATA's pension expert. She has written and presented extensively on pensions and retirement issues for Alberta teachers. Sandra is Chair of the Human Resources and Compensation Committee and a member of the Investment and Governance Committees.

Catherine Connolly

Catherine is the founder and president of Gist Capital Solutions Inc. She was previously Vice President at the Ontario Municipal Retirement System (OMERS), and held positions with the Canadian Pacific Railway in both engineering and finance, including responsibility for the defined benefit pension plan. Catherine holds a PhD from the University of Alberta and an MBA from Queen's University. She joined the ATRF Board in December 2016.

Karen Elgert

Karen is a District Principal in Wetaskiwin, Alberta, and has worked for the Wetaskiwin Regional Public School Division for more than 25 years. She currently oversees the Wetaskiwin Outreach and is responsible for Summer School. She has been active throughout her career with the local ATA, serving on EPC and NSC committees. Karen holds a BFA and B.Ed. from the University of Calgary and a M.Ed. from the University of Alberta. Karen joined ATRF in August of 2009.

Greg Francis

Greg served as General Counsel and Superintendent of Human Resources for the Calgary Board of Education from 2012 to 2018. During his career as a lawyer, Greg worked as a Crown prosecutor, a defence lawyer, and a justice of the peace in the Provincial Court of Alberta.

Greg's labour and employment law experience includes work for both a trade union and a large public sector employer, as well as serving as Equity Ombudsperson for the Law Society of Alberta and as an arbitrator of labour relations disputes under the Alberta Labour Relations Code. Greg is also a member of the Board of Directors of the Old Trout Puppet Workshop, and of Education Matters. He was appointed Queen's Counsel in 2016. Greg has returned to providing arbitration and mediation services in the labour relations context. He joined the ATRF Board in March 2019.

Paul Haggis

Paul is a graduate of Western University and a Chartered Director (C. Dir) of the Directors College through DeGroote Business School at McMaster University. He began his financial career in the banking sector. Following nine years in corporate banking, Paul joined Metropolitan Life, finishing as CEO of Canadian operations. He also served as CEO of the Ontario Municipal Employees Retirement System (OMERS), was a founding director and interim CEO of the Public Sector Pension Investment Board (PSPIB) and CEO of the Alberta Treasury Branches (ATB Financial). He recently retired as the Chair of the Alberta Enterprise Corporation.

Paul was commissioned into the Royal Canadian Air Force Reserve in 1971 and retired as an Honorary Colonel in 1997. He is a Life Honorary Trustee of the Royal Ontario Museum and a recipient of the Queen's Golden Jubilee Medal.

Paul was appointed to the Board on August 15, 2019.

Maria Holowinsky

Maria's last executive position was Director of Research with CWB Wealth Management. Previously, she was President and CEO of Adroit Investment Management. Maria sits on the University of Alberta Board Investment Committee, and on the Investment Advisory Committee of Athabasca University. She recently served as a Director and Governance Chair on the Edmonton Economic Development Corporation Board. She joined the ATRF Board in May 2017.

Kareen Stangherlin

Kareen is CEO and co-founder of Zelos Capital Ltd. Previously, she held executive positions in two investment firms and also worked with KPMG in Calgary and the Cayman Islands. She currently serves on the Canadian CFA Societies' Advocacy Council and is a Board member for two private investment companies. Kareen is a CPA, a CFA and a Certified Financial Planner. She joined the ATRF Board in December 2016.

CEO MESSAGE

I was asked recently to choose a few words to describe ATRF. My answer? Secure, stable and agile. Fortunately, secure, stable and agile are the materials you want your organizational structure built from when navigating times of change.

ATRF has been delivering the finest quality both in our service and investment portfolios for many years. It's this foundational excellence that has seen us through the past 80 years.

What does a solid foundation look like for ATRF? It comes in the form of a 7.8% return in 2018-19 and 7.9% over the past four years— surpassing our benchmark of 7.1% for the same period and equating to $470 million in real dollars. It also translates to assets now over $18 billion, a funded status of 95% and member satisfaction scores averaging 92%. Ultimately, ATRF is seeing years of hard work paying off in real ways. It's helping to contribute to the secure retirement of the dedicated educators who teach Alberta's children and help shape its future, and that's an accomplishment that makes us all incredibly proud.

Of course, as the needs of our members continue to evolve, so too must our organization in order to adapt and respond. To this end, we expanded our workforce to support core and ongoing initiatives designed to facilitate future innovation and build out our service delivery models (more on that on page 28). We hired key positions to support these demands, including at the executive level, as we welcomed Vice President, Fund Risk & Strategy, Gary Smith, and Vice President, People & Culture, Marcie Chisholm.

Amidst all these developments, we stay committed to our people and unique corporate culture. While we're undertaking significant transitions and major projects (learn about some of the projects on page 41) and bolstering the services we provide to members, we remain dedicated to nurturing the family atmosphere that ATRF employees have come to cherish. In fact, ATRF was once again thrilled to receive an Alberta's Top 75 Employer Award—a direct reflection of both the great work being undertaken by all our dedicated employees and the top-notch corporate culture that emerges as a result.

We are fortunate to have this solid foundation as we enter a time of significant transition. Implementing the changes included in the Government of Alberta's Bill 22 while remaining focused on providing excellent member service and ensuring stable pensions for Alberta teachers will be a substantial undertaking. I am confident that the strong foundation we have built over the last 80 years will support our members and our organization through this change.

I'd like to thank the ATRF Board members for their continued support and guidance and, in particular, Greg Meeker, whose term on the Board recently ended. Greg was Board Chair for my tenure at ATRF thus far and I'm grateful for his leadership and wisdom. I'd also like to thank all ATRF employees for their tireless commitment to realizing the pension promise for our members. It's no small feat that we have, at our core, the level of stability we do. As we move forward and continue to evolve through transition, I'm looking forward to sustaining that solid foundation—together.

- Rod Matheson

ATRF EXECUTIVE

Rod Matheson
Chief Executive Officer

Tina Antony
VP, General Counsel & Corporate Secretary

Derek Brodersen
Chief Investment Officer

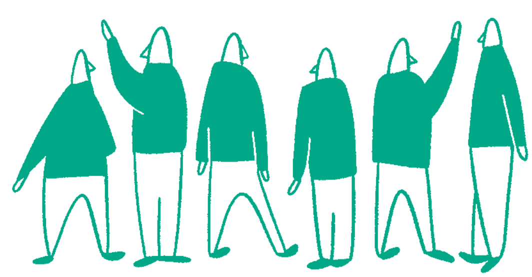
Albert Copeland
VP, Information & Technology Services

Julie Joyal
VP, Pension Services

Myles Norton
VP, Finance

Gary Smith
VP, Fund Risk & Strategy

Marcie Chisholm
VP, People & Culture



ATRF BOARD GOVERNANCE

ATRF has eight board members—four nominated by the Government of Alberta (GOA) and four nominated by the Alberta Teachers' Association (ATA) in accordance with the *Teachers' Pension Plans Act*. ATRF's Board is responsible for overseeing the management of the business and affairs of ATRF and has established the following standing committees for that purpose:

AUDIT AND FINANCE COMMITTEE

The Audit and Finance Committee is responsible for the corporation's financial reporting, accounting systems and internal controls. The committee oversees and is responsible for ATRF's external audit, and recommends the approval of financial statements to the Board. It also reviews ATRF's business plan, operating and capital budgets.

GOVERNANCE COMMITTEE

The Governance Committee provides assistance to the Board in fulfilling its governance responsibility by developing effective corporate governance principles, policies, standards and practices. The committee facilitates appropriate and efficient Board operations and acts as a resource for Board chair and committee chair renewals, governance oversight and competency and effectiveness evaluation.

HUMAN RESOURCES AND COMPENSATION COMMITTEE

The Human Resources and Compensation Committee is responsible for performing duties that enable the Board to fulfill its oversight responsibilities in relation to ATRF's human resources and compensation matters including compensation design, risk and reward alignment and succession planning.

INVESTMENT COMMITTEE

The Investment Committee approves investment policy, and is responsible for monitoring, analyzing and determining strategic investment matters. The committee verifies that investment strategies are implemented, and that they comply with legislative and ATRF requirements. The committee also monitors and evaluates the performance and cost effectiveness of investment policies and strategies.

REVIEW COMMITTEE

The Review Committee hears plan members' cases to review administrative decisions made by ATRF staff. The committee consists of the entire Board.

BOARD AND COMMITTEE COMPOSITION[1]

Board Member	Board[2]	Investment	Audit & Finance	Governance	Human Resources & Compensation	Review
Catherine Connolly	✓	Chair		✓		✓
Karen Elgert	✓	✓			Vice Chair	✓
Greg Francis	✓	✓				✓
Paul Haggis	✓	✓				✓
Maria Holowinsky	✓	✓	✓	Chair		✓
Sandra Johnston[3]	Chair	✓		✓	Chair	✓
Greg Meeker[4]	✓	✓	Vice Chair			✓
Kareen Stangherlin	✓	✓	Chair		✓	✓

1 As at August 31, 2019

2 A Government of Alberta-appointed Board member left the Board on March 15, 2019. An ATA-appointed Board member left the Board on March 15, 2019

3 Sandra Johnston was appointed Vice Chair of the Board from April 18, 2019 to July 5, 2019, and was appointed Chair on July 5, 2019. Vice Chair was vacant as at August 31, 2019

4 Greg Meeker's term as Board Chair ended on July 4, 2019, and his term as a Board member ended on September 14, 2019

BOARD ATTENDANCE AND REMUNERATION

The *Teachers' Pension Plans Act* provides that no remuneration can be paid to any Board member who is employed by an employer covered by the plans, the GOA or the ATA; employers are reimbursed for time spent by certain Board members. The Board, with advice from an external consultant, annually reviews and sets the remuneration for Board members eligible to receive remuneration. The review is based on a survey of the remuneration rates being paid by other similar Canadian public sector pension investment and administration organizations. Of the 10 Board members who acted throughout the 2018-19 fiscal year, seven were eligible to receive remuneration.

In the past year, Board remuneration was paid according to the following schedule:

	2018-19 ($)
Board Chair Retainer	$ 25,000
Board Member Retainer	15,000
Committee Chair Retainer	4,000
Fee per Board or Committee Meeting (in excess of 4 hours)	1,200
Fee per Board or Committee Meeting (less than 4 hours)	$ 800

Board members are also reimbursed for reasonable expenses for travel, meals and accommodation, as required to perform their duties.

ATRF Board Meeting Attendance/Remuneration

Board Member	Board Meetings	Committee and Special Meetings[8]	2018-19 Total Remuneration ($)
Greg Meeker[1]	9/9	18/18	n/a[9]
Catherine Connolly[2]	9/9	15/15	$ 39,800
Karen Elgert	9/9	16/16	n/a[9]
Greg Francis[3]	1/1	3/3	$ 12,075
Paul Haggis[4]	--	--	--
Maria Holowinsky[5]	9/9	20/20	$ 45,000
Sandra Johnston[6]	9/9	23/23	n/a[9]
Kareen Stangherlin[7]	9/9	20/20	$ 45,800
Total			$ 142,675[10]

1 Board Chair until July 4, 2019, Board appointment ended on September 14, 2019

2 Chair, Investment Committee

3 Appointed March 15, 2019

4 Appointed August 15, 2019

5 Chair, Governance Committee

6 Chair, Human Resources & Compensation Committee. Appointed Board Chair on July 5, 2019

7 Chair, Audit & Finance Committee

8 Includes attendance at additional meetings for special projects relating to Board/committee work, and onboarding and orientation.

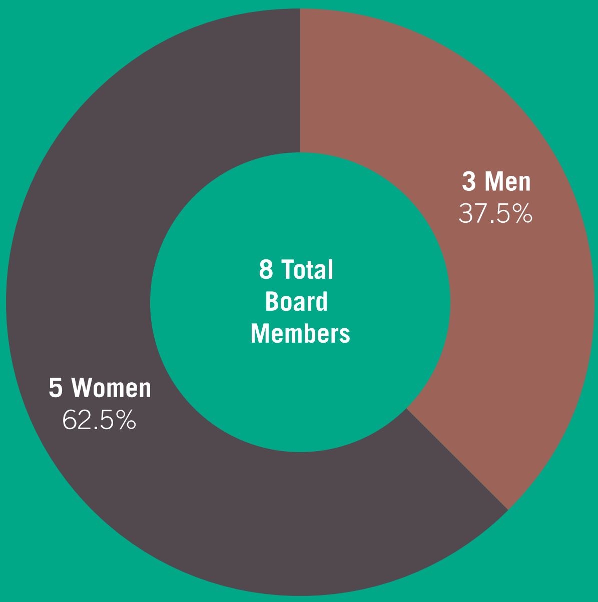
9 In accordance with legislation, no cash remuneration is paid to these Board members as they work for an employer or employer-contributor. Employers are reimbursed for time spent by these Board members. In 2018-19, the amount reimbursed was $73,100 in total.

10 In addition, an aggregate of $46,650 was paid to two Board members whose terms ended on March 15, 2019. The total combined remuneration for the fiscal year was $189,325 ($46,650 + $142,675).

BOARD DIVERSITY

When recruiting Board members, consideration is given to a diverse set of candidates in the spirit of increased diversity and inclusion not only in the boardroom, but throughout ATRF.

The following table shows the number and percentage of men and women who are members of the Board at August 31, 2019.



ATRF BOARD MEMBER COMPETENCIES, ORIENTATION, CONTINUING EDUCATION AND DEVELOPMENT

ATRF believes the ongoing development and education of the Board is integral to their success. During the 2018-19 fiscal year, the Board, its committees and members participated in presentations, attended external instruction and received educational information and/or materials on a variety of topics relevant to asset management, governance, compensation and pension administration. Further, in 2019, ATRF's two new Board members received (two-day) in-person orientation with management, Board members and the Chair.

To aid in the recruitment and development of ATRF Board members, the Governance Committee is responsible for reviewing and refreshing its Board Skills Matrix (identifies key skills, backgrounds and attributes required for ATRF Board membership) and assessing the current Board skill set against these criteria. The results of this review will be used not only in the recruitment of future candidates to the Board, but also to identify skill set improvements that can be made for current members through increased educational and development opportunities.

WHISTLEBLOWER DISCLOSURES

In compliance with Whistleblower legislation, ATRF has an established policy and program which provides all employees with the ability to confidentially report any failure to comply with our Code of Conduct. In 2018-19, there were no disclosures received.

INTERNAL CONTROLS OVER FINANCIAL REPORTING

The CEO and the Vice President, Finance are responsible for the design and maintenance of internal controls over financial reporting, to provide reasonable assurance that it is reliable and that the preparation of the Financial Statements conforms with Canadian accounting standards for pension plans. They are also responsible for the design and maintenance of disclosure controls and procedures to provide reasonable assurance that all material information is gathered and reported to management on a timely basis.

ATRF continues to strengthen and enhance the internal controls over financial reporting with sustained positive results. The 2018-19 fiscal year evaluation found that internal controls over financial reporting and disclosure controls and procedures are properly designed and operated effectively throughout the year. No changes were made to internal controls over financial reporting during the year ended August 31, 2019, that materially affected, or are reasonably likely to materially affect, internal controls over financial reporting.

PENSION SERVICES

BUILDING ON A HISTORY OF QUALITY SERVICE

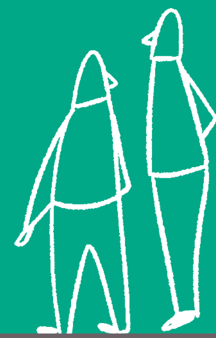
ATRF's solid foundation starts with our members. They are at the heart of what we do, and this commitment drives us to continually improve our connections with them, whenever and however they access our services.

Whether a member has a one-on-one conversation with an ATRF representative, is looking for information on our website or accesses their My*Pension* account for a pension calculation, our goal remains the same—to provide an exceptional experience and make a meaningful difference for the members we serve.

In 2018-19, we:

- met with **1,722** plan members for personal interviews with our pension counsellors, in various locations across Alberta and in our office in Edmonton,
- greeted more than **400** plan members who stopped by our office in Edmonton and met with our pension specialists,
- responded to more than **26,000** phone calls,
- presented **47** seminars to **1,913** teachers in various locations around the province,
- provided more than **4,800** responses to member emails,
- completed **3,042** pension estimates, in addition to more than **61,300** pension estimates that were completed in My*Pension,*
- processed more than **500** service purchase applications, a **37%** increase over 2017-18, and
- helped **1,180** members to start their pensions, which represents an increase of 8% from 2017-18.

WE SERVE



83,233 PLAN MEMBERS

42,278 active and disabled plan members who accrue pensionable service	**29,108** retired plan members and survivors who are currently collecting a pension	**11,847** inactive members who are not accruing pensionable service and are not yet collecting a pension

Of which **802** are members of the Private School Teachers' Pension Plan

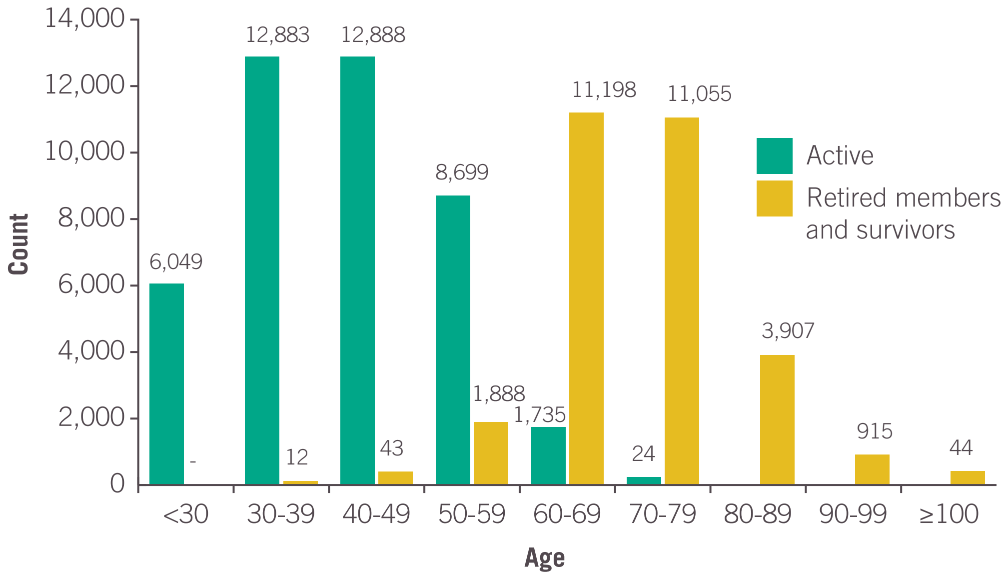
95 EMPLOYERS

63 school jurisdictions	**13** charter schools	**14** private schools and early childhood services*	**5** ATA and ATA locals

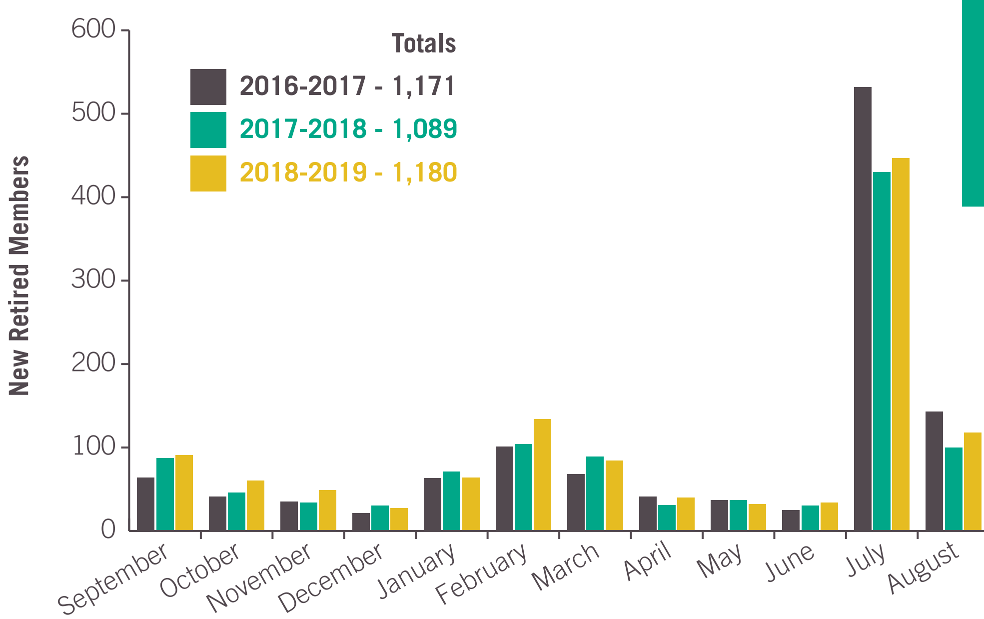
**(including 1 new and 1 terminated as at Sept. 1, 2019)*

DEMOGRAPHIC PROFILE

Age Distribution of Active and Retired Members



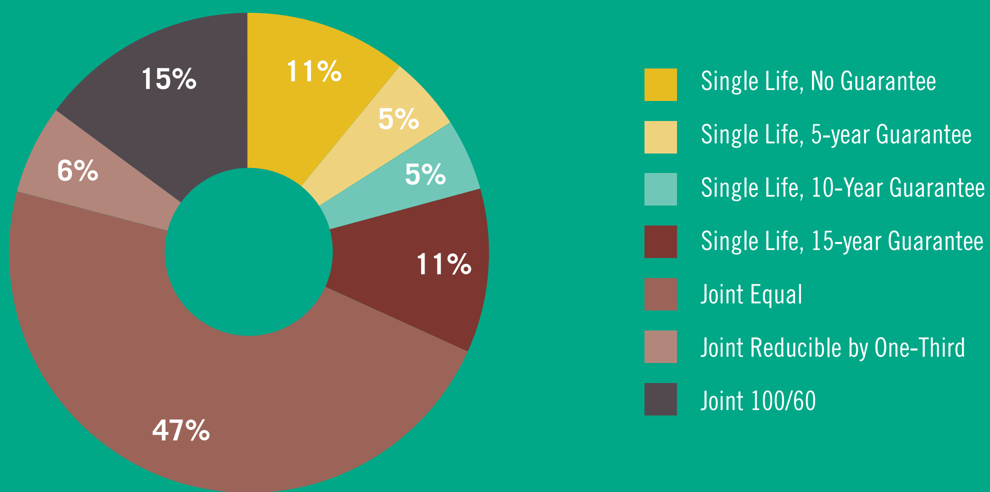
New Retired Members

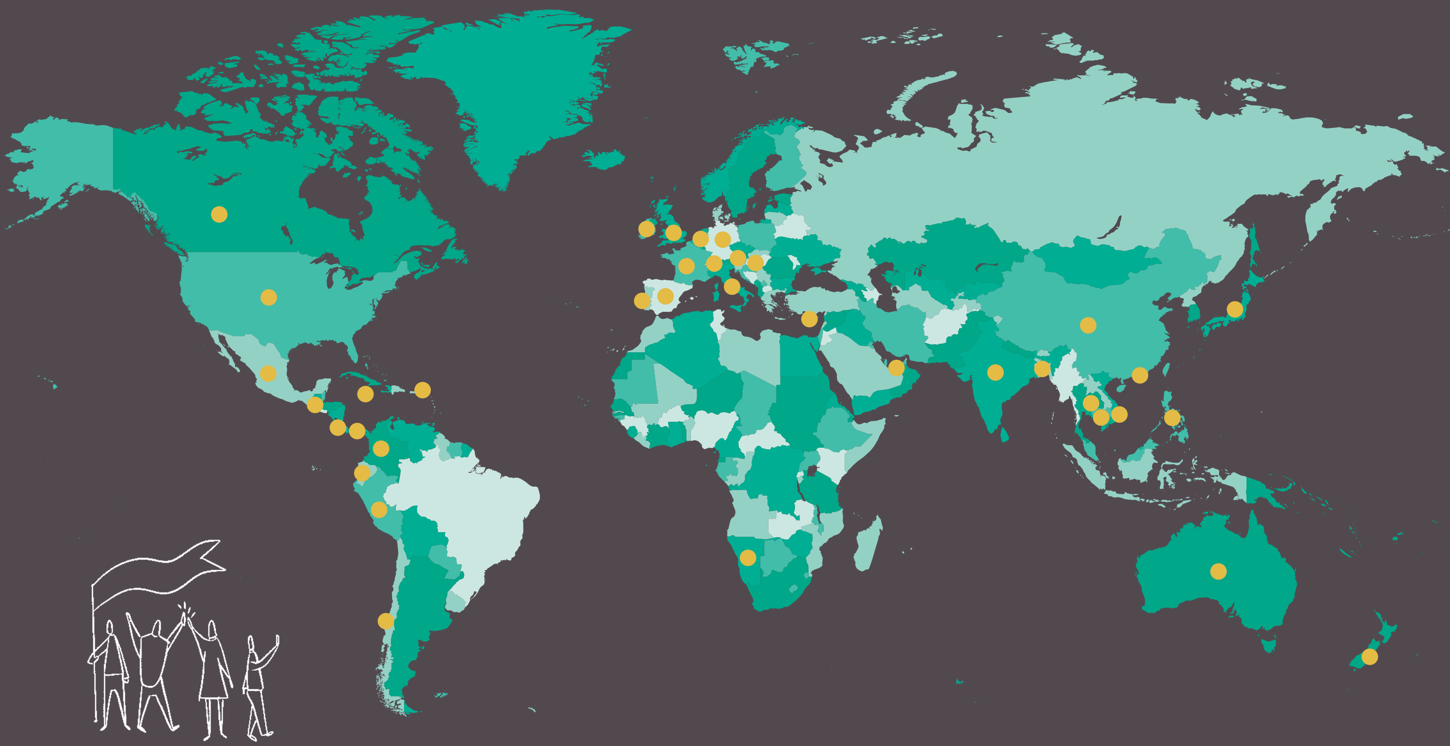


We expect about 1,000 new retired members each year over the next 10 years.

PENSION OPTIONS

The chart below shows the distribution of the pension options selected by teachers who retired in the 2018-19 school year.





SPOTLIGHT ON OUR ONLINE SERVICES

It's official—half of our plan members are now registered for My*Pension*! This secure portal allows plan members to obtain a pension estimate or service purchase estimate, view their member statement, update personal information and subscribe to our e-newsletter, Pension Points. And for our retired members, My*Pension* offers the enhanced flexibility of staying in touch while living abroad. Check out where some of our members are spending their well-earned retirement in the map above.

Highlights of a Year Online

- More than 1,000 applications for retirement, service purchase and termination benefits were made online by plan members in 2018-19, compared to more than 900 last year—a 10% increase.
- 46,270 plan member statements have been generated online by plan members. On average, that's one for each active plan member.
- More than 69,000 estimates (pension, service purchase and termination benefits) have been accessed online by plan members. That's 190 per day and a 20% increase over last year!

ON THE TOP (SERVICE) LEVEL

We are proud to report that ATRF's service level benchmarks are among the best in the industry. You can see how we did in 2018-19 in the chart below.

Service Provided	Benchmarks for 2018-19	Average Elapsed Time in 2018-19	% That Met or Exceeded Benchmark
Ongoing pension payments	On the third last business day of the month	All payments made on time	100%
Pension options package	Within 5 days of application	3 days	84%
Pension payment processed for new retired members	Within 5 days	5 days	60%
Pension estimate	Within 5 days	1 day	97%
Termination benefit package	Within 7 days	4 days	86%
Purchase of service estimate	Within 7 days	1 day	98%
Written inquiries	Within 3 days	1 day	97%
Telephone inquiries	Within 1 day	1 day	100%

SURVEY SAYS!

To the more than 14,000 members who participated in our 2019 Plan Member Survey, we thank you for your feedback! The insights we glean from these surveys are critically important as they allow us to assess how ATRF is doing in our response to evolving member needs.

This year, you told us our customer service levels remain high, and that you continue to find value in our website, communications material and our online My*Pension* tools and service. We also heard where we can improve, including more information for teachers at different stages in their careers, and an enhanced website experience that uses simpler terminology.

Key Results from the Survey

Customer Service	94% (good to excellent)
My*Pension*	95% (good to excellent)
Website	94% (good to excellent)
Communications Material	90% (good to excellent)
Services Provided	87% (satisfied or very satisfied)

Key Results from Monthly New Retired Member Survey

Overall Service During Retirement Process	95% (good to excellent)

"I want to tell you how grateful I am that there are people like you in the world who genuinely show care for the people who they deal with."

- former plan member

"Our experiences were very positive and productive and we felt valued by all the employees of ATRF."

- retired plan member

A POLICY OF IMPROVEMENT

Last year, ATRF was excited to announce the kickoff of Project Lantern—a multi-year initiative designed to assess and modernize the way we deliver services to our plan members to ensure we continue to meet their needs over the long term. Currently in the design phase of the project, this major component is focused on building out the foundational work (analysis, research and conducting a comprehensive review of our procedures and policies) to ensure we have a solid base to launch from as the project moves into development.

In order to ensure ATRF continues to deliver exceptional services while effectively supporting the important work of Project Lantern, we created two key positions: Manager of Pension Policy and Manager of Continuous Improvements. Designed to function like peanut butter and jam (or macaroni and cheese, or any other classic food-related marriages), these roles are intricately connected and work better, together.

Translating Policy into Practice

Natane Voegtlin, Manager of Pension Policy, thrives in the complex world of pension policy. The peanut butter in our sandwich, Natane's role ensures ATRF is continuously integrating legislation and plan rules into business processes.

"When you're looking at your systems and how your processes work, you have to understand the rules that guide things like benefit calculations," said Natane. "Our plans are legislated, but we also have tax rules that impose limits as well. So, our plan rules tell us what we can provide, and our policy takes the often complicated, heavy legislation and translates it into plain speak, processes and benefits available to our members."

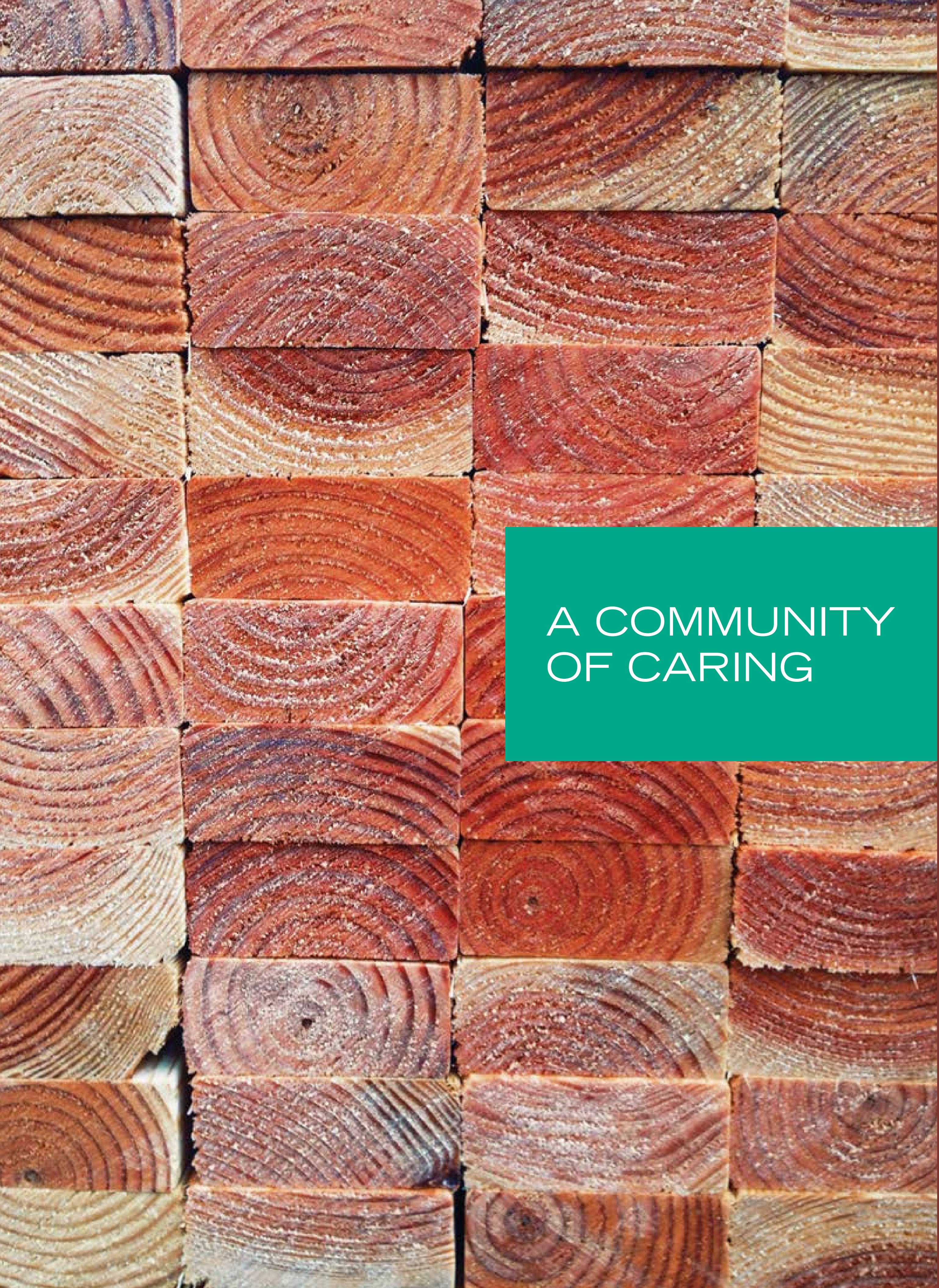
When researching and writing pension policy, Natane must consider both the interpretation of a piece of legislation and our own precedent (what we've done in the past and why). Sometimes this also requires collaboration with our ATRF lawyers to ensure we are complying with the intended spirit of the legislation. "It's exciting and complex work," said Natane. "ATRF has a great foundation to build upon and I'm looking forward to connecting the policy dots now and in the years to come."

Championing Change

Of course, when our policies require a change, our pension processes must be modified to reflect those adjustments. Enter the jam in our sandwich, Lisa Bitensky, Manager of Continuous Improvements. This new role has Lisa focusing on documenting all of ATRF's pension procedures—including developing robust training materials that ensure continuity, which is particularly important in an era where life situations have become increasingly complex.

"The life situations plan members present to ATRF are becoming more intricate," Lisa explained. "These situations create nuances that need to be assessed and addressed through policy and procedure. The better you understand your policies, the better you can develop procedures, which then gives us the ability to find and implement efficiencies across the organization."

"I love finding creative ways to enhance the fantastic service members have come to expect from ATRF," said Lisa. "I'm so proud to be a part of Project Lantern and can't wait to watch these transformations take shape."



A COMMUNITY OF CARING

NAILED IT!

On two sunny days in May, a group of committed ATRF employees grabbed hammers and hard hats and worked alongside other local Habitat for Humanity volunteers (and future homeowners!) to make a difference building affordable housing for families in need.

ATRF employees were set to work installing insulation, securing vapour barriers or painting for the day. “It was a great way to spend the day,” said Jordan Parker, Fixed Income Analyst with ATRF. “I’ll definitely be helping out again next year.”

This particular Habitat for Humanity site in the Laurel community in Edmonton, called Carter’s Place, will be home to 58 families upon completion. Carter’s Place was named in honour of Jimmy and Rosalynn Carter, who made a visit to Edmonton in 2017 to break ground on this important project.

FINDING THE (UNITED) WAY

In 2017, ATRF employees raised $12,004 to support the United Way—a non-profit organization designed to move people out of poverty, support kids to reach their full potential and build strong and healthy communities.

Not a year later we set a fundraising goal of $14,000. The 2018 campaign saw staff enjoying a number of entertaining fundraising activities including a stock market competition and email bingo, among others. After all was said, done and tallied up, ATRF was proud to donate a whopping $15,168 to the United Way to continue their important work!

CLOTHING WITH COMPASSION

ATRF employees set their compassion to action last December as they collected winter clothing and gear to donate to the Bissell Centre in Edmonton—an organization committed to a poverty-free community.

Each year, approximately 2,100 children and adults access clothing free of charge from Bissell’s Community Closet. ATRF was excited to contribute three large boxes of winter clothing this year to help families in need in our community.

FUNDING

ATRF'S MANDATE

To deliver the benefits established by the plan sponsors for current and future plan members. This requires a plan that is sustainable over the long term, at a cost and risk level acceptable to the plan sponsors.

PLAN FUNDING OBJECTIVES

The ATRF Board established a funding policy with principles and guidelines that govern how the plans are funded. The overall objective is the sustainability of the plans—to ensure the plans will be able to pay the promised pensions to members and their beneficiaries, today and over the long term.

The **primary funding objective** is benefit security, which is a crucial element of a plan's sustainability. This is achieved by doing regular funding assessments targeting a plan that is fully funded over the long term—ensuring there is enough money to pay all current and expected pensions for all plan members.

The plan may not be fully funded in every year depending on the economic and demographic environments. The funding assessments take this into account and target, with a high probability, for the funded ratio to remain above a sufficient level every year to deliver the promised benefits while at the same time ensuring that contributions do not increase to unaffordable levels.

Keeping contribution rates stable is the **second funding objective**. The goal is to have contributions remain relatively stable, avoiding whenever possible large up and down adjustments in pension deductions on teachers' pay.

The cost of the plans should be sustainable over time, and should reflect the long-term view of the plans' assets and liabilities. This supports the **third funding objective**: inter-generational equity. This means, to the extent possible, that each generation of active members fund the benefits accruing for that generation of active members.

To achieve these funding objectives, there are various risk management tools that are used, mainly around building reserves when times are good that can then be used for rainy days.

We describe these tools in more detail with the results of the actuarial valuations that follow.

HOW THE PLANS ARE FUNDED

The Teachers' Pension Plan (TPP) and the Private School Teachers' Pension Plan (PSTPP) have unique funding arrangements, as described below.

Teachers' Pension Plan

Pre-1992

The 2007 Memorandum of Agreement between the Government of Alberta (GOA) and the Alberta Teachers' Association states the government is responsible for the liabilities associated with the pensions for the period of service before September 1992. No assets are in the plan for that period of service. The GOA guarantees the payment of pensions related to the pre-1992 period. ATRF receives sufficient funds from the GOA each month to pay these pensions, as they become due. In 2018-19, the government provided $483 million to meet this obligation.

Post-1992

The cost of pension benefits earned for service after August 1992 is shared between active plan members and the Government of Alberta. Funding of the 60% cost-of-living pension adjustment provision is shared by the government and active plan members. Active members are also responsible for funding an additional 10% cost-of-living pension adjustment provision.

Funding deficiencies under the plan are amortized by additional contributions from active members and the GOA over a maximum 15-year period. Pensions for service post-1992 are not guaranteed if the plan is terminated. That is one of the reasons why the primary funding objective is to ensure there are sufficient assets to pay all post-1992 pensions.

Private School Teachers' Pension Plan

Private school teachers participate in the PSTPP if their employer decides to join this plan. The funding of the PSTPP works the same as the post-1992 portion of the Teachers' Pension Plan, except that the cost is shared between the teachers and the employers (the private schools) instead of the Government of Alberta.

BUILDING PLAN FUNDING

ATRF regularly conducts actuarial funding studies to assess the value of the plans' liabilities compared to their assets and to ensure adequate funding. An actuarial valuation is a report on the health of the plans.

The funded status of the plans based on the most recent actuarial valuations as at August 31, 2019 is:

Teachers' Pension Plan Post-1992 Period ($ Billions)	
Funding Value of Assets	17.232
Funding Liabilities	18.095
Funding Deficiency	0.863
Funded Ratio	95%

Private School Teachers' Pension Plan ($ Millions)	
Funding Value of Assets	86.96
Funding Liabilities	84.95
Funding Surplus	2.01
Funded Ratio	102%

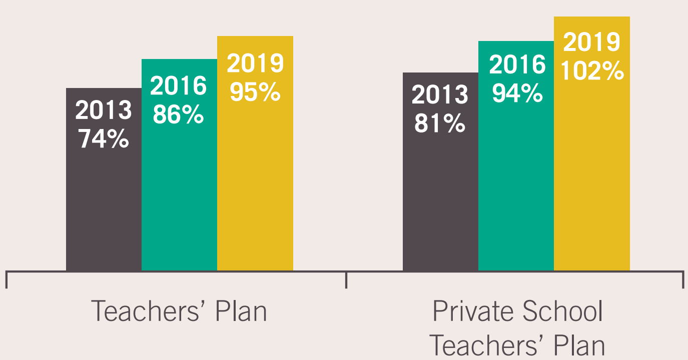
Based on these valuations, the funded status of the Teachers' Pension Plan (TPP) continues to prudently build towards being fully funded. The Private School Teachers' Pension Plan (PSTPP) is fully funded once again this year.

The plans' funding is calculated using actuarial assumptions and methods. The funding assumptions include margins (or cushions) to buffer against unfavourable results in the rate of returns or other factors affecting the plans. The margin is one of the tools to help achieve our funding objectives of contribution stability and benefits being fully funded. Both plans have healthy margins built in at this time.

The funding valuation uses another tool to achieve our funding objectives. It's an actuarially accepted practice of smoothing fund returns over a five-year period to 'even out' the impact from the volatility of market returns on the plans' funded status and contribution rates. This practice produces a funding value of assets that can be higher or lower than the market value in any given year. The difference between the market value of assets and the funding value of assets is referred to as the fluctuation reserve.

As at August 31, 2019, the fluctuation reserve for the Teachers' Pension Plan was $813 million, and $3.96 million for the Private School Teachers' Plan.

Funding Status



CONTRIBUTION RATES

The ATRF Board carefully reviews a number of factors when determining the plans' contribution rates, and this year, for the third time since 2016, the Board determined the rates will be reduced. Several considerations went into this decision, including:

- strong investment returns,
- prudent management that continues to build margins and reinforce the plans' long-term sustainability, and
- determination that the plans will be able to continue to meet funding objectives of benefit security, intergenerational equity, and contribution rate stability and affordability.

Teachers' Pension Plan (TPP)

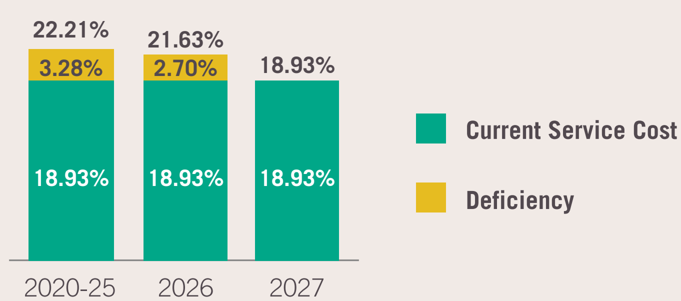
Teachers' Pension Plan Contribution Rates (% of pensionable salary)	**Current Rates**	**Effective September 1, 2020**
up to YMPE[1]	10.17	9.76
above YMPE	14.52	13.94
Total Teachers' Contribution	11.92	11.34
Total Government Contribution	11.29	10.87

[1] YMPE: Yearly Maximum Pensionable Earnings used by the Canada Pension Plan ($58,700 in 2020)

Based on the August 31, 2019 actuarial valuation, the total contribution rate effective September 1, 2020 for the TPP will be 22.21% of teacher salaries, consisting of a current service cost of 18.93% of salaries and total deficiency contributions of 3.28% of salaries. The deficiency contributions are planned to decrease according to the following schedule.

Of course, these projections assume that all assumptions remain unchanged and will be realized as expected. Actual experience will vary and the actual results recognized in future actuarial valuations can be better or worse than these projections. Therefore, the rates illustrated below may vary.

Contribution Rates



Private School Teachers' Pension Plan (PSTPP)

Private School Teachers' Pension Plan Contribution Rates (% of pensionable salary)	**Current Rates**	**Effective September 1, 2020**
up to YMPE[1]	8.76	8.50
above YMPE	12.52	12.15
Total Teachers' Contribution	10.27	9.95
Total Employer Contribution	9.73	9.51

[1] YMPE: Yearly Maximum Pensionable Earnings used by the Canada Pension Plan ($58,700 in 2020)

Based on the August 31, 2019 actuarial valuation, the total contribution rate effective September 1, 2020 for the PSTPP will be 19.46% of teacher salaries, representing the current service cost (i.e. the cost of benefits being accrued in a year). There are no deficiency contributions required under the PSTPP since this plan no longer has a deficit.

FUNDING CHALLENGES

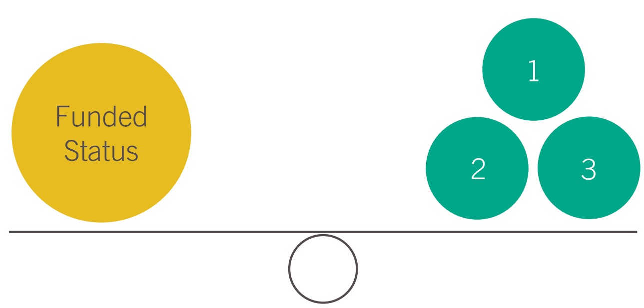
The Board has two main levers to achieve long-term sustainability:

1. Funding policy (contributions from teachers and government/employers)
2. Investment policy (how the assets are invested)

Plan sponsors have a third lever:

3. Benefits policy (level and type of benefits offered)

Like other retirement systems, the plans continue to face funding challenges due to long-term low interest rates, plan maturity, volatility and increasing plan member longevity. Some of these challenges are illustrated below.



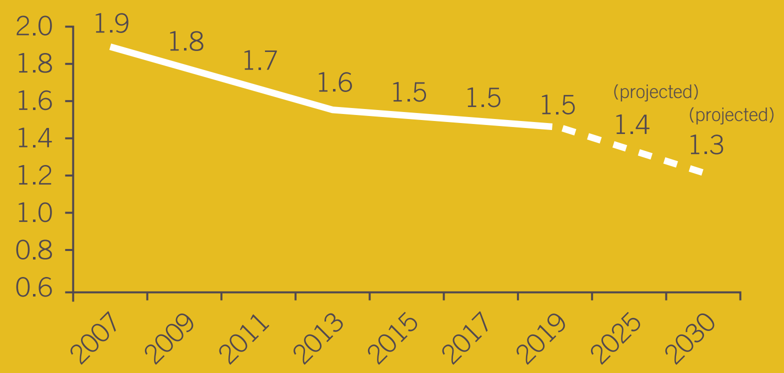
Plan Maturity

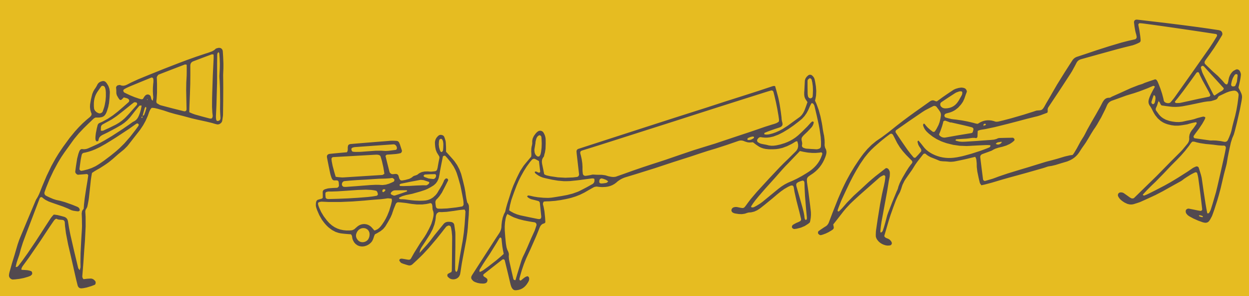
One measure of plan maturity is the proportion of retirees' liabilities to the total liabilities in the plan. A growing percentage of retirees' liabilities indicate a plan's increasing maturity.

Another measure of plan maturity is the ratio of active to retired members. A decreasing ratio indicates a plan is maturing.

Plan maturity presents a funding challenge, because a funding shock (such as investment losses, increased plan member longevity or lower expected returns) will be absorbed by a smaller number, in proportion, of contributing members.

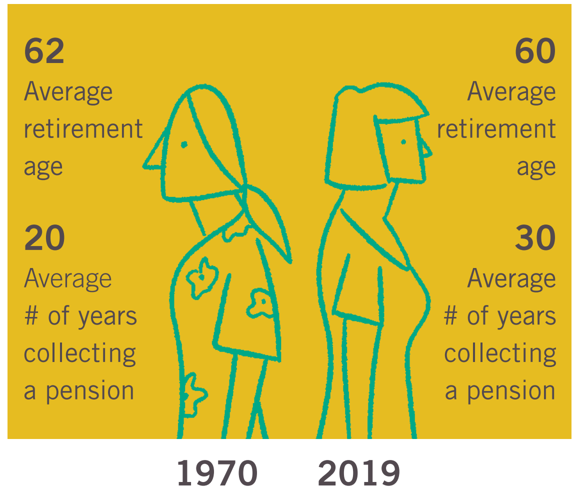
Active to Retired Member Ratio





Plan Members' Increasing Longevity

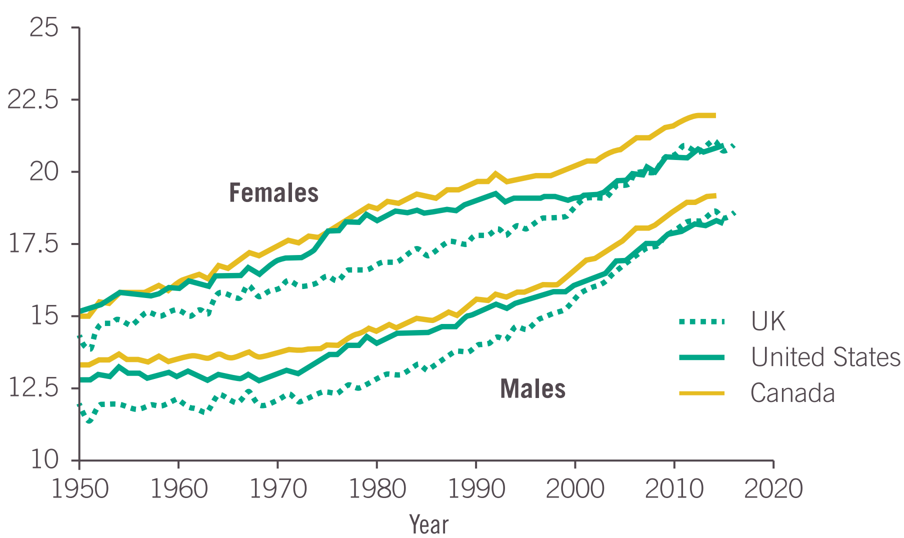
Increased life expectancy presents a funding challenge for pension plans. It means pensions are paid for a longer period of time after retirement—and yet they still need to be funded with employer and employee contributions over a similar number of years in an average career. The last several decades have seen significant changes in retirement experiences. Teachers are living longer and retiring earlier. In the 1970s, the average teacher retired at age 62. They could expect to live and collect their lifetime pension for another 20 years on average. Now, the average teacher retires at age 60. They can expect to live and collect their lifetime pension for another 30 years on average.



An experience study will be completed with the plan actuary in the coming year to update assumptions used in the valuation, such as retirement, termination and mortality rates. Performing these experience studies from time to time is one method that ATRF uses to secure pension income through adequate funding by recognizing early the cost impact of, for example, plan members living longer.

This means the plan pays out pensions for 50% more years on average now than in the 1970s.

Life Expectancy at Age 65



Source: The Human Mortality Database, Statistics Canada

A **year increase** in life expectancy **increases pension liabilities** by 3-4%

Volatility

A key assumption in the funding of the plans is that the fund will earn an average net investment return each year at least equal to the discount rate used for funding purposes. Actual year-to-year investment returns can be quite volatile, and absent any adjustment could lead to frequent contribution rate changes.

The asset smoothing technique and margins in assumptions, as explained previously, are used to reduce the impact of volatile market returns and other factors on the plans' funded status and contribution requirements.

While smoothing is effective in stabilizing contribution rates during short periods of market volatility, failure to achieve the assumed funding discount rate on average over the long term would still result in contribution rate increases.

One of ATRF Project Whiteboard's objectives, as introduced last year, is to not only generate the returns needed to sustainably fund the plan, but to do so with less volatility over time. The investment portfolios will be constructed in a way that optimizes the achievement of the funding policy objectives, while also focusing as much on risks as returns. See page 49 of this report to learn more about this.

FINANCIAL STATEMENTS VALUATION

ATRF conducts two different actuarial valuations of the plans. One is for funding purposes. The second is for the Financial Statements, as required by the prescribed accounting standards. These results are shown in the Financial Statements section of this report.

Both types of valuations have prescribed uses, are based on the same underlying plan member data, but differ in the following ways:

1. The funding valuation uses an actuarially accepted method of smoothing market returns over a five-year period to mitigate investment market volatility and support contribution rate stability. The Financial Statement valuation uses the prescribed accounting standard method which does not allow for smoothing of market returns; the market value of assets must be used.
2. The funding valuation incorporates a margin for adverse deviation to again mitigate volatility in contribution rates. The Financial Statement valuation does not include such a margin. Accordingly, the asset and liability amounts in the Financial Statements differ from those in the funding valuation.

INVESTMENTS

INVESTMENT MANAGEMENT

The past fiscal year was an interesting one in global financial markets. While most economies continued to show positive growth, persistent geopolitical unrest—Brexit, strained trade relations between the U.S. and China and unrest in the Middle East—created uncertainty and impacted market stability. We saw the pace of economic growth begin to slow over the course of the year, however, particularly in European economies.

The public equity markets were mixed, with a sharp downturn early in the year that largely reversed itself as the year came to a close. We saw interest rates fall significantly in the latter part of the year, which resulted in double-digit fixed-income returns for the portfolio. ATRF's private market assets continued to generate significant value, with both infrastructure and private equity having particularly strong years.

Overall, ATRF's investment performance remained strong through 2018-19, with a total return of 7.8%. This is consistent with historical trends over the past four years (7.9%) and the past 10 years (9.2%). The significant improvement in the funded position of the plans over the past 10 years is primarily due to these strong investment returns.

Read on to learn more about the overall performance of the plans, highlights of a few interesting investment opportunities we took advantage of this year and more on our commitment to responsible investing and how we're prioritizing our approach to risk.

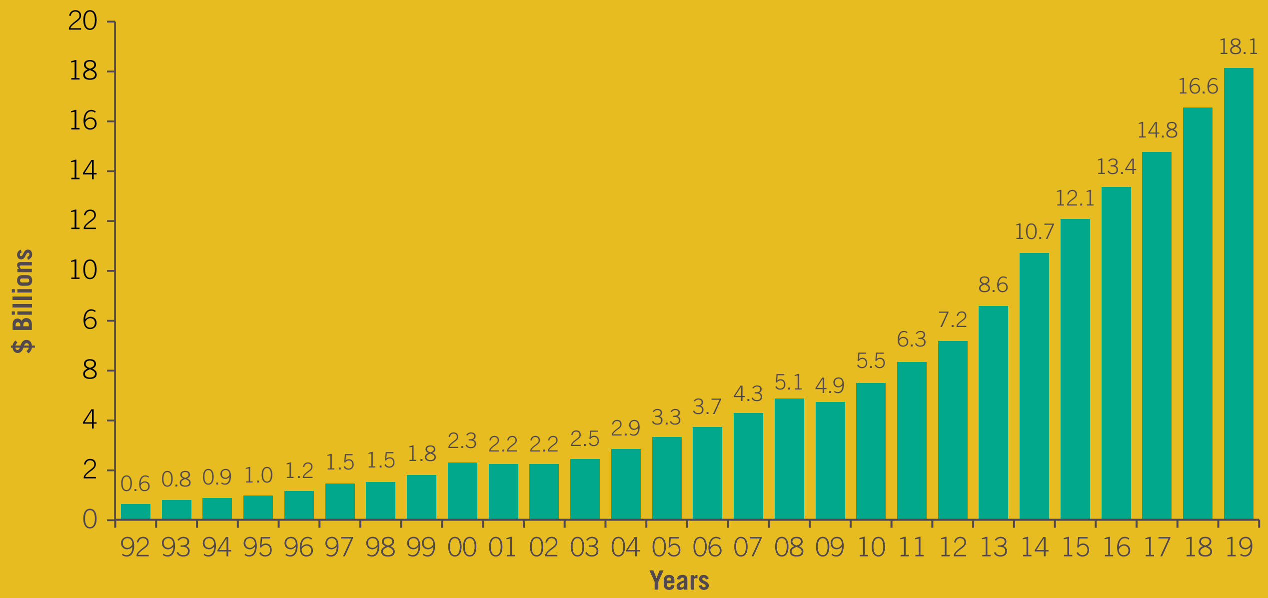
ATRF's investment portfolio has grown dramatically in the past several years—from $5 billion only 10 years ago to $18 billion today. This has been due to a combination of strong investment returns and the fact that contributions into the plan from working plan members have exceeded the value of the pensions being paid out to retired members.

Managing such a large, diversified investment portfolio well requires a solid foundation of people, processes and systems, along with a forward-thinking view of financial markets. To this end, 2018-19 marked another year of development for Project Whiteboard—an organizational rethink around the strategies we use to manage assets, and how best to position ATRF for continued funding stability in the future. After a lengthy strategic exercise designed to identify the key shifts to our investment approach, we began carefully implementing changes over the course of the year.

We made considerable progress on this important, foundational work this year—and it is work that will now serve us well. Looking forward, legislative changes in Bill 22 require ATRF to set the strategic direction to be used for the management of ATRF assets by AIMCo. The research and strategic planning that has been done thus far will serve as an excellent foundation to ensure ATRF is fulfilling this requirement in the best interest of members.

NET ASSETS

As at August 31 (Canadian $)



POLICY ASSET MIX

ATRF's current long-term policy asset mix was first adopted in 2014, following a comprehensive asset-liability modeling study. In 2018 this study was refreshed and it confirmed that the current asset mix remains appropriate looking into the future. The policy asset mix includes traditional public market assets, such as equities and bonds, as well as private market assets, such as real estate and infrastructure.

Policy Asset Mix at August 31, 2019	Policy at Aug 31, 2019	Long-term Target
Total	**100.0%**	**100.0%**
Return Enhancing	**46.5%**	**45.0%**
Global Equity	36.5%	35.0%
Private Equity	10.0%	10.0%
Fixed Income	**21.5%**	**20.0%**
Universe Bonds	10.5%	9.0%
Long-Term Bonds	9.0%	9.0%
Money Market	2.0%	2.0%
Inflation Sensitive	**22.0%**	**25.0%**
Real Estate	15.0%	15.0%
Infrastructure	7.0%	10.0%
Absolute Return	**10.0%**	**10.0%**

INVESTMENT PERFORMANCE

Rates of Return*

As at August 31, 2019

	1 Year (%)		4 Years (%)		10 Years (%)	
Asset Class	ATRF	Benchmark	ATRF	Benchmark	ATRF	Benchmark
Fixed Income	**11.6**	**11.8**	**4.5**	**4.5**	**5.2**	**5.2**
Universe Bonds	9.6	9.6	3.9	3.7	4.9	4.6
Long-Term Bonds	16.8	16.8	6.2	6.4	6.7	7.1
Money Market	1.9	1.6	0.6	0.9	0.8	0.8
Return Enhancing	**3.9**	**3.9**	**8.9**	**9.1**	**11.0**	**10.5**
Global Equity	(0.6)	1.9	7.1	8.3	9.8	10.2
Private Equity	22.0	9.4	15.9	11.3	17.0	14.3
Inflation Sensitive	**14.9**	**6.3**	**13.0**	**6.3**		
Real Estate	11.2	6.1	10.6	6.1		
Infrastructure	24.8	6.7	18.4	6.8		
Absolute Return	**2.7**	**5.7**	**1.8**	**4.9**		
TOTAL PLAN	**7.8**	**6.4**	**7.9**	**7.1**	**9.2**	**8.3**

In order to evaluate the success of our investment strategies, we use a set of Board-approved benchmarks as a comparison tool. The total fund benchmark return (6.4% for 2019) is calculated by aggregating the benchmark returns of each individual asset class and weighting them according to the fund's policy benchmark.

**Returns are net of fees.*

Investment Performance Benchmarks

Asset Class	Benchmark
Money Market	FTSE TMX 30 Day T-Bill Index
Universe Bonds	FTSE TMX Canada Universe Overall Bond Index
Long-term Bonds	FTSE TMX All-Government Long-term Bond Index
Global Equity	Hybrid of 3 Indices: MSCI World (50%), S&P/TSX Composite (30%), MSCI Emerging Markets (20%)
Private Equity	MSCI World Index plus 2.0%
Real Estate	Customized IPD Global Property Fund Index
Infrastructure	Canada CPI plus 4.75%
Absolute Return	FTSE TMX 91 Day T-Bill Index plus 4.0%

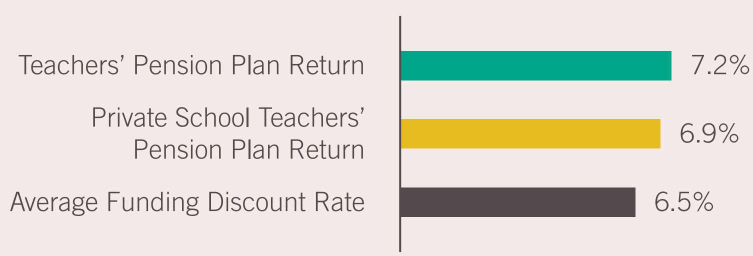
Long-term Investment Objective

An essential long-term assumption in determining the funding requirements of the plans is that net investment returns will at least achieve the funding discount rate used in the funding valuation of the plans.

We review this measure of performance for time periods up to 15 years as this coincides with the 15-year amortization period of deficiencies (required by legislation). Over the past 15 years, the funding discount rate of the plan (net of margin) has been gradually reduced from 7.5% to 5.15% for the TPP and 5.10% for the PSTPP as forecasts of long-term investment returns have fallen and the Board has reduced the overall funding risk of the plans.

15-Year Return vs Long-term Funding Objective

As at August 31, 2019



The investment return for the Teachers' Pension Plan over the last 15 years was 7.2%, which was 0.7% above the average funding discount rate. For the Private School Teachers' Pension Plan, the rate of return was 6.9% over the same time period. This return on the Private School Teachers' Pension Plan is slightly different from the return on the Teachers' Pension Plan as it did not include the loan to the GOA that was part of the assets of the Teachers' Pension Plan until the end of 2009.

Fixed Income Assets

Fixed income assets are typically among the lowest risk assets in the fund, and are expected to provide lower, but more stable, returns than other asset categories over the long term. ATRF's fixed income assets are diversified across short-, medium- and long-term maturity dates and include both government and corporate issuers.

The majority of our fixed income assets are managed by our internal investment team, however a small proportion of these assets are outsourced to external managers who are focused on particular segments of the market.

Return Enhancing Assets

Return enhancing assets are generally expected to provide the highest return over the long term, but reflect a higher risk profile than other assets in the plan. Return enhancing assets are the largest investment category in the fund, and include our public and private equity portfolios.

We diversify our public market equity portfolios by investment style, company size and geography in order to mitigate risk. Some of these assets are managed by ATRF's internal investment team, while the majority is managed by external investment partners who have specific expertise in certain markets or investment types. Our private equity assets consist of a diversified combination of limited partnerships and direct investments.

Inflation Sensitive Assets

Inflation sensitive assets are included in the fund to provide returns that are at least partially correlated to inflation over the very long term. This characteristic provides a degree of long-term funding protection as pension benefits under the plans are 70% indexed to inflation. This asset category includes our real estate and infrastructure investments.

Our global real estate and infrastructure portfolios are managed using a combination of internal and external investment managers. Our internal teams have established an extensive global network of partners and fund managers with whom we work closely to identify and manage investments.

Absolute Return Assets

Absolute return assets play an important role in diversifying risk by generating investment returns that are relatively stable and largely uncorrelated with more traditional assets such as equities. These assets are highly diversified, reflect a wide range of risk-return profiles and include managed futures, hedge funds and other multi-asset strategies. All of these strategies are managed by external investment partners.

2019 NEW INVESTMENT HIGHLIGHTS

Numotion

Based in the U.S., Numotion is a value-added service provider of complex rehabilitation technology (primarily complex power and manual wheelchairs) for adults and children with permanent ambulatory disabilities. ATRF invested in Numotion in partnership with New York-based private equity manager, AEA Investors.

Colisée

ATRF partnered with European private equity manager, IK Investment partners, to participate in a follow-on investment into Colisée—a French nursing home provider into which we originally invested in 2017. The new investment was used to finance the acquisition of Armonea, a complimentary Belgian nursing home business. With the acquisition of Armonea, Colisée is now the fourth largest European nursing home operator with facilities in France, Belgium, Germany, Spain and Italy.

Worley Claims Services

One of the largest independent providers of insurance adjustment management services in the U.S., Worley Claims Services specializes in claims adjusting functions for insurers during catastrophic events such a natural disasters and extreme weather. ATRF partnered with Kohlberg & Company, a New York-based private equity manager, to invest in Worley.

Gaylord Chemical

ATRF invested into Gaylord Chemical, a U.S.-based manufacturer of dimethyl sulfide (DMS) and dimethyl sulfoxide (DMSO), which are environmentally safe, non-toxic solvents with a variety of commercial applications in agriculture, microelectronics, petrochemical, pharmaceutical and other end markets. For this investment, we partnered with New York-based private equity manager, EagleTree Capital.

The Summit at Lantana

The Summit at Lantana is a fully leased, 818,000 square foot, LEED-Gold certified office campus located in Austin, Texas. In 2017, the Building Owners and Managers Association awarded The Summit The Outstanding Building of the Year Award for excellence in property management and operations. The Summit includes a number of sustainable features and tenant amenities including a rainwater collection system, solar-shaded exterior, running trails, fitness facility, cafeteria, gaming/event spaces, barbeque grills and conference facilities. ATRF originally acquired a partial interest in the property in 2014 and purchased the remaining interests from our partners in December 2018.

Western Wealth Portfolio

ATRF invested in a portfolio of 2,182 multifamily rental units across 12 properties in the Greater Phoenix Metro Area. The portfolio is a joint venture between Western Wealth and AllianceBernstein U.S. Real Estate Partners II, with ATRF owning a partial interest alongside AllianceBernstein.

The Cubes at LHV Airport Road

The Cubes at LHV Airport Road is a 450,000 square foot industrial development in Lehigh Valley, Pennsylvania. The property represents ATRF's fourth investment under the U.S. Logistics Platform in which it first invested in 2018. ATRF owns a partial interest in the project alongside CRG.

Proxiserve

Proxiserve is a French utility services provider that installs, rents and maintains water and heat sub-meters for multi-residential buildings. With over 3,000 employees, the business has installed over 3.7 million meters throughout France. In addition to its sub-metering business, Proxiserve provides maintenance services to multi-residential buildings through plumbing and boiler installation and maintenance. ATRF invested in Proxiserve in partnership with Asterion Industrial Partners, a Madrid-based investment manager.

Daytona

ATRF invested in a portfolio of data centers from Telefonica—a Spanish telecommunications company. Their 11 data centers are located in key cities in Spain, U.S., Brazil, Mexico, Chile, Peru and Argentina. These markets are currently seeing very high growth in cloud-based service offerings. ATRF once again partnered with Asterion Industrial Partners for the acquisition of this portfolio of data centers.

THE BIG PICTURE

Enhancing our Commitment to Responsible Investing

For many years now ATRF has taken a responsible approach to its investing activities. In 2016 we adopted a formal Responsible Investing Policy, which outlines our approach to managing Environmental, Social and Governance ("ESG") risks in our portfolio. This approach is focused on integrating an analysis of ESG factors in to the evaluation of all of investments. Issues such as an organization's environmental footprint, labour practices and governance practices can have a significant influence over a company's risk and return over time, making the evaluation of these things an important part of our investment process.

ATRF is also an active and engaged asset owner. Aside from our own direct engagement with companies we participate with other investors in shared ESG initiatives, with a strong focus on corporate governance. ATRF participates in collective engagement through well-respected organizations such as the Canadian Coalition for Good Governance, the Pension Investment Association of Canada and the Carbon Disclosure Project (CDP).

This year, we were proud to become a signatory to the Principles for Responsible Investment (PRI) as a further demonstration of our commitment to responsible investing. Established by the United Nations in 2005, the international PRI network identifies six foundational principles that connect the long-term interests of investment beneficiaries with societal objectives. These principles provide a global framework for investors to consider environmental, social and governance (ESG) issues like climate change and human rights.

The six principles are as follows:

1. *We will incorporate ESG issues into investment analysis and decision-making processes.*
2. *We will be active owners and incorporate ESG issues into our ownership policies and practices.*
3. *We will seek appropriate disclosure on ESG issues by the entities in which we invest.*
4. *We will promote acceptance and implementation of the Principles within the investment industry.*
5. *We will work together to enhance our effectiveness in implementing the Principles.*
6. *We will each report on our activities and progress towards implementing the Principles.*

Building on decisions that ATRF has already made to incorporate ESG factors into investment activities, adopting the PRI was a natural fit for ATRF and the way we invest. In fact, the following—one of ATRF's 10 investment beliefs—perfectly captures our ongoing commitment to responsible investment on behalf of plan members:

Environmental, social and governance factors have an impact on long-term returns. Incorporating these factors into the investment process and being an active shareholder adds value.

ATRF is excited to be a part of the PRI network and to continue building a successful investment portfolio as a signatory to these important principles.

Taking a Fresh Look at Risk

"We're here to take risks," said Gary Smith, the new Vice President of Fund Risk and Strategy at ATRF. "Managing risk isn't about minimizing or eliminating it. What we're doing is strategically taking risk where we expect to get paid over time, and avoiding it where we don't."

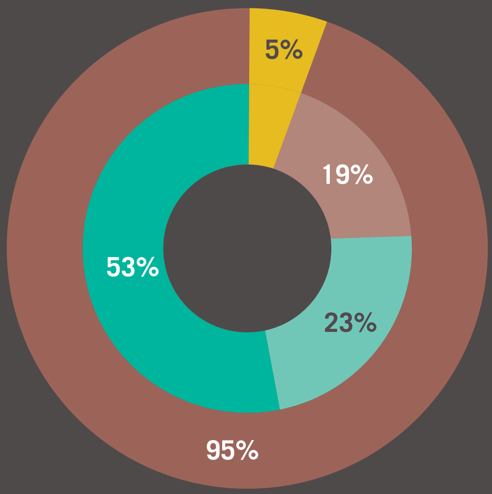
This year, ATRF created a new department—Fund Risk and Strategy—that works closely with our Investment team to ensure we're taking the right (and enough) risk to sustain the plan. The development of this part of our business is one of the many changes implemented as part of Project Whiteboard—an investment initiative designed to prioritize risk when making investment decisions and, ultimately, limit both the highs and lows of our investment portfolio over the long term.

Part of the journey of Whiteboard has involved modernizing the processes, data and technology that underpin ATRF's investment operations. For Whiteboard to prove successful, we need the right tools, processes and people to be in place at the right time. As a result, Gary Smith was tasked with creating and leading the Fund Risk and Strategy team. Operating independently from the Investment team, this new group is designed to analyze and understand risk from multiple angles—investment, liability and funding.

While the full scope of the department has yet to be determined, Gary continues to work closely with Derek Brodersen, ATRF's Chief Investment Officer, to build processes and develop tools that add value to the Investment teams and ATRF as a whole.

"In the end, ATRF is not specifically seeking to maximize total return of an investment fund—that's not the job. The job is to make the pension promise sustainable. That means building a portfolio that delivers enough return to fund the plans while keeping our members' contributions stable and affordable," said Gary. This perspective will be vital as we move forward in implementing the legislative changes in Bill 22 that require ATRF assets to be managed by AIMCo. ATRF will set the strategic direction for the management of assets, which includes the appropriate strategy for risk management.

INVESTMENT AND MEMBER SERVICES COSTS



TOTAL PLAN EXPENSES

INVESTMENT COSTS

ATRF is an active pension manager that adopts a customized approach to meet the unique needs of our plan members. We prudently balance risks, returns and costs to ensure we meet our investment objectives. Some of our cost drivers include our active management approach, scale of our investment opportunities, type of assets, and our risk profile impacting asset mix. ATRF's scale provides a competitive advantage to capitalize on smaller opportunities, yielding higher net returns (net of all costs) than our peers and targets.

Investment Operating Expenses

2019: $32.6 million; 2018: $28.6 million
Cost per $100 of Assets - 2019: $0.18; 2018: $0.17

These costs include oversight and governance of our investment operations and costs related to directly held investment. ATRF manages investments internally when we expect our net returns will be superior to returns generated by external managers. This may result in higher internal operating costs in the short-term but will result in higher expected net returns.

External Investment Performance Fees

2019: $39.9 million; 2018: $26.1 million
Cost per $100 of Assets - 2019: $0.22; 2018: $0.16

These fees are incurred to align interests between ATRF and external managers for high performance through a contractual profit-sharing arrangement. Performance fees distribute excess return earned for funds that outperform a pre-defined minimum target. These fees have increased as a result of continued high performance in net returns of our assets.

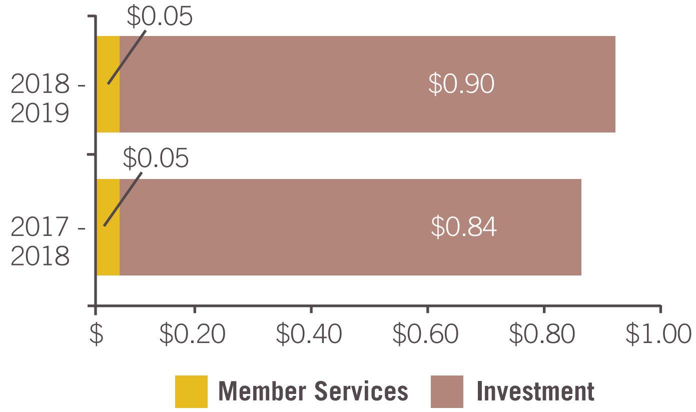
External Investment Management Expenses

2019: $90.7 million; 2018: $84.3 million
Cost per $100 of Assets - 2019: $0.50; 2018: $0.51

These expenses are incurred to access external managers' expertise and exceptional performance.

As we broaden our asset diversification in worldwide markets, when it is not practical or cost efficient to build a dedicated in-house team, external managers that have demonstrated strong competence, are leveraged for specialized expertise to ultimately generate higher net returns.

Cost per $100 of Assets



MEMBER SERVICE COSTS

Member Service Costs

2019: $8.6 million; 2018: $7.8 million

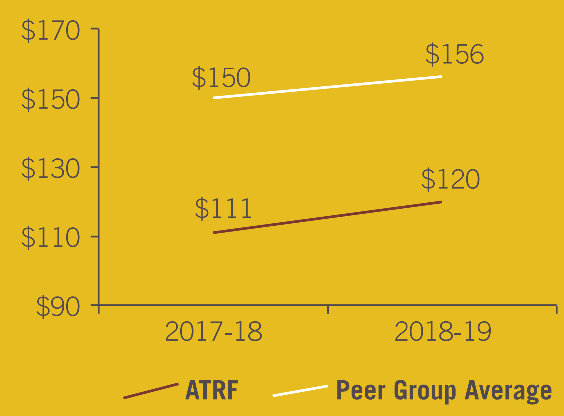
Member operating expenses are costs incurred to effectively deliver pension services to ATRF members, including providing optimal customer service quality and efficient and secure pension administration.

ATRF strives to provide exceptional service in a cost effective manner. This is evidenced by our exemplary service levels as seen in our 2019 Plan Member survey responses (see page 27) and our consistently lower cost per member than our peer group average (see graph on this page). Costs incurred reflect our commitment to deliver accurate and timely pension payments, as well as ensuring security of confidential information for our members.

ATRF is making conscious efforts to invest in the modernization of plan member services through Project Lantern (see page 28).

These modernization efforts are aimed toward enhancing the way we deliver plan member services to meet the long term needs of our members.

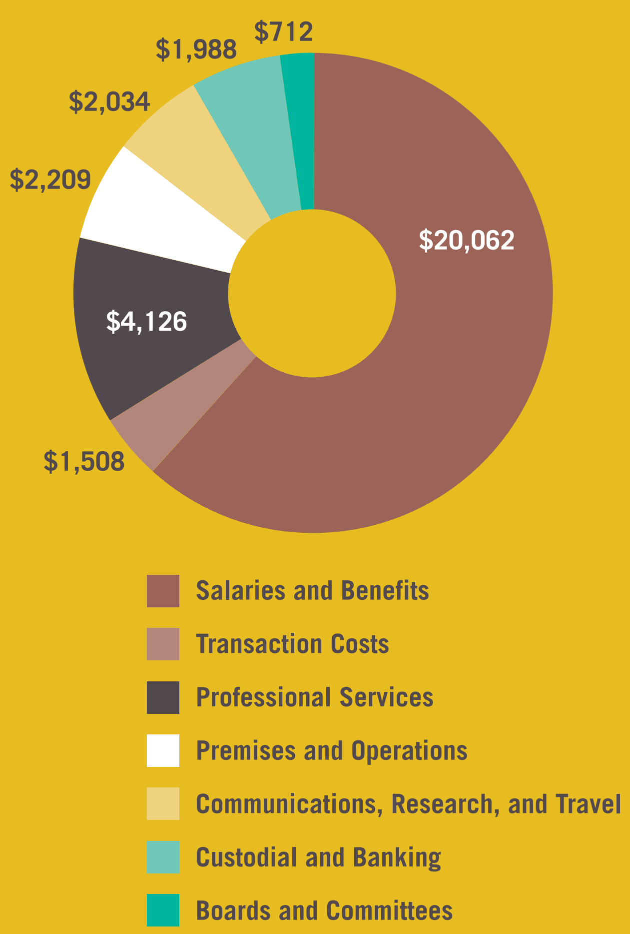
Cost Per Member



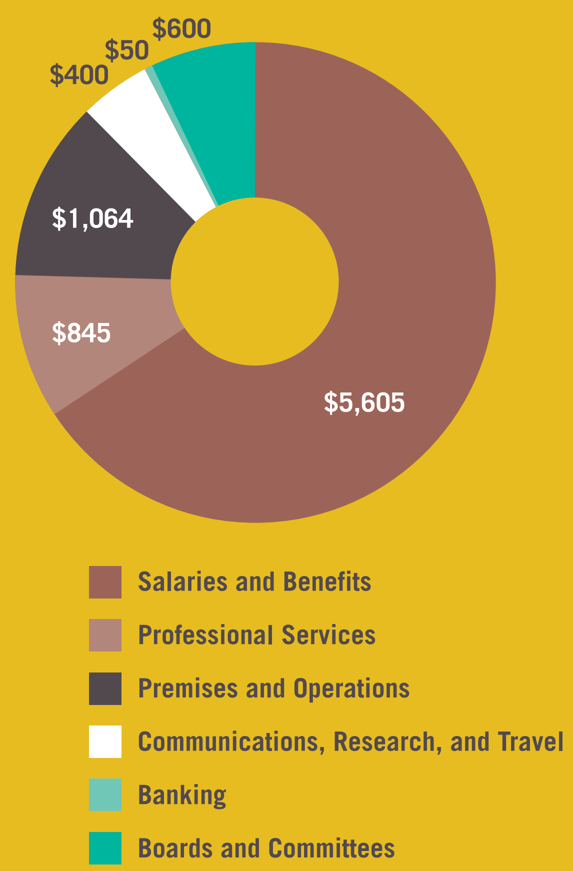
Cost per member is calculated using active and retired membership.

Our cost per member at $120 continues to be lower than our budget and remains one of the lowest in the peer group, which averages at $156.

Investment Costs
($000)



Member Service Costs
($000)



COMPENSATION DISCUSSION & ANALYSIS

EXECUTIVE COMPENSATION PROGRAM

The Compensation Discussion & Analysis explains ATRF's approach to compensation, the various elements of our pay programs and the remuneration paid to our executives.

HUMAN RESOURCES AND COMPENSATION COMMITTEE

The Human Resources and Compensation Committee ("HRCC" or the "Committee") assists the Board in fulfilling its oversight responsibilities in relation to our human resources and compensation matters.

The HRCC is made up of four board members and the committee met seven times during 2018-19 fiscal year. In camera sessions are held at the beginning and end of each meeting, without management present.

In 2018-19 the HRCC's key responsibilities included:

- evaluating and designing the compensation structure and succession planning for the Chief Executive Officer
- recommending compensation of the Chief Executive Officer and Chief Investment Officer and their direct reports to the Board for approval
- approving the compensation philosophy recommended by the Chief Executive Officer for other executives and all staff
- ensuring appropriate succession planning by the Chief Executive Officer for key executive positions
- reviewing human resource and compensation aspects of the corporation's business plan
- ensuring that the enterprise risk management framework appropriately considers human resource and compensation risks
- reviewing and approving incentive and supplementary pension plans

PRINCIPLES OF ATRF'S COMPENSATION PHILOSOPHY

Fair and competitive executive compensation is critical to the success of ATRF and our ability to attract and retain high performance professionals. Our overall compensation philosophy is rooted in our commitment to deliver on the pension promise, to ensure the highest level of service, and to maximize returns on the plan assets in a sound, sustainable and secure manner. We believe that longer-term investment success through prudent risk taking is more important than volatile short-term gains.

ATRF's executive compensation program objectives are to:

- Reward executives in a competitive market context so as to attract and retain high quality professionals.
- Focus the executive team on achieving critical business and investment goals in the strategic plan.
- Align interests of the Executive Team with pension plan member interests by encouraging and rewarding long-term performance. This shall be supported by promoting a pay for performance culture that seeks to preserve the pension promise and protect beneficiaries' benefits.
- Reward the Executive Team for superior performance based on investment results as well as plan administration and member service results.

- Total compensation will reflect the shared efforts of the Executive Team by rewarding for a culture of teamwork and collegiality throughout the organization. These efforts are reflected through the individual performance assessments conducted by the Board as well as the CEO and CIO of their direct reports on an annual basis.

COMPENSATION PHILOSOPHY AND GOOD GOVERNANCE

A number of attributes in our compensation program are intended to ensure good governance:

- **Compensation at risk –** A significant percentage of Total Direct Compensation is in the form of short and long-term incentives ranging from targets of 30% for certain executives to 55% for the CEO and CIO.
- **Long-term time horizon –** A significant portion of executive compensation is linked to longer-term, value-added and absolute performance. We use a 4-year horizon in our Short Term Incentive Plan (STIP) and Long Term Incentive Plan (LTIP).
- **Pay for performance –** A large portion of variable executive compensation is linked to achieving "above median performance" against performance hurdles. "Above median performance" and performance hurdles are determined using a holistic approach that considers relevant external data sources, historical performance and risk of ATRF's fund, and the current investment strategy and portfolio asset mix.
- **Maximum payout caps –** STIP and LTIP payouts are capped at 200% and 300% of target respectively to ensure affordability and reasonableness.
- **Challenging, but reasonable investment return targets –** Performance benchmarks and value-add hurdle rates are reviewed regularly by the Board and are set to reflect a median return expectation in the marketplace. Value-add hurdle rates are also set with reference to the competitive market, but also ATRF's risk appetite and investment strategy.
- **Threshold performance levels** – Our investment returns must meet or exceed our benchmark indexes before short or long-term incentives are paid.
- **Oversight of peer group, compensation levels and design –** With regular oversight, the HRCC ensures continued alignment with our peer group, compensation levels, our business strategy and competitive market practices.
- **Benefits and perquisites –** Benefits and perquisites are set at competitive levels, but are not intended to make up a significant portion of compensation.
- **Review of compensation risk –** The HRCC monitors risk inherent within our compensation program to discourage excessive risk-taking and align compensation with ATRF's business and investment strategies.
- **Competitive but cost-effective –** ATRF's compensation program is designed to pay competitively while supporting ATRF's objectives of securing the pensions of plan members through the cost-effective and efficient use of resources.

MANAGING RISK

We consider the implications of the risks associated with our compensation policies and practices, to ensure our compensation program does not incent management behaviours outside

ATRF's risk appetite. Compensation risk is managed by:

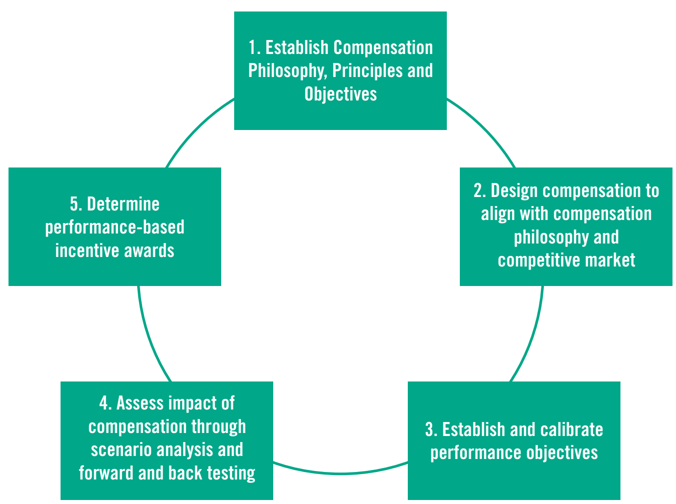
- ensuring HRCC's independence from management, and retaining an external compensation advisor
- working within an enterprise-wide risk management framework, a robust code of conduct and ensuring that appropriate risk limits and controls are articulated in the Investment Policy
- establishing appropriate performance measures that align to the business strategy
- setting individual and team accountabilities for achieving objectives
- setting threshold levels of performance for all incentive plans and paying incentives only when threshold performance is achieved
- using appropriate payout curves and capping incentive pay
- including long-term performance measures (i.e. four-year rates of return) in the STIP and LTIP to align compensation with the time horizon of the fund
- including non-investment performance measures in the incentive plan

COMPARATOR GROUPS USED TO SET COMPETITIVE PAY

Our overall objective is to provide competitive compensation compared to organizations we compete with for the skills and expertise of investment-related and management professionals. Compensation is benchmarked against other Canadian in-house pension funds and institutional investment organizations of similar size and complexity to ATRF. Within these comparator groups, we review compensation levels of comparable jobs, assess performance against benchmarks, as well as the relative size and investment-structure complexity of those peers.

COMPENSATION PROCESS AND COMPENSATION CONSULTANTS

ATRF's compensation strategy and structure are regularly reviewed. Each year, the HRCC reviews and approves the comparator groups, overall base salary, and the annual performance measures, targets and weightings for the incentive plans, based on market conditions. Market data is provided to the HRCC by external sources. The HRCC uses the following decision making process when setting executive compensation:



COMPENSATION ELEMENTS

The compensation structure for executives balances fixed and variable pay that are linked to long-term performance. The elements of the executive compensation plan are provided below. The following table summarizes the type, nature and purpose of each element of our compensation program.

Element	Intent	Plan Design	Variable with Performance
Base salary	Compensates for the day-to-day responsibilities of the role.	Set annually based on review of competitive market data.	Fixed (not variable)
Short-Term Incentive	Annual plan that rewards for superior investment and non-investment performance.	Payouts are capped at 200% of target, based upon value-add investment performance over a one- and four-year period, weighted to Total Fund and Asset Class (where applicable) and/or individual performance aligned to achieving annual corporate objectives.	High variability
Long-Term Incentive	Four-year plan intended to reward for superior and sustained investment performance aligned to the investment strategy and to help in retaining high performers.	Payouts are capped at 300% of target, based upon Total Fund value-add performance and absolute return performance over a four-year period.	High variability
Pension Benefits	Intended to attract and retain key employees and reward for their continued service.	Defined benefit pension based on 1.4% of salary up to Canada Pension Plan limit and 2% of salary for any excess up to *Income Tax Act* limit. For eligible roles, a supplemental benefit pension plan is provided in excess of capped pensionable salary and matches the formula in the defined benefit plan.	Low variability (will increase as salary level increases)
Benefits	Intended to attract and retain key employees.	Standard health and dental-care benefits, life insurance, illness and long-term disability coverage.	Low variability
Perquisites	Intended to attract and retain select key employees.	Paid professional membership fees and car allowances.	Low variability

BASE SALARY

Base salaries are intended to be competitive with the market and are reviewed by the HRCC annually at the end of each fiscal year. Salaries are set based on an individual's primary duties and responsibilities, with consideration given to ATRF's market comparators.

SHORT-TERM INCENTIVE PLAN (STIP)

The STIP is designed to attract, retain and motivate high-quality people, and to provide competitive, performance-based opportunities based on market practices and ATRF's business strategy. Performance measures, targets and weightings are approved annually by the HRCC. Corporate, fund and portfolio benchmarks as well as individual objectives are established at the beginning of the year, and actual performance is evaluated at the end of the year.

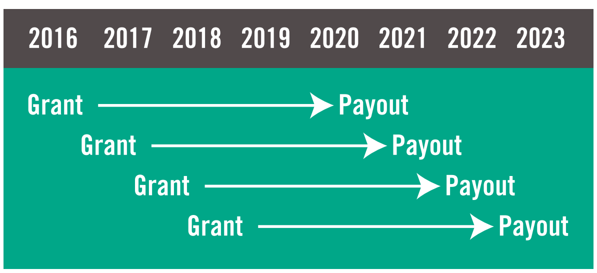
Each participant's target corporate incentive payment is calculated based on a percentage of salary. Based on actual performance against pre-approved objectives, payouts can range from zero to two times the target corporate incentive amount.

Investment incentive payments are based on the achievement of total fund and/or portfolio performance above established benchmarks. Consistent with ATRF's compensation objectives, payments are calculated based on a 75% weight towards long-term performance results over a four-year rolling average period and 25% towards the performance in the past year. The STIP rewards participants for delivering target benchmark performance or better. Based on total fund and/or portfolio performance, actual payments can range from zero to two times the target incentive amount. The annual incentive plan has a threshold level of performance. If the threshold is not met, incentive payments are not made. The threshold, target and maximum value-add hurdles are calibrated to account for ATRF's investment strategy and portfolio mix, which inherently accounts for ATRF's risk profile.

LONG-TERM INCENTIVE PLAN (LTIP)

The LTIP is designed to encourage and reward long-term performance, critical to ATRF's success; attract, retain and motivate participants by providing additional compensation if investment performance goals are achieved; and, to align participant interests with pension plan interests. The LTIP has a four-year vesting period before a first payment is awarded to a plan participant. This is based on relative value-added performance above the benchmark portfolio, net of investment operating costs and is further modified by absolute fund performance. The threshold, target and maximum value-add hurdles are calibrated to account for ATRF's investment strategy and portfolio mix, which inherently accounts for ATRF's risk profile.

Participation in the LTIP is limited to executives, management and senior investment professionals. Participants receive a notional grant (reflected as a percentage of salary), at the beginning of a four-year performance period. The grant is equal to the target award opportunity, and could increase or decrease based on final investment performance results relative to the benchmark portfolio, net of investment operating costs. At the end of the performance period, the four-year rolling average performance of the total fund is calculated. A multiplier is applied to the target plan award, based on the investment performance of the total fund after taking into account fees paid to external managers and direct investment costs as compared to specific benchmarks approved by the HRCC. The multiplier is capped at three times the value of the target award. Except for certain situations, an eligible employee must be actively employed as of the payment date in order to receive a payout.



PENSION AND BENEFITS

ATRF provides a competitive benefits program that includes pension benefits, health and dental-care benefits, life insurance, illness and long-term disability coverage, and professional memberships.

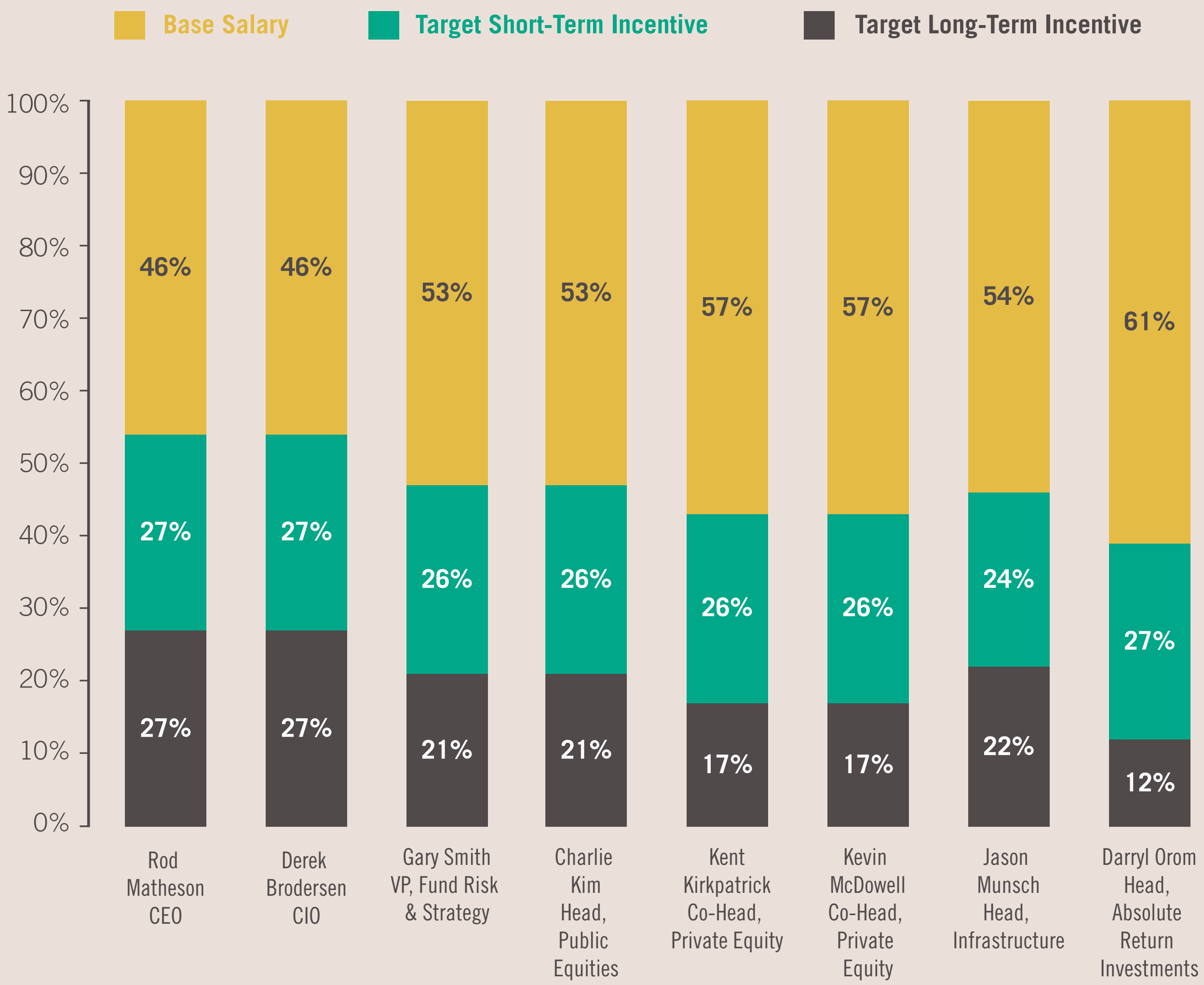
All ATRF staff participate in the Local Authorities Pension Plan (LAPP). This is a defined benefit pension plan, and provides for a pension of 1.4% for each year of pensionable service based on the average salary of the highest five consecutive years up to the Year's Maximum Pensionable Earnings under the Canada Pension Plan and 2.0% on the excess. Benefits under this plan are capped by pensionable salary reached at the maximum pension benefit limit allowed under the federal *Income Tax Act.*

Where earnings are in excess of this capped pensionable salary, a non-registered, unfunded Supplementary Employee Pension Plan (SEPP) provides for a pension equal to the pension formula under the LAPP, with no cap applied to pensionable salary, less the initial pension provided under the LAPP. Participation in the SEPP is limited to the CEO, CIO, Vice Presidents, and Asset Class Heads. For pensionable service before September 1, 2012, pensionable salary under the SEPP includes 50% of the actual annual incentive target-level amount paid under the annual incentive plan. For pensionable service after August 31, 2012, pensionable salary is limited to base salary paid.

TARGET TOTAL DIRECT COMPENSATION MIX

Provided below is an illustration of the Target Total Direct Compensation mix for executives at ATRF listed in the Total Compensation Summary on page 63 & 64.

Total Direct Compensation is made up of Base Salary, Short-Term Incentive and Long-Term Incentive.



2018-19 PERFORMANCE AND ITS IMPACT ON COMPENSATION LEVELS

For the 2018-19 year, incentive plan compensation was paid in relation to meeting and exceeding pre-set corporate objectives; individual portfolio benchmarks; and, to proportionately recognize the above-benchmark performance of the overall fund in the past one and four fiscal years.

Investments

In the 2018-19 fiscal year, the fund earned a net rate of return of 7.8% exceeding the fund's 6.4% benchmark. This resulted in $232 million of value-added investment performance by ATRF, which will be reinvested into the fund.

Over the four-year period ended August 31, 2019, the fund earned a net rate of return of 7.9%. This compares to the fund's 7.1% benchmark return resulting in a 0.8% or $470 million of value add to the assets of the plan.

Corporate

ATRF's corporate objectives for 2018-19 reflected milestones for the organization. The objectives included:

- Plan Funding and Sustainability
- Plan Administration and Member Services;
- ATRF Plan Sponsor Support and Relationships with Stakeholders;
- Investment Management Results; and
- Corporate and Strategic Initiatives, including Board Support and Corporate Governance.

COMPENSATION OF THE CHIEF EXECUTIVE OFFICER

ATRF's HRCC worked with its independent advisor, Hugessen, and the CEO to create a set of objectives that reflected the key milestones for the CEO during the 2018-19 fiscal year. The Board measured the CEO's performance against those key milestones, and assessed his performance as significantly above-target.

ATRF's CEO had the following payout related to his Balanced Scorecard:

($ dollars, audited)

	2018-19		2017-18	
Performance Measure	**Weight**	**Payout**	**Weight**	**Payout**
Total Fund Value Add Return	45%	$ 185,700	45%	$ 189,000
• Leadership and Governance • Plan Administration and Member Services • Investment Management • Plan Funding and Sustainability	55%	152,400	55%	213,700
Total Balanced Scorecard Payout		$ 338,100		$ 402,700

COMPENSATION

($ dollars, audited)

Compensation Element	2018-19 Compensation	2017-18 Compensation
Base Salary	$ 350,000	$ 350,000
Short-term Incentive	338,100	402,700
Long-term Incentive*	563,300	614,800
Total Direct Compensation	$ 1,251,400	$ 1,367,500

* Earned long-term incentives are paid upon vesting after a four-year period. For estimated future payouts, refer to the "Estimated Long-Term Incentive Awards" table on page 61.

TOTAL COMPENSATION SUMMARY

This table represents disclosure of salary, incentive payments, value of SEPP benefits and all other compensation earned for years ended August 31, 2019, 2018 and 2017 by ATRF's Chief Executive Officer, Chief Investment Officer, Vice President, Fund Risk & Strategy, and the Asset Class Heads – the most highly compensated senior investment professionals.

($ dollars, audited)

Name and Position	Fiscal Year	Salary[1]	Short-Term Incentive Plan (STIP)	Long-Term Incentive Plan (LTIP)[2]	SEPP[3]	All Other Compensation[4]	Total Compensation
Rod Matheson Chief Executive Officer	2019	$ 350,000	$ 338,100	$ 563,300	$ 54,200	$ 48,500	$ 1,354,100
	2018	350,000	402,700	614,800	41,400	49,700	1,458,600
	2017	350,000	338,100	-	32,800	49,600	770,500
Derek Brodersen Chief Investment Officer	2019	322,900	352,000	519,600	52,100	47,300	1,293,900
	2018	322,900	362,100	553,300	38,600	48,600	1,325,500
	2017	322,900	307,000	504,800	30,100	48,500	1,213,300
Gary Smith[5] Vice President, Fund Risk & Strategy	2019	270,000	216,400	-	19,300	36,400	542,100
	2018	235,000	200,900	-	14,300	37,600	487,800
	2017	235,000	175,000	-	11,000	41,200	462,200
Charlie Kim Head, Public Equities	2019	260,000	109,400	257,500	29,200	36,600	692,700
	2018	260,000	149,600	278,800	15,100	38,100	741,600
	2017	260,000	169,900	245,700	11,400	38,000	725,000

(Table continued on next page)

Name and Position	Fiscal Year	Salary[1]	Short-Term Incentive Plan (STIP)	Long-Term Incentive Plan (LTIP)[2]	SEPP[3]	All Other Compensation[4]	Total Compensation
Kent Kirkpatrick[6] Co-Head, Private Equity	2019	220,000	174,800	102,100	10,500	36,600	544,000
	2018	-	-	-	-	-	-
	2017	-	-	-	-	-	-
Kevin McDowell[6] Co-Head, Private Equity	2019	220,000	174,100	99,900	10,400	35,700	540,100
	2018	-	-	-	-	-	-
	2017	-	-	-	-	-	-
Jason Munsch[6] Head, Infrastructure	2019	205,000	166,800	82,400	6,400	35,200	495,800
	2018	-	-	-	-	-	-
	2017	-	-	-	-	-	-
Darryl Orom Head, Absolute Return Investments	2019	180,000	68,100	89,000	4,000	35,000	376,100
	2018	180,000	72,900	-	3,000	36,300	292,200
	2017	180,000	78,500	-	2,700	36,200	297,400

1 Salary is annual base pay as of the end of the fiscal year. With the exception of promotions or position reclassifications, salaries in 2019 remained static to comply with the external directive for salary freeze issued by the GOA for provincial agencies.

2 Amounts shown represent LTIP awards incorporating business and individual performance for the fiscal year. Incentive compensation is remunerated at the end of the four-year vesting period, and is paid in the following year it is earned. For further information on LTIP targets and awards, refer to “Estimated Long-Term Incentive Awards” table.

3 Amounts shown represent SEPP current service accruals in the plan. Pension benefits for SEPP are paid as the benefits come due. Accordingly, no pre-funding occurs with no assets set aside or placed into trust to meet future liabilities. SEPP financing costs are included in the pension expense as the present value of the accrued benefits of the SEPP. For further information on present value of accrued benefits, refer to “SEPP Present Value of Accrued Benefits” table.

4 All other compensation consists of vacation payouts, lump sum payments and ATRF’s share of all employee benefits, contributions or payments made on behalf of employees, health plan coverage, and statutory contributions.

5 Employment commenced September 2016. Mr. Smith was promoted to VP role May 2019.

6 Employment commenced March 2011 for Mr. Kirkpatrick, June 2014 for Mr. McDowell, and November 2010 for Mr. Munsch. All were promoted to Asset Class Head roles November 2018.

ESTIMATED LONG-TERM INCENTIVE AWARDS

LTIP awards are granted at the start of a fiscal year and paid out at the end of the four-year vesting period. The following table shows the LTIP and estimated future payouts for the listed positions. The future value of the awards granted but not yet vested are estimated as at August 31, 2019, based on:

- actual performance multipliers for fiscal years 2016-17, 2017-18, and 2018-19 and pro-forma multipliers of one (1.0x) for future years; and
- actual fund rates of return for fiscal years 2016-17, 2017-18, and 2018-19 and no assumed growth in future years.

($ dollars, audited)

Name and Position	Fiscal Year of Grant	Award (Target Value)[1]	Maximum Value[2]	2020	2021	2022
Rod Matheson Chief Executive Officer	2019	$ 210,000	$ 630,000	$ -	$ -	$ 442,000
	2018	210,000	630,000	-	570,100	-
	2017	210,000	630,000	613,500	-	-
Derek Brodersen Chief Investment Officer	2019	193,700	581,100	-	-	407,700
	2018	193,700	581,100	-	525,900	-
	2017	193,700	581,100	566,000	-	-
Gary Smith[3] Vice President, Fund Risk & Strategy	2019	94,000	282,000	-	-	197,800
	2018	94,000	282,000	-	255,200	-
	2017	94,000	282,000	274,600	-	-
Charlie Kim Head, Public Equities	2019	104,000	312,000	-	-	218,900
	2018	104,000	312,000	-	282,300	-
	2017	104,000	312,000	303,800	-	-
Kent Kirkpatrick[4] Co-Head, Private Equity	2019	66,000	198,000	-	-	138,900
	2018	38,100	114,200	-	103,300	-
	2017	38,100	114,200	111,200	-	-
Kevin McDowell[4] Co-Head, Private Equity	2019	66,000	198,000	-	-	138,900
	2018	37,300	111,800	-	101,100	-
	2017	37,300	111,800	108,900	-	-
Jason Munsch[4] Head, Infrastructure	2019	82,000	246,000	-	-	172,600
	2018	32,400	97,200	-	88,000	-
	2017	32,400	97,200	94,700	-	-

(Table continued on next page)

Name and Position	Fiscal Year of Grant	Award (Target Value)[1]	Maximum Value[2]	2020	2021	2022
Darryl Orom Head, Absolute Return Investments	2019	36,000	108,000	-	-	75,800
	2018	36,000	108,000	-	97,700	-
	2017	36,000	108,000	105,200	-	-

1 Represents the target value at the time of grant. No award is payable if performance is below a threshold value-add hurdle.

2 Represents the maximum value payable at the end of the four-year vesting period.

3 Eligibility commenced in the 2016-17 fiscal year. Promoted to VP role May 2019. Estimated awards for 2020, 2021, 2022 are based on previous position.

4 Promoted to Asset Class Head in the 2018-19 fiscal year. Estimated awards for 2020, 2021, 2022 are based on previous position.

SEPP PRESENT VALUE OF ACCRUED BENEFITS

The accrued benefits are estimated based on the projected benefit method prorated on service, incorporating the same assumptions used for both of the Teachers' Pension Plans (see Note 5(a) to the Financial Statements), and represent entitlements that may change over time. In particular, the present value is based on benefit amounts with salary increases projected to retirement.

The following table represents changes in the present value of accrued benefits in the year:

($ dollars, audited)

Name and Position	Present Value of Accrued Benefits at August 31, 2018	Change in Accounting Policy Effective September 1, 2018	Current Service Accrual in Plan	Interest Cost & Experience Gains/ (Losses)	Change in Discount Rate Assumptions Effective August 31, 2019	Present Value of Accrued Benefits at August 31, 2019
Rod Matheson Chief Executive Officer	$ 161,800	$ 44,300	$ 54,200	$ 4,000	$ 35,300	$ 299,600
Derek Brodersen Chief Investment Officer	741,500	248,800	52,100	(23,400)	166,400	1,185,400
Gary Smith Vice President, Fund Risk & Strategy	28,800	9,900	19,300	26,700	14,400	99,100
Charlie Kim Head, Public Equities	192,100	99,400	29,200	(13,600)	74,800	381,900
Kent Kirkpatrick Co-Head, Private Equity	-	-	10,500	500	2,100	13,100
Kevin McDowell Co-Head, Private Equity	-	-	10,400	500	2,200	13,100
Jason Munsch Head, Infrastructure	-	-	6,400	400	2,000	8,800
Darryl Orom Head, Absolute Return Investments	5,400	2,600	4,000	(4,300)	1,900	9,600

SUCCESSION PLANNING

ATRF has short-term contingency plans and longer-term succession plans in place for the Chief Executive Officer and senior management. In identifying potential successors, the Board and Chief Executive Officer consider ATRF's future business strategy, the core skills and experiences required to carry out this strategy, and the leadership abilities of individuals.

Where there are gaps in experience or skills of potential successors, the Chief Executive Officer discusses developmental opportunities with the individual and with the Board. The Board also ensures that the Board members get to know the potential successors identified, through Board presentations and events. Evaluating a diverse set of candidates based on gender, race, religion and/or other factors allows ATRF to consider a broad range of backgrounds and experiences in building its leadership team.

The HRCC reviews the succession plan on an annual basis.

COMMITMENT TO DIVERSITY

ATRF has not set defined quotas or targets for the representation of women within its executive or investment leadership teams, but will continue to focus on hiring the right person for each role. That being said, ATRF will continue to work towards increasing the level of diversity at all levels of the organization across a number of different factors, including gender.

EXTERNAL CONSULTANTS

The HRCC is supported by independent, external human resources and compensation consultants that are retained by, and report directly to, the HRCC.

During the 2018-19 fiscal year, Hugessen Consulting was the HRCC's independent advisor. During that time, Hugessen assisted the HRCC in:

- reviewing director compensation levels and travel allowance policies against the market and ATRF's stated philosophy;
- providing educational presentations to Board members;
- development of a compensation peer group for the purposes of benchmarking executive pay;
- analyzing the correlation of executive pay for performance within the compensation program;
- reviewing executive incentive program design; and
- developing the CEO's 2019-20 balanced scorecard.

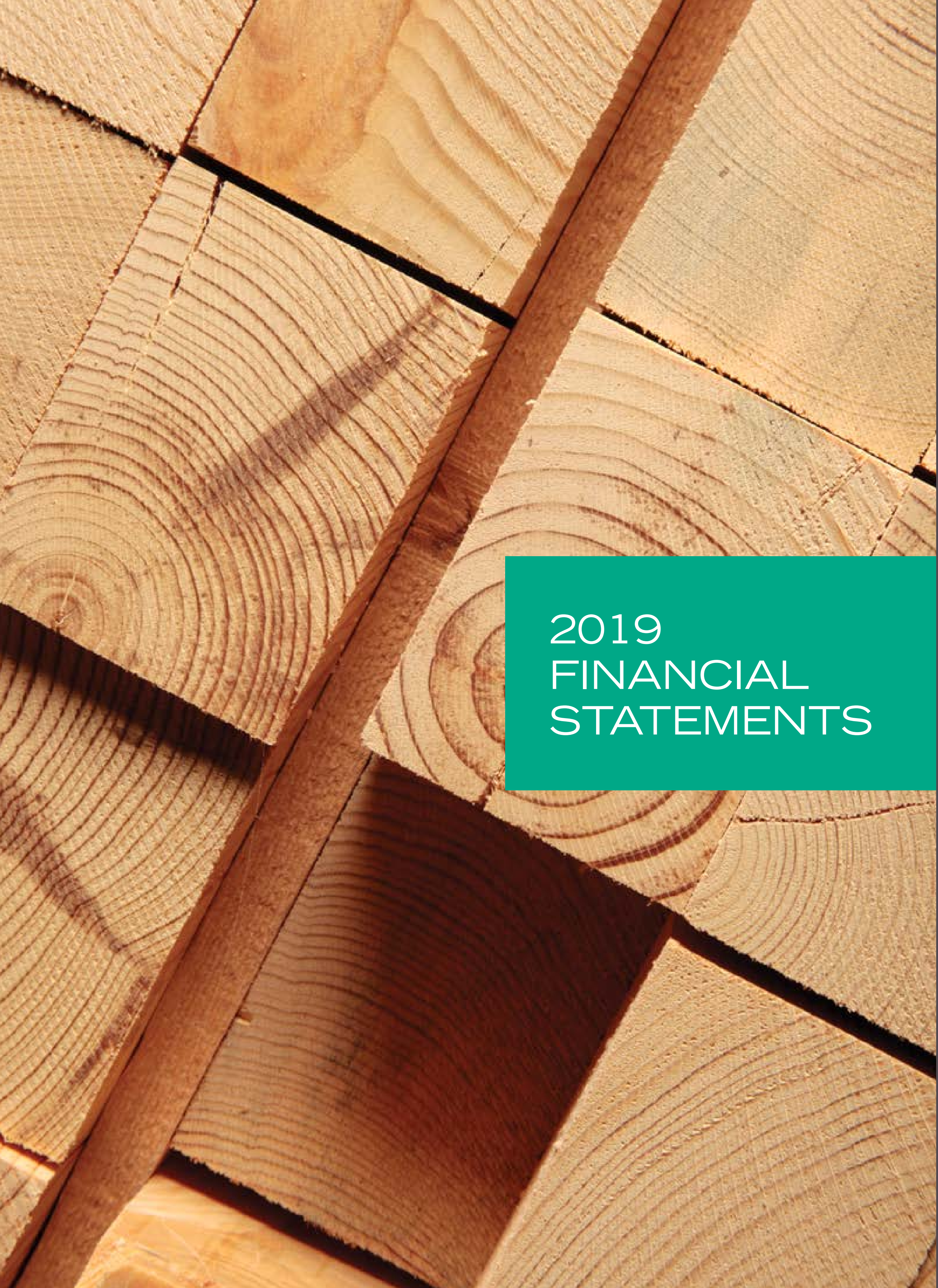
Hugessen also provided consulting services to the Governance Committee on Board member compensation matters.

The HRCC reviews all fees, and the terms of consulting services provided by Hugessen; and, when making decisions, takes an independent view of all factors taking into consideration more than the information and recommendations provided by its compensation consultant or management.

The following table outlines the fees paid to Hugessen for the periods noted:

($ dollars, audited)

Advisor	Executive Compensation-Related Fees		All Other Fees	
	2019	**2018**	**2019**	**2018**
Hugessen Consulting	$ 316,000	$ 41,800	$ 700	$ -



2019 FINANCIAL STATEMENTS

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The financial statements of the Alberta Teachers' Retirement Fund Board and all information in the Annual Report are the responsibility of management, and have been approved by the Board. The financial statements have been prepared in accordance with Canadian accounting standards for pension plans. Where necessary, management has made informed judgments and estimates of the outcome of events and transactions, with due consideration to materiality.

Financial and operating data elsewhere in the Annual Report is consistent with the information contained in the financial statements.

For the integrity of financial information included in this Annual Report, management relies on the organization's system of internal controls and supporting procedures. This system has been established to ensure within reasonable limits that assets are safeguarded, transactions are properly executed in accordance with management's authorization, and that the accounting records provide a solid foundation from which to prepare the financial statements. Controls include high-quality standards for hiring and training employees, an organizational structure that provides a well-defined division of responsibilities and accountability for performance, and the communication of policies and guidelines throughout the organization.

Ultimate responsibility for the financial statements rests with the Board, which is assisted in its responsibilities by the staff and the Audit and Finance Committee. The Alberta Teachers' Retirement Fund Board's external auditor, the Auditor General, has conducted an independent examination of the financial statements in accordance with Canadian generally accepted auditing standards, performing such tests and other procedures as he considers necessary to express the opinion in his report. The Audit and Finance Committee of the Board reviews the Auditor's Report and the financial statements, and recommends them for approval by the Board. The Auditor General has full, unrestricted access to discuss the audit and related findings regarding the integrity of financial reporting, and the adequacy of internal control systems.

[Original Signed]

Rod Matheson
Chief Executive Officer

[Original Signed]

Myles Norton
Vice President, Finance

Auditor General
OF ALBERTA

Independent Auditor's Report

To the Alberta Teachers' Retirement Fund Board

Report on the Financial Statements

Opinion

I have audited the financial statements of Alberta Teachers' Retirement Fund Board, which comprise the statement of financial position as at August 31, 2019, and the statements of changes in net assets available for benefits and changes in pension obligations for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Alberta Teachers' Retirement Fund Board as at August 31, 2019, and the changes in its net assets available for benefits and changes in its pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

Basis for opinion

I conducted my audit in accordance with Canadian generally accepted auditing standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of Alberta Teachers' Retirement Fund Board in accordance with the ethical requirements that are relevant to my audit of the financial statements in Canada, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Other information

Management is responsible for the other information. The other information comprises the information included in the *Building on a Solid Foundation 2019 Annual Report*, but does not include the financial statements and my auditor's report thereon.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Responsibilities of management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for pension plans, and for such internal control as management determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing Alberta Teachers' Retirement Fund Board's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless an intention exists to liquidate or to cease operations, or there is no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Alberta Teachers' Retirement Fund Board's financial reporting process.

Auditor's responsibilities for the audit of the financial statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Alberta Teachers' Retirement Fund Board's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on Alberta Teachers' Retirement Fund Board's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause Alberta Teachers' Retirement Fund Board to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

[Original Signed]

W. Doug Wylie FCPA, FCMA, ICD.D
Auditor General

November 20, 2019
Edmonton, Alberta

Actuaries' Opinion

Aon has been engaged by the Alberta Teachers' Retirement Fund Board ("ATRF") to prepare actuarial valuations for the *Teachers' Pension Plan* and the *Private School Teachers' Pension Plan* (the "Plans") as at August 31, 2019. The purpose of these valuations is to determine the necessary actuarial information for financial statement reporting for the Plans in accordance with Section 4600 of the CPA Canada Handbook ("Section 4600").

Our valuations have been prepared based on:

- membership data provided by ATRF as at the most recent reported date by the respective employers, projected to August 31, 2019 and adjusted to reflect anticipated new hires as at September 1, 2019;
- asset data provided by ATRF as at August 31, 2019;
- assumptions that we understand have been adopted as ATRF management's best estimates; and
- actuarial cost methods and asset valuation methods that are in accordance Section 4600.

Based on the work we have performed, including conducting reasonability tests on the membership and asset data, we have concluded that, in our opinion:

- the data is sufficient and reliable for the purpose of the valuations;
- the assumptions adopted as best estimate by ATRF's management are appropriate for the purpose of the valuations;
- the actuarial cost methods and the asset valuation methods employed are appropriate for the purpose of the valuations; and
- the valuations conform with the requirements of Section 4600.

While the actuarial assumptions used to estimate the Plans' liabilities represent ATRF management's best estimate of future events and market conditions at August 31, 2019, the Plans' future experience will differ from the actuarial assumptions. Emerging experience differing from the assumptions will result in gains or losses that will be revealed in future valuations and will affect the financial position of the Plans.

Our opinions have been given, and our valuations have been performed, in accordance with accepted actuarial practice in Canada.

[Original Signed]

Brenda Prysko
Fellow, Canadian Institute of Actuaries
Fellow, Society of Actuaries

[Original Signed]

Johanan Schmuecker
Fellow, Canadian Institute of Actuaries
Fellow, Society of Actuaries

October 30, 2019

STATEMENT OF FINANCIAL POSITION

As at August 31 ($ Thousands)	**2019**	2018
ASSETS		
Investments (Note 3)	$ 18,720,338	$ 16,981,553
Contributions receivable	25,954	20,318
Other assets	7,609	3,274
	18,753,901	17,005,145
LIABILITIES		
Investment related liabilities (Note 3)	576,170	418,900
Accounts payable and accrued liabilities (Note 4)	41,709	34,727
	617,879	453,627
NET ASSETS AVAILABLE FOR BENEFITS (Note 5)	18,136,022	16,551,518
ACCRUED PENSION OBLIGATIONS (Note 5)	14,687,924	13,854,246
ACCOUNTING SURPLUS	**$ 3,448,098**	**$ 2,697,272**

The accompanying notes are part of these financial statements.

Approved by the Board

[Original Signed]

Sandra Johnston
Chair

[Original Signed]

Kareen Stangherlin
Chair, Audit & Finance Committee

STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

For the Year Ended August 31 ($ Thousands)	**2019**	2018
Net assets available for benefits, beginning of year	**$ 16,551,518**	**$ 14,767,502**
Investment operations		
Change in fair value of investments (Note 6)	957,474	1,122,015
Investment income (Note 6)	513,286	446,729
Investment expenses (Note 7)	(163,252)	(139,065)
Net investment operations	1,307,508	1,429,679
Member service operations		
Contributions (Note 8)		
Teachers	426,027	440,931
The Province	400,161	415,185
Private School Boards	2,673	2,383
Transfers from other plans	15,147	12,423
	844,008	870,922
Benefits paid (Note 9)	(558,448)	(508,806)
Member service expenses (Note 7)	(8,564)	(7,779)
Net member service operations	276,996	354,337
Increase in net assets available for benefits	1,584,504	1,784,016
Net assets available for benefits, end of year	**$ 18,136,022**	**$ 16,551,518**

STATEMENT OF CHANGES IN PENSION OBLIGATIONS

For the Year Ended August 31 ($ Thousands)	**2019**	2018
Accrued pension obligations, beginning of year	**$ 13,854,246**	**$ 12,862,534**
Increase (decrease) in accrued pension obligations		
Interest on accrued benefits (Note 5)	899,815	835,942
Benefits accrued (Note 5)	536,584	505,008
Experience (gains) losses (Note 5)	(73,994)	141,833
Changes in actuarial assumptions (Note 5)	29,721	17,735
Benefits paid (Note 5, 9)	(558,448)	(508,806)
	833,678	991,712
Accrued pension obligations, end of year (Note 5)	**$ 14,687,924**	**$ 13,854,246**

The accompanying notes are part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 DESCRIPTION OF PLANS

The following description of the Teachers' Pension Plan and the Private School Teachers' Pension Plan (the "Plans") is a summary only.

a) General

The Alberta Teachers' Retirement Fund Board ("ATRF"), established in 1939, a corporation under the authority of the *Teachers' Pension Plans Act,* Chapter T-1, RSA 2000, is the trustee and administrator of the Plans. The Plans are contributory defined benefit pension plans for the teachers of Alberta.

b) Obligations relating to the period before September 1992

The Teachers' Pension Plan's assets and obligations related to pensionable service after August 31, 1992 (the "post-1992 period") have been accounted for separately from the assets and obligations related to pensionable service prior to September 1, 1992 (the "pre-1992 period") and, accordingly, these financial statements and notes include only post-1992 period transactions of the Teachers' Pension Plan and transactions of the Private School Teachers' Pension Plan.

Effective September 1, 2009, the Province of Alberta (the "Province") assumed full responsibility for obligations related to the Teachers' Pension Plan pre-1992 period pensionable service and provides the required amounts to ATRF to pay the obligations on a monthly basis (Note 9).

c) Contributions

The determination of the value of the benefits and the required contributions for the Plans is made on the basis of periodic actuarial valuations. The contribution rates are as follows:

	Teacher's Pension Plan		Private School Teachers' Pension Plan	
	2019	2018	**2019**	2018
Up to YMPE[1]	10.17%	10.74%	8.76%	9.09%
Above YMPE	14.52%	15.34%	12.52%	12.98%
Total Teachers' Contribution	11.92%	12.68%	10.27%	10.87%
Total Government/Employer Contribution	11.29%	11.95%	9.73%	10.23%

[1] YMPE: Yearly Maximum Pensionable Earnings used by the Canada Pension Plan (2019: $57,400; 2018: $55,900)

All teachers under contract with school jurisdictions and charter schools in Alberta are required to contribute to the Teachers' Pension Plan. Current service costs and related deficiencies are funded by equal contributions from the Province and the teachers. A component of the pre-1992 contributions includes a cost-of-living adjustment, equating to 60% of the increase to the Alberta Consumer Price Index ("ACPI"). Post-1992, the cost-of-living adjustment is calculated at 70% of the increase in the ACPI. This additional 10% is fully funded by the teachers.

Certain other designated organizations in Alberta also participate in the Teachers' Pension Plan under the same funding arrangements, except these organizations make the employer contributions rather than the Province.

NOTE 1 DESCRIPTION OF PLANS (CONTINUED)

Certain private schools participate in the Private School Teachers' Pension Plan. The structure for plan costs and related deficiencies are funded in equal contributions from the employers and the teachers. Similar to the Teachers' Pension Plan above, the additional 10% cost-of-living adjustment for service earned after 1992 is funded entirely by the teachers.

d) Retirement pensions

Retirement pensions are based on the number of years of pensionable service and the average salary of the highest five consecutive years. Pensions are payable to teachers who retire after completion of at least five years of pensionable service, with certain restrictions, and who have attained age 65. Unreduced pensions are also payable to teachers who have reached at least age 55 and the sum of their age and service equals at least 85. With certain restrictions, reduced pensions are payable to teachers who retire at or after age 55 with a minimum of five years of pensionable service.

e) Disability benefits

Teachers who are disabled after August 31, 1992 are credited with pensionable service while disabled. Teachers do not contribute to the Plans while disabled.

f) Termination benefits

Refunds or commuted value transfers are available when a teacher ceases employment, subject to certain restrictions.

g) Death benefits

Death benefits are available upon the death of a teacher and may be available upon the death of a pensioner, depending on the pension option selected by the pensioner at the time of retirement. The benefit may take the form of a lump sum payment or a survivor pension.

h) Other provisions

i. Service purchases

Purchase of past service, such as substitute teaching service, employer-approved leaves, and reinstatement of refunded service is allowed on a basis that is cost neutral to the Plans.

ii. Reciprocal transfer agreements

The Plans have Reciprocal Transfer Agreements with all other provincial teachers' pension plans, the Alberta public sector pension plans, and the Government of Canada Public Service Pension Plan. These agreements authorize the transfer of pensionable service in accordance with the terms of the reciprocal transfer agreement between the participating organizations.

i) Cost-of-living adjustments ("COLA")

Pensions payable are increased each year by an amount equal to 60% of the increase in the ACPI. For the portion of pension earned after 1992, COLA is calculated at 70% of the increase in the ACPI.

j) Income tax

The Plans are registered pension plans as defined in the *Income Tax Act* (registration number 0359125) and are not subject to income taxes in Canada. The Plans may be subject to taxes in other jurisdictions where full tax exemptions are not available.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a) Basis of presentation

The statements present the aggregate financial position of the Plans. These financial statements are prepared in accordance with Canadian accounting standards for pension plans. Section 4600 – Pension Plans, of the CPA Canada Handbook, prescribes accounting policies specific to investments and pension obligations. For accounting policies which do not relate to either investments or pension obligations, International Financial Reporting Standards ("IFRS") are applied. To the extent that IFRS are inconsistent with Section 4600, Section 4600 takes precedence.

All of the entities that ATRF has an ownership interest in, regardless of whether ATRF can control or exercise significant influence, are considered to be investment assets and are presented on a non-consolidated basis.

b) Application of new IFRS and future changes in accounting standards

Effective September 1, 2018, ATRF adopted IFRS 9 Financial Instruments, issued by the International Accounting Standards Board ("IASB"), which contains certain classification and measurement principles for financial instruments. There was no significant impact resulting from the adoption of IFRS 9 on ATRF's financial position and investment income for reporting period ending August 31, 2019.

IFRS 16 Leases, issued by the IASB, for annual reporting periods beginning on or after January 1, 2019, provides new principles for the recognition, measurement, presentation and disclosure of leasing arrangements. Management does not expect significant impact to the Plans' financial statements and future financial results when adopting the new standard for reporting period ending August 31, 2020.

c) Investments

Investments, investment related receivables and investment related liabilities are recognized on a trade date basis and are stated at fair value.

i. VALUATION OF INVESTMENTS

Fair value is the price at which an investment asset would be sold or investment liability transferred through an orderly transaction between market participants at the measurement date under current market conditions.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Fair values are determined as follows:

CATEGORY	BASIS OF VALUATION
Money-market securities	Cost plus accrued interest approximates fair value due to the short-term nature of these securities.
Bonds and debentures	Closing quoted market price. Where quoted prices are not available, estimated values are calculated using discounted cash flows based on current market yields for comparable securities.
Public equity	Closing quoted market price. Where a market price is not available, market value is determined using appropriate valuation methods.
Private equity/ Infrastructure	Private equity/Infrastructure investments are held through limited partnerships, investment funds and/or other appropriate legal structures alongside our investment managers. Fair value is determined based on carrying values and other relevant information reported by the investment managers using accepted valuation methods and adjusted for any transactions during the interim period up to the reporting date of these financial statements.
Absolute return	Absolute return funds are recorded at fair value, as reported by the investment managers.
Real estate	Real estate investments are held directly, through limited partnerships, investment funds and/or other appropriate legal structures alongside our investment managers. Fair value for direct investments is determined using independent appraisals, which are independently appraised every year. Investments held through fund investments are valued using carrying values reported by the investment managers using similar accepted industry valuation methods.
Bond repurchase agreement	Bonds sold under repurchase agreement are recorded at cost plus accrued interest, which approximates fair value.
Derivatives	Market prices are used for exchange-traded derivatives. Where quoted market prices are not readily available, in the case of over-the-counter ("OTC") derivatives, appropriate valuation techniques are used to determine fair value.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

ii. INCOME RECOGNITION

Income is recognized as follows:

CATEGORY	BASIS OF RECOGNITION
Interest income	Accrual basis
Dividend income	Accrual basis on the ex-dividend date
Income from real estate, private equity, and infrastructure	Income includes distributions recognized as interest income, dividend income or other income, as appropriate
Realized gains and losses on investments	Difference between proceeds on disposal and the average cost
Unrealized gains and losses on investments	Change in the difference between estimated fair value and the average cost

iii. EXTERNAL INVESTMENT MANAGEMENT EXPENSES

Base management expenses for external investment managers are expensed in the fiscal period.

iv. EXTERNAL INVESTMENT PERFORMANCE FEES

External investment performance fees are profit-sharing arrangements contractually earned by external investment managers for generating superior returns and are recorded in the fiscal period.

v. TRANSACTION COSTS

Transaction costs are incremental costs attributable to the acquisition and disposition of investment assets or liabilities. Transaction costs are expensed as incurred.

d) Foreign currency translation

Assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the exchange rates prevailing on the year-end date. Income and expenses are translated into Canadian dollars at the exchange rates prevailing on the dates of the transactions. The realized gains and losses arising from the transactions and the unrealized gains and losses from these translations are included within the change in fair value of investments in investment earnings.

e) Contributions

Contributions from the teachers, the Province and the employers are recorded on an accrual basis. Cash received from teachers for credited service and cash transfers from other pension plans are recorded when received.

f) Benefits

Pension benefits, termination benefits and transfers to other plans are recorded in the period in which they are paid. Any benefit payment accruals not paid are reflected in accrued pension benefits.

g) Accrued pension obligations

The value of accrued pension obligations and changes therein during the year are based on an actuarial valuation prepared by an independent firm of actuaries annually as at August 31. The valuation uses the projected benefit method, pro-rated on service, and includes management's best estimate of various future events, as at the valuation date (Note 5).

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

h) Capital assets

Capital assets are recorded at cost and amortized on a straight-line basis over their estimated useful lives. Costs net of accumulated amortization are included with 'other assets' on the Statement of Financial Position.

i) Use of estimates

The preparation of financial statements, in conformity with Canadian accounting standards for pension plans, requires management to make estimates and assumptions that affect the amounts reported in the financial statements.

Measurement uncertainty exists in the calculation of the Plans' actuarial value of accrued benefits. Uncertainty arises because the Plans' actual experience may differ significantly from assumptions used in the calculation of the Plans' accrued benefits.

Significant estimates and assumptions are made in measuring the Plans' private investments. The values may differ significantly from the values that would have been used had a ready market existed for these investments.

j) Salaries and benefits

Details of senior staff compensation included in "salaries and benefits" (Note 7) are presented in the Compensation Discussion and Analysis section of the Annual Report.

ATRF participates in the Local Authorities Pension Plan, a defined benefit public sector pension plan, which meets the accounting requirements for treatment as a defined contribution plan. The employer contributions are recorded as an expense under salaries and benefits (Note 7).

ATRF provides a Supplementary Employee Pension Plan (SEPP) to executives and managers whose earnings exceed the pension benefit limit under the *Income Tax Act* regulations. Benefits are paid to these members as the benefits come due. No assets are earmarked, set aside or placed into trust by ATRF for SEPP benefit payments. The pension benefit is recorded as an expense under salaries and benefits (Note 7) and as a liability (Note 4).

NOTE 3 INVESTMENTS

The following schedule summarizes the fair value of the Plans' investments before allocating the market exposure related to derivative financial instruments. All financial instruments measured at fair value are categorized into one of the following three hierarchy levels. Each level reflects the availability of observable inputs which are used to determine fair values, based on financial information significant to the valuation measurement:

Level 1 – Fair value is based on unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2 – Fair value is based on market data other than quoted prices included in Level 1 that are observable either directly or indirectly;

Level 3 – Fair value is based on inputs other than observable market data.

NOTE 3 INVESTMENTS (CONTINUED)

The following table presents the level within the fair value hierarchy for investments:

($ Thousands)	Fair Value			2019	2018
	Level 1	Level 2	Level 3	Total	Total
Fixed Income					
Cash	$ 170,682	$ -	$ -	$ 170,682	$ 180,084
Money-market securities	-	629,275	-	629,275	508,434
Bonds and debentures	-	3,777,000	124,059	3,901,059	3,588,111
	170,682	4,406,275	124,059	4,701,016	4,276,629
Equity					
Public	6,357,756	-	-	6,357,756	6,140,196
Private	-	-	1,883,361	1,883,361	1,538,526
	6,357,756	-	1,883,361	8,241,117	7,678,722
Absolute return	-	-	1,671,685	1,671,685	1,510,741
Real estate	-	-	2,737,477	2,737,477	2,389,092
Infrastructure	-	-	1,259,482	1,259,482	1,075,727
	-	-	3,996,959	3,996,959	3,464,819
Investment related assets					
Accrued income	12,709	-	-	12,709	11,603
Due from brokers	34,677	-	-	34,677	13,179
Unrealized gains and amounts receivable on derivative contracts	8,578	53,597	-	62,175	25,860
	55,964	53,597	-	109,561	50,642
INVESTMENT ASSETS	6,584,402	4,459,872	7,676,064	18,720,338	16,981,553
Investment related liabilities					
Due to brokers	35,058	-	-	35,058	14,487
Bond repurchase agreements	-	518,891	-	518,891	348,395
Unrealized losses and amounts payable on derivative contracts	517	21,704	-	22,221	56,018
INVESTMENT LIABILITIES	35,575	540,595	-	576,170	418,900
NET INVESTMENTS	$ 6,548,827	$ 3,919,277	$ 7,676,064	$ 18,144,168	$ 16,562,653

NOTE 3 INVESTMENTS (CONTINUED)

The following table represents a reconciliation of financial instruments included in Level 3 of the fair value hierarchy for the year ended August 31, 2019:

($ Thousands)	Fair Value, August 31, 2018	Purchases	Sales	Realized Gain/(Loss)	Unrealized Gain	**Fair Value, August 31, 2019**
Bonds and debentures	$ 124,636	$ 24,288	$ (26,911)	$ -	$ 2,046	$ 124,059
Private equity	1,538,526	331,347	(352,883)	192,041	174,330	1,883,361
Absolute return	1,510,741	232,864	(159,066)	(3,694)	90,840	1,671,685
Real estate	2,389,092	583,454	(462,854)	32,400	195,385	2,737,477
Infrastructure	1,075,727	226,139	(242,344)	77,758	122,202	1,259,482
	$ 6,638,722	$ 1,398,092	$ (1,244,058)	$ 298,505	$ 584,803	$ 7,676,064

NOTE 4 ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

($ Thousands)	**2019**	2018
Tax withholdings	$ 12,733	$ 12,207
Accounts payable	11,757	7,909
Incentive plans payable	5,837	6,537
Supplementary Employee Pension Plan	5,528	3,528
Long-Term Incentive Plan	4,149	2,909
Other	1,705	1,637
	$ 41,709	$ 34,727

NOTE 5 ACCRUED PENSION OBLIGATIONS

Pension obligations represent the value of accrued pension benefits payable in the future to members and are based on an actuarial valuation prepared annually by an independent firm of actuaries. For accounting purposes, actuarial valuations of the Plans were performed as at August 31, 2019. Valuations for the Plans were also prepared as at August 31, 2018. The present value of the accrued pension obligations of $14,688 million (2018: $13,854 million) was determined using the projected benefit method prorated on service.

a) Best-estimate valuations and assumptions

The assumptions used in the valuations are based on management's best estimate of future events and involve rates of demographic change, such as rates of mortality, termination of membership and retirement, as well as economic parameters, such as rates of inflation, discount rates and salary escalation rates.

The discount rate is equivalent to the long-term expected rate of return on invested assets.

NOTE 5 ACCRUED PENSION OBLIGATIONS (CONTINUED)

The major long-term economic assumptions used in the best-estimate valuations are:

	2019	2018
Rate of return on invested assets (discount rate)	6.5%	6.5%
Rate of inflation	2.0%	2.0%
Real wage increases	1.0%	1.0%

b) Sensitivity of changes in major assumptions on best-estimate valuations

For illustrative purposes, the table below shows the impact of changes in major assumptions, holding all other assumptions constant:

	Teachers' Pension Plan		**Private School Teachers' Pension Plan**	
	0.5% decrease in rate of return on invested assets	0.5% increase in rate of inflation	0.5% decrease in rate of return on invested assets	0.5% increase in rate of inflation
Increase in current service costs (% of total teacher salaries)	1.8%	1.3%	2.0%	1.5%
Increase in accrued pension obligations	$1,200 million	$863 million	$6 million	$4 million

For accounting purposes, as at August 31, 2019, the current service cost (excluding 0.2% for administrative expenses) as a percent of total teacher salaries for the Teachers' Pension Plan is 14.5% and for the Private School Teachers' Pension Plan is 15.4%.

NOTE 5 ACCRUED PENSION OBLIGATIONS (CONTINUED)

c) **Results based on valuations**

For accounting purposes, the excess of net assets available for benefits against pension obligations results in the Plans being in an accounting surplus of $3,425 million for the post-1992 period of the Teachers' Pension Plan and an accounting surplus of $23 million for the Private School Teachers' Pension Plan as at August 31, 2019.

($ Thousands)	**2019**			2018		
	Teachers' Pension Plan	**Private Teachers'**	**Total**	Teachers' Pension Plan	Private Teachers'	Total
Net assets at beginning of year	$ 16,469,636	$ 81,882	$ 16,551,518	$ 14,694,784	$ 72,718	$ 14,767,502
Contributions	838,640	5,368	844,008	866,180	4,742	870,922
Benefits	(555,689)	(2,759)	(558,448)	(506,225)	(2,581)	(508,806)
Investment earnings	1,463,483	7,277	1,470,760	1,561,019	7,725	1,568,744
Investment and member service expenses	(170,966)	(850)	(171,816)	(146,122)	(722)	(146,844)
Net assets at end of year	18,045,104	90,918	18,136,022	16,469,636	81,882	16,551,518
Accrued pension obligations at beginning of year	13,791,099	63,147	13,854,246	12,804,256	58,278	12,862,534
Interest on accrued benefits	895,669	4,146	899,815	832,129	3,813	835,942
Benefits accrued	532,540	4,044	536,584	501,667	3,341	505,008
Experience (gains) losses	(73,221)	(773)	(73,994)	141,630	203	141,833
Changes in actuarial assumptions	29,565	156	29,721	17,642	93	17,735
Benefits paid	(555,689)	(2,759)	(558,448)	(506,225)	(2,581)	(508,806)
Actuarial value of accrued pension obligations	14,619,963	67,961	14,687,924	13,791,099	63,147	13,854,246
Accounting Surplus	$ 3,425,141	$ 22,957	$ 3,448,098	$ 2,678,537	$ 18,735	$ 2,697,272

The change in pension obligations is comprised of five components:

i. INTEREST ON ACCRUED BENEFITS

Pension obligations increase with interest as the present value of the valuation is evaluated one year later. The interest on accrued benefits is calculated using the rate of return on invested assets.

ii. BENEFITS ACCRUED

Pension obligations increase with new service credited and additional benefits accumulated by plan members during the fiscal year.

NOTE 5 ACCRUED PENSION OBLIGATIONS (CONTINUED)

iii. EXPERIENCE (GAINS) LOSSES

Experience gains of $73.994 million (2018: Experience losses of $141.833 million) on accrued benefits are the result of actual experience from one valuation to the next being different than implied by the assumptions from the previous valuation. As the experience is more favorable than anticipated in the assumptions, this results in an experience gain. Experience gains decrease the pension obligations. The following table provides details on the net gains on accrued benefits.

($ Thousands)		TPP		PSTPP		Total
Short-term salary increase	$	(222,930)	$	(826)	$	(223,756)
COLA		24,545		114		24,659
Demographic		87,080		(342)		86,738
Other plan experience		38,084		281		38,365
Experience gains	$	(73,221)	$	(773)	$	(73,994)

iv. CHANGES IN ACTUARIAL ASSUMPTIONS

Pension obligations can increase or decrease if there are changes in actuarial assumptions used to evaluate the present value of benefits.

The only assumption change from August 31, 2018 to August 31, 2019 is to the commuted value settlement rates used to calculate the value of lump sum benefit payments. The impact of the assumption change on the accrued benefits is shown in the following table.

($ Thousands)		TPP		PSTPP		Total
Commuted value	$	29,565	$	156	$	29,721

v. BENEFITS PAID

The pension obligations decrease with benefits paid from the Plans during the fiscal year, as the funds are no longer required to be set aside to pay for those benefits.

d) Valuation methodologies

ATRF conducts two different actuarial valuations of the Plans. One is for accounting purposes which is included in the financial statements, as per the prescribed accounting standards, and the results are shown within this section of the Notes to the Financial Statements. The second is for funding purposes, as discussed in the funding section of the Annual Report.

The Plans' accounting surplus or deficiency, defined as capital, includes the determination of assets on a fair value basis. However, for actuarial funding valuation purposes, asset values are adjusted for fluctuations in fair values to moderate the effect of market volatility on the Plans' funded status. The funding valuation is calculated in accordance with actuarial standards on a going concern basis and is used to determine changes to contribution rates for future service in order to manage the Plans' funding status. Both types of valuations have prescribed uses and are based on the same underlying plan member data, but the funding valuation differs in smoothing market returns over a five-year period and incorporating a margin for adverse deviation in the discount rate.

NOTE 5 ACCRUED PENSION OBLIGATIONS (CONTINUED)

In accordance with the *Teachers' Pension Plans Act*, an actuarial funding valuation is required to be performed, at a minimum, every three years. The objective is to ensure that the Plans are fully funded over the long term through the management of investments and contribution rates. Investments are based on an asset mix that is designed to enable the Plans to meet their long-term funding requirement within an acceptable level of risk, consistent with the Plans' investment and funding policies, which are approved by the Board. The actuarial deficiencies as determined by actuarial funding valuations are expected to be funded by August 31, 2027. For further information, refer to funding section of the Annual Report.

NOTE 6 INVESTMENT EARNINGS

The following is a summary of investment earnings by asset class:

($ Thousands)	**2019**			2018		
	Investment Income	**Change in Fair Value[1]**	**Total**	Investment Income	Change in Fair Value[2]	Total
Fixed income						
Cash and money-market securities	$ 13,085	$ (516)	$ 12,569	$ 10,029	$ 99	$ 10,128
Bonds and debentures	101,981	308,120	410,101	89,964	(18,537)	71,427
Equity						
Public	204,587	(215,525)	(10,938)	140,217	525,745	665,962
Private	36,716	366,371	403,087	40,308	318,723	359,031
Absolute return	-	87,146	87,146	-	103,443	103,443
Real estate	95,839	227,785	323,624	99,270	174,524	273,794
Infrastructure	61,078	199,960	261,038	66,941	148,351	215,292
Derivatives	-	(15,867)	(15,867)	-	(130,333)	(130,333)
	$ 513,286	$ 957,474	$1,470,760	$ 446,729	$1,122,015	$1,568,744

1 Change in fair value includes a realized net gain of $274,287 and an unrealized net gain of $683,187.

2 Change in fair value includes a realized net gain of $625,506 and an unrealized net gain of $496,509.

NOTE 7 INVESTMENT AND MEMBER SERVICE EXPENSES

($ Thousands)	**2019**			2018		
	Investment	**Member Service**	**Total**	Investment	Member Service	Total
Salaries and Benefits	$ 20,062	$ 5,605	$ 25,667	$ 17,100	$ 5,121	$ 22,221
Professional Services	4,126	845	4,971	4,270	971	5,241
Premises and Operations	2,209	1,064	3,273	1,561	807	2,368
Communications, Research, and Travel	2,034	400	2,434	1,551	386	1,937
Custodial and Banking	1,988	50	2,038	2,229	38	2,267
Transaction Costs	1,508	-	1,508	1,101	-	1,101
Board and Committees	712	600	1,312	759	456	1,215
Operating Expenses	32,639	8,564	41,203	28,571	7,779	36,350
External Investment Management Expenses	90,694	-	90,694	84,389	-	84,389
External Investment Performance Fees	39,919	-	39,919	26,105	-	26,105
	$ 163,252	$ 8,564	$ 171,816	$ 139,065	$ 7,779	$ 146,844

NOTE 8 CONTRIBUTIONS

($ Thousands)	**2019**	2018
Teachers		
Current service	$ 305,829	$ 286,411
Current service: additional COLA	16,566	17,234
Past service	6,726	4,498
Deficiency	96,906	132,788
	426,027	440,931
The Province		
Current service	305,367	287,279
Past service	2,973	2,070
Deficiency	91,821	125,836
	400,161	415,185
Private School Boards		
Current service	2,552	2,053
Deficiency	121	330
	2,673	2,383
Transfers from other plans	15,147	12,423
	$ 844,008	$ 870,922

NOTE 9 BENEFITS PAID

($ Thousands)	**2019**	2018
Pension benefits	$ 471,738	$ 427,598
Termination benefits	76,394	68,237
Transfers to other plans	10,316	12,971
	$ 558,448	$ 508,806

During the year $483 million (2018: $476 million) was received from the Province and was distributed as benefits paid relating to the pre-1992 period.

NOTE 10 RISK MANAGEMENT

The Plans are exposed to certain financial risks as a result of investment activities. These risks include market risk, credit risk and liquidity risk. ATRF manages financial risk through the Investment Policy which is approved by the Board and reviewed at least once every fiscal year. This policy contains risk limits and risk management provisions that govern investment decisions and has been designed to achieve the mandate of ATRF which is to invest assets to achieve maximum, risk-controlled, cost-effective, long-term investment returns.

a) Market risk

Market risk is the risk that the fair value or future cash flows of an investment asset or investment liability will fluctuate because of changes in market factors such as foreign exchange rates, interest rates, equity and commodity prices. ATRF mitigates market risk through diversification of investments across asset types, geography and time horizons. Market risk is comprised of the following:

i. CURRENCY RISK

Currency risk is the risk that the value of foreign investments will be affected by changes in foreign currency exchange rates for Canadian dollars. The Plans are exposed to currency risk through holdings of investment assets or liabilities in foreign currencies. The relative Canadian value or future cash flows of investments denominated in foreign currencies will change with a change in the price of Canadian dollar against other currencies.

Foreign investments in absolute return, real estate and infrastructure are hedged with the aim of minimizing foreign currency exposure. ATRF permits portfolio managers to hedge foreign currency holdings to limit the Plans' foreign currency exposure.

NOTE 10 RISK MANAGEMENT (CONTINUED)

The Plans' foreign currency exposure is as follows:

($ Thousands)	**2019**				2018			
Currency	**Foreign Currency Exposure**	**Currency Derivatives**	**Net Foreign Currency Exposure**	**% of Total**	Foreign Currency Exposure	Currency Derivatives	Net Foreign Currency Exposure	% of Total
United States dollar	$5,656,083	$(3,676,935)	$1,979,148	42%	$4,793,604	$ (3,262,258)	$1,531,346	37%
Euro	1,142,905	(433,464)	709,441	15	866,023	(225,288)	640,735	16
Hong Kong dollar	371,658	-	371,658	8	322,840	(167)	322,673	7
British pound sterling	638,100	(304,307)	333,793	7	620,062	(296,257)	323,805	8
Indian rupee	207,057	39	207,096	4	208,841	2,406	211,247	5
Taiwan dollar	134,295	-	134,295	3	147,651	(2,395)	145,256	4
Other	874,280	101,933	976,213	21	899,023	37,949	936,972	23
	$9,024,378	$(4,312,734)	$4,711,644	100%	$7,858,044	$(3,746,010)	$4,112,034	100%

After considering the effect of currency hedges, a 1% increase/decrease in the value of the Canadian dollar against all currencies, with all other variables held constant, would result in an approximate decrease/increase in the value of net foreign investments of $47 million as at August 31, 2019 (2018: $41 million).

ii. INTEREST RATE RISK

Interest rate risk is the risk that the fair value or future cash flows of an investment will fluctuate as a result of changes in market interest rates. The Plans are exposed to interest rate risk through fixed-rate and floating-rate securities. There are also certain alternative investments which may have interest rate components exposing them to interest rate risk. Changes in interest rates affect fair values of fixed-rate securities and the cash flows of floating-rate securities. Increases in interest rates will generally decrease the fair value of fixed-rate securities and increase cash flow from floating-rate notes.

ATRF manages interest rate risk for investments by establishing a target asset mix that provides an appropriate mix between interest-sensitive investments and those subject to other risks. A portion of the interest-sensitive portfolio is actively managed, allowing managers to anticipate interest rate movements to mitigate or take advantage of interest rate changes.

Interest rate risk sensitivity

The following table presents the approximate increase/decrease in market value for the Plans' interest rate sensitive investments, assuming a parallel 1% decrease/increase in interest rates, with all other variables held constant:

NOTE 10 RISK MANAGEMENT (CONTINUED)

($ Thousands)	**2019**		2018	
Term to Maturity	Market Value	Change in Market Value	Market Value	Change in Market Value
Less than 1 year	$ 701,485	$ 2,206	$ 802,426	$ 1,996
1-3 years	304,020	5,562	273,162	5,728
3-5 years	328,169	11,983	349,130	12,795
5-10 years	757,000	47,017	553,319	35,863
Greater than 10 years	2,240,211	355,282	1,959,182	292,292
Other[1]	199,449	-	159,326	-
	$ 4,530,334	$ 422,050	$ 4,096,545	$ 348,674

[1] Includes externally managed private debt investments and holdings for which term to maturity information is not available or modified duration could not be calculated.

iii. EQUITY PRICE RISK

Equity price risk is the risk that the fair value of an investment will fluctuate as a result of changes in equity market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual investment or factors affecting all securities traded in the market.

The Plans use geographic, sector and entity specific analyses, and strategies such as diversification and derivative instruments to mitigate the overall impact of price risk.

A 10% increase/decrease in the value of the overall public equity market, with all other variables held constant, would result in an approximate increase/decrease in the value of public-market exposure of $636 million (2018: $614 million).

b) Credit risk

Credit risk is the potential of loss should a counterparty fail to meet its contractual obligations, or a reduction in the value of assets due to deteriorated credit quality of the counterparty, guarantor or the collateral supporting the credit exposure. The Plans are exposed to credit risk through investment in fixed income investments, securities lending, and balances receivable from sponsors and counterparties. Fixed-income investments exposed to credit risk, by credit rating, are as follows:

	2019	2018
Investment grade (AAA to BBB-)	95%	94%
Speculative grade (BB+ or lower)	1	1
Unrated	4	5
	100%	100%

NOTE 10 RISK MANAGEMENT (CONTINUED)

Investment restrictions within the Plans have been set to limit the credit exposure to security issuers. Short-term investments require a rating of “R-1” or equivalent. Bonds or debentures require minimum ratings of “CCC” or equivalent in the externally managed portfolios and “BBB” for the portfolios managed internally. Unrated private debt investments are required to meet the rating criteria comparable to a “BBB” rating. Credit exposure to any single counterparty is limited to maximum amounts and minimum ratings as specified in the investment policies and guidelines.

As at August 31, 2019, the Plans have significant concentration of credit risk within fixed income investments with the following issuers:

	2019	2018
Government of Canada	16%	18%
Province of Ontario	14%	14%
Province of Quebec	10%	10%

The Plans are also exposed to risk through over-the-counter (“OTC”) derivative transactions, arising from a default or insolvency of a counterparty. The Plans have exposure to OTC derivatives as follows:

($ Thousands)	**2019**	2018
Forwards	$ 48,744	$ 23,468
Options	3,603	154
Swaps	1,250	274
	$ 53,597	$ 23,896

The Plans mitigate counterparty credit risk by using an internal credit-limit monitoring process, International Swaps and Derivatives Master Agreements (“ISDAs”) and/or Credit Support Annexes (“CSAs”) with our counterparties. An ISDA allows for close-out netting privileges in the event of default, while a CSA enables the plan to realize upon any collateral placed with it in the case of default of the counterparty. As at August 31, 2019, the Plans hold $11 million (2018: $nil) of collateral to mitigate its credit risk exposure for forwards. The net credit exposure for forwards is $38 million (2018: $23 million).

c) Liquidity risk

Liquidity risk is the risk of the Plans being unable to generate sufficient cash in a timely and cost-effective manner to meet commitments and expenses as they become due. Consideration is given to the Plan’s financial liabilities, which include investment-related liabilities (Note 3), accrued pension obligations (Note 5), and contracts that give rise to commitments for future payments (Note 11). The investment-related liabilities are as follows:

NOTE 10 RISK MANAGEMENT (CONTINUED)

($ Thousands)	**2019**				2018			
	Within 1 year	**1 to 5 years**	**Over 5 years**	**Total**	Within 1 year	1 to 5 years	Over 5 years	Total
Due to brokers	$ 35,058	$ -	$ -	$ 35,058	$ 14,487	$ -	$ -	$ 14,487
Derivative instruments	20,871	79	1,271	22,221	54,648	17	1,353	56,018
Bonds repurchase agreements	518,891	-	-	518,891	331,615	16,780	-	348,395
	$ 574,820	$ 79	$ 1,271	$ 576,170	$ 400,750	$ 16,797	$ 1,353	$ 418,900

Liquidity requirements of the Plans are met through income generated from investments, employee and employer contributions which substantially exceed benefits payable, and by holding publicly traded liquid assets traded in active markets that are easily sold and converted to cash. The following table presents the liquid assets at the year ended August 31:

($ Thousands)	**2019**	2018
Cash	$ 170,682	$ 180,084
Money-market securities	629,275	508,434
Bonds and debentures	3,901,059	3,588,111
Public equities	6,357,756	6,140,196
	$ 11,058,772	$ 10,416,825

NOTE 11 COMMITMENTS

The Plans have committed to fund certain private investments over the next several years. These commitments are generally payable on demand based on the funding needs of the investment subject to the terms and conditions of each commitment. As at August 31, 2019, the sum of these commitments equalled $1,800 million (2018: $1,784 million).

NOTE 12 NET INVESTMENT RETURNS AND RELATED BENCHMARK RETURNS

Net investment returns and related benchmark returns for the Plans for the years ended August 31 are as follows:

	2019	2018
Net Investment Return	7.8%	9.6%
Benchmark Return	6.4%	8.5%

Investment return has been calculated using a time-weighted rate of return methodology in accordance with industry standard methods. Net investment return is net of investment costs and excludes plan member service costs $8.6 million or 0.05% (2018: $7.8 million or 0.05%).

The Plans' benchmark return is a composite benchmark produced by aggregating returns from each policy asset class benchmark, using the Plans' asset mix policy weights.

NOTE 13 APPROVAL OF FINANCIAL STATEMENTS

These financial statements were approved by the ATRF Board on November 20, 2019.

10-YEAR FINANCIAL AND STATISTICAL REVIEW (UNAUDITED)

Financial Position as at August 31 *($ millions)*	**2019**	2018	2017	2016	2015	2014	2013	2012	2011	2010
Investments										
Equities										
Public	6,357.8	6,140.2	5,609.2	5,350.5	4,872.7	4,860.2	4,626.7	3,821.8	3,545.3	3,298.8
Private	1,883.4	1,538.5	1,397.7	1,195.7	1,145.9	855.4	591.7	358.6	277.5	208.8
Absolute Return	1,671.6	1,510.8	1,339.7	1,280.1	1,297.9	864.8	-	-	-	-
Infrastructure	1,259.5	1,075.7	952.0	946.9	543.5	404.6	278.2	186.9	123.9	-
Real Estate	2,737.5	2,389.1	1,940.0	1,518.1	1,090.1	725.9	446.0	334.9	60.6	-
Other Investment Assets/(Liabilities)	(466.6)	(368.2)	(114.0)	29.8	(118.6)	30.4	15.0	24.2	7.8	-
Fixed Income	4,701.0	4,276.6	3,640.0	3,040.3	3,249.2	2,980.6	2,629.6	2,464.4	2,328.2	1,995.2
Net Investments	**18,144.2**	**16,562.7**	**14,764.6**	**13,361.4**	**12,080.7**	**10,721.9**	**8,587.2**	**7,190.8**	**6,343.3**	**5,502.8**
Contributions Receivable	25.9	20.3	26.0	25.5	19.7	21.4	19.4	17.2	12.0	11.3
Other Assets and Liabilities	(34.1)	(31.5)	(23.1)	(30.0)	(31.0)	(26.5)	(25.6)	(14.0)	(20.2)	22.9
Net Assets Available for Benefits	**18,136.0**	**16,551.5**	**14,767.5**	**13,356.9**	**12,069.4**	**10,716.8**	**8,581.0**	**7,194.0**	**6,335.1**	**5,537.0**
Actuarial Value of Accrued Pension Obligations	14,687.9	13,854.2	12,862.5	12,118.2	11,281.1	10,190.6	9,406.3	9,108.7	8,294.4	7,467.7
Surplus / (Deficiency)	**3,448.1**	**2,697.3**	**1,905.0**	**1,238.7**	**788.3**	**526.2**	**(825.3)**	**(1,914.7)**	**(1,959.3)**	**(1,930.7)**
Activity during year ended August 31 *($ millions)*										
Benefit and Investment Operations										
Investment earnings	1,470.8	1,568.7	1,154.6	921.5	969.6	1,717.2	1,024.6	512.0	440.4	274.3
Net contributions	844.0	870.9	849.0	881.6	842.6	823.8	692.2	596.3	577.5	499.2
Benefits paid	(558.4)	(508.8)	(459.1)	(421.4)	(378.2)	(337.0)	(291.2)	(220.9)	(194.5)	(173.0)
Investment & member service expenses	(171.8)	(146.8)	(133.9)	(94.2)	(81.4)	(68.2)	(38.6)	(28.4)	(25.3)	(20.0)
Increase in Net Assets	**1,584.5**	**1,784.0**	**1,410.6**	**1,287.5**	**1,352.6**	**2,135.8**	**1,387.0**	**859.0**	**798.1**	**580.5**
Increase in Accrued Pension Obligations	833.7	991.7	744.3	837.1	1,090.5	784.3	297.6	814.4	826.7	606.0
Increase (Decrease) in Surplus	**750.8**	**792.3**	**666.3**	**450.4**	**262.1**	**1,351.5**	**1,089.4**	**44.6**	**(28.6)**	**(25.5)**
Funding:										
Liability Discount Rate (net of margin)										
Post-1992 TPP*	5.15%	5.20%	5.40%	6.00%	6.00%	6.25%	6.25%	6.75%	6.75%	6.75%
Private School TPP*	5.10%	5.30%	5.40%	6.00%	6.00%	6.25%	6.25%	6.75%	6.75%	6.75%
Funding Shortfall/(Surplus) *($ millions)*										
Post-1992 TPP*	863.0	1,186.0	1,516.0	1,950.0	2,364.0	2,289.0	2,859.0	2,880.0	1,751.0	1,787.0
Private School TPP*	(2.0)	(2.1)	1.2	3.5	5.6	5.6	9.1	8.4	5.6	6.0
	861.0	1,183.9	1,517.2	1,953.5	2,369.6	2,294.6	2,868.1	2,888.4	1,756.6	1,793.0
Plan Members										
Active	42,278	41,746	40,716	41,015	39,997	39,185	38,346	38,336	38,242	38,578
Inactive	11,847	11,758	11,997	12,102	12,252	12,411	12,364	12,404	12,384	12,119
Retired Members	29,108	28,241	27,625	27,015	26,308	25,545	24,667	23,892	22,989	22,302
Number of New Pensions	1,180	1,089	1,171	1,074	1,080	1,214	1,131	1,234	986	1,056
Member Service Costs (per member)	**$ 120**	**$ 111**	**$ 97**	**$ 90**	**$ 87**	**$ 87**	**$ 87**	**$ 82**	**$ 69**	**$ 69**
Benchmark	**$ 156**	**$ 150**	**$ 150**	**$ 149**	**$ 149**	**$ 153**	**$ 148**	**$ 145**	**$ 155**	**$ 148**
Investment Costs (per $100 of assets) **	$ 0.90	$ 0.84	$ 0.86	$ 0.66	$ 0.63	$ 0.58	$ 0.39	$ 0.32	$ 0.33	$ 0.29
Post 1992 TPP* - year ended August 31										
Net Investment Returns	7.8%	9.6%	7.7%	6.7%	8.3%	18.9%	13.6%	7.5%	7.5%	5.3%
Benchmark	6.4%	8.5%	7.0%	6.6%	6.5%	18.4%	11.5%	6.3%	7.3%	5.4%

Note: Since 2008, amounts relate to transactions of post-1992 Teachers' Pension Plan and of the Private School Teachers' Pension Plan.

* Teachers' Pension Plan (TPP)

** Since 2014, Investment Costs include external management fees for Private Equities, Infrastructure, Real Estate and Absolute Return.

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